

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER No. 90-080  
NPDES PERMIT No. CA0037753

WASTE DISCHARGE REQUIREMENTS FOR:

SANITARY DISTRICT NO. 5 OF MARIN COUNTY

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

1. The Sanitary District NO. 5 of Marin County, (hereinafter called the discharger), submitted a Report of Waste Discharge dated March 27, 1989 for reissuance of NPDES Permit No. CA0037753.
2. The discharger presently discharges an average dry weather flow of .78 MGD. This facility treats domestic wastewater from the City of Belvedere and the Town of Tiburon. Treatment consists of primary sedimentation, biological treatment using activated sludge, followed by secondary sedimentation, chlorination and dechlorination. Sludge is treated by thickening, anaerobic digestion and disposal at the Redwood Sanitary Landfill.
3. The peak wet weather capacity of the plant is 6.2 MGD. During wet weather, the secondary effluent is filtered with pressure filters prior to disinfection (for flows up to .98 MGD). Flows in excess of .98 MGD receive primary settling within a clarifier prior to disinfection. The two wet weather waste streams (the first from the secondary treatment processes and the second from the primary clarifiers) are recombined at the chlorine contact basin where all of the flow is chlorinated and dechlorinated.
4. The treated wastewater combines with effluent from the Sewerage Agency of Southern Marin and is discharged into Racoon Straits, a water of the State and United States, through a submerged diffuser about 850 feet offshore at a depth of 84 feet below mean lower low water (Longitude 112 deg., 27 min., 5 sec.) (Latitude 37 deg., 52 min., 12 sec.).
5. The RWQCB has considered antidegradation pursuant to 40 CFR

131.12 and State Board Resolution 68-16 and finds that the permitted discharge is consistent with those provisions. An antidegradation assessment has not been required as this permit allows no increase in flow and does not incorporate any exceptions to the San Francisco Bay Basin Plan permit limits.

6. The discharge is presently governed by Waste discharge requirements, Order No. 84-70, which allow discharge into Central San Francisco Bay.
7. The Regional Board adopted a revised Water Quality Control plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for Central San Francisco Bay and contiguous waters.
8. The beneficial uses of Central San Francisco Bay and contiguous water bodies include:
  - a. Water Contact and Non-Contact Water Recreation
  - b. Wildlife Habitat
  - c. Preservation of Rare and Endangered Species
  - d. Fish Migration and Spawning
  - e. Industrial Service and Process Supply
  - f. Navigation
  - g. Commercial and Sport Fishing
  - h. Estuarine Habitat
  - i. Shellfish Harvesting
9. An Operation and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities and recommended operation strategies, process control monitoring and maintenance activities. In order to remain a useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.
10. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter three (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.
11. The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity for a public hearing and the opportunity to submit their written views and recommendations.
12. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the following:

A. Discharge Prohibitions

1. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited.
2. The discharge of average dry weather flows greater than .98 MGD is prohibited. Average dry weather flow shall be determined over three consecutive dry weather months each year.
3. Discharge of wastewater at any point where it does not receive a minimum initial dilution of 10:1 is prohibited.

B. Effluent limitations

1. Effluent discharged shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Instantaneous</u>
a. Biochemical Oxygen Demand	mg/l	30	45	60	---
b. Total Suspended Solids	mg/l	30	45	60	---
c. Settleable Matter	ml/l-hr	0.1	---	---	0.2
d. Oil and Grease	mg/l	10	---	20	---
e. Total Chlorine Residual (1)	mg/l	---	---	---	0.0

(1) Requirement defined as below the limit of detection in standard test methods.

2. The monthly average of the biochemical oxygen demand (five-day, 20 degrees centigrade) and suspended solids values, by weight for effluent samples collected during a calendar month shall not exceed 15 percent of the monthly average of

the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).

3. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.
4. The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive effluent samples shall not exceed 240 MPN per 100 milliliters (240 MPN/100 ml). Any single sample shall not exceed 10,000 MPN/100 ml.
5. The survival of test organisms acceptable to the Board in 96-hour bioassays of the effluent shall be a 90 percentile value of not less than 50 percent survival, based on the ten most recent consecutive samples.
6. Representative samples of the effluent shall not exceed the following limits in micrograms per liter (ug/l): (1)

<u>Constituent</u>	<u>Daily Average</u> (2)
a. Arsenic	200
b. Cadmium	30
c. Chromium(VI) (3)	110
d. Copper	200
e. Lead	56
f. Mercury	1
g. Nickel	71
h. Silver	23
i. Zinc	580
j. Cyanide	25
k. Phenols	500
l. PAHs (4)	150

