

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

**MONITORING AND REPORTING PROGRAM NO. R9-2003-0155
NPDES PERMIT NO. CA0109347
FOR THE
UNITED STATES MARINE CORPS BASE
CAMP PENDLETON
WASTEWATER TREATMENT PLANT NOS. 1, 2, 3, & 13
DISCHARGE TO THE PACIFIC OCEAN
VIA THE OCEANSIDE OCEAN OUTFALL
SAN DIEGO COUNTY**

This Monitoring and Reporting Program shall become effective with the adoption of Order No. R9-2003-0155.

I. Purpose

This monitoring program is intended to:

- Document short-term and long-term effects of the discharge on receiving waters, sediments, biota, and beneficial uses of the receiving water.
- Determine compliance with NPDES permit terms and conditions.
- Assess the effectiveness of a non-domestic source control program.

II. Monitoring Provisions

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this monitoring program and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Executive Officer. Samples shall be collected at times representative of "worst-case" conditions with respect to compliance with the requirements of Order No. R9-2003-0155.
2. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than $\pm 10\%$ from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring must be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved under Title 40 of the Code of Federal Regulations Part 136 (40 CFR 136), Guidelines Establishing Test Procedures for the Analysis of Pollutants, as amended, unless otherwise specified for sludge in 40 CFR 503, or unless other test procedures have been specified in Order No. R9-2003-0155 and/or in this monitoring and reporting program.
4. If the discharger monitors any pollutants more frequently than required by Order No. R9-2003-0155 or by this monitoring and reporting program, using test procedures approved under 40 CFR 136 or as specified in Order No. R9-2003-0155 and this monitoring and reporting program, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.
5. 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 Order No. R9-2003-0155 and this monitoring and reporting program, and records of all data used to complete the application for Order No. R9-2003-0155. Records shall be maintained for a minimum of 5 years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer or the USEPA.
6. All records of monitoring information shall include:
 - a. The date, exact location, and time of sampling or measurements;
 - b. The name(s) of individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The name(s) of the laboratory and individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses, with appropriate units.
7. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in Order R9-2003-0155 or this monitoring and reporting program.
8. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices.

9. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Regional Board Executive Officer.
10. The discharger shall have and implement an acceptable written quality assurance (QA) plan for laboratory analyses. An annual report shall be submitted by February 1st of each year that summarizes the QA activities for the previous year and that provides certification from the California Department of Health Services. Duplicate chemical analyses must be conducted on a minimum of ten percent of the samples, or at least one sample per month, whichever is more frequent. A similar frequency shall be maintained for analyzing spiked samples. When requested by the USEPA or the Regional Board, the discharger will participate in the NPDES discharge monitoring report QA performance study. The discharger shall have a success rate equal to or greater than 80 percent.
11. By February 1st of each year, the discharger shall submit an annual report to the Regional Board and USEPA Region 9 that contains tabular and graphical summaries of the monitoring data obtained during the previous year. The discharger shall discuss the compliance record and corrective actions taken, or which may be needed to bring the discharge into full compliance with the requirements of Order No. R9-2003-0155 and this monitoring and reporting program.
12. For each constituent, the discharger shall select an acceptable analytical method and minimum level (ML) of reporting from Appendix II of the 2001 Ocean Plan. Laboratory detection limits and quantitation limits shall be identified for each constituent in the matrix being analyzed with all reported analytical data. Acceptance of data shall be based on demonstrated laboratory performance.
13. Monitoring results shall be reported at intervals and in a manner specified in Order No. R9-2003-0155 and in this monitoring and reporting program. For the purposes of this monitoring program, continuously monitored constituents shall be reported as daily averages, weekly samples shall be collected at least once in every calendar week (Sunday to Saturday), monthly samples shall be collected at least once every calendar month (i.e. between first and last day of each month), and quarterly and semiannual samples shall be collected at least once during the reporting period specified in the table below.
14. A composite sample is generally defined as a combination of at least 8 sample aliquots of at least 100 mL, collected at periodic intervals during the operating hours of a facility over a 24-hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow-proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. The 100-mL minimum volume of an aliquot does not apply to automatic self-purging samplers.

