

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. R9-2005-0008
NPDES PERMIT NO. CA0107239

UNIVERSITY OF CALIFORNIA
SCRIPPS INSTITUTION OF OCEANOGRAPHY
SAN DIEGO COUNTY

A. 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 Order No. R9-2005-0008 or in this monitoring and reporting program and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of this Regional Board.
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 ± 10 percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:
 - a. "A Guide to Methods and Standards for the Measurement of Water Flow," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421.)
 - b. "Water Measurement Manual," U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027.)
 - c. "Flow Measurement in Open Channels and Closed Conduits," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical

Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

- d. "NPDES Compliance Sampling Manual," U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)
3. Monitoring must be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved under Title 40, United States Code of Federal Regulations (CFR), Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* as amended, unless other test procedures are specified in Order No. R9-2005-0008 and/or in this Monitoring and Reporting Program and/or by this Regional Board.
4. Monitoring results must be reported on forms approved by this Regional Board. Duplicate copies of the monitoring reports signed and certified as required by Reporting Requirement F.11 of Order No. R9-2005-0008 must be submitted to the State Board and the Regional Board at the addresses listed in Reporting Requirement F.13 of Order No. R9-2005-0008.
5. If the discharger monitors any pollutant more frequently than required by Order No. R9-2005-0008 or by this monitoring and reporting program, using test procedures approved under 40 CFR Part 136, or as specified in Order No. R9-2005-0008 or this Monitoring and Reporting Program or by this Regional Board, 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.
6. 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. R9-2005-0008 and this monitoring and reporting program, and records of all data used to complete the application for Order No. R9-2005-0008, for a period of at least five years from the date of the sample, measurement, report, or application. This period may be extended by request of this Regional Board at any time.
7. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in Order No. R9-2005-0008 or this Monitoring and Reporting Program.

8. 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 this Regional Board.
9. The discharger shall report all instances of noncompliance not reported under Reporting Requirement F.6 of Order No. R9-2005-0008 at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirement F.6.
10. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
11. 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 to ensure continued accuracy of the devices.
12. Monitoring results shall be reported at intervals and in a manner specified in Order No. R9-2005-0008 or in this Monitoring and Reporting Program.
13. This monitoring program may be modified by this Regional Board, as appropriate.

B. EFFLUENT MONITORING

1. Table A and Table B Monitoring

Effluent monitoring for the seawater system and storm water discharge from Outfall 001, 002, 003, 004a, and 004b shall be conducted at the discharge point to the beach (or at a location just upstream of the discharge point and where no additional pollutants or waste discharges can be added to the discharge), and shall be conducted as noted in *Table 1. Monitoring Requirements for Table A Effluent Limitations*, *Table 2. Monitoring Requirements for Protections of Marine Aquatic Life*, *Table 3. Monitoring Requirements for Protection of Human Health-Noncarcinogens*, and *Table 4. Monitoring Requirements for Protection of Human Health-Carcinogens*.

Monitoring data for the discharges from Outfalls 003, 004a, and 004b may also be reported as a calculated flow weighted composite.

a. Initial Monitoring.

During the first year after the adoption of this Order, the discharger shall monitor the constituents listed in Tables 1, 2, 3, and 4 according to the following requirements:

- i. The initial monitoring may be taken as grab samples.
- ii. The semi-annual monitoring requirements in Tables 1, 2, 3, and 4 can be submitted as compliance with the Initial Monitoring.
- iii. Equivalent monitoring conducted before the adoption of this Order can be submitted as compliance with the Initial Monitoring.
- iv. Outfalls 001, 003, 004a, and 004b shall be monitored eight times before December 31, 2005, with no more than three monitoring events per calendar quarter.
- v. Outfall 002 shall be monitored four times (three storm water events and one dry weather discharge, if possible) during the year. If a non-storm water discharge occurs from Outfall 002, the discharger shall monitor the discharge, once, if possible.

b. Modification of Frequency and Constituents.

