

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 77-7

NPDES NO. CA0005061

WASTE DISCHARGE REQUIREMENTS FOR:

CHEVRON CHEMICAL COMPANY
ORTHO DIVISION, RICHMOND PLANT
RICHMOND, CONTRA COSTA COUNTY

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

1. The Board, on December 17, 1974, adopted Order No. 74-198 prescribing waste discharge requirements for the Chevron Chemical Company, Ortho Division, Richmond Plant, (hereinafter called the discharger). The discharger has requested revisions of the requirements of that Order by letter of March 23, 1976, and subsequent meetings with staff.
2. The discharger manufactures and distributes fertilizers which contain various combinations of nitrogen, phosphorous, and potash compounds, and a variety of pesticides, fungicides, and herbicides. These contain various toxic substances, including organophosphates, carbamates, organochlorine compounds, and heavy metals including copper, lead, and zinc. The majority of the wastes generated on the site are either incinerated, disposed of in zero-discharge ponds, or discharged to the sanitary sewer system. The following wastes containing pollutants are discharged to Hermans Slough and San Pablo Bay, both waters of the United States and waters of the State:

Waste 001 is an indeterminate amount of polluted stormwater runoff originating from areas of the Pesticide and Chemical Processing Plant which contain contaminants of pesticide, herbicide, or liquid fertilizer origin. Such areas are transfer stations, process areas, storage and loading areas, and contaminated roof tops. Waste 001 is currently discharged into a drainage ditch on the east side of Castro Street, which is tributary to Hermans Slough and San Pablo Bay.

Waste 002 is an indeterminate amount of polluted stormwater runoff originating from areas of the Difolatan Plant which contain contaminants of fungicide origin. Such areas are transfer stations, process areas, storage and loading areas, and contaminated roof tops. Waste 002 is currently discharged into a drainage ditch on the east side of Castro Street, which is tributary to Hermans Slough and San Pablo Bay.

Waste 003 is an indeterminate amount of polluted stormwater runoff originating from areas of the Fertilizer Plant which contain pollutants of nitrogen, phosphorous, and potassium fertilizers. Such areas are transfer stations, process areas, storage and loading areas, and contaminated roof tops. Waste 003 is currently discharged into Chevron's waste evaporation ponds. Waste 003 is discharged to waters of the State only during periods of high intensity rainfall, in which cases discharge is made to a drainage ditch on the west side of Castro Street, which is tributary to Hermans Slough and San Pablo Bay.

3. The Board, in April 1975, adopted a Water Quality Control Plan. The Plan contains water quality objectives for San Pablo Bay and its tributaries.
4. The beneficial uses of San Pablo Bay and its tributaries are:
 - a. Recreation
 - b. Fish migration and habitat
 - c. Habitat and resting for waterfowl and migratory birds
 - d. Industrial water supply
 - e. Esthetic enjoyment
 - f. Navigation
 - g. Shellfish habitat
5. Effluent limitation and toxic and pretreatment effluent standards established pursuant to Sections 208(b), 301, 304, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.
6. The Board has notified the discharger and interested agencies and persons of its intent to prescribe 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.
7. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.
8. This Order shall serve as a National Pollutant Discharge Elimination System 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, has no objections.

IT IS HEREBY ORDERED that Cheveron Chemical Company, Ortho Division, Richmond Plant, in order to meet the provisions contrined 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 wastes 001 and 002 to waters of the State is prohibited except as provided under the following conditions:

During any wet season in which a rainfall event occurs which yields a total precipitation with a magnitude greater than the mean maximum rainfall event an amount of wastes 001 and 002 may be discharged equal to that attributable to the precipitation occurring in excess of the mean maximum rainfall event. The term, "mean maximum rainfall event" is defined herein to mean the arithmetic average of the annual maximum rainfall events for any given duration of rainfall. This shall be derived from National Weather Service data or other sources acceptable to the Executive Officer. The mean maximum rainfall event has a recurrence interval of approximately 2.3 years.

2. The discharge of waste 003 to waters of the State is prohibited except as provided by the following:

During any wet season in which a rainfall event occurs which yields a total precipitation over a twenty-four hour period of a magnitude that has a probability of recurring only once in ten years, an amount of waste may be discharged equal to that attributable to the precipitation occurring in excess of the ten year, twenty-four hour storm.