15. Monitoring reports shall be submitted to the Regional Board and to USEPA Region 9 according to the following schedule:

Monitoring Frequency	Reporting Period	Report Due
Continuous, Daily, Weekly, or Monthly	All	By the first day of the second month after the month of sampling.
Quarterly	Jan.-March April-June July-September October-December	May 1 August 1 November 1 February 1
Semiannually	January-June July-December	August 1 February 1
Annually	January-December	February 1
Once every 5 years	---	February 1

III. Influent Monitoring

Influent monitoring is intended to:

- Determine compliance with NPDES permit conditions and water quality standards.
 - Assess treatment plant performance.
 - Assess the effectiveness of a non-domestic source control program.
1. Sampling stations shall be established at the point of inflow to each treatment plant and shall be located upstream of any in-plant return flows, where representative samples of the influent can be obtained. Influent samples shall be collected on the same day as effluent samples, and shortly before the collection of effluent samples.
 2. During periods when no effluent from a particular treatment plant is discharged to the Pacific Ocean, no influent monitoring, except for flowrate monitoring, is required at that treatment plant.
 3. The following shall constitute the influent monitoring program at each treatment plant:

Parameter	Unit*	Type of Sample	Minimum Frequency
Flowrate	MGD	recorder/ totalizer	continuous
BOD ₅ @ 20°C	mg/L	24-hour composite	weekly
Total Suspended Solids	mg/L	24-hour composite	weekly
Oil & Grease	mg/L	grab	weekly

* MGD = million gallons per day
mg/L = milligrams per liter

IV. Effluent Monitoring

Effluent monitoring is intended to:

- Determine compliance with NPDES permit conditions and water quality standards.
 - Identify operational problems in order to improve plant performance.
 - Provide information on waste characteristics and flows for use in interpreting water quality and biological data.
1. For the following constituents, a combined sample shall be collected from the Lemon Grove Pump Station, downstream of any in-plant return flows and disinfection units, where representative samples of the effluent discharged to the ocean outfall can be obtained.

Parameter	Unit*	Type of Sample	Minimum Frequency
Flowrate	MGD	recorder/ totalizer	continuous
Total Residual Chlorine	mg/L	recorder/ totalizer	continuous
BOD ₅ @ 20°C	mg/L	24-hour composite	daily ¹
CBOD ₅ @ 20°C	mg/L	24-hour composite	monthly
Total Suspended Solids	mg/L	24-hour composite	daily ¹
Settleable Solids	mL/L	grab	daily ¹
pH	Units	grab	daily ¹
Turbidity	NTU	24-hour composite	weekly
Dissolved Oxygen	mg/L	grab	weekly
Temperature	°C	grab	weekly
Ammonia (as N)	mg/L	24-hour composite	monthly
Oil & Grease	mg/L	grab	monthly
Acute Toxicity	TUa	24-hour composite	monthly
Chronic Toxicity ²	TUc	24-hour composite	monthly

- * MGD = million gallons per day
 mg/L = milligrams per liter
 Units = pH units
 mL/L = milliliters per liter
 NTU = nephelometric turbidity units
 °C = degrees Celsius
 TUa = toxic units, acute
 TUc = toxic units, chronic

2. The following constituents shall be sampled at each plant separately, at the plant's effluent sampling location, which shall be located downstream of any in-plant return flows, and disinfection units, where representative samples of the effluent discharged through the ocean outfall can be obtained.