- (1) These limits are intended to be achieved through secondary treatment and applicable pretreatment programs.
- 2) Average of all flow-weighted samples collected over a 24-hour period.
- (3) The Discharger may at its option meet this limit as total chromium.
- (4) Polynuclear Aromatic Hydrocarbons (PAHs). This limit applies to the summation of the detected



Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

1. All sludge treatment, processing, storage or disposal activities under the Discharger's control shall be in compliance with current state and federal regulations.
2. The Board may amend this Order prior to the expiration date if necessary to accomodate changes in applicable state or federal sludge regulations, or changes in the Discharger's sludge management procedures.
3. The Discharger shall notify the Board, in writing, of any significant changes in its sludge disposal practices.
4. Permanent on-site sludge storage or disposal activities are not authorized by this permit. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the Discharger.
5. The treatment, processing, storage or disposal of sludge conducted by the Discharger shall not create a condition of pollution or nuisance as defined in Section 13050 (l) and (m) of the California Water Code.
6. The treatment, processing, storage or disposal of sludge by the Discharger shall not cause waste material to be discharged to, or deposited in, waters of the State.
7. Sludge storage facilities under the Discharger's control shall be operated and maintained in such a manner as to provide adequate protection from surface runoff, erosion, or other conditions which would cause drainage from the waste materials to escape from the storage facility site(s).
8. The discharge to the Discharger's sludge storage facilities of waste other than sewage sludge produced by the Discharger's wastewater treatment facility is prohibited.
9. The storage of sludge shall not cause degradation of groundwaters.
10. General Provisions A.9. and A.12. of this Board's "Standard Provisions and Reporting Requirements", dated December 1986, apply to sludge handling and disposal practices.

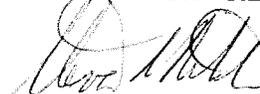
E. Provisions

1. Requirements prescribed by this order supersede the requirements prescribed by Order No. 84-70. Order No. 84-70 is hereby rescinded.
2. Where concentration limitations in mg/l or ug/l are contained in this Permit, the following Mass Emission Limitations shall also apply:  
  
$$(\text{Mass Emission Limit in lbs/day}) = (\text{Concentration Limit in mg/l}) \times (\text{Actual Flow in million gallons per day averaged over the time interval to which the limit applies}).$$
3. The Discharger shall comply with all sections of this Order immediately upon adoption.
4. The Discharger shall comply with the attached Self-Monitoring Program. The Board's Executive Officer may make minor amendments to this Self-Monitoring Program pursuant to federal regulations (40 CFR 122.63).
5. The Discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements" dated December, 1986 including section A.18 concerning bypasses.
6. In reviewing compliance with the limits of Effluent Limitations B.2 of this Order, the Board will take special note of the difficulties encountered in achieving compliance during periods of high wet weather flow.
7. Compliance with Effluent Limitation B.5. shall be determined using two test species in parallel, flow-through bioassays which use undiluted effluent. One test specie shall be the three-spine stickleback, and the other shall be either rainbow trout or fathead minnow.
8. The discharge of toxic substances shall be minimized through diligent implementation of a source control program and proper municipal wastewater treatment. The discharger shall maintain a program which will identify and minimize sources of toxic substances resulting from accidental spills and inadequate storage or handling of hazardous materials.
9. The Discharger shall review and update its Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year.

10. The Discharger shall review and update by December 31, annually, its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or implement a contingency plan will be the basis for considering such a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
11. This Order expires June 20, 1995. The Discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
12. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, 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 20, 1990.

STEVEN R. RITCHIE



Executive Officer

Attachments:

Standard Provisions and Reporting  
Requirements, December 1986  
Self-Monitoring Program  
Resolution No. 74-10

[File No. 2224.5021]  
[Originator/LCF]  
[Reviewer/RJC]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

SANITARY DISTRICT NO. 5

MARIN COUNTY

NPDES PERMIT NO. CA0037753

ORDER NO. 90 -080

CONSISTS OF

PART A, dated December 1986

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same as E-001-D)
E-001-D	At any point in the disinfection facilities for Waste E-001 at which adequate contact with the disinfectant is assured.
E-001-S	At any point in the disposal facilities following dechlorination.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in San Francisco Bay, located along the UP current 100 feet from the center of the discharge diffuser.
C-2	At a point in San Francisco Bay, located 100 feet southerly from the geometric center of the discharge diffuser.
C-3	At a point in San Francisco Bay, located 100 feet easterly from the geometric center of the discharge diffuser.

