URS Greiner Woodward Clyde
A Division of URS Corporation

500 12th Street, Suite 200
Oakland, CA 94607-4014
Tel: 510.893.3600
Fax: 510.874.3268
Offices Worldwide

March 23, 2000

STID 6436

Ms. Susan L. Hugo
Alameda County Health Agency
Division of Environmental Protection
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Dear Ms. Hugo:

Subject: **Construction Risk Management Plan - Oakland City Center, Parcel T-9,**

In response to your request in your letter dated February 22, 2000, attached is the Construction Risk Management Plan. This plan includes the following elements:

- Abandonment of existing groundwater monitoring wells (W-3, W-4, and W-5)
- Soil management plan
- Groundwater management plan
- Dust control
- Post excavation soil sampling
- Storm water prevention plan
- Measures to be taken to prevent creating vertical conduits between the shallow and deeper aquifer during construction activities at the site
- Contingency plan for the discovery of an underground tank (UST) and associated piping
- Post-excavation Sampling Plan
- Criteria for acceptance of residual concentrations in soil

If you have further questions, please do not hesitate to call either of the undersigned at (510) 893-3600.

Sincerely,

URS GREINER WOODWARD CLYDE

James E. Springer, C.E.G.
Geologist

Jay B. Clare
Project Manager

cc. Al Ridley, URSGWC
Nick Loukianoff, Shorenstein
Calvin Yoshida, Charles Pankow Builders
Ed Krumrei, Chaudhray and Associates
Don Smith, City of Oakland Building Services Division

\\OAK4\SOFTDATA\Environmental\Remediation\Springer\Hugolet.doc

LETTER OF TRANSMITTAL

URS Greiner Woodward Clyde

TO: Alameda Co. Health Agency
Div. of Environmental Health
1131 Harbor Bay Pkwy, 2nd Floor
Alameda, CA 94502

DATE	3/29/00
PROJECT NO.	510 99 8706 0004
ATTENTION:	Ms. Susan Hugo
RE:	Construction Risk Management Plan

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ THE FOLLOWING ITEMS:

☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of Letter ☐ Change Order ☑ Other Reports

COPIES	DATE	NO.	DESCRIPTION
1	3/29/00		Construction Risk Management Plan
1	8/30/99		Erler & Kalinowski Risk Management Plan

THESE ARE TRANSMITTED as checked below:

☐ For Approval ☐ Approved as Submitted ☐ Resubmit _____ Copies for Approval

SLC ☐ For Your Use ☐ Approved as Noted ☑ Submit 1 Copies for Distribution

☐ As Requested ☐ Returned for Corrections ☐ Return _____ Corrected Prints

☐ For Review and Comment ☑ Prints Returned To you After Loan To Us

☐ For Bids Due _____ 19 ____ ☐ Other _____

REMARKS _____

COPY TO:

SIGNED James E Symington

500 12TH STREET
SUITE 200
OAKLAND, CA 94607
TEL: (510) 893-3600 ▪ FAX: (510) 874-3268

SLC 4436 B

CONSTRUCTION RISK MANAGEMENT PLAN 1155 CLAY STREET (PARCEL T-9) CITY OF OAKLAND, CALIFORNIA

Prepared for
Shorenstein Company, L.P.
555 California Street
San Francisco, CA 94104

March 23, 2000

URS Greiner Woodward Clyde

500 12th Street, Suite 200
Oakland, CA 94607-4014

5109967060

CONSTRUCTION RISK MANAGEMENT PLAN 1155 CLAY STREET (PARCEL T-9) CITY OF OAKLAND, CALIFORNIA

Prepared for
Shorenstein Company, L.P.
555 California Street
San Francisco, CA 94104

March 23, 2000

URS Greiner Woodward Clyde

500 12th Street, Suite 200
Oakland, CA 94607-4014

5109967060

TABLE OF CONTENTS

Parcel T-9 at 1155 Clay Street, occupies the west side of the 1100 block of Clay Street and is bounded by Clay Street, 12th Street, Jefferson Street, and 11th Street (Figure 1). In 1991, Woodward-Clyde Consultants (now URS Greiner Woodward Clyde) observed and documented the removal and disposal of contaminated fill material from the site. At that time, verification soil samples were taken and monitoring wells were installed.

Shorenstein Company, L.P. plans to construct an office building with an underground parking structure on the site. The footprint of the building will essentially occupy the entire parcel. Subsurface parking will have concrete retaining walls and a concrete floor that will cover the soil. In 1999, URS Greiner Woodward Clyde submitted a soil characterization study and excavation work plan for the parcel (URSGWC, 1999).

Ms. Susan Hugo of the Alameda County Health Agency (County, or ACDEH) requested a Construction Risk Management Plan prior to construction on the parcel (letter dated February 22, 2000). This report was prepared in response to that request.

The contaminated fill material that was previously removed from the site had elevated concentrations of lead (WCC, 1991) and Total Petroleum Hydrocarbons (TPH) as oil and grease. Sampling and analysis of soils remaining at the site were performed in September 1999 showed that the residual concentrations of metals were below their respective screening levels and landfill acceptance criteria. TPH as gasoline and motor oil were not detected. TPH as diesel was detected at a maximum concentration of 1.2 milligrams per kilogram (mg/kg) with a reporting limit of 1.0 mg/kg. BTEX constituents were not detected. Although the site is essentially clean, there is a possibility of encountering a tank or some hydrocarbon-impacted soil in the southwest corner of the property.

For the foundation and building construction, soils will be excavated to an elevation of 8 feet above the City of Oakland Datum (C.O.O.D.), to taper up to elevation +10 feet C.O.O.D. at the edges of the basement and up to elevation +16 feet C.O.O.D. outside the building. The soils will be transported off site for potential reuse or to an appropriate management facility.

This Construction Risk Management Plan considers the excavation and handling of these soils and the residual concentrations that will remain in soil and groundwater.

In the event that contaminated soil, a buried tank, or buried petroleum pipes are encountered, measures will be taken to protect workers from potential hazards. These measures will be included in a worker Health and Safety Plan (H&SP).

The H&SP will be prepared prior to construction activities at the site. This H&SP will be in accordance with State and Federal Occupational Safety and Health Administration standards for hazardous waste operations (CCR, Title 8, sec. 5192 and 29 CFR 1910.120, respectively). The H&SP will include a description of health and safety training requirements for on-site personnel and personal protective equipment necessary to avoid hazardous materials exposures and other types of injuries.

This section addresses measures that will be taken to mitigate impacts that site construction activities may have on human health and the environment.

4.1 DUST CONTROL

Dust may be generated as a result of excavation activities, truck traffic, ambient wind, and loading of soil transport vehicles. We anticipate dust control measures to be focussed on nuisance dust. Additional dust control measures may be implemented, as necessary, in order to minimize exposure of on-site construction workers to dust containing chemicals of concern (COCs) and to minimize the amount of COC-containing dust and nuisance dust that migrates off site.

Dust control measures may include:

- Spraying water to keep dust down;
- Limiting on-site vehicle speeds to 5 miles per hour;
- Minimize drop heights while loading vehicles;
- Placing plastic sheeting on any soilstockpiles that are suspected to contain COCs; and
- Use of Best Management Practices for dealing with nuisance or hazardous dust.

Additional dust control measures may be implemented if necessary. In the event that contaminated soil is encountered and construction equipment comes in contact with contaminated soil, the affected equipment will be decontaminated prior to leaving the site.

4.2 STORM WATER POLLUTION CONTROL

If it rains during construction, storm water pollution controls will be implemented at the site. Because the site elevation is below the surrounding area, the main concern will be to eliminate flooding and ponding. Ponded water will be tested for COCs if it is to be removed from the site. If ponded water contains COCs, it will be treated so that it meets the local regulatory permit requirements for discharging.

4.3 DEWATERING/ GROUNDWATER MANAGEMENT

The building contractor has retained Viking Drillers, Inc. to perform dewatering services for the construction project. An estimated sixteen wells will be needed and they will be pumped at a maximum rate of just under 5,000 gallons per hour during the first two weeks of operation. It is anticipated that the pumping rates can be lowered to less than 2,000 gallons per hour after the first two weeks.

Groundwater will be treated by particle filtration and carbon absorption prior to discharge to the storm drain in accordance with the California Regional Water Quality Control Board (CRWQCB) permit dated March 9, 2000. Periodic chemical analyses will be performed in accordance with the CRWQCB General Waste Discharge Requirements and Self-Monitoring Program (Order No. 96-078 and Order No. 99-051) to verify that the water meets permit discharge limits for COCs. Quarterly reports of the Self-Monitoring Program will be sent to the

CRWQCB with a copy to the ACDEH. If necessary, an encroachment permit will be obtained from the City of Oakland to gain access to the storm drains.

4.4 PROTECTING UNDERLYING WATER RESOURCES

In past years, Woodward-Clyde Consultants (WCC) and URS Greiner Woodward Clyde (URSGWC) have performed subsurface investigations in the downtown Oakland Area (WCC, 1957, 1986, 1989, 1990, 1991, 1993, 1995; URSGWC, 1999). The shallow materials in downtown Oakland consist of artificial fill overlying Merritt Sand. The Merritt Sand is a dense silty sand that is approximately 37 feet thick at Parcel T-9.

Below the Merritt Sand there is 40 to 50 feet of San Antonio Formation (WCC, 1990). The San Antonio Formation consists of stiff to very stiff, sandy and silty clay. The Alameda Formation underlies the San Antonio Formation and consists of stiff silty clay.

Neither the Alameda Formation nor the San Antonio Formation produces significant quantities of water in the downtown area. The only water-bearing zones that might exist are discontinuous lenses within the San Antonio Formation. The excavation will be entirely within fill and Merritt Sand, and it will not be deep enough to penetrate into underlying water-bearing zones. Therefore, no additional measures are needed to prevent creating vertical conduits between the shallow and deeper aquifer during construction activity at the site.

Soil management procedures are used to decide which of the excavated soil can be reused as fill and which soil has to be disposed of off site. The soil management procedures encompass soil sampling and the necessary procedures for the possibility of uncovering abandoned subsurface structures.

5.1 SOIL HANDLING AND REUSE PROTOCOL

Soil excavated from the site will be reused off site or disposed of at a facility that is appropriate based upon sampling and laboratory analyses of these soils. Offsite soil reuse options are currently being evaluated. Soil in the southwest corner of the site will be analyzed for hydrocarbons and if they are present, the soil will be sent to an appropriate landfill. The approach to handling soil with gasoline or diesel with low benzene levels will be one of worker safety. The upper and lower explosive limit will be monitored to avoid hazardous concentrations of the vapors.

5.2 POST-EXCAVATION SOIL SAMPLING PLAN

There will not be a pre-determined set of soil sampling locations. Instead, samples will be taken at locations where COCs are suspected based on field screening, such as Photo Ionization Detector (PID) or organic vapor meter (OVM) readings, odors, or stains. Sampling from the walls of the excavation may be difficult or impossible due to the soldier pile and lagging used to hold the slopes. If the sidewalls can be sampled, they will be sampled from the elevation closest to the water table because that is the most likely area to encounter hydrocarbons. In general, an average of one sample for every 5,000 square feet of excavation surface will be collected, or about one sample per 70 linear feet. Soil samples will be analyzed for TPHg, TPHd, BTEX, and MTBE.

5.3 ASSESSMENT OF SAMPLING RESULTS (RESIDUAL CONCENTRATIONS)

The results of soil sampling during and after excavation will be assessed and provided in a report to the County. This report will include an account of what COCs were encountered on what portion of the site and what the final disposition was for any contaminated soil. The report will also address any residual COCs that were left in place and it will provide locations of where the detections were found.

The City of Oakland's Tier 2 risk-based screening levels will be used to assess residual risk for contaminants in soil and groundwater (City of Oakland, 1995). These screening levels are shown in Table 1. The City of Oakland developed a special set of screening levels for the Merritt Sand because of its low permeability and low hydranic gradient. The industrial – commercial screening level for indoor inhalation of vapors will be used because the building basement will be below the ground level. This is a conservative approach because the basement walls and floor will provide a physical barrier and will reduce potential inhalation pathways. As can be seen in Table 1, benzene is the controlling constituent. The screening levels exceed the soil saturation concentrations of toluene, ethylbenzene, xylenes, and MTBE. The solubility of toluene, ethylbenzene, and xylenes is lower than the screening level for water in the Merritt Sand. Gasoline and diesel are not in the table because the City of Oakland and the EPA have not developed screening levels or preliminary cleanup goals for them.

Figure 2 shows the procedures that will be followed if a buried pipe is encountered. The County will be notified, and the pipe will be inspected for liquid or sludge. If the pipe contains liquid or sludge, the liquid will be removed and analyzed for COCs as required by the disposal facility. The liquid or sludge will be disposed of at the appropriate facility and the desired portions of the pipe will be removed. Any parts of the pipe that remain in place will be capped and the removed portion will be hauled off to an appropriate facility.

A flow chart containing the procedures for handling a sump or UST discovery is presented in Figure 3. If a UST or sump is encountered, the Oakland Fire Department and the ACDEH will be notified immediately. A tank closure report will be obtained from the Oakland Fire Marshall and the appropriate fees paid. The soil and groundwater (if any) around the tank will be tested for TPH as gasoline and diesel, and BTEX in accordance with the Oakland Fire Department's requirements. If the Fire Marshall or the County requires additional constituents tested, we will have those tests run as well.