Parameter	Unit	Type of Sample	Minimum Frequency
Flowrate	MGD	recorder/totalizer	continuous
Arsenic	µg/L	24-hour composite	quarterly
Cadmium	µg/L	24-hour composite	quarterly
Chromium (hexavalent)	µg/L	grab	quarterly
Copper	µg/L	24-hour composite	quarterly
Lead	µg/L	24-hour composite	quarterly
Mercury	µg/L	24-hour composite	quarterly
Nickel	µg/L	24-hour composite	quarterly
Selenium	µg/L	24-hour composite	quarterly
Silver	µg/L	24-hour composite	quarterly
Zinc	µg/L	24-hour composite	quarterly
Cyanide	µg/L	24-hour composite	quarterly
Phenolic compounds (non-chlorinated)	µg/L	grab	quarterly
Chlorinated phenolics	µg/L	grab	quarterly
Endosulfan	µg/L	24-hour composite	quarterly
Endrin	µg/L	24-hour composite	quarterly
HCH	µg/L	24-hour composite	quarterly
Radioactivity	PCi/L	24-hour composite	quarterly
Acrolein	µg/L	grab	semiannually
Antimony	µg/L	24-hour composite	semiannually
Bis(2-chloroethoxy)methane	µg/L	grab	semiannually
Bis(2-chloroisopropyl)ether	µg/L	grab	semiannually
Chlorobenzene	µg/L	grab	semiannually
Chromium (III)	µg/L	24-hour composite	semiannually
Di-n-butyl phthalate	µg/L	grab	semiannually
Dichlorobenzenes	µg/L	grab	semiannually
Diethyl phthalate	µg/L	grab	semiannually

Parameter	Unit	Type of Sample	Minimum Frequency
Dimethyl phthalate	µg/L	grab	semiannually
4,6-dinitro-2-methylphenol	µg/L	grab	semiannually
2,4-dinitrophenol	µg/L	grab	semiannually
Ethylbenzene	µg/L	grab	semiannually
Fluoranthene	µg/L	grab	semiannually
Hexachlorocyclopentadiene	µg/L	grab	semiannually
Nitrobenzene	µg/L	grab	semiannually
Thallium	µg/L	24-hour composite	semiannually
Toluene	µg/L	grab	semiannually
Tributyltin	µg/L	24-hour composite	semiannually
1,1,1-trichloroethane	µg/L	grab	semiannually
Acrylonitrile	µg/L	grab	semiannually
Aldrin	µg/L	24-hour composite	semiannually
Benzene	µg/L	grab	semiannually
Benzidine	µg/L	grab	semiannually
Beryllium	µg/L	24-hour composite	semiannually
Bis(2-chloroethyl)ether	µg/L	grab	semiannually
Bis(2-ethylhexyl)phthalate	µg/L	grab	semiannually
Carbon tetrachloride	µg/L	grab	semiannually
Chlordane	µg/L	24-hour composite	semiannually
Chlorodibromomethane	µg/L	grab	semiannually
Chloroform	µg/L	grab	semiannually
DDT	µg/L	24-hour composite	semiannually
1,4-dichlorobenzene	µg/L	grab	semiannually
3,3'-dichlorobenzidine	µg/L	grab	semiannually
1,2-dichloroethane	µg/L	grab	semiannually
1,1-dichloroethylene	µg/L	grab	semiannually
Dichlorobromomethane	µg/L	grab	semiannually

Parameter	Unit	Type of Sample	Minimum Frequency
Dichloromethane	µg/L	grab	semiannually
1,3-dichloropropene	µg/L	grab	semiannually
Dieldrin	µg/L	24-hour composite	semiannually
2,4-dinitrotoluene	µg/L	grab	semiannually
1,2-diphenylhydrazine	µg/L	grab	semiannually
Halomethanes	µg/L	grab	semiannually
Heptachlor	µg/L	24-hour composite	semiannually
Heptachlor epoxide	µg/L	24-hour composite	semiannually
Hexachlorobenzene	µg/L	grab	semiannually
Hexachlorobutadiene	µg/L	grab	semiannually
Hexachloroethane	µg/L	grab	semiannually
Isophorone	µg/L	grab	semiannually
N-nitrosodimethylamine	µg/L	grab	semiannually
N-nitrosodi-N-propylamine	µg/L	grab	semiannually
N-nitrosodiphenylamine	µg/L	grab	semiannually
PAHs	µg/L	24-hour composite	semiannually
PCBs	µg/L	24-hour composite	semiannually
TCDD equivalents ⁷	µg/L	24-hour composite	semiannually
1,1,2,2-tetrachloroethane	µg/L	grab	semiannually
Tetrachloroethylene	µg/L	grab	semiannually
Toxaphene	µg/L	24-hour composite	semiannually
Trichloroethylene	µg/L	grab	semiannually
1,1,2-trichloroethane	µg/L	grab	semiannually
2,4,6-trichlorophenol	µg/L	grab	semiannually
Vinyl chloride	µg/L	grab	semiannually