Based on this Regional Board's evaluation of the Initial Monitoring results, this Regional Board may modify the frequency and constituents listed for the Ocean Plan Table A and Table B monitoring.

c. Safety.

The monitoring during a storm water discharge event must occur either during the storm water discharge or after the storm has passed and when the discharger can safely collect a water sample that is representative of storm water discharge conditions. The discharger must record and submit relevant information when a monitoring event does not occur because of unsafe conditions.

Table 1. Monitoring Requirements for Table A Effluent Limitations.

Constituent	Units	Sample Type	Sample Frequency	Reporting Frequency
Oil & grease	mg/L	Grab	2/year*	Semi-annual
Suspended solids	mg/L	Grab	2/year*	Semi-annual
Settleable solids	mL/L	Grab	2/year*	Semi-annual
Turbidity	NTU	Grab	2/year*	Semi-annual
PH	pH units	Grab	2/year*	Semi-annual

* The 2/year monitoring frequency is May-September (dry weather) and October—April (wet weather). The sample taken during the October—April monitoring period must be taken during a storm water discharge. The sample from Outfall 004b shall be collected during the sand filter backwash discharge.

Note: mgd = million gallons per day ppt = parts per thousand mL/L = milliliters per liter
 mg/L = milligrams per liter µg/L = micrograms per liter

Table 2. Monitoring Requirements for Protection of Marine Aquatic Life.

Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Flow	mgd	continuous	daily	quarterly
Arsenic	µg/L	composite	Once in 5 years	**
Cadmium	µg/L	composite	Once in 5 years	**
Chromium (hexavalent) ¹	µg/L	composite	Once in 5 years	**
Copper, Outfall 001, only	µg/L	composite	monthly	quarterly
Copper, other Outfalls	µg/L	composite	2/year*	Semi-annual
Lead	µg/L	composite	Once in 5 years	**
Mercury	µg/L	composite	Once in 5 years	**
Nickel	µg/L	composite	Once in 5 years	**
Selenium	µg/L	composite	Once in 5 years	**

** Data shall be submitted with the Report of Waste Discharge 180 days prior to this Orders expiration date.

¹ The discharger may, at its option, meet this limitation as a total chromium limitation.

Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Silver	µg/L	composite	Once in 5 years	**
Zinc	µg/L	composite	2/year**	Semi-annual
Cyanide ²	µg/L	composite	Once in 5 years	**
Total residual chlorine— Outfall 003 only, when mammals are in the Ring Tank	mg/L	grab	monthly	quarterly
Total chlorine residual ³ , other Outfalls	µg/L	grab	2/year*	Semi-annual
Ammonia (as N)	µg/L	composite	2/year*	Semi-annual
Acute toxicity ⁴	TUa	composite	2/year*	Semi-annual
Chronic toxicity ⁵	TUc	composite	2/year*	Semi-annual
Phenolic compounds (non-chlorinated)	µg/L	composite	Once in 5 years	**
Chlorinated phenolics	µg/L	composite	Once in 5 years	**

2 If the discharger can demonstrate to the satisfaction of the Regional Board (subject to EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by Standard Methods 412 F, G, and H (Standard Methods for the Examination of Water and Wastewater, Joint Editorial Board, American Public Health Association, American Water Works Association, and Water Pollution Control Federation, most recent edition).

3 The effluent concentration and mass emission rate limitations for total chlorine residual are based on a continuous discharge of chlorine. Effluent concentration limitations for total chlorine residual, which are applicable to intermittent discharges not exceeding 2 hours, shall be determined through the use of the following equations:

$$\log C_o = -0.43 (\log x) + 1.8$$

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

where:

- C_o = the concentration (in µg/L) to be met at the completion of initial dilution
- x = the duration of uninterrupted chlorine discharge in minutes
- C_e = the effluent concentration limitation (in µg/L) to apply when chlorine is being intermittently discharged
- D_m = the minimum probable initial dilution
- C_s = the background seawater concentration = 0

4 Acute toxicity monitoring shall comply with methods and species as specified in the 2001 Ocean Plan and Resolution No. 2004-0052.