The tank or sump will be inspected for the presence of liquid or sludge. If liquid or sludge is present, it will be sampled and analyzed for COCs in accordance with the requirements of the disposal facility. The liquid or sludge will then be disposed of at an appropriate facility by a licensed waste hauler.

If the tank or sump is to be removed, a licensed tank removal contractor will stabilize it with dry ice prior to removal. After removal, a licensed tank removal contractor will transport it, under manifest, in an appropriate container to an approved disposal facility.

If the tank or sump is to be left in place, it will be cleaned and then filled with either soil or concrete per the direction of the Fire Department.

The three monitoring wells that remain on the site will be abandoned prior to excavation. These wells are located at the western end of the parcel and designated as W-3, W-4, and W-5 in Figure 1.

A permit for the well destruction will be obtained from the Alameda County Public Works Department. The County requires that wells 45 feet deep or less be filled with lean Portland cement or a bentonite-cement slurry. The wells will be backfilled and, within sixty days of destruction, a Department of Water Resources (DWR) Well Completion Report will be filed with the County and with the DWR.

The project is anticipated to start in May 2000. The County will be notified prior to mobilization on the job site. The excavation is anticipated to take about three months.

City of Oakland, 1999, Oakland Risk-Based Corrective Action: Technical Background Document

URSGWC, 1999, Soil Characterization Study and Excavation Work Plan for Parcel T-9 in Oakland, California: Prepared for Shorenstein Company, L.P.

WCC, 1957, Soil Investigation for Proposed State Office Building: July 25.

WCC, 1986, Results of Preliminary Geotechnical Study, Oakland Federal Office Building: Prepared for City of Oakland, May 27.

WCC, 1989, Hydrocarbon Assessment, City Center Garage II Parcel: Prepared for City of Oakland, November.

WCC, 1990, Geotechnical Engineering Study, 1155 Clay Building: Prepared for Bramalea Pacific, May 31.

WCC, 1991, Soil Remediation Report, 1155 Clay Street, Oakland, California: Prepared for Oakland City Attorney's Office.

WCC, 1993, Environmental Site Assessment and Fill Characterization Report, City Center Parcel T12: June 7.

WCC, 1995, Phase I Environmental Site Assessment for City Square Properties: Prepared for Toronto-Dominion Bank, September.

Table 1
City of Oakland Tier 2 Screening Levels for
Selected Contaminants in Merritt Sand and Groundwater

Chemical of Consern	Soil Concentration kmg/kg	Groundwater Concentration (mg/L)
Benzene	110	22
Toluene	SAT	>SOL
Ethylbenzene	SAT	>SOL
Xylenes	SAT	>SOL
MTBE	SAT	>SOL

SAT - Screening level exceeds saturated soil concentration of chemical
>SOL - Screening level exceeds solubility of chemical in water.

does not apply for MTBE anymore

MCL = 13 ppb

46 ppb in soil backed just above

12TH STREET

JEFFERSON STREET

CLAY STREET

11TH STREET

W-5

W-3

W-4

LEGEND

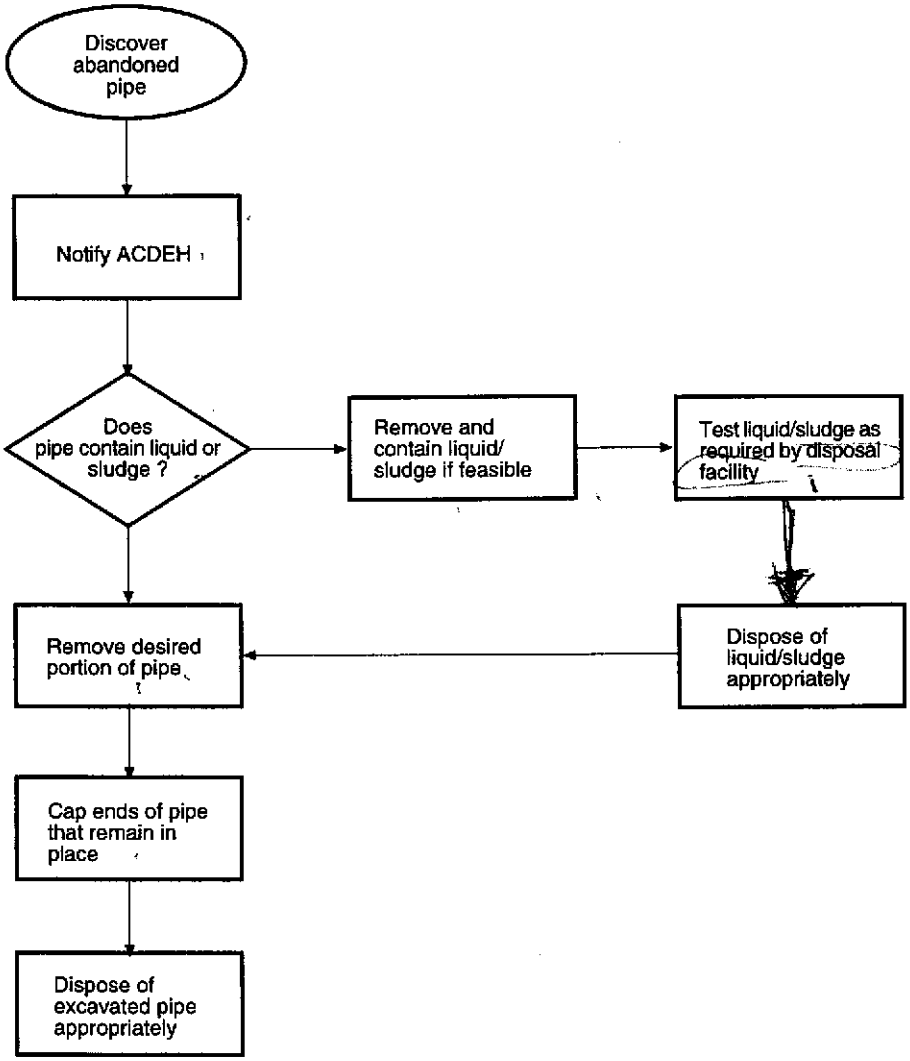
◉ LOCATION OF GROUNDWATER MONITORING WELL

30' 0 30' 60'

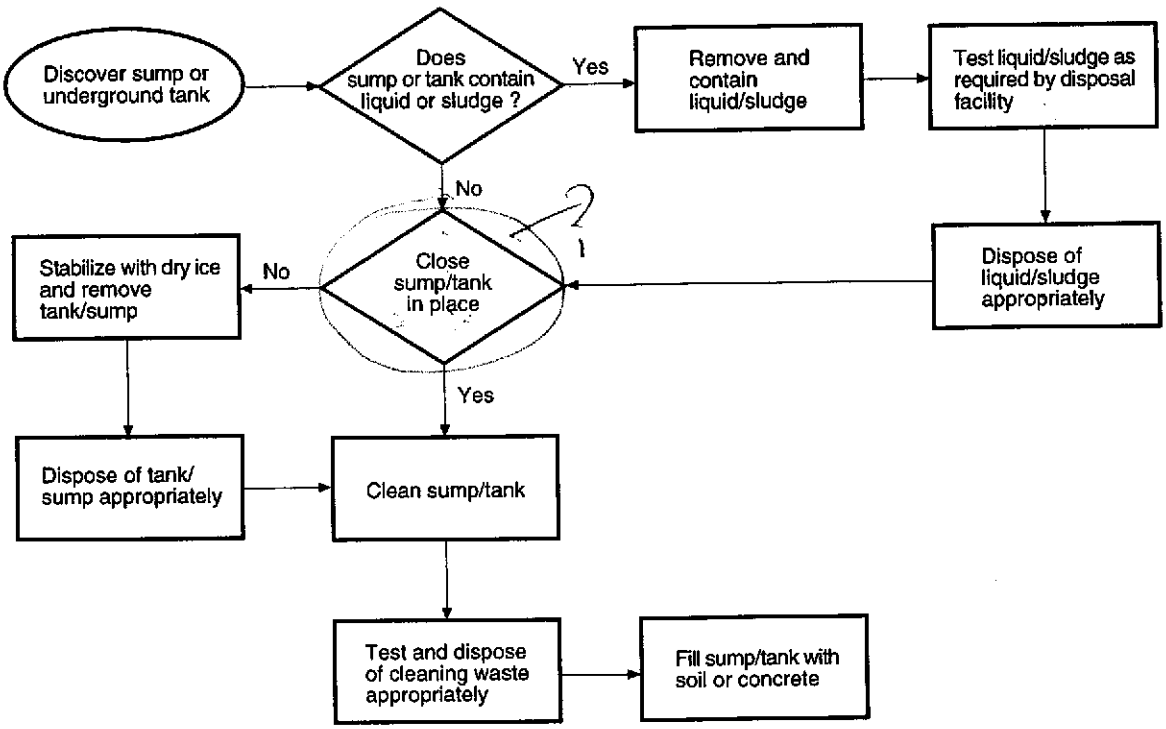
SCALE 1"= 30'

Project No. 5109967060	SHORENSTEIN PARCEL T9 CONSTRUCTION RISK MANAGEMENT PLAN	Figure 1
URS Greiner Woodward Clyde	SITE MAP AND LOCATION OF MONITORING WELLS	

J:\CADSHARED\SHORENSTEIN\SHORSB01.DWG 032100



Project No. 51-09967060.00	Shorenstein Parcel T9 Construction Risk Management Plan	PROCEDURES FOR HANDLING A BURIED PIPE	Figure 2
URS Greiner Woodward Clyde			



Project No. 51-09967060.00	Shorenstein Parcel T9 Construction Risk Management Plan	PROCEDURES FOR HANDLING A BURIED TANK OR SUMP	Figure 3
URS Greiner Woodward Clyde			

APPENDIX A

REGIONAL WATER QUALITY CONTROL BOARD

NPDES PERMIT AND ACCOMPANYING ORDERS

California Regional Water Quality Control Board
San Francisco Bay Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 FAX (510) 622-2460

Gray Davis
Governor

Date: March 9, 2000
File No: 2199.9417 and
1210.44 (FA)

Mr. Nicholas Loukianoff
Shorenstein Realty Services
555 California Street, 14th Floor
San Francisco, CA 94104

Subject: AUTHORIZATION TO DISCHARGE TREATED GROUNDWATER UNDER THE REQUIREMENTS OF ORDER NO. 96-078, NPDES PERMIT NO. CAG912002, GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE OF EXTRACTED AND TREATED GROUNDWATER RESULTING FROM THE CLEANUP OF GROUNDWATER POLLUTED BY FUEL LEAKS AND OTHER RELATED WASTES AT SERVICE STATIONS AND SIMILAR SITES.
Facility: Shorenstein Realty Services, 1155 Clay Street
Oakland, Alameda County, CA 94607

Dear Mr. Loukianoff:

Regional Board staff have reviewed the application dated February 18, 2000 and a supplement dated March 8, 2000 for the above site. We have determined that the discharge is eligible under the requirements of Order No. 96-078. Authorization to discharge treated groundwater from the above site is hereby granted providing the following conditions are met:

1. You must comply with all applicable requirements of Order No. 96-078 and the associated Self-Monitoring Program (SMP). Order No. 96-078 and the SMP are attached. You may also obtain an electronic copy of this Order and the SMP from http://www.swrcb.ca.gov/~rwqcb2 (NPDES Gen. Permits or downloadable files).

2. Two 2,000-pound granular activated carbon units will treat the extracted groundwater. Treated water will be discharged through a storm sewer to Oakland Inner Harbor (Latitude 37 Deg. 47 Min. 43 Sec; Longitude 122 Deg. 16 Min. 58 Sec).

3. The maximum discharge from the treatment system shall not exceed 100 gallons per minute.

4. This authorization letter shall be effective immediately and expires on June 19, 2001, the expiration date of Order No. 96-078. If you need to continue discharging after that date, you must file an application as explained in Provision D.2. of the Order not later than December 19, 2000.

5. A copy of Order No. 96-078 and this authorization letter shall be stored at or near the treatment facility.

6. Self-Monitoring Reports shall be submitted on a calendar quarter basis, no later than 15 days following the last day of the quarter. These reports should be directed to the responsible staff member at this office. At this time, it is Farhad Azimzadeh. The reports shall summarize the monitoring data to include information such as source of the sample (influent, effluent, receiving water, or groundwater); the constituents; the methods of analysis used; the laboratory achieved detection limits in parts per billion (ppb); the sample results (ppb); the date sampled; and the date sample was analyzed. These reports shall also include a description of operation and maintenance of the recovery and treatment system.

Notice is hereby given that it is the responsibility of any person proposing to discharge to a storm drain system or other watercourses to obtain authorization to discharge from the agency having jurisdiction over the use of the storm drain system or watercourse. This discharge authorization is conditional and may be terminated at any time. Please contact Farhad Azimzadeh at (510) 622-2310 or fa@rb2.swrcb.ca.gov if you have any questions.

