

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

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ORDER NO. R4-2012-0054
NPDES NO. CA0063070

WASTE DISCHARGE REQUIREMENTS FOR THE STELLAR BIOTECHNOLOGIES, INCORPORATED

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	Stellar Biotechnologies, Incorporated
Name of Facility	Stellar Biotechnologies, Incorporated
Facility Address	Hueneme Aquaculture Park, No. 448 Lighthouse Circle Drive
	Port Hueneme, CA 93041
	Ventura County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by Stellar Biotechnologies, Incorporated from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Aquaculture wastewater (Sea water)	34° 08' 36" N	119° 13' 48" W	Port Hueneme Harbor

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	March 1, 2012
This Order shall become effective on:	March 31, 2012
This Order shall expire on:	February 10, 2017
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on March 1, 2012.



Samuel Unger, P.E., Executive Officer

Adopted: March 1, 2012

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	Stellar Biotechnologies, Incorporated
Name of Facility	Stellar Biotechnologies, Incorporated
Facility Address	Hueneme Aquaculture Park, No. 448 Lighthouse Circle Drive
	Port Hueneme, CA 93041
	Ventura County
Facility Contact, Title, and Phone	Frank Oakes, President, (805) 488-2147
Mailing Address	332 East Scott Street Port Hueneme, CA 93041
Type of Facility	Aquaculture Facility
Facility Design Flow	0.900 Million Gallons per Day (MGD)

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Water Board), finds:

A. Background. Stellar Biotechnologies, Incorporated (hereinafter Discharger), is currently discharging pursuant to Order No. R4-2009-0084 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0063070. Order No. R4-2009-0084 amends Order No. R4-2008-0210, which amended Order No. R4-2007-0004. The Stellar Biotechnologies facility (hereinafter Facility) is owned and operated by Stellar Biotechnologies, Incorporated. The Discharger submitted a Report of Waste Discharge, received November 29, 2010, and applied for an NPDES permit renewal to discharge up to 0.900 million gallons per day (MGD) of aquaculture wastewater (i.e., seawater) from the Facility. The application was deemed complete on December 15, 2011.

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. Facility Description. The Discharger owns and operates the Stellar Biotechnologies facility, an aquaculture facility used for cultivation of *Megathura(M.) crenulata*, the giant keyhole limpet, for use in the production of Keyhole Limpet Hemocyanin (KLH), a protein used in the pharmaceutical industry. The Facility is located at 448 Lighthouse Circle, Port Hueneme, California. The Stellar Biotechnologies facility consists of a conventional flow-through culture system designed in 2001 to provide optimum growing conditions for *M. crenulata* by maximizing the flow of seawater pumped directly from natural *M. crenulata* habitat into open tanks.

The Discharger is permitted to discharge up to 0.900 MGD of aquaculture wastewater (i.e., seawater) from the Stellar Biotechnologies facility to Port Hueneme Harbor, via Discharge Point No. 001 (see table on cover page). Attachment B provides a topographic map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional 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 Order requirements, is hereby incorporated into this Order and constitutes part of the Findings

for this Order. Attachments A through E and G through I are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations¹, 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. This Order includes technology-based effluent limitations based on Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and 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) mandates 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) USEPA 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).

USEPA approved the State's 2010 303(d) list of impaired water bodies on November 12, 2010. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2010 303(d) list and have been scheduled for TMDL development. The Stellar Biotechnologies facility discharges into Port Hueneme Harbor. The 2010 State Water Board's California 303(d) List classifies Port Hueneme Harbor as impaired. The pollutants of concern in the harbor include: PCBs (tissue) and DDT (tissue). The inclusion of Port Hueneme Harbor on the 2010 303(d) list documents the waterbody's lack of assimilative capacity for the pollutants of concern. A total maximum daily load (TMDL) is developed for the pollutants of concern in a 303(d) listed waterbody to facilitate the waterbody's recovery of its ability to fully support beneficial uses. To date, no TMDLs have been developed for Port Hueneme Harbor; therefore, no conditions in the Order are based on TMDLs.

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

H. Water Quality Control Plans. The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Port Hueneme Harbor are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Port Hueneme Harbor	<u>Existing:</u> Industrial Process Supply (PROC), Navigation (NAV), Commercial and Sport Fishing (COMM), Contact (REC-1) and Non-Contact (REC-2) Recreation, Marine Habitat (MAR), and Wildlife Habitat (WILD).

Requirements of this Order implement the Basin Plan.

The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland and coastal surface waters. Requirements of this Order implement the Thermal Plan.

I. Ammonia Basin Plan Amendment. The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Table 3-1 through Table 3-4. However, those ammonia objectives were revised on March 4, 2004, by the Regional Water Board with the adoption of Resolution No. 2004-022, *Amendment to the Water Quality Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (including enclosed bays, estuaries and wetlands)* with the Beneficial Use designations for protection of “Aquatic Life”. The ammonia Basin Plan amendment was approved by the Office of Administrative Law and the USEPA on September 14, 2004 and May 19, 2005, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA’s 1999 ammonia criteria update.

J. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

K. State Implementation Policy. On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

Intake Water Credits. Section 1.4.4 of the SIP provides that, intake water credits for a pollutant may be established in an NPDES permit based on a Discharger's demonstration that the following conditions are met:

1. The observed maximum ambient background concentration, as determined in section 1.4.3.1, and the intake water concentration of the pollutant exceeds the most stringent applicable criterion/objective for that pollutant;
2. The intake water credits provided are consistent with any total maximum daily load (TMDL) applicable to the discharge that has been approved by the Regional Water Board, State Water Board, and USEPA;
3. The intake water is from the same water body as the receiving water body. The Discharger may demonstrate this condition by showing that:
 - a. the ambient background concentration of the pollutant in the receiving water, excluding any amount of the pollutant in the facility's discharge, is similar to that of the intake water;
 - b. there is a direct hydrological connection between the intake and discharge points;
 - c. the water quality characteristics are similar in the intake and receiving waters; and
 - d. the intake water pollutant would have reached the vicinity of the discharge point in the receiving water within a reasonable period of time and with the same effect had it not been diverted by the discharger.

The Regional Water Board may also consider other factors when determining whether the intake water is from the same water body as the receiving water body;

4. The facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses; and

5. The timing and location of the discharge does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body.

Based on the monitoring data submitted since 2007 and additional information, the Discharger has demonstrated that the above conditions are met. Therefore, this Order includes effluent limitations for copper based on the intake water credits. A detailed discussion of the basis for the intake water credits for the copper effluent limitations is included in the Fact Sheet (Attachment F).

- L. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Water Quality Control Plan Los Angeles Region, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules or interim effluent limitations.
- M. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- N. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on biochemical oxygen demand (5-day at 20°C), total suspended solids (TSS), oil and grease, and turbidity. The water quality-based effluent limitations consist of restrictions on copper. Restrictions on copper are discussed in Section IV.B of the Fact Sheet (Attachment F). This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.
- O. Antidegradation Policy.** 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 No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing

quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

- P. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations 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. Some effluent limitations in this Order are less stringent than those in the previous Order. The existing Order (R4-2009-0084) contains effluent limitations for zinc; however, based on the consideration of new information (i.e., current discharge monitoring data, and reasonable potential analysis), the discharge no longer demonstrates reasonable potential for zinc and the effluent limitations are discontinued in this Order. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.
- Q. Endangered Species Act.** 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 sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 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. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.
- R. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- S. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- T. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections VI.C.2 and VI.C.3. of this Order 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.

U. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

V. Consideration of Public Comment. The Regional 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 of this Order.

THEREFORE, IT IS HEREBY ORDERED, that this Order supercedes Order No. R4-2009-0084 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 federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A.** Wastes discharged shall be limited to a maximum of 0.900 MGD of aquaculture wastewater (i.e., seawater) as described in the findings. The discharge of wastes from accidental spills or other sources is prohibited.
- B.** Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to a storm drain system, Port Hueneme Harbor, or other waters of the State, are prohibited.
- C.** Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or a nuisance as defined by Section 13050 of the Water Code.
- D.** Wastes discharged shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life.
- E.** The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or the State Water Resources Control Board as required by the Federal CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Federal CWA, and amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.
- F.** The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.
- G.** Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

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 attached MRP (Attachment E):

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ @ 20°C	mg/L	20	30	—	—
	lbs/day ¹	150	225	—	—
Oil and Grease	mg/L	10	15	—	—
	lbs/day ¹	75	113	—	—
pH	S.U.	—	—	6.5	8.5
Temperature	°F	—	—	—	86
Total Suspended Solids (TSS)	mg/L	50	75	—	—
	lbs/day ¹	375	563	—	—
Turbidity	NTU	50	75	—	—
Copper, Total Recoverable	µg/L	2.9 ²	5.8 ²	—	—
	lbs/day ¹	0.02	0.04	—	—

1. Mass-based effluent limitations are based upon a maximum discharge flow rate of 0.900 MGD.
2. If the influent water copper (Cu) concentration does not exceed the average monthly effluent limitation, then the limitations for copper are applied as listed in the table. If the influent water copper concentration exceeds the average monthly limitation but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credits and compliance with the maximum daily limitation is applied as listed in the table. If the influent water copper concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitations will be determined based on intake water credits. When determining compliance based on intake water credits, the copper effluent limitation is equal to the maximum copper concentration in the influent water. The equation is as follows:

$$\text{Cu Effluent Limitation with Intake Water Credit} = \text{Maximum Cu Influent Water Concentration}$$

b. Bacteria Limits

- i. Total Coliform: The total coliform density shall not exceed a log mean of 1,000/100 ml (based on a minimum of not less than five samples for any 30-day period), nor shall any single sample collected during any 30-day period exceed 10,000/100 ml. In addition, the total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
- ii. Fecal coliform: The fecal coliform density shall not exceed a log mean of 200 MPN/100ml (based on a minimum of not less than five samples for any 30-day period), nor shall any single sample collected during any 30-day period exceed 400 MPN/100ml.

- iii. **Enterococcus:** The enterococcus density shall not exceed a log mean of 35/100 ml (based on a minimum of not less than five samples for any 30-day period), nor shall any single sample collected during any 30-day period exceed 104/100 ml.
- c. **Dissolved Oxygen.** A mean annual dissolved oxygen concentration of at least 7 mg/L, with no single determination of less than 5.0 mg/L.
- d. **Acute Toxicity:** there shall be no acute toxicity in the discharge. The acute toxicity of the effluent shall be such that:
 - i. The average survival of undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and
 - ii. No single test producing less than 70% survival. Compliance with the toxicity objectives will be determined by the method described in section V of the MRP.

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Port Hueneme Harbor:

1. The normal ambient pH to fall below 6.5 nor exceed 8.5 units nor vary from normal ambient pH levels by more than 0.5 units.
2. Surface water temperature to rise greater than 5°F above the natural temperature of the receiving waters at any time or place. At no time the temperature be raised above 80° F as a result of waste discharged.
3. Water Contact Standards
 - a. State/Regional Water Board Water Contact Standards

In marine waters designated for Water Contact Recreation (REC-1), the waste discharged shall not cause the following bacterial standards to be exceeded in the receiving water:

- i. Geometric Mean Limits

(a) Total coliform density shall not exceed 1,000/100 ml.

(b) Fecal coliform density shall not exceed 200/100 ml.

(c) Enterococcus density shall not exceed 35/100 ml.

ii. Single Sample Maximum (SSM)

(a) Total coliform density shall not exceed 10,000/100 ml.

(b) Fecal coliform density shall not exceed 400/100 ml.

(c) Enterococcus density shall not exceed 104/100 ml.

(d) Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).

If any of the single sample limits are exceeded, the Regional Water Board may require repeat sampling on a daily basis until the sample falls below the single sample limit in order to determine the persistence of the exceedance.

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period shall be used to calculate the geometric mean.

4. Depress the concentration of dissolved oxygen to fall below 5.0 mg/L anytime, and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
5. Exceed total ammonia (as N) concentrations specified in the Regional Water Board Resolution No. 2004-022, adopted on March 4, 2004. Resolution No. 2004-022, *Amendment to the Water Quality Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (including Enclosed Bays, Estuaries, and Wetlands) with the Beneficial Use Designations for Protection of "Aquatic Life"*. The ammonia Basin Plan amendment became effective on May 19, 2004.
6. The presence of visible, floating, suspended or deposited macroscopic particulate matter or foam.
7. Oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the receiving water or on objects in the water.
8. Suspended or settleable materials, chemical substances or pesticides in amounts that cause nuisance or adversely affect any designated beneficial use.
9. Toxic or other deleterious substances in concentrations or quantities which cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit

for human consumption either at levels created in the receiving waters or as a result of biological concentration.

10. Accumulation of bottom deposits or aquatic growths.
11. Biostimulatory substances at concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
12. The presence of substances that result in increases of BOD that adversely affect beneficial uses.
13. Taste or odor-producing substances in concentrations that alter the natural taste, odor, and/or color of fish, shellfish, or other edible aquatic resources; cause nuisance; or adversely affect beneficial uses.
14. Alteration of turbidity, or apparent color beyond present natural background levels.
15. Damage, discolor, nor cause formation of sludge deposits on flood control structures or facilities nor overload the design capacity.
16. Degrade surface water communities and populations including vertebrate, invertebrate, and plant species.
17. Problems associated with breeding of mosquitoes, gnats, black flies, midges, or other pests.
18. Create nuisance, or adversely affect beneficial uses of the receiving water.
19. Violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board will revise or modify this Order in accordance with such standards.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. Regional Water Board Standard Provisions. The Discharger shall comply with the following provisions:
 - a. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of sections 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the

- environment resulting from the permitted activity; or acquisition of newly-obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
- b.** The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.
 - c.** Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.
 - d.** The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to sections 301, 302, 303(d), 304, 306, 307, 316, 318, 405, and 423 of the Federal CWA and amendments thereto.
 - e.** These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
 - f.** Oil or oily material, chemicals, refuse, or other pollutionable materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.
 - g.** A copy of these waste discharge specifications shall be maintained at the discharge facility so as to be available at all times to operating personnel.
 - h.** After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - i.** Violation of any term or condition contained in this Order;
 - ii.** Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;
 - iii.** A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
 - i.** If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency

response telephone number shall be prominently posted where it can easily be read from the outside.

- j.** The Discharger shall notify the Regional Water Board not later than 120 days in advance of implementation of any plans to alter production capacity of the product line of the manufacturing, producing or processing facility by more than ten percent. Such notification shall include estimates of proposed production rate, the type of process, and projected effects on effluent quality. Notification shall include submittal of a new report of waste discharge appropriate filing fee.
- k.** The Discharger shall file with the Regional Water Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.
- l.** All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board as soon as they know or have reason to believe that they have begun or expect to begin to use or manufacture intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.
- m.** In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board.
- n.** The Water Code provides that any person who violates a waste discharge requirement or a provision of the Water Code is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

- o.** The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which may ultimately be released to waters of the United States, is prohibited unless specifically authorized elsewhere in this permit or another NPDES permit. This requirement is not applicable to products used for lawn and agricultural purposes.
- p.** The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.

- q. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to the planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:
 - i. Name and general composition of the chemical,
 - ii. Frequency of use,
 - iii. Quantities to be used,
 - iv. Proposed discharge concentrations, and
 - v. USEPA registration number, if applicable.
- r. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
- s. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, average monthly effluent limitation, maximum daily effluent limitation, instantaneous minimum effluent limitation, instantaneous maximum effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213) 576-6600 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.
- t. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Wat. Code § 1211.)

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. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal CWA, and amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
- b. This Order may be reopened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order and based on the results of the RPA.
- c. This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in Parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new MLs.
- d. This Order may be reopened and modified to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of an objective or the adoption of a TMDL for Port Hueneme Harbor.
- e. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.
- f. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.** The Discharger shall submit to the Regional Water Board an Initial Investigation Toxicity Reduction Evaluation (TRE) workplan (1-2 pages) **within 90 days** of the effective date of this permit. This plan shall describe the steps the permittee intends to follow in the event that toxicity is detected, and should include at a minimum:
 - i. A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of toxicity, effluent variability, and treatment system efficiency;
 - ii. A description of the facility's method of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility;
 - iii. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor) (Section V of the MRP, Attachment E, provides references for the guidance manuals that should be used for performing TIEs).

- b. Chemical Use Report.** The Discharger shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect the waste discharge, including quantities of each. The Discharger shall develop the Chemical Use Report in accordance with the specification discussed in Section IX of the MRP, Attachment E.

3. Best Management Practices and Pollution Prevention

- a.** The Discharger shall submit, within 90 days of the effective date of this Order:
 - i.** A Best Management Practice Plan (BMPP) that entails site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material from being discharged to waters of the State. The BMPP shall be consistent with the general guidance contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004). In particular, a description of activities in each area and a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material discharge to surface waters.
 - ii.** Spill Contingency Plan (SCP) that shall be site-specific and shall cover all areas of the Facility. The SCP should outline specific measures to be taken in the event of an accidental spill of hazardous materials and to prevent hazardous waste/material from being discharged to waters of the State.

The BMPP and SCP shall be implemented 30 days after being submitted to the Regional Water Board for approval. If the Regional Water Board does not provide specific comments on the plans submitted, the plans are to be implemented as proposed.

4. Construction, Operation and Maintenance Specifications

- a.** The Discharger shall at all times properly operate and maintain all facilities and systems installed or used to achieve compliance with this Order.

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 will be determined as specified below:

A. Single Constituent Effluent Limitation.

If the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), then the Discharger is out of compliance.

B. Effluent Limitations Expressed as a Sum of Several Constituents.

If the sum of the individual pollutant concentrations is greater than the effluent limitation, then the Discharger is out of compliance. In calculating the sum of the concentrations of a group of pollutants, consider constituents reported as ND or DNQ to have concentrations equal to zero, provided that the applicable ML is used.

C. Effluent Limitations Expressed as a Median.

In determining compliance with a median limitation, the analytical results in a set of data will be arranged in order of magnitude (either increasing or decreasing order); and

1. If the number of measurements (n) is odd, then the median will be calculated as $= X_{(n+1)/2}$, or
2. If the number of measurements (n) is even, then the median will be calculated as $= [X_{n/2} + X_{(n/2)+1}]$, i.e. the midpoint between the $n/2$ and $n/2+1$ data points.

D. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. 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.
2. 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.

E. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection E above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). 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.

In determining compliance with the AMEL, the following provisions shall also apply to all constituents:

1. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for that constituent, the Discharger has demonstrated compliance with the AMEL for that month;
2. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any constituent, the Discharger shall collect four additional samples at approximately equal intervals during the month. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later.

When all sample results are greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), the numerical average of the analytical results of these five samples will be used for compliance determination.

