CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. 5424
for
ATLANTIC RICHFIELD COMPANY
(Carson Refinery, Carson)
(CA0000680)

I. Reporting Requirements

A. The Discharger shall implement this monitoring program on the effective date of this Order. All monitoring reports shall be submitted monthly and must be received by the Regional Board by the first day of the second month following each monthly sampling period. All monitoring reports should be addressed to the Regional Board, Attention: Information Technology Unit. The first monitoring report under this program (for June 2001) is due by August 1, 2001.

B. If there is no discharge during any reporting period, the report shall so state.

C. The Discharger shall submit an annual summary report containing a discussion of the previous year's effluent and receiving water monitoring data, as well as graphical and tabular summaries of the data. The data shall be submitted to the Regional Board on hard copy and on a 3 ½ " computer diskette. Submitted data must be IBM compatible, preferably using EXCEL software. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with waste discharge requirements. This annual report is to be received by the Regional Board by July 1 of each year following the calendar year of data collection.

D. The Discharger shall inform the Regional Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

II. Effluent Monitoring Requirements

A. A sampling station shall be established for each point of discharge and shall be located where representative samples of that effluent can be obtained. In the event that waste streams from different sources are combined for treatment or discharge, representative sampling stations shall be so located to ensure that the quantity of each pollutant or pollutant property attributable to each waste source regulated by effluent limitations can be determined.

B. This Regional 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.

C. Pollutants shall be analyzed using the analytical methods described in 40 CFR 136.3, 136.4, and 136.5 (revised May 14, 1999); or, where no methods are specified for a given pollutant, by methods approved by this Regional Board or the State Board. Laboratories analyzing effluent and receiving water samples shall be certified by the California Department of Health Services and must include quality assurance/quality control (QA/QC) data in their reports.

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. 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 information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ or – a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory; or,

3. "Not-Detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.

Current MLs (Attachment T-1) are those published by the State Water Resources Control Board (State Board) in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, March 2, 2000*.

D. Where possible, the MLs employed for effluent analyses shall be lower than the permit limits 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 Board, consultation with the State Board Quality Assurance Program, shall establish an ML that is not contained in Attachment T-1, 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 T-1;

2. When the Discharger and the Regional Board agree to include in the permit a test method that is more sensitive than those specified in 40 CFR 136 (revised May 14, 1999);

3. When the Discharger agrees to use an ML that is lower than those listed in Attachment T-1;

4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment T-1 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 Board, and the State Board shall agree on a lowest quantifiable limit, and that limit will substitute for the ML for reporting and compliance determination purposes.

E. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 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 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.

F. Quarterly effluent analyses shall be performed during the months of February, May, August and November. Semiannual effluent analyses shall be performed during the months of February and August. Annual effluent analyses shall be performed during the month of February. Results of quarterly, semiannual and annual analyses shall be reported in the appropriate monthly monitoring report.

G. For parameters where both monthly average and daily maximum limits are specified but where the monitoring frequency is less than four times a month, the following procedure shall apply: If an analytical result is greater than the monthly average limit, the sampling frequency shall be increased (within one week of receiving the laboratory results) to a minimum of once weekly at equal intervals until at least four consecutive weekly samples have been obtained and compliance with the monthly average limit has been demonstrated again, and the Discharger has set forth for the approval of the Executive Officer a program which ensures future compliance with the monthly average limit.

