

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

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ORDER NO. R4-2013-0025

NPDES NO. CA0000337

WASTE DISCHARGE REQUIREMENTS FOR CHEVRON PRODUCTS COMPANY, EL SEGUNDO REFINERY

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

Table 1. Discharger Information

Discharger	Chevron Products Company
Name of Facility	El Segundo Refinery
Facility Address	324 West El Segundo Blvd.
	El Segundo, CA 90245
	Los Angeles County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by Chevron Products Company from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Wastewater (refinery wastewater, petroleum hydrocarbon contaminated shallow well groundwater, storm water runoff)	33° 54' 29" N	118° 26' 17" W	Santa Monica Bay

January 5, 2012
Revised: January 18, 2013

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	February 7, 2013
This Order shall become effective on:	March 9, 2013
This Order shall expire on:	January 10, 2018
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on February 7, 2013.



Samuel Unger, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	Chevron Products Company
Name of Facility	El Segundo Refinery
Facility Address	324 West El Segundo Blvd.
	El Segundo, CA 90245
	Los Angeles County
Facility Contact, Title, and Phone	Soli George, Waste/Water Supervisor (310) 615 – 3471
Mailing Address	324 West El Segundo Blvd. El Segundo, CA 90245
Type of Facility	Cracking Refinery (40 CFR 419.20)
Facility Design Flow	Up to 27 million gallons per day (MGD) during dry and wet weather. [The wastewater is comprised of refinery wastewater, petroleum hydrocarbon contaminated shallow well groundwater, intermittent sources and rainfall runoff]

II. FINDINGS

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

A. Background. Chevron Products Company (hereinafter Discharger), is currently discharging pursuant to Order No. R4-2006-0089 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0000337. The El Segundo Refinery (hereinafter Facility) in El Segundo is owned and operated by Chevron Products Company. The Discharger submitted a Report of Waste Discharge, dated April 27, 2011, and applied for an NPDES permit renewal to discharge up to 27 million gallons per day (MGD) of treated wastewater from the Facility during both dry and wet weather. The application was deemed complete on October 13, 2011.

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

B. Facility Description. The Discharger operates the El Segundo Refinery (Facility), a petroleum refinery, located at 324 West El Segundo Boulevard, El Segundo, CA. Chevron has operated the El Segundo Refinery since 1911. The Facility converts crude oil and other intermediates into refined petroleum products, including: motor gasoline, jet fuel, diesel fuel, fuel oils, gas oils, liquefied petroleum gases, fuel blending components, coke, ammonia, and molten sulfur. The Facility also maintains the ability to import and export motor gasoline, jet fuel, diesel fuel, fuel oils, gas oils, and fuel blending components via the refinery’s marine terminal and to import and export liquefied petroleum products via the refinery’s rail and truck loading racks.

Crude oil and intermediates are delivered by ship to the refinery’s marine terminal and pumped to the Facility by existing underwater pipelines and/or received via pipeline directly to the Facility. The Facility utilizes a variety of technologies to turn the crude oil and intermediates into refined products including: atmospheric and vacuum distillation, catalytic cracking, alkylation, isomerization, coking, catalytic reforming, hydrogenation, sulfur recovery, chemical treating, and product blending. Auxiliary systems are maintained to support refinery operations including hydrogen plants to produce hydrogen needed for certain technologies, boilers to produce steam, cogeneration plants to produce electricity and steam, product storage facilities, and water treatment systems.

The Facility has a rated crude throughput of 275,000 barrels per operating day.

The El Segundo Refinery’s wastewater treatment facility consists of two separate drain and treatment systems: the “un-segregated” system and the “segregated” system.

Un-segregated System

The unsegregated system is normally used for non-process wastewater including cooling tower blowdown, steam condensate, a portion of the refinery’s recovery well groundwater, and other wastewater streams containing free oil removed with primary

treatment only. This system is also used to collect and treat storm water. The un-segregated system includes a gravity separator and an induced air flotation (IAF) unit. If the water meets the refinery's specifications, the unsegregated water is ready for discharge after the separator and IAF treatment. If it does not meet the specifications it is sent to one of two diversion tanks for additional IAF treatment.

Segregated System

The segregated system is normally used to treat petroleum process wastewater containing emulsified oils and a portion of the refinery's recovery well groundwater. It is comprised of gravity separators, a dissolved air flotation (DAF) unit, and activated sludge units for secondary (biological) treatment. Effluent from the segregated system that does not meet the established specifications may receive additional solids removal from an auxiliary off-specification DAF unit, or routed to auxiliary effluent diversion tanks for additional IAF treatment. The auxiliary effluent diversion tanks are available for handling off-specification process wastewater from either of the two systems, in addition to rainfall run-off.

The two systems can be operated such that flow from either system can be diverted to effluent diversion tankage or to the other system, where if needed, the diverted flow can receive alternative or additional treatment. This operational treatment flexibility provides control such that final effluent quality is maintained in compliance with requirements.

The Discharger proposes to discharge up to 27 gallons per day (MGD) during dry and wet weather (and an average flow of 7.375 MGD) of treated wastewater into Santa Monica Bay at Dockweiler Beach, a water of the United States, (Latitude 33° 54' 29" North, Longitude 118° 26' 17" West).

Until 1994, Chevron discharged treated wastewater through an outfall that extended 300 feet into the ocean. In 1994 Chevron voluntarily constructed the 3,200-foot outfall line extension consisting of a 60-inch nominal diameter, high density polyethylene pipe that was fitted to the existing 300-foot outfall line. The discharge occurs through the extended outfall line located approximately 2,200 feet south of Grand Avenue that extends approximately 3,500 feet offshore with its terminus at a depth of 42 feet. A diffuser was attached at the end of the extension. The extended outfall provides a minimum dilution ration of 80 parts of seawater to one part of effluent (80:1).

Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

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

- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through I are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations¹, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. Additionally, the Facility is classified as a “cracking refinery” as defined by the USEPA in section 419.20. Therefore, the USEPA Effluent Guidelines and Standards for Petroleum Refining Point Sources (section 419 Subpart B) based on Best Available Technology Economically Achievable (BAT), Best Practicable Control Technology (BPT), and/or Best Conventional Pollutant Control technology (BCT), whichever are more stringent, are applicable to the discharge. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

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

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

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

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Uses
001	Santa Monica Bay – El Segundo/LAX sub-watershed (Dockweiler Beaches – Hydrologic Unit 405.12)	Existing Uses: Industrial Water Supply; Navigation; Contact and Non-Contact Water Recreation; Commercial and Sport Fishing; Marine Habitat; and Wildlife Habitat. Potential Uses: Fish Spawning
	Nearshore Zone	Existing Uses: Industrial Water Supply; Navigation; Contact and Non-Contact Water Recreation; Commercial and Sport Fishing; Marine Habitat; Wildlife Habitat; Preservation of Biological Habitats; Rare, Threatened or Endangered Species; and Migration of Aquatic Organisms.
	Offshore Zone	Existing Uses: Industrial Water Supply; Navigation; Contact and Non-Contact Water Recreation; Commercial and Sport Fishing; Marine Habitat; Wildlife Habitat; Preservation of Biological Habitats; Rare, Threatened or Endangered Species; and Migration of Aquatic Organisms.

