

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

2375 Northside Drive, Suite 100, San Diego, CA 92108  
Phone (619) 516-1990 • Fax (619) 516-1994  
<http://www.waterboards.ca.gov/sandiego>

**ORDER R9-2014-0004  
NPDES NO. CA0109193**

**WASTE DISCHARGE REQUIREMENTS FOR GENENTECH INC.,  
DISCHARGE TO THE PACIFIC OCEAN VIA THE OCEANSIDE OCEAN OUTFALL**

The following Discharger is subject to waste discharge requirements (WDR's) set forth in this Order:

**Table 1. Discharger Information**

<b>Discharger</b>	<b>Genentech, Inc.</b>
<b>Name of Facility</b>	<b>Genentech Inc.</b>
<b>Facility Address</b>	<b>One Antibody Way</b>
	<b>Oceanside, CA 92056</b>
	<b>San Diego County</b>

**Table 2. Discharge Location**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude (North)</b>	<b>Discharge Point Longitude (West)</b>	<b>Receiving Water</b>
001	Brine Waste	33° 9' 46" N	117° 23' 28" W	Pacific Ocean

**Table 3. Administrative Information**

This Order was adopted on:	<b>February 12, 2014</b>
This Order shall become effective on:	<b>April 1, 2014</b>
This Order shall expire on:	<b>April 1, 2019</b>
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDR's in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	<b>180 days prior to the Order expiration date</b>
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Diego Region have classified this discharge as follows:	<b>Minor discharge</b>

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, San Diego Region, on the date indicated above.

TENTATIVE

\_\_\_\_\_  
David W. Gibson, Executive Officer

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

### Contents

I.	Facility Information .....	3
II.	Findings .....	3
III.	Discharge Prohibitions .....	4
IV.	Effluent Limitations and Discharge Specifications .....	4
A.	Effluent Limitations – Discharge Point 001 .....	4
1.	Final Effluent Limitations – Discharge Point 001 .....	4
2.	Interim Effluent Limitations – Not Applicable.....	8
B.	Land Discharge Specifications – Not Applicable .....	8
C.	Recycling Specifications – Not Applicable.....	8
V.	Receiving Water Limitations .....	9
A.	Surface Water Limitation.....	9
B.	Groundwater Limitations – Not Applicable .....	10
VI.	Provisions .....	11
A.	Standard Provisions.....	11
B.	Monitoring and Reporting Program (MRP) Requirements .....	12
C.	Special Provisions .....	12
1.	Reopener Provisions .....	12
2.	Special Studies, Technical Reports and Additional Monitoring Requirements .....	13
3.	Best Management Practices and Pollution Prevention – Not Applicable.....	14
4.	Construction, Operation and Maintenance Specifications – Not Applicable .....	14
5.	Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable.....	14
6.	Other Special Provisions – Not Applicable .....	14
7.	Compliance Schedules – Not Applicable .....	14
VII.	Compliance Determination .....	14

### Tables

Table 1.	Discharger Information.....	1
Table 2.	Discharge Location .....	1
Table 3.	Administrative Information.....	1
Table 4.	Effluent Limitations.....	4
Table 5.	Performance Goals .....	5

### Attachments

Attachment A – Definitions.....	A-1
Attachment B – Map .....	B-1
Attachment C – Flow Schematic .....	C-1
Attachment D – Standard Provisions .....	D-1
Attachment E – Monitoring and Reporting Program .....	E-1
Attachment F – Fact Sheet .....	F-1
Attachment G – Ocean Plan and Basin Plan Prohibitions .....	G-1

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

## I. FACILITY INFORMATION

Information describing the Genentech, Inc. facility (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

## II. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), finds:

- A. Legal Authorities.** This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.
- B. Background and Rationale for Requirements.** The San Diego Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C.1.b are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- D. Notification of Interested Parties.** The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.
- E. Consideration of Public Comment.** The San Diego Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order R9-2008-0082 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the San Diego Water Board from taking enforcement action for past violations of the previous Order.

**III. DISCHARGE PROHIBITIONS**

- A. The discharge of waste in a manner or to locations that have not been specifically authorized by this Order and permit, or for which valid waste discharge requirements/NPDES permits are not in force, is prohibited.
- B. The discharge of wastewater not in compliance with the Basin Plan Waste Discharge Prohibitions, incorporated in this Order as if fully set forth herein and summarized in Attachment G, is prohibited.
- C. The discharge of wastewater not in compliance with the Discharge Prohibitions contained in the California Ocean Plan (Ocean Plan), incorporated in this Order as if fully set forth herein and summarized in Attachment G, is prohibited.
- D. The discharge of wastewater in excess of 0.155 million gallons per day (MGD) is prohibited unless the Discharger obtains revised waste discharge requirements for the proposed increase in flow.

**IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

**A. Effluent Limitations – Discharge Point 001**

**1. Final Effluent Limitations – Discharge Point 001**

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program, Attachment E:

**Table 4. Effluent Limitations**

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids	mg/L	60	--	--	--
	lbs/day <sup>1</sup>	78	--	--	--
pH	standard units	--	--	6.0	9.0
Oil and Grease	mg/L	25	40	--	75
	lbs/day <sup>1</sup>	32	52	--	97
Settleable Solids	m/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225

<sup>1</sup> The mass emission rate (MER) limit, in pounds per day, was calculated based on the following equation: MER (lb/day) = 8.34 x Q x C, where Q is the maximum allowable flow rate (in MGD) and C is the concentration (in mg/L).

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

- b. Constituents that do not have a reasonable potential to cause or contribute to an exceedance of water quality objectives, or for which reasonable potential to cause or contribute to an exceedance of water quality objectives cannot be determined, are referred to as performance goal constituents and are assigned the performance goals listed in the following table. Performance goal constituents shall be monitored at EFF-001, but the results will be used for informational purposes only, not compliance determination.

**Table 5. Performance Goals**

Parameter	Units	Performance Goals <sup>1</sup>			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-day Average
<b>OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE</b>					
Arsenic	µg/l	4.4E+02	2.6E+03	6.8E+03	--
Cadmium	µg/l	8.8E+01	3.5E+02	8.8E+02	--
Chromium VI, Total Recoverable <sup>2</sup>	µg/l	1.8E+02	7.0E+02	1.8E+03	--
Copper, Total Recoverable	µg/l	9.0E+01	8.8E+02	2.5E+03	--
Lead, Total Recoverable	µg/l	1.8E+02	7.0E+02	1.8E+03	--
Mercury, Total Recoverable	µg/l	3.5E+00	1.4E+01	3.5E+01	--
Nickel, Total Recoverable	µg/l	4.4E+02	1.8E+03	4.4E+03	--
Selenium, Total Recoverable	µg/l	1.3E+03	5.3E+03	1.3E+04	--
Silver, Total Recoverable	µg/l	4.8E+01	2.3E+02	6.0E+02	--
Zinc, Total Recoverable	µg/l	1.1E+03	6.3E+03	1.7E+04	--
Cyanide, Total (as CN) <sup>3</sup>	µg/l	8.8E+01	3.5E+02	8.8E+02	--
Total Residual Chlorine <sup>4</sup>	µg/l	1.8E+02	7.0E+02	5.3E+03	--
Ammonia (expressed as nitrogen)	µg/l	5.3E+04	2.1E+05	5.3E+05	--
Acute Toxicity			2.9E+00		
Chronic Toxicity <sup>5</sup>	TU <sub>c</sub>	--	8.8E+01	--	--
Phenolic Compounds <sup>6</sup> (non-chlorinated)	µg/l	2.6E+03	1.1E+04	2.6E+04	--
Chlorinated Phenolics <sup>7</sup>	µg/l	8.8E+01	3.5E+02	8.8E+02	--
Endosulfan <sup>8</sup>	µg/l	7.9E-01	1.6E+00	2.4E+00	--
Endrin	µg/l	1.8E-01	3.5E-01	5.3E-01	--
HCH <sup>9</sup>	µg/l	3.5E-01	7.0E-01	1.1E+00	--
Radioactivity	Pci/l	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations, Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
<b>OBJECTIVES FOR PROTECTION OF HUMAN HEALTH - NONCARCINOGENS</b>					
Acrolein	µg/l	--	--	--	1.9E+04
Antimony	µg/l	--	--	--	1.1E+05
Bis(2-chloroethoxy)methane	µg/l	--	--	--	3.9E+02
Bis(2-chloroisopropyl)ether	µg/l	--	--	--	1.1E+05
Chlorobenzene	µg/l	--	--	--	5.0E+04
Chromium III	µg/l	--	--	--	1.7E+07

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

Parameter	Units	Performance Goals <sup>1</sup>			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-day Average
di-n-butyl phthalate	µg/l	--	--	--	3.1E+05
Dichlorobenzenes <sup>10</sup>	µg/l	--	--	--	4.5E+05
Diethyl phthalate	µg/l	--	--	--	2.9E+06
Dimethyl phthalate	µg/l	--	--	--	7.2E+07
4,6-Dinitro-2-methylphenol	µg/l	--	--	--	1.9E+04
2,4-Dinitrophenol	µg/l	--	--	--	3.5E+02
Ethylbenzene	µg/l	--	--	--	3.6E+05
Fluoranthene	µg/l	--	--	--	1.3E+03
Hexachlorocyclopentadiene	µg/l	--	--	--	5.1E+03
Nitrobenzene	µg/l	--	--	--	4.3E+02
Thallium	µg/l	--	--	--	1.8E+02
Toluene	µg/l	--	--	--	7.5E+06
Tributyltin	µg/l	--	--	--	1.2E-01
1,1,1-Trichloroethane	µg/l	--	--	--	4.8E+07
<b>OBJECTIVES FOR PROTECTION OF HUMAN HEALTH - CARCINOGENS</b>					
Acrylonitrile	µg/l	--	--	--	8.8E+00
Aldrin	µg/l	--	--	--	1.9E-03
Benzene	µg/l	--	--	--	5.2E+02
Benzidine	µg/l	--	--	--	6.1E-03
Beryllium	µg/l	--	--	--	2.9E+00
Bis(2-chloroethyl)ether	µg/l	--	--	--	4.0E+00
Bis(2-ethylhexyl)phthalate	µg/l	--	--	--	3.1E+02
Carbon tetrachloride	µg/l	--	--	--	7.9E+01
Chlordane <sup>11</sup>	µg/l	--	--	--	2.0E-03
Chlorodibromomethane	µg/l	--	--	--	7.6E+02
Chloroform	µg/l	--	--	--	1.1E+04
DDT <sup>12</sup>	µg/l	--	--	--	1.5E-02
1,4-Dichlorobenzene	µg/l	--	--	--	1.6E+03
3,3'-Dichlorobenzidine	µg/l	--	--	--	7.1E-01
1,2-Dichloroethane	µg/l	--	--	--	2.5E+03
1,1-Dichloroethylene	µg/l	--	--	--	7.9E+01
Dichlorobromomethane	µg/l	--	--	--	5.5E+02
Dichloromethane	µg/l	--	--	--	4.0E+04
1,3-Dichloropropene	µg/l	--	--	--	7.8E+02
Dieldrin	µg/l	--	--	--	3.5E-03
2,4-Dinitrotoluene	µg/l	--	--	--	2.3E+02
1,2-Diphenylhydrazine	µg/l	--	--	--	1.4E+01
Halomethanes <sup>13</sup>	µg/l	--	--	--	1.1E+04
Heptachlor	µg/l	--	--	--	4.4E-03
Heptachlor epoxide	µg/l	--	--	--	1.8E-03
Hexachlorobenzene	µg/l	--	--	--	1.8E-02
Hexachlorobutadine	µg/l	--	--	--	1.2E+03
Hexachloroethane	µg/l	--	--	--	2.2E+02

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

Parameter	Units	Performance Goals <sup>1</sup>			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-day Average
Isophorone	µg/l	--	--	--	6.4E+04
N-Nitrosodimethylamine	µg/l	--	--	--	6.4E+02
N-Nitrosodi-n-propylamine	µg/l	--	--	--	3.3E+01
N-Nitrosodiphenylamine	µg/l	--	--	--	2.2E+02
PAH <sup>14</sup>	µg/l	--	--	--	7.7E-01
PCB <sup>15</sup>	µg/l	--	--	--	1.7E-03
TCDD Equivalents <sup>16</sup>	µg/l	--	--	--	3.4E-07
1,1,2,2-Tetrachloroethane	µg/l	--	--	--	2.0E+02
Tetrachloroethylene	µg/l	--	--	--	1.8E+02
Toxaphene	µg/l	--	--	--	1.8E-02
Trichloroethylene	µg/l	--	--	--	2.4E+03
1,1,2-Trichloroethane	µg/l	--	--	--	8.3E+02
2,4,6-Trichlorophenol	µg/l	--	--	--	2.6E+01
Vinyl Chloride	µg/l	--	--	--	3.2E+03

<sup>1</sup> Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents  $6.1 \times 10^{-2}$  or 0.061, 6.1E+02 represent  $6.1 \times 10^2$  or 610, and 6.1E+00 represent  $6.1 \times 10^0$  or 6.1.

<sup>2</sup> The Discharger may, at their option, apply this performance goal as a total chromium performance goal.

<sup>3</sup> If the Discharger can demonstrate to the satisfaction of U.S. EPA and the State Water Board that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, performance goals may be evaluated with the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR Part 136.

<sup>4</sup> The water quality objectives for total residual chlorine applicable to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:  $\log y = -0.43 (\log x) + 1.8$ , where y = the water quality objective (in µg/l) to apply when chlorine is being discharged; and x = the duration of uninterrupted chlorine discharge in minutes. Actual effluent limitations for total chlorine, when discharging intermittently, shall then be determined according to Implementation Procedures for Table 1 from the Ocean Plan, using a minimum probable initial dilution factor of 87 and a flow rate of 0.155 MGD.

<sup>5</sup> This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response. Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of critical life stage toxicity test listed in Appendix III, Table III-1 of the Ocean Plan.

<sup>6</sup> Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.

<sup>7</sup> Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

<sup>8</sup> Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

<sup>9</sup> HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.

<sup>10</sup> Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.

<sup>11</sup> Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

<sup>12</sup> DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

- <sup>13</sup> Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
- <sup>14</sup> PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenaphthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.
- <sup>15</sup> PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Arcolor-1260.
- <sup>16</sup> TCDD Equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. U.S. EPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	0.1
2,3,7,8 – hepta CDD	0.01
octa CDD	0.001
2,3,7,8 – tetra CDF	0.1
1,2,3,7,8 – penta CDF	0.05
2,3,4,7,8 – penta CDF	0.5
2,3,7,8 – hexa CDFs	0.1
2,3,7,8 – hepta CDFs	0.01
octa CDF	0.001

**2. Interim Effluent Limitations – Not Applicable**

**B. Land Discharge Specifications – Not Applicable**

**C. Recycling Specifications – Not Applicable**



## V. RECEIVING WATER LIMITATIONS

### A. Surface Water Limitation

The receiving water limitations set forth below for ocean waters are based on water quality objectives contained in the Basin Plan and Ocean Plan and are a required part of this Order. The discharge shall not cause or contribute to violation of these limitations in the Pacific Ocean. Compliance with these limitations shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.

#### 1. Bacterial Characteristics

- a. Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the San Diego Water Board (i.e., waters designated as REC-1), but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column:

30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site

- i. Total coliform density shall not exceed 1,000 per 100 ml;
- ii. Fecal coliform density shall not exceed 200 per 100 ml; and
- iii. Enterococcus density shall not exceed 35 per 100 ml.

