CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER 90-059

WASTE DISCHARGE REQUIREMENTS FOR:

ICI AMERICAS INC.
RICHMOND PLANT
RICHMOND, CONTRA COSTA COUNTY

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

1. On December 18, 1984, the Regional Board adopted Order No. 84-88 (NPDES No. CA0006157) prescribing waste discharge requirements for Stauffer Chemical Company, Richmond plant (now renamed ICI Americas Inc., and referred to as the discharger).

2. The discharger formulates ORDRAM (a pre-emergent herbicide), and VAPAM (a soil fumigant). The plant also formulates, packages, and stores several other agricultural pesticides. A research laboratory and a pilot plant are also located on-site, and the discharger is expanding this laboratory and is building additional research greenhouses and a new pilot plant.

3. The existing discharges are as follows:

   a. Waste 001 consists of cooling water and boiler blowdown, steam condensates, equipment and floor washings, groundwater from an intercept trench, washdown water from the pilot plant and greenhouses, rinse and other waters from the research laboratory, and storm water runoff from production and handling areas of various agricultural and industrial chemicals. All of the wastewater generated from the organic processing areas of the plant (pilot plants, laboratories, tank farms, and agricultural product storage) are first treated with an activated carbon system. Effluent from the carbon system is then combined with all other wastewaters from this site (including runoff), then neutralized and clarified as necessary prior to discharge to two evaporation ponds. There formerly was an intermittent discharge from the second evaporation pond into an unnamed tidal

basin tributary to San Francisco Bay, near the foot of South 51st Street in Richmond. Now during dry-weather periods, this discharge is pumped to the sanitary sewer. Only during heavy rainfall periods will the discharge to the Bay resume. The average flow of this waste ranges between 0.05 to 0.10 million gallons per day (MGD), but the flow is intermittent and can vary considerably. Storm water runoff may increase the total flow to about 1.5 MGD.

b. Waste 002 consists of storm-water runoff. This discharge is a few GPM during the dry-season, and contains trace amounts of a few heavy metals and herbicides. The discharger undertook a program to reduce significant infiltration into the storm-drain system, and reduce the level of the adverse constituents to an acceptable level. Currently, Waste 002 discharges without treatment to the unnamed tidal basin described above at a point near the foot of South 49th Street in Richmond. The discharger has proposed to pump the dry-weather portion of this discharge to their treatment system. During wet-weather periods, the discharge to the Bay will resume.

4. The Board adopted a Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986, and the State Water Resources Control Board approved it on May 21, 1987. The provisions of this permit are consistent with the revised Basin Plan.

5. The beneficial uses of San Francisco Bay, and contiguous water bodies are:

   a. Water contact recreation
   b. Non-contact water recreation
   c. Wildlife Habitat
   d. Preservation of Rare and Endangered Species
   e. Estuarine Habitat
   f. Fish migration and spawning
   g. Industrial service supply
   h. Navigation
   i. Commercial and Sport Fishing
   j. Shellfish harvesting

6. Order No. 84-88, provides, in part as follows:

"Prohibition A. 1.

Discharge of waste 001 which contains constituents of concern, and is discharged at a location that does not receive a minimum of 10:1 dilution, is prohibited."
and,

"Provision D. 2.

The discharger shall comply with Discharge prohibition A. 1. by July 1, 1987. The discharger shall submit by July 15, 1985 a proposal with time schedule for achieving compliance. Compliance may be achieved by demonstrating to the satisfaction of the Board that an exception to the Basin Plan Prohibition should be granted.

7. The Basin Plan states that "it shall be prohibited to discharge any wastewater ... any point at which the wastewater does not receive a minimum initial dilution of at least 10:1. Exceptions to this requirement will be considered for discharges where "an inordinate burden would be placed on the discharger relative to beneficial uses protected and an equivalent level of protection can be achieved by alternate means, such as an alternative discharge site, a higher level of treatment, and/or improved treatment reliability."