For each of the above constituents, in addition to the individual plants' sampling results, the discharger shall also report the flow-proportionate calculated composite value⁴ for the combined effluent to the OOO. Samples from each treatment plant shall be collected on the same day, whenever possible.

V. Solids Monitoring

Solids monitoring is intended to:

- Assess the effectiveness of a non-industrial source control program.
- Maintain a record of the volume of solids generated and disposal sites used.
- Evaluate the character of sludge to ensure that appropriate disposal methods are employed.

A report identifying the volume of screenings, sludges, grit, and other solids removed from the wastewater and the point(s) at which these wastes were disposed of shall be submitted annually, to the Regional Board and USEPA. A copy of all annual reports required by 40 CFR 503 shall be submitted to the Regional Board at the same time those reports are submitted to the USEPA.

VI. Receiving Water Monitoring

To determine compliance with water quality standards, the receiving water quality monitoring program must document conditions in the vicinity of the "Zone of Initial Dilution" (ZID) boundary, at reference stations, and at areas beyond the ZID where discharge impacts might reasonably be expected. Monitoring must reflect conditions during all critical environmental periods.

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

The receiving water and sediment monitoring program for the OOO may be conducted jointly with the City of Oceanside and any other agencies/dischargers utilizing the OOO if the discharger so chooses. Receiving water and sediment monitoring stations shall be located and numbered as follows:

Monitoring Station Locations

<u>Station</u>	<u>Description</u>
<u>Surf Zone Stations</u>	
S1	Surf zone, 5,500 feet south of the outfall.
S2	Surf zone, 2,500 feet south of the outfall.
S3	Surf zone, at the outfall.
S4	Surf zone, 2,000 feet north of the outfall.
S5	Surf zone, 5,800 feet north of the outfall.
S6	To be determined at a later date.

S7 To be determined at a later date.

Nearshore Stations

N1 Opposite S1, at the 30 foot depth contour, MLLW.
 N2 Opposite S2, at the 30 foot depth contour, MLLW.
 N3 Opposite S3, at the 30 foot depth contour, MLLW.
 N4 Opposite S4, at the 30 foot depth contour, MLLW.
 N5 Opposite S5, at the 30 foot depth contour, MLLW.
 N6 To be determined at a later date.
 N7 To be determined at a later date.

Offshore Stations

A1 - A4 At the corners of a 1,000 ft. x 1,000 ft. square having one side parallel to shore and the intersection of its diagonals at the seaward end of the outfall.
 A5 At the intersection of the diagonals of the above rectangle.
 B1 One mile downcoast from the outfall, and over the same depth contour as Station A5.
 B2 One mile upcoast from the outfall, and over the same depth contour as Station A5.

Biological Transects

T0 At the 20, 40, 60, and 80 foot depth contours along the transect located 50 feet downcoast of and parallel to the outfall.
 T1 At the 20, 40, 60, and 80 foot depth contours along the transect located one mile downcoast of and parallel to the outfall.
 T2 At the 20, 40, 60, and 80 foot depth contours along the transect located one and one half miles upcoast of and parallel to the outfall.

