CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 90-099
NPDES NO. CA0004979

WASTE DISCHARGE REQUIREMENTS FOR:

GENERAL CHEMICAL CORPORATION
PITTSBURG, CONTRA COSTA COUNTY

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

1. General Chemical Corporation formerly Allied Corporation, hereinafter called the discharger, by application dated May 15, 1989 has applied for reissuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).

2. The discharger manufactures electronic grade chemicals, aluminum sulfate, and water treatment polymers, and packages various organic solvents.

3. The discharger discharges into Suisun Bay, an average flow rate of 0.73 million gallons per day (mgd) of wastewater via an outfall at a point 200 feet from shore at a depth of about 20 feet (Lat. 38 02' 48"N, Long. 121 59' 10"W). The discharge is reported to get an initial dilution ratio of at least 10:1.

4. The wastes consists of water from air vent scrubbers, non-contact cooling systems, equipment washdown, and stormwater from certain portions of the site. In addition, the discharger discharges treated polymer production wastewater in 15,000 gallon batches into the treatment lagoon at a maximum rate of two batches per month.

   Washdown and air vent scrubber water from the solvent packaging area, stormwater runoff from mixed acid etchants, buffered oxide etchants, and stripper solution production areas is collected in tanks, and then hauled to offsite disposal in order to segregate it from wastes to be discharged to surface water.

5. Wastewater treatment consists of pH neutralization and metal precipitation by chemical addition. Wastewater from the polymer production area is treated with hydrogen peroxide to reduce the formaldehyde concentration and discharged to the treatment lagoon. Domestic wastewater is treated in a septic tank with effluent disposal to the Delta Diablo Sanitation District, permit No. 0281109-C.

6. The discharge is presently governed by Waste Discharge Requirements, Order Nos. 77-5, 79-37, and 84-84 which allow discharge into Suisun Bay.

7. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) in December 1986. The State Water Resources Control Board approved it in May 1987. The Basin Plan contains water quality objectives for Suisun Bay and contiguous waters.

8. The beneficial uses of Suisun Bay and contiguous water bodies are:

   - Water contact recreation
   - Non-contact water recreation
   - Wildlife habitat
   - Preservation of rare and endangered species
   - Estuarine Habitat
   - Fish migration and spawning
   - Industrial service supply
   - Navigation
   - Shellfish harvesting
   - Commercial and sport fishing

9. Effluent limitation, toxic effluent standards, established pursuant to Section 301, 304, and 307 of the Clean Water Act and amendments thereto are applicable to the discharge.

10. Effluent limitation guidelines requiring the application of best available technology economically achievable (BAT) have been promulgated by the U.S. Environmental Protection Agency for one of the discharger's processes with discharge to surface waters, namely the Aluminum Sulfate Manufacturing Subcategory of the Inorganic Chemicals Manufacturing Point Source Category.

    Effluent limitations of the Order are based on those guidelines, the Basin Plan, State Plans and Policies, current plant performance, and best professional judgement. The limitations are considered to be those attainable by BAT, in the judgement of the Board.

11. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000 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 and persons of its intent to reissue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and 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 General Chemical Corporation 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 and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.

2. Direct discharge of domestic sanitary waste to the treatment lagoon or to surface waters of the state is prohibited.

3. Discharge of process waste from aluminum sulfate manufacture and polymer production prior to treatment is prohibited.

4. Discharge of air vent scrubber water and washdown water from the organic solvents packaging plant, stormwater runoff from the mixed acid etchants, buffered oxide etchants, and stripper solution production areas is prohibited.

B. Effluent Limitations

1. Effluent discharge shall not exceed the following limits:

Constituents	Units	30-day Average	Maximum Daily
TSS	kg/day	204	400
Settleable matter	mL/L-hr	0.1	0.2

Effluent Limitations cont'd.

Aluminum	ug/L		4000
Arsenic	ug/L		200
Cadmium	ug/L		30
Chromium (VI) (1)	ug/L		110
Copper	ug/L		200
Cyanide	ug/L		25
Fluoride	lb/day	30	55
Formaldehyde	ug/L		900
Lead	ug/L		56
Mercury	ug/L		1
Nickel	ug/L		71
Silver	ug/L		23
Zinc	ug/L		580
PAHs (2)	ug/L		150
Phenols	ug/L		500
BOD	mg/L	30	45

(1) The discharger may meet this limit as total chromium.
(2) As identified by EPA method 8010 (601). If a discharge exceeds the limit for PAHs, concentrations of individual constituents should be reported.

2. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.

3. In any representative set of samples, the waste as discharged shall meet the following limit of quality:

   TOXICITY: The survival of three-spine stickleback and fathead minnow (or rainbow trout) in a 96-hour parallel flow-through bioassay of waste 001 shall not be less than 50%.