8. In order to satisfy the Basin Plan prohibition, the discharger has elected to route all of their dry-weather flows via a sewer connection to the City of Richmond. However, the City has limited wet-weather treatment capacity due to rainfall induced infiltration into their treatment system. This Order provides an NPDES permit for ICI to discharge limited quantities of treated wastewater in exception to the Basin Plan Prohibition only during heavy rainfall events, after both the City's treatment capacity and the discharger's on-site storage capacity have been exhausted.

9. Effluent limitations and toxic effluent standards established pursuant to Sections 301, 304, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to portions of the discharge. The proposed effluent limitations for the Pesticides Chemical Industries (F.R. vol. 47. no. 230, and F.R. vol. 49. no. 1115) prohibit the discharge of process wastewater from the formulation and packaging of all pesticides, and specify limits for VAPAM, toluene and benzene.

10 Effluent limitation guidelines requiring the application of best available technology economically achievable (BAT) for all wastewater sources of this point source category have not been promulgated by the U.S. Environmental Protection Agency. The remaining effluent limitations of this Order are based on the Basin Plan, State Plans and policies, and current plant performance. The discharger intends to submit additional toxicity data, which will serve as a basis for water-quality based limits for the discharge of Waste 002.

11. This Order serves as an NPDES permit, adoption of which is categorically exempt from the provisions of Chapter 3 (commencing with Section 21110 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

12 The Board has notified the discharger and interested agencies of its intent to issue waste discharge requirements for the discharge and has provided them with an opportunity to submit their written views and recommendations.

13 The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT ICI Americas Inc., in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The discharge of process wastewater is prohibited.

2. The discharge of Waste 001 is prohibited from May 1 until October 1. The Executive Officer may authorize discharge for a specific period beyond May 1 based on a notification from the discharger reporting abnormally high rainfall.

3. The discharge of Waste 001 is prohibited between October 1 and May 1 except when the City of Richmond cannot accept the discharge because of heavy rainfall and the discharger's onsite storage capacity has been exhausted.

4. The discharge of Waste 002 which contains constituents of concern, and toxic and deletious substances above those levels which can be achieved by a program acceptable to the Board, is prohibited.

B. Pond Limitations

1. The discharger shall maintain at least a two foot freeboard in the carbon column, neutralization, and surge ponds at all times.

2. The discharger shall furnish, by no later than October 1 of each year, a plan for maintaining sufficient freeboard in the evaporation and treatment ponds so as to minimize wet-season discharges (October 2 to April 30) of Waste 001.

3. The discharger shall protect the ponds from washout, erosion or flooding from a 100 year storm.

C. Effluent Limitations

1 The discharge of Waste 001 containing constituents in excess of the following limits is prohibited:

Constituent	Units	30-day	Maximum Daily
Settleable Matter	ml/l-hr	0.1	0.2
Total Suspended solids	mg/l	20.0	30.0
Total Thiocarbamates*	µg/l	25.0	60.0
Toluene*	µg/l	14.0	33.0
VAPAM*	µg/l	48.0	215.0
COD	mg/l	-	48.0

* To be measured in effluent from activated carbon treatment system.

2. The discharge of Waste 001 containing heavy metals in excess of the following limits is prohibited:

Constituent	Units	Daily Maximum
Arsenic	µg/l	200
Cadmium	µg/l	30
Chromium (VI) *	µg/l	110
Copper	µg/l	200
Cyanide	µg/l	25
Lead	µg/l	56
Mercury	µg/l	1
Nickel	µg/l	71
Silver	µg/l	23
Zinc	µg/l	580
Phenols	µg/l	500
PAH's	µg/l	150**

* Dischargers may at their option meet this limit as total chromium.