When one or more sample results are reported as “Not-Detected (ND)” or “Detected, but Not Quantified (DNQ)” (see Reporting Requirement I.G. of the MRP), the median value of these four samples shall be used for compliance determination. If one or both of the middle values is ND or DNQ, the median shall be the lower of the two middle values.

3. In the event of noncompliance with an AMEL, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated.
4. If only one sample was obtained for the month or more than a monthly period and the result exceeds the AMEL, then the Discharger is in violation of the AMEL.

F. Maximum Daily Effluent Limitations (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

G. Instantaneous Minimum Effluent Limitation.

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 non-compliance with the instantaneous minimum effluent limitation).

H. Instantaneous Maximum Effluent Limitation.

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 exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

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.

Best Management Practices (BMPs)

BMPs are methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and non-structural control, and operation maintenance procedures, which can be applied before, during, and/or after pollution-producing activities.

Bioaccumulative

Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic

Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)

CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

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.

Detected, but Not Quantified (DNQ)

DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays

Enclosed Bays means 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 the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Existing Discharger

Any discharger that is not a new discharger. An existing discharger includes an "increasing discharger" (i.e., any existing facility with treatment systems in place for its current discharge

that is or will be expanding, upgrading, or modifying its permitted discharge after the effective date of this Order).

Four-Day Average of Daily Maximum Flows

The average of daily maxima taken from the data set in four-day intervals.

Infeasible

Not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Inland Surface Waters

All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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).

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).

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median

The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL)

MDL is 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 title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

ML is 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.

Mixing Zone

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)

Sample results which are 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. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

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 a priority pollutant(s) 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 Regional 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.

Pollution Prevention

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL)

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. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. 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 RL.

Satellite Collection System

The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ)

Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Reduction Evaluation (TRE)

TRE is 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.)

ACRONYMS AND ABBREVIATIONS

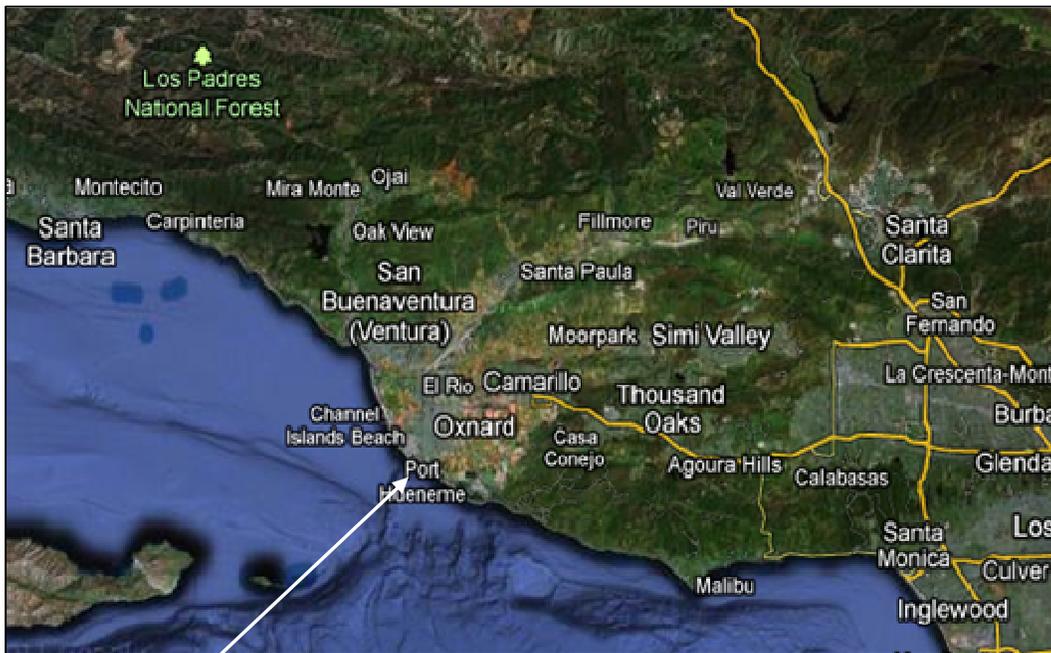
AMEL.....	Average Monthly Effluent Limitation
B	Background Concentration
BAT.....	Best Available Technology Economically Achievable
Basin Plan	Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BMPP	Best Management Practices Plan
BPJ	Best Professional Judgment
BOD.....	Biochemical Oxygen Demand 5-day @ 20 °C
BPT	Best Practicable Treatment Control Technology
C.....	Water Quality Objective
CCR	California Code of Regulations
CEQA.....	California Environmental Quality Act
CFR.....	Code of Federal Regulations
CTR	California Toxics Rule
CV	Coefficient of Variation
CWA.....	Clean Water Act
CWC	California Water Code
Discharger	Stellar Biotechnologies, Incorporated
DMR	Discharge Monitoring Report
DNQ.....	Detected But Not Quantified
ELAP	California Department of Health Services Environmental Laboratory Accreditation Program
ELG	Effluent Limitations, Guidelines and Standards
Facility	Stellar Biotechnologies
g/kg.....	grams per kilogram
gpd	gallons per day
IC.....	Inhibition Coefficient
IC ₁₅	Concentration at which the organism is 15% inhibited
IC ₂₅	Concentration at which the organism is 25% inhibited
IC ₄₀	Concentration at which the organism is 40% inhibited
IC ₅₀	Concentration at which the organism is 50% inhibited
LA	Load Allocations
LOEC.....	Lowest Observed Effect Concentration
µg/L	micrograms per Liter
mg/L.....	milligrams per Liter
MDEL.....	Maximum Daily Effluent Limitation
MEC.....	Maximum Effluent Concentration
MGD	Million Gallons Per Day
ML	Minimum Level
MRP.....	Monitoring and Reporting Program
ND	Not Detected
ng/L	nanograms per liter
NOEC.....	No Observable Effect Concentration
NPDES	National Pollutant Discharge Elimination System

NSPS.....	New Source Performance Standards
NTR	National Toxics Rule
OAL	Office of Administrative Law
PAHs	Polynuclear Aromatic Hydrocarbons
pg/L	picograms per liter
PMEL.....	Proposed Maximum Daily Effluent Limitation
PMP.....	Pollutant Minimization Plan
POTW.....	Publicly Owned Treatment Works
ppm	parts per million
ppb	parts per billion
QA	Quality Assurance
QA/QC.....	Quality Assurance/Quality Control
Ocean Plan.....	Water Quality Control Plan for Ocean Waters of California
Regional Water Board	California Regional Water Quality Control Board, Los Angeles Region
RPA	Reasonable Potential Analysis
SCP	Spill Contingency Plan
SIP	State Implementation Policy (Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California)
SMR.....	Self Monitoring Reports
State Water Board	California State Water Resources Control Board
SWPPP.....	Storm Water Pollution Prevention Plan
TAC	Test Acceptability Criteria
Thermal Plan	Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California
TIE.....	Toxicity Identification Evaluation
TMDL.....	Total Maximum Daily Load
TOC.....	Total Organic Carbon
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document
TSS.....	Total Suspended Solid
TU _c	Chronic Toxicity Unit
USEPA	United States Environmental Protection Agency
WDR.....	Waste Discharge Requirements
WET.....	Whole Effluent Toxicity
WLA.....	Waste Load Allocations
WQBELs.....	Water Quality-Based Effluent Limitations
WQS.....	Water Quality Standards
%	Percent

ATTACHMENT B – MAP

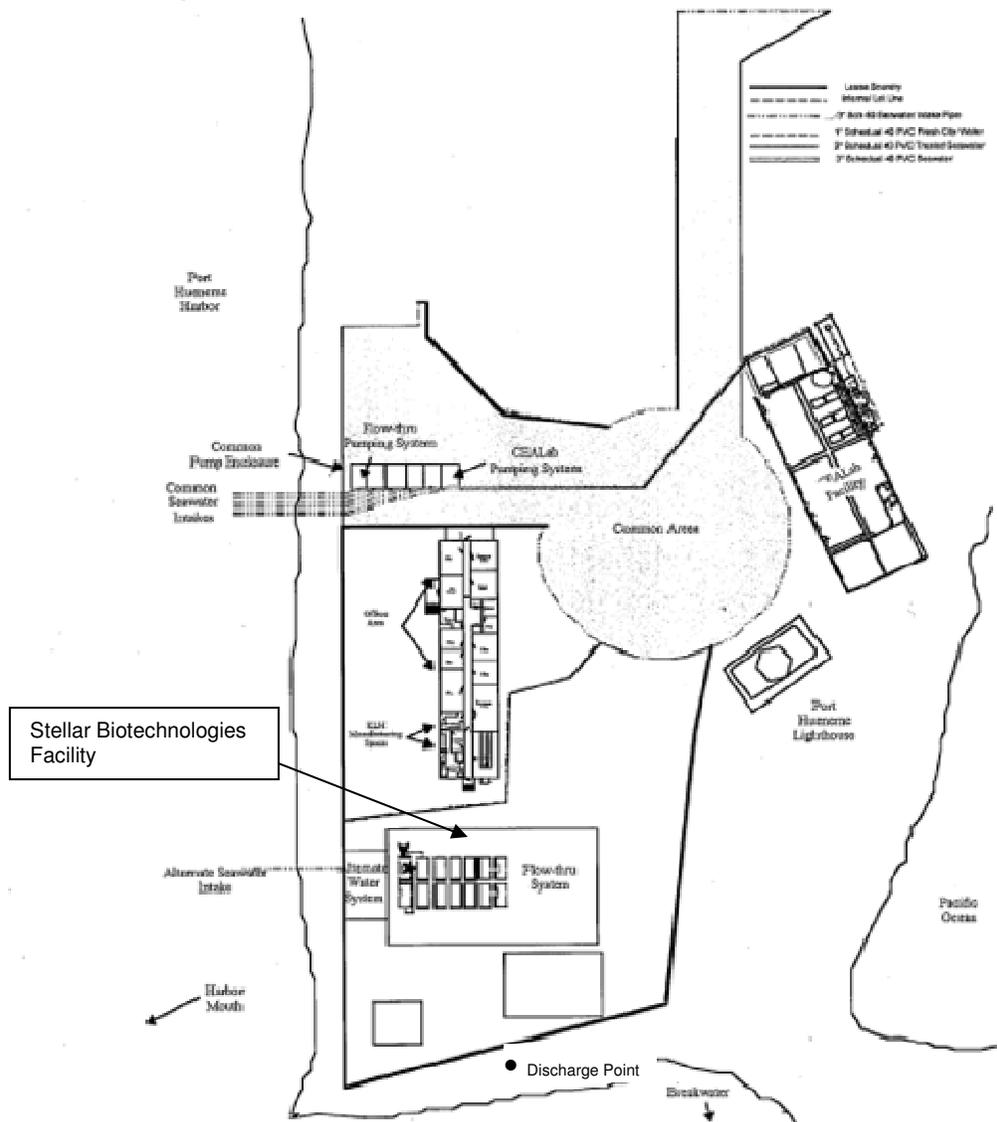


Stellar Biotechnologies, Incorporated

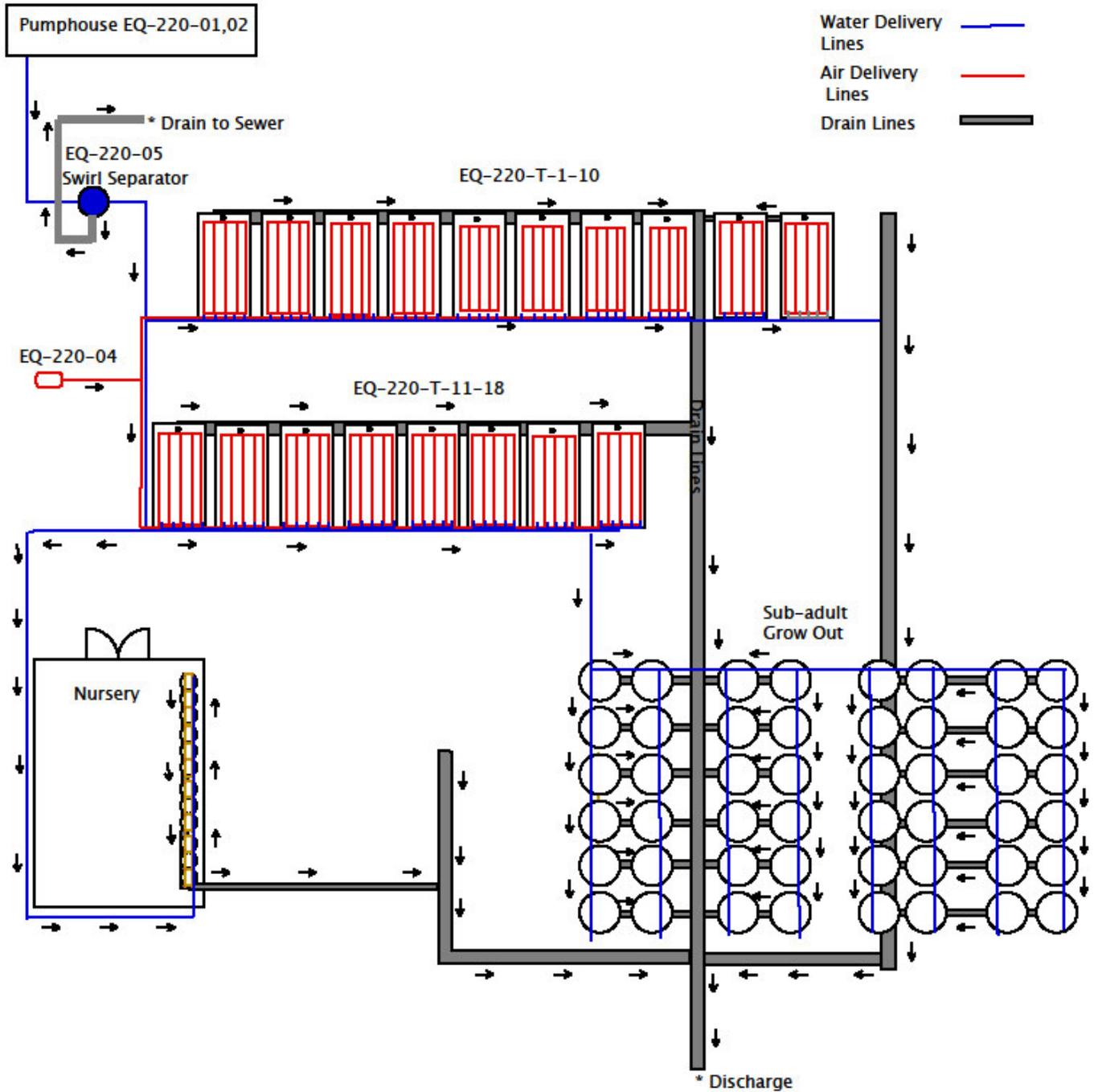


Stellar Biotechnologies, Incorporated

ATTACHMENT C-1 – STELLAR BIOTECHNOLOGIES SITE PLAN



ATTACHMENT C-2 – STELLAR BIOTECHNOLOGIES FLOW DIAGRAM



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the 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, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application [section 122.41(a)].
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 [section 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 [section 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 [section 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 [section 122.41(e)].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [section 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 [section 122.5(c)].

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), 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 [section 122.41(i)] [Water Code section 13383]:

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 [section 122.41(i)(1)];
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [section 122.41(i)(2)];
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [section 122.41(i)(3)]; 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 [section 122.41(i)(4)].

G. Bypass

1. Definitions
 - i. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [section 122.41(m)(1)(i)].
 - ii. "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 [section 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 [section 122.41(m)(2)].

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [section 122.41(m)(4)(i)]:
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [section 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 [section 122.41(m)(4)(i)(B)]; and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below [section 122.41(m)(4)(i)(C)].
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [section 122.41(m)(4)(ii)].
5. Notice
 - 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 [section 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) [section 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 [section 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 [section 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 [section 122.41(n)(3)]:
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset [section 122.41(n)(3)(i)];
 - b. The permitted facility was, at the time, being properly operated [section 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) [section 122.41(n)(3)(iii)]; and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [section 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 [section 122.41(n)(4)].

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 [section 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 [section 122.41(b)].

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional 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 [section 122.41(l)(3) and section 122.61].

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [section 122.41(j)(1)].
- B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified

in Part 503 unless other test procedures have been specified in this Order [section 122.41(j)(4) and section 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 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 Regional Water Board Executive Officer at any time [section 122.41(j)(2)].

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [section 122.41(j)(3)(i)];
2. The individual(s) who performed the sampling or measurements [section 122.41(j)(3)(ii)];
3. The date(s) analyses were performed [section 122.41(j)(3)(iii)];
4. The individual(s) who performed the analyses [section 122.41(j)(3)(iv)];
5. The analytical techniques or methods used [section 122.41(j)(3)(v)]; and
6. The results of such analyses [section 122.41(j)(3)(vi)].

C. Claims of confidentiality for the following information will be denied [section 122.7(b)]:

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

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA 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 Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [section 122.41(h)] [Water Code section 13267].

B. Signatory and Certification Requirements

- 1.** All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA 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 [section 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. [section 122.22(a)(1)].
- 3.** All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA 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 [section 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.) [section 122.22(b)(2)]; and
 - c.** The written authorization is submitted to the Regional Water Board and State Water Board [section 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 V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative [section 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.” [section 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 [section 122.22(l)(4)].
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices [section 122.41(l)(4)(i)].
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [section 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 [section 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 [section 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 [section 122.41(l)(6)(i)].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [section 122.41(l)(6)(ii)]:
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order [section 122.41(l)(6)(ii)(A)].
 - b. Any upset that exceeds any effluent limitation in this Order [section 122.41(l)(6)(ii)(B)].
3. The Regional 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 [section 122.41(l)(6)(iii)].

F. Planned Changes

The Discharger shall give notice to the Regional 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 [section 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) [section 122.41(l)(1)(i)]; or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [section 122.41(l)(1)(ii)].
3. 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 [section 122.41(l)(1)(iii)].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [section 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 [section 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 Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information [section 122.41(l)(8)].

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

- B.** The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions [section 122.41(a)(2)] [Water Code sections 13385 and 13387].

- C. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000 [*section 122.41(a)(3)*].
- D. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both [*section 122.41(j)(5)*].
- E. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both [*section 122.41(k)(2)*].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [*section 122.42(a)*]:

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" [*section 122.42(a)(1)*]:
 - a. 100 micrograms per liter ($\mu\text{g/L}$) [*section 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 (mg/L) for antimony [*section 122.42(a)(1)(ii)*];
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*section 122.42(a)(1)(iii)*]; or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f) [*section 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" [section 122.42(a)(2)]:
 - e.** 500 micrograms per liter ($\mu\text{g/L}$) [section 122.42(a)(2)(i)];
 - f.** 1 milligram per liter (mg/L) for antimony [section 122.42(a)(2)(ii)];
 - g.** Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [section 122.42(a)(2)(iii)]; or
 - h.** The level established by the Regional Water Board in accordance with section 122.44(f) [section 122.42(a)(2)(iv)].