III. Effluent Monitoring Program

A. The following shall constitute the effluent monitoring program for the final effluent:

1. Discharge Serial No. 012 - For treated process wastewater mixed with storm water runoff:

Constituent	Units	Type of Sample	Monitoring Frequency [1/ 2/]
Total flow	gal/day	----	once per discharge event
Temperature	^{o}F or ^{o}C	grab	once per discharge event
pH	Standard units	grab	once per discharge event
Conductivity, 25^{o}C	µmhos/cm	grab	once per discharge event
Hardness (as $CaCO_3$)	mg/L	grab	once per discharge event
Settleable solids	ml/L	grab	once per discharge event
Fecal coliform	MPN/100 mL	grab	once per discharge event
Total organic carbon	mg/L	grab	once per discharge event
$BOD_5$20^{o}C	mg/L	grab	once per discharge event
Suspended solids	mg/L	grab	once per discharge event
Oil and grease	mg/L	grab	once per discharge event
Chlorine residual [3/]	mg/L	grab	once per discharge event
Phenolic compounds	µg/L	grab	once per discharge event
COD	mg/L	grab	once per discharge event
Ammonia (as N)	mg/L	grab	once per discharge event
Sulfides	mg/L	grab	once per discharge event
Toxicity - acute	% survival	grab	once per discharge event
- chronic	TU_c	grab	once per discharge event
Total chromium	µg/L	grab	once per discharge event
Chromium (VI)	µg/l	grab	once per discharge event
Copper	µg/L	grab	once per discharge event
Lead	µg/L	grab	once per discharge event
Mercury	µg/L	grab	once per discharge event
Zinc	µg/L	grab	once per discharge event
Benzene	µg/L	grab	once per discharge event
Methyl tertiary-butyl ether	µg/L	grab	once per discharge event
Tributyltin	µg/L	grab	once per discharge event
Acenaphthene	µg/L	grab	once per discharge event
Anthracene	µg/L	grab	once per discharge event
Benzo (a) Anthracene	µg/L	grab	once per discharge event
Benzo (a) Pyrene	µg/L	grab	once per discharge event
Benzo (b) Fluoranthene	µg/L	grab	once per discharge event
Benzo (k) Fluoranthene	µg/L	grab	once per discharge event

Constituent	Units	Type of Sample	Monitoring Frequency [1/ 2/]
Chrysene	µg/L	grab	once per discharge event
Dibenzo (a,h) Anthracene	µg/L	grab	once per discharge event
Indeno (1,2,3-cd) Pyrene	µg/L	grab	once per discharge event
Fluoranthene	µg/L	grab	once per discharge event
Fluorene	µg/L	grab	once per discharge event
Pyrene	µg/L	grab	once per discharge event
Aldrin	µg/L	grab	once per discharge event
Chlordane	µg/L	grab	once per discharge event
DDT	µg/L	grab	once per discharge event
Dieldrin	µg/L	grab	once per discharge event
alpha-Endosulfan	µg/L	grab	once per discharge event
beta-Endosulfan	µg/L	grab	once per discharge event
Endrin	µg/L	grab	once per discharge event
Heptachlor	µg/L	grab	once per discharge event
Heptachlor Epoxide	µg/L	grab	once per discharge event
Arochlor 1242	µg/L	grab	once per discharge event
Arochlor 1254	µg/L	grab	once per discharge event
Arochlor 1221	µg/L	grab	once per discharge event
Arochlor 1232	µg/L	grab	once per discharge event
Arochlor 1248	µg/L	grab	once per discharge event
Arochlor 1260	µg/L	grab	once per discharge event
Arochlor 1016	µg/L	grab	once per discharge event
PAHs	ng/L	grab	once per discharge event
Toxaphene	µg/L	grab	once per discharge event
1,1-Dichloroethylene	µg/L	grab	once per discharge event
Trichloroethylene	µg/L	grab	once per discharge event
Vinyl chloride	µg/L	grab	once per discharge event
Carbon tetrachloride	µg/L	grab	once per discharge event
1,2-Dichloroethane	µg/L	grab	once per discharge event
1,1-Dichloroethane	µg/L	grab	once per discharge event
1,2-Dichlorobenzene	µg/L	grab	once per discharge event
1,3-Dichlorobenzene	µg/L	grab	once per discharge event
1,4-Dichlorobenzene	µg/L	grab	once per discharge event
2,4,6-Trichlorophenol	µg/L	grab	once per discharge event
Halomethanes	µg/L	grab	once per discharge event
Hexachlorobenzene	µg/L	grab	once per discharge event
Hexachlorocyclohexane			
alpha	µg/L	grab	once per discharge event
beta	µg/L	grab	once per discharge event
gamma	µg/L	grab	once per discharge event

		Type of	Monitoring

Constituent	Units	Sample	Frequency [1/ 2/]
Pentachlorophenol	µg/L	grab	once per discharge event
Dichloromethane	µg/L	grab	once per discharge event
Xylene	µg/L	grab	once per discharge event