Sincerely,

Lawrence P. Kolb
Acting Executive Officer

Stephen Hill, Chief
Toxics Cleanup Division

Attachment: Order No. 96-078 and the SMP

cc: Jay Clare, URS Greiner Woodward Clyde
500 12th Street, Suite 200
Oakland, CA 94607-4014

Farhad Azimzadeh, RWQCB

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 96-078
NPDES NO. CAG912002

GENERAL WASTE DISCHARGE REQUIREMENTS FOR:

DISCHARGES OF EXTRACTED AND TREATED GROUNDWATER RESULTING FROM THE CLEANUP OF GROUNDWATER POLLUTED BY FUEL LEAKS AND OTHER RELATED WASTES AT SERVICE STATIONS AND SIMILAR SITES, AND RESCISSION OF ORDER NO. 91-056

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter Board) finds that:

1. States may request authority to issue general National Pollutant Discharge Elimination System (NPDES) permits pursuant to Code of Federal Regulations, Title 40 - Protection of Environment, Chapter 1, Environmental Protection Agency, Subchapter D, Water Programs (hereinafter referred to as 40 CFR), part (hereinafter referred to as a number after 40 CFR) 122.28. On June 8, 1989, the State Water Resources Control Board (hereinafter State Board) submitted an application to the United States Environmental Protection Agency (hereinafter U.S.EPA) requesting revisions to its NPDES program in accordance with 40 CFR 122.28, 123.62 and 403.10. The application included a request to add general permit authority to its approved NPDES program. On September 22, 1989, the U.S.EPA, Region IX, approved the State Board's request and granted authorization for the State to issue general NPDES permits.

2. 40 CFR 122.28 provides for the issuance of general permits to regulate discharges of waste which result from similar operations, are the same types of waste, require the same effluent limitations, require similar monitoring, and are more appropriately regulated under a general permit rather than individual permits.

3. On April 17, 1991, the Board adopted Order No. 91-056 (NPDES No. CA0029815) allowing the discharge of treated groundwater under the "General Waste Discharge Requirements for: Discharges of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Fuel Leaks and Other Related Wastes at Service Stations and Similar Sites". The expiration date for Order 91-056 was April 17, 1996. During the period of April 1991 to April 1996, 127 discharge authorization letters were issued to permit discharge of extracted and treated groundwater under Order No. 91-056.

4. A general permit for existing and proposed discharges of extracted and treated groundwater to surface waters of the San Francisco Bay Region (except for direct discharges to the Pacific Ocean) from groundwater cleanup projects meets the requirements of 40 CFR 122.28. The discharges and proposed discharges: (a) result from similar operations (all involve extraction, treatment, and discharge of groundwater), (b) are the same types of waste (all are groundwater containing petroleum hydrocarbons and other related wastes due to leaks and spills from service stations and similar sites), (c) require similar effluent limitations for the protection of the beneficial uses of surface waters in the San Francisco Bay Region (this general permit does not cover direct discharges to the Pacific Ocean), (d) require similar monitoring, and (e) are more appropriately regulated under a general permit rather than individual permits. Therefore, this Order establishes a general permit regulating extracted and treated groundwater discharges resulting from the cleanup of groundwater polluted by fuel leaks and other related wastes at service stations and similar sites.

5. Approximately 7,500 sites with underground fuel storage tanks within the San Francisco Bay Region are known to be currently leaking or have leaked in the past. Fuel is also discharged to groundwater from other sources (surface spills, pipeline breaks or leakages, etc.). Some of the groundwater aquifers in the Region contain a mixture of fuel, metals, and solvent pollution. Discharges of extracted and treated groundwater which contain less than 10 grams per day (1 gram/day for mercury or selenium) of any metal are not expected to adversely affect the beneficial uses of the receiving water.

6. Within the next five years, a large number of these petroleum and/or petroleum mixed with metals and/or solvents sites will be conducting groundwater cleanups. It is anticipated that many of these cleanups will require waste discharge requirements for discharge to surface waters. These cleanups will far exceed the capacity of available staff to develop and bring individual tentative waste discharge requirements to the Board for adoption. These circumstances create the need for an expedited system to process the anticipated numerous requests. The adoption of a general NPDES permit to replace the general NPDES permit that expired would: expedite the processing of requirements; enable the Board to better utilize limited staff resources; and permit cleanups to begin promptly.

7. Entities subject to this Order (service stations and similar sites which discharge treated groundwater polluted by fuel leaks and other related wastes) are hereinafter referred to as discharger(s).

8. Article 1, Chapter 9, Division 3, Title 23 of California Code of Regulations has a Fee schedule dated May 18, 1995 based on the discharges' Threat To Water Quality and Complexity. The dischargers to be regulated under this General Permit shall be classified as category 2-B which includes:
* Category 2 Threat To Water Quality - Those discharges of waste which could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance; and
* Category B Complexity - Any discharger not included in the major discharger category A, but has physical, chemical, or biological treatment system (except for septic systems with subsurface disposal), or any Class II or Class III waste management Units.

9. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (hereinafter called Basin Plan) on June 21,1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Board on July 20, 1995 and the Office of Administrative Law on November 13, 1995. The Office of Administrative Law's action is published in Section 3912 of Title 23 of the California Code of Regulations. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

10. The Basin Plan contains water quality objectives for surface waters and groundwaters within the San Francisco Bay Region. The existing and potential beneficial uses of surface water bodies are shown in Tables 2-1 through 2-7 of the Basin Plan. Significant surface waters are shown in Figures 2-3 through 2-9 of the Basin Plan. Beneficial uses and general locations of wetland areas are explained and shown in Table 2-10 and Figure 2-11 of the Basin Plan, respectively. Areas of special biological significance are shown in Figure 2-1 of the Basin Plan. A copy of these tables and figures are attached.

11. The existing and potential beneficial uses applicable to groundwater in the Region include:
Municipal and Domestic Water Supply,
Industrial Water Supply,
Industrial Process Water Supply,
Agricultural Water Supply, and
Freshwater Replenishment To Surface Waters.

12. The Board adopted Resolution No. 88-160 on October 19, 1988. The

Resolution urges dischargers of extracted groundwater from site cleanup projects to reclaim their effluent and that when reclamation is not technically and/or economically feasible, to discharge to a publicly owned treatment works (POTW). If neither reclamation nor discharge to a POTW is technically or economically feasible and if beneficial uses of the receiving water are not adversely affected, it is the intent of the Board to authorize the discharge of treated extracted groundwater in accordance with the requirements of this Order.

13. The Basin Plan prohibits discharge of "wastewater which has particular characteristics of concern to beneficial uses": (a) "at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any nontidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof" and (b) at any point in "San Francisco Bay south of the Dumbarton Bridge".

14. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 13 above as follows: "A discharge is approved as part of a groundwater clean-up project, and in accordance with Resolution No. 88-160, Board Position on the Disposal of Extracted Groundwater from Groundwater Clean-up Projects, and it has been demonstrated that neither reclamation nor discharge to a POTW is technically and economically feasible, and the discharger has provided certification of the adequacy and reliability of treatment facilities and a plan that describes procedures for proper operation and maintenance of all treatment facilities. (The Board recognizes the resource value of extracted and treated groundwater and urges its utilization for the highest beneficial use for which applicable water quality standards can be achieved.)"

15. The Basin Plan also prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." Prior to discharge, the dischargers must demonstrate to the satisfaction of the Executive Officer that their groundwater extraction and treatment systems and associated operation, maintenance, and monitoring plans constitute acceptable programs for minimizing the discharge of toxic substances to waters of the State.

16. Pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (collectively "antidegradation policies"), the Board shall ensure that any increase in pollutant loading to a receiving water meets the

requirements stated in the foregoing policies. At a minimum, permitting actions shall be consistent with the following:

a. Existing instream water uses and the level of water quality necessary to protect existing beneficial uses shall be maintained and protected;

b. Where the quality of the waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, the quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located;

c. Where high quality waters constitute an outstanding national resource, such as waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected; and

d. In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the Clean Water Act.

17. The Board, in establishing the requirements contained herein, has taken into consideration the requirements of the State and Federal "antidegradation" policies and has determined that:

a. The conditions and effluent limitations established in this Order for discharges of treated groundwater to surface waters in this Region ensure that the existing beneficial uses and quality of surface waters in this Region will be maintained and protected;

b. Discharges regulated by this Order should not lower water quality if the terms and conditions of this Order are met;

c. Discharge to waters of exceptional recreational or ecological significance, such as Areas of Special Biological Significance, will be prohibited;

d. Thermal discharges potentially impairing water quality are not authorized under the terms and conditions of this Order, thus, Section

316 of the Clean Water Act is not applicable.

18. This Order permits the discharge of treated groundwater to waters of the State subject to the prohibitions, effluent limitations, and provisions of this Order. It does not pre-empt 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.

19. Effluent limitations in this Order are based on the existing permit, the Basin Plan, State plans and policies, U.S. EPA guidance, best available treatment technology economically achievable, best management practices, and best professional judgment.

20. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) pursuant to Section 13389 of the California Water Code.

21. The Board has notified interested agencies and persons of its intent to issue general waste discharge requirements for groundwater dewatering discharges resulting from the cleanup of groundwater polluted by fuel leaks and other related wastes at service stations and similar sites, and has provided them with an opportunity to submit their written views and recommendations.

22. The Board, in a public meeting, heard and considered all comments pertaining to general waste discharge requirements for groundwater dewatering discharges resulting from the cleanup of groundwater polluted by fuel leaks and other related wastes at service stations and similar sites.

IT IS HEREBY ORDERED that dischargers discharging treated groundwater polluted by fuel leaks and other related wastes at service stations and similar sites, their agents, successors, and assigns, 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 Prohibitions

1. Bypass or overflow of untreated or partially treated polluted groundwater to waters of the State either at the treatment system or from any of the

collection or transport systems or pump stations tributary to the treatment system is prohibited.

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

3. The discharge shall be limited to extracted and treated groundwater and added treatment chemicals approved by the Executive Officer which do not adversely affect the environment and comply with the requirements of this Order.

4. The discharge to areas designated as being of Special Biological Significance, is prohibited. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.

5. The discharge of oil, trash, industrial waste sludge, or other solids directly to the surface waters in this Region or in any manner which permit it to be washed into the surface waters in this Region is prohibited.

6. The discharge of extracted and treated groundwater from a specific site in excess of the flow rate specified in each discharger's authorization letter from the Executive Officer is prohibited.

7. The discharge of extracted and treated groundwater polluted by fuel leaks and other related wastes at service stations and similar sites to surface waters in this Region is prohibited unless an application for proposed discharge and the certification report required by Provision D.2 for the discharge have been submitted to, and reviewed by, the Executive Officer and the Executive Officer has provided the discharger with written authorization to initiate the discharge; or an individual NPDES permit has been adopted for the discharge.

B. Effluent Limitations

1. The effluent (at a point after full treatment but before it joins or is diluted by any other waste stream, body of water, or substance) shall not contain constituents in excess of the following INSTANTANEOUS MAXIMUM LIMITS:

Constituents	Discharge to Drinking Water Areas (1), in ug/l	Discharge to Other Surface Water Areas (ug/l)
Purgeable Halocarbons (EPA Method 601 or equivalent)		
a) Carbon Tetrachloride	0.5	5.0
b) 1,2-Dichloroethane	0.5	5.0
c) Vinyl Chloride	0.5	5.0
d) l,l-Dichloroethane	5.0	5.0
e) l,l-Dichloroethylene	5.0	5.0
f) (cis & trans) 1,2-Dichloroethylene	5.0	5.0
g) Methylene Chloride	5.0	5.0
h) Tetrachloroethylene	5.0	5.0
i) Trichloroethylene	5.0	5.0
j) l,l,l-Trichloroethane	5.0	5.0
k) 1,1,2-Trichloroethane	5.0	5.0
l) Trichlorotrifluoroethane	5.0	5.0
m) Chloroform	5.0	5.0
Purgeable Aromatics (EPA Method 602 or equivalent)		
n) Benzene	1.0	5.0
o) Toluene	5.0	5.0
p) Ethylbenzene	5.0	5.0
q) Total Xylenes	5.0	5.0
r) Volatile Organic Compounds (per constituent, as identified by EPA Method 624, EPA Methods 601 and 602, or equivalent)	5.0	5.0
s) Total Petroleum Hydrocarbons (as identified by modified EPA Method 8015 or equivalent)	50.0	50.0
t) Ethylene Dibromide (as identified by EPA Method 504 or equivalent)	0.05	5.0
u) Polynuclear Aromatic Hydrocarbons (PAHs) (as identified by EPA Method 610, 625, or equivalent)	15.0	15.0
v) Base/Neutral, Acid, and Pesticide Compounds (per constituent other than PAHs, as identified by EPA Method 625 or equivalent)	5.0	5.0

(1)Drinking water areas are defined as surface waters used for municipal and domestic supply; they also include groundwater recharge areas (including recharge areas to maintain salt balance or to halt salt water intrusion into fresh water aquifers).

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.

3. Toxicity: The survival of test fish in 96-hour static renewal bioassays of the discharge shall be a three sample moving median of 90% survival and a minimum value of not less than 70% survival.

C. Receiving Water Limitations

1. The discharge shall not cause the following conditions to exist in waters of the State at any place:
   a. Floating, suspended, or deposited macroscopic particulate matter or foam;
   b. Bottom deposits or aquatic growths;
   c. Alteration of temperature, turbidity, taste, odor, or apparent color beyond present natural background levels;
   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
   e. Toxic or other deleterious substances to be present in concentrations or quantities that will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
   a. Dissolved oxygen
      For all tidal waters:
         In the Bay downstream of Carquinez Bridge - 5.0 mg/l minimum
         Upstream of Carquinez Bridge - 7.0 mg/l minimum
      For nontidal waters:
         Waters designated as cold water habitat - 7.0 mg/l minimum
         Waters designated as warm water habitat - 5.0 mg/l minimum
      For all inland surface waters:
         The median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.

b. Dissolved Sulfide

All inland surface waters shall be free from dissolved sulfide concentrations above natural background levels.

c. pH Variation from natural ambient pH by more than 0.5 pH units.

d. Un-ionized ammonia

0.025 mg/l as Nitrogen, Annual Median; 0.16 mg/l as Nitrogen, Maximum (Central Bay and upstream); and

0.4 mg/l as Nitrogen, Maximum (Lower Bay and South Bay).