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 7219)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP) NO. 7219

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A.** An effluent sampling station shall be established for the point of discharge from the Stellar Biotechnologies Facility drain to Port Hueneme Harbor (Discharge Point 001, Latitude 34° 08' 36" N, Longitude 119° 13' 48" W) and shall be located where representative samples of that effluent can be obtained.
- B.** Effluent samples shall be taken downstream of any addition to treatment works and prior to mixing with the receiving waters.
- C.** The Regional Water Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.
- D.** Pollutants shall be analyzed using the analytical methods described in sections 136.3, 136.4, and 136.5 (revised March 12, 2007); or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. Laboratories analyzing effluent samples and receiving water samples shall be certified by the California Department of Public Health Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.
- E.** For any analyses performed for which no procedure is specified in the USEPA guidelines or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.
- F.** Each monitoring report must affirm in writing that "all analyses were conducted at a laboratory certified for such analyses by the Department of Public Health or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP".
- G.** The monitoring reports shall specify the analytical method used, the Method Detection Limit (MDL), and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported by one of the following methods, as appropriate:
 - 1. An actual numerical value for sample results greater than or equal to the ML; or

2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML; or,
3. "Not-Detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.

Analytical data reported as "less than" for the purpose of reporting compliance with permit limitations shall be the same or lower than the permit limit(s) established for the given parameter.

Current MLs (Attachment H) are those published by the State Water Board in the Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, February 24, 2005.

- H.** Where possible, the MLs employed for effluent analyses shall be lower than the permit limitations established for a given parameter. If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

The Regional Water Board, in consultation with the State Water Board Quality Assurance Program, shall establish a ML that is not contained in Attachment H to be included in the Discharger's permit in any of the following situations:

1. When the pollutant under consideration is not included in Attachment H;
2. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in Part 136 (revised March 12, 2007);
3. When the Discharger agrees to use an ML that is lower than that listed in Attachment H;
4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment H, and proposes an appropriate ML for their matrix; or,
5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

- I. Water/wastewater samples must be analyzed within allowable holding time limits as specified in section 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Water Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.
- J. All analyses shall be accompanied by the chain of custody, including but not limited to data and time of sampling, sample identification, and name of person who performed sampling, date of analysis, name of person who performed analysis, QA/QC data, method detection limits, analytical methods, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.
- K. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.
- L. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Unless otherwise specified in the analytical method, duplicate samples must be analyzed at a frequency of 5% (1 in 20 samples) with at least one if there is fewer than 20 samples in a batch. A batch is defined as a single analytical run encompassing no more than 24 hours from start to finish. A similar frequency shall be maintained for analyzing spiked samples.
- M. When requested by the Regional Water Board or USEPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger must have a success rate equal to or greater than 80%.
- N. For parameters that both average monthly and daily maximum limits are specified and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the average monthly limit, the Discharger shall collect four additional samples at approximately equal intervals during the month, until compliance with the average monthly limit has been demonstrated. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. In the event of noncompliance with an average monthly effluent limitation, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the average monthly effluent limitation has been demonstrated. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.
- O. In the event wastes are transported to a different disposal site during the report period, the following shall be reported in the monitoring report:
 - 1. Types of wastes and quantity of each type;
 - 2. Name and address for each hauler of wastes (or method of transport if other than by hauling); and

3. Location of the final point(s) of disposal for each type of waste.

If no wastes are transported off-site during the reporting period, a statement to that effect shall be submitted.

P. Each monitoring report shall state whether or not there was any change in the discharge as described in the Order during the reporting period.

Q. Laboratories analyzing monitoring samples shall be certified by the Department of Public Health, 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 (include Latitude and Longitude when available)
—	INF-001	At the entrance of the intake water structure, representing source water prior to the introduction to the aquaculture system.
001	EFF-001	At the discharge point from the aquaculture systems, prior to discharge to Port Hueneme Harbor (Latitude 34° 08' 36" N, Longitude 119° 13' 48" W)
—	RSW-001	In Port Hueneme Harbor, at a location between 100 to 300 feet from the point of discharge of the effluent to Port Hueneme Harbor. The monitoring point should not be influenced by the discharge.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor intake water influent to the Facility at Monitoring Location INF-001, as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Copper, Total Recoverable	µg/L	Grab	2 / Quarter ¹	²

¹ Two influent samples shall be collected per quarter and should be representative of the intake water for the period sampled. The first influent sample shall be collected 2 hours prior to the effluent sample. The second influent sample shall be collected at approximately the same time as the effluent sample.

² Pollutants shall be analyzed using the analytical methods described in Part 136; for priority pollutants, the methods must meet the lowest MLs specified in Appendix 4 of the SIP, and included as Attachment G.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor aquaculture wastewater (i.e., seawater) at Monitoring Location EFF-001 as follows. 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-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Waste Flow	Gallons	Metered ¹	1 / day	--
pH	S.U.	Grab	1 / week	²
Temperature	°F	Grab	1 / week	²
Dissolved Oxygen	mg/L	Grab	1 / week	²
BOD ₅ 20°C	mg/L	Grab	1 / quarter	²
Oil and Grease	mg/L	Grab	1 / quarter	²
Total Suspended Solids	µg/L	Grab	1 / quarter	²
Copper, Total Recoverable ³	µg/L	Grab	1 / quarter	²
Zinc, Total Recoverable	µg/L	Grab	1 / quarter	²
Ammonia Nitrogen (as N)	mg/L	Grab	1 / quarter	²
Nitrate Nitrogen	mg/L	Grab	1 / quarter	²
Nitrite Nitrogen	mg/L	Grab	1 / quarter	²
Settleable Solids	ml/L	Grab	1 / quarter	²
Turbidity	NTU	Grab	1 / quarter	²
Total Coliform	MPN/100 ml	Grab	1 / quarter ⁴	²
Fecal Coliform	MPN/100 ml	Grab	1 / quarter ⁴	²
Enterococcus	MPN/100 ml	Grab	1 / quarter ⁴	²
Residual Chlorine	mg/L	Grab	1 / year	²
Acute Toxicity ⁵	% survival	Grab	1 / year	²
Chronic Toxicity ⁵	TU _c	Grab	1 / year	²
TCDD Equivalents ⁶	µg/L	Grab	1 / every five years	²
Remaining Priority Pollutants ⁷ (excluding asbestos)	µg/L	Grab	1 / year	²

¹ Flow shall be recorded using a flow meter; no estimation of flow is permitted.

² Pollutants shall be analyzed using the analytical methods described in Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board.

³ Intake water credit is allowed for this constituent. The effluent sample shall be collected at approximately the same time as the second influent sample. The first influent sample shall be collected 2 hours prior to the effluent sample.

⁴ The Discharger shall collect not less than 5 samples spaced over a 30-day period.

⁵ Refer to Section V, Whole Effluent Toxicity Testing Requirements

⁶ The Discharger shall monitor for the presence of the 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD or Dioxin) congeners. 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. USEPA Method 1613B may be used to analyze TCDD equivalents.

Congeners	Toxicity Equivalence Factor
2,3,7,8 - tetra CDD	1.0
1,2,3,7,8 - penta CDD	1.0
1,2,3,4,7,8 - hexa CDD	0.1
1,2,3,6,7,8 - hexa CDD	0.1
1,2,3,7,8,9 - hexa CDD	0.1
1,2,3,4,6,7,8 - hepta CDD	0.01
Octa CDD	0.0001
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
1,2,3,4,7,8 - hexa CDF	0.1
1,2,3,6,7,8 - hexa CDF	0.1
1,2,3,7,8,9 - hexa CDF	0.1
2,3,4,6,7,8 - hexa CDF	0.1
1,2,3,4,6,7,8 - hepta CDFs	0.01
1,2,3,4,7,8,9 - hepta CDFs	0.01
Octa CDF	0.0001

⁷ Priority Pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.J of the Limitations and Discharge Requirements of this Order.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

1. Definition of Acute Toxicity.

Acute toxicity is a measure of primarily lethal effects that occur over a 96-hour period. Acute toxicity shall be measured in percent survival measured in undiluted (100%) effluent.

- a. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and
- b. No single test shall produce less than 70% survival.

2. Acute Toxicity Effluent Monitoring Program.

- a. Method. The Discharger shall conduct acute toxicity tests on 24-hour composite 100% effluent samples, generally by methods specified in Part 136 which cites USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, October 2002, USEPA, Office of Water, Washington D.C. (EPA/821-R-02-012) or a more recent edition to ensure compliance. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water.
- b. Test Species. The fathead minnow, *Pimephales promelas* (Acute Toxicity Test Method 2000.0), shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish

- effluent. However, if the salinity of the receiving water is between 1 to 32 parts per thousand (ppt), the Discharger may have the option of using the inland silverside, *Menidia beryllina* (Acute Toxicity Test Method 2006.0), instead of the topsmelt. The method for topsmelt (Larval Survival and Growth Test Method 1006.0) is found in USEPA's *Short-term Method for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, First Edition, August 1995 (EPA/600/R-95/136).
- c. Alternate Reporting. For the acute toxicity testing with topsmelt, the Discharger may elect to report the results or endpoint from the first 96 hours of the chronic toxicity test as the results of the acute toxicity test, using USEPA's August 1995 method (EPA/600/R-95/136) to conduct the chronic toxicity test.
 - d. Acute Toxicity Accelerated Monitoring. If either of the above requirements (sections 1.a and 1.b) is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that they receive results of a failing toxicity test within 24 hours of the close of the test and the additional tests shall begin within 5 business days of the receipt of the result. If the additional tests indicate compliance with the toxicity limitation, the Discharger may resume regular testing.
 - e. Toxicity Identification Evaluation (TIE).
 - i. If the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall immediately begin a Toxicity Identification Evaluation (TIE) and implement the Initial Investigation Toxicity Reduction Evaluation (TRE) workplan. The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the requirements.
 - ii. If the initial test and any of the additional six acute toxicity bioassay test results are less than 70% survival, the Discharger shall immediately begin a TIE and implement the Initial Investigation TRE workplan. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the requirements.

B. Chronic Toxicity

1. Definition of Chronic Toxicity

Chronic toxicity measures a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms. Chronic toxicity shall be measured in TU_c , where $TU_c = 100/NOEC$. The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

This Order includes a chronic testing toxicity trigger defined as an exceedance of 1.0 TU_c in a critical life stage test for 100% effluent. (The monthly median for chronic toxicity of 100% effluent shall not exceed, 1 TU_c in a critical life stage test.)

2. Chronic Toxicity Effluent Monitoring Program

a. Test Species and Methods:

- i. The Discharger shall conduct critical life stage chronic toxicity tests on 24-hour composite 100% effluent samples. For freshwater discharge, the Discharger shall conduct the chronic toxicity test in accordance with USEPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002 (EPA/821/R-02/013) or a more recent edition. For brackish effluent, the Discharger shall conduct the chronic toxicity test in accordance with USEPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms*, First Edition, August 1995 (EPA/600/R-95/136) or *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, Third Edition, October 2002, (EPA/821/R-02/014), or a more recent edition.
- ii. The Discharger shall conduct tests as follows: with a vertebrate, an invertebrate, and a plant for the first three suites of tests. After the screening period, monitoring shall be conducted using the most sensitive species.
- iii. The Discharger shall conduct the first chronic toxicity test screening for three consecutive months in the first required chronic toxicity testing. Re-screening is required every 24 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive, then re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.
- iv. In brackish waters, the presence of chronic toxicity may be estimated as specified using West Coast marine organisms according to USEPA's *Short-Term Methods for Estimating Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms*, August 1995 (EPA/600/R-95/136), or a more recent edition.
- v. After the screening period, monitoring shall be conducted quarterly using the most sensitive species.
- vi. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water.

b. Chronic Toxicity Accelerated Monitoring

If the chronic toxicity of the effluent exceeds the monthly trigger median of 1.0 TU_c, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that they receive results of a failing chronic toxicity test within 24 hours of the completion of the test and the additional tests shall begin within 5 business days of the receipt of the result.

- i. If any three out of the initial test and the six additional tests results exceed 1.0 TU_c, the Discharger shall immediately implement the Initial Investigation TRE workplan.
- ii. If implementation of the Initial Investigation TRE workplan indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the normal sampling frequency required in Table E-2 of this MRP.
- iii. If all of the six additional tests required above do not exceed 1 TU_c, then the Discharger may return to the normal sampling frequency.
- iv. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.

C. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).
2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manuals (EPA/600/4-91/002 and EPA/821-R-02-014), then the Discharger must re-sample and re-test at the earliest time possible.
3. Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

D. Preparation of an Initial Investigation TRE Workplan

The Discharger shall prepare and submit a copy of the Discharger's Initial Investigation TRE workplan to the Executive Officer of the Regional Water Board for approval **within 90 days** of the effective date of this permit. If the Executive Officer does not disapprove the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002 (municipal) as guidance. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

1. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
2. A description of the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facility; and,
3. If a TIE is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor). See MRP Section V.E.3., for guidance manuals.

E. Steps in Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

1. If the results of the implementation of the Facility's Initial Investigation TRE workplan indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 30 days of completion of the Initial Investigation TRE. The detailed workplan shall include, but not be limited to:
 - a. Further actions to investigate and identify the cause of toxicity;
 - b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - c. A schedule for these actions.
2. The following section summarizes the stepwise approach used in conducting the TRE:
 - a. Step 1 includes basic data collection. Data collected for the accelerated monitoring requirements may be used to conduct the TRE;
 - b. Step 2 – Evaluates optimization of the treatment system operation, facility housekeeping, and the selection and use of in-plant process chemicals;
 - c. If Steps 1 and 2 are unsuccessful, Step 3 implements TIE and employment of all reasonable efforts using currently available TIE methodologies. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity;
 - d. Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options;
 - e. Step 5 evaluates in-plant treatment options; and,
 - f. Step 6 consists of confirmation once a toxicity control method has been implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of efforts, evidence of compliance with those requirements may be sufficient to comply with TRE requirements. By requiring the first steps of a TRE to be accelerated testing and review of the Facility's TRE workplan, a TRE may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring indicates there is no longer toxicity (or six consecutive chronic toxicity test results are less than or equal to 1.0 TU_c or six consecutive acute toxicity test results are greater than 90% survival).

3. The Discharger shall initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the USEPA acute manual, chronic manual, EPA/600/6-91/005F (Phase I)/EPA/600/R-96-054 (for marine), EPA/600/R-92/080 (Phase II), and EPA/600/R-92/081 (Phase III) as guidance.
4. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required V.A.2.d and V.B.2.b of this MRP, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.
5. Toxicity tests conducted as part of a TRE/TIE may also be used for compliance determination, if appropriate.
6. The Regional Water Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based, in part, on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

F. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia *because of* increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH-sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.
 - a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
 - b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
 - c. Conduct graduated pH tests as specified in the TIE methods. For example, mortality should be higher at pH 8 and lower at pH 6.

- f. TU_a values $\left(TU_a = \frac{100}{LC_{50}} \right)$;
 - g. NOEC value(s) in percent effluent;
 - h. IC_{15} , IC_{25} , IC_{40} and IC_{50} values in percent effluent;
 - i. TU_c values $\left(TU_c = \frac{100}{NOEC} \right)$;
 - j. Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable);
 - k. NOEC and LOEC values for reference toxicant test(s);
 - l. IC_{25} value for reference toxicant test(s);
 - m. Any applicable charts; and
 - n. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).
4. The Discharger shall provide a compliance summary, which includes a summary table of toxicity data from all samples collected during that year.
5. The Discharger shall notify by telephone or electronically, this Regional Water Board of any toxicity exceedance of the limit or trigger within 24 hours of receipt of the results followed by a written report within 14 calendar days of receipt of the results. The verbal or electronic notification shall include the exceedance and the plan the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Location RSW-001

1. The Discharger shall monitor Port Hueneme Harbor at Monitoring Location RSW-001 as follows:

Table E-4. Receiving Water Monitoring Requirements – RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	Standard Units	Grab	1 / quarter	1,2
Temperature	°F	Grab	1 / quarter	1,2
Salinity	g/kg	Grab	1 / quarter	1,2
Dissolved Oxygen	mg/L	Grab	1 / quarter	1
Total Coliform	MPN/100 ml	Grab	1 / quarter ³	1
Fecal Coliform	MPN/100 ml	Grab	1 / quarter ³	1
Enterococcus	MPN/100 ml	Grab	1 / quarter ³	1
Ammonia Nitrogen, Total	mg/L	Grab	1 / quarter	1,2
TCDD Equivalents ⁴	µg/L	Grab	1 / every five years	1
Remaining Priority Pollutants ⁵ (excluding asbestos)			1 / year	1

¹ Pollutants shall be analyzed only when a discharge occurs. Pollutants shall be analyzed using the analytical methods described in Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board.

² Receiving water samples for pH, temperature, salinity and ammonia must be collected at the same time.

³ The Discharger shall collect not less than 5 samples spaced over a 30-day period.

⁴ The Discharger shall monitor for the presence of the 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD or Dioxin) congeners. 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. USEPA Method 1613B may be used to analyze TCDD equivalents.

Congeners	Toxicity Equivalence Factor
2,3,7,8 - tetra CDD	1.0
1,2,3,7,8 - penta CDD	1.0
1,2,3,4,7,8 - hexa CDD	0.1
1,2,3,6,7,8 - hexa CDD	0.1
1,2,3,7,8,9 - hexa CDD	0.1
1,2,3,4,6,7,8 - hepta CDD	0.01
Octa CDD	0.0001
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
1,2,3,4,7,8 - hexa CDF	0.1
1,2,3,6,7,8 - hexa CDF	0.1
1,2,3,7,8,9 - hexa CDF	0.1
2,3,4,6,7,8 - hexa CDF	0.1
1,2,3,4,6,7,8 - hepta CDFs	0.01
1,2,3,4,7,8,9 - hepta CDFs	0.01
Octa CDF	0.0001

⁵ Priority Pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.J of the Limitations and Discharge Requirements of this Order.

B. Visual Monitoring of Upstream and Downstream Receiving Water Sampling Points

1. A visual observation station shall be established in the vicinity of the discharge point to the receiving water, Port Hueneme Harbor.
2. General observations of the receiving water shall be made at each discharge point when discharges occur. All receiving water observations shall be reported in the semiannual monitoring report. Observations shall be descriptive where applicable, such that colors, approximate amounts, or types of materials are apparent. The following observations shall be made:
 - a. Tidal stage, time, and date of monitoring
 - b. Weather conditions
 - c. Color of water
 - d. Appearance of oil films or grease, or floatable materials
 - e. Extent of visual turbidity or color patches
 - f. Direction of tidal flow
 - g. Description of odor, if any, of the receiving water
 - h. Presence and activity of California Least Tern and California Brown Pelican.