** If the discharge exceeds the limit for PAH's, concentrations of individual constituents should be reported.

3. The pH of the discharge of waste 001 shall not exceed 8.5 nor be less than 6.5.

4. Waste 001 shall meet the following toxicity limit:

   The survival of three-spine stickleback and rainbow trout (or fathead minnow) in a 96-hour static bioassay of the effluent as discharged shall not be less than 70% survival.

5. The discharge of Waste 002 containing constituents in excess of the following limits is prohibited:

Constituent	Units	Daily Maximum
Total thiocarbamates	µg/l	50.0
Eptam	µg/l	50.0
Sutan	"	"
Vernam	"	"
Tillam	"	"
Ordram	"	"
Ro-Neet	"	"
Devrinol	"	"
VAPAM	µg/l	48.0

6. The discharge of Waste 002 containing heavy metals in excess of the following limits is prohibited:

Constituent	Units	Daily Maximum
Arsenic	µg/l	200
Cadmium	µg/l	30
Chromium (VI) *	µg/l	110
Copper	µg/l	200
Cyanide	µg/l	25
Lead	µg/l	56
Mercury	µg/l	1
Nickel	µg/l	71
Silver	µg/l	23
Zinc	µg/l	580
Phenols	µg/l	500
PAH's	µg/l	150**

* Dischargers may at their option meet this limit as total chromium.
**If the discharge exceeds the limit for PAH's, concentrations of individual constituents should be reported.

7. The pH of the discharge of Waste 002 shall not exceed 8.5 nor be less than 6.5.

D. Receiving Water Limitations

1. The discharge of waste 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 turbidity 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 which 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 concentrations.

2. The discharge of waste 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:	5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
b. Dissolved sulfide:	0.1 mg/l maximum.
c. pH:	The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.

d. Un-ionized
Ammonia (as N): 0.025 mg/l Annual Median
0.16 mg/l Maximum at any time

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 Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

E. Provisions

1. The discharger shall comply with the limitations, prohibitions, and other provisions of this order immediately upon its adoption by the Board.

2. The discharger shall comply with Prohibition A.4., as well as the effluent limitations contained in C.5. and C.6., according to the following time schedule:

   - By June 21, 1990, submit a report detailing how compliance with Effluent Limitations contained in C.5 and C.6 will be achieved, or if appropriate, a request for consideration of alternate limit proposals

   - By June 1, 1991, submission of an alternate limit proposal

   - By October 1, 1991, demonstrate full compliance with Effluent Limitations contained in C.5 and C.6 , or an alternate limit approved by the Board

3. The discharger shall comply with the attached Self-Monitoring Program as adopted by the Board, and as may be amended by the Board pursuant to EPA regulations 40 CFR 122.62, 122.63, 124.3.

4. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements and Definitions," dated December, 1986.

5 All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to Environmental Protection Agency regulations (40 CFR 122.41K).

6. Pursuant to Environmental Protection Agency regulations [40 CFR122.42(a)] the discharger must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture a toxic pollutant not reported in the permit application, or (2) a discharge of a toxic pollutant not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits in 40 CFR 122.42(a).

7. This permit shall be modified or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(c), and (d), 303, 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

   (a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or,

   (b) Controls any pollutant not limited in the permit.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