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. Dischargers shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the dischargers to achieve compliance with the conditions in this Order and in the authorization letters from the Executive Officer. 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. This provision requires the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of this Order and the authorization letters from the Executive Officer. All systems, both those in service and reserve, shall be inspected and maintained on a regular basis. Records shall be kept of the inspection results and maintenance performed and made available to the Board. All of the above procedures shall be described in an Operation and Maintenance (O & M) Manual. The O & M Manuals shall also contain a description of the safeguards to assure that, should there be reduction, loss, or failure of electric power, the dischargers will be able to comply with the terms and conditions of this Order and the authorization letters from the Executive Officer. The O & M Manuals shall describe preventive (fail-safe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible

sources of accidental loss, untreated or partially treated waste bypass, and polluted drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes shall be considered.

2. Each discharger shall submit, as part of the application for proposed discharge, a report, to the satisfaction of Executive Officer, certifying the adequacy of each component of the proposed treatment facilities along with the associated O & M Manual. This certification report shall contain a requirement-by-requirement analysis, based on accepted engineering practice, of how the process and physical design of the treatment facilities will ensure compliance with this Order. Each report shall also certify that (a) all treatment facility startup and operation instruction manuals are adequate and available to operating personnel, (b) adequate treatment facility maintenance and testing schedules are included in the treatment facility O & M Manual, and (c) influent and effluent sampling locations or ports are located in areas where samples representative of the waste stream to be monitored can be obtained. The design engineer shall affix his/her signature and engineering license number to this certification report.

3. The application for each point of proposed discharge to a storm sewer or storm channel shall contain the following:
   a. An effluent reclamation and POTW discharge feasibility study;
   b. Completed U.S.EPA application forms 1 (General Information) and 2D (New Sources and New Dischargers). Existing dischargers should use form 2C instead of Form 2D.

      A check for the appropriate amount, which is the fee established by the State Board for processing the application and operation during the remainder of the year.

      The check would be made payable to the State Water Resources Control Board and submitted with the application package. The annual fee for this type of discharge in succeeding years will be the amount required for category 2-B as explained in Finding 8 of this Order;
   c. Chemical analysis of the untreated groundwater;
   d. A discussion of the proposed cleanup project in general terms including a review of the extraction system design and the status of definition of free product and dissolved product plumes;
   e. The certification report and associated O & M Manual as described in Provisions D.1. and D.2.;

f. A map showing the path from the point of initial discharge (e.g. storm sewer) to the ultimate receiving water location of discharge;

g. The estimated average and maximum daily flow rates;

h. A list of known or suspected leaking underground tanks and other facilities or operations which have, or may have impacted the quality of the underlying groundwaters;

i. A discussion of the quality of the proposed receiving waters;

j. A discussion of the proximity of the proposed discharge to Areas of Special Biological Significance;

k. A discussion of plans for the prevention of run-on, interception and diversion of run-off, and prevention of infiltration and runoff from contaminated soils stored on-site, if the discharge is associated with a groundwater remediation project and soils containing petroleum products or other pollutants will be maintained on-site;

l. A discussion of why the proposed discharge is consistent with the type of discharge covered by this general permit (Order No. 96-078); and

m. Any other information deemed necessary by the Executive Officer.

4. Upon receipt of a complete application for proposed discharge, the Executive Officer will review the application to determine whether the proposed discharger has shown it will comply with the following criteria and is eligible to discharge waste under this general permit:

a. The proposed discharge results from the cleanup of groundwater polluted by fuel leaks and other related wastes at a service station or a similar site;

b. The proposed discharge is to surface waters of the San Francisco Bay Region (except for direct discharges to the Pacific Ocean);

c. The proposed discharger has met the provisions of Resolution No. 88-160;

d. The proposed treatment system and associated operation, maintenance, and monitoring plans are capable of ensuring that the discharge will meet the provisions, prohibitions, effluent limitations, and receiving water limitations of this Order; and

e. The proposed discharge will not have any adverse impact on waters of exceptional recreational or ecological significance.

5. If the Executive Officer determines that the proposed discharger is eligible to discharge waste under this general permit, the Executive Officer may (a)

authorize the proposed discharge or (b) require the discharge proponent to obtain an individual NPDES permit prior to any discharge to inland surface waters in the San Francisco Bay Region. If the Executive Officer authorizes the discharge, a "discharge authorization letter" will be transmitted to the discharge proponent (now an "authorized discharger") authorizing the initiation of the discharge subject to the conditions of this Order and any other conditions necessary to protect the beneficial uses of the receiving waters. The discharge authorization letter from the Executive Officer will specify the maximum allowed discharge flow rate (which also limits the mass loading rate for each pollutant listed in Effluent Limitation B.1 of this Order) and the Self-Monitoring Program for this Order. The discharge authorization letter may be terminated or revised by the Executive Officer at any time.

6. Dischargers shall comply with the Self-Monitoring Program as adopted by the Board and as amended by the Executive Officer. The sampling and analysis schedule in the attached Self-Monitoring Program is the program expected to be followed for six months. After six months, the results will be reviewed, if requested by the dischargers, and the Executive Officer may modify the Self-Monitoring Program to cover constituents of concern. If the groundwater extraction and/or treatment system(s) described in the application for proposed discharge and certification report is modified, the schedule of monitoring specified in Part B, Table 1, of the Self-Monitoring Program will be reviewed for possible modification.

7. This Order may be modified by the Board prior to the expiration date to include effluent or receiving water limitations for toxic constituents determined to be present in significant amounts in discharges regulated by this general permit (through the comprehensive monitoring program included as part of this Order).

8. Dischargers shall comply with all applicable items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated August 1993 except Items A.7., A.14., B., C., D.2. and E.5. Item E.6.d.2)iii. shall be modified by substituting "instantaneous maximum" for "maximum daily".

9. If pursuant to Section IV.B. of the Self-Monitoring Program, more than 10 grams per day (1 gram/day for mercury or selenium) of any metal (arsenic, cadmium, chromium, copper, lead, nickel, silver, or zinc) or cyanide is discharged to the receiving water, the discharger shall indicate in writing

(within 30 days) to the Board which of the following actions will be taken:

a. Investigate, as specified in Section IV.B. of the Self-Monitoring Program, and show that the discharge does not adversely affect the beneficial uses of the receiving water;
b. Reduce the amount of the metal or cyanide discharged to less than 10 grams per day (1 gram/day for mercury or selenium) [e.g. through upgrading the treatment system, source removal, pretreatment, waste minimization, etc.]; or
c. Provide an alternate method of disposal (truck to a POTW, truck to reclamation, etc.).

10. Upon receipt of the Executive Officer's discharge authorization letter, the discharger(s) shall comply with all conditions and limitations of this Order and the discharge authorization letter. Any permit noncompliance (violations of requirements in this Order or Self Monitoring Program) constitutes a violation of the Clean Water Act and the California Water Code and is grounds for enforcement action; for permit or authorization letter termination, revocation and reissuance, or modification; the issuance of an individual permit; or for denial of a renewal application.

11. The U.S.EPA Administrator may request the Board Executive Officer to require any discharger authorized to discharge waste by the general permit to subsequently apply for and obtain an individual NPDES permit. The Executive Officer of the Board may require any discharger authorized to discharge waste by a general permit to subsequently apply for and obtain an individual NPDES permit. An interested person may petition the Executive Officer or the Regional Administrator to take action under this provision. Cases where an individual NPDES permit may be required include the following:

a. The discharger is not in compliance with the conditions of this Order or the discharge authorization letter from the Executive Officer;
b. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;
c. Effluent limitation guidelines are promulgated for point sources covered by the general NPDES permit;
d. A water quality control plan containing requirements applicable to such point sources is approved; or

e. The requirements of 40 CFR 122.28(a) are not met.

12. This Order expires on June 19, 2001. Dischargers must file an application for proposed discharge and a certification report as described in Provision D.2. not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

13. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 91-056. Order No. 91-056 is hereby rescinded.

14. This Order shall serve as a general National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Loretta K. Barsamian, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 19, 1996.

Loretta K. Barsamian
Executive Officer

Attachments:

Tables 2-1 through 2-7 and Table 2-10
Figure 2-1, Figures 2-3 through 2-9, and Figure 2-11

Standard Provisions & Reporting Requirements, August 1993
Self-Monitoring Program, Parts A and B

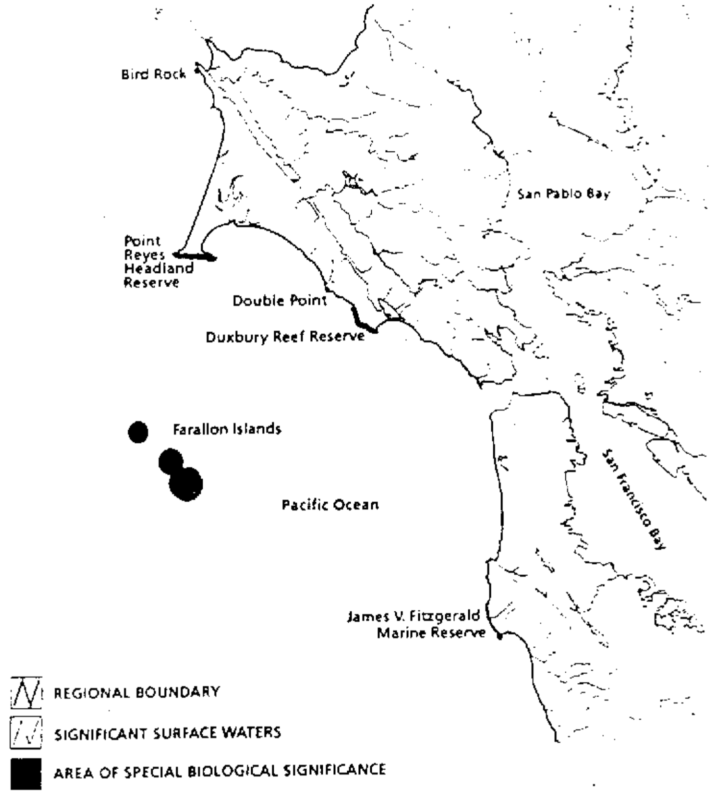


Figure 2-1
Areas of Special Biological Significance

TABLE 2-1 BASIN 1 - MARIN COASTAL BASIN

BASIN	WATERBODY	AGR	COLD	COMM	EST	FRSH	GWR	IND	MAR	MIGR	MUN	NAV	PROC	RARE	REC-1	REC-2	SHEL	SPWN	WARM	WILD
Pacific Ocean (Marin)				E				E	E	E		E				E				E
[illegible] Lagoon									E							E				E
[illegible] Estero				E					E							E				E
	[illegible] Valley Creek		E													E		E		E
[illegible] Estero				E														E		E
[illegible]			E													E		E		E
[illegible] Creek			E													E				E
[illegible]			E																	E
[illegible] Bay				E						E										
	[illegible]																			
	[illegible] Creek																			
	[illegible] Gulch Creek																			
	[illegible] Gulch Creek																			
	[illegible] Gulch Creek																			
	[illegible] Gulch Creek																			
[illegible] Creek		E	E			E														E
[illegible] Lagoon																				
	[illegible] Creek		E																	E
[illegible] Bay																				
	[illegible]																			
	[illegible] Gulch																			
	Lagunitas Creek	E	E							E						E		E		E
[illegible] Creek			E																	
	[illegible] Lake																			
	[illegible] Canyon Creek																			
	[illegible] Creek																			E
	[illegible] Canyon Creek																			
	[illegible] Creek																			
	[illegible] Reservoir					E														E
[illegible] Creek		E								E										E
	[illegible] Creek		E																	E
	Big [illegible] Creek																			
	[illegible] Creek																			
	[illegible] Creek																			
	[illegible]																			
	[illegible] Reservoir					E														E
	[illegible]					E														
	[illegible]																			
	[illegible]		E																	
	[illegible] Creek																			E
	[illegible]		E																	E
	[illegible] Creek		E									E								E
	[illegible] Creek		E																	

[illegible] E = Potential Beneficial Use [illegible] Limited Beneficial Use
[illegible] may not correspond exactly with those that appear in Figure [illegible]