3. The discharge of process wastewater is prohibited at all times.
4. The seepage or percolation of waste from any of the discharger's sumps or ponds to surface or groundwater is prohibited.

B. 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 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 5.0 mg/l minimum. Annual median - 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 0.1 mg/l maximum.
 - c. pH Variation from natural ambient pH by more than 0.5 pH units.
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.

C. Provisions

1. Neither the Treatment nor the discharge of pollutants shall create a nuisance as defined in the California Water Code.
2. A minimum freeboard of two feet shall be maintained in all long-term waste containment, evaporation, and treatment ponds at all times.
3. The Discharge Prohibitions contained in Section A of this Order shall not apply to stormwater runoff from areas for which the discharger can demonstrate to the satisfaction of the Board that:
 - (a) Pesticides, chemicals, difolatan, and fertilizers are not manufactured, stored, or transported over the area at any time; and
 - (b) Opportunity does not exist for pesticide, chemicals, difolatan or fertilizers to be released onto the area as a result of accidental spillage; and
 - (c) The area does not accumulate pesticide, chemicals, difolatan or fertilizer particulates as a result of airborne transport and deposition; and
 - (d) The area has been cleaned of any pollutants which may have been deposited on that area as a result of past pesticide, chemical, difolatan or fertilizer manufacturing activities.

4. The discharger shall comply with all sections of this Order except A.1. immediately upon its adoption.
5. The discharger shall comply with the following time schedule to assure compliance with Section A.1 of this Order:

<u>Task</u>	<u>Completion Date</u>	<u>Report of Compliance Due</u>
Submit conceptual plan	-	March 15, 1977
Full compliance	-	July 1, 1977

The discharger shall submit a report to the Board on or before each compliance report date, detailing his compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the discharger will be in compliance. The discharger shall notify the Board by letter when he has returned to compliance with the time schedule.

6. The discharger shall submit to the Executive Officer by March 15, 1977, a revision or addendum to the discharger's report submitted April 17, 1975, entitled "Spill Prevention Control and Countermeasures Plan" to reflect any changes in manufacturing operations or pollution control since that time.
7. This Board's Order No. 74-198 is hereby rescinded.
8. This Order includes items 1, 3, 5, and 7 of the attached "Reporting Requirements," dated August 8, 1973.
9. This Order includes items 1, 2, 4, 5, 6, 7, 8, 9, and 10 of the attached "Standard Provisions," dated November 20, 1974.
10. This Order expires on December 17, 1979, 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.
11. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by a letter, a copy of which shall be forwarded to this Board.

I, Fred H. Dierker, 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 February 15, 1977.

Attachments:

Reporting Requirements 8/8/73
 Standard Provisions 11/20/74
 Self-Monitoring Program (Amended 12/21/76)

FRED H. DIERKER
 Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

Chevron Chemical Company, Ortho Division

Richmond Plant

Richmond, Contra Costa County

NPDES NO. CA 0005061

ORDER NO. 77-7

CONSISTS OF

PART A dated July 1974

AND

PART B ordered and effective
December 17, 1974 (as part
or Order No. 74-198) revised
February 15, 1977

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the outfall from the Pesticide and Chemical Processing Plant containing Waste 001 between the point of discharge and the point at which all waste tributary to that outfall is present.
E-002	At any point in the outfall from the Difolatan Plant containing Waste 002 between the point of discharge and the point at which all waste tributary to that outfall is present. This station may be the same as E-001.
E-003	At any point in the outfall from the Fertilizer Plant containing waste 003 between the point of discharge and the point at which all waste tributary to the outfall is present.

B. RECEIVING WATER

<u>Station</u>	<u>Description</u>
C-001	At a point in the drainage ditch, immediately west of Castro Street culvert.
C-002	At a point in the drainage ditch, located immediately upstream of the tide gates adjoining Hermans Slough.

C. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
L-1 thru L-'n'	Located along the perimeter levees of each evaporation pond at equidistant intervals not to exceed 100 feet. (A sketch showing the locations of these stations will accompany each report.)

D. RAINFALL

<u>Station</u>	<u>Description</u>
R-1	The nearest official recording National Weather Service rainfall station or other station acceptable to the Executive Officer.