8. This Order expires on March 21, 1995 and the discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

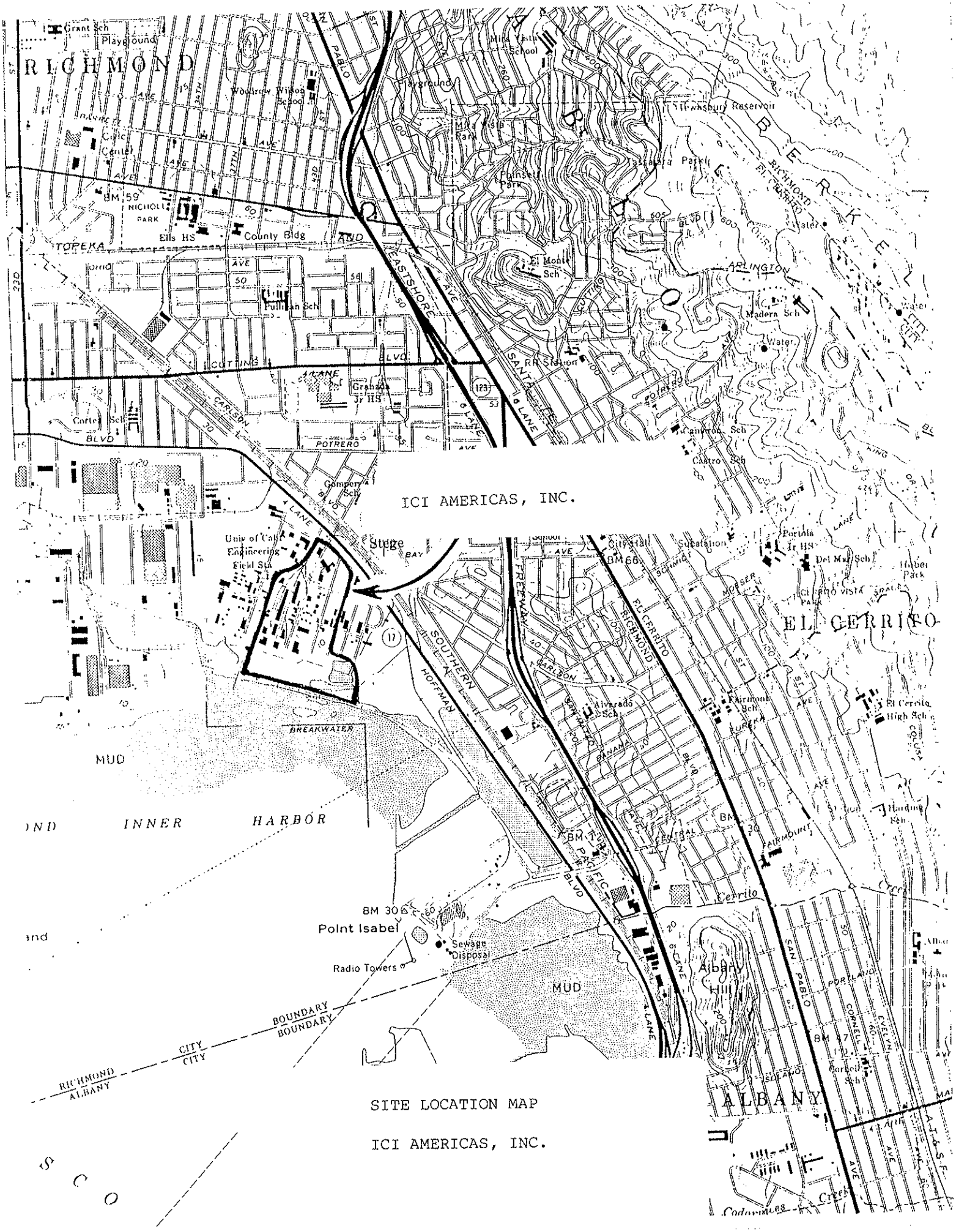
9. This Order shall serve as a National Pollutant Discharge Elimination permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from date of hearing, provided the Regional Administrator, U.S. Environmental Protection Agency Region 9, has no objections.

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 May 16, 1990.