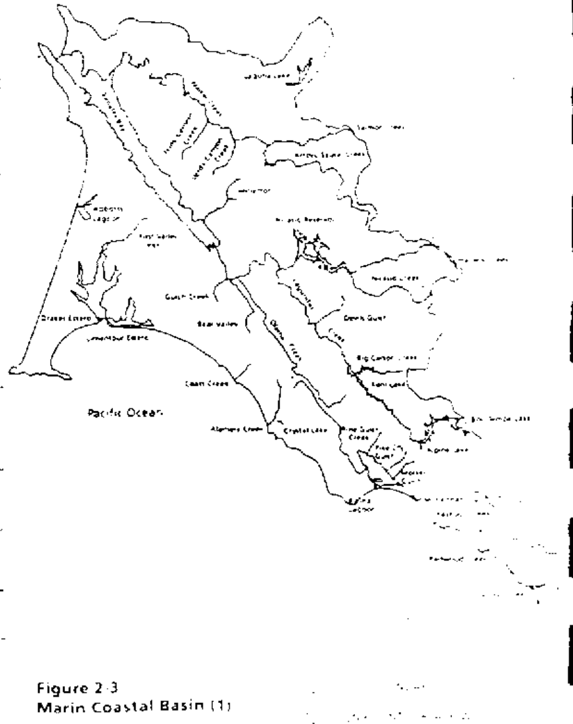


Figure 2-3
Marin Coastal Basin (1)

TABLE 2-2 BASIN 2 - SAN MATEO COASTAL

BASIN WATERBODY	AGR	COLD	COMM	EST	FRSH	GWR	IND	MAR	MIGR	MUN	NAV	PROC	RARE	REC 1	REC 2	SHEL	SPWN	WARM	WILD
Lake Merced		E								P					E		E	E	
San Pedro Creek		E							E	E					E		E	E	
San Vicente Creek	E	E							E	E			E	E	P		E		
Denniston Creek	E	E							E	E			E	E	E		E	E	
Frenchmans Creek	E	E							E				E	E	E		E	E	E
Pilarcitos Creek	E	E							E	E			E	E	P		E	E	E
Apanolio Creek																			
Arroyo Leon Creek																			
Mills Creek																			
Pilarcitos Lake		E								E			E	E	E		E	E	E
Purisima Creek	E	E							E				E	E	E		E		E
Lobitos Creek	E	E							E				E	E	E		E		E
Tunitas Creek	E	E							E				E	E	E		E	E	E
San Gregorio Creek	E	E							E				E	E	E		E	E	E
Alpine Creek																			
El Corte de Madera Creek		E							P				E	E	E		E	E	E
La Honda Creek																			
Woodruff Creek																			
Clear Creek																			
Harrington Creek																			
Bogess Creek																			
Mindego Creek																			
Pomponio Creek	E	E							E		P			E			E	E	E
Pomponio Reservoir																			
[illegible] Creek																			
Pescadero Creek	E	E							E	E			E	E	E		E	E	E
Fall Creek																			
Hoffman Creek																			
Honsinger Creek																			
Jones Gulch Creek																			
McCormick Creek																			
Oil Creek																			
Lambert Creek																			
Peters Creek																			
Slate Creek																			
Tarwater Creek																			
Little Boulder Creek																			
Waterman Creek																			

E: Existing Beneficial Use P: Potential Beneficial Use L: Limited Beneficial Use

Water bodies listed here may not correspond exactly with those that appear on Figure 2-4

Figure 2-4
San Mateo
Coastal Basin (2)

CHAPTER 2 BENEFICIAL USES

TABLE 2-3 BASIN 3 - CENTRAL BASIN

BASIN WATERBODY	AGR	COLD	COMM	EST	FRSH	GWR	IND	MAR	MIGR	MUN	NAV	PROC	RARE	REC 1	REC 2	SHEL	SPWN	WARM	WILD
San Francisco Bay Central			E	E			E		E		E	E	E	E	E	E	E		E
[illegible] Aquatic Park Lagoon									E					E	E		P		E
[illegible] Rafael Creek		E									E				E				E
[illegible] Madera Creek		E							P				E	E			E	E	E
[illegible]																			
[illegible]																			
[illegible]																			
[illegible]																			
[illegible] Lake		E								P				E	E		E		E
[illegible]																			
[illegible]																			
[illegible] Bay			E	E			E		E		E		E	E	E	E	E		E
[illegible] Marsh		E												E			E		E
[illegible] Creek																			
[illegible] Creek		E													E				E
Golden Gate Channel																			
Golden Gate Park Lakes															E				E
Lake Temescal		E													E		E		E
[illegible] Mill Creek																			

E: Existing Beneficial Use P: Potential Beneficial Use L: Limited Beneficial Use

Water bodies listed here may not correspond exactly with those that appear on Figure 2-5

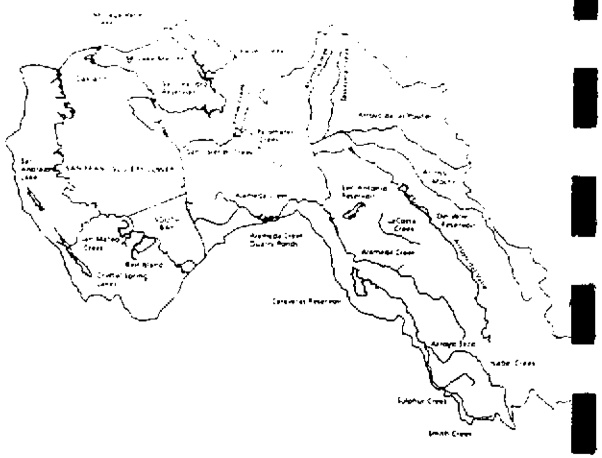
Figure 2-5
Central Basin (3)

TABLE 2-4 BASIN 4 - SOUTH BAY BASIN

BASIN / WATERBODY	AGR	COLD	COMM	EST	FRSH	GWR	IND	MAR	MIGR	MUN	NAV	PROC	RARE	REC-1	REC-2	SHEL	SPWN	WARM	WILD
San Francisco Bay Lower			E	E			E		E		E		E	E	E	E			E
Foster City Lagoon																			
Lake Merritt															E		E		E
Bair Island																			
Lake Chabot (Alameda)		E								E				E	E		E	E	E
Lower San Leandro Creek					E				P					P	P		P	P	E
[illegible] Canyon Reservoir		E												E	E		E		E
San Leandro Creek		E			E				P					P	P		P	P	E
Kaiser Creek																			
San Leandro Reservoir		E								E					P		E	E	E
Moraga Valley Creek																			
San Lorenzo Creek		E			E	E			E	E				E	E		E	E	E
Don Castro Reservoir		E												E	E		E	E	E
Palomares Creek																			
Crow Creek																			
San Mateo Creek		P			E								E		E		E		E
Crystal Springs Lower		E								E			E		E		E	E	E
Crystal Springs Upper		E								E			E		E		E	E	E
San Andreas Lake		E								E			E		E		E	E	E
Alameda Creek	E	E				E			E					E	E		E	E	E
Alameda Creek Quarry Ponds		E				E								E	E			E	
Arroyo Mocho																			
Tassajara Creek																			
Shadow Cliffs Reservoir		E												E	E		E	E	E
Arroyo Del Valle		E				E			P	E				E	P		E		E
Arroyo Seco (Alameda)																			
Arroyo de las Positas																			
Arroyo de la Laguna		P				E			E					E	E		E	E	E
Alamo Canal																			
Smith Creek																			
Del Valle Reservoir		E								E				E	E		E	E	E
Alamo Creek																			
San Antonio Reservoir		E								E					E		E	E	E
Laguna Creek																			
Calaveras Reservoir		E								E					E		E	E	E
Arroyo Hondo		E			E					E				E	E		E	E	E
Isabel Creek																			
Smith Creek																			
Sulphur Creek (Alameda)																			

E Existing Beneficial Use   P Potential Beneficial Use   L Limited Beneficial Use

Water bodies listed here may not correspond exactly with those that appear on Figure 2-6



BASIN BOUNDARY

SIGNIFICANT SURFACE WATERS

SIGNIFICANT SUBWATERSHED BOUNDARY

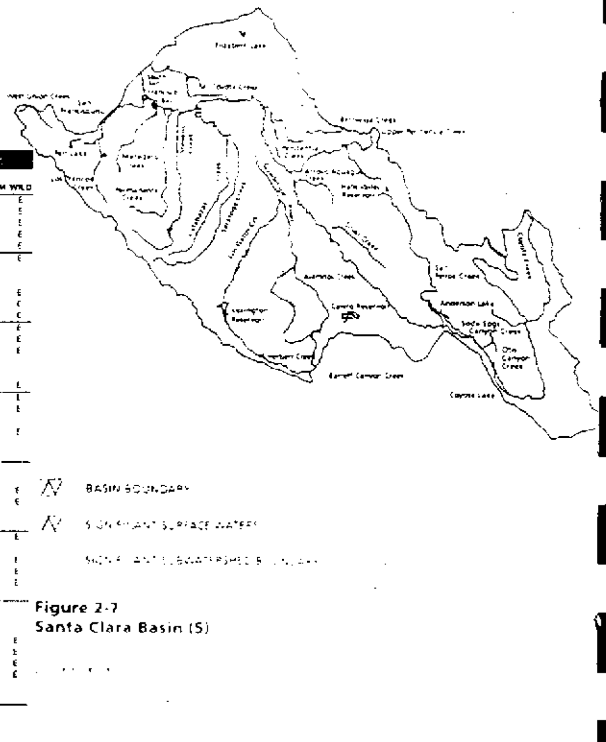
Figure 2-6
South Bay Basin (4)

TABLE 2-5 BASIN 5 - SANTA CLARA BASIN

BASIN / WATERBODY	AGR	COLD	COMM	EST	FRSH	GWR	IND	MAR	MIGR	MUN	NAV	PROC	RARE	REC-1	REC-2	SHEL	SPWN	WARM	WILD
San Francisco Bay South			E	E			E		E		E		E	E	E	E	P		E
Matadero Creek		E							E					E	E		E	E	E
Permanente Creek		E												E	E		E		E
Saratoga Creek	E	E			E	E								E	E			E	E
Calabazas Creek	E	E				E					E			E	E			E	E
San Francisquito Creek		E							E					P	P		E	E	E
Los Trancos Creek																			
West Union Creek																			
Felt Lake	E													E	E		E	E	E
Stevens Creek		E			E				E					E	E		P	E	E
Stevens Creek Reservoir		E				E			E	E					E		E	E	E
Searsville Lake	E	E												E	E		E	E	E
Coyote Creek		E							E				E	P	E		E	E	E
Elizabeth Lake		E													E		E	E	E
Fremont Lagoon																			
Sandy Wool Lake			E						E					E				E	
Cotton Wood Lake		E													E		E	E	E
Guadalupe Reservoir		E				E				E				E	E		E	E	E
Coyote Lake	E	E								E				E	E		E	E	E
Upper Penitencia Creek																			
Cherry Flat Reservoir	E									E					E		E	E	E
Penitencia Creek																			
Silver Creek																			
[illegible]																			
[illegible]																			
San Felipe Creek		P													P		P	E	E
[illegible] Reservoir															P			E	E
[illegible]																			
[illegible]																			
Guadalupe River									P						E		P	E	E
[illegible] Percolation Ponds																			
Lexington Reservoir		E								E					E		E	E	E
Los Gatos Creek		E			E	E			P	E					E		P	P	E
Vasona Lake		E				E									E		E	E	E
Los Gatos Creek?																			
[illegible]																			
[illegible]																			
[illegible]																			
[illegible]						E				E							E	E	E
Almaden Reservoir?		E				E				E					E		E	E	E
Lake [illegible]		E								E									E
Almaden Lake?		E				E				E					E		E	E	E
[illegible]																			
[illegible] Creek																			

E Existing Beneficial Use   P Potential Beneficial Use   L Limited Beneficial Use

Water bodies listed here may not correspond exactly with those that appear on Figure 2-7



BASIN BOUNDARY

SIGNIFICANT SURFACE WATERS

SIGNIFICANT SUBWATERSHED BOUNDARY

Figure 2-7
Santa Clara Basin (5)

TABLE 2-6 BASIN 6 - SAN PABLO BASIN

BASIN / WATERBODY	AGR	COLD	COMM	EST	FRSH	GWR	IND	MAR	MIGR	MUN	NAV	PROC	RARE	REC-1	REC-2	SHEL	SPWN	WARM	WILD
San Pablo Bay			E	E			E		E		E		E	E	E	E	E		E
Lake Chabot (Solano)	E	E								P				E	E		E	E	E
Coon Island																			
Dalwick Lake																			
Miller Creek		E							E				E	E	E		E	E	E
Adobe Creek																			
Wildcat Creek									E						E		E	E	E
San Pablo Creek									E						E		E	E	E
Rodeo Creek															E		E	E	E
Refugio Creek																			
Gallinas Creek		E											E		E			E	E
White Slough																			
Lake Anza															P		E	E	E
Briones Reservoir		E								E					E		E	E	E
San Pablo Reservoir		E								E				E	E			E	E
San Pablo Creek									E						E			E	E
Miller Creek		E							E				E	E	E		E	E	E
Novato Creek		P							P	E			E	E	P		P	E	E
Stafford Lake		E								E				E	E		E	E	E
Petaluma River		E						E	E		E		E	E	E		E	E	E
Willow Creek																			
San Antonio Creek		E							P					P	P		P	E	E
Adobe Creek																			

E: Existing Beneficial Use P: Potential Beneficial Use L: Limited Beneficial Use
Water bodies listed here may not correspond exactly with those that appear on Figure 2-8