E. MISCELLANEOUS REPORTING

1. The discharger shall submit a sketch showing the locations of all ponds, treatment facilities, and points of waste discharge. This shall be updated by the discharger as changes occur.
2. For any discharge at E-001, E-002, and E-003 sufficient rainfall data in a format acceptable to the Executive Officer shall be submitted by the discharger showing at least hourly rainfall depths to define a rainfall event that allows discharge, e.g. Wastes discharging at E-001 and E-002, will require rainfall data be submitted sufficient to define that a rainfall event exceeding a "mean rainfall event" has occurred, and for wastes discharging at E-003, rainfall data shall be submitted of at least 24 continuous hours to define that a rainfall event exceeding a "10 year, 24 hour" rainfall event has occurred.

II. SCHEDULE OF SAMPLING AND ANALYSIS

- A. The schedule of sampling and analysis shall be that given as Table I.

I, Fred H. Dierker, 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. 77-7.
2. Does not include the following paragraphs of Part A:

C-3; C-4; C-5:b,c; D-1, E-4
3. Has been ordered by the Executive Officer on February 15, 1977 and becomes effective immediately.
4. 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.

FRED H. DIERKER
Executive Officer

Attachment:
Table I

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001		E-002		E-003		C	L	R				
	C	G	C	G	C	G	G	O	O				
Flow Rate (mgd)	E (1)		E (1)		E (1)								
BOD, 5-day, 20° C, or COD (mg/l & kg/day)													
Chlorine Residual & Dosage (mg/l & kg/day)													
Settleable Matter (ml/1-hr. & cu. ft./day)													
Total Suspended Matter (mg/l & kg/day)						E							
Oil & Grease (mg/l & kg/day)													
Coliform (Total or Fecal) (MPN/100 ml) per req't													
Fish Toxicity, 96-hr. TL ₅₀ % Survival in undiluted waste		E		E		E	Y						
Ammonia Nitrogen (mg/l & kg/day)						E							
Nitrate Nitrogen (mg/l & kg/day)						E							
Nitrite Nitrogen (mg/l & kg/day)													
Total Organic Nitrogen (mg/l & kg/day)						E							
Total Phosphate (mg/l & kg/day)						E							
Turbidity (Jackson Turbidity Units)													
pH (units)		E		E		E							
Dissolved Oxygen (mg/l and % Saturation)													
Temperature (°C)													
Apparent Color (color units)													
Secchi Disc (inches)													
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)													
Arsenic (mg/l & kg/day)		E											
Cadmium (mg/l & kg/day)													
Chromium, Total (mg/l & kg/day)		E											
Copper (mg/l & kg/day)													
Cyanide (mg/l & kg/day)													
Silver (mg/l & kg/day)													
Lead (mg/l & kg/day)													

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

Sampling Station	E-001		E-002		E-003		C	L	R				
	C	G	C	G	C	G	G	O	O				
Mercury (mg/l & kg/day)													
Nickel (mg/l & kg/day)													
Zinc (mg/l & kg/day)		E											
PHENOLIC COMPOUNDS (mg/l & kg/day)													
All Applicable Standard Observations							M	M					
Bottom Sediment Analyses and Observations													
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)													
Total Organic Carbon (mg/l)		E		E									
Chlordane (mg/l)		E											
Toxaphene (mg/l)		E											
Difolatan (mg/l)				E									
Rainfall Depth & Duration										ED			

FOOTNOTE

(1) The volume of wastewater discharged shall be estimated each time a sample is taken.
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-integrated 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 = groundwater stations
- R = rainfall data station

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

ED = each discharge occurrence (min and/or hours)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESOLUTION NO. 77-7

MINIMUM CRITERIA FOR PROPER CLOSURE OF
CLASS II SOLID WASTE DISPOSAL SITES

- I. WHEREAS, experience has shown that Class II solid waste disposal sites can be sources of serious water pollution problems even after their use has been terminated, unless properly closed, and
- II. WHEREAS, these problems may include: odors, discharge of leachate, exposed refuse due to inadequate cover, and ponding of refuse-polluted water on the site, and
- III. WHEREAS, Section 2535 of the California Administrative Code provides as follows:

Completion of Disposal Operations. (a) Prior to cessation of disposal operations at a waste disposal site, the operator shall submit a technical report to the appropriate regional board describing the methods and controls to be used to assure protection of the quality of surface and groundwaters of the area during final operations and with any proposed subsequent use of the land. This report shall be prepared by or under the supervision of a registered engineer or a certified engineering geologist.