2. Discharge Serial No. 002 - For cooling tower blowndown and boiler blowdown:

Constituent	Units	Type of Sample	Monitoring Frequency
Total flow	gal/day	----	weekly
Temperature	^{o}F or ^{o}C	grab	weekly
pH	Standard units	grab	weekly
Hardness (as $CaCO_3$)	mg/L	grab	monthly
Fecal coliform	MPN/100 mL	grab	monthly
$BOD_5$20^{o}C	mg/L	grab	monthly
Oil and grease	mg/L	grab	monthly
COD	mg/L	grab	monthly
Sulfides	mg/L	grab	monthly
Total suspended solids	mg/L	grab	monthly
Settleable solids	ml/L	grab	monthly
Chlorine residual [3/]	mg/L	grab	monthly
Detergent (as MBAS)	mg/L	grab	monthly
Copper	µg/L	grab	monthly
Mercury	µg/L	grab	monthly
Silver	µg/L	grab	monthly
Zinc	µg/L	grab	monthly
Cyanide	µg/L	grab	monthly
Lead	µg/L	grab	monthly
Aldrin	µg/L	grab	monthly
Chlordane	µg/L	grab	monthly
DDT	µg/L	grab	monthly
Dieldrin	µg/L	grab	monthly
alpha-Endosulfan	µg/L	grab	monthly
beta-Endosulfan	µg/L	grab	monthly
Endrin	µg/L	grab	monthly
Heptachlor	µg/L	grab	monthly
Heptachlor Epoxide	µg/L	grab	monthly
Acenaphthene	µg/L	grab	monthly

		Type of	Monitoring

Constituent	Units	Sample	Frequency
Anthracene	µg/L	grab	monthly
Benzo (a) Anthracene	µg/L	grab	monthly
Benzo (a) Pyrene	µg/L	grab	monthly
Benzo (b) Fluoranthene	µg/L	grab	monthly
Benzo (k) Fluoranthene	µg/L	grab	monthly
Chrysene	µg/L	grab	monthly
Dibenzo (a,h) Anthracene	µg/L	grab	monthly
Indeno (1,2,3-cd) Pyrene	µg/L	grab	monthly
Fluoranthene	µg/L	grab	monthly
Fluorene	µg/L	grab	monthly
Pyrene	µg/L	grab	monthly
Toxaphene	µg/L	grab	monthly
PAHs	ng/L	grab	monthly
Total PCBs	µg/L	grab	monthly
Toxicity – acute	% survival	grab	quarterly
– chronic	TU_c	grab	quarterly
1,1-Dichloroethylene	µg/L	grab	monthly
Trichloroethylene	µg/L	grab	monthly
Vinyl chloride	µg/L	grab	monthly
Carbon tetrachloride	µg/L	grab	monthly
1,2-Dichloroethane	µg/L	grab	monthly
1,1-Dichloroethane	µg/L	grab	monthly
1,2-Dichlorobenzene	µg/L	grab	monthly
1,3-Dichlorobenzene	µg/L	grab	monthly
1,4-Dichlorobenzene	µg/L	grab	monthly
2,4,6-Trichlorophenol	µg/L	grab	monthly
Halomethanes	µg/L	grab	monthly
Hexachlorobenzene	µg/L	grab	monthly
Hexachlorocyclohexane			
alpha	µg/L	grab	monthly
beta	µg/L	grab	monthly
gamma	µg/L	grab	monthly
Pentachlorophenol	µg/L	grab	monthly
Dichloromethane	µg/L	grab	monthly
Xylene	µg/L	grab	monthly