5 Chronic toxicity monitoring shall comply with methods and species as specified in the 2001 Ocean Plan.

Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Endosulfan ⁶	µg/L	composite	Once in 5 years	**
Endrin	µg/L	composite	Once in 5 years	**
HCH ⁷	µg/L	composite	Once in 5 years	**
Radioactivity	composite		2/year*	Semi-annual

Table 3. Monitoring Requirements for Protection of Human Health-Noncarcinogens.

Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Acrolein	µg/L	grab	Once in 5 years	**
Antimony	µg/L	composite	Once in 5 years	**
Bis(2-chloroethoxy) methane	µg/L	composite	Once in 5 years	**
Bis(2-chloroisopropyl) ether	µg/L	composite	Once in 5 years	**
Chlorobenzene	µg/L	grab	Once in 5 years	**
Chromium (III) ⁴	µg/L	composite	Once in 5 years	**
Di-n-butyl phthalate	µg/L	composite	Once in 5 years	**
Dichlorobenzenes ⁸	µg/L	composite	Once in 5 years	**
Diethyl phthalate	µg/L	composite	Once in 5 years	**
Dimethyl phthalate	µg/L	composite	Once in 5 years	**
4,6-dinitro-2-methylphenol	µg/L	composite	Once in 5 years	**
2,4-dinitrophenol	µg/L	composite	Once in 5 years	**
Ethylbenzene	µg/L	grab	Once in 5 years	**
Fluoranthene	µg/L	composite	Once in 5 years	**
Hexachlorocyclopentadiene	µg/L	composite	Once in 5 years	**

6 Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

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

8 Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Nitrobenzene	µg/L	composite	Once in 5 years	**
Thallium	µg/L	composite	Once in 5 years	**
Toluene	µg/L	grab	Once in 5 years	**
Tributyltin	µg/L	composite	Once in 5 years	**
1,1,1-trichloroethane	µg/L	grab	Once in 5 years	**

Table 4. Monitoring Requirements for Protection of Human Health-Carcinogens.

Constituent	Units	Sample Type	Sample Frequency	Reporting Frequency
Acrylonitrile	µg/L	grab	2/year*	Semi-annual
Aldrin	µg/L	composite	2/year*	Semi-annual
Benzene	µg/L	grab	Once in 5 years	**
Benzidine	µg/L	composite	2/year*	Semi-annual
Beryllium	µg/L	composite	Once in 5 years	**
Bis(2-chloroethyl) ether	µg/L	composite	Once in 5 years	**
Bis(2-ethylhexyl) phthalate	µg/L	composite	Once in 5 years	**
Carbon tetrachloride	µg/L	grab	Once in 5 years	**
Chlordane ⁹	µg/L	composite	2/year*	Semi-annual
Chlorodibromomethane	µg/L	grab	Once in 5 years	**
Chloroform	µg/L	grab	Once in 5 years	**
DDT ¹⁰	µg/L	composite	2/year**	Semi-annual
1,4-dichlorobenzene	µg/L	grab	Once in 5 years	**
3,3'-dichlorobenzidine	µg/L	composite	2/year**	Semi-annual
1,2-dichloroethane	µg/L	grab	Once in 5 years	**