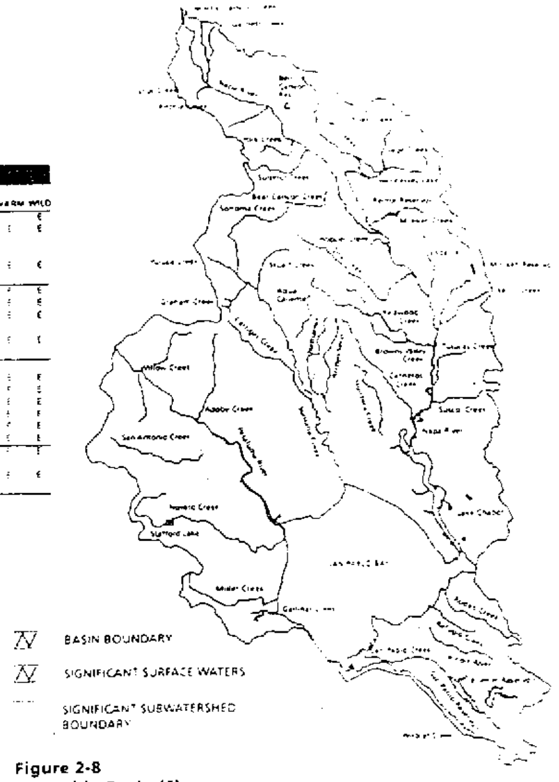


Figure 2-8
San Pablo Basin (6)

TABLE 2-6 BASIN 6 - SAN PABLO BASIN CONTINUED

BASIN / WATERBODY	AGR	COLD	COMM	EST	FRSH	GWR	IND	MAR	MIGR	MUN	NAV	PROC	RARE	REC-1	REC-2	SHEL	SPWN	WARM	WILD
Napa River (cont.)																			
Napa Creek																			
Ritchie Creek																			
Sarco Creek																			
Sulphur Creek (Napa)																			
Suscol Creek																			
Tulucay Creek														E	E		E	P	E
Lake Marie	P	P																	
Soda Creek																			
Huichica Creek										E				P	P		E	E	E
Chiles Creek		E			E					E				E	E		E	E	E
Hennessey Lake		E								E				E	E		E		E
Conn Creek		E			E				E	E				P	E		E	E	E
Sage Creek		E			E					E									
Dry Creek	E	E							E	E				E	E		E	E	E
Carneros Creek										E							E	E	E
Rector Reservoir		E																	
Rector Creek														P	P		E		E
York Creek		E							E										
Bear Canyon Creek																			
Browns Valley Creek																			
Pickle Creek																			
Redwood Creek									E						E		E	E	E
Wildcat Creek									E					P	P		E	E	E
Pinole Creek		E							E						E		E	E	E
San Pablo Creek														E	E		E	E	E
Rodeo Creek																			
Refugio Creek																			

E: Existing Beneficial Use P: Potential Beneficial Use L: Limited Beneficial Use
Water bodies listed here may not correspond exactly with those that appear on Figure 2-8

TABLE 2-6 BASIN 6 - SAN PABLO BASIN CONTINUED

BASIN / WATERBODY	AGR	COLD	COMM	EST	FRSH	GWR	IND	MAR	MIGR	MUN	NAV	PROC	RARE	REC-1	REC-2	SHEL	SPWN	WARM	WILD
Sonoma Creek		E							E				E	E	E		E	E	E
Graham Creek																			
Agua Caliente Creek																			
Arroyo Seco Creek																			
[illegible] Creek																			
Fowler Creek																			
Nathanson Creek																			
[illegible]																			
[illegible] Creek																			
Napa River	E	E							E	E	E		E	E	E		E	E	E
[illegible] Lake																			
Bell Canyon Reservoir										E				E	E			E	E
Kimball Reservoir									E	E	E		E	E	E		E	E	E
Napa River	E	E																	
Bear Canyon Creek																			
[illegible] Creek																			
[illegible] Creek																			
[illegible] Creek																			
[illegible] Canyon Creek															P		E	E	E
Milliken Reservoir		E																	
Milliken Creek																			

E: Existing Beneficial Use P: Potential Beneficial Use L: Limited Beneficial Use
Water bodies listed here may not correspond exactly with those that appear on Figure 2-8

TABLE 2-7 BASIN 7 - SUISUN BASIN

BASIN	WATERBODY	AGR	COLD	COMM	EST	FRSH	GWR	IND	MAR	MIGR	MUN	NAV	PROC	RARE	[illegible]	REC 2	SHEL	SPWN	WARM	WILD
[illegible]				E	E			E		E		E		[illegible]		[illegible]		[illegible]		[illegible]
[illegible]				E	E			E		E		E		[illegible]		[illegible]		[illegible]		[illegible]
[illegible] Reservoir		E						E			[illegible]					[illegible]		[illegible]	[illegible]	[illegible]
[illegible] Pond				E						P									[illegible]	[illegible]
[illegible] Creek			E							E					[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
[illegible] Creek																				
[illegible] Slough												E		[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
[illegible] Slough												E				[illegible]		[illegible]	[illegible]	[illegible]
[illegible]																				
[illegible] Lake			E					E			P					[illegible]		[illegible]		[illegible]
[illegible] Lake			E								E					[illegible]		[illegible]	[illegible]	[illegible]
[illegible] Creek			E			E									[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
Lake [illegible]			E								E					[illegible]		[illegible]	[illegible]	[illegible]
Lake [illegible]		E	E								E					[illegible]		[illegible]	[illegible]	[illegible]
[illegible] Creek			E			E				E						[illegible]		[illegible]	[illegible]	[illegible]
Lake [illegible]											[illegible]					[illegible]		[illegible]	[illegible]	[illegible]
Suisun Reservoir																				
[illegible] Valley Creek																				
[illegible] Creek			E			E				E						[illegible]		[illegible]	[illegible]	[illegible]
[illegible] Creek			E			E				E						[illegible]		[illegible]	[illegible]	[illegible]
[illegible] Creek			E							E						[illegible]		[illegible]	[illegible]	E
[illegible] Creek			E													[illegible]		[illegible]	[illegible]	[illegible]
[illegible]																				

[illegible] P = Potential Beneficial Use L = Limited Beneficial Use
[illegible] do not correspond exactly with those that appear on Figure 2-9

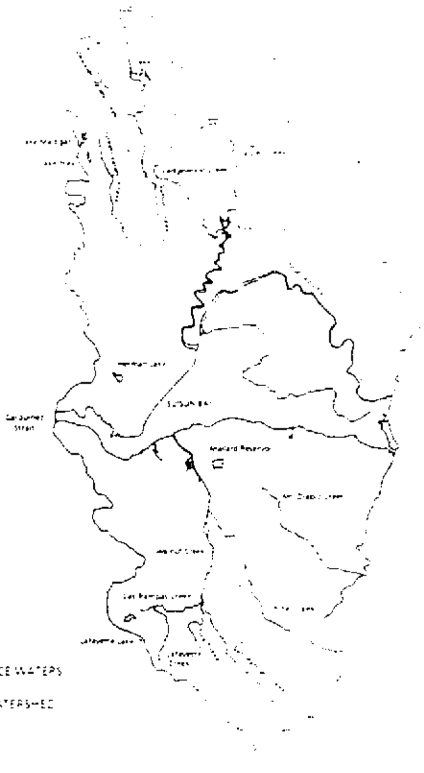


Figure 2-9
Suisun Basin (7)

TABLE 2-10 BENEFICIAL USES OF WETLAND AREAS[1]

	FRESH	BRACKISH	EST	MAR	MIGR	[illegible]	RARE	[illegible]	REC 2	SALT	SPWN	WILD
ALAMEDA COUNTY												
[illegible]			•				•	•	•	•	•	•
[illegible]			•				•	•	•	•	•	•
[illegible]			•				•	•	•	•	•	•
[illegible]			•					•	•	•	•	•
CONTRA COSTA COUNTY												
[illegible]		•	•				•	•	•	•	•	•
[illegible]		•	•				•		•		•	•
[illegible]			•				•	•	•	•	•	•
[illegible]			•				•	•	•		•	•
MARIN COUNTY												
[illegible] Lagoon				•				•	•	•		•
[illegible] Lagoon				•				•	•	•		•
Corte Madera			•				•	•	•	•	•	•
[illegible]								•	•	•	•	•
[illegible] Creek		•	•				•	•	•	•	•	•
[illegible]				•				•	•	•		•
Corte Madera Ecological Reserve			•					•	•	•		•
Novato Creek		•	•		•		•	•	•	•	•	
Richardson Bay			•				•	•	•	•	•	•
Rodeo Lagoon				•				•	•	•		•
San Pedro		•	•			•	•		•	•	•	•
San Rafael Creek		•	•				•	•	•	•		•
Tomales Bay				•	•			•	•	•	•	•
NAPA COUNTY												
Mare Island			•						•	•		•
Napa		•	•		•	•	•	•	•		•	
San Pablo Bay			•		•	•	•	•	•	•	•	•
SAN MATEO COUNTY												
Bair Island			•				•	•	•	•		•
Belmont Slough			•				•	•	•	•	•	•
Pescadero	•			•	•		•	•	•	•	•	•
[illegible]		•						•	•	•		•
Redwood City Area			•				•	•	•			•
SANTA CLARA COUNTY												
South San Francisco Bay			•		•	•	•	•	•	•	•	•
SOLANO COUNTY												
[illegible]			•				•	•	•	•	•	•
[illegible]	•	•	•		•		•	•	•		•	•
[illegible]			•		•		•	•	•	•	•	•
[illegible]												
[illegible]		•	•		•	•	•	•	•		•	•

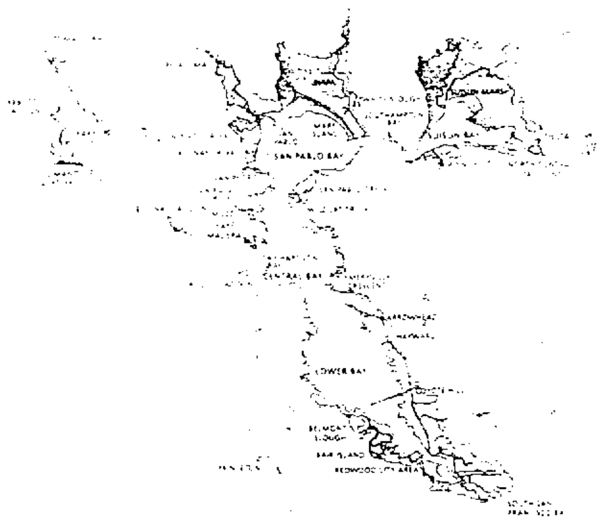


Figure 2-11
General Locations of Wetland Areas

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

DISCHARGES OF EXTRACTED AND TREATED GROUNDWATER
POLLUTED BY FUEL LEAKS AND OTHER RELATED WASTES
AT SERVICE STATIONS AND SIMILAR SITES

NPDES NO. CAG912002

ORDER NO. 96-078

CONSISTS OF

PART A dated August 1993

AND

PART B

PART B

SELF MONITORING PROGRAM FOR DISCHARGES OF EXTRACTED AND TREATED GROUNDWATER POLLUTED BY FUEL LEAKS AND OTHER RELATED WASTES AT SERVICE STATIONS AND SIMILAR SITES

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station	Description
I-1	At a point after groundwater extraction and immediately prior to discharge into the treatment system.

B. EFFLUENT

E-1	At a point after full treatment but before it joins or is diluted by any other waste stream, body of water, or substance.

C. RECEIVING WATERS

RD-1	At a point 50 feet downstream from the point of discharge into the receiving water.
RU-1	At a point 50 feet upstream from the point of discharge into the receiving water.

II. START UP PHASE AND REPORTING

A. The Board's Executive Officer shall be notified in writing of the date of start up within 7 to 14 days before start up begins.

B. During the original start up for the treatment system, sampling of the effluent must occur on the first and fifth day. On the first day of the original start up, the system shall be allowed to run until at least three to five well volumes are removed and until three consecutive readings for pH, conductivity, and temperature are within five percent of each other; then, the influent and effluent shall be sampled and submitted for analyses. Prior to receipt of the results of the initial samples, all effluent shall be discharged into a holding tank (that is contained, not discharged to the receiving water) or discharged to the sanitary sewer until the results of the analyses show the discharge to be within the effluent limits established in this Order and/or in the authorization letter. The treatment system may be shut down after the first day's sampling to await the analyses results and, thereby, reduce the

amount of storage needed. For the stored effluent, if the results of the analyses show the discharge to be in violation, the effluent shall: (1) be retreated until the retreated effluent is in compliance, or (2) be disposed in accord with the provisions of Chapter 15, Title 23, California Code of Regulations.

If the first day's sampling shows compliance, the treatment system shall be operated for a total of five days with the discharge to the storm sewer or other conveyance system leading to the receiving water, and be sampled again. While the fifth day's samples are being analyzed, the effluent may be discharged to the receiving water as long as the analyses are received within 48 hours of sampling, and then, continue to be discharged to the receiving water if the analyses show compliance. If the treatment system is shut down more than 48 hours during the original start up (awaiting analyses results, etc.), the original start up procedures and sampling must be repeated.

A report on the start up phase shall be submitted to the Regional Board that presents the results of the laboratory analyses, flow rates, chain of custody forms, and describes any changes or modifications to the treatment system. This report shall be submitted to the Regional Board no more than fifteen days after the end of the start up phase.