- C-4 At a point in San Francisco Bay, located 100 feet northerly from the geometric center of the discharge diffuser.
- C-5 At a point in San Francisco Bay, located 1000 feet southerly from the geometric center of the discharge diffuser.
- C-6 At a point in San Francisco Bay, located 1000 feet northerly from the geometric center of the discharge diffuser.
- C-7 At a point in San Francisco Bay, located 100 feet westerly from the geometric center of the discharge diffuser.

D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 thru P-'n'	Located at the corners and midpoints of the perimeter fence line surrounding the treatment facilities. (A sketch showing the locations of these stations will accompany each report).

E. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 through OV-'n'	At points in the collection system including manholes, pump stations, or any other location where overflows or bypasses occur.

NOTES: A map and description of each known overflow or bypass location shall accompany the Self Monitoring Report for each month.

II. SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

- A. The schedule of sampling, measurements and analysis shall be that given as TABLE I and TABLE I FOOTNOTES.
- B. Paragraph C.5 of Part A is revised to read:  
Average values for daily, weekly, and monthly values are obtained by taking the sum of all daily values divided by the number of all daily values measured during the specified period.

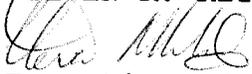
III. REPORTING REQUIREMENTS

- A. Self-Monitoring Reports for each calendar month shall be submitted monthly, to be received no later than the 15th day of the following month. The required contents of these reports are specified in section G.4 of Part A.
- B. An annual report covering the previous calendar year shall be submitted to the Regional Board by January 30 of each year. The required contents of the annual report are specified in section G.5 of Part A.
- C. Any overflow, bypass or other significant non-compliance incident that may endanger health or the environment shall be reported according to sections G.1 and G.2 of Part A.

I, Steven R. Ritchie, Executive Officer, hereby certify that 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 No. 90-080.
- 2. Is effective on the date shown below.
- 3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

STEVEN R. RITCHIE

  
Executive Officer

Effective Date 6/20/90

Attachment: Table I with footnotes

TABLE 1  
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS (1) (4)

Sampling Station	A-001	E-001	E-001-D	E-001-S	P	O	L	C
TYPE OF SAMPLE	C-24	G	C-24	G	Cont	Cont	C-24	
Flow Rate (mgd)	D	D						
BOD, 5-day, 20°C, or COD (mg/l & kg/day)	3/W	3/W						
Chlorine Residual & Dosage (mg/l & kg/day) (2)					Cont or 2H			
Settleable Matter (ml/1-hr. & cu. ft./day)		D						
Total Suspended Matter (mg/l & kg/day)	3/W	3/W						
Oil and Grease (mg/l & kg/day) (3)	M	M						
Coliform (Total) (MPN/100 ml) per req't				3/W				
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste					M <sup>(5)</sup>			
Ammonia Nitrogen (mg/l & kg/day)					M <sup>(6)</sup>			
Nitrate Nitrogen (mg/l & kg/day)								
Nitrite Nitrogen (mg/l & kg/day)								
Total Organic Nitrogen (mg/l & kg/day)								
Total Phosphate (mg/l & kg/day)								
Turbidity (Jackson Turbidity Units)								Q
pH (units)		D			D <sup>(6)</sup>			Q
Dissolved Oxygen (mg/l and % Saturation)		D			D <sup>(6)</sup>			Q
Temperature (°C)					D <sup>(6)</sup>			Q
Apparent Color (color units)								Q
Secchi Disc (inches)								Q
Sulfides (if DO < 2.0 mg/l) Total & Dissolved (mg/l)		D						
Arsenic (mg/l & kg/day)			M					
Cadmium (mg/l & kg/day)			M					
Chromium, Total (mg/l & kg/day)			M					
Copper (mg/l & kg/day)			M					
Cyanide (mg/l & kg/day)			M					
Silver (mg/l & kg/day)			M					
Lead (mg/l & kg/day)			M					

TABLE 1 (continued)  
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001	E-001-D	E-001-S	P	O	L	C			
TYPE OF SAMPLE	C-24	G	C-24	G	Cont	Cont	C-24	O	O	O	G
Mercury (mg/l & kg/day)			M								
Nickel (mg/l & kg/day)			M								
Zinc (mg/l & kg/day)			M								
Phenolic Compounds (mg/l & kg/day)			Q								
All Applicable Standard Observations						W	E				
Bottom Sediment Analyses and Observations											
Unionized Ammonia (mg/l)											Q
Polynuclear Aromatic Hydrocarbons (mg/l & kg/day)			Q <sup>(7)</sup>								