I. Impaired Water Bodies on CWA 303(d) List. On November 10, 2010, USEPA approved California’s 2010 303(d) list of impaired water bodies. The list (hereinafter referred to as the 303(d) list) identifies water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations by point sources (water quality-limited water bodies).

Santa Monica Bay (Offshore and Nearshore) is on the 303(d) list for the following pollutants/stressors from point and non-point sources: DDT (tissue & sediment, centered on Palos Verdes Shelf), PCBs (tissue & sediment), sediment toxicity, debris, and fish consumption advisory. Santa Monica Bay Beaches Total maximum daily loads

(TMDLs) for, sediment toxicity, and fish consumption advisory have not been scheduled. A TMDL for Santa Monica Bay Nearshore Debris TMDL was approved by the Regional Water Board on November 4, 2010.

The Regional Water Board has adopted two TMDLs to reduce bacteria at Santa Monica Bay beaches during dry and wet weather. The Regional Water Board adopted the Dry Weather and Wet Weather TMDLs on January 24, 2002 and December 12, 2002, respectively (Resolution Nos. 2002-004 and 2002-022). These TMDLs were approved by the State Water Board, State Office of Administrative Law and USEPA Region 9 and became effective on July 15, 2003. In these TMDLs, waste load allocations (WLAs) are expressed as the number of sample days at a shoreline monitoring site that may exceed the single sample targets for total coliform, fecal coliform and enterococcus identified under “Numeric Target” in the TMDLs. WLAs are expressed as allowable exceedance days because the bacterial density and frequency of single sample exceedances are the most relevant to public health protection at beaches. Chevron was not assigned a WLA in these TMDLs.

Consistent with 40 CFR 130.2 and 130.7, section 303(d) of the CWA and USEPA guidance for developing TMDLs in California (USEPA, 2000a), the USEPA issued the *Santa Monica Bay TMDLs for DDTs and PCBs* on March 26, 2012. It includes waste load allocations (WLAs) for DDT and PCBs for point sources, including Chevron El Segundo Refinery. This Order implements the requirements included in the Santa Monica Bay TMDL.

- J. California Thermal Plan.** In 1972, the State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (hereinafter Thermal Plan), as amended. This plan contains temperature objectives for coastal and inland surface waters. Requirements of this Order implement the Thermal Plan.
- K. California Ocean Plan.** In 1972, the State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (hereinafter Ocean Plan), as amended. The latest amendment became effective on March 10, 2010. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean waters of the State. Ocean Plan beneficial uses applicable to ocean waters of the State are shown in Table 6.

Table 6. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial Water Supply; Navigation; Contact and Non-Contact Water Recreation; Commercial and Sport Fishing; Mariculture; Preservation and enhancement of designated Area of Special Biological Significance; Rare, Threatened or Endangered Species; Marine Habitat; Fish Migration; Fish spawning and Shellfish harvesting.

- L. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- M. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on pH, 5-day biochemical oxygen demand at 20°C (BOD₅ 20°C), total suspended solids (TSS), chemical oxygen demand (COD), oil and grease, phenolic compounds, ammonia (as N), sulfide, total chromium, and hexavalent chromium. Restrictions on pH, BOD₅, TSS, COD, oil and grease, phenolic compounds, ammonia (as N), sulfide, total chromium, and hexavalent chromium are discussed in Section IV.B of the Fact Sheet (Attachment F). This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.
- N. Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.
- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. These revisions of effluent limitations are consistent with the anti-backsliding requirements of the CWA and federal regulations.
- P. Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of

the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

- Q. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- R. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- S. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- T. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

THEREFORE, IT IS HEREBY ORDERED, that this Order supercedes Order No. R4-2006-0089 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A.** Wastes discharged shall be limited to a maximum of 27 MGD during both dry and wet weather of refinery wastewater, petroleum hydrocarbon contaminated shallow well groundwater, other intermittent sources and rainfall runoff through Discharge Point 001. The discharge of wastes from accidental spills or other sources is prohibited.
- B.** Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to a storm drain system, Santa Monica Bay, Pacific Ocean, or other waters of the State, are prohibited.

- C. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or a nuisance as defined by Section 13050 of the Water Code.
- D. Wastes discharged shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life.
- E. The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or the State Water Resources Control Board as required by the Federal CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Federal CWA, and amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.
- F. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.
- G. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

IV. EFFLUENT LIMITATIONS, PERFORMANCE GOALS, AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations and Performance Goals– Discharge Point 001

1. Final Effluent Limitations and Performance Goals – Monitoring Location EFF-001

- a. Effluent limitations for Discharge Points 001 are specified below. The discharge of an effluent with constituents in excess of effluent limitations is prohibited.

Performance goals for Discharge Point 001 are prescribed below. The listed performance goals are not enforceable effluent limitations or standards. The Discharger shall maintain, if not improve, its treatment efficiency. Any exceedance of the performance goals shall trigger an investigation into the cause of the exceedance. If the exceedance persists in three successive monitoring periods, the Discharger shall submit a written report to the Regional Water Board and USEPA on the nature of the exceedance, the results of the investigation as to the cause of the exceedance, and the corrective actions taken or proposed corrective measures with timetable for implementation, if necessary.