Single Sample Maximum:

- i. Total coliform density shall not exceed 10,000 per 100 ml;
- ii. Fecal coliform density shall not exceed 400 per 100 ml;
- iii. Enterococcus density shall not exceed 104 per 100 ml; and
- iv. Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

- b. The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.
- c. At all areas where shellfish may be harvested for human consumption, as determined by the San Diego Water Board, the median total coliform density shall not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

#### 2. Physical Characteristics

- a. Floating particulates and grease and oils shall not be visible.
- b. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

- c. Natural light shall not be significantly reduced at any point outside the initial dilution zone as a result of the discharge of waste.
- d. The rate of deposition of inert solids and the characteristics of inert solids in the ocean sediments shall not be changed such that benthic communities are degraded.

3. Chemical Characteristics

- a. The dissolved oxygen concentration shall not, at any time, be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.
- b. The pH shall not be changed, at any time, more than 0.2 units from that which occurs naturally.
- c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
- d. The concentration of substances set forth in chapter II, table 1 of the Ocean Plan, shall not be increased in marine sediments to levels that would degrade indigenous biota.
- e. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.
- f. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

4. Biological Characteristics

- a. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.
- b. The natural taste, odor, color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
- c. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

5. Radioactivity

- a. Discharge of radioactive waste shall not degrade marine life.

6. Elevated Temperature Requirements (Thermal Plan)

- a. Elevated temperature wastes shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column.
- b. Elevated temperature wastes shall be discharged a sufficient distance from areas of special biological significance to assure the maintenance of natural temperature in these areas.
- c. The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4 °F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.

**B. Groundwater Limitations – Not Applicable**

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

## VI. PROVISIONS

### A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.
2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:
  - a. The Discharger shall comply with all requirements and conditions of this Order. Any permit non-compliance constitutes a violation of the CWA and/or the Water Code and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of an application for permit renewal, modification, or reissuance.
  - b. All proposed new treatment facilities and expansions of existing treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Discharger shall submit a certification report for each new treatment facility, expansion of an existing treatment facility, and re-ratings, the certification report shall be prepared by the design engineer. For re-ratings, the certification report shall be prepared by the engineer who evaluated the treatment facility capacity. The certification report shall:
    - i. Identify the design capacity of the treatment facility, including the daily and 30-day design capacity,
    - ii. Certify the adequacy of each component of the treatment facility, and
    - iii. Contain a requirement-by-requirement analysis, based on acceptable engineering practices, of the process and physical design of the facility to ensure compliance with this Order.

The signature and engineering license number of the engineer preparing the certification report shall be affixed to the report. If reasonable, the certification report shall be submitted prior to beginning construction. The Discharger shall not initiate a discharge from an existing treatment facility at a daily flow rate in excess of its previously approved design capacity until:

- i. The certification report is received by the Executive Officer,
  - ii. The Executive Officer has received written notification of completion of construction (new treatment facilities and expansions only),
  - iii. An inspection of the facility has been made by staff of the San Diego Water Board or their designated representatives (new treatment facilities and expansions only), and
  - iv. The Executive Officer has provided the Discharger with written authorization to discharge at a daily flow rate in excess of its previously approved design capacity.
- c. All waste treatment, containment, and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

- d. All waste treatment, containment, and disposal facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event.
- e. This Order expires on April 1, 2019, after which, the terms and conditions of this permit are automatically continued pending issuance of a new permit, provided that all requirements of U.S. EPA's NPDES regulations at 40 CFR 122.6 and the State's regulations at California Code of Regulations (CCR) Title 23, Section 2235.4 regarding the continuation of expired permits and waste discharge requirements are met.
- f. A copy of this Order shall be posted at a prominent location at or near the treatment and disposal facilities and shall be available to operating personnel at all times.

**B. Monitoring and Reporting Program (MRP) Requirements**

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

**C. Special Provisions**

**1. Reopener Provisions**

- a. This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above an Ocean Plan Table 1 water quality objective. [40 CFR § 122.44 (d)(1)]
- b. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
  - i. Violation of any terms or conditions of this Order. [Water Code § 13381(a)]
  - ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant fact. [Water Code § 13381(b)]
  - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge. [Water Code § 13381(c)]
- c. The filing of a request by the Discharger for modifications, revocation and reissuance, or termination of this Order does not stay any condition of this Order. Notification by the Discharger of planned operational or facility changes, or anticipated noncompliance with this Order does not stay any condition of this Order. [40 CFR § 122.41 (f)]
- d. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307 (a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the San Diego Water Board may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition. [40 CFR § 122.4 (b)(1)]
- e. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new Minimum Levels (MLs) which are established in the Ocean Plan.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

- f. This Order may be re-opened and modified to revise effluent limitations as a result of future Basin Plan Amendments, or the adoption of a total maximum daily load allocation (TMDL) for the receiving water. [40 CFR § 122.62 (a)(2)]
- g. This Order may also be re-opened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, and 125.62. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

## 2. Special Studies, Technical Reports and Additional Monitoring Requirements

### a. Toxicity Reduction Requirements

If the performance goal for chronic toxicity is exceeded then the Discharger shall:

- i. Take all reasonable measures necessary to immediately minimize toxicity; and
- ii. Within 15 days from the time the Discharger becomes aware of the exceedance, the Discharger shall conduct six additional toxicity tests within a 12-week period.

If an additional exceedance is detected within the 12-week period, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE). The TRE shall include all reasonable steps to identify the source of toxicity. Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the chronic toxicity performance goal identified in section IV.A.1.b of this Order.

Within 30 days of completion of the TRE, the Discharger shall submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with the toxicity performance goal of this Order and prevent recurrence of exceedances of the performance goal, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the San Diego Water Board.

### b. Toxicity Reduction Evaluation (TRE)

The Discharger shall develop a TRE workplan in accordance with TRE procedures established by the U.S. EPA in the following guidance manuals.

- i. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070).
- ii. Toxicity Identification Evaluation, Phase I (EPA/600/6-91/005F).
- iii. Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R92/080).
- iv. Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R92/081).

The Discharger shall submit the TRE workplan to the San Diego Water Board within 180 days of the adoption of this Order. The TRE workplan shall be subject to the approval of the San Diego Water Board and shall be modified as directed by the San Diego Water Board.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

3. **Best Management Practices and Pollution Prevention – Not Applicable**
4. **Construction, Operation and Maintenance Specifications – Not Applicable**
5. **Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable**
6. **Other Special Provisions – Not Applicable**
7. **Compliance Schedules – Not Applicable**

## VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order shall be determined as follows:

### A. Compliance with Average Monthly Effluent Limitation (AMEL)

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of noncompliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for the month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

### B. Compliance with Average Weekly Effluent Limitation (AWEL)

If the average of daily discharges over a calendar week (Sunday through Saturday) exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of noncompliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

### C. Compliance with Instantaneous Minimum Effluent Limitation

The instantaneous minimum effluent concentration limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of noncompliance with the instantaneous minimum effluent limitation.)

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

**D. Compliance with Instantaneous Maximum Effluent Limitation**

The instantaneous maximum effluent concentration limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are higher than the instantaneous maximum effluent limitation would result in two instances of noncompliance with the instantaneous maximum effluent limitation.)

**E. Compliance with 6-Month Median Effluent Limitation**

If the median of daily discharges over any 180-day period exceeds the 6-month median effluent limitation for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the 6-month median, the Discharger will be considered out of compliance for the 180-day period. For any 180-day period during which no sample is taken, no compliance determination can be made for the 6-month median limitation.

DRAFT

## ATTACHMENT A – DEFINITIONS

### Acute Toxicity

- a. Acute Toxicity (TUa)  
Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{96\text{-hr LC } 50\%}$$

- b. Lethal Concentration 50% (LC 50)  
LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the Discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log(100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

### Areas of Special Biological Significance (ASBS)

Those areas designated by the State Water Resources Control Board (State Water Board) as ocean areas requiring protection of species or biological communities to the extent that maintenance of natural water quality is assured. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS – Areas of Special Biological Significance (SWQPA-ASBS).

### Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

### Average Weekly Effluent Limitation (AWEL)

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

### Chlordane

Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.



GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

### **Chronic Toxicity**

This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

- a. Chronic Toxicity (TUc)  
Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

- b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix III, Table III-1.

### **Daily Discharge**

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

### **DDT**

Shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

### **Degrade**

Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

### **Detected, but Not Quantified (DNQ)**

Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

### **Dichlorobenzenes**

Shall mean the sum of 1,2- and 1,3-dichlorobenzene.

### **Downstream Ocean Waters**

Waters downstream with respect to ocean currents.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

### **Dredged Material**

Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil."

### **Enclosed Bays**

Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

### **Endosulfan**

The sum of endosulfan-alpha and -beta and endosulfan sulfate.

**Estuaries and Coastal Lagoons** are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

**Halomethanes** shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

**HCH** shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

### **Initial Dilution**

The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the San Diego Water Board whichever results in the lower estimate for initial dilution.

### **Instantaneous Maximum Effluent Limitation**

The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

**Instantaneous Minimum Effluent Limitation**

The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

**Kelp Beds**

For purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

**Mariculture**

The culture of plants and animals in marine waters independent of any pollution source.

**Material**

(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

**Maximum Daily Effluent Limitation (MDEL)**

The highest allowable daily discharge of a pollutant.

**Method Detection Limit (MDL)**

The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR part 136, Attachment B.

**Minimum Level (ML)**

The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

**Natural Light**

Reduction of natural light may be determined by the San Diego Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the San Diego Water Board.

**Not Detected (ND)**

Those sample results less than the laboratory's MDL.

**Ocean Waters**

The territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

**PAHs (polynuclear aromatic hydrocarbons)**

The sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

**PCBs (polychlorinated biphenyls)**

The sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

**Pollutant Minimization Program (PMP)**

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table 1 pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The San Diego Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

**Reported Minimum Level**

The reported ML (also known as the Reporting Level or RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the San Diego Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

**Shellfish**

Organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

**Significant Difference**

Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

**Six-Month Median Effluent Limitation**

The highest allowable moving median of all daily discharges for any 180-day period.

**State Water Quality Protection Areas (SWQPAs)**

Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution No.s 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

### TCDD Equivalents

The sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
	1.0
2,3,7,8-tetra CDD	
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

### Toxicity Reduction Evaluation (TRE)

A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

### Waste

As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

### Water Recycling

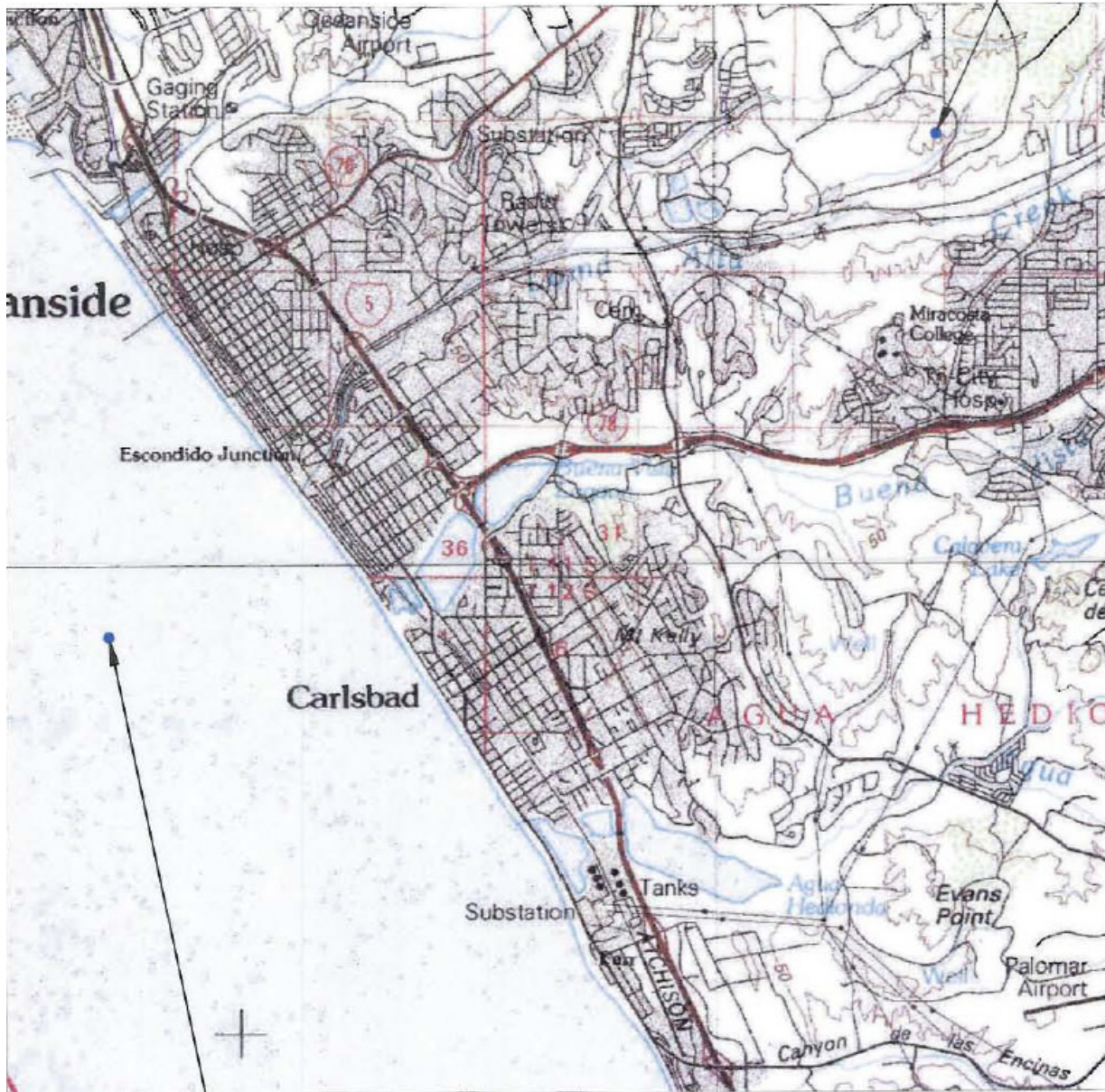
The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