(b) The methods used to close a site and assure continuous protection of the quality of surface and groundwater shall comply with waste discharge requirements established by the regional board.

(c) The owner of the waste disposal site shall have a continuing responsibility to assure protection of useable waters from the waste discharge, and from gases and leachate that are caused by infiltration of precipitation or drainage waters into the waste disposal areas or by infiltration of water applied to the waste disposal areas during subsequent use of the property for other purposes, and

- IV. WHEREAS, the establishment of minimum criteria for proper closure of Class II solid waste disposal sites is desirable to protect the quality of waters of the State and to alert site owners and operators as to their specific responsibilities, and

- V. WHEREAS, pursuant to Section 15104 of the California Environmental Quality Act Guidelines, this Resolution applies to minor alterations to land which do not have significant adverse effects on the environment and is therefore exempt from the provisions of the Act.
- VI. THEREFORE BE IT RESOLVED that this Regional Board establishes the following minimum criteria for proper closure and subsequent maintenance of Class II solid waste disposal site:
1. All completed disposal areas shall be compacted and provided with a final cover of at least three feet of clean soil. A lesser thickness of final cover may be allowed upon a demonstration that, due to thorough compaction of refuse or other factors, differential settlement is likely to be minimal. At least one foot of the final cover shall be compacted to attain a permeability no greater than 10^{-6} cm/sec. Exceptions to this requirement may be granted upon a demonstration that equivalent protection against water penetration may be provided by other means.
 2. Completed disposal areas shall be graded and maintained to prevent ponding and to provide slopes of at least three percent. Lesser slopes may be allowed if a sewer system or other equivalent means of carrying off surface drainage is provided. Steep areas, surface drainage courses, or other areas subject to erosion shall be provided with a lining, or planted with vegetation, or otherwise designed to prevent such erosion.
 3. Slopes shall be designed to minimize the potential for sliding by control of grades, drainage, or other means. Any slides observed within the disposal area shall be promptly stabilized, and the Executive Officer shall be notified immediately upon discovery of a slide.
 4. All necessary facilities shall be provided to ensure that leachate from group 2 waste and ponded water containing leachate or in contact with refuse is not discharged to surface waters of the State.
 5. The disposal area(s) shall be protected from any washout or erosion and from inundation, which could occur as a result of tides or of floods having a predicted frequency of once in 100 years.
 6. All necessary facilities shall be provided to protect usable groundwaters from degradation as a result of leachate discharges or carbon dioxide migration.
 7. The migration of methane gas from group 2 waste shall be controlled as necessary to prevent creation of a nuisance.

VII. BE IT FURTHER RESOLVED that this Board's Executive Officer will request that closure plans be submitted by operators of all Class II sites at the earliest practicable date. Closure plans will be approved by this Board by inclusion in waste discharge requirements. The Board will amend closure plans as necessary to provide for conformance with the above minimum criteria. Site closure plans shall include the following:

- a. The boundaries of areas used for waste disposal.
- b. Method of control of surface drainage flow from the site.
- c. Evaluation of the anticipated settlement due to decomposition and consolidation of the wastes.
- d. Thickness of cover and physical properties including permeability, expansion characteristics and erodibility.
- e. Relationship of waste disposal area to underlying groundwater quality.
- f. Location of groundwater monitoring points.
- g. Method for control of methane.
- h. Proposed subsequent use of the land.

VIII. BE IT FURTHER RESOLVED that this Board will normally require implementation of the site closure plan as rapidly as possible after completion of group 2 waste disposal operations at a site or portion thereof. The Board may authorize delays of specified duration in meeting final slope requirements pending determination of subsequent land use, provided interim measures are taken to protect water quality.

IX. BE IT FURTHER RESOLVED that it is the intention of this Board to take all measures practicable to ensure that subsequent owners of sites are made aware of site closure requirements.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 19, 1977.

FRED H. DIERKER
Executive Officer