4. The maximum temperature of the discharge shall not exceed the ambient receiving water temperature by more than 20 degrees Fahrenheit nor shall it exceed 90 degrees Fahrenheit.

5. The discharge shall not contain suspended solids in excess of those present in the influent water.

C. 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 temperature, 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 concentration.

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	7.0 mg/L minimum. 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.	pH	Variation from natural ambient pH by more than 0.5 pH units.
c.	Un-ionized ammonia	0.025 mg/L as N Annual Median 0.4 mg/L as N maximum.

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. Effluent Dispersion Study

The discharger shall conduct a dispersion study to determine the actual dilution and transport of waste 001 achieved by discharge through their outfall. The study shall be conducted during high and low effluent (waste 001) flows, and strong and weak tidal cycles, (see 40 CFR 125.61(a)). Receiving water monitoring stations shall also be sited as part of the study. The discharger shall implement the dispersion study according to the following time schedule:

COMPLETION DATE/TASK:

A. COMPLETION DATE: October 30, 1990

TASK: PROPOSAL FOR DISPERSION STUDY: Submit a technical report acceptable to the Executive officer containing a proposal for implementing the dispersion study.

B. COMPLETION DATE: February 28, 1991

TASK: IMPLEMENTATION OF THE DISPERSION STUDY: Implement the dispersion study as proposed in Task D.1.A, and/or as amended by the Executive Officer.

C. COMPLETION DATE: November 30, 1991

TASK: COMPLETION OF DISPERSION STUDY: Submit a technical report acceptable to the Executive Officer documenting the completion of the dispersion study and containing the results obtained from the approved study.

2. The requirements prescribed by this Order supersede the requirements prescribed by Order Nos. 77-5, 79-37, and 84-84 adopted on January 18, 1977, April 19, 1979, and December 28, 1984 respectively. Order Nos. 77-5, 79-37, and 84-84 are hereby rescinded.

3. Stormwater runoff from the process, storage, and handling areas, except the calcium sulfate (gypsum) handling area, shall be either contained on site or routed to the lagoon for treatment prior to discharge.

   By March 31, 1991, the gypsum handling and storage area shall be removed to grade level. In the event that this material is not removed by March 31, 1991, the discharger shall submit a compliance schedule to the Board providing for containment of stormwater run-off from this area by September 31, 1991.

4. The discharger shall comply with all sections of this order immediately upon adoption.

5. The discharger shall review and update 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 basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

6. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

7. Upon adoption by the Board of a policy decision regarding allowance for minor effluent pH excursions for dischargers with continuous pH monitoring, this permit will be revised to incorporate the policy.

8. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977, except items A.5, B.2, and B.5.

9. 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).

10. Pursuant to Environmental Protection Agency regulations [40 CFR 122.42(a)] the Discharger must notify the Regional Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of a toxic pollutant.

11. This Order expires July 18, 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 10 days after 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, 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 July 18, 1990.

STEVEN R. RITCHIE
Executive Officer

Attachments:

Standard Provisions & Reporting Requirements, April 1977
Self Monitoring Program
Resolution 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

GENERAL CHEMICAL CORPORATION

NICHOLS ROAD FACILITY

PITTSBURG, CONTRA COSTA COUNTY

NPDES NO. CA0004979

ORDER NO. 90-099

SMP CONSISTS OF

PART A, dated December 1986

AND

PART B, Ordered July 18, 1990

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station	Description
I	At a point in the water intake headworks at which a sample representative of the water being utilized in the plant can be collected. (A sketch showing the location of this sampling station shall accompany each report).

B. EFFLUENT

Station	Description
E-001	At a 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 before discharge to Suisun Bay. (A sketch showing the location of this sampling station shall accompany each report.)
E-002	At a point in the waste stream from the hazardous waste storage tank containing polymer process wastewater to the treatment lagoon.

C. RECEIVING WATERS

Station	Description
C-1	At a point in Suisun Bay located in the center of the waste plume.
C-R1	At a point in Suisun Bay located not more than 20 feet offshore about 1000 feet westerly from the outfall.
C-R2	At a point in Suisun Bay located not more than 20 feet offshore about 1000 feet easterly from the outfall.

A sketch showing the locations of the above sampling stations shall accompany each report.

D. LAND OBSERVATIONS

Station	Description
L-1 thru L-1-'n'	Located along the perimeter levees of the chemical recycling treatment, and rainwater purge ponds at equidistant intervals not to exceed 200 feet. (A sketch showing the locations of these stations shall accompany each report.)
P-1 thru P-1-'n'	Located along the periphery of the process, storage, and handling areas at equidistant intervals not to exceed 500 feet. (A sketch showing the locations of these stations shall accompany each report.)

II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis is given in Table I (attached).