LEGEND FOR TABLE

TYPES OF SAMPLES

- G = grab sample
- C-24 = composite sample - 24-hour
- C-X = composite sample - X hours  
(used when discharge does not  
continue for 24-hour period)
- Cont = continuous sampling
- DI = depth-intergrated sample
- BS = bottom sediment sample
- O = observation

TYPES OF STATIONS

- I = intake and/or water supply stations
- A = treatment facility influent stations
- E = waste effluent stations
- C = receiving water stations
- P = treatment facilities perimeter stations
- L = basin and/or pond levee stations
- B = bottom sediment stations
- G = groundwaters stations

FREQUENCY OF SAMPLING

- E = each occurrence
- H = once each hour
- D = once each day
- W = once each week
- M = once each month
- Y = once each year

- 2/H = twice per hour
- 2/W = 2 days per week
- 5/W = 5 days per week
- 2/M = 2 days per month
- 2/y = once in March and  
once in September
- Q = quarterly, once in  
March, June, Sept.  
and December

- 2H = every 2 hours
- 2D = every 2 days
- 2W = every 2 weeks
- 3M = every 3 months
- Cont = continuous

1 - 1302

**TABLE I FOOTNOTES**

- (1) During any time when bypassing occurs from any treatment unit(s) in the treatment facilities the monitoring program for effluent discharged from the treatment plant shall include the following sampling and analyses:
  - a. Composite sample of the discharge on an hourly basis for the duration of the bypass event, for BOD and Total Suspended Solids analyses.
  - b. Grab samples at least daily for the duration of the bypass event for Total Coliform, Settleable Matter, and Oil and Grease analyses.
  - c. Continuous monitoring or hourly grab samples for chlorine residual measurement.
  - d. Continuous monitoring of bypassed flow.
- (2) Chlorine Residual concentrations and pH shall be monitored both prior to and following dechlorination.
- (3) Oil and Grease sampling shall consist of three grab samples taken at equal intervals during the sampling day, with each grab sample being collected in a glass container and analyzed separately. Results for station E-001 shall be expressed as a weighted average of the three values, based upon the instantaneous flow rates occurring at the time of each grab sample. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent as soon as possible after use, and the solvent rinsings shall be added to the wastewater sample for extraction and analysis.

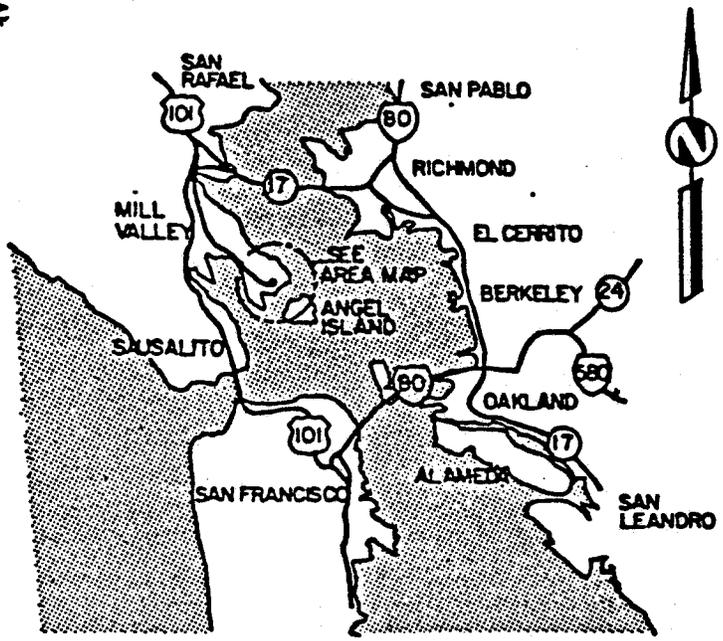
If the plant is not staffed 24 hours per day, then the three grab samples may be taken at approximately equal intervals during the period that the plant is staffed.

In the event that sampling for oil and grease every two weeks shows an apparent violation of the waste discharge permit 30-day average limitation (considering the results of one or two day's sampling as a 30-day average), then the sampling frequency shall be increased to weekly, so that a true 30-day average can be computed and compliance can be determined.