### ATTACHMENT B – MAP

**GENENTECH BRINE** 33° 12' 38.53" N  
**SYSTEM LOCATION** 117° 17' 51.24" W



**33° 09' 46" N** **GENENTECH BRINE**  
**117° 23' 28" W** **DISCHARGE LOCATION**

**OCEANSIDE, CALIFORNIA**  
N3300-W11700/30X60  
1982

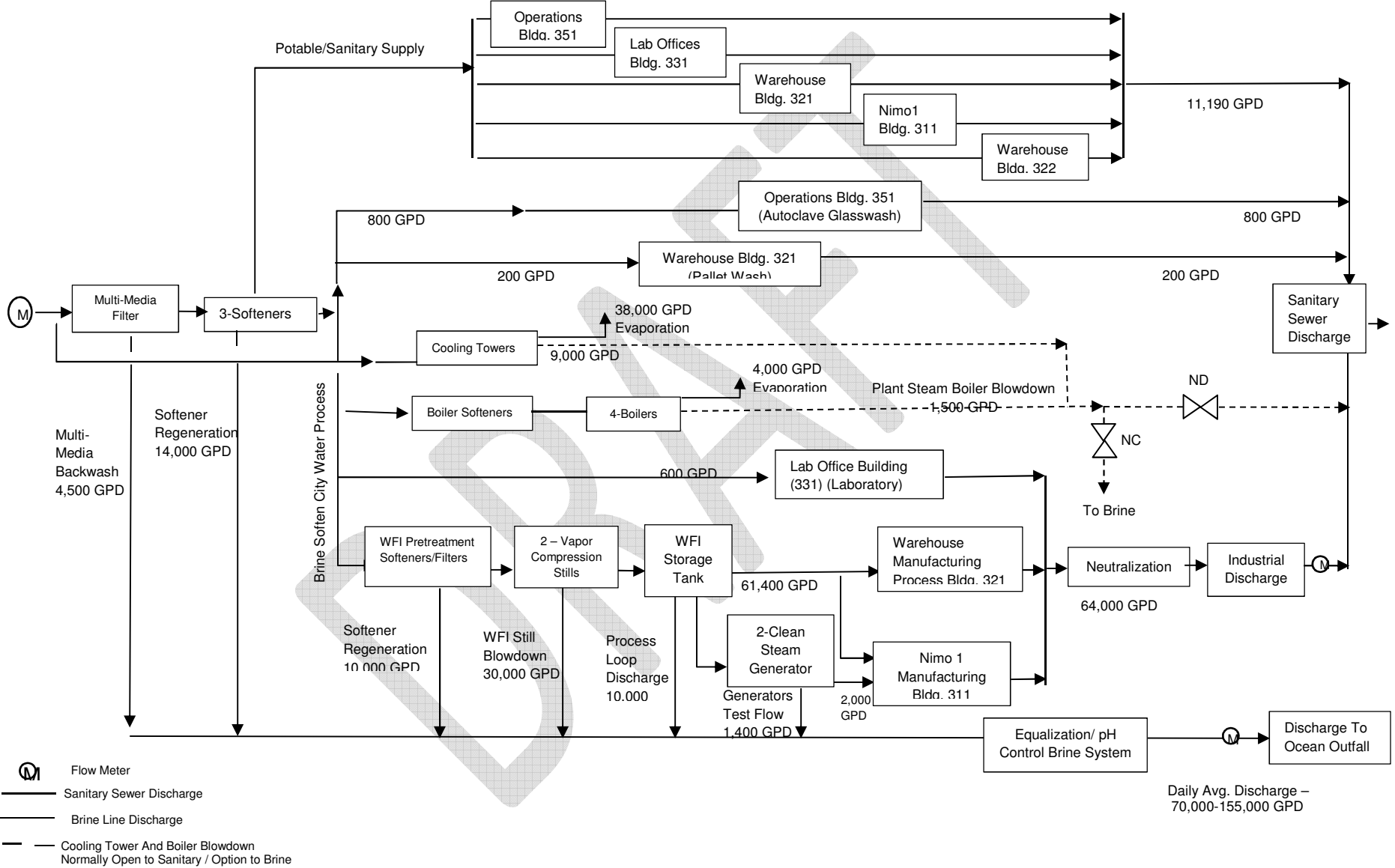




GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

**ATTACHMENT C – FLOW SCHEMATIC**



Daily Avg. Discharge –  
 70,000-155,000 GPD

## ATTACHMENT D – STANDARD PROVISIONS

### I. STANDARD PROVISIONS – PERMIT COMPLIANCE

#### A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 CFR § 122.41(a); Water Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR § 122.41(a)(1).)

#### B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR § 122.41(c).)

#### C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR § 122.41(d).)

#### D. Proper Operation and Maintenance

The Discharger 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 Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR § 122.41(e).)

#### E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR § 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR § 122.5(c).)

#### F. Inspection and Entry

The Discharger shall allow the San Diego Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(b); 40 CFR § 122.41(i); Water Code, § 13267, 13383):



GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(b)(i); 40 CFR § 122.41(i)(1); Water Code § 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 CFR § 122.41(i)(2); Water Code § 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 CFR § 122.41(i)(3); Water Code § 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(b); 40 CFR § 122.41(i)(4); Water Code § 13267, 13383)

#### **G. Bypass**

1. Definitions
  - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 122.41(m)(1)(i).)
  - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR § 122.41(m)(1)(ii).)
2. *Bypass not exceeding limitations.* The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR § 122.41(m)(2).)
3. *Prohibition of bypass.* Bypass is prohibited, and the San Diego Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR § 122.41(m)(4)(i)):
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR § 122.41(m)(4)(i)(A));
  - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR § 122.41(m)(4)(i)(B)); and
  - c. The Discharger submitted notice to the San Diego Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR § 122.41(m)(4)(i)(C).)
4. The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR § 122.41(m)(4)(ii).)
5. Notice

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

- a. *Anticipated bypass.* If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR § 122.41(m)(3)(i).)
- b. *Unanticipated bypass.* The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR § 122.41(m)(3)(ii).)

#### H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR § 122.41(n)(1).)

1. *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR § 122.41(n)(2).)
2. *Conditions necessary for a demonstration of upset.* A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR § 122.41(n)(3)):
  - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR § 122.41(n)(3)(i));
  - b. The permitted facility was, at the time, being properly operated (40 CFR § 122.41(n)(3)(ii));
  - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR § 122.41(n)(3)(iii)); and
  - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR § 122.41(n)(3)(iv).)
3. *Burden of proof.* In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR § 122.41(n)(4).)

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

## II. STANDARD PROVISIONS – PERMIT ACTION

### A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR § 122.41(f).)

### B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 CFR § 122.41(b).)

### C. Transfers

This Order is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR § 122.41(l)(3); § 122.61.)

## III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 CFR § 122.41(j)(4); § 122.44(i)(1)(iv).)

## IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board Executive Officer at any time. (40 CFR § 122.41(j)(2).)
- B. Records of monitoring information shall include:
  - 1. The date, exact place, and time of sampling or measurements (40 CFR § 122.41(j)(3)(i));
  - 2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
  - 3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));
  - 4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
  - 5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
  - 6. The results of such analyses. (40 CFR § 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 CFR § 122.7(b)):

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

1. The name and address of any permit applicant or Discharger (40 CFR § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR § 122.7(b)(2).)

## **V. STANDARD PROVISIONS – REPORTING**

### **A. Duty to Provide Information**

The Discharger shall furnish to the San Diego Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the San Diego Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 CFR § 122.41(h); Water Code, § 13267, 13383)

### **B. Signatory and Certification Requirements**

1. All applications, reports, or information submitted to the San Diego Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR § 122.41(k).)
2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 CFR § 122.22(a)(1).)
3. All reports required by this Order and other information requested by the San Diego Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR § 122.22(b)(1));
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as 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.) (40 CFR § 122.22(b)(2)); and
  - c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

V.B.3 above must be submitted to the San Diego Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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.” (40 CFR § 122.22(d).)

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board. (40 CFR § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR § 122.41(l)(4)(iii).)

### **D. Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR § 122.41(l)(5).)

### **E. Twenty-Four Hour Reporting**

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR § 122.41(l)(6)(ii)):

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

- a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(A).)
- b. Any upset that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(B).)
3. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR § 122.41(l)(6)(iii).)

#### **F. Planned Changes**

The Discharger shall give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR § 122.41(l)(1)(i)); or
2. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR § 122.41(l)(1)(iii).)

#### **G. Anticipated Noncompliance**

The Discharger shall give advance notice to the San Diego Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 CFR § 122.41(l)(2).)

#### **H. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR § 122.41(l)(7).)

#### **I. Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 CFR § 122.41(l)(8).)

### **VI. STANDARD PROVISIONS – ENFORCEMENT**

The San Diego Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

### **VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

#### **A. Non-Municipal Facilities**

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the San Diego Water Board as soon as they know or have reason to believe (40 CFR § 122.42(a)):

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR § 122.42(a)(1)):
  - a. 100 micrograms per liter ( $\mu\text{g/L}$ ) (40 CFR § 122.42(a)(1)(i));
  - b. 200  $\mu\text{g/L}$  for acrolein and acrylonitrile; 500  $\mu\text{g/L}$  for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter ( $\text{mg/L}$ ) for antimony (40 CFR § 122.42(a)(1)(ii));
  - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR § 122.42(a)(1)(iii)); or
  - d. The level established by the San Diego Water Board in accordance with section 122.44(f). (40 CFR § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR § 122.42(a)(2)):
  - a. 500 micrograms per liter ( $\mu\text{g/L}$ ) (40 CFR § 122.42(a)(2)(i));
  - b. 1 milligram per liter ( $\text{mg/L}$ ) for antimony (40 CFR § 122.42(a)(2)(ii));
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR § 122.42(a)(2)(iii)); or
  - d. The level established by the San Diego Water Board in accordance with section 122.44(f). (40 CFR § 122.42(a)(2)(iv).)

## ATTACHMENT E – MONITORING AND REPORTING PROGRAM

### Contents

I.	General Monitoring Provisions .....	E-2
II.	Monitoring Locations .....	E-3
III.	Influent Monitoring Requirements – Not Applicable .....	E-4
IV.	Effluent Monitoring Requirements .....	E-4
	A. Monitoring Location EFF-001 .....	E-4
V.	Whole Effluent Toxicity Testing Requirements .....	E-7
VI.	Land Discharge Monitoring Requirements – Not Applicable .....	E-8
VII.	Recycling Monitoring Requirements – Not Applicable .....	E-8
VIII.	Receiving Water Monitoring Requirements .....	E-8
	A. Surf Zone Water Quality Monitoring .....	E-8
	B. Near Shore Water Quality Monitoring .....	E-9
	C. Off Shore Water Quality Monitoring .....	E-10
	D. Benthic Monitoring .....	E-11
	E. Additional Biological Monitoring – Demersal Fish and Macroinvertebrates.....	E-11
IX.	Other Monitoring Requirements.....	E-12
X.	Reporting Requirements .....	E-13
	A. General Monitoring and Reporting Requirements .....	E-13
	B. Self-Monitoring Reports (SMR's) .....	E-13
	C. Discharge Monitoring Reports (DMR's) – Not Applicable .....	E-15
	D. Other Reports .....	E-15

### Tables

Table E-1.	Monitoring Station Locations .....	E-3
Table E-2.	Effluent Monitoring.....	E-4
Table E-3.	Whole Effluent Toxicity Testing.....	E-7
Table E-4.	Approved Test for Chronic Toxicity .....	E-8
Table E-5.	Near Shore Water Quality Reduced Monitoring Requirements .....	E-9
Table E-6.	Near Shore Water Quality Intensive Monitoring Requirements .....	E-10
Table E-7.	Off Shore Water Quality Reduced Monitoring Requirements .....	E-10
Table E-8.	Off Shore Water Quality Intensive Monitoring Requirements .....	E-10
Table E-9.	Sediment Monitoring Requirements.....	E-11
Table E-10.	Inf fauna Monitoring Requirements .....	E-11
Table E-11.	Demersal Fish and Macroinvertebrates Monitoring Requirements.....	E-12
Table E-12.	Monitoring Periods and Reporting Schedule.....	E-13
Table E-13.	Other Reports.....	E-15



## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

The Code of Federal Regulations (40 CFR § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the San Diego Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

### **I. GENERAL MONITORING PROVISIONS**

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitoring discharge. All samples shall be taken at the monitoring points specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the San Diego Water Board. Samples shall be collected at times representative of “worst case” conditions with respect to compliance with the requirements of this Order.
- B.** Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurement is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than  $\pm 5$  percent from true discharge rates throughout the range of expected discharge volumes.
- C.** Monitoring must be conducted according to United States Environmental Protection Agency (U.S. EPA) test procedures approved at 40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act as amended, or unless other test procedures are specified in this Order and/or in this MRP and/or by the San Diego Water Board.
- D.** Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.
- E.** Records of monitoring information shall include information required under Standard Provision, Attachment D, section IV.
- F.** All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices.
- G.** The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of 10 percent of the samples. A similar frequency shall be maintained for analyzing spiked samples. When requested by U.S. EPA or the San Diego Water Board, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger should have a success rate equal or greater than 80 percent.
- H.** Analysis for toxic pollutants, including chronic toxicity, with performance goals based on water quality objectives of the Ocean Plan shall be conducted in accordance with procedures described in the Ocean Plan and restated in this MRP.

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

- I. Laboratories analyzing monitoring samples shall be certified by the Department of Public Health (DPH), in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

**II. MONITORING LOCATIONS**

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

**Table E-1. Monitoring Station Locations**

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	A location where a representative sample of the brine discharge can be obtained, upstream of the City of Oceanside's 14" brine line prior to comingling with any other discharge Latitude: 33° 9' 46" N Longitude: 117° 23' 28" W
<b>SURF ZONE STATIONS</b>		
--	S1	Surf zone, 5,500 feet south of the outfall
--	S2	Surf zone, 2,500 feet south of the outfall
--	S3	Surf zone, at the outfall Latitude 33 09' 46"N; Longitude 117 23' 28"W
--	S4	Surf zone, 2,000 feet north of the outfall
--	S5	Surf zone, 5,800 feet north of the outfall
<b>NEAR SHORE STATIONS</b>		
--	N1	Opposite S1, at the 30 foot depth contour, MLLW
--	N2	Opposite S2, at the 30 foot depth contour, MLLW
--	N3	Opposite S3, at the 30 foot depth contour, MLLW
--	N4	Opposite S4, at the 30 foot depth contour, MLLW
--	N5	Opposite S5, at the 30 foot depth contour, MLLW
<b>OFFSHORE STATIONS</b>		
--	A1 – A4	At the corners of a 1,000 feet x 1,000 feet square having one side parallel to shore and the intersection of its diagonals at the seaward end of the outfall
--	A5	At the intersection of its diagonals at the seaward end of the outfall
--	B1	One mile down coast from the outfall, and over the same depth contour as Station A5
--	B2	One mile up coast from the outfall, and over the same depth contour as Station A5
<b>BIOLOGICAL TRANSECTS</b>		
--	T0	At the 20, 40, 60, and 80 foot depth contours along the transect located 50 feet downcoast of and parallel to the outfall
--	T1	At the 20, 40, 60, and 80 foot depth contours along the transect located one mile downcoast of and parallel to the outfall
--	T2	At the 20, 40, 60, and 80 foot depth contours along the transect located one and one half miles upcoast of and parallel to the outfall

The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

**III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE**

**IV. EFFLUENT MONITORING REQUIREMENTS**

**A. Monitoring Location EFF-001**

The Discharger shall monitor the effluent at EFF-001 as specified below to address the following primary questions:

1. Does the effluent meet permit effluent limits thereby ensuring that water quality standards are achieved in the receiving water?
2. What is the mass of constituents that are discharged annually?
3. Is the effluent concentration or mass changing over time?