IX. OTHER MONITORING REQUIREMENTS

A. BMPP, and SCP Plan Status and Effectiveness Report

1. As required under Special Provision VI.C.3 of this Order, the Discharger shall submit an updated BMPP and SCP to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit.
2. Annually the Discharger shall report the status of the implementation and the effectiveness of the BMPP and SCP required under Special Provision VI.C.3 of this Order. The BMPP and SCP shall be reviewed at a minimum once per year and updated as needed to ensure all actual or potential sources of pollutants in wastewater discharged from the Facility are addressed in the BMPP and SCP. Any changes or revisions to the BMPP and SCP shall be summarized and reported to the Regional Water Board.

B. Chemical Use Report

1. The Discharger shall submit to the Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect the waste discharge, including quantities of each.

2. The Discharger shall report annually summarizing the quantities of all chemicals, listed by both trade and chemical names, which are used at the Facility and which are discharged or have the potential to be discharged.
3. The Discharger shall monitor the chemicals used in the Facility. Prior to any change in the use of chemical at the Facility, the Discharger must inform the Regional Water Board. No changes in the type or amount of chemicals added to the process water shall be made without the written approval of the Regional Water Board's Executive Officer. The Discharger must submit a complete report of the change to the Regional Water Board before the proposed date of change.

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. If there is no discharge during any reporting period, the report shall so state.
3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.
4. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.
5. The Discharger shall report the results of acute and chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, Section V.F.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) 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 directions for SMR submittal in the event there will be service interruption for electronic submittal.

Until such notification is given, the Discharger shall submit SMRs that are less than 10 MB by email to losangeles@waterboards.ca.gov. Documents that are 10 MB or larger should be transferred to disk and mailed to:

California Regional Water Quality Control Board
 Los Angeles Region
 320 W. 4th Street, Suite 200
 Los Angeles, CA 90013

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 quarterly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. 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-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
1 / Day	March 31, 2012	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with quarterly SMR
1/ Week	March 31, 2012	Sunday through Saturday	Submit with quarterly SMR
1 / Quarter	March 31, 2012	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1 / Year	March 31, 2012	January 1 through December 31	February 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.
5. The Discharger shall 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 ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
 - b. Sample results less than the RL (applicable reported ML), but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words “Estimated Concentration” (may be shortened to “Est. Conc.”). The laboratory may, if such

- b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; 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. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

**California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013**

C. Other Reports

1. Within 90 days of the effective date of this permit, the Discharger is required to submit the following to the Regional Water Board:

 - a. Initial Investigation TRE workplan
 - b. Updated BMPP
 - c. Spill Contingency Plan (SCP)
2. As discussed in Section IX.C of the MRP, Attachment E, the Discharger shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.
3. This Regional Water Board requires the Discharger to file with the Regional Water Board, within 90 days after the effective date of this Order, a technical report on his preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:

 - a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
 - b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.
 - c. Describe facilities and procedures needed for effective preventive and contingency plans.
 - d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent interim and final dates when they will be constructed, implemented, or operational.

This Regional Water Board, after review of the technical report, may establish conditions, which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of this Order, upon notice to the Discharger.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II 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

WDID	4A565022002
Discharger	Stellar Biotechnologies, Incorporated
Name of Facility	Stellar Biotechnologies, Incorporated
Facility Address	Hueneme Aquaculture Park, No. 448 Lighthouse Circle Drive
	Port Hueneme, CA 93041
	Ventura County
Facility Contact, Title and Phone	Frank Oakes President, CEO (805) 488-2147
Authorized Person to Sign and Submit Reports	Brandon Lincicum, Aquaculture Manager
Mailing Address	332 East Scott Street Port Hueneme, CA 93041
Billing Address	Same as above
Type of Facility	Aquaculture
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	C
Pretreatment Program	No
Reclamation Requirements	No
Facility Permitted Flow	0.900 MGD
Facility Design Flow	0.900 MGD
Watershed	Ventura County Coastal
Receiving Water	Port Hueneme Harbor
Receiving Water Type	Coastal

A. Stellar Biotechnologies, Incorporated (hereinafter Discharger) is the owner and operator of the Stellar Biotechnologies facility (hereinafter Facility), an aquaculture research 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 aquaculture wastewater (i.e. seawater) to Port Hueneme Harbor, a water of the United States, and is currently regulated by Order No. R4-2009-0084 which was adopted on July 16, 2009 and expired on December 10, 2011. Order No. R4-2009-0084 amends Order No. R4-2008-0210, which amended Order No. R4-2007-0004. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements and an NPDES permit as per 40 Code of Federal Regulations (CFR) are adopted pursuant to this Order.
- C.** The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on November 23, 2010. A site visit was conducted on May 24, 2011, to observe operations and collect additional data to develop permit limitations and conditions. The application was determined to be complete on December 15, 2011.

II. FACILITY DESCRIPTION

The Stellar Biotechnologies facility is an aquaculture research facility. The Facility is located at 448 Lighthouse Circle Drive, Port Hueneme, California. The Discharger owns and operates a proprietary aquaculture system for cultivation of *Megathura crenulata*, the giant keyhole limpet, for use in the production of Keyhole Limpet Hemocyanin (KLH), a protein used in the pharmaceutical industry.

A. Description of Wastewater Treatment or Controls

The Stellar Biotechnologies aquaculture facility uses a conventional flow-through culture system (“EQ-220 Production Sea Water System”). The flow-through system relies on ambient seawater from the Pacific Ocean adjacent to Stellar Biotechnologies facility, which is filtered to remove sand and heavy particulates. The system was designed and built in 2001 to provide optimum growing conditions for *M. crenulata* by maximizing the flow of seawater from their natural habitat into open tanks.

Seawater is pumped from a common in-ocean intake structure consisting of six heavy-gauge epoxy-coated steel pipe sleeves anchored above and below water level with concrete abutments and extending 75 feet horizontally to a depth of 10 feet. The intake structure was constructed by the Port Hueneme Harbor District when the Port Hueneme Aquaculture Business Park was being developed. The EQ-220 Production Sea Water System installed in the facility is supported by a designated intake pipe; alternate intake pipes are available for future use. Water is supplied at an approximate rate of 160 gallons per minute (gpm) and has a residence time in the facility of two (2) hours.

The flow-through system uses an open raceway-style production tank design, consisting of 18 tanks, each 5’x10’x1’, 400-gallon tank partitioned to house 50 *M. crenulata* in individual culture modules. The system consists of 18 culture tanks, constructed of

white gel-coated fiberglass, supplied with ambient water (i.e., seawater) through common manifold plumbing and aeration using a regenerative blower to maintain dissolved oxygen levels. The system also includes juvenile production tanks, operated in a similar manner as the previously-described 18 tanks. The flow-through system relies on a constant exchange of seawater to maintain growing conditions. Stellar Biotechnologies indicated on EPA Form 2B a maximum daily effluent flow of 0.9 million gallons per day (MGD).

B. Discharge Points and Receiving Waters

The Discharger proposes to discharge up to 0.900 MGD of aquaculture wastewater (i.e., seawater), to Port Hueneme Harbor, a water of the United States, via Discharge Point No. 001. Discharge Point 001 is located at Latitude 34° 08' 36" North and Longitude 119° 13' 48" West.

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

Effluent limitations contained in the existing Order for discharges from Discharge Point No. 001 (Monitoring Location EFF-001) are summarized in Table F-2, below.

Table F-2. Historic Effluent Limitations and SMR Data

Parameter	Units	Effluent Limitations				Range of Reported Values
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Biochemical Oxygen Demand, 5-day (BOD ₅) @ 20°C	mg/L	20	30	—	—	<1.5 – 2.1
	lbs/day ¹	150	225	—	—	NR
Oil and Grease	mg/L	10	15	—	—	All ND (<3)
	lbs/day ¹	75	113	—	—	NR
pH	S.U.	—	—	6.5	8.5	7.65 – 8.16
Temperature	°F	—	—	—	86	55.2 – 67.1
Total Suspended Solids (TSS)	mg/L	50	75	—	—	2 – 28
	lbs/day ¹	375	563	—	—	NR
Turbidity	NTU	50	75	—	—	0.3 – 2.4
Ammonia Nitrogen	mg/L	—	—	—	—	<0.2 – 1.3
Dissolved Oxygen	mg/L	—	—	5.0 ²	—	6.13 – 8.64
Nitrate Nitrogen	mg/L	—	—	—	—	<0.1 – 0.2
Nitrite Nitrogen	mg/L	—	—	—	—	All ND(<0.1)
Settleable Solids	ml/L	—	—	—	—	<0.1 - 0.1
Copper, Total Recoverable	µg/L	2.9 ³	5.8 ³	—	—	26 – 498
	lbs/day ¹	0.02	0.04	—	—	NR
Zinc, Total Recoverable	µg/L	47	95	—	—	<10 – 40
	lbs/day ¹	0.35	0.71	—	—	NR
Acute Toxicity	% Survival	4				100
Chronic Toxicity	TU _c	5				1.00
Fecal Coliform	MPN/100 ml	6				<2 – 110
Total Coliform	MPN/100 ml	—				<2 – 900

NR = Not Reported

- 1 Mass based (lbs/day) effluent limitations are based on a maximum discharge flow rate of 0.900 MGD.
- 2 Order No. R4-2009-0084 requires the discharge comply with a mean annual dissolved oxygen concentration of at least 7 mg/L, with no single determination of less than 5.0 mg/L.
- 3 Order No. R4-2008-0210, adopted December 11, 2008, modified the original Order (No. R4-2007-0004) to incorporate intake water credits for Copper. If the influent water copper (Cu) concentration does not exceed the average monthly effluent limitation, then the limitations for copper are applied as listed in the table. If the influent water copper concentration exceeds the average monthly limitation but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credits and compliance with the maximum daily limitation is applied as listed in the table. If the influent water copper concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitations will be determined based on intake water credits. When determining compliance based on intake water credits, the copper effluent limitation is equal to the maximum copper concentration in the influent water. The equation is as follows:

Cu Effluent Limitation with Intake Water Credit = Maximum Cu Influent Water Concentration

- 4 The acute toxicity of the effluent shall be such that: (i) the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival.
- 5 Order No. R4-2009-0084 contained a chronic toxicity testing trigger defined as an exceedance of 1.0 TU_c in a critical life stage test for 100% effluent (the monthly median for chronic toxicity of 100% effluent shall not exceed 1.0 TU_c in a critical life stage test.).
- 6 The fecal coliform concentration shall not exceed a log mean of 200 MPN/100 ml (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10 percent of total samples during any 30-day period exceed 400 MPN/100 ml.

D. Compliance Summary

Data submitted to the Regional Water Board indicate the Discharger has exceeded existing permit limitations for zinc, copper, pH and TSS. A Settlement Offer (R4-2008-0054-M) was sent to the Discharger on August 29, 2008. In the response letter, the Discharger indicated that those exceedances were caused by the corresponding high values for copper and zinc in the intake waters and by dredging activities from the Channel Islands Harbor and Port Hueneme Harbor channel dredging and sediment redistribution programs which are conducted every 1-2 years depending on sediment accumulation. Regional Water Board staff determined that these exceedances were related to the aforementioned causes and were not considered violations. Therefore, the twenty-nine effluent limit violations between December 6, 2001 and June 16, 2008 cited in the August 29, 2008 Settlement Offer No. R4-2008-0054-M NOV for TSS, copper, zinc and pH were rescinded on September 30, 2011. However, there is one remaining pH violation (8.6 vs. 8.5) occurred on February 26, 2002.

E. Planned Changes

There has been no indication of planned changes at the Facility.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency

(USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans. The Regional Water Quality Control Board (Regional Water Board) adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Port Hueneme Harbor are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Port Hueneme Harbor	<u>Existing:</u> Industrial Process Supply (PROC), Navigation (NAV), Commercial and Sport Fishing (COMM), Contact (REC-1) and Non-Contact (REC-2) Recreation, Marine Habitat (MAR), and Wildlife Habitat (WILD).

Requirements of this Order implement the Basin Plan.

2. Thermal Plan. The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*. The white paper evaluated the optimum temperatures of steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. A maximum effluent temperature limitation of 86°F was determined to be appropriate for protection of aquatic life and it is included in this Order.

- 3. Ammonia Basin Plan Amendment.** The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Table 3-1 through Table 3-4. However, those ammonia objectives were revised on March 4, 2004, by the Regional Water Board with the adoption of Resolution No. 2004-022, *Amendment to the Water Quality Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (including enclosed bays, estuaries and wetlands)* with the Beneficial Use designations for protection of “Aquatic Life”. The ammonia Basin Plan amendment was approved by the Office of Administrative Law and the USEPA on September 14, 2004 and May 19, 2005, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA’s 1999 ammonia criteria update.
- 4. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.
- 5. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- 6. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
- 7. Antidegradation Policy.** 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 No. 68-16. Resolution No. 68-16 incorporates the federal

antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional 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 No. 68-16.

- 8. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations¹ section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

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

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d)-listed water bodies and pollutants, the Regional Water Board plans to develop and adopt TMDLs that will specify WLAs for point sources and load allocations (LAs) for non-point sources, as appropriate.

The USEPA approved the State's 2010 303(d) list of impaired water bodies on November 12, 2010. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2010 303(d) list and have been scheduled for TMDL development. The Stellar Biotechnologies facility discharges into Port Hueneme Harbor. The 2010 State Water Board's California 303(d) List classifies Port Hueneme Harbor as impaired. The pollutants of concern in the harbor include: PCBs (tissue) and DDT (tissue). The inclusion of Port Hueneme Harbor on the 2010 303(d) list documents the waterbody's lack of assimilative capacity for the pollutants of concern. A total maximum daily load (TMDL) is developed for the pollutants of concern in a 303(d) listed waterbody to facilitate the waterbody's recovery of its ability to fully support beneficial uses. To date, no TMDLs have been developed for Port Hueneme Harbor; therefore, no conditions in the Order are based on TMDLs.

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: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

The Facility is an aquaculture facility that houses marine organisms. The Facility operations generate wastes that typically include unused food and fish excrement. Typical pollutants present in these waste streams may include oil and grease, solids, organics, and metals. Solids are commonly present in aquaculture facilities and therefore, total suspended solids (TSS) and turbidity are pollutants of concern. Organics are targeted in wastewater by measuring the 5-day biochemical oxygen demand @ 20°C (BOD). In addition, unused food and fish excrement may contribute to nitrogen and fecal coliforms in the waste stream, and therefore, ammonia and fecal coliforms are pollutants of concern for this type of waste. Also, pH, temperature, and dissolved oxygen are pollutants of concern because the discharge of aquaculture wastewater also has the potential to affect the pH, temperature, and dissolved oxygen of the receiving water body. When the existing permit was issued in 2009, oil and grease, TSS, turbidity, BOD, ammonia-nitrogen, fecal coliform, pH, temperature, and dissolved oxygen were considered pollutants of concern and were regulated in the existing permit. The Facility operation has not changed significantly since the existing permit was issued. Therefore, these pollutants are also considered pollutants of concern for this permit.

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. Section 122.45(f)(1) requires that all permit limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitation on a case-by-case basis limitation based on mass are infeasible because the mass or pollutant cannot be related to a measure of production. The limitations, however, must ensure that dilution will not be used as a substitute for treatment.

A. Discharge Prohibitions

The discharge prohibitions are based on the requirements of the Basin Plan, State Water Board's plans and policies, the Water Code, and previous permit provisions, and are consistent with the requirements established for other discharges regulated by NPDES permits to Port Hueneme Harbor.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, 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 Part 125, 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 performance by plants 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 BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.
- 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 USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of the Code of Federal Regulations 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 permit writer must consider specific factors outlined in section 125.3.

2. Applicable Technology-Based Effluent Limitations

The ELG for the Concentrated Aquatic Animal Production (CAAP) Point Source Category, published by USEPA, became effective on September 22, 2004. These regulations, available in Part 451, are applicable to CAAP facilities defined in section 122.24. Based on the type operation and production, this Facility is not categorized as a CAAP facility. Therefore, the CAAP ELGs available in Part 451 are not applicable to the Facility.

Due to the lack of national ELGs for this Facility and the absence of data to apply BPJ to develop numeric effluent limitations, and pursuant to section 122.44(k), the Regional Water Board will require the Discharger to develop and implement a Best Management Practices Plan (BMPP). The BMPs are to include schedules of activities, prohibitions of practices, cleaning and maintenance procedures, employee

training, treatment methods, etc. that are employed to control the discharge of pollutants from the Facility. The BMPs shall address all normal facility operations including, but not limited to: cleaning, feeding, transfer and importation of species, removal of dead species, storage and handling of raw material, and disposal of solid waste.

This Order includes technology-based effluent limitations based on best professional judgment (BPJ) in accordance with section 125.3. Effluent limitations for turbidity, oil and grease, BOD₅20°C, and total suspended solids (TSS) were developed using BPJ in the existing Order (Original Order No. R4-2007-0004, as amended by Order Nos. R4-2008-0210 and R4-2009-0084) and these effluent limitations have been included in this Order.

The BMPP and existing Order limitations based on past performance and reflecting BPJ will serve as the equivalent of technology-based effluent limitations, in the absence of applicable ELGs, in order to satisfy the purposes and intent of the CWA.

Table F-4. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
BOD ₅ @ 20 °C	mg/L	20	30
	lbs/day ¹	150	225
Oil and Grease	mg/L	10	15
	lbs/day ¹	75	113
Total Suspended Solids (TSS)	mg/L	50	75
	lbs/day ¹	375	563
Turbidity	NTU	50	75

¹Based upon a maximum discharge flow rate of 0.900 MGD.

This Order will also require the Discharger to develop and implement a Spill Contingency Plan (SCP).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 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) mandates 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) USEPA 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 CTR and NTR.

The specific procedures for determining reasonable potential and, if necessary, calculating WQBELs are contained in the SIP for the discharge of aquaculture wastewater (i.e., seawater) from the Stellar Biotechnologies facility.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

As noted in Section II of the Limitations and Discharge Requirements, the Regional Water Board adopted a Basin Plan that 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 Port Hueneme Harbor, 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 water.

Priority pollutant water quality criteria in the CTR are applicable to Port Hueneme Harbor. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply, in accordance with section 131.38(c)(3), freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this occurs 95 percent or more of the time. The salinity at Port Hueneme Harbor is 36 ppt. The CTR criteria for saltwater or human health for consumption of organisms, whichever is more stringent, are used to determine the need for water quality-based effluent limitations in this Order to protect the beneficial uses of Port Hueneme Harbor.

Table F-5 below summarizes the applicable water quality criteria for copper and zinc.