⁹ Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

¹⁰ DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Constituent	Units	Sample Type	Sample Frequency	Reporting Frequency
1,1-dichloroethylene	µg/L	grab	Once in 5 years	**
Dichlorobromomethane	µg/L	grab	Once in 5 years	**
Dichloromethane	µg/L	grab	Once in 5 years	**
1,3-dichloropropene	µg/L	grab	Once in 5 years	**
Dieldrin	µg/L	composite	2/year*	Semi-annual
2,4-dinitrotoluene	µg/L	composite	Once in 5 years	**
1,2-diphenylhydrazine	µg/L	composite	Once in 5 years	**
Halomethanes ¹¹	µg/L	grab	Once in 5 years	**
Heptachlor ¹²	µg/L	composite	2/year*	Semi-annual
Heptachlor epoxide	µg/L	composite	2/year*	Semi-annual
Hexachlorobenzene	µg/L	composite	Once in 5 years	**
Hexachlorobutadiene	µg/L	composite	Once in 5 years	**
Hexachloroethane	µg/L	composite	Once in 5 years	**
Isophorone	µg/L	composite	Once in 5 years	**
N-nitrosodimethylamine	µg/L	composite	Once in 5 years	**
N-nitrosodi-N-propylamine	µg/L	composite	Once in 5 years	**
N-nitrosodiphenylamine	µg/L	composite	Once in 5 years	**
PAHs ¹³	µg/L	composite	2/year*	Semi-annual
PCBs ¹⁴	µg/L	composite	2/year*	Semi-annual
TCDD equivalents ¹⁵	µg/L	composite	2/year*	Semi-annual

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

12 Heptachlor shall mean the sum of heptachlor and heptachlor epoxide.

13 PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

14 PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

Constituent	Units	Sample Type	Sample Frequency	Reporting Frequency
1,1,2,2-tetrachloroethane	µg/L	grab	Once in 5 years	**
Tetrachloroethylene	µg/L	grab	Once in 5 years	**
Toxaphene	µg/L	composite	2/year*	Semi-annual
Trichloroethylene	µg/L	grab	Once in 5 years	**
1,1,2-trichloroethane	µg/L	grab	Once in 5 years	**
2,4,6-trichlorophenol	µg/L	composite	Once in 5 years	**
Vinyl chloride	µg/L	grab	Once in 5 years	**

2. Bacteria Monitoring

Annually, the discharges from Outfall 001, and 002 shall be monitored twice, once during dry weather discharge and once during a storm water discharge for fecal coliform, total coliform organisms, and enterococcus.

Annually, the discharges from Outfall 003, 004a and 004b shall be monitored twice, once during dry weather discharge and once during a storm water discharge for fecal coliform, total coliform organisms, and enterococcus. The sample from Outfall 004b shall be collected during the sand filter backwash discharge.

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

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

When mammals are in the Ring Tank, the discharges from Outfall 003, shall be sampled and analyzed monthly for fecal coliform, total coliform organisms, and enterococcus.

C. RECEIVING WATER, SEDIMENT, AND OCEAN PLAN BACTERIAL MONITORING

1. Receiving Water Monitoring, semi-annual reporting

Receiving water monitoring shall be conducted just outside the surf zone or at a location that is identified in the benthic marine survey. The sampling of the receiving water may occur along the SIO Pier if the sampling location is within five-meters seaward of the surf zone. The Receiving Water shall be monitored for the applicable constituents listed in Tables 1 through 4 above. The sampling must be conducted once during dry weather and once during a storm water discharge. The sampling during a storm water discharge event must occur either during the storm water discharge or after the storm has passed and when SIO can safely collect a receiving water sample that is representative of storm water discharge conditions.

The receiving water sampling shall consists of four-grab samples collected during a 24-hour period rather than a composite sample. The sample collected for volatile organic compounds shall be a single grab samples.

2. Sediment Monitoring, semi-annual reporting

Sediment monitoring shall be conducted just outside the surf zone or at a location that is identified in the benthic marine survey. The sediment shall be monitored for the applicable constituents listed in Tables 1 through 3 above and shall be analyzed as a solid waste and reported as mg/kg (dry-weight). The sampling must be conducted once during dry weather and once during a storm water discharge. The sampling during a storm water discharge event must occur either during the storm water discharge or after the storm has passed and when SIO can safely collect a sediment sample.