It is recommended that stations be located using a land-based microwave positioning system, such as Mini-Ranger or trisponder, or a satellite positioning system such as Global Positioning System (GPS). The high levels of accuracy and precision afforded by this type of positioning system will ensure that stations are properly located with respect to the ZID. If an alternate navigation system (e.g. Loran C) is proposed, its accuracy should be compared to that of the systems recommended herein, and any compromises in accuracy should be justified.

Monitoring station locations may be modified with the approval of the Executive Officer.

A. SURF ZONE WATER QUALITY MONITORING

Surf zone monitoring is intended to assess bacteriological conditions in areas used for body-contact activities (e.g., swimming); and to assess aesthetic conditions for general recreational uses (e.g., picnicking).

All "surf zone stations" shall be monitored as follows:

1. Grab samples shall be collected and analyzed for total and fecal coliforms, and enterococcus at a minimum frequency of once per week from May 1 through October 31, and at a minimum frequency of once every other week from November 1 through April 30 of each year.
2. At the same time samples are collected from "surf zone stations," the following information shall be recorded: observation of wind (direction and speed), weather (e.g., cloudy, sunny, or rainy), current (e.g., direction), and tidal conditions; observations of water color, discoloration, oil and grease, turbidity, odor, and materials of sewage origin in the water or on the beach; and water temperature (°C).

B. NEARSHORE WATER QUALITY MONITORING

Nearshore monitoring is intended to assess bacteriological conditions in areas used for body-contact activities (e.g. scuba diving) and where shellfish and/or kelp may be harvested; and to assess aesthetic conditions for general boating and recreational uses.

All "nearshore stations" shall be monitored as follows:

1. Reduced Monitoring

If the Executive Officer determines that the effluent at all times complies with Discharge Specification B.1 of Order No. R9-2003-0155, only the reduced nearshore water quality monitoring specified below is required.

<u>Determination</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
Visual Observations Total and Fecal	--	--	Monthly
Coliforms,	#/100mL	Grab ⁵	Monthly
Enterococcus ⁶	#/100mL	Grab ⁵	Monthly

2. Intensive Monitoring

The intensive nearshore water quality monitoring specified below is required during the 12-month period beginning July 1, 2003 through June 30, 2004, and must be submitted by August 31, 2004. The intensive nearshore water quality monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Discharge Specification B.1 of Order No. R9-2003-0155.

<u>Determination</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
Visual Observations Total and Fecal	--	--	Monthly

Coliforms,	#/100mL	Grab ⁷	Monthly
Enterococcus ⁶	#/100mL	Grab ⁷	Monthly

C. OFFSHORE WATER QUALITY MONITORING

Offshore monitoring is intended to determine compliance with the Ocean Plan; and to determine if the applicant's discharge causes significant impacts on the water quality within the ZID and beyond the ZID as compared to reference areas.

All "offshore stations" shall be monitored as follows:

1. Reduced Monitoring

If the Executive Officer determines that the effluent at all times complies with Discharge Specification B.1 of Order No. R9-2003-0155, only the reduced offshore water quality monitoring specified below is required.

<u>Determination</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
Visual Observations	--	--	Monthly
Total and Fecal			
Coliforms,	#/100mL	Grab ⁷	Monthly
Enterococcus ⁶	#/100mL	Grab ⁷	Monthly

2. Intensive Monitoring

The intensive offshore water quality monitoring specified below is required during the 12-month period beginning July 1, 2003 through June 30, 2004, and must be submitted by August 31, 2004. The intensive offshore water quality monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Discharge Specification B.1 of Order No. R9-2003-0155.

<u>Determination</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
Visual Observations	--	--	Monthly
Total and Fecal			
Coliforms,	#/100mL	Grab ⁷	Monthly
Enterococcus	#/100mL	Grab ⁷	Monthly
Temperature	°C	Grab ⁸	Monthly
Dissolved Oxygen	mg/L	Grab ⁸	Monthly
Light Transmittance	%	Instrument ⁸	Monthly
pH	pH units	Grab ⁵	Annually

D. BENTHIC MONITORING

Benthic monitoring is intended to assess the status of the benthic community, and to evaluate the physical and chemical quality of the sediments.