III. ADDITIONAL REPORTING REQUIREMENTS

A. Dischargers shall notify the Board within one day if the self-monitoring program results exceed effluent limitations, or if any activity has occurred or will occur that would result in a frequent or routine discharge of any toxic pollutant not limited by this Order. If a violation of INSTANTANEOUS MAXIMUM LIMITS should occur (and be confirmed), the discharge shall be directed to a holding tank and contained, or the extraction and treatment system shall be shut down. The content of the holding tank shall be retreated until the retreated effluent is in compliance, or be disposed in accord with the provisions of Chapter 15, Title 23, California Code of Regulations.

If the treatment system is shut down for more than 120 consecutive hours after the start up period (maintenance, repair, violations, etc.) the reason(s) for shut down, proposed corrective action(s) and estimated start up date shall be orally reported to the Board within five days of shut down and a written submission shall also be provided within 15 days of shut down.

If feasible, the corrective action(s) taken and the proposed start up procedures shall be reported to the Board at least 15 days before start up.

B. A report describing the need, method of chemical application and disposal shall be submitted to the Board at least 30 days before the use of any chemicals in the treatment, or operation and maintenance of the treatment units, is to begin. This report shall include toxicity data. The Executive Officer must approve the use of any chemicals prior to the usage of any chemicals in the treatment, operation, and/or maintenance of the treatment units.

C. Dischargers shall submit quarterly reports summarizing work accomplished toward groundwater pollution cleanup. The Executive Officer may waive this requirement if adequate reporting to the local agency(ies) or the Regional Board is already being required. The quarterly reports shall include the following information:

1. The results of all investigations completed to date to determine the extent of soil and/or groundwater and/or surface water pollution due to the release(s) of hazardous substance(s);
2. The method of cleanup implemented to date and an assessment as to whether remediation action taken to date has been adequate and its degree of effectiveness;
3. Groundwater levels, and chemical analysis results presented in tabulated form for all on-site and off- site monitoring wells;
4. Updated potentiometric surface maps for all water bearing zones, and updated maps and cross-sections depicting isoconcentration and isothickness contours;
5. Description and schedule of any additional site work and/or modifications anticipated for the coming quarter; and
6. The method and location of disposal of the released hazardous substance(s) and any polluted soils and/or groundwater and/or surface water (indicate whether a hazardous waste manifest(s) is utilized).

D. Dischargers shall report the total amount of separate phase fuel (free product) removed by the treatment system each month in gallons and the cumulative total amount of separate phase fuel removed to date.

E. The daily status (e.g., personnel on-site, in operation/on standby, shut down, standard observation results, etc.) of any treatment systems used to achieve compliance with this Order or associated discharge

authorization letter from the Executive Officer shall be included in the Self- Monitoring Report submittal. The reason(s) for the treatment system being shut down shall also be included in this submittal.

IV. SCHEDULE OF SAMPLING AND ANALYSES

A. The schedule of sampling and analyses shall be that given in Table 1 (attached) for sampling stations I-1, E-1, and RD-1/RU-1.

B. If the E-1 analyses show more than 10 grams per day (1 gram/day for mercury or selenium) of any metal (arsenic, cadmium, chromium, copper, lead, nickel, silver, or zinc) or cyanide is discharged, the Regional Board shall be notified orally within one day and the sampling and analyses frequency for that constituent(s) at stations I- 1, E-1, RD-1, and RU-1 shall be accelerated to daily until the analyses show:
Case 1 - discharges of less than 10 grams per day (1 gram/day for mercury or selenium) for the constituent(s) of concern for two consecutive days; or
Case 2 - discharges of more than 10 grams per day (1 gram/day for mercury or selenium) of the constituent(s) of concern for any three of six consecutive days.
For Case 1, the sampling and monitoring shall revert back to the schedule shown for stations I-1, E-1, and RD-1 in Table 1.
For Case 2, the Executive Officer will review the results of the analyses and the discharger's proposed actions pursuant to Provision D.9 of the general permit to determine if the discharger will be required to submit the following:

1. A workplan and schedule for determining the severity, extent, and source of the metal pollution on the site and whether it is feasible to reduce or eliminate the source of pollution; and
2. A workplan for a three month study evaluating concentrations of the constituent(s) which exceeds ten grams per day (1 gram/day for mercury or selenium) in the discharge (a) in the effluent (E-1), (b) in the storm drain or other conveyance system if more than the effluent is being discharged, (c) upstream in the receiving water (RU-1), and (d) downstream in the receiving water (RD-1). The workplan should include, at a minimum, determinations of pH, hardness, total suspended solids, total dissolved solids, receiving water flow and their effect on the analytical results. The workplan should propose that a statistically significant number of water samples (filtered and unfiltered) be obtained from the areas specified.

V. BIOASSAY REQUIREMENT

The fish species to be used for compliance in the 96-hour percent survival static renewal fish toxicity bioassay shall be rainbow trout.

VI. MODIFICATION TO PART A OF THE SELF MONITORING PROGRAM

A. Delete Sections:

C.I., C.2.a., C.2.b., C.2.d., C.2.e., C.2.g., C.3., C.5., D.4., E.2., E.3., and E.5.

B. Insert Sections:

C.2.a. Samples of effluent and receiving waters shall be collected at times coincident with influent sampling unless otherwise stipulated. The Executive Officer may approve an alternative sampling plan if it is demonstrated to the Executive Officer's satisfaction that expected operating conditions warrant a deviation from the standard sampling plan.

C.2.d. If analytical results are received showing any instantaneous maximum limit (Effluent Limitation B.1) is exceeded, a confirmation sample shall be taken within 24 hours and results known within 24 hours of the sampling.

C.2.e. If any instantaneous maximum limit for a constituent is exceeded in the confirmation sample described in Section D.2.d., the discharge shall be terminated until the cause of the violation is found and corrected.

D.6. Waste Treatment Facilities

a. Deposits, discolorations, and/or plugging in the treatment system (stripping tower, carbon filters, etc.) which could adversely affect the system reliability and performance.

b. Operation of the float and/or pressure shutoff valves installed to prevent system overflow or bypass.

E.2. Discharge flow rates shall be recorded and average daily flow rates reported for each month.

C. Modify Sections:

C.4.a. Delete the word "composite" from the sentence.

F.4.b. The report format shall be a format that is acceptable to the Executive Officer.

F.4.d. The report format shall be a format that is acceptable to the Executive Officer. Electronic formats are being developed.

F.4.e. The report format shall be a format that is acceptable to the Executive Officer. NPDES Discharge Monitoring Report, EPA Form 3320-1, is provided as guidance. Influent and effluent data summary reports shall be submitted only to the Regional Board and do not need to be submitted to the EPA.

Address the copy to the Regional Board as follows:
Executive Officer / Attention: Farhad Azimzadeh
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, 5th Floor
Oakland, CA 94612

I, Loretta K. Barsamian, Executive Officer do hereby certify the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 96-078.

2. Was adopted by the Board on June 19, 1996.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from dischargers, and revisions may be ordered by the Executive Officer or Regional Board.

Loretta K. Barsamian
Executive Officer

Attachments: Table 1

Table 1 - Schedule for Sampling, Measurement, and Analysis

Sampling Station	**I-1**	**E-1**	**RD-1**
Type of sample	**Grab**	**Grab**	**Grab**
Flow Rate (gpm & gpd)		Continuous	
Turbidity		D/Q	
Fish Toxicity, 96-hr (% survival)		2/Y	
pH	D/M	D/M	Q-V
Dissolved Oxygen (mg/l)	D/M	D/M	
Temperature (°C)	D/M	D/M	
Electrical Conductivity	D/M	D/M	
Antimony Total (µg/l & gram/day)	D/Y	D/Q	
Arsenic Total (µg/l & gram/day)	D/Y	D/Q	
Beryllium Total (µg/l & gram/day)	D/Y	D/Q	
Cadmium Total (µg/l & gram/day)	D/Y	D/Q	
Chromium Hexavalent or Total Chromium Total (µg/l & gram/day)	D/Y	D/Q	
Copper Total (µg/l & gram/day)	D/Y	D/Q	
Cyanide Total (µg/l & gram/day)	D/Y	D/Q	
Lead Total (µg/l & gram/day)	D/Y	D/Q	
Mercury Total (µg/l & gram/day)	D/Y	D/Q	
Nickel Total (µg/l & gram/day)	D/Y	D/Q	
Selenium Total (µg/l & gram/day)	D/Y	D/Q	
Silver Total (µg/l & gram/day)	D/Y	D/Q	
Thallium Total (µg/l & gram/day)	D/Y	D/Q	
Zinc Total (µg/l & gram/day)	D/Y	D/Q	
All Applicable Standard Observations		M	M
EPA 601 (µg/l & g/day)	Y	2/Y	V
EPA 602 (including MTBE) (µg/l & g/day)	D/M	D/M	V
EPA 625 (µg/l & g/day)	A-V	2/A-V	V

Sampling Station	I-1	E-1	RD-1
Type of sample	Grab	Grab	Grab
EPA 8015 as gasoline and diesel (μg/l & g/day)	D/M	D/M	V

Definitions

ug/l micro-gram per liter or parts per billion (ppb)
g/day grams per day

Types of Stations

I = Influent, E = Effluent, RD = Receiving Water Downstream, RU = Receiving Water Upstream

Frequency of Sampling

M Once each month
Q Once each Quarter
Y Once during the first week of start up; annually thereafter
2/Y Once during the first week of start up; twice per year thereafter
2/A-V Twice yearly and whenever there is a violation of benzene, toluene, ethylbenzene, or xylenes
A-V Once per year and whenever there is a violation of benzene, toluene, ethylbenzene, or xylenes
Q-V Once each Quarter and whenever there is a violation of benzene, toluene, ethylbenzene, or xylenes
V Sampling should be performed within 24 hours whenever the effluent (E-1) is in violation
D/M Once during the first and fifth day of start up; monthly thereafter
D/Q Once during the first week of start up; quarterly thereafter
D/Y Once during the first week of start up; annually thereafter

Note for metals sampling and analysis:

* Metal samples shall be analyzed for total (unfiltered) constituents (Total).
* The maximum detection limits shall be: 2 ug/l for Cadmium; 0.2 ug/l for Mercury; 5 ug/l for Arsenic, Chromium VI, Copper, Lead, Nickel, Selenium, and Silver; and 10 ug/l for Antimony, Beryllium, Cyanide, Thallium, and Zinc

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

DISCHARGES OF EXTRACTED AND TREATED GROUNDWATER
RESULTING FROM THE CLEANUP OF GROUNDWATER POLLUTED BY
VOLATILE ORGANIC COMPOUNDS

NPDES NO. CAG912003
ORDER NO. 99-051

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383 and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16 and the Environmental Protection Agency's Discharge Monitoring Report (Form 3320-1).

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the 40 CFR 136 or other methods approved and specified by the Executive Officer of this Regional Board.

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DOHS) or a laboratory waived by the Executive Officer from obtaining a certification for these analyses by the DOHS. The director of the laboratory whose name appears on the certification or his/her laboratory supervisor who is directly responsible for analytical work performed shall supervise all analytical work including appropriate

quality assurance/quality control procedures in his or her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A ***grab sample*** is defined as an 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 ***instantaneous maximum*** limits. Grab samples represent only the condition that exists at the time the wastewater is collected.

2. A ***flow sample*** is defined as the accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.

3. ***Duly authorized representative*** is one whose:

   a. Authorization is made in writing by a principal executive officer or ranking elected official;

   b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general partner in a partnership, sole proprietor in a sole proprietorship, the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

4. ***Instantaneous maximum*** is defined as the highest measurement obtained for the calendar day.

5. ***Median*** of an ordered set of values is that value below and above which there is an equal number of values, or which is the arithmetic mean of the two middle levels, if there is no one middle value

D. SPECIFICATIONS FOR SAMPLING AND ANALYSES

The discharger is required to perform sampling and analyses according to the schedule in Table A in accordance with the following conditions:

1. **Effluent**

   a. Samples of effluent and receiving waters shall be collected on days coincident with influent sampling unless otherwise stipulated. The Board or Executive Officer may approve an alternative sampling plan if it is demonstrated to the Board's satisfaction that expected operating conditions for the facility warrant a deviation from the standard sampling plan.

   b. Grab samples of effluent shall be collected during periods of maximum peak flows and shall coincide with influent sample days.

   c. Fish bioassay samples shall be collected on days coincident with effluent sampling. The fish species to be used for compliance in the 96-hour percent survival static or static renewal fish toxicity bioassay shall be rainbow trout.

   d. Verification of analytical results:

      1) If analytical results are received showing any instantaneous maximum limit is exceeded for any *organic* constituent, a confirmation sample shall be taken within 24 hours and results known within 24 hours of the sampling.

      2) If analytical results indicate any instantaneous maximum limit is exceeded for any *inorganic* constituent, actions shall be taken and reported as stipulated in Provision E.8. of the permit.

   e. If the final or intermediate results of any single bioassay test indicate a threatened violation (i.e., the percentage of surviving test organisms is less than the required survival percentage), a new test will begin and the discharger shall investigate the cause of the mortalities and report the finding in the next self-monitoring report.

   f. When any type of bypass occurs, grab samples shall be collected on a daily basis for all constituents at all affected

discharge points which have effluent limits for the duration of the bypass.

2. **Receiving Waters**

a. Receiving water sampling shall be conducted on days coincident with sampling of effluent.

b. In tidally-influenced receiving waters, samples shall be collected at each station on each sampling day during the period within 1 hour following low slack water. Where sampling at lower slack water period is not practical, sampling shall be performed during higher slack water period. Samples shall be collected within the discharge plume and downcurrent of the discharge point so as to be representative, unless otherwise stipulated.

c. Samples shall be collected within one foot below the surface of the receiving water body, unless water depth is less than one foot, in which case a mid-depth sample shall be taken.