If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

**Table E-2. Effluent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level
Flow	MGD	Recorder/Totalizer	Continuous	--
Temperature	°F	Grab	Semiannual	1
Total Dissolved Solids (TDS)	mg/L	24-hr Composite	Semiannual	1
Conductivity	dS/m	Grab	Semiannual	1
<b>Ocean Plan Table 2 (formerly Table A) Parameters</b>				
Oil & Grease	mg/L	Grab	Semiannual <sup>2,3</sup>	1
Total Suspended Solids	mg/L	24-hr composite	Semiannual <sup>2,3</sup>	1
Settleable Solids	ml/l	Grab	Semiannual <sup>2,3</sup>	1
Turbidity	NTU	Grab	Semiannual <sup>2,3</sup>	1
pH	standard units	Grab	Semiannual <sup>2,3</sup>	1
<b>Ocean Plan Table 1 (formerly Table B) Parameters for Protection of Marine Aquatic Life</b>				
Arsenic	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Chromium VI, Total Recoverable <sup>4</sup>	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Copper, Total Recoverable	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Nickel, Total Recoverable	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Silver, Total Recoverable	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Lead, Total Recoverable	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Mercury, Total Recoverable	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Selenium, Total Recoverable	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Zinc, Total Recoverable	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Cyanide, Total (as CN)	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1,5
Total Residual Chlorine	µg/L	Grab	Annual <sup>2,3</sup>	1
Ammonia (expressed as nitrogen)	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Phenolic compounds <sup>6</sup> (non-chlorinated)	µg/L	Grab	Annual <sup>2,3</sup>	1
Chlorinated phenolics <sup>7</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
Endosulfan <sup>8</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
Endrin	µg/L	Grab	Annual <sup>2,3</sup>	1

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level
HCH <sup>9</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
Radioactivity	pCi/L	Grab	Annual <sup>2,3</sup>	1
<b>Ocean Plan Table 1 Parameters for Protection of Human Health - Noncarcinogens</b>				
Acrolein	µg/L	Grab	Annual <sup>2,3</sup>	1
Antimony	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Bis(2-chloroethoxy)methane	µg/L	Grab	Annual <sup>2,3</sup>	1
Bis(2-chloroisopropyl)ether	µg/L	Grab	Annual <sup>2,3</sup>	1
Chlorobenzene	µg/L	Grab	Annual <sup>2,3</sup>	1
Chromium III	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
di-n-butyl phthalate	µg/L	Grab	Annual <sup>2,3</sup>	1
Dichlorobenzenes <sup>10</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
Diethyl phthalate	µg/L	Grab	Annual <sup>2,3</sup>	1
Dimethyl phthalate	µg/L	Grab	Annual <sup>2,3</sup>	1
4,6-Dinitro-2-methylphenol	µg/L	Grab	Annual <sup>2,3</sup>	1
2,4-Dinitrophenol	µg/L	Grab	Annual <sup>2,3</sup>	1
Ethylbenzene	µg/L	Grab	Annual <sup>2,3</sup>	1
Fluoranthene	µg/L	Grab	Annual <sup>2,3</sup>	1
Hexachlorocyclopentadiene	µg/L	Grab	Annual <sup>2,3</sup>	1
Nitrobenzene	µg/L	Grab	Annual <sup>2,3</sup>	1
Thallium	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Toluene	µg/L	Grab	Annual <sup>2,3</sup>	1
Tributyltin	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
1,1,1-Trichloroethane	µg/L	Grab	Annual <sup>2,3</sup>	1
<b>Ocean Plan Table 1 Parameters for Protection of Human Health - Carcinogens</b>				
Acrylonitrile	µg/L	Grab	Annual <sup>2,3</sup>	1
Aldrin	µg/L	Grab	Annual <sup>2,3</sup>	1
Benzene	µg/L	Grab	Annual <sup>2,3</sup>	1
Benzidine	µg/L	Grab	Annual <sup>2,3</sup>	1
Beryllium	µg/L	24-hr Composite	Annual <sup>2,3</sup>	1
Bis(2-chloroethyl)ether	µg/L	Grab	Annual <sup>2,3</sup>	1
Bis(2-ethylhexyl)phthalate	µg/L	Grab	Annual <sup>2,3</sup>	1
Carbon tetrachloride	µg/L	Grab	Annual <sup>2,3</sup>	1
Chlordane <sup>11</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
Chlorodibromomethane	µg/L	Grab	Annual <sup>2,3</sup>	1
Chloroform	µg/L	Grab	Annual <sup>2,3</sup>	1
DDT <sup>12</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
1,4-Dichlorobenzene	µg/L	Grab	Annual <sup>2,3</sup>	1
3-3'-Dichlorobenzidine	µg/L	Grab	Annual <sup>2,3</sup>	1
1,2-Dichloroethane	µg/L	Grab	Annual <sup>2,3</sup>	1
1,1-Dichloroethylene	µg/L	Grab	Annual <sup>2,3</sup>	1
Dichlorobromomethane	µg/L	Grab	Annual <sup>2,3</sup>	1
Dichloromethane	µg/L	Grab	Annual <sup>2,3</sup>	1
1,3-Dichloropropene	µg/L	Grab	Annual <sup>2,3</sup>	1
Diieldrin	µg/L	Grab	Annual <sup>2,3</sup>	1
2,4-Dinitrotoluene	µg/L	Grab	Annual <sup>2,3</sup>	1
1,2-Diphenylhydrazine	µg/L	Grab	Annual <sup>2,3</sup>	1
Halomethanes <sup>13</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
Heptachlor	µg/L	Grab	Annual <sup>2,3</sup>	1

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level
Heptachlor epoxide	µg/L	Grab	Annual <sup>2,3</sup>	1
Hexachlorobenzene	µg/L	Grab	Annual <sup>2,3</sup>	1
Hexachlorobutadine	µg/L	Grab	Annual <sup>2,3</sup>	1
Hexachloroethane	µg/L	Grab	Annual <sup>2,3</sup>	1
Isophorone	µg/L	Grab	Annual <sup>2,3</sup>	1
N-Nitrosodimethylamine	µg/L	Grab	Annual <sup>2,3</sup>	1
N-Nitrosodi-n-propylamine	µg/L	Grab	Annual <sup>2,3</sup>	1
N-Nitrosodiphenylamine	µg/L	Grab	Annual <sup>2,3</sup>	1
PAH <sup>14</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
PCB <sup>15</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
TCDD Equivalents <sup>16</sup>	µg/L	Grab	Annual <sup>2,3</sup>	1
1,1,2,2-Tetrachloroethane	µg/L	Grab	Annual <sup>2,3</sup>	1
Tetrachloroethylene	µg/L	Grab	Annual <sup>2,3</sup>	1
Toxaphene	µg/L	Grab	Annual <sup>2,3</sup>	1
Trichloroethylene	µg/L	Grab	Annual <sup>2,3</sup>	1
1,1,2-Trichloroethane	µg/L	Grab	Annual <sup>2,3</sup>	1
2,4,6-Trichlorophenol	µg/L	Grab	Annual <sup>2,3</sup>	1
Vinyl Chloride	µg/L	Grab	Annual <sup>2,3</sup>	1

- 1 As required under 40 CFR Part 136. Minimum levels are specified in Appendix II of the Ocean Plan. The Discharger shall select minimum levels that are below the effluent limitation or performance goal. If no minimum level value is below the effluent limitation or performance goal, the Discharger shall select the lowest minimum level value and its associated analytical method.
- 2 The Discharger shall calculate and report the mass emission rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.1.2.d of this Order.
- 3 The minimum frequency of monitoring for this constituent is automatically increased to twice the minimum frequency specified, if any analysis for this constituent yields a result higher than the applicable effluent limitation or performance goal specified in this Order. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this constituent are below all applicable effluent limitations or performance goals specified in this Order.
- 4 Dischargers may, at their option, apply this performance goal as a total chromium performance goal.
- 5 If a Discharger can demonstrate to the satisfaction of U.S. EPA and the State Water Board that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, performance goals may be evaluated with the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR Part 136.
- 6 Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-Nitrophenol, 4-nitrophenol, and phenol.
- 7 Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.
- 8 Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
- 9 HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
- 10 Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
- 11 Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma nonachlor-alpha, nonachlor-gamma, and oxychlordane.
- 12 DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.
- 13 Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
- 14 PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenaphthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

- 15 PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
- 16 TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. U.S. EPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	0.1
2,3,7,8 – hepta CDD	0.01
octa CDD	0.001
2,3,7,8 – tetra CDF	0.1
1,2,3,7,8 – penta CDF	0.05
2,3,4,7,8 – penta CDF	0.5
2,3,7,8 – hexa CDFs	0.1
2,3,7,8 – hepta CDFs	0.01
Octa CDF	0.001

**V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS**

Testing to assess the overall toxicity of the effluent is required answer the following questions

- 1. Does the effluent meet permit effluent limits for chronic toxicity thereby ensuring that water quality standards are achieved in the receiving water?
- 2. If the effluent does not meet permit effluent limits for chronic toxicity, are unmeasured pollutants causing risk to aquatic life?
- 3. If the effluent does not meet permit effluent limits for chronic toxicity, are pollutants in combinations causing risk to aquatic life?

The Discharger shall conduct chronic toxicity testing on effluent samples collected at Monitoring Location EFF-001 in accordance with the following schedule and requirements:

**Table E-3. Whole Effluent Toxicity Testing**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Chronic Toxicity	TU <sub>c</sub>	24-hr Composite	Annual

Critical life stage toxicity tests shall be performed to measure chronic toxicity. Testing shall be performed using methods outlined in Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine Estuarine Organisms (Chapman, G.A., D.L. Denton, and J.M. Lazorchak, 1995) or Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project (State Water Board, 1996).

A screening period for chronic toxicity shall be conducted once during the permit cycle, using a minimum of three test species with approved test protocols outlined in Table E-4. The screening period shall begin during the 2014 calendar year. The screening period shall consist of three (3) consecutive months of WET tests. The test species shall include a fish, an invertebrate, and an aquatic plant. Control and dilution water should be receiving water or lab water as appropriate. If

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

the dilution water is different from the culture water, then culture water should be used in a second control. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results. After the screening period, the most sensitive species shall be used for the annual testing.

If the performance goal for chronic toxicity is exceeded, then six additional toxicity tests are required within a 12-week period in accordance with Provision VI.C.2 of this Order. If an additional exceedance is detected within the 12-week period, a toxicity reduction evaluation (TRE) is required, consistent with Provision VI.C.2. If no toxicity is detected in any of the additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

**Table E-4. Approved Test for Chronic Toxicity**

Species	Test	Tier <sup>1</sup>	Reference <sup>2</sup>
giant kelp, <i>Macrocystis pyrifera</i>	percent germination; germ tube length	1	a,c
red abalone, <i>Haliotis rufescens</i>	abnormal shell development	1	a,c
oyster, <i>Crassostrea gigas</i> ; mussels, <i>Mytilus spp.</i>	abnormal shell development; percent survival	1	a,c
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent normal development	1	a,c
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent fertilization	1	a,c
shrimp, <i>Homesimysis costata</i>	percent survival; growth	1	a,c
shrimp, <i>Mysidopsis bahia</i>	percent survival; fecundity	1	b,d
topsmelt, <i>Atherinops affinis</i>	larval growth rate; percent survival	1	a,c
Silversides, <i>Menidia beryllina</i>	larval growth rate; percent survival	1	b,d

**VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE**

**VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE**

**VIII. RECEIVING WATER MONITORING REQUIREMENTS**

Receiving water and sediment monitoring in the vicinity of the Oceanside Ocean Outfall (OO) shall be conducted as specified below. Station location, sampling, sampling preservation and analyses, when not specified, shall be by methods approved by the San Diego Water Board. The monitoring program may be modified by the San Diego Water Board at any time.

The receiving water and sediment monitoring program for the Oceanside OO may be conducted jointly with other dischargers to the Oceanside OO.

During monitoring events, if possible, sample stations shall be located using a land-based microwave positioning system or a satellite positioning system such as GPS. If an alternate navigation system is proposed, its accuracy should be compared to that of microwave and satellite based systems, and any compromises in accuracy shall be justified.

**A. Surf Zone Water Quality Monitoring**

1. Grab samples shall be collected and analyzed for total and fecal coliform and enterococcus bacteria at a minimum frequency of one time per week. As required by implementation procedures at section III.D of the Ocean Plan, measurement of

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

enterococcus density shall be conducted at all stations where measurement of total and fecal coliform bacteria is required.

If a single sample exceeds any of the single sample bacterial standards, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the single sample bacterial standards or until a sanitary survey is conducted to determine the source of the high bacterial densities.

Single sample bacterial standards include:

- a. Total coliform density will not exceed 10,000 per 100 ml; or
  - b. Fecal coliform density will not exceed 400 per 100 ml; or
  - c. Total coliform density will not exceed 1,000 per 100 ml when the ratio of fecal/total coliform exceeds 0.1;
  - d. Enterococcus density will not exceed 104 per 100 ml.
2. At the same time samples are collected from surf zone stations, the following information shall be recorded: observation of wind direction and speed; weather (cloudy, sunny, or rainy); current direction; tidal conditions; and observations of water color, discoloration, oil and grease; turbidity, odor, and materials of sewage origin in the water or on the beach; water temperature (°F); and status of the mouth of the Buena Vista Lagoon (open, closed, flow, etc.).

**B. Near Shore Water Quality Monitoring**

All near shore stations shall be monitored as follows.

1. Reduced Monitoring

If the San Diego Water Board determines that the effluent complies with the effluent limitations and performance goals at section IV.A of this Order and the receiving water limitations at section V.A of this Order at all times, only reduced near shore water quality monitoring specified below is required.

**Table E-5. Near Shore Water Quality Reduced Monitoring Requirements**

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform	Number / 100 mL	Grab <sup>1</sup>	1/Month
Fecal Coliform	Number / 100 mL	Grab <sup>1</sup>	1/Month
Enterococcus	Number / 100 mL	Grab <sup>1</sup>	1/Month

<sup>1</sup> At the surface.

2. Intensive Monitoring

The intensive near shore water quality monitoring specified below is required during the 12-month period beginning November 1, 2013 through October 31, 2014, and must be submitted by December 1, 2014. This monitoring data will assist the San Diego Water Board in the evaluation of the Report of Waste Discharge. The intensive near shore water quality monitoring specified below may also be required if the San Diego Water Board determines that 1) the effluent does not at all times comply with the effluent limitations and performance goals of this Order, or 2) the receiving water limitations of this Order are not being consistently achieved.



**Table E-6. Near Shore Water Quality Intensive Monitoring Requirements**

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform	Number / 100 mL	Grab <sup>1</sup>	1/Month
Fecal Coliform	Number / 100 mL	Grab <sup>1</sup>	1/Month
Enterococcus	Number / 100 mL	Grab <sup>1</sup>	1/Month

<sup>1</sup> At the surface and mid-depth.

**C. Off Shore Water Quality Monitoring**

All off shore stations shall be monitored as follows.

**1. Reduced Monitoring**

If the San Diego Water Board determines that the effluent at all times complies with the effluent limitations and performance goals at section IV.A of this Order and the receiving water limitations at section V.A of this Order, only reduced off shore water quality monitoring specified below is required.

**Table E-7. Off Shore Water Quality Reduced Monitoring Requirements**

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform	Number / 100 mL	Grab <sup>1</sup>	1/Month
Fecal Coliform	Number / 100 mL	Grab <sup>1</sup>	1/Month
Enterococcus	Number / 100 mL	Grab <sup>1</sup>	1/Month

<sup>1</sup> At surface and mid-depth.

**2. Intensive Monitoring**

The intensive off shore water quality monitoring specified below is required during the 12-month period beginning November 1, 2013 through October 31, 2014, and must be submitted by December 1, 2014. This monitoring data will assist the San Diego Water Board in the evaluation of the Report of Waste Discharge. The intensive off shore water quality monitoring specified below may also be required if the San Diego Water Board determines that 1) the effluent does not at all times comply with the effluent limitations and performance goals of this Order, or 2) the receiving water limitations of this Order are not being consistently achieved.