III. MODIFICATIONS OF PART A

Delete items C.3, C.4, E.4 and F.3.g.(2)

IV. MISCELLANEOUS REPORTING

A. Violations of any permit limitations shall be reported on the monthly transmittal letter accompanying the self-monitoring report in the following format or equivalent:

1. Parameter of Violated Limit	Violation Ratio	Permit Limit	Value (or range of values) of Violation

2. Remedy or proposed remedy to restore compliance

B. The date and the extent and magnitude of surface application of lime or other chemicals in areas formerly used for iron pyrites disposal shall be reported.

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 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. 90-099.

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

DATE ORDERED July 18, 1990

Attachments: Table I - Schedule for Sampling, measurements, and analyses

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I		E-001				All C Stations			All L Stations		All P Stat.	E-002
TYPE OF SAMPLE	G	C-24	G	C-24	Cont	O	G	C-24	O	G	O	O	G
Flow Rate (mgd)		D		D									
BOD, 5-day, 20°C, or COD (mg/l & kg/day)				W									
Chlorine Residual & Dosage (mg/l & kg/day)													
Settleable Matter (ml/l-hr. & cu. ft./day)	2/Y		2W										
Total Suspended Matter (mg/l & kg/day)		2W		2W									
Oil and Grease (mg/l & kg/day)													
Coliform (Total or Fecal) (MPN/100 ml) per req't													
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste				M									
Ammonia Nitrogen (mg/l & kg/day)		2/Y		W									
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)			M				M						
pH (units)					(2) Cont		M						
Dissolved Oxygen (mg/l and % Saturation)							M						
Temperature (°C)					(3) Cont		M						
Apparent Color (color units)						2/W			M				
Secchi Disc (inches)													
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)							M						
Arsenic (mg/l & kg/day)		(4) 2/Y		(4) Q									
Cadmium (mg/l & kg/day)		(4) 2/Y		(4) Q									
Chromium, Total (mg/l & kg/day)		2/Y		(4) Q									
Copper (mg/l & kg/day)		2/Y		Q(4)									
Cyanide (mg/l & kg/day)		2/Y		Q(4)									
Silver (mg/l & kg/day)		2/Y		Q(4)									
Lead (mg/l & kg/day)		(4) 2/Y		(4) M									
PAHs (mg/l & kg/day)		2/Y		(4) Q									

TABLE 1 (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I		E-001				All C Stations			All L Stations		All P Stat.	E-002
TYPE OF SAMPLE	G	C-24	G	C-24	Cont	O	G	C-24	O	G	O	O	G
Mercury (mg/l & kg/day)				Q									
Nickel (mg/l & kg/day)		2/Y		Q									
Zinc (mg/l & kg/day)		2/Y		W									
Phenolic Compounds (mg/l & kg/day)		2/Y		W									
All Applicable Standard Observations						2/W			M		2/W		
Bottom Sediment Analyses and Observations													
Total Ident. Chlor. Hydrocarbons (mg/l & kg/day)													
Fluoride (mg/l & lb/day)		2/Y		W									
Aluminum, Total (mg/l & lb/day)		2/Y		Q									
Un-ionized Ammonia as N (mg/l)							M						
Formaldehyde (mg/l & lb/day)		(5) 2/Y	(5) E				(5) E						(7) E
Observe for containment of Runoff												(6) E	

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
Cont = continuous sampling
O = observation

FREQUENCY OF SAMPLING

E = each occurence
W = once each week
M = once each month
Y = once each year

TYPES OF STATIONS

I = intake and/or water supply stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations

2/W = 2 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

2W = every 2 weeks
3M = every 3 months
Cont = continuous

(2) In addition to the maximum, minimum, and average effluent pH values, report the following information about effluent pH violations for each month (report separately this information for over and under the pH limitations):

a. Percent of time effluent pH was outside the limitations.

b. Number of events when pH was outside the limitations, and the minimum (or maximum) pH value for each event.

c. Total (cumulative) hours and minutes that pH was outside the limitations, and the total volume discharged during that cumulative period.

d. Duration of the longest continuous period of such violation, and the volume discharged.

Note that strip charts of the effluent pH record must be retained with other laboratory records and made available for inspection by the Regional Board and EPA staffs.

(3) In addition to the maximum temperature, report the following information about effluent violations for each month:

a. Percent of time effluent temperature exceeded the limitation.

b. Number of events when temperature exceeded the limitation.

c. Total (cumulative) hours and minutes that temperature exceeded the limitation.