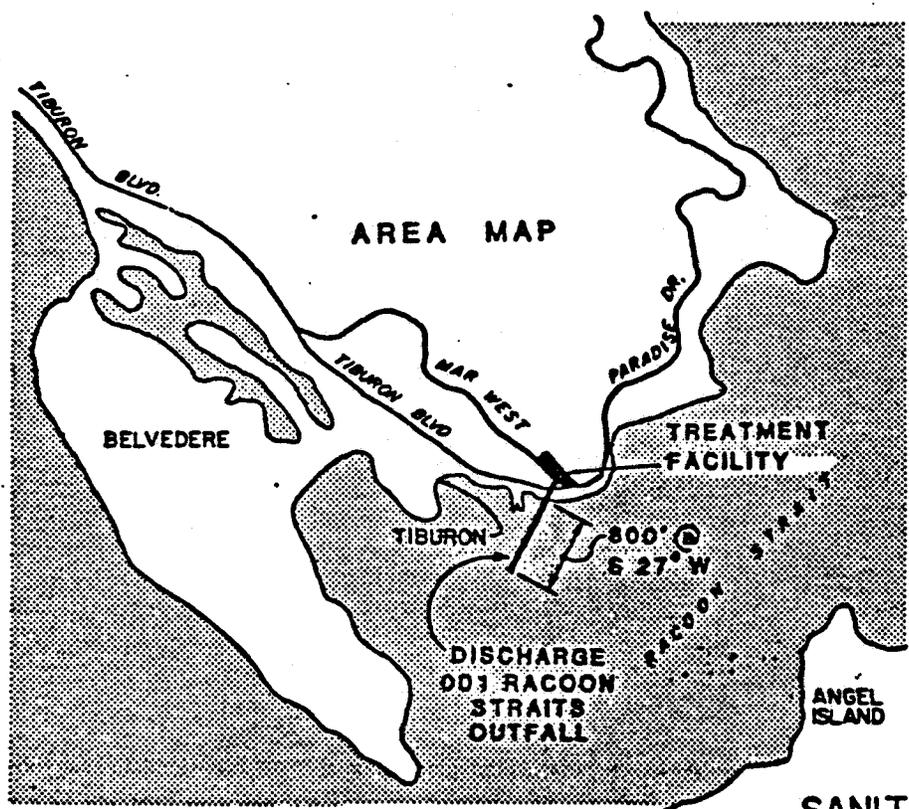
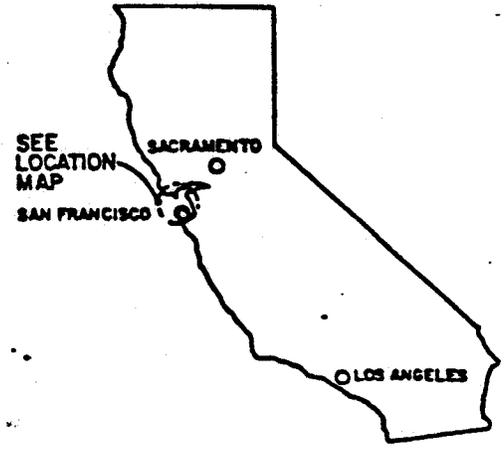
- (4) Grab samples shall be taken on day(s) of composite sampling.
- (5) Fish Toxicity shall be determined using parallel, 96-hour, flow through bioassays using 24-hour composite samples representative of the discharged effluent. One specie shall be three-spined stickleback, and the other shall be either rainbow trout or fathead minnow. Effluent used for fish

TABLE I FOOTNOTES (CONTINUED)

- bioassays must be undiluted, disinfected, dechlorinated effluent.
- (6) These parameters shall be tested for on the sample stream used for the flow-through bioassays, beginning at the start of the bioassay and then daily for the duration of the bioassay test ( i.e. at 0, 24, 48, 72, and 96 hours from the start of the bioassay test).
- (7) Polynuclear Aromatic Hydrocarbons (PAHs) shall be tested for as identified by EPA Method 610. If a discharge sample exceeds the effluent limitation for PAHs ( Effluent Limitation B.6.1.), the concentrations of the individual constituent PAHs shall be reported.



LOCATION MAP



AREA MAP

SANITARY DISTRICT NO. 5  
OF MARIN COUNTY

LOCATION AND  
AREA MAP

LOCATION MAP  
SANITARY DISTRICT NO. 5 OF MARIN  
TIBURON, CALIFORNIA  
DISCHARGE SERIAL NO. 001  
MARCH 1984

FIGURE IB-1