E. DESCRIPTION OF SAMPLING STATIONS

Stations	Description
1. Influent	
I-1	At a point in the extraction system immediately prior to inflow to the treatment unit.
2. Effluent	
E-1	At a point in the discharge line immediately following treatment and before it joins or is diluted by any other waste stream, body of water, or substance.
3. Receiving Waters	
RU-1	At a point 50 feet upstream from the point of discharge into the receiving water, or if access is limited, at the first point upstream which is accessible.
RD-1	At a point 50 feet downstream from the

point of discharge into the receiving water, or if access is limited, at the first point downstream which is accessible.

F. START UP PHASE MONITORING AND REPORTING

1. Notification: The Board's Executive Officer shall be notified in writing of the date of start up within 7 to 14 days before start up begins.

2. Monitoring: During the original start up for the treatment system, sampling of the effluent must occur on the first and fifth day.

   a. On the first day of the original start up, the system shall be allowed to run until at least three to five well volumes are removed and until three consecutive readings for pH, conductivity, and temperature are within five percent of each other; then, the influent and effluent shall be sampled and submitted for analyses. Prior to receipt of the results of the initial samples, all effluent shall be discharged into a holding tank (that is contained, not discharged to the receiving water) or discharged to the sanitary sewer until the results of the analyses show the discharge to be within the effluent limits established in this Order and/or in the authorization letter. The treatment system may be shut down after the first day's sampling to await the analyses results and, thereby, reduce the amount of storage needed. For the stored effluent, if the results of the analyses show the discharge to be in violation, the effluent shall: (1) be retreated until the retreated effluent is in compliance, or (2) be disposed in accord with the provisions of Chapter 15, Title 23, California Code of Regulations.

   b. If the first day's sampling shows compliance, the treatment system shall be operated for a total of five days with the discharge to the storm sewer or other conveyance system leading to the receiving water, and be sampled again. While the fifth day's samples are being analyzed, the effluent may be discharged to the receiving water as long as the analyses are received within 48 hours of sampling, and then, continue to be discharged to the receiving water if the analyses show compliance. If the treatment system is shut down more than 48 hours during the original start up (awaiting analyses results, etc.), the original start up procedures and sampling must be repeated.

3. Reporting: The discharger shall present the results of the laboratory analyses, flow rates, chain of custody forms, and descriptions of any changes or modifications to the treatment system in the start-up report.

G. STANDARD OBSERVATIONS

1. Receiving Water

a. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.

b. Discoloration and turbidity: description of color, source, and size of affected area.

c. Odor: presence or absence, characterization, source, distance of travel, and wind direction.

d. Evidence of beneficial water use: presence of waterfowl or wildlife, fishermen, and other recreational activities in the vicinity of the sampling stations.

e. Hydrographic condition, if relevant:

1) Time and height of corrected high and low tides (corrected to nearest NOAA location for the sampling date and time of sample and collection).

2) Depth of water columns and sampling depths.

f. Weather condition:

1) Air temperature.

2) Wind - direction and estimated velocity.

3) Precipitation - total precipitation during the previous five days and on the day of observation.

2. Reclaimed Water

a. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter):

presence or absence, source, and size of affected area.

b. Discoloration and turbidity: description of color, source, and size of affected area.

c. Odor: presence or absence, characterization, source, distance of travel, and wind direction.

d. Weather condition:

1) Air temperature.
2) Wind - direction and estimated velocity.
3) Precipitation - total precipitation during the previous five days and on the day of observation.

e. Deposits, discolorations, and/or plugging in the conveyance system which could adversely affect the system reliability and performance.

f. Operation of the valves, outlets, sprinkler heads, and/or pressure shutoff valves in conveyance system.

3. **Waste Treatment Facilities**

a. Odor: presence or absence, characterization, source, and distance of travel.

b. Weather condition: wind direction and estimated velocity.

c. Deposits, discolorations, and/or plugging in the treatment system (stripping tower, carbon filters, etc.) which could adversely affect the system reliability and performance.

d. Operation of the float and/or pressure shutoff valves installed to prevent system overflow or bypass.

H. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. **Start-up Report**: A report on the start up phase shall be submitted to the Regional Board no more than fifteen days after the end of the start up phase.

2. **Self-Monitoring Reports**

Written reports shall be submitted on a calendar quarter basis, not later than 30 days following the last day of the quarter. The reports shall be comprised of the following:

a. **Letter of Transmittal:**

A letter transmitting self-monitoring reports should accompany each report. Such a letter shall include:

1) Identification of all violations of waste discharge requirements found during the reporting period,

2) Details of the magnitude, frequency, and dates of all violations,

3) The cause of the violations, and

4) Discussion of the corrective actions taken or planned and the time schedule for completion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory.

Monitoring reports and the letter transmitting reports shall be signed by a principal executive officer or ranking elected official of the discharger, or by a ***duly authorized representative*** of that person.

The letter shall contain the following certification:

> "I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing

violations."

b. **Compliance Evaluation Summary**
The report format shall be a format that is acceptable to the Executive Officer.

c. **Map or Aerial Photograph** A map or aerial photograph shall accompany the report showing sampling and observation station locations.

d. **Results of Analyses and Observations** The report format shall be a format that is acceptable to the Executive Officer.

1) If the discharger monitors any pollutant more frequently than required by this permit using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Self-Monitoring Report.

2) Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

3) The report shall also include a table identifying by method number the analytical procedures used for analyses. Any special methods shall be identified and should have prior approval of the Board's Executive Officer.

4) Lab results shall be summarized in tabular form but do not need to be included in the report.

e. **List of Approved Analyses**

1) Listing of analyses for which the discharger is approved by the State Department of Health Services.

2) List of analyses performed for the discharger by another approved laboratory (and copies of reports signed by the laboratory director of that laboratory shall also be submitted as part of the report).

3) List of "waived" analyses, as approved by the Executive

Officer.

f. **Flow and Mass Removed Data**

1) The tabulation pursuant to Section I.2.

2) An estimate of the VOC mass removal in pounds.

g. **Operation Status** Summary of treatment system status during the reporting period (e.g. in operation/on standby) and reason(s) for non-routine treatment system shut down.

3. **Annual Reporting**

By January 30 of each year, the discharger shall submit an annual report to the Regional Board covering the previous calendar year. The annual report shall contain all data required for the fourth quarter in addition to summary data required for annual reporting. This report may be submitted in lieu of the report for the fourth quarter of a calendar year.

The report shall contain tabular summary of the monitoring data obtained during the previous year. In addition, the report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.

4. **Spill Reports**

If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the discharger shall report such a discharge to this Regional Board, at (510) 622-2300 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to:

a. nature of waste or pollutant,
b. quantity involved,

c. duration of incident,
d. cause of spilling,
e. Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any,
f. estimated size of affected area,
g. nature of effects (i.e., fish kill, discoloration of receiving water, etc.),
h. corrective measures that have been taken or planned, and a schedule of these activities, and
i. persons/agencies notified.

5. **Reports of Treatment Unit Bypass and Permit Violation**

In the event the discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to permit a treatment unit bypass due to:

a. Maintenance work, power failures, or breakdown of waste treatment equipment,

b. accidents caused by human error or negligence,

c. the self-monitoring program results exceed effluent limitations,

d. any activity that would result in a frequent or routine discharge of any toxic pollutant not limited by this Order, or

e. other causes, such as acts of nature;

Dischargers shall notify the Board within one day as soon as the dischargers or their agents have knowledge of the incident and confirm this notification in writing within 5 working days of the initial notification. The written report shall include time, date, duration and estimated volume of waste bypassed, method used in estimating volume and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

If a violation of INSTANTANEOUS MAXIMUM LIMITS should occur (and be confirmed), the discharge shall be directed to a holding tank and contained, or the extraction and treatment system shall be shut down. The content of the holding tank shall be retreated until the retreated effluent is in compliance, or be disposed in accord with the

provisions of Chapter 15, Title 23, California Code of Regulations.

If the treatment system is shut down for more than 120 consecutive hours after the start up period (maintenance, repair, violations, etc.) the reason(s) for shut down, proposed corrective action(s) and estimated start up date shall be orally reported to the Board within five days of shut down and a written submission shall also be provided within 15 days of shut down.

If feasible, the corrective action(s) taken and the proposed start up procedures shall be reported to the Board at least 15 days before start up.

6. **Construction Projects:** The discharger shall file a written technical report to be received at least 30 days prior to advertising for bid (or 60 days prior to construction) on any construction project which would cause or aggravate the discharge of waste in violation of requirements; said report shall describe the nature, cost, and scheduling of all action necessary to preclude such discharge. In no case will any discharge of wastes in violation of permit and order be permitted unless notification is made to the Executive Officer and approval obtained from the Regional Board.

7. **Chemical Additives:** A report describing the need, method of chemical application and disposal shall be submitted to the Board at least 30 days before the use of any chemicals in the treatment, or operation and maintenance of the treatment units, is to begin. This report shall include toxicity data. The Executive Officer must approve the use of any chemicals prior to the usage of any chemicals in the treatment, operation, and/or maintenance of the treatment units.

I. RECORDS TO BE MAINTAINED

1. Written reports, strip charts, calibration and maintenance records, and other records shall be maintained by the discharger and accessible (at the waste treatment plant), and retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board or Regional Administrator of the U.S. Environmental Protection Agency, Region IX. Such records shall show the following for **each** sample:

   a. Identity of sampling and observation stations by number.

b. Date and time of sampling and/or observations.

c. Method of sampling (See Section C - Definition of Terms).

d. Type of fish bioassay test (96 hour static or flow-through .bioassay)

e. Date and time that analyses are started and completed, and name of personnel performing the analyses.

f. Complete procedure used, including method of preserving sample and identity and volumes of reagents used. A reference to a specific section of ***Standard Methods*** is satisfactory.

g. Calculations of results.

h. Results of analyses and/or observations.

2. Weekly discharge flow volume shall be recorded, as well as totalized quarterly and annual flow.

3. A tabulation reflecting bypassing and accidental waste spills shall be maintained.

I, Loretta K. Barsamian, Executive Officer do hereby certify the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 99-051.

2. Was adopted by the Board on July 21, 1999.

3. May be revised by the Executive Officer pursuant to U.S. EPA regulations (40 CFR 122.36); other revisions may be ordered by the Board.

Loretta K. Barsamian
Executive Officer

TABLE A - SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I-1	E-1	RD-1/RU-1
TYPE OF SAMPLE	Grab	Grab	Grab
Flow Rate (gpm)		Continuous [1]	
Bioassay 96-hr % survival		Q/Y	
Turbidity (NTUs)		Q/Y	
pH (units)	M/Q/Y	M/Q/Y	Q/Y-V
Dissolved Oxygen (mg/l and % saturation)			Y
All Applicable Standard Observations[2 & 3]		M	Q/Y
Temperature (°C)		M/Q/Y	
hardness = mg/l $CaCO_3$		Y	Y
Arsenic (→g/l)		Y[4]	
Cadmium (→g/l)		Y[4]	
Chromium VI (→g/l)[5]		Y[4]	
Copper (→g/l)		Y[4]	
Lead (→g/l)		Y[4]	
Mercury (→g/l)		Y[4]	
Nickel (→g/l)		Y[4]	
Selenium (→g/l)		Y[4]	
Silver (→g/l)		Y[4]	
Zinc (→g/l)		Y[4]	
VOC Method 8260 or equivalent	2/Y	D/M	V
Semi-VOC Method 625[6] or equivalent	2/Y	Y	V
Total Polynuclear Aromatic Hydrocarbons Method 610[6] or equivalent	2/Y	Y	V
Ethylene Dibromide Method 504[6] or equivalent	2/Y	Y	V

Sampling Station	I-1	E-1	RD-1/RU-1
Total Petroleum Hydrocarbons Method 8015[6] or equivalent (Modified TPH gasoline and diesel)	2/Y	D/M	V

LEGEND
TYPES OF STATIONS I = influent, E = effluent, RU-1 & RD-1 = receiving water

FREQUENCY OF SAMPLING

M = once each month,
Y = once each year,
2/Y = twice each year,
Q/Y = quarterly for first year of operation, once each year thereafter,
M/Q/Y = Monthly for first year of operation, quarterly for the second year, and once a year thereafter. In case of pH analysis, only for facilities not performing pH-adjusting chemical addition.
D/M = *If a new treatment system or a new discharge,* once during the first and fifth day of start up; weekly during first month of operation, and monthly thereafter
Q-V = Once each quarter and whenever there is a violation
V = Sampling should be performed within 24 hours after an exceedance is confirmed in E-1

Footnotes

1 Dischargers may report weekly flow volume (from flow-totalizers) in lieu of reporting instantaneous flow, provided that the instantaneous flow rate does not exceed the permitted maximum flow rate. If a portion of the effluent is being reclaimed, report the total flow *and* the volume diverted to reclamation

2 See Section G Standard Observations

3 Also for reclaimed water, if applicable

4 Metal samples shall be analyzed for total (unfiltered) constituents and the maximum method detection limits shall be: cadmium 2 ug/l, mercury 0.2 ug/l, zinc 10 ug/l, and other metals 5 ug/l.

5 Or optional *total* chromium analysis

6 If known to be present in the influent