- b. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E):

Table 7. Effluent Limitations and Performance Goals – Discharge Point 001 (Monitoring Location EFF-001)

Parameter	Units	Effluent Limitations					Performance Goals ⁴
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum	Yearly Waste Load Allocation	
pH	S.U.	--	--	--	6.0 – 9.0 ⁵	--	--
Biochemical Oxygen Demand 5-day (BOD ₅) @ 20°C ⁶	mg/L ^{7a}	--	36	66	--	--	--
	lbs/day ⁷	--	2,672	4,809	--	--	--
	lbs/day ⁸	--	6,248	11,310	--	--	--
Total Suspended Solids (TSS)	mg/L ^{7a}	--	29	45	--	--	--
	lbs/day ⁷	--	2,137	3,352	--	--	--
	lbs/day ⁸	--	5,062	7,903	--	--	--
Chemical Oxygen Demand (COD)	mg/L ^{7a}	--	254	490	--	--	--
	lbs/day ⁷	--	18,653	35,946	--	--	--
	lbs/day ⁸	--	43,032	84,704	--	--	--
Oil and Grease	mg/L ^{7a}	--	11	20	--	--	--
	lbs/day ⁷	--	777	1,457	--	--	--
	lbs/day ⁸	--	1,866	3,570	--	--	--
Phenolic Compounds	mg/L ^{7a}	--	0.19	0.49	--	--	--
	lbs/day ⁷	--	14	36	--	--	--
	lbs/day ⁸	--	37	83	--	--	--
Ammonia (as N)	mg/L ^{7a}	--	20	44	--	--	--
	lbs/day ⁷	--	1,457	3,206	--	--	--
	lbs/day ⁸	--	1,457	3,206	--	--	--
Sulfide	mg/L ^{7a}	--	0.19	0.44	--	--	--
	lbs/day ⁷	--	14	32	--	--	--
	lbs/day ⁸	--	14	32	--	--	--
Total Chromium	mg/L ^{7a}	--	0.23	0.65	--	--	--
	lbs/day ⁷	--	17	48	--	--	--
	lbs/day ⁸	--	46	129	--	--	--
Hexavalent Chromium	mg/L ^{7a}	--	0.02	0.04	--	--	--
	lbs/day ⁷	--	1.4	3.0	--	--	--
	lbs/day ⁸	--	5.1	11.5	--	--	--

Parameter	Units	Effluent Limitations					Performance Goals ⁴
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum	Yearly Waste Load Allocation	
Temperature	°F	--	--	--	104	--	--
Acute Toxicity	TU _a	--	--	--	2.7 ²²	--	--
Chronic Toxicity	TU _c	--	--	81	--	--	--
Mercury, Total Recoverable	µg/L	--	--	--	--	--	1.54
Chlorinated Phenolics ¹¹	µg/L	81	--	324	810	--	39
	lbs/day ⁹	5.9	--	23.8	59.4	--	--
	lbs/day ¹⁰	18.2	--	72.9	182.4	--	--
Endosulfan	µg/L	0.729	--	1.458	2.187	--	0.357
	lbs/day ⁹	0.05	--	0.1	0.16	--	--
	lbs/day ¹⁰	0.16	--	0.33	0.49	--	--
Endrin	µg/L	0.162	--	0.324	0.486	--	0.078
	lbs/day ⁹	0.012	--	0.02	0.04	--	--
	lbs/day ¹⁰	0.04	--	0.07	0.11	--	--
HCH ¹²	µg/L	0.320	--	0.640	0.972	--	0.156
	lbs/day ⁹	0.02	--	0.05	0.07	--	--
	lbs/day ¹⁰	0.07	--	0.14	0.22	--	--
Radioactivity	pci/L	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the CFR. Reference to 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.					--
Thallium	µg/L	--	162	--	--	--	78
	lbs/day ⁹	--	11.9	--	--	--	--
	lbs/day ¹⁰	--	36.5	--	--	--	--
Tributyltin	µg/L	--	0.11	--	--	--	0.05
	lbs/day ⁹	--	0.01	--	--	--	--
	lbs/day ¹⁰	--	0.02	--	--	--	--
Acrylonitrile	µg/L	--	8.1	--	--	--	3.9
	lbs/day ⁹	--	0.6	--	--	--	--
	lbs/day ¹⁰	--	1.8	--	--	--	--
Aldrin	µg/L	--	0.00178	--	--	--	0.0009

Parameter	Units	Effluent Limitations					Performance Goals ⁴
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum	Yearly Waste Load Allocation	
	lbs/day ⁹	--	0.00013	--	--	--	--
	lbs/day ¹⁰	--	0.0004	--	--	--	--
Benzidine	µg/L	--	0.0056	--	--	--	0.003
	lbs/day ⁹	--	0.0004	--	--	--	--
	lbs/day ¹⁰	--	0.0013	--	--	--	--
Beryllium	µg/L	--	2.7	--	--	--	1.3
	lbs/day ⁹	--	0.2	--	--	--	--
	lbs/day ¹⁰	--	0.6	--	--	--	--
Bis(2-chloroethyl)ether	µg/L	--	3.6	--	--	--	1.75
	lbs/day ⁹	--	0.26	--	--	--	--
	lbs/day ¹⁰	--	0.81	--	--	--	--
Carbon Tetrachloride	µg/L	--	73	--	--	--	35.1
	lbs/day ⁹	--	5.4	--	--	--	--
	lbs/day ¹⁰	--	16.4	--	--	--	--
Chlordane ¹³	µg/L	--	0.00186	--	--	--	0.0009
	lbs/day ⁹	--	0.00014	--	--	--	--
	lbs/day ¹⁰	--	0.0004	--	--	--	--
DDT ¹⁴	µg/L	--	0.0096 ²⁰	--	--	--	--
	lbs/day ⁹	--	0.0007	--	--	--	--
	lbs/day ¹⁰	--	0.0022 ²⁰	--	--	--	--
	grams/year	--				358 ²¹	--
PCBs ¹⁶	µg/L	--	0.000259	--	--	--	--
	lbs/day ¹⁰	--	0.00002	--	--	--	--
	lbs/day ¹¹	--	0.00006	--	--	--	--
	grams/year	--	--	--	--	10 ²¹	--
3,3'-dichlorobenzidine	µg/L	--	0.66	--	--	--	0.32
	lbs/day ⁹	--	0.05	--	--	--	--
	lbs/day ¹⁰	--	0.15	--	--	--	--
Dieldrin	µg/L	--	0.0032	--	--	--	0.0015
	lbs/day ⁹	--	0.0002	--	--	--	--