3. Discharge Serial Nos. 5, 10, 11, 12, and 23 – For Low Volume Wastes:

	Type of	Monitoring

Constituent	Units	Sample	Frequency
Total flow	gal/day	----	weekly
Temperature	^{o}F or ^{o}C	grab	weekly
pH	Standard units	grab	weekly
Turbidity	NTU	grab	monthly
Hardness (as $CaCO_3$)	mg/L	grab	monthly
$BOD_5$20^{o}C	mg/L	grab	monthly
Settleable solids	ml/L	grab	monthly
Total suspended solids	mg/L	grab	monthly
Oil and grease	mg/L	grab	monthly
Sulfides	mg/L	grab	monthly
Toxicity – acute	% survival	grab	quarterly
– chronic	TU_c	grab	quarterly
Chlorine residual [3/]	mg/L	grab	monthly
Detergents (as MBAS)	mg/L	grab	monthly
Copper	µg/L	grab	monthly
Mecury	µg/L	grab	monthly
Nickel	µg/L	grab	monthly
Silver	µg/L	grab	monthly
Lead	µg/L	grab	monthly
Aldrin	µg/L	grab	monthly
Chlordane	µg/L	grab	monthly
DDT	µg/L	grab	monthly
Dieldrin	µg/L	grab	monthly
alpha-Endosulfan	µg/L	grab	monthly
beta-Endosulfan	µg/L	grab	monthly
Endrin	µg/L	grab	monthly
Heptachlor	µg/L	grab	monthly
Heptachlor Epoxide	µg/L	grab	monthly
Acenaphthene	µg/L	grab	monthly
Anthracene	µg/L	grab	monthly
Benzo (a) Anthracene	µg/L	grab	monthly
Benzo (a) Pyrene	µg/L	grab	monthly
Benzo (b) Fluoranthene	µg/L	grab	monthly
Benzo (k) Fluoranthene	µg/L	grab	monthly
Chrysene	µg/L	grab	monthly
Dibenzo (a,h) Anthracene	µg/L	grab	monthly
Indeno (1,2,3-cd) Pyrene	µg/L	grab	monthly
Fluoranthene	µg/L	grab	monthly
Fluorene	µg/L	grab	monthly

Constituent	Units	Type of Sample	Monitoring Frequency
Pyrene	µg/L	grab	monthly

Toxaphene	µg/L	grab	monthly
Total PCBs	µg/L	grab	monthly
PAHs	ng/L	grab	monthly
1,1-Dichloroethylene	µg/L	grab	monthly
Trichloroethylene	µg/L	grab	monthly
Vinyl chloride	µg/L	grab	monthly
Carbon tetrachloride	µg/L	grab	monthly
1,2-Dichloroethane	µg/L	grab	monthly
1,1-Dichloroethane	µg/L	grab	monthly
1,2-Dichlorobenzene	µg/L	grab	monthly
1,3-Dichlorobenzene	µg/L	grab	monthly
1,4-Dichlorobenzene	µg/L	grab	monthly
2,4,6-Trichlorophenol	µg/L	grab	monthly
Halomethanes	µg/L	grab	monthly
Hexachlorobenzene	µg/L	grab	monthly
Hexachlorocyclohexane			
alpha	µg/L	grab	monthly
beta	µg/L	grab	monthly
gamma	µg/L	grab	monthly
Pentachlorophenol	µg/L	grab	monthly
Dichloromethane	µg/L	grab	monthly
Xylene	µg/L	grab	monthly

1/ During periods of extended rainfall, no more than one sample per week need be taken. Sampling shall be during the first hour of discharge. If, for safety reasons, a sample cannot be obtained during the first hour of discharge a sample shall be obtained at the first safe opportunity and the reason for the delay shall be included in the report.

2/ During the dry weather season, monitoring frequencies for total flow, temperature and pH shall revert to weekly, and all other constituents shall revert to monthly.

3/ Sampling shall consist of three discrete samples taken at 30-minute intervals and bracketing the times of peak concentrations.

IV. Toxicity Monitoring Requirements

A. Acute Toxicity Effluent Monitoring Program

1. The Discharger shall conduct acute toxicity tests on effluent grab samples by methods specified in 40 CFR Part 136 which cites USEPA's Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Fourth Edition, August, 1993 (EPA/600/4-90/027F) or a more recent edition to ensure compliance in 100 % effluent.

2. The fathead minnow, *Pimephales promelas*, 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. The method for topsmelt is found in USEPA's

Short-term Method for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine to Freshwater Organisms, First Edition, August, 1995 (EPA/600/4-95/136).

3. In lieu of conducting the standard acute toxicity testing with the fathead minnow, the Discharger may elect to report the results or endpoint from the first 48 hours of the chronic toxicity test as the results of the acute toxicity test.

B. Chronic Toxicity Effluent/Receiving Water Monitoring Program

1. The Discharger shall conduct critical life stage chronic toxicity tests on 24-hour composite 100 percent effluent samples or receiving water samples in accordance with EPA's Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Third Edition, July 1994 (EPA/600/4-91/002) or EPA's Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, August 1995, (EPA/600/R-95/136).

2. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water and receiving water samples shall be collected in accordance with the conditions specified in Monitoring and Reporting Program No.5424. Receiving water samples shall be collected at mid-depth.

3. Test Species and Methods:

   a. 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.

   b. Re-screening is required every 15 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 demonstrate that the same species is the most sensitive than 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.

   c. The presence of chronic toxicity shall be estimated as specified using West Coast marine organisms according to EPA' 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).

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, EPA/600/R-95/136, or EPA/600/4-90/027F), then the Discharger must re-sample and re-test within14 days.

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. Accelerated Monitoring

1. If toxicity exceeds the limitations as defined in Part I.B.1.d of this Order, then the Discharger shall immediately implement the Initial Investigation of the TRE Workplan. 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 3 business days of receipt of the results.

2. If implementation of the Initial Investigation TRE Workplan indicates the source of toxicity, then the Discharger may discontinue the TIE.

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

1. Following a TRE trigger, the Discharger shall initiate a TRE in accordance with the facility's Initial Investigation TRE Workplan. At a minimum, the Discharger shall use EPA manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002 (municipal) as guidance. The Discharger will expeditiously develop a more detailed TRE Workplan for submittal to the Executive Officer within 15 days of the trigger, which includes:

   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;

   c. Standards the Discharger will apply to consider the TRE complete and for the return to normal sampling frequency; and,

   d. A schedule for these actions.

2. The following is a stepwise approach in conducting the TRE:

a. Step 1 includes basic data collection;

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 a Toxicity Identification Evaluation (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 option;

e. Step 5 evaluates within 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 complying 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 finds there is no longer consistent toxicity (or six consecutive chronic toxicity results less than or equal to 1 TU_c).

3. The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the EPA acute and chronic manuals, 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 by this permit, 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, if appropriate.

6. The 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. Reporting

1. The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month as required by this permit. Test results shall be reported in Toxicity Units (% survival for acute or TU_c for chronic) with the discharge monitoring reports (DMR) for the month in which the test is conducted.

   If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, then those results also shall be submitted with the DMR for the period in which the investigation occurred.

2. The full report shall be submitted by the end of the month in which the DMR is submitted.

3. The full report shall consist of (1) the results; (2) the dates of sample collection and initiation of each toxicity test; (3) the acute toxicity limit or chronic toxicity limit .

4. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the DMR. Routine reporting shall include, at a minimum, as applicable, for each test:

   a. sample date(s);
   b. test initiation date;
   c. test species;
   d. end point values for each dilution (e.g., number of young, growth rate, percent survival);
   e. NOEC value(s) in percent effluent;
   f. IC_{15}, IC_{25}, IC_{40} and IC_{50} values in percent effluent;
   g. TU_c values $\left(TU_c = \frac{100}{NOEC} \right)$;
   h. Mean percent mortality ($\pm$standard deviation) after 96 hours in 100% effluent (if applicable);
   i. NOEC and LOEC values for reference toxicant test(s);
   j. C_{25} value for reference toxicant test(s);
   k. Any applicable charts;
   l. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).

5. The Discharger shall provide a compliance summary which includes a summary

table of toxicity data from at least eleven of the most recent samples.

6. The Discharger shall notify this Regional Board immediately of any toxicity exceedance and in writing 14 days after the receipt of the results of a monitoring limit or trigger. The notification will describe actions 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.

V. Storm Water Monitoring Requirements

A. Rainfall Monitoring

The Discharger shall measure and record the rainfall on each day of the month. This information shall be included in the monitoring report for that month.

B. Visual Observations

The Discharger shall make visual observations of all storm water discharge locations on at least one storm event per month that produces a significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor. "A significant storm water discharge" is a continuous discharge of storm water for a minimum of one hour, or the intermittent discharge of storm water for a minimum of three hours in a 12-hour period.

VI. Receiving Water Monitoring Requirements

The receiving water monitoring program shall consist of periodic surveys of Dominguez Channel and shall include studies of those physical-chemical characteristics of the receiving water that may be impacted by the discharges.