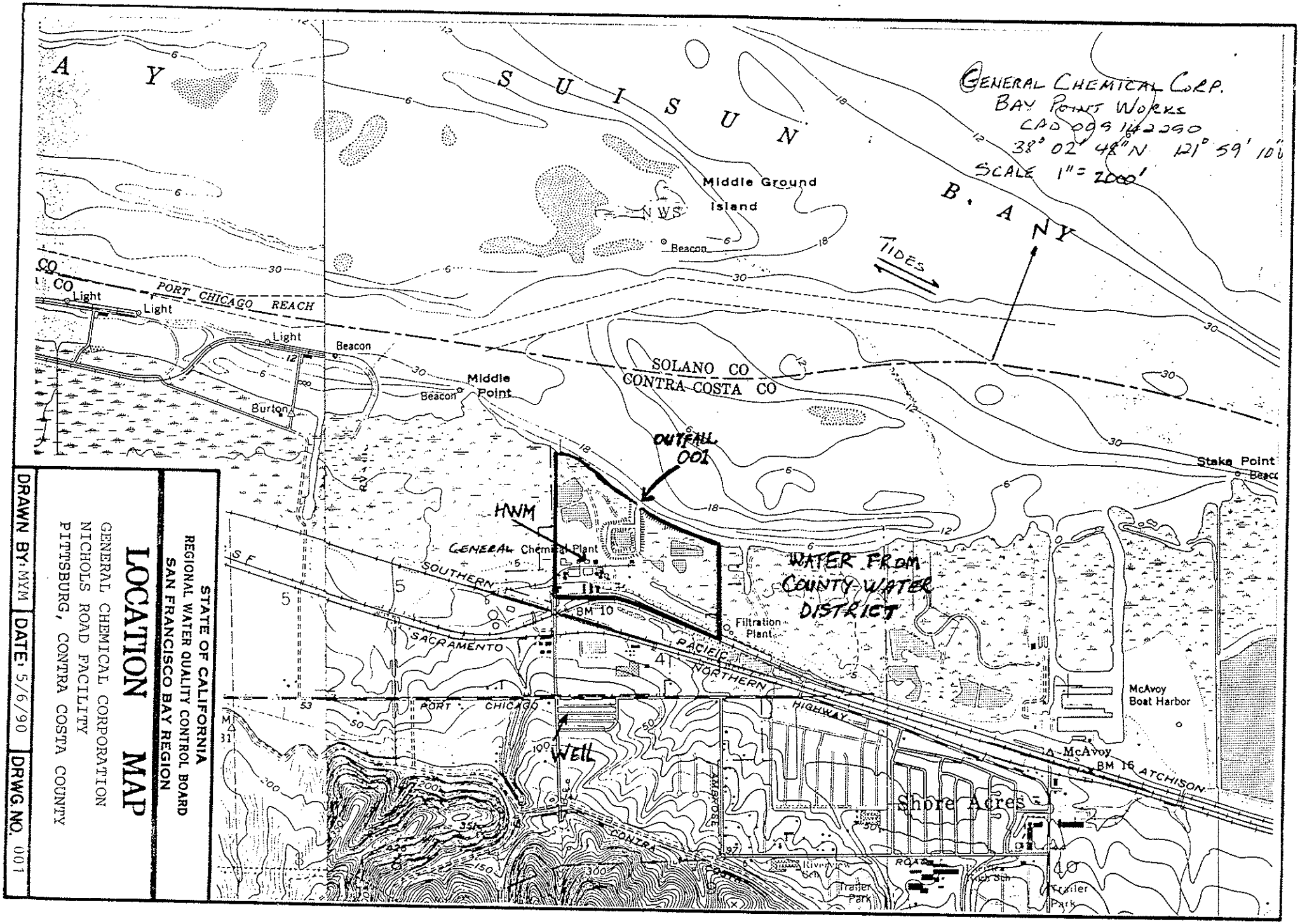
d. Duration of the longest continuous period of such violation. Note that strip charts of the effluent temperature record must be retained with other laboratory records and made available for inspection by the Regional Board and EPA staffs.

(4) Metal analyses shall be run to a detection limit of at least 10 micrograms/liter where feasible.

(5) Formaldehyde analysis shall be run to a detection limit of at least 100 ppb. Sampling at E-001 and at the receiving water stations shall be timed so as to measure the maximum formaldehyde level at the station(s) based on the time of discharge into the lagoon, flowrate, and residence times in the lagoon and discharge line. The calculations used to determine the times of sampling shall be reported.

(6) After each rainfall producing runoff.

(7) Formaldehyde analyses shall be run on the waste stream in the hazardous waste storage tank prior to discharge of this stream to the treatment lagoon. It is the discharger's intention that this stream shall not be discharged to the treatment lagoon unless the concentration of formaldehyde in the treatment lagoon is calculated to be below the detection limit of 100 ppb.



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

LOCATION MAP

GENERAL CHEMICAL CORPORATION
NICHOLS ROAD FACILITY
PITTSBURG, CONTRA COSTA COUNTY

DRAWN BY: MYM | DATE: 5/6/90 | DRWG. NO. 001