Parameter	Units	Effluent Limitations					Performance Goals ⁴
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum	Yearly Waste Load Allocation	
	lbs/day ¹⁰	--	0.0007	--	--	--	--
1,2-diphenylhydrazine	µg/L	--	13	--	--	--	6.2
	lbs/day ⁹	--	0.95	--	--	--	--
	lbs/day ¹⁰	--	2.9	--	--	--	--
Heptachlor	µg/L	--	0.0041	--	--	--	0.002
	lbs/day ⁹	--	0.0003	--	--	--	--
	lbs/day ¹⁰	--	0.0009	--	--	--	--
Heptachlor epoxide	µg/L	--	0.00162	--	--	--	0.00078
	lbs/day ⁹	--	0.0001	--	--	--	--
	lbs/day ¹⁰	--	0.0004	--	--	--	--
Hexachlorobenzene	µg/L	--	0.017	--	--	--	0.0082
	lbs/day ⁹	--	0.0012	--	--	--	--
	lbs/day ¹⁰	--	0.004	--	--	--	--
N-nitrosodi-N-propylamine	µg/L	--	30.8	--	--	--	14.8
	lbs/day ⁹	--	2.26	--	--	--	--
	lbs/day ¹⁰	--	6.93	--	--	--	--
PAHs ¹⁵	µg/L	--	0.71	--	--	--	0.34
	lbs/day ⁹	--	0.052	--	--	--	--
	lbs/day ¹⁰	--	0.160	--	--	--	--
TCDD equivalents ¹⁷	µg/L	--	0.00000032	--	--	--	0.00000015
	lbs/day ⁹	--	0.00000002	--	--	--	--
	lbs/day ¹⁰	--	0.00000007	--	--	--	--
Toxaphene	µg/L	--	0.017	--	--	--	0.0082
	lbs/day ⁹	--	0.0012	--	--	--	--
	lbs/day ¹⁰	--	0.004	--	--	--	--
2,4,6-trichlorophenol	µg/L	--	23	--	--	--	11.3
	lbs/day ⁹	--	1.69	--	--	--	--
	lbs/day ¹⁰	--	5.18	--	--	--	--
Total coliform ^{18, 19}	MPN/100 ml	--	1,000	--	10,000	--	--
Fecal coliform ¹⁹	MPN/100 ml	--	200	--	400	--	--

Parameter	Units	Effluent Limitations					Performance Goals ⁴
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum	Yearly Waste Load Allocation	
Enterococcus ¹⁹	MPN/100 ml	--	35	--	104	--	--

¹ The 6-month median shall apply to all samples taken in the current compliance month and all samples taken in the previous 5 monthly monitoring periods.

² If only one sample is collected during the time period associated with the water quality objective (e.g., monthly average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.

³ The daily maximum effluent concentration limit shall apply to flow-weighted 24-hour composite samples.

⁴ The performance goals are based upon the Ocean Plan Water Quality Objectives for 6-month median or 30-day average values with a dilution credit of 38 and are specified only as an indication of the treatment efficiency of the refinery. They are limitations or standards for the regulation of the facility. Chevron shall make best efforts to maintain, if not improve, the effluent quality at the level of these performance goals. The Executive Officer may modify any of the performance goals if the Discharger requests and has demonstrated that the change is warranted.

⁵ The pH of the effluent shall remain within the range of 6.0 to 9.0 pH units except during excursions as permitted by 40 CFR 401.17. The total time during which the pH values may be outside of the required range (1) shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

⁶ Analysis using Standard Method 5210 shall be reported as CBOD₅. When the nitrification inhibitor is not used, the monitoring report shall so state and the results shall be reported as BOD₅.

⁷ The final dry weather specified mass limits are based on refinery throughput, size factor, process factor and the effluent limits specified in 40 CFR [USEPA Effluent Guidelines and Standards for Petroleum Refining Point Sources (Part 419, Subpart B) are applicable to the discharge. Effluent limitations guidelines (ELGs) have been established for the following pollutants: BOD₅, TSS, COD, oil and grease, phenolic compounds, ammonia as N, sulfide, total chromium, hexavalent chromium, and pH]. See Section IV and Table F-6 in the Fact Sheet for details.

^{7a} Dry weather concentration-based effluent limitations are calculated using the following formula:

$$\text{Concentration-based effluent limitation} = M / (8.34 * Q)$$

Where: M = dry weather mass based effluent limit (see footnote 7) in lbs/day

Q = maximum expected discharge flow rate during dry weather (MGD). The maximum expected discharge flow during dry weather is 8.8 MGD (Q = 8.8 MGD)

⁸ The wet weather mass-based effluent limitations presented in this table for BOD₅, TSS, COD, oil and grease, phenolic compounds, ammonia (as N), sulfide, total chromium, and hexavalent chromium are based on the effluent limitations contained in the ELGs (40 CFR sections 419.22(e), 419.23(f), and 419.24(e)) and are calculated using the maximum storm water discharge provided by the discharger (27 MGD).

The actual mass-based effluent limitation should be calculated as the sum of the technology base effluent mass limitation described in Footnote 7 and the storm water mass allocation (based on actual storm water flow) provided in the ELGs [40 CFR 419.23(f) and 419.24(e)].

The storm water mass allocation (based on actual storm water flow) shall be calculated using the following formula:

$$\text{Storm Water Mass Allocation} = S * Q$$

Where: S = Mass allocation in the ELGs [40 CFR 419.23(f) and 419.24(e)] for the specific constituent

Q = Actual storm water flow calculated as the difference between the measured daily total effluent discharged and the consecutive 30-day average dry weather flow prior to rainfall period.

These storm water mass allocations shall only be applicable during a rainfall event and for 72 hours following the end of the associated rainfall event.

⁹ These mass-based effluent limitations for dry-weather discharges are calculated using the following formula:

$$\text{Mass-based effluent limitation} = C * Q * 0.00834$$

Where: C = concentration-based effluent limitation (µg/L)

Q = maximum discharge flow rate during dry weather (MGD)

These mass-based effluent limitations for dry-weather discharges are based on a maximum expected discharge flow rate of 8.8 MGD (Q = 8.8 MGD).

¹⁰ These mass-based effluent limitations for wet-weather discharges (i.e., when there is a rain event of 0.1-inch or more in a 24-hour period and for a period of 72 hours following end of the rain event) are calculated using the formula shown in Footnote 9 above, and are based on the wet weather maximum flow rate of 27 MGD (Q = 27 MGD).

¹¹ Sum of 2-chlorophenol, 4-chloro-3-methylphenol, 2,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, and pentachlorophenol.

¹² HCH means the sum of the alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.

¹³ Sum of chlordane-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma and oxychlordane.

¹⁴ Sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

¹⁵ Sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo(k)fluoranthene, 1,12-benzoperylene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene.

¹⁶ PCBs mean the sum of Aroclor-1016, 1221, 1232, 2342, 1248, 1254, and 1260 when monitoring using USEPA method 608.