**Table E-8. Off Shore Water Quality Intensive Monitoring Requirements**

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform	Number / 100 mL	Grab <sup>1</sup>	1/Month
Fecal Coliform	Number / 100 mL	Grab <sup>1</sup>	1/Month
Enterococcus	Number / 100 mL	Grab <sup>1</sup>	1/Month
Conductivity, Temperature, and Depth	Practical Salinity Units, °F, and feet	Grab <sup>2</sup>	1/Month
Dissolved Oxygen	mg/L	Grab <sup>2</sup>	1/Month
Light Transmittance	percent	Instrument <sup>2</sup>	1/Month
pH	standard units	Grab <sup>3</sup>	1/Month

<sup>1</sup> At the surface and mid-depth.

<sup>2</sup> At the surface, mid-depth, and bottom.

<sup>3</sup> At the surface.

**D. Benthic Monitoring**

The intensive monitoring specified below is required during the 12-month period beginning November 1, 2013 through October 31, 2014, and must be submitted by December 1, 2014. This monitoring data will assist the San Diego Water Board in the evaluation of the Report of Waste Discharge. The sediment monitoring specified below may also be required if the San Diego Water Board determines that 1) the effluent does not at all times comply with Effluent Limitations and Performance Goals of this Order or 2) the receiving water limitations of this Order are not being consistently achieved. Benthic monitoring shall be conducted at all off shore monitoring stations.

**1. Sediment Characteristics**

Analyses shall be performed on the upper 2 inches of core.

**Table E-9. Sediment Monitoring Requirements**

Determination	Units	Type of Sample	Minimum Frequency
Sulfides	mg/kg	Core	2/Year
Total Chlorinated Hydrocarbons	mg/kg	Core	2/Year
Biochemical Oxygen Demand (5-day @ 20°C)	mg/kg	Core	2/Year
Chemical Oxygen Demand	mg/kg	Core	2/Year
Particle Size Distribution	mg/kg	Core	2/Year
Arsenic	mg/kg	Core	1/Year
Cadmium	mg/kg	Core	1/Year
Total Chromium	mg/kg	Core	1/Year
Copper	mg/kg	Core	1/Year
Lead	mg/kg	Core	1/Year
Mercury	mg/kg	Core	1/Year
Nickel	mg/kg	Core	1/Year
Silver	mg/kg	Core	1/Year
Zinc	mg/kg	Core	1/Year
Cyanide	mg/kg	Core	1/Year
Phenolic Compounds	mg/kg	Core	1/Year
Radioactivity	pCi/kg	Core	1/Year

**2. Infauna**

Samples shall be collected with a Paterson, Smith-McIntyre, or orange-peel type dredge, having an open sampling area of not less than 124 square inches and a sediment capacity of not less than 210 cubic inches. The sediment shall be sifted through a 1-millimeter mesh screen and all organisms shall be identified to as low a taxon as possible.

**Table E-10. Infauna Monitoring Requirements**

Determination	Units	Sample Type	Minimum Frequency
Benthic Biota	Identification and enumeration	3 Grabs	2/Year

**E. Additional Biological Monitoring – Demersal Fish and Macroinvertebrates**

The intensive monitoring specified below is required during the 12-month period beginning November 1, 2013 through October 31, 2014, and must be submitted by December 1, 2014. This monitoring data will assist the San Diego Water Board in the evaluation of the Report of Waste Discharge, which is required to be submitted by the Discharger within 180 days prior to

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

the Order's expiration date of April 1, 2019.

**Table E-11. Demersal Fish and Macroinvertebrates Monitoring Requirements**

Determination	Units	Minimum Frequency
Biological Transects	Identification and enumeration	Year 4

In rocky or cobble areas, a 30-meter band transect, 1 meter wide, shall be established on the ocean bottom. Operations at each underwater station shall include: (1) recording of water temperature (may be measured from a boat) and estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom; (2) recording of general bottom description; (3) enumeration by estimate of the larger plants and animals in the band transect area; (4) development of a representative photographic record of the sample area; and (5) within each band, three ¼-meter square areas shall be randomly selected, and all macroscopic plant and animal life shall be identified within each square to as low a taxon as possible, and measured. Sampling techniques will follow those employed by biologist divers of the California State Department of Fish and Game.

In sandy areas, a 30-meter band transect, 1 meter wide, shall be established on the ocean bottom. Operations at each underwater station shall include: (1) recording of water temperature (may be measured from a boat), and estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom; (2) recording of general bottom description; (3) recording of height, period, and crest direction of ripple marks; (4) recording of amount, description, and location of detritus on bottom; (5) creation of a representative photographic record of the area sampled; and (6) within each band, three cores of at least 42.5 cm<sup>2</sup> in area shall be randomly taken to a depth of 15 cm where possible, (the three cores may be taken from a boat) and the material removed sifted through at least a 1 mm mesh screen, and all organisms identified to as low a taxon as possible, enumerated, measured, and reproductive conditions assessed where feasible. Sampling techniques will follow those employed by biologist divers of the California State Department of Fish and Game.

For each epifauna and infauna, size frequency and distribution shall be shown for at least the three numerically largest populations identified to the lowest possible taxon and appropriate graphs showing the relationship between species frequency and population shall be plotted from each sample.

## IX. OTHER MONITORING REQUIREMENTS

### Regional Monitoring

The Discharger shall, as directed by the San Diego Water Board, participate with other regulated entities, other interested parties, and the San Diego Water Board in development, refinement, implementation, and coordination of regional monitoring and assessment programs to:

1. Determine the status and trends of conditions in ocean waters with regard to beneficial uses, e.g.
2. Are fish and shellfish safe to eat?
3. Is water quality safe for swimming?
4. Are ecosystems healthy?
5. Identify the stressors causing / contributing to conditions of concern;
6. Identify the sources of the stressors causing / contributing to conditions of concern; and

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

7. Evaluate the effectiveness (i.e., environmental outcomes) of actions taken to address such stressors and sources.

**X. REPORTING REQUIREMENTS**

**A. General Monitoring and Reporting Requirements**

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. The Discharger shall report all instances of noncompliance not reported under Attachment D, sections III, V, and VI, of this Order at the time monitoring reports are submitted.

**B. Self-Monitoring Reports (SMR's)**

1. The Discharger shall electronically submit SMR's using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit semiannual and annual SMR's including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMR's are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

**Table E-12 Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with semiannual SMR
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	1st of the second month following the monitoring period
Annual	Permit Effective Date	January 1- December 31	1st of the second month following the monitoring period
1/5 years	Permit Effective Date	January 1 through December 31	A minimum of 180 days prior to this Orders expiration data with the RWD

4. **Reporting Protocols.** Dischargers must report with each sample result the reported Minimum Level (reported ML, also known as the Reporting Level, or RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR part 136.

Dischargers must also report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the reported Minimum Level must be reported “as measured” by the laboratory (i.e., the measured chemical concentration in the sample).
  - b. Sample results less than the reported Minimum Level, but greater than or equal to the laboratory’s MDL\*, must be reported as “Detected, but Not Quantified”, or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words “Estimated Concentration” (may be shortened to “Est. Conc.”).
  - c. Sample results less than the laboratory’s MDL\* must be reported as “Not Detected”, or ND.
  - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. **Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and in Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).
6. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
  - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
7. The Discharger shall submit SMR’s in accordance with the following requirements:
- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

- b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of this Order; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

**C. Discharge Monitoring Reports (DMR's) – Not Applicable**

**D. Other Reports**

The following reports are required under Special Provisions (Section VI.C of the Order) and the California Code of Regulations and shall be submitted to the San Diego Water Board, signed and certified as required by the Standard Provisions (Attachment D):

**Table E-13 Other Reports**

Report	Location of Requirement	Due Date
Toxicity Reduction Evaluation Plan	Section VI.C.2.b	Within 180 days of the adoption of the Order
Report of Waste Discharge (for permit renewal)	Title 23, California Code of Regulations	180 days prior to this Order's expiration date

DRAFT

## ATTACHMENT F – FACT SHEET

### Contents

I.	Permit Information.....	F-3
II.	Facility Description.....	F-4
	A. Description of Wastewater and Biosolids Treatment and Controls.....	F-4
	B. Discharge Points and Receiving Waters.....	F-6
	C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data.....	F-7
	D. Compliance Summary.....	F-7
	E. Planned Changes – Not Applicable.....	F-7
III.	Applicable Plans, Policies, and Regulations.....	F-7
	A. Legal Authorities.....	F-7
	B. California Environmental Quality Act (CEQA).....	F-7
	C. State and Federal Laws, Regulations, Policies, and Plans.....	F-8
	D. Impaired Water Bodies on CWA 303(d) List.....	F-9
	E. Other Plans, Policies and Regulations – Not Applicable.....	F-9
IV.	Rationale for Effluent Limitations and Discharge Specifications.....	F-9
	A. Discharge Prohibitions.....	F-9
	B. Technology-Based Effluent Limitations (TBELs).....	F-10
	1. Scope and Authority.....	F-10
	2. Applicable Technology-Based Effluent Limitations.....	F-11
	C. Water Quality-Based Effluent Limitations (WQBELs).....	F-12
	1. Scope and Authority.....	F-12
	2. Applicable Beneficial Uses and Water Quality Criteria and Objectives.....	F-12
	3. Determining the Need for WQBELs.....	F-13
	4. WQBEL Calculations.....	F-17
	5. Whole Effluent Toxicity (WET).....	F-19
	D. Final Effluent Limitation Considerations.....	F-19
	1. Anti-Backsliding Requirements.....	F-19
	2. Antidegradation Policies.....	F-21
	a. Technology-based Effluent Limitations.....	F-21
	b. Water Quality-based Effluent Limitations.....	F-21
	3. Stringency of Requirements for Individual Pollutants.....	F-21
	E. Interim Effluent Limitations – Not Applicable.....	F-21
	F. Land Discharge Specifications – Not Applicable.....	F-21
	G. Recycling Specifications – Not Applicable.....	F-21
V.	Rationale for Receiving Water Limitations.....	F-21
	A. Surface Water.....	F-21
	B. Groundwater – Not Applicable.....	F-22
VI.	Rationale for Provisions.....	F-22
	A. Standard Provisions.....	F-22
	B. Special Provisions.....	F-22
	1. Reopener Provisions.....	F-22
	2. Special Studies and Additional Monitoring Requirements.....	F-22
	3. Best Management Practices and Pollution Prevention – Not Applicable.....	F-23
	4. Construction, Operation, and Maintenance Specifications – Not Applicable.....	F-23
	5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable.....	F-23
	6. Other Special Provisions – Not Applicable.....	F-23
	7. Compliance Schedules – Not Applicable.....	F-23

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

VII. Rationale for Monitoring and Reporting Requirements .....	F-23
A. Influent Monitoring – Not Applicable.....	F-23
B. Effluent Monitoring.....	F-23
C. Whole Effluent Toxicity Testing Requirements.....	F-23
D. Receiving Water Monitoring.....	F-24
1. Surface Water .....	F-24
2. Groundwater – Not Applicable.....	F-24
E. Other Monitoring Requirements .....	F-24
VIII. Public Participation.....	F-26
A. Notification of Interested Parties .....	F-26
B. Written Comments .....	F-26
C. Public Hearing .....	F-26
D. Reconsideration of Waste Discharge Requirements.....	F-26
E. Information and Copying.....	F-27
F. Register of Interested Persons.....	F-27
G. Additional Information .....	F-27

**Tables**

Table F-1. Facility Information.....	F-3
Table F-2. Brine/Wastewater Stream Descriptions and Flow Rates .....	F-5
Table F-3. Historic Effluent Limitations and Monitoring Data.....	F-7
Table F-4. Basin Plan Beneficial Uses .....	F-8
Table F-5. Ocean Plan Beneficial Uses .....	F-8
Table F-6. Ocean Plan Numeric Technology-Based Effluent Limitations .....	F-11
Table F-7. Summary of Technology-Based Effluent Limitations .....	F-12
Table F-8. Summary of RPA Results .....	F-15
Table F-9. Pollutants Having Background Concentrations .....	F-18



GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

### ATTACHMENT F – FACT SHEET

As described in section I, the San Diego Water Board incorporates this Fact Sheet as findings of the San Diego Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

#### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

**Table F-1. Facility Information**

<b>WDID</b>	9 000001103
<b>Discharger</b>	Genentech, Inc.
<b>Name of Facility</b>	Genentech, Inc.
<b>Facility Address</b>	One Antibody Way
	Oceanside, CA 92056
	San Diego County
<b>Facility Contact, Title and Phone</b>	Gary Merrill, Senior Environmental Health and Safety Specialist, (760) 231-2427
<b>Authorized Person to Sign and Submit Reports</b>	Don Fitzgerald, Vice President and General Manager for Oceanside Facility, (760) 231-2440
<b>Mailing Address</b>	Same as Facility Address
<b>Billing Address</b>	Same as Facility Address
<b>Type of Facility</b>	Pharmaceutical Manufacturing Facility (SIC Code 2836)
<b>Major or Minor Facility</b>	Minor
<b>Threat to Water Quality</b>	3
<b>Complexity</b>	B
<b>Pretreatment Program</b>	N/A
<b>Recycling Requirements</b>	N/A
<b>Facility Permitted Flow</b>	0.155 million gallons per day (MGD)
<b>Facility Design Flow</b>	0.155 MGD
<b>Watershed</b>	San Luis Rey
<b>Receiving Water</b>	Pacific Ocean
<b>Receiving Water Type</b>	Ocean waters

- A. Genentech, Inc. (Discharger) is the owner and operator of the Genentech, Inc. facility at One Antibody Way, Oceanside, CA 92056 (Facility), a pharmaceutical manufacturing facility.

For the purposes of this Order, references to the “Discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The Facility discharges wastewater to the Pacific Ocean, a water of the United States. The Discharger was previously regulated by Order R9-2008-0082 and National Pollutant

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

Discharge Elimination System (NPDES) Permit No. CA0109193, which was adopted on December 8, 2008 and expired on January 1, 2014. In accordance with section 122.6, title 40 of the Code of Federal Regulations (40 CFR 122.6), the terms of the existing Order were administratively extended and continued in effect after the permit expiration date. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

- C. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its WDR's and NPDES permit on July 3, 2013. Supplemental information was requested on July 5, 2013 and received on July 9, 2013. The application was deemed complete on August 9, 2013. A site visit was conducted on September 17, 2013, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

## II. FACILITY DESCRIPTION

Genentech develops targeted immunotherapies for cancer and autoimmune diseases. Unlike conventional drugs that are produced through chemical synthesis, protein products must be produced by living cells. Biologics manufacturing involves the large-scale culturing and purification of these special cells that can produce the desired protein product. Genentech drug substances are recombinant protein products. The mammalian cell lines utilized during production have the ability to express high levels of the target proteins and be cultured in suspension. The steps that constitute drug manufacturing include:

- (1) Cell culture production and harvesting,
- (2) Recovery and purification, and
- (3) Formulation.

The cell culture operation is the start of the production process. Cell culture operations are commonly referred to as fermentation operations. The cell culture/fermentation at the Facility uses stainless steel vessels ranging from 7 to 4,000 gallons in working volume. Fermentation involves sequential transfer of the cell suspension from one vessel to another as cell density and volume increase. At the appropriate point in the process, the culture is terminated, and the liquid containing the target protein is harvested from the host cells.