Table F-5. Summary of Applicable Water Quality Criteria

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
			Freshwater		Saltwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
6	Copper	3.73	N/A		5.78	3.73	N/A	---
13	Zinc	85.62			95.14	85.62		---

“N/A” indicates the receiving water body is not characterized as freshwater, nor are the water quality criteria for the protection of human health for the consumption of water and organisms applicable.

Numeric criterion for TCDD equivalents:

The CTR establishes a numeric water quality objective for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.4×10^{-8} µg/L for the protection of human health, when aquatic organisms are consumed. When CTR was promulgated, USEPA stated its support of the regulation of other dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs) in NPDES permits. For California waters, USEPA stated specifically, “if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric water quality-based effluent limitations for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme” [65 Fed. Reg. 31682, 31695 (2000)]. This procedure, developed by the World Health Organization (WHO) in 1988, uses a set of toxicity equivalency factors (TEFs) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD. When the CTR was promulgated, USEPA also stated that the Agency will continue to assess the risks posed by dioxin to public health and the water quality criteria for dioxin that it had promulgated. To determine if the discharge of dioxin or dioxin-like compounds from the Facility has reasonable potential to cause or contribute to a violation of the Basin Plan’s narrative water quality objective regarding bioaccumulation, Regional Water Board staff has therefore used TEFs to express the measured concentrations of 16 dioxin congeners in effluent and background samples as 2,3,7,8-TCDD. These “equivalent” concentrations are then compared to the numeric criterion, established by the CTR for 2,3,7,8-TCDD of 1.4×10^{-8} µg/L.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducts a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzes effluent and receiving water data and identifies the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent. To determine reasonable potential, the MEC and the B are then compared with the applicable water quality objectives (C) outlined in the CTR, NTR, as well as the Basin Plan. For all pollutants that have a reasonable potential to cause or contribute to an excursion above a state water quality standard, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board identifies the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

- 1) Trigger 1 – If the MEC \geq C, a limit is needed.
- 2) Trigger 2 – If the background concentration (B) > C and the pollutant is detected in the effluent, a limit is needed.
- 3) Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

Sufficient effluent and receiving water data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

Data submitted by the Discharger during the permit term were available for the period from first quarter 2007 through second quarter 2011 for copper and zinc, and one set of analytical data for the remaining priority pollutants (sample collected December 18, 2008). Monitoring requirements for CTR parameters have been included to provide sufficient data to perform a RPA.

Based on the RPA for the discharge of aquaculture wastewater (i.e., seawater), demonstrates reasonable potential to cause or contribute to an excursion above a state water quality standard for copper. Refer to Attachment I for a summary of the RPA and associated effluent limitation calculations.

Table F-6. Summary Reasonable Potential Analysis

CTR No.	Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
		µg/L	µg/L	µg/L		
6	Copper, Total Recoverable	3.73	498	1,070	Yes	MEC and B \geq C
13	Zinc, Total Recoverable	85.62	40	60	No	MEC and B < C

4. WQBEL Calculations

- a. If a reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one or more of the three procedures contained in Section 1.4 of the SIP. These procedures include:
 - i. If applicable and available, use of the wasteload allocation (WLA) established as part of a total maximum daily load (TMDL).

- ii. Use of a steady-state model to derive maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).

Where sufficient effluent and receiving water data exist, use of a dynamic model, which has been approved by the Regional Water Board.

- b. The final WQBELs for copper are based on monitoring results and following the procedure based on the steady-state model, available in Section 1.4 of the SIP.
- c. Since many of the streams in the Region have minimal upstream flows, mixing zones and dilution credits are usually not appropriate. Therefore, in this Order, no dilution credit is being allowed. However, in accordance with the reopener provision in Section VI.C.1.e, this Order may be reopened upon the submission by the Discharger of adequate information to establish appropriate dilution credits or a mixing zone, as determined by the Regional Water Board.
- d. WQBELs Calculation Example

Using copper as an example, the following demonstrates how WQBELs based on aquatic life criterion were established in this Order. The process for developing these limits is in accordance with section 1.4 of the SIP. Attachment J summarizes the development and calculation of all WQBELs for this Order using the process described below.

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion determine the effluent concentration allowance (ECA) using the following steady state equation:

$$ECA = C + D(C-B) \text{ when } C > B, \text{ and}$$

$$ECA = C \quad \text{when } C \leq B,$$

Where

- C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators.
- D = The dilution credit, and
- B = The ambient background concentration

For this Order, dilution was not allowed due to the nature of the receiving water and quantity of the effluent; therefore

$$ECA = C$$

For copper, the applicable water quality criteria are:

$$ECA_{\text{acute}} = 5.78 \text{ } \mu\text{g/L}$$

$$ECA_{\text{chronic}} = 3.73 \text{ } \mu\text{g/L}$$

ECA_{human health}= Not Applicable

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 3 of the SIP and will not be repeated here.

$$LTA_{acute} = ECA_{acute} \times Multiplier_{acute}$$

$$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6.

For copper, the following data was used to develop the acute and chronic LTA using Table 1 of the SIP:

<u>No. of Samples Available</u>	<u>CV</u>	<u>Multiplier_{acute}</u>	<u>Multiplier_{chronic}</u>
18	0.6*	0.32	0.53

* Since the intake water credit is applicable to copper, the monitoring data for copper are related to the high background copper concentrations. The calculated CV based on monitoring data was not representative. Therefore, although the number of available effluent copper data is greater than 10 the default CV value of 0.6 was selected in the calculation.

$$LTA_{acute} = 5.78 \mu\text{g/L} \times 0.32 = 1.86 \mu\text{g/L}$$

$$LTA_{chronic} = 3.73 \mu\text{g/L} \times 0.53 = 1.97 \mu\text{g/L}$$

Step 3: Select the most limiting (lowest) of the LTA.

$$LTA = \text{most limiting of } LTA_{acute} \text{ or } LTA_{chronic}$$

For copper, the most limiting LTA was the LTA_{acute}

$$LTA = 1.86 \mu\text{g/L}$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as Average Monthly Effluent Limitations (AMEL) and

Maximum Daily Effluent Limitations (MDEL). The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the number of samples (for AMEL) and whether it is monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{\text{aquatic life}} = LTA \times AMEL_{\text{multiplier}}$$

$$MDEL_{\text{aquatic life}} = LTA \times MDEL_{\text{multiplier}}$$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4) times per month, the default number of samples to be used is four (4).

For copper, the following data was used to develop the AMEL and MDEL for aquatic life using Table 2 of the SIP:

<u>No. of Samples Per Month</u>	<u>CV</u>	<u>Multiplier_{MDEL}</u>	<u>Multiplier_{AMEL}</u>
4	0.6	3.11	1.55

$$AMEL_{\text{aquatic life}} = 1.86 \times 1.55 = 2.88 \mu\text{g/L}$$

$$MDEL_{\text{aquatic life}} = 1.86 \times 3.11 = 5.78 \mu\text{g/L}$$

Step 5: For the ECA based on human health, set the AMEL equal to the

$$ECA_{\text{human health}}$$

$$AMEL_{\text{human health}} = ECA_{\text{human health}}$$

However, for copper, $ECA_{\text{human health}} = \text{Not Available}$. The CTR does not contain a numeric copper criterion protective of human health; therefore, it was not possible to develop a copper AMEL based on human health criteria.

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the Multiplier_{MDEL} to the Multiplier_{AMEL}. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} \times (\text{Multiplier}_{\text{MDEL}} / \text{Multiplier}_{\text{AMEL}})$$

A copper MDEL_{human health} could not be calculated because a copper AMEL_{human health} was not available. There are no criteria protective of human health for copper; therefore, none of the limitations for copper are based on human health criteria.

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the water-quality based effluent limit for the Order.

AMEL _{aquatic life}	MDEL _{aquatic life}	AMEL _{human health}	MDEL _{human health}
2.88 µg/L	5.78 µg/L	Not Available	Not Available

The lowest (most restrictive) effluent limits are based on aquatic life toxicity and were incorporated into this Order. For copper, there are no human health criteria; therefore, the AMEL and MDEL based on aquatic life criteria are established as the WQBELs.

e. Effluent Limitations for Copper Based on Intake Water Credits

Section 1.4.4 of the SIP provides that, intake water credits for a pollutant may be established in an NPDES permit based on a Discharger’s demonstration that the following conditions are met:

- i.** The observed maximum ambient background concentration, as determined in section 1.4.3.1 and the intake water concentration of the pollutant exceeds the most stringent applicable criterion/objective for that pollutant;
- ii.** The intake water credits provided are consistent with any TMDL applicable to the discharge that has been approved by the Regional Water Board, State Water Board, and USEPA;
- iii.** The intake water is from the same water body as the receiving water body. The discharger may demonstrate this condition by showing that;
 - (a) the ambient background concentration of the pollutant in the receiving water, excluding any amount of the pollutant in the facility's discharge, is similar to that of the intake water;
 - (b) there is a direct hydrological connection between the intake and discharge points;
 - (c) the water quality characteristics are similar in the intake and receiving waters; and
 - (d) the intake water pollutant would have reached the vicinity of the discharge point in the receiving water within a reasonable period of time and with the same effect had it not been diverted by the Discharger.

The Regional Water Board may also consider other factors when determining whether the intake water is from the same water body as the receiving water body;

- iv. The Facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses; and
- v. The timing and location of the discharge does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body.

Based on the monitoring data submitted since January 2007 and additional information, the Discharger satisfies the conditions specified in Section 1.4.4 of the SIP. The observed maximum ambient background (receiving water) concentration and intake water concentration for copper (803 µg/L) exceeds the most stringent applicable (CTR) criteria for copper which is 2.9 µg/L. There is no TMDL for copper for Port Hueneme Harbor nor is Port Hueneme Harbor listed for copper on the 2010 CWA 303(d) list of water quality limited segments. The intake water is from the same water body as the receiving water and the Discharger does not use or introduce metals in any of its aquaculture processes.

According to Section 1.4.4 of the SIP, the Regional Water Board may establish effluent limitations allowing the Facility to discharge a mass and concentration of the intake water pollutant that is no greater than the mass and concentration found in the Facility's intake water. The Regional Water Board may also determine compliance by simultaneously monitoring the pollutant concentrations in the intake water and in the effluent.

Since, the receiving water (intake water) concentration for copper ranges from non-detect at a minimum level of 50 µg/L to 803 µg/L; setting the effluent limitation for copper as the reported maximum receiving water concentration is not the best method of implementing intake water credits. Therefore, if the influent water copper concentration does not exceed the average monthly effluent limitation of 2.9 µg/L then the limitations are applied as noted in Table F-7 Summary of Final Effluent Limitations Discharge Point 001. If the influent water copper concentration exceeds the average monthly effluent limitation of 2.9 µg/L but does not exceed the maximum daily effluent limitation of 5.8 µg/L, then compliance with the average monthly effluent limitation will be determined based on intake water credits and compliance with the maximum daily effluent limitation is applied as noted in Table F-7. If the influent water copper concentration exceeds the maximum daily effluent limitation of 5.8 µg/L, then compliance with both the average monthly and the maximum daily effluent limitations will be determined based on intake water credits.

When applying an intake water credit, the copper effluent limitation is equal to the maximum copper concentration in the influent (i.e., intake) water. The equation is as follows:

Cu Effluent Limitation with Intake Water Credit = Maximum Cu Influent Water Concentration

Two influent samples shall be collected per quarter to address the variability of the influent water. The first influent sample shall be collected two hours prior to the effluent sample. The second influent sample shall be collected at approximately the same time as the effluent sample. When evaluating compliance with the copper effluent limitations based on intake water credit, compare the copper effluent concentration to the maximum copper influent water concentration, as follows:

(a) If Cu Effluent Concentration > Maximum Cu Influent Water Concentration, then Violation

(b) If Cu Effluent Concentration \leq Maximum Cu Influent Water Concentration, then Compliant

5. WQBELs based on Basin Plan Objectives

The Basin Plan states that the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge. Based on the requirements of the Basin Plan, an instantaneous minimum limitation of 6.5 and an instantaneous maximum limitation of 8.5 for pH are included in the permit. The Basin Plan also states the discharge shall not depress the concentration of dissolved oxygen to fall below 5.0 mg/L at any time nor shall the mean annual concentration of dissolved oxygen fall below 7 mg/L.

The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. Based on the requirements of the Thermal Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86 °F is included in the Order. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. A survey of several kinds of fish indicated that the 86 °F temperature protective of aquatic life.

Effluent limitations for total coliform, fecal coliform, and enterococcus are established to implement the water quality objectives contained in the Basin Plan. These criteria were updated by Resolution No. 2001-018 which became effective December 3, 2002.

Ammonia was listed as a chemical of potential concern for the Stellar Biotechnologies facility. The data for pH, temperature, and salinity were used to evaluate reasonable potential for ammonia. The Technical Support Document for Water Quality-Based Toxics Control (TSD) (EPA/505/2-90-001) is the source document for the reasonable potential analysis for storm water-only discharges, and for constituents other than the priority pollutants listed in 40 CFR Part 131. However, Section 3.3.8, Effluent Characterization of Specific Chemicals, Step 4, in the first full paragraph on page 64 of the TSD reads "The statistical approach shown in Box 3-2 or an analogous approach developed by a regulatory authority can be used to determine the reasonable potential." The statistical approach Board staff

utilized to evaluate reasonable potential for ammonia is the one outlined by the State Water Board in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP). Using this procedure, the ammonia concentration detected (excluding an outlier of 1.3 mg/L collected on December 18, 2008 that was due to the high receiving water (intake water) ammonia concentration of 2.3 mg/L reported for the same date) did not demonstrate reasonable potential. Hence, this Order does not include an effluent limit for ammonia but it does require monitoring for the constituent.

6. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses by aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

a. Acute Toxicity Limitation:

This Order includes acute toxicity limitations and requires acute toxicity monitoring. In accordance with the Basin Plan, the acute toxicity objective for discharges dictates that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival. Acute toxicity provisions in the Order are derived from the Basin Plan’s toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate acute toxicity monitoring and take further actions to identify the source of toxicity and to reduce acute toxicity.

b. Chronic Toxicity Trigger and Requirements:

In addition to the Basin Plan requirements, section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters.

However, the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential were under review by the State Water Resources Control Board (State Water Board) in SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the

State Water Board adopted Order No. 2003-0012 deferring the issue of numeric chronic toxicity effluent limitations until a subsequent Phase of the SIP is adopted. In the meantime, the State Water Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TUc trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This permit contains a similar narrative chronic toxicity effluent limitation with a numeric trigger for accelerated monitoring. Phase II of the SIP has been adopted, however, the toxicity control provisions were not revised.

On January 17, 2006, the State Board Division of Water Quality held a California Environmental Quality Act (CEQA) scoping meeting to seek input on the scope and content of the environmental information that should be considered in the planned revisions of the Toxicity Control Provisions of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). However, the Toxicity Control Provisions of the SIP continue unchanged.

This Order contains a reopener to allow the Regional Water Board to modify the permit, if necessary, consistent with any new policy, law, or regulation. Until such time, this Order will have toxicity limitations that are consistent with the State Board’s precedential decision.

Chronic toxicity provisions in the Order are derived from the Basin Plan’s toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate chronic toxicity monitoring and take further actions to identify the source of toxicity and to reduce chronic toxicity. The monthly median trigger of 1.0 TUc for chronic toxicity is based on *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs (Final)* May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8). In cases where effluent receives no dilution or where mixing zones are not allowed, the 1.0 TUc chronic criterion should be expressed as a monthly median. The “median” is defined as the middle value in a distribution, above which and below which lie an equal number of values. For example, if the results of the WET testing for a month were 1.5, 1.0, and 1.0 TUc, the median would be 1.0 TUc.

The *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs (Final)* May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8) recommends two alternatives for setting up maximum daily limit: using 2.0 TUc as the maximum daily limit; or using a statistical approach outlined in the TSD to develop a maximum daily effluent limitation. In this permit, monitoring for and a trigger for chronic toxicity is prescribed.

7. Final WQBELS

Table F-7. Summary of Water Quality-based Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Temperature	°F	--	--	--	86
pH	s.u.	--	--	6.5	8.5

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	2.9 ²	5.8 ²	--	--
	lbs/day ¹	0.02	0.04	--	--

1. Based upon a maximum discharge flow rate of 0.900 MGD.
2. If the influent water copper (Cu) concentration does not exceed the average monthly effluent limitation, then the limitations for copper are applied as listed in the table. If the influent water copper concentration exceeds the average monthly limitation but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credits and compliance with the maximum daily limitation is applied as listed in the table. If the influent water copper concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitations will be determined based on intake water credits. When determining compliance based on intake water credits, the copper effluent limitation is equal to the maximum copper concentration in the influent water. The equation is as follows:

$$\text{Cu Effluent Limitation with Intake Water Credit} = \text{Maximum Cu Influent Water Concentration}$$

a. Bacteria Limits

- i. Total Coliform: The total coliform density shall not exceed a log mean of 1,000/100 ml (based on a minimum of not less than five samples for any 30-day period), nor shall any single sample collected during any 30-day period exceed 10,000/100 ml. In addition, the total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
- ii. Fecal coliform: The fecal coliform density shall not exceed a log mean of 200 MPN/100ml (based on a minimum of not less than five samples for any 30-day period), nor shall any single sample collected during any 30-day period exceed 400 MPN/100ml.
- iii. Enterococcus: The enterococcus density shall not exceed a log mean of 35/100 ml (based on a minimum of not less than five samples for any 30-day period), nor shall any single sample collected during any 30-day period exceed 104/100 ml.

D. Final Effluent Limitations

Section 402(o) of the CWA and section 122.44(l) require that effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Orders based on the submitted sampling data. Effluent limitations for BOD, TSS, oil and grease, pH, temperature, and turbidity have been carried over to this Order. The Regional Water Board has determined that these numeric effluent limitations continue to be applicable to the Facility. The effluent limitations for temperature, pH, fecal coliform, and acute toxicity have been included and are consistent with current water quality objectives established in the Basin Plan as well as the effluent limitations for total coliform and enterococcus. Effluent limitations for copper are established based on available effluent monitoring data and the procedures contained in the SIP. The discharge demonstrated reasonable potential to cause or contribute to an exceedance

of a water quality standard established by the CTR criteria for copper. In addition, intake water credits are included for copper.

1. Satisfaction of Anti-Backsliding Requirements

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at Title 40, CFR Section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. The existing Order (R4-2009-0084) contains effluent limitations for zinc; however, based on the consideration of new information (i.e., current discharge monitoring data, and reasonable potential analysis), the discharge no longer demonstrates reasonable potential for zinc and the effluent limitations are not included in this Order. This relaxation of effluent limitations in this instance is consistent with the anti-backsliding requirements of the CWA and federal regulations.