¹⁷ To determine compliance with effluent limitations or to conduct Reasonable Potential Analysis (RPA), this Order requires the Discharger to calculate and report dioxin-toxicity equivalencies (TEQs) using the following formula, where the toxicity equivalency factors (TEFs) are listed in the table below:

$$\text{Dioxin-TEQ} = \sum (C_x * TEF_x)$$

Where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

Toxicity Equivalency Factors and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Toxicity Equivalency Factor (TEF)
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,4,7,8-hexa CDD	0.1
2,3, 7,8-hepta CDD	0.01
Octa CDD	0.001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3, 7,8-hexa CDF	0.1
2,3, 7,8-hepta CDF	0.01

Dioxin or Furan Congener	Toxicity Equivalency Factor (TEF)
Octa CDF	0.0001

- ¹⁸ Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
- ¹⁹ The Discharger shall monitor for Total Coliform, Fecal Coliform, and Enterococcus at the Monitoring Location at T-710.
- ²⁰ Based on Waste Load Allocations as specified in Santa Monica Bay TMDLs for DDT and PCBs (Table 6-2 of the Santa Monica TMDL)
- ²¹ The annual mass emissions (in grams/year) be calculated and reported as the sum of monthly emissions on a calendar year basis and computed as follows:
- Annual Mass Emission, grams/year = \sum (Monthly Mass Emission Rates, grams/month)
- ²² A Time Schedule Order (R4-2013-0026) has been issued to Chevron for acute toxicity. It includes an interim limit of 8.7 TU_a which expires on May 9, 2017.

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

Unless specifically excepted by this Order, the discharge, by itself or jointly with any other discharge(s), shall not cause violation of the following water quality objectives. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed.

A. Bacterial Characteristics

At the Receiving water Monitoring Station RSW-001; (directly inshore of Station RSW-006) and at a depth of 20 feet, the following bacterial objectives shall be maintained throughout the water column:

- a. Samples of water from sampling station RSW-001 shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).
- b. The fecal coliform density, based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.

The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

Even though, the bacteria limits are included as effluent (end of pipe) and receiving water (based on TMDL implementation plan), the primary compliance point is end-of-pipe. If monitoring shows the Discharger is able to meet the limit at the end-of-pipe monitoring location, the Discharger is in compliance.

B. Physical Characteristics

1. Floating particulates and grease and oil shall not be visible as a result of wastes discharged.
2. The discharge of waste shall not alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; nor cause aesthetically undesirable discoloration of the ocean surface.
3. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.
4. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

C. Chemical Characteristics

1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials; excluding effects of naturally induced upwelling.
2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally outside the zone of initial dilution.
3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
4. The concentration of substances set forth in Chapter II, Table B of the Ocean Plan, shall not be increased in marine sediments to levels that would degrade indigenous biota.
5. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.
6. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.
7. Numerical water quality objectives established in Chapter II, Table B of the California Ocean Plan shall not be exceeded outside of the zone of initial dilution as a result of discharges from the Facility.

D. Biological Characteristics

1. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.
2. The wastes discharged shall not cause objectionable odors to emanate from the receiving waters.

3. Wastes discharged shall not cause receiving waters to contain any substance in concentrations toxic to human, animal, plant, or fish life.
4. No physical evidence of wastes discharged shall be visible at any time on beaches, shore, rocks, or structures.
5. The salinity of the receiving waters shall not be changed by the wastes discharged to an extent such as to be harmful to marine biota.
6. The wastes discharged shall not contain individual pesticide or any combination of pesticides in concentrations that adversely affect beneficial uses.
7. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
8. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

E. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

VI. PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. Regional Water Board Standard Provisions. The Discharger shall comply with the following provisions:
 - a. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of sections 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly-obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
 - b. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in the municipal storm water

management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

- c. Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.
- d. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to sections 301, 302, 303(d), 304, 306, 307, 316, 318, 405, and 423 of the Federal CWA and amendments thereto.
- e. These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
- f. Oil or oily material, chemicals, refuse, or other pollutionable materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.
- g. A copy of these waste discharge specifications shall be maintained at the discharge facility so as to be available at all times to operating personnel.
- h. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - i. Violation of any term or condition contained in this Order;
 - ii. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- i. If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.
- j. The Discharger shall notify the Regional Water Board not later than 120 days in advance of implementation of any plans to alter production capacity of the product line of the manufacturing, producing or processing facility by more than ten percent. Such notification shall include estimates of proposed production rate, the type of process, and projected effects on effluent quality. Notification shall include submittal of a new report of waste discharge appropriate filing fee.

- k. The Discharger shall file with the Regional Water Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.
- l. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board as soon as they know or have reason to believe that they have begun or expect to begin to use or manufacture intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.
- m. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board.
- n. The Water Code provides that any person who violates a waste discharge requirement or a provision of the Water Code is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

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

- o. The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which may ultimately be released to waters of the United States, is prohibited unless specifically authorized elsewhere in this permit or another NPDES permit. This requirement is not applicable to products used for lawn and agricultural purposes.
- p. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.
- q. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to the planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:
 - i. Name and general composition of the chemical,
 - ii. Frequency of use,
 - iii. Quantities to be used,

- iv. Proposed discharge concentrations, and
- v. USEPA registration number, if applicable.
- r. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
- s. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, average monthly effluent limitation, maximum daily effluent limitation, instantaneous minimum effluent limitation, instantaneous maximum effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213) 576-6600 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.
- t. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Wat. Code § 1211.)

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

- a. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal CWA, and amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
- b. This Order may be reopened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order and based on the results of the RPA.

- c. This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in Parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new MLs.
- d. This Order may be reopened and modified to revise effluent limitations as a result of future Ocean Plan Amendments.
- e. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.
- f. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan. The Discharger shall submit to the Regional Water Board an Initial Investigation Toxicity Reduction Evaluation (TRE) workplan (1-2 pages) **within 90 days** of the effective date of this permit. This plan shall describe the steps the permittee intends to follow in the event that toxicity is detected, and should include at a minimum
 - i. A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of toxicity, effluent variability, and treatment system efficiency;
 - ii. A description of the facility's method of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility;

If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor) (Section V of the MRP, Attachment E, provides references for the guidance manuals that should be used for performing TIEs).

b. Spill Reporting Requirements

- i. The Discharger shall develop and maintain a record of all spills, overflows or bypasses of raw or partially treated wastewater from its collection system or treatment plant. This record shall be made available to the Regional Water Board and USEPA upon request. On the first day of February, May, August and November (one month after the end of the fiscal quarter) of each year, the Discharger shall submit to the Regional Water Board and USEPA a report listing all spills, overflows or bypasses occurring during the previous quarter. The reports shall provide:
 - the date and time of each spill, overflow or bypass;