The objective of purification is to separate the target protein from the other substances present in the liquid recovered from the cell culture operation. The purification process consists of multiple chromatographic and filtration steps. During purification a variety of buffer solutions are used. Formulation is the final step in the drug substance manufacturing process. The primary objective of the formulation process is to dilute the drug substance into the final carrier solution. Following formulation, the purified product is held as a bulk liquid until such time that it is filled into sealed vials that will be delivered to the point of use.

### A. Description of Wastewater and Biosolids Treatment and Controls

No wastes produced by or in conjunction with the biologics manufacturing processes (including cell culture production and harvesting, recovery and purification, and formulation) at the Facility will be regulated under this Order. All wastewater produced by the biologics manufacturing processes will be discharged to the City of Oceanside's (City) sanitary sewer system.

This Order regulates the discharge of up to 0.155 million gallons per day (MGD); maximum flow rate) of combined discharges from water softening and purification processes and other

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

non-biologics maintenance activities (including vapor compression stills blowdowns) at the Facility. The waste streams associated with these processes and activities and flow rates are listed below:

**Table F-2. Brine/Wastewater Stream Descriptions and Flow Rates**

<b>Wastewater Stream Description</b>	<b>Flow Range (GPD)</b>
1. Primary City Water Treatment	
Multimedia Filter	4,500-10,000
Softeners	14,000-28,000
2. Pretreatment of Water for Injection (WFI), Softeners/Filters	10,000-24,000
3. WFI process loop discharge	10,000-24,000
4. WFI vapor compression stills	30,000-63,000
5. Clean Steam Generators	1,400-6,000
Total	70,000-155,000

A description of the processes and activities regulated under this Order and characterization of wastewater generated from these activities is discussed below:

**1. Primary City Water Treatment**

The sources of wastewater generated from the primary City water treatment include backwashing and rinsing of the Triplex multimedia filter (MMF) and Triplex softener unit serving the primary City water treatment train. A brine waste is also generated from the regeneration of the softener resin with a concentrated brine solution. A total of approximately 4,500-10,000 gallons per day (GPD) of wastewater is generated from the backwashing and rinsing of the MMF. A total of approximately 14,000-28,000 GPD of brine and wastewater is generated from the triplex softener unit backwashing, softener regeneration, and rinsing processes. The total dissolved solids (TDS) found in the waste brine includes high levels of sodium, calcium, magnesium, chlorides, and sulfates.

**2. Pretreatment of Water for Injection**

The sources of wastewater generated from the Water for Injection (WFI) pretreatment system include backwashing and rinsing of the carbon filter and softener units serving the WFI pretreatment train and from the regeneration of the softener resin with a concentrated brine solution. The total wastewater flow from the WFI pretreatment process is 10,000-24,000 GPD. The pollutants contained in the brine generated from the WFI pretreatment system are similar to those found in the brine from the primary City water treatment system. The pollutants include sodium, calcium, magnesium, and other salts.

Another waste stream generated from the WFI pretreatment system is from the draining of clean steam generators serving the WFI system. A small volume of water (300 GPD) is drained from the steam generators during periodic testing and maintenance activities of

the units. The flow is essentially ultra clean WFI water with low TDS and total suspended solids (TSS) levels and non-detectable toxic priority pollutants. This water is combined with the waste brine flows generated from the WFI pretreatment streams.

### **3. Water WFI Process Loop Discharge**

The WFI storage tank has a process loop that discharges 10,000-24,000 GPD.

### **4. Vapor Compression Stills Blowdown**

The WFI vapor compression stills at the Facility are subject to daily blowdown for maintenance purposes. A total of 30,000-63,000 GPD of blowdown water is released from the vapor compression stills. TDS in the blowdown ranges from 2,000 to 3,000 mg/L, mainly consisting of calcium, magnesium, sodium salts, chlorides, sulfates, carbonates, and silica.

### **5. Combined Brine Wastewater Equalization and pH Control**

Combined wastewater gravity drains to a 3,000 gallon lift station. This station has four different liquid sensors that control the system. At 1,200 gallons, the wastewater is pumped into one of two 20,000 gallon holding tanks. In these holding tanks equalization is achieved via comingling.

Once one of the 20,000 gallon equalization tanks reaches 15,000 gallons, a valve is closed and the other tank begins to fill. Each tank has a mixer. The mixers move the wastewater through the pH adjustment skid where the pH is monitored. As the wastewater is routed to the adjustment skid, sensors assess the pH. If the wastewater is outside of the 6.0 – 9.0 standard units range, phosphoric acid or sodium hydroxide is added to adjust the pH up or down respectively. Once the pH has been adjusted, the wastewater is re-routed back to the 20,000 gallon equalization tank for further comingling. The pH is continuously checked.

Once the pH is within the acceptable range, a valve is opened and the wastewater is discharged. Wastewater is pumped, in batches, through a stainless filter housing and filter media. From the filter housing, the wastewater is routed to the brine line. Batch discharges occur on average two to three times per day. Wastewater flow and temperature are monitored prior to final discharge to the City of Oceanside brine line, which discharges through the Oceanside Ocean Outfall (OO).

## **B. Discharge Points and Receiving Waters**

The Facility discharges combined discharges from water softening and purification processes and other non-biologics maintenance activities (including vapor compression stills blowdowns) to the Oceanside OO.

The City of Oceanside owns and operates the Oceanside OO which begins at the City of Oceanside La Salina Wastewater Treatment Plant site just north of the mouth of the Loma Alta Creek and extends southwesterly approximately 8,850 feet offshore to a depth of approximately 100 feet. The Oceanside OO contains a 38-inch internal diameter steel pipe with a 1-inch thick cement mortar interior lining and 2.75-inch thick cement mortar outer jacket. The Oceanside OO has a 35.75-inch internal diameter. The Oceanside OO terminates with a 230-foot diffuser collinear with the rest of the outfall and extends to a depth of

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

approximately 108 feet. The diffuser has fourteen 5- inch diameter ports and ten 4-inch diameter ports. The terminus of the diffuser is located at Latitude 33° 09' 46" North, Longitude 117° 23' 29" West.

**C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data**

Effluent limitations contained in the 2008 Order for discharges from Discharge Point No. 001 (Monitoring Location EFF-001) and representative monitoring data collected during the term of the previous Order are as follows:

**Table F-3. Historic Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2009 – To June 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Flow	MGD	--	--	0.155	--	--	0.077
Oils and Grease	mg/L	25	40	--	ND	ND	--
Total Suspended Solids	mg/L	30	--	50	17	--	17
Settleable Solids	ml/L	1.0	1.5	--	0.10	0.10	--
Turbidity	NTU	75	100	--	3.8	3.8	--
pH	Standard Units	--	--	6.0 - 9.0	--	--	8.40
Chronic Toxicity	TUc	--	--	88	--	--	28.09

**D. Compliance Summary**

No violations were reported by the Discharger during the term of the previous Order.

**E. Planned Changes – Not Applicable**

**III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in this Order are based on the requirements and authorities described in this section.

**A. Legal Authorities**

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

**B. California Environmental Quality Act (CEQA)**

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

**C. State and Federal Laws, Regulations, Policies, and Plans**

1. **Water Quality Control Plan.** The San Diego Water Board adopted a Water Quality Control Plan for the San Diego Basin (Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean. The Basin Plan was subsequently approved by the State Water Board on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. Requirements in this Order implement the Basin Plan.

Beneficial uses applicable to the Pacific Ocean are as follows:

**Table F-4. Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; shellfish harvesting

2. **California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972. Subsequent revisions to the Ocean Plan have been adopted by the State Water Board. The State Water Board adopted the latest amendment on October 16, 2012, and it became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below:

**Table F-5. Ocean Plan Beneficial Uses**

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting

In order to protect beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

3. **Antidegradation Policy.** Federal regulation 40 CFR section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's Antidegradation Policy in State Water Board Resolution 68-16. Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution 68-16.

4. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
5. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare and endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

#### **D. Impaired Water Bodies on CWA 303(d) List**

Under section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On October 11, 2011 the U.S. EPA gave final approval to California's 2010 section 303(d) List of Water Quality Limited Segments. The 303 (d) list includes the following sections of Pacific Ocean shoreline within the proximity of the Oceanside OO as impaired for bacteria indicators:

1. 0.03 miles of Pacific Ocean shoreline at the mouth of the San Luis Rey River
2. 0.03 miles of Pacific Ocean shoreline at the mouth of Loma Alta Creek

Impairment has been detected at the shorelines indicated above; however, the receiving waters in the immediate vicinity of the Oceanside OO discharge point are not included on the current 303 (d) list.

#### **E. Other Plans, Policies and Regulations – Not Applicable**

### **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

#### **A. Discharge Prohibitions**

1. The discharge of waste in a manner or to locations that have not been specifically authorized by this Order and permit, or for which valid waste discharge

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

requirements/NPDES permits are not in force, is prohibited.

This prohibition is retained from Order No. R9-2008-0082 and allows the Discharger to discharge waste only in accordance with the requirements of this Order. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

2. The discharge of wastewater not in compliance with the Basin Plan Waste Discharge Prohibitions, incorporated in this Order as fully set forth herein, is prohibited.

This prohibition is retained from Order No. R9-2008-0082 and is required by chapter 4 the Basin Plan. The discharge prohibitions in the Basin Plan are applicable to any person, as defined by section 13050(c) of the Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

3. The discharge of wastewater not in compliance with the Discharge Prohibitions contained in the Ocean Plan, incorporated in this Order as fully set forth herein, is prohibited.

This prohibition is required by the Ocean Plan which specifies the plan in applicable in its entirety to point source discharges to the ocean.

## **B. Technology-Based Effluent Limitations (TBELs)**

### **1. Scope and Authority**

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 CFR section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 CFR section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.



GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

- d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the San Diego Water Board must consider specific factors outlined in 40 CFR section 125.3.

**2. Applicable Technology-Based Effluent Limitations**

- a. The State Water Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on October 16, 2012, which became effective on August 19, 2013. The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table 2 of the Ocean Plan establishes technology-based effluent limitations for industrial discharges for which ELGs have not been established pursuant to sections 301, 302, 304, or 306 of the federal CWA. Because the Facility does not discharge *process wastewater* as defined by the federal regulations at 40 CFR 122.2 and 40 CFR 439.1(m)(2), it is not covered under the ELGs established at 40 CFR Part 439 (Pharmaceutical Manufacturing Point Source Category). Therefore, Table 2 of the Ocean Plan is applicable to the discharge

Numeric effluent limitations based on Table 2 of the Ocean Plan are established in this Order. Table 2 requirements are summarized below:

**Table F-6. Ocean Plan Numeric Technology-Based Effluent Limitations**

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Instantaneous Maximum
Oil and Grease	mg/L	25	40	75
Suspended Solids	mg/L	60	--	--
Settleable Solids	ml/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	standard units	--	--	1

1 Within limits of 6.0 – 9.0 at all times.

- b. The Ocean Plan does not provide a specific effluent limitation value for total suspended solids (TSS) that is specific to the type of discharge from the Facility. The TSS limitation in Table 2 of the Ocean Plan is designed for POTWs which remove large amounts of TSS from their influent. Furthermore, there are no established Effluent Limitation Guidelines (ELGs) for TSS contained in discharges from the non-biologic manufacturing processes (softener resin backwash, regeneration, rinse, and blowdowns of cooling towers and other equipment) at the Facility. For Order No. R9-2008-0082, San Diego Water Board staff incorporated TSS limitations based on secondary treatment standards for POTW's based on BPJ. Since secondary standards are not applicable for this Facility, this Order sets a TSS limitation of 60 mg/l,

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

consistent with Table 2 of the Ocean Plan which specifies that the effluent limitation to be met shall not be lower than 60 mg/L.

- c. Based on the Discharger's description of the discharge, the maximum flow rate is 0.155 MGD. Therefore, based on BPJ, this Order carries over the daily maximum effluent limitation for flow of 0.155 MGD from Order No. R9-2008-0082.
- d. Order No. R9-2008-0082 includes mass-based effluent limitations for oil & grease and total suspended solids that were calculated based on the maximum effluent flow (0.155 MGD). This Order continues the application of mass-based effluent limitations for oil & grease and TSS. The mass-based effluent limitations established in Order No. R9-2008-0082 were calculated based on the maximum effluent flow, in accordance with 40 CFR 122.45(f)(2)(ii), which states limitations may be established based on anticipated flow.

**Table F-7. Summary of Technology-Based Effluent Limitations**

Parameter	Units	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	75
	lbs/day <sup>1</sup>	32	52	--	97
Total Suspended Solids	mg/L	60	--	--	--
	lbs/day <sup>1</sup>	78	--	--	--
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	standard units	--	--	6.0	9.0

**C. Water Quality-Based Effluent Limitations (WQBELs)**

**1. Scope and Authority**

CWA Section 301(b) and 40 CFR section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 CFR requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the Ocean Plan.

**2. Applicable Beneficial Uses and Water Quality Criteria and Objectives**

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

- a. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to the coastal waters of the Pacific Ocean contained in the Basin Plan are summarized in section III.C.1 of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving waters.
- b. For all ocean waters of the State, the Ocean Plan establishes the beneficial uses summarized in section III.C.2 of this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. Table 1 of the Ocean Plan establishes numeric water quality objectives that are applicable to all discharges within the jurisdiction of the Ocean Plan.

Representative monitoring of the Facility's discharge was conducted at Discharge Point No. 001 and submitted in semi-annual reports for years 2009, 2010, 2011, 2012, and 2013.

A reasonable potential analysis (RPA) was conducted for the Facility's discharges to the Oceanside OO using available data from January 2009- June 2013, for a total of nine sampling events. Constituents that were reported in detectable concentrations in the effluent were compared to the applicable water quality objectives from Table 1 of the Ocean Plan. These criteria were used in conducting the RPA for this Order. The Pacific Ocean background concentrations that were used in the RPA were obtained from Table 3 of the Ocean Plan.

- c. The Thermal Plan establishes water quality objectives for discharges of Thermal and Elevated Temperature Waste to Coastal and Interstate Waters and Enclosed Bays and Estuaries. Thermal waste is defined as "Cooling water and industrial process water used for the purpose of transporting heat." Elevated temperature waste is defined as "Liquid, solid, or gaseous material including thermal waste discharge at a temperature higher than the natural temperature of receiving water. Irrigation return water is not considered elevated temperature waste for the purpose of this plan."

### **3. Determining the Need for WQBELS**

Order No. R9-2008-0082 contained effluent limitations for non-conventional and toxic pollutant parameters in Table 1 of the Ocean Plan. For Order No. R9-2014-0004, the need for effluent limitations based on water quality objectives in Table 1 of the Ocean Plan was re-evaluated. Determining the "reasonable potential" for a discharged pollutant to exceed an objective, was done in accordance with the following:

- 40 CFR 122.44(d);
- Technical Support Document for Water Quality-Based Toxics Control (TSD; EPA/505/2-90-001, 1991); and
- Ocean Plan Reasonable Potential Analysis Amendment that was adopted by the State Water Board on October 16, 2012.

The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited number of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

maximum effluent value and minimum probable initial dilution) can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan, the reasonable potential analysis can yield three endpoints: (1) an effluent limitation is required and monitoring is required; (2) an effluent limitation is not required and the Regional Water Board may require monitoring; and (3) the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause is included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion.