The intensive monitoring specified below is required during the 12-month period beginning July 1, 2003 through June 30, 2004, and must be submitted by August 31, 2004. The sediment monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Discharge Specification B.1 of Order No. R9-2003-0155. Sediment monitoring shall be conducted at all "offshore stations".

1. Sediment Characteristics

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

<u>Determination</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
Sulfides	mg/kg	Core	Semiannually
Total Chlorinated Hydrocarbons	mg/kg	Core	Semiannually
BOD	mg/kg	Core	Semiannually
COD	mg/kg	Core	Semiannually
Particle Size Distribution	-----	Core	Semiannually
Arsenic	mg/kg	Core	Annually
Cadmium	mg/kg	Core	Annually
Total Chromium	mg/kg	Core	Annually
Copper	mg/kg	Core	Annually
Lead	mg/kg	Core	Annually
Mercury	mg/kg	Core	Annually
Nickel	mg/kg	Core	Annually
Silver	mg/kg	Core	Annually
Zinc	mg/kg	Core	Annually
Cyanide	mg/kg	Core	Annually
Phenolic Compounds (non-chlorinated)	mg/kg	Core	Annually
Chlorinated Phenolics	mg/kg	Core	Annually
Aldrin and Dieldrin	mg/kg	Core	Annually
Chlordane and Related Compounds	mg/kg	Core	Annually
DDT and Derivatives	mg/kg	Core	Annually
Endrin	mg/kg	Core	Annually
HCH	mg/kg	Core	Annually
PCBs	mg/kg	Core	Annually
Toxaphene	mg/kg	Core	Annually
Radioactivity	pCi/kg	Core	Annually

2. Infauna

Samples are to be collected with a Paterson, Smith-McIntyre, or orange-peel-type dredge, having an open sampling area of not less than 124 square inches and a

sediment capacity of not less than 210 cubic inches. The sediment shall be sifted through a one-millimeter mesh screen and all organisms shall be identified to as low a taxon as possible.

<u>Determination</u>	<u>Units</u>	<u>Minimum Frequency</u>
Benthic Biota	Identification and Enumeration	3 Grabs Semiannually

E. ADDITIONAL BIOLOGICAL MONITORING

1. Demersal Fish and Macroinvertebrates

Monitoring of demersal fish and macroinvertebrates is intended to assess the populations of such organisms, to assess bioaccumulation of toxic pollutants, and to determine whether a significant difference exists between those populations near the outfall diffuser and those in reference areas.

The intensive monitoring specified below is required during the 12-month period beginning July 1, 2003 through June 30, 2004, and must be submitted by August 31, 2004. The biological transect monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Discharge Specification B.1 of Order No. R9-2003-0155.

<u>Determination</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
Biological Transects	Identification/ Enumeration	*2*	Annually

In rocky or cobble areas, a 30-meter band transect, one meter wide shall be established on the ocean bottom. Operations at each underwater station shall include: (1) Water temperature (may be measured from a boat), estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom recorded; (2) general bottom description recorded; (3) enumeration by estimate of the larger plants and animals in the band transect area recorded; (4) representative photographic record of sampled area taken; and (5) within each band, three one-quarter meter square areas shall be randomly selected and all macroscopic plant and animal life shall be identified to as low a taxon as possible and measured.

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

2. Kelp Bed Monitoring

Kelp bed monitoring is intended to assess the extent to which the discharge of wastes may affect the areal extent and health of coastal kelp beds.

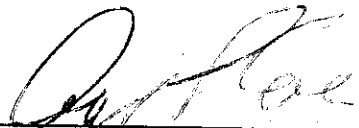
The discharger shall participate with other ocean dischargers in the San Diego Region in an annual regional kelp bed photographic survey. Kelp beds shall be monitored annually by means of vertical aerial infrared photography to determine the maximum areal extent of the region's coastal kelp beds within the calendar year. Surveys shall be conducted as close as possible to the time when kelp bed canopies cover the greatest area. The entire San Diego Region coastline, from the international boundary to the San Diego Region / Santa Ana Region boundary, shall be photographed on the same day.