2. Satisfaction of Antidegradation Policy

Section 131.12 requires that the state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board’s Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies.

This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. Further, compliance with the requirements included in this Order will result in the use of best practicable treatment or control of the discharge. Hence, the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, oil and grease, TSS, and turbidity. Restrictions on these pollutants are discussed in section IV.B of the Fact Sheet. WQBELs are established for pH, temperature, bacterial indicators and whole effluent toxicity.

Table F-8. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations				Basis <small>Error! Reference source not found.</small>
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
pH	S.U.	—	—	6.5	8.5	E, BP

Parameter	Units	Effluent Limitations				Basis ^{Error!} Reference source not found.
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
BOD ₅ @ 20°C	mg/L	20	30	—	—	E, BPJ
	lbs/day ²	150	225	—	—	
Oil and Grease	mg/L	10	15	—	—	E, BPJ
	lbs/day ²	75	113	—	—	
Temperature	°F	—	—	—	86	E, TP
Total Suspended Solids (TSS)	mg/L	50	75	—	—	E, BPJ
	lbs/day ²	375	563	—	—	
Copper, Total Recoverable	µg/L	2.9 ³	5.8 ³	—	—	E, CTR
	lbs/day ²	0.02	0.04	—	—	
Turbidity	NTU	50	75	—	—	E, BP
Acute Toxicity	% survival	—	⁴	—	—	E, BP

¹ BP: Basin Plan; BPJ = Best Professional Judgment; E = Existing Limitation; TP = Thermal Plan

² Mass-based (lbs/day) effluent limitations are based on a maximum discharge flow rate of 0.900 MGD.

³ If the influent water copper (Cu) concentration does not exceed the average monthly effluent limitation, then the limitations for copper are applied as listed in the table. If the influent water copper concentration exceeds the average monthly limitation but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credits and compliance with the maximum daily limitation is applied as listed in the table. If the influent water copper concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitations will be determined based on intake water credits. When determining compliance based on intake water credits, the copper effluent limitation is equal to the maximum copper concentration in the influent water. The equation is as follows:

$$\text{Cu Effluent Limitation with Intake Water Credit} = \text{Maximum Cu Influent Water Concentration}$$

⁴ The acute toxicity of the effluent shall be such that:

- i. the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and
- ii. No single test producing less than 70% survival.

a. Bacteria Limits

- i. **Total Coliform:** The total coliform density shall not exceed a log mean of 1,000/100 ml (based on a minimum of not less than five samples for any 30-day period), nor shall any single sample collected during any 30-day period exceed 10,000/100 ml. In addition, the total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
- ii. **Fecal coliform:** The fecal coliform density shall not exceed a log mean of 200 MPN/100ml (based on a minimum of not less than five samples for any 30-day period), nor shall any single sample collected during any 30-day period exceed 400 MPN/100ml.
- iii. **Enterococcus:** The enterococcus density shall not exceed a log mean of 35/100 ml (based on a minimum of not less than five samples for any 30-day period), nor shall any single sample collected during any 30-day period exceed 104/100 ml.

4. Mass-based Effluent Limitations

Mass-based effluent limitations based upon a maximum discharge flow rate of 0.900 MGD.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (section 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in this Order are included to ensure protection of beneficial uses of the receiving water and are based on the water quality objectives contained in the Basin Plan.

B. Groundwater – Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to 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

Influent monitoring is required to collect data on the characteristics of the intake water and to assess compliance with the effluent limitations for copper.

According to section 1.4.4 of the SIP, the Regional Water Board may consider priority pollutants in intake water on a pollutant-by-pollutant and discharge-by-discharge basis when establishing WQBELs, provided the Discharger has demonstrated certain conditions specified in section 1.4.4 of the SIP. The Discharger has demonstrated that intake water credit is appropriate for the discharge of copper. Therefore, the Discharger is required to monitor the intake water for copper once per quarter to provide data for the Regional Water Board to consider intake water credits when establishing WQBEWLs.

B. Effluent Monitoring

Monitoring for those pollutants expected to be present in the Monitoring Locations EFF-001 at Discharge Point 001 will be required as shown in the proposed MRP. To determine compliance with effluent limitations, the proposed monitoring plan carries forward monitoring requirements from Order No. R4-2009-0084. This Order continues the daily monitoring requirement for effluent flow, weekly monitoring for pH, temperature, and dissolved oxygen. Further, this Order continues quarterly monitoring for BOD, oil and grease, TSS, ammonia, fecal coliform, nitrate nitrogen, nitrite nitrogen, settleable solids, turbidity, copper, and zinc. This Order establishes quarterly monitoring for total coliform and enterococcus to determine compliance with effluent limitations for these parameters. Finally, annual monitoring for acute and chronic toxicity and residual chlorine is carried forward from the previous Order. In addition, this Order requires annual monitoring for priority pollutants (excluding asbestos and TCDD equivalents). TCDD equivalents should be monitored once every 5 years.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The requirements establish conditions and protocol by which compliance with the Basin Plan narrative water quality objective for toxicity will be demonstrated and in accordance with Section 4.0 of the SIP. Conditions include required monitoring and evaluation of the effluent for acute and chronic toxicity and numerical values for chronic toxicity evaluation to be used as 'triggers' for initiating accelerated monitoring and toxicity reduction evaluation(s).

D. Receiving Water Monitoring

1. Surface Water

Surface water monitoring requirements established in Order No. R4-2007-0005 have been included to provide data to determine compliance with the receiving water limitations established. Monitoring has been established at Monitoring Location RSW-001 for pH, dissolved oxygen, temperature, salinity, ammonia nitrogen, total coliform, fecal coliform, and enterococcus. The Discharger is also required to perform general observations of the receiving water when discharges occur and report the observations in the monitoring report. Attention shall be given to the presence or absence of: floating or suspended matter, discoloration, aquatic life, visible film, sheen or coating, and fungi, slime, or objectionable growths.

According to the SIP, the Discharger is required to monitor the upstream receiving water for the CTR priority pollutants, to determine reasonable potential. Accordingly, the Regional Water Board is requiring that the Discharger conduct receiving water monitoring of the CTR priority pollutants (excluding asbestos) at Monitoring Location

RSW-001, a location between 100 and 300 feet from the discharge point to the receiving water, Port Hueneme Harbor. TCDD equivalents should be analyzed once every five years. The remaining priority pollutants require to be monitored annually. The Discharger must analyze temperature, pH, and salinity of the upstream receiving water at the same time the samples are collected for ammonia analysis.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements – Not Applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) 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 section 123.25, this Order omits federal conditions that address enforcement authority specified in 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

These provisions are based on section 123 and the previous Order. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new federal regulations, modification in toxicity requirements, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

- a. Initial Investigation Toxicity Reduction Evaluation Workplan.** This provision is based on section 4 of the SIP, Toxicity Control Provisions, which establishes minimum toxicity control requirements for implementing the narrative toxicity objective for aquatic life protection established in the basin plans of the State of California.

- b. Chemical Use Report.** The Discharger uses chemicals and proprietary additives which could affect the waste discharge; therefore, the Discharger shall develop a Chemical Use Report and submit to the Regional Water Board annually.

3. Best Management Practices and Pollution Prevention

The objective of this Order is to protect the beneficial uses of the receiving waters. To meet this objective, this Order requires the Discharger to update and continue to implement BMPP and address the wastewater discharges to Port Hueneme Harbor. This BMPP should include site-specific plans, procedures, and practices to minimize the amount of pollutants entering wastewater discharges from materials being stored and activities being conducted throughout the entire facility. To ensure the Discharger considers and implements appropriate and effective BMPs, the Discharger is required to consider implementing BMPs contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004) or equivalent alternatives when developing its BMPP.

4. Construction, Operation, and Maintenance Specifications

This provision is based on the requirements of section 122.41(e) and the previous Order.

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Stellar Biotechnologies, Incorporated – Stellar Biotechnologies facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in

person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **February 10, 2012**.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **March 1, 2012**
Time: **9:00 AM**
Location: **Metropolitan Water District, Board Room**
700 North Alameda Street
Los Angeles, California

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/losangeles> where you can access the current agenda for changes in dates and locations.

D. Nature of Hearing

This will be a formal adjudicative hearing pursuant to section 648 et seq. of title 23 of the California Code of Regulations. Chapter 5 of the California Administrative Procedure Act (commencing with section 11500 of the Government Code) will not apply to this proceeding.

Ex Parte Communications Prohibited: As a quasi-adjudicative proceeding, no board member may discuss the subject of this hearing with any person, except during the public hearing itself. Any communications to the Regional Board must be directed to staff.

E. Parties to the Hearing

The following are the parties to this proceeding:

1. The applicant/permittee

Any other persons requesting party status must submit a written or electronic request to staff not later than 20 business days before the hearing. All parties will be notified if other persons are so designated.

F. Public Comments and Submittal of Evidence

Persons wishing to comment upon or object to the tentative waste discharge requirements, or submit evidence for the Board to consider, are invited to submit them in writing to the above address. To be evaluated and responded to by staff, included in the Board's agenda folder, and fully considered by the Board, written comments must be received no later than close of business February 10, 2012. Comments or evidence received after that date will be submitted, ex agenda, to the Board for consideration, but only included in administrative record with express approval of the Chair during the hearing. Additionally, if the Board receives only supportive comments, the permit may be placed on the Board's consent calendar, and approved without an oral testimony.

G. Hearing Procedure

The meeting, in which the hearing will be a part of, will start at 9:00 a.m. Interested persons are invited to attend. Staff will present the matter under consideration, after which oral statements from parties or interested persons will be heard. For accuracy of the record, all important testimony should be in writing. The Board will include in the administrative record written transcriptions of oral testimony that is actually presented at the hearing. Oral testimony may be limited to 3 minutes maximum or less for each speaker, depending on the number of persons wishing to be heard. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. At the conclusion of testimony, the Board will deliberate in open or close session, and render a decision.

Parties or persons with special procedural requests should contact staff. Any procedure not specified in this hearing notice will be waived pursuant to section 648(d) of title 23 of the California Code of Regulations. Objections to any procedure to be used during this hearing must be submitted in writing not later than close of 15 business days prior to the date of the hearing. Procedural objections will not be entertained at the hearing.

H. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

I. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45

p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576- 6600.

J. Register of Interested Persons

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

K. Additional Information

Requests for additional information or questions regarding this Order should be directed to Jau Ren Chen at (213) 576-6656.

ATTACHMENT G – STATE WATER BOARD MINIMUM LEVELS

The Minimum Levels (MLs) in this appendix are for use in reporting and compliance determination purposes in accordance with section 2.4 of the State Implementation Policy. These MLs were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These MLs shall be used until new values are adopted by the State Water Board and become effective. The following tables (Tables 2a - 2d) present MLs for four major chemical groupings: volatile substances, semi-volatile substances, inorganics, and pesticides and PCBs.

Table 2a - VOLATILE SUBSTANCES*	GC	GCMS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethylene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Methyl Bromide	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethylene	0.5	2
Toluene	0.5	2
Trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

*The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Benzo (a) Anthracene	10	5		
1,2 Dichlorobenzene (semivolatile)	2	2		
1,2 Diphenylhydrazine		1		
1,2,4 Trichlorobenzene	1	5		
1,3 Dichlorobenzene (semivolatile)	2	1		

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
1,4 Dichlorobenzene (semivolatile)	2	1		
2 Chlorophenol	2	5		
2,4 Dichlorophenol	1	5		
2,4 Dimethylphenol	1	2		
2,4 Dinitrophenol	5	5		
2,4 Dinitrotoluene	10	5		
2,4,6 Trichlorophenol	10	10		
2,6 Dinitrotoluene		5		
2- Nitrophenol		10		
2-Chloroethyl vinyl ether	1	1		
2-Chloronaphthalene		10		
3,3' Dichlorobenzidine		5		
Benzo (b) Fluoranthene		10	10	
3-Methyl-Chlorophenol	5	1		
4,6 Dinitro-2-methylphenol	10	5		
4- Nitrophenol	5	10		
4-Bromophenyl phenyl ether	10	5		
4-Chlorophenyl phenyl ether		5		
Acenaphthene	1	1	0.5	
Acenaphthylene		10	0.2	
Anthracene		10	2	
Benzidine		5		
Benzo(a) pyrene		10	2	
Benzo(g,h,i)perylene		5	0.1	
Benzo(k)fluoranthene		10	2	
bis 2-(1-Chloroethoxyl) methane		5		
bis(2-chloroethyl) ether	10	1		
bis(2-Chloroisopropyl) ether	10	2		
bis(2-Ethylhexyl) phthalate	10	5		
Butyl benzyl phthalate	10	10		
Chrysene		10	5	
di-n-Butyl phthalate		10		
di-n-Octyl phthalate		10		
Dibenzo(a,h)-anthracene		10	0.1	
Diethyl phthalate	10	2		
Dimethyl phthalate	10	2		
Fluoranthene	10	1	0.05	
Fluorene		10	0.1	
Hexachloro-cyclopentadiene	5	5		
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	
Phenol **	1	1		50
Pyrene		10	0.05	

* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1,000; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1,000.

** Phenol by colorimetric technique has a factor of 1.

Table 2c – INORGANICS*	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1,000
Arsenic		2	10	2	2	1		20	1,000
Beryllium	20	0.5	2	0.5	1				1,000
Cadmium	10	0.5	10	0.25	0.5				1,000
Chromium (total)	50	2	10	0.5	1				1,000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1,000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1,000
Selenium		5	10	2	5	1			1,000
Silver	10	1	10	0.25	2				1,000
Thallium	10	2	10	1	5				1,000
Zinc	20		20	1	10				1,000

* The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2d – PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
alpha-BHC	0.01
Aldrin	0.005
b-Endosulfan	0.01
Beta-BHC	0.005
Chlordane	0.1
Delta-BHC	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Gamma-BHC (Lindane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5

Table 2d – PESTICIDES – PCBs*	GC
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

* The normal method-specific factor for these substances is 100; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.

Techniques:

GC - Gas Chromatography

GCMS - Gas Chromatography/Mass Spectrometry

HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)

LC - High Pressure Liquid Chromatography

FAA - Flame Atomic Absorption

GFAA - Graphite Furnace Atomic Absorption

HYDRIDE - Gaseous Hydride Atomic Absorption

CVAA - Cold Vapor Atomic Absorption

ICP - Inductively Coupled Plasma

ICPMS - Inductively Coupled Plasma/Mass Spectrometry

SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)

DCP - Direct Current Plasma

COLOR – Colorimetric

ATTACHMENT H – LIST OF PRIORITY POLLUTANTS

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
1	Antimony	7440360	1
2	Arsenic	7440382	1
3	Beryllium	7440417	1
4	Cadmium	7440439	1
5a	Chromium (III)	16065831	1
5a	Chromium (VI)	18540299	1
6	Copper	7440508	1
7	Lead	7439921	1
8	Mercury	7439976	1
9	Nickel	7440020	1
10	Selenium	7782492	1
11	Silver	7440224	1
12	Thallium	7440280	1
13	Zinc	7440666	1
14	Cyanide	57125	1
15	Asbestos	1332214	1
16	2,3,7,8-TCDD	1746016	1
17	Acrolein	107028	1
18	Acrylonitrile	107131	1
19	Benzene	71432	1
20	Bromoform	75252	1
21	Carbon Tetrachloride	56235	1
22	Chlorobenzene	108907	1
23	Chlorodibromomethane	124481	1
24	Chloroethane	75003	1
25	2-Chloroethylvinyl Ether	110758	1
26	Chloroform	67663	1
27	Dichlorobromomethane	75274	1
28	1,1-Dichloroethane	75343	1
29	1,2-Dichloroethane	107062	1
30	1,1-Dichloroethylene	75354	1
31	1,2-Dichloropropane	78875	1
32	1,3-Dichloropropylene	542756	1
33	Ethylbenzene	100414	1
34	Methyl Bromide	74839	1
35	Methyl Chloride	74873	1
36	Methylene Chloride	75092	1
37	1,1,2,2-Tetrachloroethane	79345	1
38	Tetrachloroethylene	127184	1
39	Toluene	108883	1
40	1,2-Trans-Dichloroethylene	156605	1
41	1,1,1-Trichloroethane	71556	1
42	1,1,2-Trichloroethane	79005	1
43	Trichloroethylene	79016	1

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
44	Vinyl Chloride	75014	1
45	2-Chlorophenol	95578	1
46	2,4-Dichlorophenol	120832	1
47	2,4-Dimethylphenol	105679	1
48	2-Methyl-4,6-Dinitrophenol	534521	1
49	2,4-Dinitrophenol	51285	1
50	2-Nitrophenol	88755	1
51	4-Nitrophenol	100027	1
52	3-Methyl-4-Chlorophenol	59507	1
53	Pentachlorophenol	87865	1
54	Phenol	108952	1
55	2,4,6-Trichlorophenol	88062	1
56	Acenaphthene	83329	1
57	Acenaphthylene	208968	1
58	Anthracene	120127	1
59	Benzidine	92875	1
60	Benzo(a)Anthracene	56553	1
61	Benzo(a)Pyrene	50328	1
62	Benzo(b)Fluoranthene	205992	1
63	Benzo(ghi)Perylene	191242	1
64	Benzo(k)Fluoranthene	207089	1
65	Bis(2-Chloroethoxy)Methane	111911	1
66	Bis(2-Chloroethyl)Ether	111444	1
67	Bis(2-Chloroisopropyl)Ether	108601	1
68	Bis(2-Ethylhexyl)Phthalate	117817	1
69	4-Bromophenyl Phenyl Ether	101553	1
70	Butylbenzyl Phthalate	85687	1
71	2-Chloronaphthalene	91587	1
72	4-Chlorophenyl Phenyl Ether	7005723	1
73	Chrysene	218019	1
74	Dibenzo(a,h)Anthracene	53703	1
75	1,2-Dichlorobenzene	95501	1
76	1,3-Dichlorobenzene	541731	1
77	1,4-Dichlorobenzene	106467	1
78	3,3'-Dichlorobenzidine	91941	1
79	Diethyl Phthalate	84662	1
80	Dimethyl Phthalate	131113	1
81	Di-n-Butyl Phthalate	84742	1
82	2,4-Dinitrotoluene	121142	1
83	2,6-Dinitrotoluene	606202	1
84	Di-n-Octyl Phthalate	117840	1
85	1,2-Diphenylhydrazine	122667	1
86	Fluoranthene	206440	1
87	Fluorene	86737	1
88	Hexachlorobenzene	118741	1

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
89	Hexachlorobutadiene	87863	1
90	Hexachlorocyclopentadiene	77474	1
91	Hexachloroethane	67721	1
92	Indeno(1,2,3-cd)Pyrene	193395	1
93	Isophorone	78591	1
94	Naphthalene	91203	1
95	Nitrobenzene	98953	1
96	N-Nitrosodimethylamine	62759	1
97	N-Nitrosodi-n-Propylamine	621647	1
98	N-Nitrosodiphenylamine	86306	1
99	Phenanthrene	85018	1
100	Pyrene	129000	1
101	1,2,4-Trichlorobenzene	120821	1
102	Aldrin	309002	1
103	alpha-BHC	319846	1
104	beta-BHC	319857	1
105	gamma-BHC	58899	1
106	delta-BHC	319868	1
107	Chlordane	57749	1
108	4,4'-DDT	50293	1
109	4,4'-DDE	72559	1
110	4,4'-DDD	72548	1
111	Dieldrin	60571	1
112	alpha-Endosulfan	959988	1
113	beta-Endosulfan	33213659	1
114	Endosulfan Sulfate	1031078	1
115	Endrin	72208	1
116	Endrin Aldehyde	7421934	1
117	Heptachlor	76448	1
118	Heptachlor Epoxide	1024573	1
119	PCB-1016	12674112	1
120	PCB-1221	11104282	1
121	PCB-1232	11141165	1
122	PCB-1242	53469219	1
123	PCB-1248	12672296	1
124	PCB-1254	11097691	1
125	PCB-1260	11096825	1
126	Toxaphene	8001352	1

¹ Pollutants shall be analyzed using the methods described in 40 CFR Part 136.