The implementation provisions for Table 1 in section III.C of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge. Prior to issuance of Order No. R9-2008-0082, the State Water Board had determined the minimum initial dilution factor (Dm), for the Oceanside OO to be 87 to 1. This determination was based on flow from the Facility and additional discharges from the City of Oceanside's La Salina and San Luis Rey wastewater treatment plants, the Mission Basin Desalting Facility, US Marine Corps Camp Pendleton, and Fallbrook Public Utility District, yielding a total flow rate of 29.055 MGD. No additions or modifications to the Facility or the Oceanside OO have been proposed that would alter the previously determined dilution characteristics. Therefore, the previous Dm of 87 to 1 will be retained in the current Order and applied to WQBELs established herein.

Conventional pollutants were not considered as part of the RPA. TBELs for these pollutants are included in this Order as described in section IV.B of this Fact Sheet.

Using the RPcalc 2.2 software tool developed by the State Water Board for conducting reasonable potential analyses, the San Diego Water Board conducted a RPA for the constituents listed in Table F-8. For constituents that do not display reasonable potential, this Order includes desirable maximum effluent concentrations which were derived using effluent limitation determination procedures described below and are referred to in this Order as "performance goals." A narrative limit statement to comply with all Ocean Plan objectives requirements is provided for those parameters not displaying reasonable potential. The Discharger is required to monitor for these constituents as stated in the MRP (Attachment E) in order to gather data for use in reasonable potential analyses for future permit reissuances.

Effluent data provided in the Discharger's monitoring reports for the Facility from January 2009 through June 2013 were used in the RPA. A minimum probable initial dilution of 87 to 1 was considered in this evaluation.

A summary of the RPA results is provided below:

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

**Table F-8. Summary of RPA Results**

Parameter	Units	n <sup>1</sup>	MEC <sup>2</sup>	Most Stringent Criteria	Background	RPA Endpoint <sup>3</sup>
Protection of Marine Aquatic Life						
Arsenic	µg/l	10	<0.00001	8 <sup>4</sup>	3 <sup>5</sup>	3
Cadmium	µg/l	5	<5	1 <sup>4</sup>	0	3
Hexavalent Chromium	µg/l	10	0.42	2 <sup>4</sup>	0	3
Copper	µg/l	10	17	3 <sup>4</sup>	2 <sup>5</sup>	2
Lead	µg/l	5	<0.000005	2 <sup>4</sup>	0	3
Mercury	µg/l	5	<0.0000002	0.04 <sup>4</sup>	0.0005 <sup>5</sup>	3
Nickel	µg/l	10	4.3	5 <sup>4</sup>	0	3
Selenium	µg/l	5	<10	15 <sup>4</sup>	0	3
Silver	µg/l	5	<10	0.7 <sup>4</sup>	0.16 <sup>5</sup>	3
Zinc	µg/l	10	10	20 <sup>4</sup>	8 <sup>5</sup>	3
Cyanide	µg/l	4	<25	1 <sup>4</sup>	0	3
Residual Chlorine <sup>9</sup>	µg/l	--	--	2 <sup>4</sup>	0	--
Ammonia-N	µg/l	5	2100	600 <sup>4</sup>	0	3
Acute Toxicity	T <sub>ua</sub>	10	<1.49	0.3	0	3
Chronic Toxicity	T <sub>uc</sub>	10	28.09	1 <sup>6</sup>	0	2
Phenolic compounds (non-chlorinated) <sup>10</sup>	µg/l	1	<0.22	30 <sup>4</sup>	0	3
Chlorinated phenolics <sup>11</sup>	µg/l	1	<0.22	1 <sup>4</sup>	0	3
Endosulfan	µg/l	1	<0.0031	0.009 <sup>4</sup>	0	3
Endrin	µg/l	1	<0.0021	0.002 <sup>4</sup>	0	3
HCH	µg/l	1	<0.0041	0.004 <sup>4</sup>	0	3
Radioactivity	µg/l	--	--	7	0	--
Protection of Human Health – Noncarcinogens						
Acrolein	µg/l	1	<4	220 <sup>8</sup>	0	3
Antimony	µg/l	1	<0.007	1,200 <sup>8</sup>	0	3
Bis(2-chloroethoxy)methane	µg/l	1	<0.11	4.4 <sup>8</sup>	0	3
Bis(2-chloroisopropyl)ether	µg/l	1	<0.11	1,200 <sup>8</sup>	0	3
Chlorobenzene	µg/l	1	<0.36	570 <sup>8</sup>	0	3
Chromium III	µg/l	1	<2	190,000 <sup>8</sup>	0	3
di-n-butyl phthalate	µg/l	1	0.44	3,500 <sup>8</sup>	0	3
Dichlorobenzenes	µg/l	1	<0.11	5,100 <sup>8</sup>	0	3
Diethyl phthalate	µg/l	1	0.43	33,000 <sup>8</sup>	0	3
Dimethyl phthalate	µg/l	1	<0.22	820,000 <sup>8</sup>	0	3
4,6-Dinitro-2-methylphenol	µg/l	1	<0.33	220 <sup>8</sup>	0	3
2,4-Dinitrophenol	µg/l	1	<0.98	4.0 <sup>8</sup>	0	3
Ethylbenzene	µg/l	1	<0.25	4,100 <sup>8</sup>	0	3
Fluoranthene	µg/l	1	<0.11	15 <sup>8</sup>	0	3
Hexachlorocyclopentadiene	µg/l	1	<0.11	58 <sup>8</sup>	0	3
Nitrobenzene	µg/l	1	<0.11	4.9 <sup>8</sup>	0	3
Thallium	µg/l	1	<8	2 <sup>8</sup>	0	3
Toluene	µg/l	1	<0.36	85,000 <sup>8</sup>	0	3

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

Parameter	Units	n <sup>1</sup>	MEC <sup>2</sup>	Most Stringent Criteria	Background	RPA Endpoint <sup>3</sup>
Tributyltin	µg/l	1	<0.047	0.0014 <sup>8</sup>	0	3
1,1,1-Trichloroethane	µg/l	1	<0.3	540,000 <sup>8</sup>	0	3
Protection of Human Health – Carcinogens						
Acrylonitrile	µg/l	1	<1.2	0.10 <sup>8</sup>	0	3
Aldrin	µg/l	1	<0.0015	0.000022 <sup>8</sup>	0	3
Benzene	µg/l	1	<0.28	5.9 <sup>8</sup>	0	3
Benzidine	µg/l	1	<1.1	0.000069 <sup>8</sup>	0	3
Beryllium	µg/l	1	<0.9	0.033 <sup>8</sup>	0	3
Bis(2-chloroethyl)ether	µg/l	1	<0.11	0.045 <sup>8</sup>	0	3
Bis(2-ethylhexyl)phthalate	µg/l	1	<1.8	3.5 <sup>8</sup>	0	3
Carbon tetrachloride	µg/l	1	<0.28	0.90 <sup>8</sup>	0	3
Chlordane	µg/l	1	<0.082	0.000023 <sup>8</sup>	0	3
Chlorodibromomethane	µg/l	1	12	8.6 <sup>8</sup>	0	3
Chloroform	µg/l	1	2.3	130 <sup>8</sup>	0	3
DDT	µg/l	1	<0.021	0.00017 <sup>8</sup>	0	3
1,4-Dichlorobenzene	µg/l	1	<0.37	18 <sup>8</sup>	0	3
3-3'-Dichlorobenzidine	µg/l	1	<0.54	0.0081 <sup>8</sup>	0	3
1,2-Dichloroethane	µg/l	1	<0.28	28 <sup>8</sup>	0	3
1,1-Dichloroethylene	µg/l	1	<0.42	0.9 <sup>8</sup>	0	3
Dichlorobromomethane	µg/l	1	6	6.2 <sup>8</sup>	0	3
Dichloromethane	µg/l	1	<0.95	450 <sup>8</sup>	0	3
1,3-Dichloropropene	µg/l	1	<0.22	8.9 <sup>8</sup>	0	3
Dieldrin	µg/l	1	<0.0021	0.00004 <sup>8</sup>	0	3
2,4-Dinitrotoluene	µg/l	1	<0.22	2.6 <sup>8</sup>	0	3
1,2-Diphenylhydrazine	µg/l	1	<0.22	0.16 <sup>8</sup>	0	3
Halomethanes	µg/l	1	<0.4	130 <sup>8</sup>	0	3
Heptachlor	µg/l	1	<0.0031	0.00005 <sup>8</sup>	0	3
Heptachlor epoxide	µg/l	1	<0.0026	0.00002 <sup>8</sup>	0	3
Hexachlorobenzene	µg/l	1	<0.11	0.00021 <sup>8</sup>	0	3
Hexachlorobutadine	µg/l	1	<0.22	14 <sup>8</sup>	0	3
Hexachloroethane	µg/l	1	<0.22	2.5 <sup>8</sup>	0	3
Isophorone	µg/l	1	<0.11	730 <sup>8</sup>	0	3
N-Nitrosodimethylamine	µg/l	1	<0.11	7.3 <sup>8</sup>	0	3
N-Nitrosodi-n-propylamine	µg/l	1	<0.11	0.38 <sup>8</sup>	0	3
N-Nitrosodiphenylamine	µg/l	1	<0.11	2.5 <sup>8</sup>	0	3
PAH	µg/l	1	<0.0051	0.0088 <sup>8</sup>	0	3
PCB	µg/l	1	<0.26	0.000019 <sup>8</sup>	0	3
TCDD Equivalent	µg/l	1	5.5E-9	3.9E-9 <sup>8</sup>	0	3
1,1,2,2-Tetrachloroethane	µg/l	1	<0.3	2.3 <sup>8</sup>	0	3
Tetrachloroethylene	µg/l	1	<0.3	2.0 <sup>8</sup>	0	3
Toxaphene	µg/l	1	<0.26	0.00021 <sup>8</sup>	0	3
Trichloroethylene	µg/l	1	<0.26	27 <sup>8</sup>	0	3

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

Parameter	Units	n <sup>1</sup>	MEC <sup>2</sup>	Most Stringent Criteria	Background	RPA Endpoint <sup>3</sup>
1,1,2-Trichloroethane	µg/l	1	<0.3	9.4 <sup>8</sup>	0	3
2,4,6-Trichlorophenol	µg/l	1	<0.11	0.29 <sup>8</sup>	0	3
Vinyl Chloride	µg/l	1	<0.4	36 <sup>8</sup>	0	3

1. Number of data points available for the RPA.
2. If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table. Note that the reported MEC does not account for dilution. The RPA does account for dilution; therefore it is possible for a parameter with an MEC in exceedance of the most stringent criteria not to present a RP (i.e. Endpoint 2).
3. End Point 1 – RP determined, limit required, monitoring required.  
 End Point 2 – Discharger determined not to have RP, monitoring may be established.  
 End Point 3 – RPA was inconclusive, carry over previous limitations if applicable, and establish monitoring.
4. Based on the 6-Month Median in the Table 1 of the Ocean Plan.
5. Background concentrations contained in Table 3 of the Ocean Plan.
6. Based on the Daily Maximum in Table 1 of the Ocean Plan.
7. Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3 Section 30253 of the California Code of Regulations. Levels of radioactivity that exceed the applicable criteria are not expected in the discharge.
8. Based on 30-Day Average in Table 1 of the Ocean Plan.
9. The Facility does not chlorinate.
10. Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,3-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.
11. Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

Consistent with 40 CFR 122.44(l)(2)(i)(B), effluent limitations from Order No. R9-2008-0082 will not be retained for constituents for which the RPA results indicated Endpoint 2. Instead, performance goals have been assigned for these constituents. Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters. Endpoint 2 was concluded for chronic toxicity, thus the effluent limitation for chronic toxicity was replaced by a performance goal.

For parameters for which Endpoint 3 was concluded, reasonable potential was inconclusive. For parameters for which Endpoint 3 was concluded and previous effluent limitations had not been established, performance goals have been retained. For parameters for which new data is available and reasonable potential cannot be determined, effluent limitations have been retained. The monitoring and reporting program (MRP) in Attachment E of this Order is intended to facilitate collection of additional information for these constituents to determine if reasonable potential exists in future permit reissuances and/or updates.

Reasonable potential to cause or contribute to an exceedance of water quality objectives contained within the Ocean Plan (i.e. Endpoint 1) was not determined for any parameter listed in Table F-8 above.

#### 4. WQBEL Calculations

- a. From Table 1 water quality objectives of the Ocean Plan, effluent limitations and performance goals are calculated according to the following equation for all pollutants, except for acute toxicity (if applicable) and radioactivity:

GENENTECH, INC.

ORDER R9-2014-0004  
 NPDES NO. CA0109193

$C_e = C_o + D_m (C_o - C_s)$  where,

$C_e$  = the effluent limitation ( $\mu\text{g/L}$ )

$C_o$  = the water quality objective to be met at the completion of initial dilution ( $\mu\text{g/L}$ )

$C_s$  = background seawater concentration ( $\mu\text{g/L}$ )

$D_m$  = minimum probable initial dilution expressed as parts seawater per part wastewater

- b. Initial dilution ( $D_m$ ) has been determined to be 87 to 1 by the San Diego Water Board through the application of U.S. EPA's dilution model, Visual Plumes.
- c. Table 3 of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as " $C_s$ "). In accordance with Table 1 implementing procedures,  $C_s$  equals zero for all pollutants not established in Table 3. The background concentrations provided in Table 3 are summarized below:

**Table F-9. Pollutants Having Background Concentrations**

Parameter	Background Seawater Concentration
Arsenic	3 $\mu\text{g/l}$
Copper	2 $\mu\text{g/l}$
Mercury	0.0005 $\mu\text{g/l}$
Silver	0.16 $\mu\text{g/l}$
Zinc	8 $\mu\text{g/l}$

- d. As an example, performance goals for arsenic are determined as follows:

Water Quality objectives from the Ocean Plan for arsenic are:

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Arsenic	$\mu\text{g/l}$	8	32	80

Using the equation,  $C_e = C_o + D_m(C_o - C_s)$ , performance goals are calculated as follows:

Arsenic

$C_e = 8 + 237 (8 - 3) = 1,193$  or  $1.19\text{E}+03$   $\mu\text{g/l}$  (6-Month Median)

$C_e = 32 + 237 (32 - 3) = 6,905$  or  $6.9\text{E}+03$   $\mu\text{g/l}$  (Daily Maximum)

$C_e = 80 + 237 (80 - 3) = 18,329$  or  $1.83\text{E}+04$   $\mu\text{g/l}$  (Instantaneous Maximum)



GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

Based on the implementing procedures described above, performance goals have been calculated for all Table 1 pollutants from the California Ocean Plan and incorporated into this Order.

- e. 40 CFR 122.45(f)(1) requires that effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated using the following equation:

$$\text{lbs/day} = \text{permitted flow (MGD)} \times \text{pollutant concentration (mg/L)} \times 8.34$$

- f. Based on the results of the RPA, no constituents exhibited reasonable potential to cause or contribute to an exceedance of the water quality objectives from Table 1 of the Ocean Plan. Therefore, no WQBELs are included in this Order.
- g. A summary of the performance goals is provided in Table 5 of the Order.