The Discharger may participate in a coordinated receiving water, biomonitoring, and sediment monitoring program with other dischargers to the Dominguez Channel in order to provide the Regional Board with a comprehensive water and sediment quality database for this water body. Upon approval by the Regional Board of such a coordinated water quality and sediment quality monitoring program, provisions of Section VI (and also VII B) of this monitoring and reporting program may be revised, as appropriate.

The Discharger shall prepare and submit a work plan for biomonitoring to the Executive Officer of the Regional Board for approval within 90 days of the effective date of this permit. The work plan shall detail a proposed biomonitoring assessment including, but

not limited to, details for: using caged bivalves, specifying species to be used, other parameters of tests (including an acceptable size or age range of organisms), bivalve or sampling locations (including upstream and downstream of discharge), time periods when outplanting will occur, durations of the outplants and analytical parameters.

A. Receiving Water Monitoring

1. Monitoring Stations – Surface water monitoring stations shall be established around each discharge point as follows:

   RW1: 50 feet from the center of the outfall line in the direction of tidal flow at the time of sampling. If sampled at slack tide, this station shall be in the direction where the channel waters have been influenced by the discharge at the time of sampling.

   RW2: 250 feet from the center of the outfall line in the direction of tidal flow at the time of sampling. If sampled at slack tide, this station shall be in the direction where the channel waters have been influenced by the discharge at the time of sampling.

   RW3: 250 feet from the center of the outfall line in the opposition direction of tidal flow at the time of sampling. If sampled at slack tide, this station shall be located opposite of where the channel waters have been influenced by the discharge at the time of discharge.

2. Receiving Water Observations - General observations of the receiving water shall be made at each discharge point on a monthly basis and shall be reported in the monthly monitoring report. If no discharge occurs during the observation period, this shall be reported.

   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 visible 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.

3. Receiving Water Monitoring Program - The receiving water monitoring stations

(RW1- RW3) shall be sampled during periods of discharge other than rainfall runoff; if possible, at least quarterly. If no discharge other than rainfall runoff occurs, this shall be reported. Samples shall be obtained within ten centimeters of the surface and shall be analyzed for the constituents listed below:

Parameter	Units	Stations	Type of Sample	Minimum Frequency
pH	Standard units	RW1-RW3	surface grab	quarterly
Dissolved oxygen	mg/L	RW1-RW3	surface grab	quarterly
Temperature	^{o}F or ^{o}C	RW1-RW3	surface grab	quarterly
Sulfide	mg/L	RW1-RW3	surface grab	quarterly
Hardness 4/	mg/L	RW1-RW3	subsurface grab	quarterly
Salinity 5/	g/kg	RW1-RW3	subsurface grab	quarterly
Ammonia 4/ (total)	mg/L	RW1-RW3	subsurface grab	quarterly
Nitrate (as N)	mg/L	RW1-RW3	subsurface grab	quarterly
Chlorine residual	mg/L	RW1-RW3	subsurface grab	quarterly
Copper	µg/L	RW1-RW3	subsurface grab	quarterly
Zinc	µg/L	RW1-RW3	subsurface grab	quarterly
Chronic toxicity	TUc	RW1-RW3	subsurface grab	semiannually
Visual observations	------	each discharge point	------	weekly

4/ Receiving water samples for ammonia, salinity, and hardness shall be taken concurrently with the effluent sample for ammonia.
5/ Salinity will be used for determination of the ammonia receiving water objective.

B. Sediment Monitoring

1. Sediment sampling stations shall be established as follows:

   R1 - At Anaheim Road
   R2 - At Pacific Coast Highway
   R3 - At Sepulveda Boulevard
   R4 - At Alameda Street
   R5 - At Wilmington Avenue
   R6 - At Avalon Boulevard
   R7 - At Main Street

2. Sediment Monitoring Program - Sediment samples shall be collected and analyzed annually from the seven sediment monitoring stations (R1-R7). The first sediment monitoring results shall be included in the February 2002 monitoring report.