ATTACHMENT I – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						MEC >= Lowest C	Tier 1 - Need limit?		
					Freshwater		Saltwater		Human Health for consumption of:					
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only			Lowest C	
1	Antimony	ug/L	0.6	50						4300.00	4300.00	No	No	
2	Arsenic	ug/L	0.6				69.00	36.00			36.00			
3	Beryllium	ug/L	0.6	No Criteria						Narrative	No Criteria	No Criteria	No Criteria	
4	Cadmium	ug/L	0.6				42.25	9.36		Narrative	9.36			
5a	Chromium (III)		0.6	No Criteria						Narrative	No Criteria	No Criteria	No Criteria	
5b	Chromium (VI)	ug/L	0.6	10			1107.75	50.35		Narrative	50.35	No	No	
6	Copper	ug/L	0.6	498			5.78	3.73			3.73	Yes	Yes	
7	Lead	ug/L	0.6				220.82	8.52		Narrative	8.52			
8	Mercury	ug/L	0.6				Reserved	Reserved			0.051	0.051		
9	Nickel	ug/L	0.6				74.75	8.28			4600.00	8.28		
10	Selenium	ug/L	0.6				290.58	71.14		Narrative	71.14			
11	Silver	ug/L	0.6				2.24				2.24			
12	Thallium	ug/L	0.6								6.30	6.30		
13	Zinc	ug/L	0.6	40			95.14	85.62			85.62	No	No	
14	Cyanide	ug/L	0.6				1.00	1.00			220000.00	1.00		
15	Asbestos	Fibers/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria	
16	2,3,7,8 TCDD	ug/L	0.6							#####	0.00000014			
17	Acrolein	ug/L	0.6	100							780	780	No	No
18	Acrylonitrile	ug/L	0.6								0.66	0.660		
19	Benzene	ug/L	0.6	0.5							71	71.0	No	No
20	Bromoform	ug/L	0.6	1							360	360.0	No	No
21	Carbon Tetrachloride	ug/L	0.6	0.5							4.4	4.40	No	No
22	Chlorobenzene	ug/L	0.6	1							21000	21000	No	No
23	Chlorodibromomethane	ug/L	0.6	1							34	34.00	No	No
24	Chloroethane	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria	No Criteria
25	2-Chloroethylvinyl ether	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria	No Criteria
26	Chloroform	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria	No Criteria
27	Dichlorobromomethane	ug/L	0.6	0.5							46	46.00	No	No
28	1,1-Dichloroethane	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria	No Criteria
29	1,2-Dichloroethane	ug/L	0.6	0.5							99	99.00	No	No
30	1,1-Dichloroethylene	ug/L	0.6	0.5							3.2	3.200	No	No
31	1,2-Dichloropropane	ug/L	0.6	0.5							39	39.00	No	No
32	1,3-Dichloropropylene	ug/L	0.6	1							1700	1700	No	No
33	Ethylbenzene	ug/L	0.6	0.5							29000	29000	No	No
34	Methyl Bromide	ug/L	0.6	1							4000	4000	No	No
35	Methyl Chloride	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria	No Criteria
36	Methylene Chloride	ug/L	0.6	1							1600	1600.0	No	No
37	1,1,2,2-Tetrachloroethane	ug/L	0.6	0.5							11	11.00	No	No
38	Tetrachloroethylene	ug/L	0.6	0.5							8.85	8.9	No	No
39	Toluene	ug/L	0.6	0.5							200000	200000	No	No
40	1,2-Trans-Dichloroethylene	ug/L	0.6	0.5							140000	140000	No	No
41	1,1,1-Trichloroethane	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria	No Criteria
42	1,1,2-Trichloroethane	ug/L	0.6	0.5							42	42.0	No	No
43	Trichloroethylene	ug/L	0.6	0.5							81	81.0	No	No

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)							
		B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
1	Antimony	Y	Y	100		N	No detected value of B, Step 7		No
2	Arsenic	N					No detected value of B, Step 7		Ud
3	Beryllium	Y	Y	20		N	No Criteria	No Criteria	Uc
4	Cadmium	Y	Y	20		Y	No detected value of B, Step 7		No
5a	Chromium (III)	Y	Y	100		N	No Criteria	No Criteria	Uc
5b	Chromium (VI)	Y	Y	10		N	No detected value of B, Step 7		No
6	Copper	Y	N		1070		Limit required, B>C & pollutant		Yes
7	Lead	Y	N		0.12		B<=C, Step 7		Ud
8	Mercury	Y	Y	0.0005		N	No detected value of B, Step 7		ud
9	Nickel	Y	Y	100		Y	No detected value of B, Step 7		No
10	Selenium	Y	Y	200		Y	No detected value of B, Step 7		No
11	Silver	Y	Y	100		Y	No detected value of B, Step 7		No
12	Thallium	Y	Y	20		Y	No detected value of B, Step 7		No
13	Zinc	Y	N		60		B<=C, Step 7		No
14	Cyanide	Y	Y	4		Y	No detected value of B, Step 7		No
15	Asbestos	N					No Criteria	No Criteria	Uc
16	2,3,7,8 TCDD	N					No detected value of B, Step 7		No
17	Acrolein	Y	Y	100		N	No detected value of B, Step 7		No
18	Acrylonitrile	Y	Y	50		Y	No detected value of B, Step 7		No
19	Benzene	Y	Y	0.5		N	No detected value of B, Step 7		No
20	Bromoform	Y	Y	1		N	No detected value of B, Step 7		No
21	Carbon Tetrachloride	Y	Y	0.5		N	No detected value of B, Step 7		No
22	Chlorobenzene	Y	Y	1		N	No detected value of B, Step 7		No
23	Chlorodibromomethane	Y	Y	1		N	No detected value of B, Step 7		No
24	Chloroethane	Y	Y	1		N	No Criteria	No Criteria	Uc
25	2-Chloroethylvinyl ether	N					No Criteria	No Criteria	Uc
26	Chloroform	Y	Y				No Criteria	No Criteria	Uc
27	Dichlorobromomethane	Y	Y	0.5		N	No detected value of B, Step 7		No
28	1,1-Dichloroethane	Y	Y	0.5		N	No Criteria	No Criteria	Uc
29	1,2-Dichloroethane	Y	Y	0.5		N	No detected value of B, Step 7		No
30	1,1-Dichloroethylene	Y	Y	0.5		N	No detected value of B, Step 7		No
31	1,2-Dichloropropane	Y	Y	0.5		N	No detected value of B, Step 7		No
32	1,3-Dichloropropylene	Y	Y	1		N	No detected value of B, Step 7		No
33	Ethylbenzene	Y	Y	0.5		N	No detected value of B, Step 7		No
34	Methyl Bromide	Y	Y	1		N	No detected value of B, Step 7		No
35	Methyl Chloride	Y	N			1	No Criteria	No Criteria	Uc
36	Methylene Chloride	Y	Y	1		N	No detected value of B, Step 7		No
37	1,1,2,2-Tetrachloroethane	Y	Y	0.5		N	No detected value of B, Step 7		No
38	Tetrachloroethylene	Y	Y	0.5		N	No detected value of B, Step 7		No
39	Toluene	Y	Y	0.5		N	No detected value of B, Step 7		No
40	1,2-Trans-Dichloroethylene	Y	Y	0.5		N	No detected value of B, Step 7		No
41	1,1,1-Trichloroethane	Y	Y	0.5		N	No Criteria	No Criteria	Uc
42	1,1,2-Trichloroethane	Y	Y	0.5		N	No detected value of B, Step 7		No
43	Trichloroethylene	Y	Y	0.5		N	No detected value of B, Step 7		No

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	Reason	HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS				
			Organisms only			Saltwater / Freshwater /				
			AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA
1	Antimony	MEC<C & B is ND								
2	Arsenic	No effluent data & no B								
3	Beryllium	No Criteria								
4	Cadmium	UD; effluent ND, MDL>C, and B is ND								
5a	Chromium (III)	No Criteria								
5b	Chromium (VI)	MEC<C & B is ND								
6	Copper	MEC>=C		2.01		0.32	1.86	0.53	1.97	1.86
7	Lead	No effluent data & B<=C								
8	Mercury	No effluent data & B is ND								
9	Nickel	UD; effluent ND, MDL>C, and B is ND								
10	Selenium	UD; effluent ND, MDL>C, and B is ND								
11	Silver	UD; effluent ND, MDL>C, and B is ND								
12	Thallium	UD; effluent ND, MDL>C, and B is ND								
13	Zinc	MEC<C & B<=C								
14	Cyanide	UD; effluent ND, MDL>C, and B is ND								
15	Asbestos	No Criteria								
16	2,3,7,8 TCDD	UD;Effluent ND,MDL>C & No B								
17	Acrolein	MEC<C & B is ND								
18	Acrylonitrile	UD; effluent ND, MDL>C, and B is ND								
19	Benzene	MEC<C & B is ND								
20	Bromoform	MEC<C & B is ND								
21	Carbon Tetrachloride	MEC<C & B is ND								
22	Chlorobenzene	MEC<C & B is ND								
23	Chlorodibromomethane	MEC<C & B is ND								
24	Chloroethane	No Criteria								
25	2-Chloroethylvinyl ether	No Criteria								
26	Chloroform	No Criteria								
27	Dichlorobromomethane	MEC<C & B is ND								
28	1,1-Dichloroethane	No Criteria								
29	1,2-Dichloroethane	MEC<C & B is ND								
30	1,1-Dichloroethylene	MEC<C & B is ND								
31	1,2-Dichloropropane	MEC<C & B is ND								
32	1,3-Dichloropropylene	MEC<C & B is ND								
33	Ethylbenzene	MEC<C & B is ND								
34	Methyl Bromide	MEC<C & B is ND								
35	Methyl Chloride	No Criteria								
36	Methylene Chloride	MEC<C & B is ND								
37	1,1,2,2-Tetrachloroethane	MEC<C & B is ND								
38	Tetrachloroethylene	MEC<C & B is ND								
39	Toluene	MEC<C & B is ND								
40	1,2-Trans-Dichloroethylene	MEC<C & B is ND								
41	1,1,1-Trichloroethane	No Criteria								
42	1,1,2-Trichloroethane	MEC<C & B is ND								
43	Trichloroethylene	MEC<C & B is ND								

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	RELATIONS				LIMITS		Recommendation	Comment
		Basin Plan				Lowest AMEL	Lowest MDEL		
		AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life				
1	Antimony							No Limit	
2	Arsenic							No Limit	
3	Beryllium							No Limit	
4	Cadmium							No Limit	
5a	Chromium (III)							No Limit	
5b	Chromium (VI)							No Limit	
6	Copper	1.55	2.88	3.11	5.78	2.9	5.8		Same as existing limits.
7	Lead							No Limit	
8	Mercury							No Limit	
9	Nickel							No Limit	
10	Selenium							No Limit	
11	Silver							No Limit	
12	Thallium							No Limit	
13	Zinc							No Limit	
14	Cyanide							No Limit	
15	Asbestos							No Limit	
16	2,3,7,8 TCDD							No Limit	
17	Acrolein							No Limit	
18	Acrylonitrile							No Limit	
19	Benzene							No Limit	
20	Bromoform							No Limit	
21	Carbon Tetrachloride							No Limit	
22	Chlorobenzene							No Limit	
23	Chlorodibromomethane							No Limit	
24	Chloroethane							No Limit	
25	2-Chloroethylvinyl ether							No Limit	
26	Chloroform							No Limit	
27	Dichlorobromomethane							No Limit	
28	1,1-Dichloroethane							No Limit	
29	1,2-Dichloroethane							No Limit	
30	1,1-Dichloroethylene							No Limit	
31	1,2-Dichloropropane							No Limit	
32	1,3-Dichloropropylene							No Limit	
33	Ethylbenzene							No Limit	
34	Methyl Bromide							No Limit	
35	Methyl Chloride							No Limit	
36	Methylene Chloride							No Limit	
37	1,1,2,2-Tetrachloroethane							No Limit	
38	Tetrachloroethylene							No Limit	
39	Toluene							No Limit	
40	1,2-Trans-Dichloroethylene							No Limit	
41	1,1,1-Trichloroethane							No Limit	
42	1,1,2-Trichloroethane							No Limit	
43	Trichloroethylene							No Limit	

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C	MEC >= Lowest C	Tier 1 - Need limit?
					Freshwater		Saltwater		Human Health for consumption of:				
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only			
44	Vinyl Chloride	ug/L	0.6	0.5						525	525	No	No
45	2-Chlorophenol	ug/L	0.6	2						400	400	No	No
46	2,4-Dichlorophenol	ug/L	0.6	2						790	790	No	No
47	2,4-Dimethylphenol	ug/L	0.6	2						2300	2300	No	No
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L	0.6	1						765	765.0	No	No
49	2,4-Dinitrophenol	ug/L	0.6	5						14000	14000	No	No
50	2-Nitrophenol	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
51	4-Nitrophenol	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
53	Pentachlorophenol	ug/L	0.6	2			13.00	7.90		8.2	7.90	No	No
54	Phenol	ug/L	0.6	1						4600000	4600000	No	No
55	2,4,6-Trichlorophenol	ug/L	0.6	1						6.5	6.5	No	No
56	Acenaphthene	ug/L	0.6	1						2700	2700	No	No
57	Acenaphthylene	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
58	Anthracene	ug/L	0.6	1						110000	110000	No	No
59	Benzidine	ug/L	0.6							0.00054	0.00054		
60	Benzo(a)Anthracene	ug/L	0.6							0.049	0.0490		
61	Benzo(a)Pyrene	ug/L	0.6							0.049	0.0490		
62	Benzo(b)Fluoranthene	ug/L	0.6							0.049	0.0490		
63	Benzo(ghi)Perylene	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
64	Benzo(k)Fluoranthene	ug/L	0.6							0.049	0.0490		
65	Bis(2-Chloroethoxy)Methane	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
66	Bis(2-Chloroethyl)Ether	ug/L	0.6	1						1.4	1.400	No	No
67	Bis(2-Chloroisopropyl)Ether	ug/L	0.6	1						170000	170000	No	No
68	Bis(2-Ethylhexyl)Phthalate	ug/L	0.6	2						5.9	5.9	No	No
69	4-Bromophenyl Phenyl Ether	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
70	Butylbenzyl Phthalate	ug/L	0.6	2						5200	5200	No	No
71	2-Chloronaphthalene	ug/L	0.6	1						4300	4300	No	No
72	4-Chlorophenyl Phenyl Ether	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
73	Chrysene	ug/L	0.6							0.049	0.0490		
74	Dibenzo(a,h)Anthracene	ug/L	0.6							0.049	0.0490		
75	1,2-Dichlorobenzene	ug/L	0.6	1						17000	17000	No	No
76	1,3-Dichlorobenzene	ug/L	0.6	1						2600	2600	No	No
77	1,4-Dichlorobenzene	ug/L	0.6	1						2600	2600	No	No
78	3,3 Dichlorobenzidine	ug/L	0.6							0.077	0.08		
79	Diethyl Phthalate	ug/L	0.6	1						120000	120000	No	No
80	Dimethyl Phthalate	ug/L	0.6	1						2900000	2900000	No	No
81	Di-n-Butyl Phthalate	ug/L	0.6	2						12000	12000	No	No
82	2,4-Dinitrotoluene	ug/L	0.6	1						9.10	9.10	No	No
83	2,6-Dinitrotoluene	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
84	Di-n-Octyl Phthalate	ug/L	0.6	No Criteria							No Criteria	No Criteria	No Criteria
85	1,2-Diphenylhydrazine	ug/L	0.6							0.54	0.540		