- the location of each spill, overflow or bypass;
 - the estimated volume of each spill, overflow or bypass including gross volume, amount recovered and amount not recovered;
 - the cause of each spill, overflow or bypass;
 - whether each spill, overflow or bypass entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances;
 - mitigation measures implemented; and
 - corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences.
 - beneficial uses impacted
- ii. For certain spills, overflows and bypasses of untreated or partially treated wastewater caused by a failure in the collection or treatment system, the Discharger shall make reports and conduct monitoring as required below:
- a) For any spills or overflows of any volume discharged where they are, or will probably be, discharged to waters of the State, the Discharger shall immediately notify the local health agency in accordance with California Health and Safety Code section 5411.5, and if feasible the appropriate Regional Water Board staff within 2 hours of the spill reaching receiving water.
 - b) For spills, overflows or bypasses of any volume that flowed to receiving waters or entered a shallow ground water aquifer or has public exposure, the Discharger shall report such spills to the Regional Water Board, by telephone or electronically as soon as possible but not later than 24 hours of knowledge of the incident. The following information shall be included in the report: location; date and time of spill; volume and nature of the spill; cause(s) of the spill; mitigation measures implemented; and corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences.
 - c) For any spills or overflows of 1000 gallons or more discharged where they are, or probably will be discharged to waters of the State, the Discharger shall immediately notify the State Office of Emergency Services pursuant to Water Code section 13271.
 - d) For spills, overflows or bypasses of any volume that reach receiving waters, the Discharger shall obtain and analyze sufficient grab samples for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern, upstream and downstream, or upcoast and/or downcoast, of the point of entry of the spill (if feasible, accessible and safe) in order to define the geographical extent of impact of the spill. The first set of samples shall be collected as soon as possible if feasible, accessible and safe. This monitoring shall be at least on a daily basis from time the spill is known until the results of two consecutive sets of bacteriological monitoring indicate the return to the background level or

cessation of monitoring is authorized by the County Department of Health Services.

- e) For spills, overflows or bypasses of any volume that reach receiving waters or have the potential to enter a shallow ground water aquifer, and all spills, overflows and bypasses of 1,000 gallons or more, the Discharger shall analyze a grab sample of the spill or overflow for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern depending on the area and nature of spills or overflows if feasible, accessible and safe.
 - f) The Regional Water Board notification shall be followed by a written preliminary report five working days after verbal notification of the incident. Within 30 days after submitting preliminary report, the Discharger shall submit the final written report to this Regional Water Board. The written report shall document the information required in subparagraphs (b) and (d) above, monitoring results and any other information required in Provision V.E.1 of the Standard Provisions (Attachment D). An extension for submittal of the final written report can be granted by the Executive Officer for just cause. Submission of information required pursuant to California Water Code Section 13193 or pursuant to a Statewide General Waste Discharge Requirements for Wastewater Collection System Agencies shall satisfy this requirement.
3. Storm Water Pollution Prevention, Best Management Practices, and Spill Prevention Control and Countermeasures Plans
- a. The Discharger shall submit, within 90 days of the effective date of this Order:
 - i. An updated Storm Water Pollution Prevention Plan (SWPPP) that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State. Further, the SWPPP should address erosion and sediment control practices in areas affected by construction and land disturbance activities. The SWPPP shall be developed in accordance with the requirements in Attachment G.
 - ii. An updated Best Management Practice Plan (BMPP) that entails site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material from being discharged to waters of the State. The BMPP shall be consistent with the general guidance contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004). In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material discharge to surface waters. Further, BMPs should address reducing or eliminating pollutants in storm water discharges from construction and land disturbance activities.
 - iii. An updated Spill Prevention Control and Countermeasure (SPCC) Plan that describes the preventive (failsafe) and contingency (cleanup) plans for

controlling accidental discharges, and for minimizing the effect of such events must be developed. The SPCC Plan shall be reviewed at a minimum once per year and updated as needed.

Each plan shall cover all areas of the Facility and shall include an updated drainage map for the Facility. The Discharger shall identify on a map of appropriate scale the areas that contribute runoff to the permitted discharge points (e.g., petroleum storage tanks); describe the activities in each area and the potential for contamination of storm water runoff and the discharge of hazardous waste/material.

The Discharger shall implement their SWPPP, BMPP, and SPCC within 10 days of the approval by the Executive Officer or **no later than 90 days** after submission to the Regional Water Board, whichever comes first. The plans shall be reviewed annually and at the same time. Updated information shall be submitted within 30 days of revision.

The Discharger shall implement or require the implementation of the most effective combination of BMPs for storm water pollution control. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the maximum extent practicable.

Oil or oily materials, chemicals, refuse, or other materials that may cause pollution in storm water and/or urban runoff shall not be stored or deposited in areas where they may be picked up by rainfall/urban runoff and discharged to surface waters. Any spill of such materials shall be contained, removed, and cleaned immediately.

4. Construction, Operation and Maintenance Specifications – Not Applicable
5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable
6. Other Special Provisions

Use of Recycled Water. The El Segundo Refinery currently uses recycled water from the West Basin Municipal Water District (WBMWD) for irrigation, boilers, and cooling towers. WBMWD applies tertiary treatment to the secondary treated effluent from the City of Los Angeles' Hyperion Treatment Plant, which would have otherwise been discharged to Santa Monica Bay (in the same general location where Chevron discharges). Reclaimed water that is treated and supplied as recycled water to Chevron's El Segundo Refinery by West Basin is the secondary treated effluent from the City of Los Angeles' Hyperion Treatment Plant. West Basin has different treatment systems at their facilities. The following three separate pipelines supply different grades of treated recycled water to Chevron El Segundo Refinery.

Line 1 : Nitrified recycled water for cooling tower usage at the Chevron Refinery

About 3 million gallons per day (mgd) of tertiary treated wastewater from West Basin is treated at a Nitrification Facility operated by West Basin located half way between Chevron and the West Basin Main Treatment Facility. At the Nitrification Facility, the tertiary treated water is treated by bacteria to remove/convert ammonia to nitrates. BIOFOR is the biological treatment system that is used by West Basin to convert the ammonia to nitrates. When the bugs are doing a good job, the ideal effluent concentration of ammonia will be between 2 to 3 mg/L. The effluent concentration of ammonia reached a maximum of 15 mg/L in late 2010. West Basin began injecting carbon dioxide (CO₂) into the treatment system to adjust the pH from 7 to 6.5. At the 6.5 NTU pH the treatment system more effectively removes the ammonia. Since implementing the protocol of injecting CO₂ there have been less ammonia spikes in the effluent. The nitrified water from the Nitrification Facility is provided to Chevron for use in the cooling tower. When high ammonia concentrations are present in the recycled water, Chevron has the provision to switch to potable water for cooling tower usage for a short period until the ammonia concentrations are in the acceptable range.

Line 2: Single pass reverse osmosis (RO) water from West Basin is supplied to the Chevron Refinery for the Low Pressure Boilers

Approximately 1.2 mgd of single pass RO water is furnished to the Chevron Refinery for usage as low pressure boiler feed water. The ammonia concentration in the supplied water is normally between 2 to 3 mg/L.