Grab samples containing the upper two centimeters of sediment shall be taken from an Ekman grab sampler (or another method approved by the Executive Officer) collected at each station and shall be analyzed for the following:

Parameter	Units	Stations	Type of Sample	Minimum Frequency
Chronic toxicity	TUc	R1-R7	surface grab	semiannually
Sediment grain size [6/]	-----	R1-R7	surface grab	annually
Total organic carbon	mg/kg	R1-R7	surface grab	annually
Total petroleum hydrocarbons	mg/kg	R1-R7	surface grab	annually
Cadmium	mg/kg	R1-R7	surface grab	annually
Chromium	mg/kg	R1-R7	surface grab	annually
Copper	mg/kg	R1-R3	surface grab	annually
Lead	mg/kg	R1-R3	surface grab	annually
Nickel	mg/kg	R1-R7	surface grab	annually
Zinc	mg/kg	R1-R7	surface grab	annually
Tributyltin	µg/kg	R1-R7	surface grab	annually
PCBs [7/]	µg/kg	R1-R7	surface grab	annually
PAHs [8/]	µg/kg	R1-R7	surface grab	annually
DDT [9/]	µg/kg	R1-R7	surface grab	annually
Description of Odor and color [10/]	------	R1-R7	surface grab	annually

6/ Percent sand, silt and clay.

7/ PCBs mean the sum of Arochlor 1016, Arochlor 1221, Arochlor 1232, Arochlor 1242, Archlor 1248, Arochlor 1254, and Arochlor 1260.

8/ PAHs means the sum of acenapthene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo(k)fluoranthene, 1,12-benzoperylene, benzo(a)pyrene, chrysene, dibenzo(ah)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, and pyrene.

9/ DDT means the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD, and 2,4'-DDD.

10/ Note visible aquatic life in sediment also.

This sediment monitoring program may be performed as a joint effort with ExxonMobil, Tosco, and Equilon in connection with the receiving water monitoring programs for those facilities.

VII. Interim Monitoring

Pursuant to the California Water Code, Section 13267, the Discharger is required to submit data sufficient for determination which priority pollutants require water quality-based effluent limitations. The Discharger shall conduct the following interim monitoring program for all California Toxics Rule priority pollutants for three years, or until ordered otherwise by the Regional Board.

A. Effluent: Discharge Serial No. 012.

B. Receiving Water: The monitoring station shall be 50 feet upstream from the point of Discharge Serial No. 012.

C. Monitoring Frequency: Once during wet weather season (November 1 through April 30) and once during dry weather season (May 1 through October 31), grab samples of the effluent and the receiving water shall be collected and analyzed for all toxic pollutants listed below:

Constituent	Units	Type of Sample	Monitoring Frequency [11/]
Antimony	µg/L	grab	once per discharge event
Arsenic	µg/L	grab	once per discharge event
Beryllium	µg/L	grab	once per discharge event
Cadmium	µg/L	grab	once per discharge event
Nickel	µg/L	grab	once per discharge event
Selenium	µg/L	grab	once per discharge event
Silver	µg/L	grab	once per discharge event
Thallium	µg/L	grab	once per discharge event
Cyanide	µg/L	grab	once per discharge event
Asbestos	fibers/L	grab	once per discharge event
Acrolein	µg/L	grab	once per discharge event
Acrylonitrile	µg/L	grab	once per discharge event
Bromoform	µg/L	grab	once per discharge event
Chlorobenzene	µg/L	grab	once per discharge event
Chlorodibromomethane	µg/L	grab	once per discharge event
Chrloroethane	µg/L	grab	once per discharge event
2-Chloroethylvinyl ether	µg/L	grab	once per discharge event
Chloroform	µg/l	grab	once per discharge event
Dichlorobromomethane	µg/L	grab	once per discharge event
1,2-Dichloropropane	µg/L	grab	once per discharge event
1,3-Dichloropropylene	µg/L	grab	once per discharge event
Ethylbenzene	µg/L	grab	once per discharge event

Constituent	Units	Type of Sample	Monitoring Frequency [11/]