STEVEN R. RITCHIE
Executive Officer

Attachments:

Location Map
Standard Provisions and Reporting Requirements and Definitions, dated December, 1986
Self-Monitoring Program



SITE LOCATION MAP

ICI AMERICAS, INC.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING REQUIREMENTS
FOR

ICI AMERICAS, INC.
RICHMOND, CALIFORNIA

NPDES NO. CA0006157
ORDER NO. 90-

CONSISTS OF PART A (DATED 12/86)

AND

PART B

SELF-MONITORING PROGRAM

PART B

DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING, ANALYSIS & OBSERVATIONS

I. Sampling Station Location/Description

A. EFFLUENT

Station	Description
E-001A	At a point immediately after treatment by the activated carbon columns.
E-001	At any point in the E-001 waste stream from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present.
E-002	At any point in each storm runoff waste stream into the tidal basin tributary to San Francisco Bay at which all waste tributary to that stream is present.
P-1 through P-'n'	Located along the periphery of the waste treatment or disposal facilities at equidistant intervals not to exceed 200 feet. (A sketch showing the locations of these stations will accompany each report).

II. Schedule of Sampling, Analysis & Observations

A. The schedule of sampling and analysis shall be that given in Table 1 (attached).

B. Sample collection, storage, and analysis shall be performed according to the latest 40 CFR Part 136 or other methods approved and specified by the Board .

C. Monitoring reports are to be submitted on the 15th day of the month follwing the end of the quarter (i.e., April 15, July 15, October 15, and January 15).

III. Miscellaneous Reporting

A. The discharger shall retain and submit (where required) the following information concerning the monitoring program for organic and metallic pollutants:

1. Description of sample stations, times, and procedures

2. Description of sample containers, storage, and holding time prior to analysis.

3. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal and surrogate standards.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

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

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 may be ordered by the Executive Officer or Regional Board.

STEVEN R. RITCHIE
Executive Officer

Effective
Date 5/16/90

TABLE I

SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

Station	Constituent	Unit	Type of Sample	Frequency of Analysis
E-001	Flow	gpd	grab	See Note 1
	TSS	mg/l	"	"
	Settleable Matter	ml/l/hr	"	"
	Fish Toxicity	Survival	"	See Note 3
	pH	-	"	See Note 1
	Temperature	Celsius	"	"
	Arsenic	mg/l kg/day	grab	See Note 1
	Cadmium	"	grab	See Note 1
	Chromium	"	"	"
	Copper	"	"	"
	Cyanide	"	"	"
	Silver	"	"	"
	Lead	"	"	"
	Mercury	"	"	"
	Nickel	"	"	"
	Zinc	"	"	"
	Phenols	"	"	"
	PAH's	"	"	"
	Devrinol	µg/l g/day	"	"
	COD	mg/l	grab	See Note 1
	Standard Observations	-	-	See Note 1
E-001A	Thiocarbamates (total)	µg/l g/day	grab	See Note 1

	Toluene	"	"	"
	VAPAM	"	"	"
E-002	Flow	GPD	grab	Daily
	Arsenic	µg/l	grab	See Note 2
	Cadmium	"	grab	See Note 2
	Chromium	"	"	"
	Copper	"	"	"
	Cyanide	"	"	"
	Silver	"	"	"
	Lead	"	"	"
	Mercury	"	"	"
	Nickel	"	"	"
	Zinc	"	"	"
	Phenols	"	"	"
	PAH's	"	"	"
	Standard Observations	-	-	5 D/W
	DEVRINOL	"	"	See Note 2
	Total thiocarbamates	"	"	"
	Eptam	µg/l	grab	See Note 2
	Sutan	"	"	"
	Vernam	"	"	"
	Tillam	"	"	"
	Ordram	"	"	"
	Ro-Neet	"	"	"
	Devrinol	"	"	"
P	Standard Observations	-	-	2 D/W

FOOTNOTE

1) To be sampled immediately after the onset of each discharge of E-001, but no more frequently than once per month.

2) To be sampled weekly during periods of discharge. Also to be sampled once immediately after the onset of each discharge of E-001. This monitoring requirement will be reviewed twice; after four samplings, and after after one year.

3) The bioassay test shall be a static renewal test using two test fish species (stickleback, and rainbow trout or fathead minnow). To be conducted once immediately after the onset of each discharge of E-001.

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 May 16, 1990.

STEVEN R. RITCHIE
Executive Officer