Line 3: Double pass RO water from West Basin is supplied to the Chevron Refinery for High Pressure Boilers

About 2.6 mgd of the double pass RO water is supplied to Chevron for high pressure boiler usage. The ammonia concentration of the supplied water is around 2 mg/L.

The refinery's daily consumption of recycled water for irrigation purposes is approximately 200,000 gallons per day (gpd).

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. Single Constituent Effluent Limitation.

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

B. Compliance with Effluent Limitations expressed as Sum of Several Constituents

Dischargers are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as "Not Detected" (ND) or "Detected, but Not Quantified" (DNQ).

C. Multiple Sample Data.

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

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

D. Mass-Based Effluent Limitations

Compliance with mass effluent will be estimated based on flow and concentration. When the concentration for the parameter in a sample is reported as Not Detected (ND) or Detected, but Not Quantified (DNQ), the corresponding mass emission rate determined using that sample concentration shall also be reported as ND or DNQ.

E. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection E above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

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

1. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for that constituent, the Discharger has demonstrated compliance with the AMEL for that month;

2. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any constituent, the Discharger shall collect four additional samples at approximately equal intervals during the month. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later.

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

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

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

F. Maximum Daily Effluent Limitations (MDEL).

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

G. Instantaneous Minimum Effluent Limitation.

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

H. Instantaneous Maximum Effluent Limitation.

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

I. Bacterial Standards and Analyses.

The geometric mean used for determining compliance with bacterial standards is calculated using the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \dots \times C_n)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling.

For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for *Enterococcus*). The detection method used for each analysis shall be reported with the results of the analysis.

Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of Part 136 (revised revised July 1, 2009), unless alternate methods have been approved by USEPA pursuant to Part 136 or improved methods have been determined by the Executive Officer and/or USEPA.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

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

$$\text{Arithmetic mean} = \mu = \Sigma x / n \quad \text{where:}$$

Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)

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

Average Weekly Effluent Limitation (AWEL)

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

Best Management Practices (BMPs)

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

Bioaccumulative

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

Carcinogenic

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

Coefficient of Variation (CV)

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

Daily Discharge

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

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

arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

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

Detected, but Not Quantified (DNQ)

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

Dilution Credit

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

Effluent Concentration Allowance (ECA)

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

Enclosed Bays

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration

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

Estuaries

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

Existing Discharger

Any discharger that is not a new discharger. An existing discharger includes an “increasing discharger” (i.e., any existing facility with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its permitted discharge after the effective date of this Order).

Four-Day Average of Daily Maximum Flows

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

Inland Surface Waters

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

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

Maximum Daily Effluent Limitation (MDEL)

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

Median

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

Method Detection Limit (MDL)

MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

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

Mixing Zone

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

Not Detected (ND)

Sample results which are less than the laboratory's MDL.

Ocean Waters

The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Performance Goals

Performance goals are not enforceable effluent limitations or standards. They are based on the operating treatment efficiency. The Discharger shall maintain, if not improve, its treatment efficiency. Any exceedance of the performance goals shall trigger an investigation into the cause of the exceedance. If the exceedance persists in two successive monitoring periods, the Discharger shall submit a written report to the Regional Board on the nature of the exceedance, the results of the investigation as to the cause of the exceedance, and the corrective actions taken or proposed corrective measures with a timetable for implementation, if necessary.

Persistent Pollutants

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

Pollutant Minimization Program (PMP)

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

Pollution Prevention

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

Reporting Level (RL)

RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by

the Regional Water Board in accordance with the California Ocean Plan (COP) section III.C.5 . The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reporting limit (RL). Application of such factors will alter the reported minimum levels.

Satellite Collection System

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

Six-month Median Effluent Limitation

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

Source of Drinking Water

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

Standard Deviation (σ)

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

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Reduction Evaluation (TRE)

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

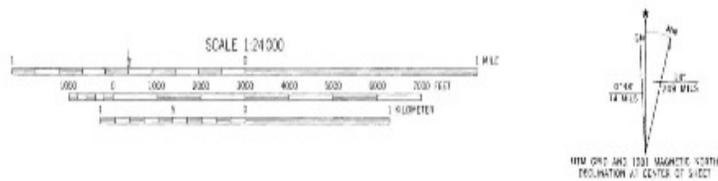
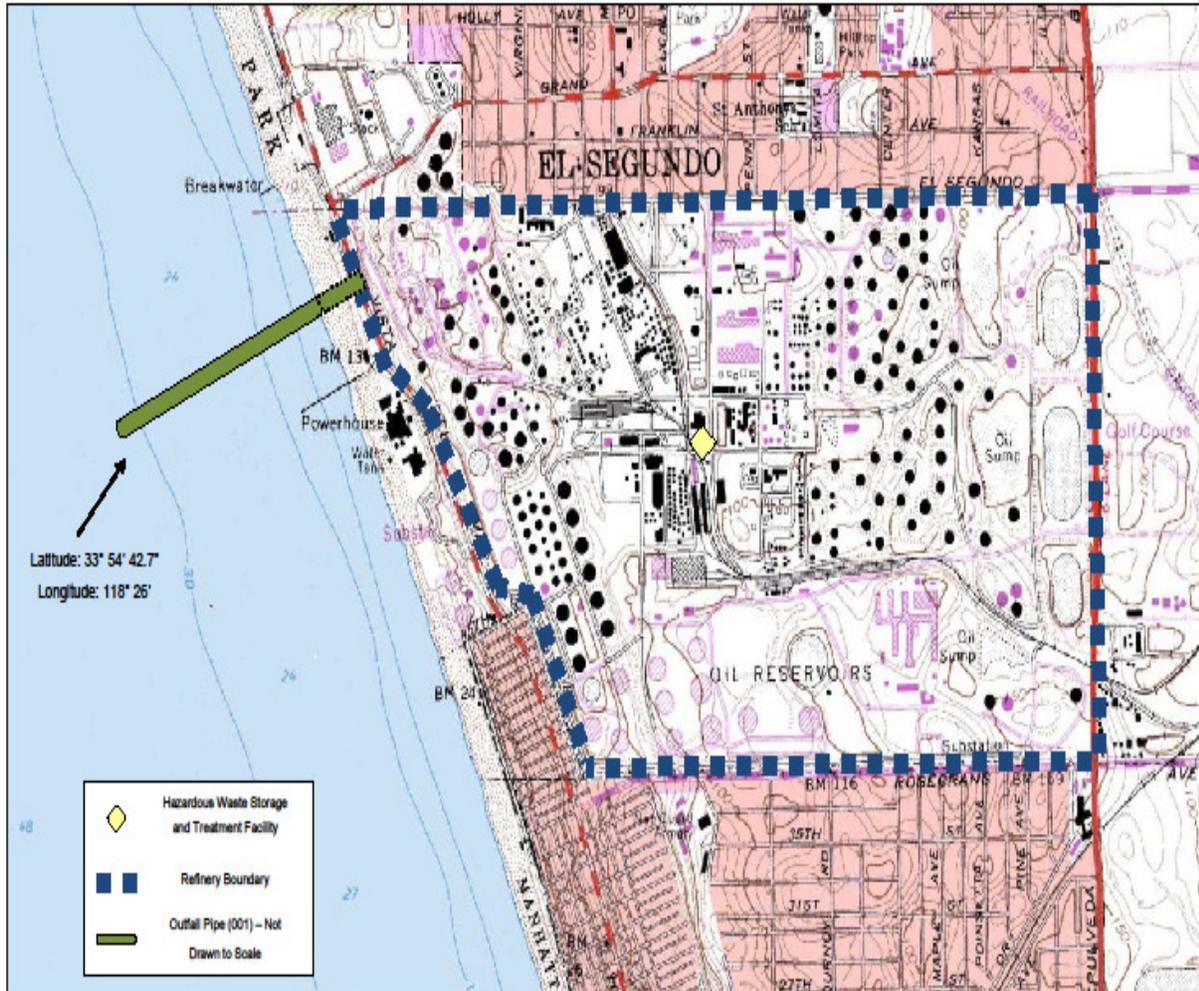
ACRONYMS AND ABBREVIATIONS