Methyl bromide	µg/L	grab	once per discharge event
Methyl chloride	µg/L	grab	once per discharge event
Methylene chloride	µg/L	grab	once per discharge event
1,1,2,2-Tetrachloroethane	µg/L	grab	once per discharge event
Tetrachloroethylenede	µg/L	grab	once per discharge event
Toluene	µg/L	grab	once per discharge event
1,2-Trans-dichloroethylene	µg/L	grab	once per discharge event
1,1,1-Trichloroethane	µg/L	grab	once per discharge event
1,1,2-Trichloroethane	µg/L	grab	once per discharge event
2-Chlorophenol	µg/L	grab	once per discharge event
2,4-Dichlorophenol	µg/L	grab	once per discharge event
2,4-Dimethylphenol	µg/L	grab	once per discharge event
2-Methyl-4,6-Dinitrophenol	µg/L	grab	once per discharge event
2,4-Dinitrophenol	µg/L	grab	once per discharge event
2-Nitrophenol	µg/L	grab	once per discharge event
4-Nitrophenol	µg/L	grab	once per discharge event
3-Methyl-4-Chlorophenol	µg/L	grab	once per discharge event
Phenol	µg/L	grab	once per discharge event
Acenaphthylene	µg/L	grab	once per discharge event
Benzidine	µg/L	grab	once per discharge event
Benzo (ghi) Perylene	µg/L	grab	once per discharge event
Bis (2-Chloroethoxy) Methane	µg/L	grab	once per discharge event
Bis (2-Chloroethyl) Ether	µg/L	grab	once per discharge event
Bis (2-Chloroisopropyl) Ether	µg/L	grab	once per discharge event
Bis (2-Ethylhexyl) Phthalate	µg/L	grab	once per discharge event
4-Bromophenyl Phenyl Ether	µg/L	grab	once per discharge event
Butylbenzyl Phthalate	µg/L	grab	once per discharge event
2-Chloronapthalene	µg/L	grab	once per discharge event
4-Chloropheny Phenyl Ether	µg/L	grab	once per discharge event
3,3-Dichlorobenzidine	µg/L	grab	once per discharge event
Diethyl Phthalate	µg/L	grab	once per discharge event
Dimethyl Phthalate	µg/L	grab	once per discharge event
Di-n-Butyl Phthalate	µg/L	grab	once per discharge event
2,4-Dinitrotoluene	µg/L	grab	once per discharge event
2,6-Dinitrotoluene	µg/L	grab	once per discharge event
Di-n-Octyl Phthalate	µg/L	grab	once per discharge event
1,2-Diphenylhydrazine	µg/L	grab	once per discharge event
Hexachlorobutadiene	µg/L	grab	once per discharge event
Hexachlorocyclopentadiene	µg/L	grab	once per discharge event
Hexachloroethane	µg/L	grab	once per discharge event

Constituent	Units	Type of Sample	Monitoring Frequency [11/]

Isophorone	µg/L	grab	once per discharge event
Napthalene	µg/L	grab	once per discharge event
Nitrobenzene	µg/L	grab	once per discharge event
N-Nitrosodimethylamine	µg/L	grab	once per discharge event
N-Nitrosodi-n-Propylamine	µg/L	grab	once per discharge event
N-Nitrosodiphenylamine	µg/L	grab	once per discharge event
Phenanthrene	µg/L	grab	once per discharge event
1,2,4-Trichlorobenzene	µg/L	grab	once per discharge event
alpha-BHC	µg/L	grab	once per discharge event
beta-BHC	µg/L	grab	once per discharge event
gamma-BHC	µg/L	grab	once per discharge event
delta-BHC	µg/L	grab	once per discharge event
Endrin Aldehyde	µg/L	grab	once per discharge event
Hardness (as $CaCO_3$)	mg/L	grab	once per discharge event

11/ During the storm season, no more than one sample per week need be taken. Sampling shall be during the first hour of discharge. If, for safety reasons, a sample cannot be obtained during the first hour of discharge a sample shall be obtained at the first safe opportunity and the reason for the delay shall be included in the report.

D. Monitoring for TCDD Equivalents: The Discharger shall conduct effluent/receiving water monitoring for the presence of the 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD or Dioxin) congeners. A grab sample shall be collected at a minimum frequency of once during dry weather and once during wet weather. The Discharger shall calculate the toxic equivalence (TEQ) for each congener by multiplying its analytical concentration by the appropriate toxicity equivalence factors (TEF). Compliance with the dioxin limitation shall be determined by the summation of the 17 individual TEQs.

Congeners	(TEF)
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

Congeners	(TEF)
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 CDF	0.01
1,2,3,4,7,8,9-hepta	0.01
Octa CDF	0.0001

Ordered by: _____ Date: May 24, 2001

Dennis A. Dickerson
Executive Officer