#### 5. Whole Effluent Toxicity (WET)

- a. Provisions at Section III.C of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors below 100. Using the chronic WET testing collected from January 2009 to June 2013, an RPA was conducted which resulted in an endpoint of 2, therefore an effluent limitation for chronic toxicity is not required. This Order establishes a performance goal and monitoring for chronic toxicity on an annual basis. Based on methods of the Ocean Plan, a performance goal of 88 TUc (as a daily maximum) has been included in the Order.
- b. Implementing provisions at section III.C.4.c.(3) of the Ocean Plan states that the San Diego Water Board may require acute toxicity testing in addition to chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1 as necessary for the protection of beneficial uses of ocean waters. This Order does not contain effluent limitations or monitoring requirements for acute toxicity because the minimum initial dilution factor for the Oceanside OO is 87:1.

### D. Final Effluent Limitation Considerations

#### 1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for total suspended solids.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

TSS effluent limitations were incorporated into the first issuance of the Facility's NPDES permit in August 2003. Order No. R9-2003-0140 contained a monthly average TSS limitation of 30 mg/L and a daily maximum TSS limitation of 50 mg/L. At the time of permit issuance, there was no effluent data to characterize the Facility's discharge. The TSS limitations were based on USEPA secondary treatment standards for publicly owned wastewater treatment facilities practicing a combination of physical and biological treatment to remove biodegradable organic matter and suspended solids. These technology-based performance standards implement the level of effluent quality attainable through application of secondary or equivalent treatment. Although these standards do not specifically apply to the Facility's discharge, they were used as a basis for the TSS effluent limitations based on best professional judgment (BPJ). The 30 mg/L monthly average and 50 mg/L daily maximum TSS effluent limitations were carried over in Order No. R9-2008-0082 when the NPDES permit was reissued in December 2008. This Order eliminates the daily maximum TSS effluent limitation and, consistent with the Ocean Plan, includes a monthly average TSS effluent limitation of 60 mg/L that is less stringent than that in the previous permit.

Anti-backsliding regulations found at 40 CFR 122.44(l) prohibit reissuing or modifying an NPDES permit to include effluent limitations less stringent than in the previous permit, unless one of the exceptions described in 40 CFR 122.44(l) are met. In this instance the San Diego Water Board has determined that a less stringent TSS effluent limitation is appropriate under the exception described in 40 CFR 122.44(l)(2) because the current TSS effluent limitations were based on a technical mistake or mistaken interpretation of law.

The Ocean Plan prescribes technology-based effluent limitations for TSS and other constituents in Table 2 which apply to industrial discharges for which effluent limitations have not been established pursuant to Sections 301, 302, 304, or 306 of the Clean Water Act. Compliance with the Table 2 effluent limitations is the minimum level of treatment acceptable under the Ocean Plan and defines reasonable treatment and waste control technology applicable to the Facility discharge. The TSS effluent limitation for the discharge should have been based on the 60 mg/L TSS standard prescribed in Table 2 of the Ocean Plan rather than best professional judgment (BPJ).

A less stringent TSS limit is in conformance with 40 CFR (l) (2)(ii) which acts as a floor to restrict the extent to which BPJ and water quality-based permit limitations may be relaxed under USEPA's anti-backsliding rules. This regulation requires that an effluent limitation which is less stringent than the current effluent limitation not cause the receiving waters to violate the applicable state water quality standard. The Ocean Plan in its entirety is applicable to the Facility discharge. The less stringent TSS limitation (60mg/L) prescribed in this Order is taken from the Ocean Plan and would assure attainment of the water quality standards prescribed in the Ocean Plan in the receiving waters.

As discussed in Section IV.C.3 of this fact sheet, effluent limitations from Order No. R9-2008-0082 are not retained for constituents for which RPA results indicated Endpoint 2 (chronic toxicity). Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters. For parameters for which Endpoint 3 was concluded and previous effluent limitations had not been established, reasonable potential was not determined. The MRP for this Order is designed to obtain additional information for these constituents to determine if reasonable potential exists for these constituents in future permit reissuance and/or updates.

## 2. Antidegradation Policies

Waste Discharge Requirements for the Discharger must conform with federal and state antidegradation policies provided at 40 CFR 131.12 and in State Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California. The antidegradation policies require that beneficial uses and the water quality necessary to maintain those beneficial uses in the receiving waters of the discharge shall be maintained and protected, and, if existing water quality is better than the quality required to maintain beneficial uses, the existing water quality shall be maintained and protected unless allowing a lowering of water quality is necessary to accommodate important economic and social development or consistent with maximum benefit to the people of California. When a significant lowering of water quality is allowed by the Regional Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), Antidegradation Policy Implementation for NPDES Permitting.

### a. Technology-based Effluent Limitations

As described in sections IV.B.2 and IV.D.1 of the Fact Sheet, this Order does not retain the daily maximum effluent limitation for TSS and relaxes the average monthly effluent limitation for TSS. The TBELs, with the exception of effluent limitations for TSS, are at least as stringent as the previous effluent limitations and no degradation of the receiving water is expected.

### b. Water Quality-based Effluent Limitations

Effluent limitations from Order No. R9-2008-0082 are not retained for constituents for which RPA results indicated an Endpoint 2 (chronic toxicity). For parameters for which new data is available, and reasonable potential is not determined, effluent limitations have been removed as allowed under 40 CFR 122.44(l)(2)(i)(B), and performance goals have been established in their place. The MRP for this Order is designed to obtain additional information for these constituents to determine if reasonable potential exists for these constituents in future permit reissuances and/or updates.

## 3. Stringency of Requirements for Individual Pollutants

This Order contains technology-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on oils and grease, TSS, settleable solids, turbidity, and pH. Restrictions on oils and grease, TSS, settleable solids, turbidity, and pH are discussed in section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

### E. Interim Effluent Limitations – Not Applicable

### F. Land Discharge Specifications – Not Applicable

### G. Recycling Specifications – Not Applicable

## V. RATIONALE FOR RECEIVING WATER LIMITATIONS

### A. Surface Water

CWA section 303(a-c), requires states to adopt water quality standards, including criteria necessary to protect beneficial uses. The San Diego Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states "*water quality*

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

*objectives must protect the most sensitive of the beneficial uses which have been designated for a water body.”* The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies.

The Ocean Plan establishes water quality objectives for California’s ocean waters and provides the basis for regulation of wastes discharged into the California’s coastal waters. The Ocean Plan is applicable to both point and non-point source discharges. The State Water Board adopts the Ocean Plan and, in conjunction with six coastal Regional Water Quality Control Boards, implements and interprets the Ocean Plan.

This Order contains receiving surface water limitations which incorporate Basin Plan and Ocean Plan numerical and narrative water quality objectives for bacterial, physical, chemical, biological, and radioactivity characteristics of ocean waters.

## **B. Groundwater – Not Applicable**

# **VI. RATIONALE FOR PROVISIONS**

## **A. Standard Provisions**

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR section 122.42, are provided in Attachment D to the order.

Sections 122.41(a)(1) and (b) through (n) of Title 40 CFR establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

## **B. Special Provisions**

### **1. Reopener Provisions**

This Order may be re-opened and modified, revoked and reissued, or terminated in accordance with the provisions of 40 CFR Parts 122, 123, 124, and 125. The San Diego Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or the San Diego Water Board, including revisions to the Basin Plan.

### **2. Special Studies and Additional Monitoring Requirements**

#### **Whole Effluent Toxicity**

Implementing provisions at section III.C.10 of the Ocean Plan requires permits to include the following: (1) a requirement to conduct a TRE if the discharge consistently exceeds its toxicity effluent limitation, and (2) a provision requiring a discharger to take all reasonable steps to reduce toxicity once the source of toxicity is identified.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

3. **Best Management Practices and Pollution Prevention – Not Applicable**
4. **Construction, Operation, and Maintenance Specifications – Not Applicable**
5. **Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable**
6. **Other Special Provisions – Not Applicable**
7. **Compliance Schedules – Not Applicable**

## VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the San Diego Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E, establishes monitoring and reporting requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

### A. Influent Monitoring – Not Applicable

### B. Effluent Monitoring

Pursuant to the requirements of 40 CFR §122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations/performance goals. Effluent monitoring is necessary to address the following questions:

1. Does the effluent meet permit effluent limits/performance goals thereby ensuring that water quality standards are achieved in the receiving water?
2. What is the mass of the constituents that are discharged annually?
3. Is the effluent concentration or mass changing over time?
4. What is the volume of effluent being discharged from the Facility into the Oceanside OO.
5. What is the toxicity due to the low salinity in the discharge as compared to the receiving water.

### C. Whole Effluent Toxicity Testing Requirements

Implementing provisions at section III.C.4.c.( 4) of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors less than 100:1 for the protection of beneficial uses of ocean waters. Based on methods of the California Ocean Plan, a performance goal of 88 TUC is established in this Order with annual monitoring.

Toxicity tests are another method used to assess risk to aquatic life. These tests assess the overall toxicity of the effluent, including the toxicity of unmeasured constituents and/or synergistic effects of multiple constituents. Toxicity monitoring is intended to address the following questions:

1. Does the effluent meet permit effluent limits for toxicity thereby ensuring that water quality standards are achieved in the receiving water?
2. If not:
  - a. Are unmeasured pollutants causing risk to aquatic life?
  - b. Are pollutants in combinations causing risk to aquatic life?

## **D. Receiving Water Monitoring**

### **1. Surface Water**

Receiving water monitoring is intended to address the following questions:

- a. Does the effluent comply with the water quality standards in the receiving water?
- b. Is the dissolved sulfide concentration of waters in sediments significantly increased above that present under natural conditions?
- c. Is the concentration of substances set forth in Table 1 of the Ocean Plan, for protection of marine aquatic life, in marine sediments at levels which would degrade the benthic community?
- d. Is the concentration of organic pollutants in marine sediments at levels that would degrade the benthic community?
- e. Are benthic communities degraded as a result of the discharge?
- f. Does the concentration of pollutants in fish, shellfish, or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?
- g. Does the concentration of pollutants in the marine life bioaccumulate to levels that degrade marine communities?
- h. Is natural light significantly reduced at any point outside the zone of initial dilution as the result of the discharge of waste?
- i. Does the discharge of waste cause a discoloration of the ocean surface?
- j. Does the discharge of oxygen demanding waste cause the dissolved oxygen concentration to be depressed at any time more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials?
- k. Does the discharge of waste cause the pH to change at any time more than 0.2 units from that which occurs naturally?
- l. Does the discharge of waste cause the salinity to become elevated in the receiving water?
- m. Do nutrients cause objectionable aquatic growth or degrade indigenous biota?

### **2. Groundwater – Not Applicable**

## **E. Other Monitoring Requirements**

### **Regional Monitoring**

The sampling and analytical resources to implement specific parts of the receiving water monitoring program described in Attachment E, section VIII of this Order may be temporarily redirected to implement a regional monitoring and assessment program consistent with the

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

San Diego Water Board's approach described in *A Framework for Monitoring and Assessment in the San Diego Region* (November 2012) and approved by the Executive Officer. The level of resources in terms of sampling and analytical effort redirected from the receiving water monitoring program required under this Order shall equal the level of resources provided to implement the regional monitoring and assessment program, unless the Executive Officer, the Discharger, City of Oceanside, US Marine Corps Base Camp Pendleton, and Fallbrook Public Utility District agree otherwise. The specific scope and duration of the receiving water monitoring program reallocation and redirection shall be determined and set by the Executive Officer in consultation with the Discharger, City of Oceanside, US Marine Corps Base Camp Pendleton, and Fallbrook Public Utility District.

DRAFT

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

## VIII. PUBLIC PARTICIPATION

The San Diego Water Board has considered the adoption of this Order which will serve as waste discharge requirements (WDRs) and as an NPDES permit for point source discharges from Genentech, Inc. through the Oceanside Ocean Outfall to surface waters. As a step in the adoption process of this Order, the San Diego Water Board developed a Tentative Order and encouraged public participation in the adoption process by providing a period of a minimum of 30 days for public review and comment on the Tentative Order.

### A. Notification of Interested Parties

The San Diego Water Board provided notice to the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity for submittal of written comments and recommendations on the Tentative Order in accordance with title 40 CFR section 124.10 and Water Code section 13167.5. The Tentative Order was posted on the San Diego Water Board website and emailed to the Discharger and all known interested parties on December 17, 2013.

The public had access to the San Diego Water Board's meeting agenda and any changes in dates and locations through the Board's web site at: <http://www.waterboards.ca.gov/sandiego/>

### B. Written Comments

Interested persons were invited to submit written comments concerning the Tentative Order as provided through the notification process. Written comments or e-mailed comments were required to be received in the San Diego Water Board office at 2375 Northside Drive, Suite 100, San Diego, CA 92108 no later than 5:00pm on January 16, 2014.

To be fully responded to by staff and considered by the San Diego Water Board, the written or e-mailed comments were due at the San Diego Water Board office by 5:00 p.m. on January 16, 2014.

### C. Public Hearing

The San Diego Water Board held a public hearing on the Tentative Order during its regular Board meeting on the following date and time and at the following location:

Date: February 12, 2014  
Time: 9:00 AM  
Location: Regional Board Meeting Room  
2375 Northside Drive, Suite 100  
San Diego, CA 92108

Interested persons were invited to attend. At the public hearing, the San Diego Water Board heard testimony, pertinent to the discharge, and Tentative Order. For accuracy of the record, important testimony was requested in writing.

### D. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding this Order. The petition must be received by the State Water Board at the following address within 30 calendar days of the San Diego Water Board's action.



GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see:  
[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality/wqpetition\\_instr.shtml](http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml)

**E. Information and Copying**

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:00 to 5:00 p.m., Monday through Friday. Copying of documents may be arranged through the San Diego Water Board by calling (619) 516 -1990.

**F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding this Order should contact the San Diego Water Board, reference this facility, and provide a name, address, and phone number.

**G. Additional Information**

Requests for additional information or questions regarding this Order should be directed to Michelle Mata at (619) 521-3369.

DRAFT

## ATTACHMENT G – OCEAN PLAN AND BASIN PLAN PROHIBITIONS

### I. Ocean Plan Discharge Prohibitions

1. The Discharge of any radiological chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.
2. Waste shall not be discharged to designated Areas of Special Biological Significance except as provided in Chapter III.E. of the Ocean Plan.
3. Pipeline discharge of sludge to the ocean is prohibited by federal law; the discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean, is prohibited. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited.
4. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table 2 or Table 1 [of the Ocean Plan] is prohibited.

### II. Basin Plan Discharge Prohibitions

1. The discharge of waste to waters of the State in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code section 13050, is prohibited.
2. The discharge of waste to land, except as authorized by WDRs or the terms described in Water Code section 13264 is prohibited.
3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in Water Code section 13376) is prohibited.
4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues an NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State of California Department of Public Health and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.
5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.
6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.

GENENTECH, INC.

ORDER R9-2014-0004  
NPDES NO. CA0109193

7. The dumping, deposition, or discharge of waste directly into waters of the State, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.
8. Any discharge to a storm water conveyance system that is not composed entirely of storm water is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to an NPDES permit and discharges resulting from firefighting activities.] [Section 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].
9. The unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system is prohibited.
10. The discharge of industrial wastes to conventional septic tank/ subsurface disposal systems, except as authorized by the terms described in Water Code section 13264, is prohibited.
11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the State is prohibited.
12. The discharge of any radiological, chemical, or biological warfare agent into waters of the State is prohibited.
13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.
14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the State or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.