The sediment monitoring shall be a grab sample of surface sediment and shall include grain size, and total organic carbon analyses.

For the chronic toxicity monitoring analysis in *Table 1. Monitoring Requirements for Protection of Marine Aquatic Life*, is not required. For sediment toxicity

testing, only an acute toxicity analysis using the amphipod *Eohaustorius estuarius* is required. The analytical methods in *USEPA 1994, Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods*, EPA 600-R94-025 (USEPA, Office of Research and Development) must be used. Any modification of this method may be approved by this Regional Board in consultation with the Division of Water Quality of the State Board.

3. Ocean Plan bacterial water quality objectives – *Surf Zone* Monitoring, quarterly reporting.

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:

- a. Grab samples shall be collected and analyzed for total and fecal coliforms, and enterococcus at a minimum frequency of once per week throughout the year with at least five samples collected within any 30-day period. If possible, surf zone samples shall be taken when Outfall 004b has had a filter backwash discharge and the discharge has reached the surf zone.
- b. Samples shall be collected in accordance with “Standard Operating Procedures for the Collection of Water Samples for Bacterial Analysis from Ocean and Bay Receiving Waters” developed by the County of San Diego Department of Environmental Health and incorporated herein by reference.
- c. 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, storm water, or seawater system origin in the water or on the beach; filter backwash discharge from Outfall 004b and if the discharge reached the surf zone, and water temperature (°C).
- d. Monitoring samples collected by the County of San Diego may be used in the monitoring report for compliance with the bacterial monitoring requirements.

Monitoring Station Locations

<u>Station</u>	<u>Description</u>
<u>Surf Zone Stations</u>	
S1	Surf zone, 1,000 feet south of the SIO Pier.
S2	Surf zone, 250 feet south of the SIO Pier.
S3	Surf zone, 500 feet north of SIO Pier.

4. Regional Monitoring

The Discharger shall participate and coordinate with state and local agencies and other Dischargers in the San Diego Region in development and implementation of a regional monitoring program (Bight Study) for the Pacific Ocean as directed by this Regional Water Board. The intent of the Bight Study is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the region.

D. LOGS AND OPERATIONAL INFORMATION

1. Quarterly, the discharger must submit a log of all chemical additives discharged via the seawater system. The log must include the time, date, concentration, quantity, location, identification of personnel that added the chemicals, and Outfall that discharged the chemicals.
2. Quarterly, the discharge must report the daily flow rate from Outfall 001 and an estimate of flow rates from Outfall 002, 003, 004a, and 004b. If flow meters are installed on Outfall 002, 003, 004a or 004b, then the recorded daily flow rate must be reported. The log must also identify the days when storm water discharges occur from each Outfall.

E. PROVISIONS

All reports submitted in response to this Order shall comply with signatory requirements specified in *Reporting Requirement F.11* of this Order.

The discharger shall implement the above monitoring program on the first day of the month following the effective date of this Order.

F. MONITORING AND REPORTING SCHEDULE

Monitoring reports shall be submitted to this Regional Board according to the dates in *Table 5. Monitoring and Reporting Schedule.*

Table 5. Monitoring and Reporting Schedule.

Reporting Frequency	Report Period	Report Due
Quarterly	January through March	June 1
Quarterly	April through June	September 1
Quarterly	July through September	December 1
Quarterly	October through December	March 1
Semi-annually	January through June	September 1
Semi-annually	July through December	March 1

G. ENDNOTE REFERENCES

1. A grab sample is defined as an individual sample of at least 100 milliliters collected over a period not exceeding 15 minutes. Grab samples shall be collected over a shorter period if necessary to ensure that the constituent/parameter concentration in the sample is the same as that at the sampling location at the time the sample is collected.
2. A composite sample is defined as a combination of at least eight sample aliquots of at least 100 milliliters, 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.

Ordered by:



JOHN H. ROBERTUS
Executive Officer

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Amended on November 12, 2008