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)							
		B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
44	Vinyl Chloride	Y	Y	0.5		N	No detected value of B, Step 7		No
45	2-Chlorophenol	Y	Y	2		N	No detected value of B, Step 7		No
46	2,4-Dichlorophenol	Y	Y	2		N	No detected value of B, Step 7		No
47	2,4-Dimethylphenol	Y	Y	2		N	No detected value of B, Step 7		No
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	Y	Y	1		N	No detected value of B, Step 7		No
49	2,4-Dinitrophenol	Y	Y	5		N	No detected value of B, Step 7		No
50	2-Nitrophenol	Y	Y	2		N	No Criteria	No Criteria	Uc
51	4-Nitrophenol	Y	Y	2		N	No Criteria	No Criteria	Uc
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	Y	Y	1		N	No Criteria	No Criteria	Uc
53	Pentachlorophenol	Y	Y	2		N	No detected value of B, Step 7		No
54	Phenol	Y	Y	1		N	No detected value of B, Step 7		No
55	2,4,6-Trichlorophenol	Y	Y	1		N	No detected value of B, Step 7		No
56	Acenaphthene	Y	Y	1		N	No detected value of B, Step 7		No
57	Acenaphthylene	Y	Y	1		N	No Criteria	No Criteria	Uc
58	Anthracene	Y	Y	1		N	No detected value of B, Step 7		No
59	Benzidine	Y	Y	10		Y	No detected value of B, Step 7		No
60	Benzo(a)Anthracene	Y	Y	1		Y	No detected value of B, Step 7		No
61	Benzo(a)Pyrene	Y	Y	1		Y	No detected value of B, Step 7		No
62	Benzo(b)Fluoranthene	Y	Y	1		Y	No detected value of B, Step 7		No
63	Benzo(ghi)Perylene	Y	Y	1		N	No Criteria	No Criteria	Uc
64	Benzo(k)Fluoranthene	Y	Y	1		Y	No detected value of B, Step 7		No
65	Bis(2-Chloroethoxy)Methane	Y	Y	1		N	No Criteria	No Criteria	Uc
66	Bis(2-Chloroethyl)Ether	Y	Y	1		N	No detected value of B, Step 7		No
67	Bis(2-Chloroisopropyl)Ether	Y	Y	1		N	No detected value of B, Step 7		No
68	Bis(2-Ethylhexyl)Phthalate	Y	Y	2		N	No detected value of B, Step 7		No
69	4-Bromophenyl Phenyl Ether	Y	Y	1		N	No Criteria	No Criteria	Uc
70	Butylbenzyl Phthalate	Y	Y	2		N	No detected value of B, Step 7		No
71	2-Chloronaphthalene	Y	Y	1		N	No detected value of B, Step 7		No
72	4-Chlorophenyl Phenyl Ether	Y	Y	1		N	No Criteria	No Criteria	Uc
73	Chrysene	Y	Y	1		Y	No detected value of B, Step 7		No
74	Dibenzo(a,h)Anthracene	Y	Y	1		Y	No detected value of B, Step 7		No
75	1,2-Dichlorobenzene	Y	Y	1		N	No detected value of B, Step 7		No
76	1,3-Dichlorobenzene	Y	Y	1		N	No detected value of B, Step 7		No
77	1,4-Dichlorobenzene	Y	Y	1		N	No detected value of B, Step 7		No
78	3,3 Dichlorobenzidine	Y	Y	2		Y	No detected value of B, Step 7		No
79	Diethyl Phthalate	Y	Y	1		N	No detected value of B, Step 7		No
80	Dimethyl Phthalate	Y	Y	1		N	No detected value of B, Step 7		No
81	Di-n-Butyl Phthalate	Y	Y	2		N	No detected value of B, Step 7		No
82	2,4-Dinitrotoluene	Y	Y	1		N	No detected value of B, Step 7		No
83	2,6-Dinitrotoluene	Y	Y	1		N	No Criteria	No Criteria	Uc
84	Di-n-Octyl Phthalate	Y	Y	1		N	No Criteria	No Criteria	Uc
85	1,2-Diphenylhydrazine	Y	Y	1		Y	No detected value of B, Step 7		No

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	Reason	HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS				
			Organisms only			Saltwater / Freshwater /				
			AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA
44	Vinyl Chloride	MEC<C & B is ND								
45	2-Chlorophenol	MEC<C & B is ND								
46	2,4-Dichlorophenol	MEC<C & B is ND								
47	2,4-Dimethylphenol	MEC<C & B is ND								
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	MEC<C & B is ND								
49	2,4-Dinitrophenol	MEC<C & B is ND								
50	2-Nitrophenol	No Criteria								
51	4-Nitrophenol	No Criteria								
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	No Criteria								
53	Pentachlorophenol	MEC<C & B is ND								
54	Phenol	MEC<C & B is ND								
55	2,4,6-Trichlorophenol	MEC<C & B is ND								
56	Acenaphthene	MEC<C & B is ND								
57	Acenaphthylene	No Criteria								
58	Anthracene	MEC<C & B is ND								
59	Benzidine	UD; effluent ND, MDL>C, and B is ND								
60	Benzo(a)Anthracene	UD; effluent ND, MDL>C, and B is ND								
61	Benzo(a)Pyrene	UD; effluent ND, MDL>C, and B is ND								
62	Benzo(b)Fluoranthene	UD; effluent ND, MDL>C, and B is ND								
63	Benzo(ghi)Perylene	No Criteria								
64	Benzo(k)Fluoranthene	UD; effluent ND, MDL>C, and B is ND								
65	Bis(2-Chloroethoxy)Methane	No Criteria								
66	Bis(2-Chloroethyl)Ether	MEC<C & B is ND								
67	Bis(2-Chloroisopropyl)Ether	MEC<C & B is ND								
68	Bis(2-Ethylhexyl)Phthalate	MEC<C & B is ND								
69	4-Bromophenyl Phenyl Ether	No Criteria								
70	Butylbenzyl Phthalate	MEC<C & B is ND								
71	2-Chloronaphthalene	MEC<C & B is ND								
72	4-Chlorophenyl Phenyl Ether	No Criteria								
73	Chrysene	UD; effluent ND, MDL>C, and B is ND								
74	Dibenzo(a,h)Anthracene	UD; effluent ND, MDL>C, and B is ND								
75	1,2-Dichlorobenzene	MEC<C & B is ND								
76	1,3-Dichlorobenzene	MEC<C & B is ND								
77	1,4-Dichlorobenzene	MEC<C & B is ND								
78	3,3 Dichlorobenzidine	UD; effluent ND, MDL>C, and B is ND								
79	Diethyl Phthalate	MEC<C & B is ND								
80	Dimethyl Phthalate	MEC<C & B is ND								
81	Di-n-Butyl Phthalate	MEC<C & B is ND								
82	2,4-Dinitrotoluene	MEC<C & B is ND								
83	2,6-Dinitrotoluene	No Criteria								
84	Di-n-Octyl Phthalate	No Criteria								
85	1,2-Diphenylhydrazine	UD; effluent ND, MDL>C, and B is ND								

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	RELATIONS				LIMITS		Recommendation	Comment
		Basin Plan				Lowest AMEL	Lowest MDEL		
		AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life				
44	Vinyl Chloride						No Limit		
45	2-Chlorophenol						No Limit		
46	2,4-Dichlorophenol						No Limit		
47	2,4-Dimethylphenol						No Limit		
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)						No Limit		
49	2,4-Dinitrophenol						No Limit		
50	2-Nitrophenol						No Limit		
51	4-Nitrophenol						No Limit		
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)						No Limit		
53	Pentachlorophenol						No Limit		
54	Phenol						No Limit		
55	2,4,6-Trichlorophenol						No Limit		
56	Acenaphthene						No Limit		
57	Acenaphthylene						No Limit		
58	Anthracene						No Limit		
59	Benzidine						No Limit		
60	Benzo(a)Anthracene						No Limit		
61	Benzo(a)Pyrene						No Limit		
62	Benzo(b)Fluoranthene						No Limit		
63	Benzo(ghi)Perylene						No Limit		
64	Benzo(k)Fluoranthene						No Limit		
65	Bis(2-Chloroethoxy)Methane						No Limit		
66	Bis(2-Chloroethyl)Ether						No Limit		
67	Bis(2-Chloroisopropyl)Ether						No Limit		
68	Bis(2-Ethylhexyl)Phthalate						No Limit		
69	4-Bromophenyl Phenyl Ether						No Limit		
70	Butylbenzyl Phthalate						No Limit		
71	2-Chloronaphthalene						No Limit		
72	4-Chlorophenyl Phenyl Ether						No Limit		
73	Chrysene						No Limit		
74	Dibenzo(a,h)Anthracene						No Limit		
75	1,2-Dichlorobenzene						No Limit		
76	1,3-Dichlorobenzene						No Limit		
77	1,4-Dichlorobenzene						No Limit		
78	3,3 Dichlorobenzidine						No Limit		
79	Diethyl Phthalate						No Limit		
80	Dimethyl Phthalate						No Limit		
81	Di-n-Butyl Phthalate						No Limit		
82	2,4-Dinitrotoluene						No Limit		
83	2,6-Dinitrotoluene						No Limit		
84	Di-n-Octyl Phthalate						No Limit		
85	1,2-Diphenylhydrazine						No Limit		

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C	MEC >= Lowest C	Tier 1 - Need limit?
					Freshwater		Saltwater		Human Health for consumption of:				
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only			
86	Fluoranthene	ug/L	0.6	1						370	370	No	No
87	Fluorene	ug/L	0.6	1						14000	14000	No	No
88	Hexachlorobenzene	ug/L	0.6							0.00077	0.00077		
89	Hexachlorobutadiene	ug/L	0.6	1						50	50.00	No	No
90	Hexachlorocyclopentadiene	ug/L	0.6	1						17000	17000	No	No
91	Hexachloroethane	ug/L	0.6	1						8.9	8.9	No	No
92	Indeno(1,2,3-cd)Pyrene	ug/L	0.6							0.049	0.0490		
93	Isophorone	ug/L	0.6	1						600	600.0	No	No
94	Naphthalene	ug/L	0.6	No Criteria						No Criteria	No Criteria	No Criteria	No Criteria
95	Nitrobenzene	ug/L	0.6	1						1900	1900	No	No
96	N-Nitrosodimethylamine	ug/L	0.6	2						8.10	8.10000	No	No
97	N-Nitrosodi-n-Propylamine	ug/L	0.6	1						1.40	1.400	No	No
98	N-Nitrosodiphenylamine	ug/L	0.6	1						16	16.0	No	No
99	Phenanthrene	ug/L	0.6	No Criteria						No Criteria	No Criteria	No Criteria	No Criteria
100	Pyrene	ug/L	0.6	1						11000	11000	No	No
101	1,2,4-Trichlorobenzene	ug/L	0.6	No Criteria						No Criteria	No Criteria	No Criteria	No Criteria
102	Aldrin	ug/L	0.6				1.30			0.00014	0.00014		
103	alpha-BHC	ug/L	0.6	0.001						0.013	0.0130	No	No
104	beta-BHC	ug/L	0.6	0.001						0.046	0.046	No	No
105	gamma-BHC	ug/L	0.6	0.001			0.16			0.063	0.063	No	No
106	delta-BHC	ug/L	0.6	No Criteria						No Criteria	No Criteria	No Criteria	No Criteria
107	Chlordane	ug/L	0.6				0.09	0.004		0.00059	0.00059		
108	4,4'-DDT	ug/L	0.6				0.13	0.001		0.00059	0.00059		
109	4,4'-DDE (linked to DDT)	ug/L	0.6							0.00059	0.00059		
110	4,4'-DDD	ug/L	0.6							0.00084	0.00084		
111	Dieldrin	ug/L	0.6				0.71	0.0019		0.00014	0.00014		
112	alpha-Endosulfan	ug/L	0.6	0.001			0.034	0.0087		240	0.0087	No	No
113	beta-Endosulfan	ug/L	0.6	0.001			0.034	0.0087		240	0.0087	No	No
114	Endosulfan Sulfate	ug/L	0.6	0.001						240	240	No	No
115	Endrin	ug/L	0.6	0.001			0.037	0.0023		0.81	0.0023	No	No
116	Endrin Aldehyde	ug/L	0.6	0.001						0.81	0.81	No	No
117	Heptachlor	ug/L	0.6				0.053	0.0036		0.00021	0.00021		
118	Heptachlor Epoxide	ug/L	0.6				0.053	0.0036		0.00011	0.00011		
119-125	PCBs sum (2)	ug/L	0.6					0.03		0.00017	0.00017		
126	Toxaphene	ug/L	0.6				0.21	0.0002		0.00075	0.0002		

Notes:

Ud = Undetermined due to lack of data

Uc = Undetermined due to lack of CTR Water Quality Criteria

C = Water Quality Criteria

B = Background receiving water data

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)							
		B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
86	Fluoranthene	Y	Y	1		N	No detected value of B, Step 7		No
87	Fluorene	Y	Y	1		N	No detected value of B, Step 7		No
88	Hexachlorobenzene	Y	Y	1		Y	No detected value of B, Step 7		No
89	Hexachlorobutadiene	Y	Y	1		N	No detected value of B, Step 7		No
90	Hexachlorocyclopentadiene	Y	Y	1		N	No detected value of B, Step 7		No
91	Hexachloroethane	Y	Y	1		N	No detected value of B, Step 7		No
92	Indeno(1,2,3-cd)Pyrene	Y	Y	1		Y	No detected value of B, Step 7		No
93	Isophorone	Y	Y	1		N	No detected value of B, Step 7		No
94	Naphthalene	Y	Y	1		N	No Criteria	No Criteria	Uc
95	Nitrobenzene	Y	Y	1		N	No detected value of B, Step 7		No
96	N-Nitrosodimethylamine	Y	Y	2		N	No detected value of B, Step 7		No
97	N-Nitrosodi-n-Propylamine	Y	Y	1		N	No detected value of B, Step 7		No
98	N-Nitrosodiphenylamine	Y	Y	1		N	No detected value of B, Step 7		No
99	Phenanthrene	Y	Y	1		N	No Criteria	No Criteria	Uc
100	Pyrene	Y	Y	1		N	No detected value of B, Step 7		No
101	1,2,4-Trichlorobenzene	Y	Y	1		N	No Criteria	No Criteria	Uc
102	Aldrin	Y	Y				No detected value of B, Step 7		No
103	alpha-BHC	Y	Y				No detected value of B, Step 7		No
104	beta-BHC	Y	Y	0.001		N	No detected value of B, Step 7		No
105	gamma-BHC	Y	Y	0.001		N	No detected value of B, Step 7		No
106	delta-BHC	Y	Y	0.001		N	No Criteria	No Criteria	Uc
107	Chlordane	Y	Y	0.001		Y	No detected value of B, Step 7		No
108	4,4'-DDT	Y	Y	0.001		Y	No detected value of B, Step 7		No
109	4,4'-DDE (linked to DDT)	Y	Y	0.001		Y	No detected value of B, Step 7		No
110	4,4'-DDD	Y	Y	0.001		Y	No detected value of B, Step 7		No
111	Dieldrin	Y	Y	0.001		Y	No detected value of B, Step 7		No
112	alpha-Endosulfan	Y	Y	0.001		N	No detected value of B, Step 7		No
113	beta-Endosulfan	Y	Y	0.001		N	No detected value of B, Step 7		No
114	Endosulfan Sulfate	Y	Y	0.001		N	No detected value of B, Step 7		No
115	Endrin	Y	Y	0.001		N	No detected value of B, Step 7		No
116	Endrin Aldehyde	Y	Y	0.001		N	No detected value of B, Step 7		No
117	Heptachlor	Y	Y	0.001		Y	No detected value of B, Step 7		No
118	Heptachlor Epoxide	Y	Y	0.001		Y	No detected value of B, Step 7		No
119-125	PCBs sum (2)	Y	Y	3.5		Y	No detected value of B, Step 7		No
126	Toxaphene	Y	Y	0.01		Y	No detected value of B, Step 7		No

Notes:
Ud = Undetermined due to lack of c
Uc = Undetermined due to lack of C
C = Water Quality Criteria
B = Background receiving water da

Attachment I
 Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
 Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	Reason	HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS				
			Organisms only			Saltwater / Freshwater /				
			AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA
86	Fluoranthene	MEC<C & B is ND								
87	Fluorene	MEC<C & B is ND								
88	Hexachlorobenzene	UD; effluent ND, MDL>C, and B is ND								
89	Hexachlorobutadiene	MEC<C & B is ND								
90	Hexachlorocyclopentadiene	MEC<C & B is ND								
91	Hexachloroethane	MEC<C & B is ND								
92	Indeno(1,2,3-cd)Pyrene	UD; effluent ND, MDL>C, and B is ND								
93	Isophorone	MEC<C & B is ND								
94	Naphthalene	No Criteria								
95	Nitrobenzene	MEC<C & B is ND								
96	N-Nitrosodimethylamine	MEC<C & B is ND								
97	N-Nitrosodi-n-Propylamine	MEC<C & B is ND								
98	N-Nitrosodiphenylamine	MEC<C & B is ND								
99	Phenanthrene	No Criteria								
100	Pyrene	MEC<C & B is ND								
101	1,2,4-Trichlorobenzene	No Criteria								
102	Aldrin	UD; effluent ND, MDL>C, and B is ND								
103	alpha-BHC	MEC<C & B is ND								
104	beta-BHC	MEC<C & B is ND								
105	gamma-BHC	MEC<C & B is ND								
106	delta-BHC	No Criteria								
107	Chlordane	UD; effluent ND, MDL>C, and B is ND								
108	4,4'-DDT	UD; effluent ND, MDL>C, and B is ND								
109	4,4'-DDE (linked to DDT)	UD; effluent ND, MDL>C, and B is ND								
110	4,4'-DDD	UD; effluent ND, MDL>C, and B is ND								
111	Dieldrin	UD; effluent ND, MDL>C, and B is ND								
112	alpha-Endosulfan	MEC<C & B is ND								
113	beta-Endosulfan	MEC<C & B is ND								
114	Endosulfan Sulfate	MEC<C & B is ND								
115	Endrin	MEC<C & B is ND								
116	Endrin Aldehyde	MEC<C & B is ND								
117	Heptachlor	UD; effluent ND, MDL>C, and B is ND								
118	Heptachlor Epoxide	UD; effluent ND, MDL>C, and B is ND								
119-125	PCBs sum (2)	UD; effluent ND, MDL>C, and B is ND								
126	Toxaphene	UD; effluent ND, MDL>C, and B is ND								

Notes:
 Ud = Undetermined due to lack of c
 Uc = Undetermined due to lack of C
 C = Water Quality Criteria
 B = Background receiving water da

Attachment I
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
Stellar Biotechnologies Facility (CA0063070)

CTR#	Parameters	RELATIONS				LIMITS		Recommendation	Comment
		Basin Plan				Lowest AMEL	Lowest MDEL		
		AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life				
86	Fluoranthene						No Limit		
87	Fluorene						No Limit		
88	Hexachlorobenzene						No Limit		
89	Hexachlorobutadiene						No Limit		
90	Hexachlorocyclopentadiene						No Limit		
91	Hexachloroethane						No Limit		
92	Indeno(1,2,3-cd)Pyrene						No Limit		
93	Isophorone						No Limit		
94	Naphthalene						No Limit		
95	Nitrobenzene						No Limit		
96	N-Nitrosodimethylamine						No Limit		
97	N-Nitrosodi-n-Propylamine						No Limit		
98	N-Nitrosodiphenylamine						No Limit		
99	Phenanthrene						No Limit		
100	Pyrene						No Limit		
101	1,2,4-Trichlorobenzene						No Limit		
102	Aldrin						No Limit		
103	alpha-BHC						No Limit		
104	beta-BHC						No Limit		
105	gamma-BHC						No Limit		
106	delta-BHC						No Limit		
107	Chlordane						No Limit		
108	4,4'-DDT						No Limit		
109	4,4'-DDE (linked to DDT)						No Limit		
110	4,4'-DDD						No Limit		
111	Dieldrin						No Limit		
112	alpha-Endosulfan						No Limit		
113	beta-Endosulfan						No Limit		
114	Endosulfan Sulfate						No Limit		
115	Endrin						No Limit		
116	Endrin Aldehyde						No Limit		
117	Heptachlor						No Limit		
118	Heptachlor Epoxide						No Limit		
119-125	PCBs sum (2)						No Limit		
126	Toxaphene						No Limit		

Notes:
Ud = Undetermined due to lack of c
Uc = Undetermined due to lack of C
C = Water Quality Criteria
B = Background receiving water da