The images produced by the surveys shall be presented in the form of a 1:24,000 scale photo-mosaic of the entire San Diego Region coastline. Onshore reference points, locations of all ocean outfalls and diffusers, and the 30-foot (MLLW) and 60-foot (MLLW) depth contours shall be shown.

The areal extent of the various kelp beds photographed in each survey shall be compared to that noted in surveys of previous years. Any significant losses which persist for more than one year shall be investigated by divers to determine the probable reason for the loss.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of Order No. R9-2003-0155 adopted by the California Regional Water Quality Control Board, San Diego Region, on August 13, 2003.

ps



JOHN H. ROBERTUS
Executive Officer

MONITORING AND REPORTING PROGRAM ENDNOTES

- 1 Five days per week except seven days per week for at least one week in July or August of each year.
- 2 A screening period for chronic toxicity shall be conducted every other year for three months, using a minimum of three test species (one plant, one invertebrate, and one vertebrate) chosen from the list of approved chronic toxicity test protocols specified in the 2001 Ocean Plan. After the screening period, the most sensitive species (i.e. the species exhibiting the lowest NOEL) shall be used for the monthly testing. Repeat screening periods may be terminated after the first month if the most sensitive species is the same as the species previously found to be most sensitive.

- 3 EPA method 8280 shall be used to analyze for TCDD equivalents.

- 4 Flow-proportionate effluent composite values for the combined effluent shall be calculated using the following equation:

$$C_t = \frac{Q_1(C_1) + Q_2(C_2) + Q_3(C_3) + Q_4(C_4)}{Q_1 + Q_2 + Q_3 + Q_4}$$

- Where C_t = The total flow-proportionate effluent result for a given constituent
 Q_1 = The average effluent flow from Plant No. 1 to the OOO during the specified monitoring period (i.e. for semiannual monitoring, use the average flow from Plant No. 1 to the OOO for that 6-month period).
 C_1 = The concentration of a given constituent collected from Plant No. 1
 Q_2 = The average effluent flow from Plant No. 2 to the OOO during the specified monitoring period.
 C_2 = The concentration of a given constituent collected from Plant No. 2
 Q_3 = The average effluent flow from Plant No. 3 to the OOO during the specified monitoring period.
 C_3 = The concentration of a given constituent collected from Plant No. 3
 Q_4 = The average effluent flow from Plant No. 13 to the OOO during the specified monitoring period.
 C_4 = The concentration of a given constituent collected from Plant No. 13

- 5 At the surface.

- 6 If the discharger demonstrates to the satisfaction of the Executive Officer, by means of daily analyses, that the concentrations of total and fecal coliform bacteria in the effluent are consistently less than 1,000 per 100 mL, enterococcus monitoring may be suspended. The discharger shall conduct the monitoring as specified unless the Executive Officer provides written authorization to suspend it. If this monitoring is suspended, the discharger shall resume it at the request of the Executive Officer.

- 7 At surface and mid-depth.

- 8 At surface, mid-depth, and bottom.

- 9 Sampling techniques will follow those employed by biologist divers of the California State Department of Fish and Game. In sandy areas, a 30 meter band transect, one meter wide, shall be established on the ocean bottom. Operations at each underwater station shall include: (1) Water temperature (may be measured from a boat), estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom recorded; (2) general bottom description recorded; (3) height, period, and crest direction of ripple marks recorded; (4) amount, description, and location of detritus on bottom recorded; (5) representative photographic record of sampled area taken; and (6) within each band, three cores of at least 42.5 cm² in area shall be randomly taken to a depth of 15 cm where possible, (the three cores may be taken from a boat) and the material removed sifted through at least a 1 millimeter mesh screen, and all organisms identified to as low a taxon as possible, enumerated, measured, and reproductive conditions assessed where feasible.