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

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

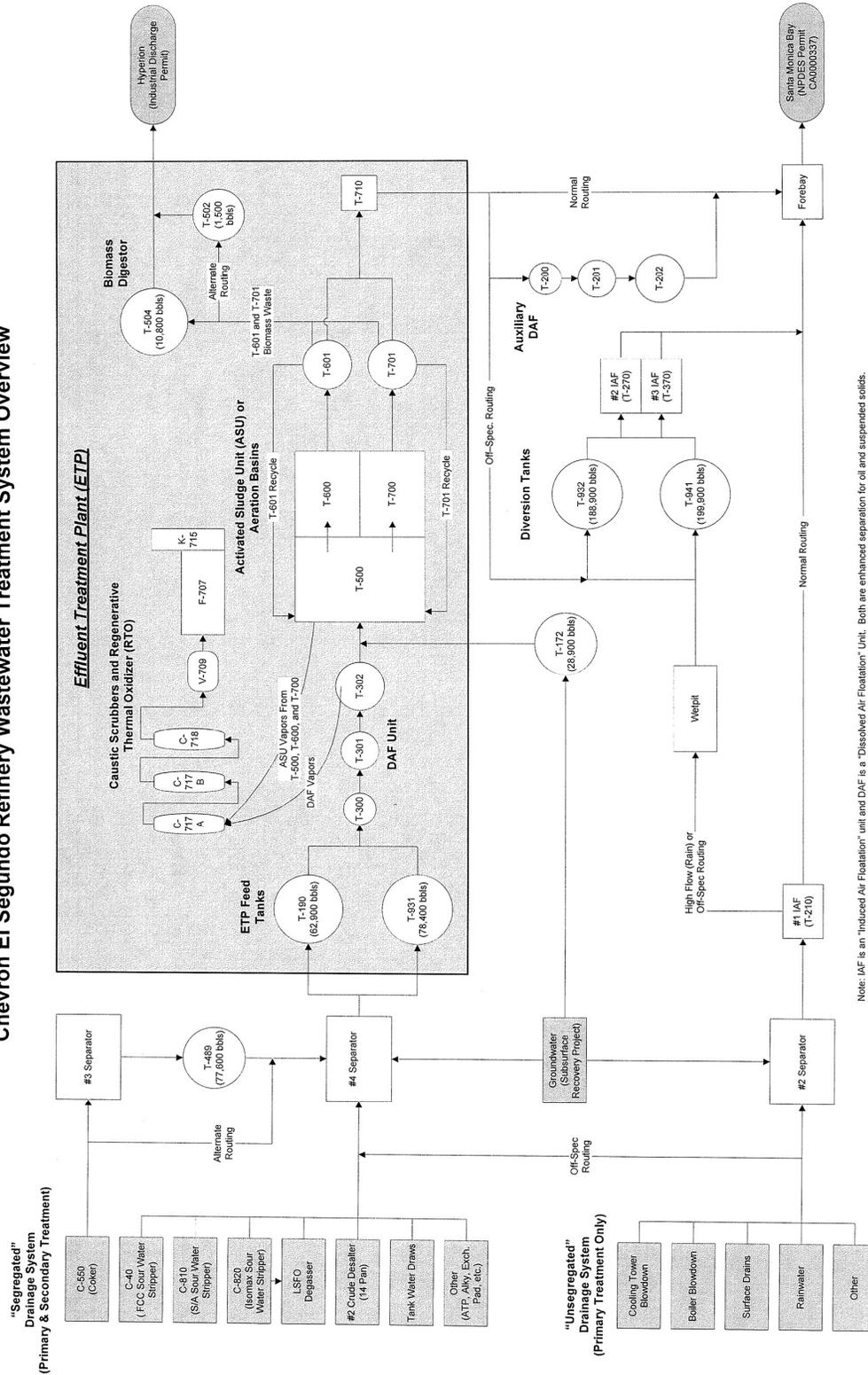
ATTACHMENT B – MAP

FIGURE 1
USGS Topographical Map of the Chevron Products El Segundo Refinery



ATTACHMENT C-1 – FLOW SCHEMATIC

Chevron El Segundo Refinery Wastewater Treatment System Overview



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [section 122.41(e)].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [section 122.41(g)].

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations [section 122.5(c)].

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [section 122.41(i)] [Water Code section 13383]:

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

G. Bypass

1. Definitions
 - i. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [section 122.41(m)(1)(i)].
 - ii. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [section 122.41(m)(1)(ii)].
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below [section 122.41(m)(2)].

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [section 122.41(m)(4)(i)]:
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [section 122.41(m)(4)(i)(A)];
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [section 122.41(m)(4)(i)(B)]; and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below [section 122.41(m)(4)(i)(C)].
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [section 122.41(m)(4)(ii)].
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [section 122.41(m)(3)(i)].
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice) [section 122.41(m)(3)(ii)].

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [section 122.41(n)(2)].

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [section 122.41(n)(3)]:
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset [section 122.41(n)(3)(i)];
 - b. The permitted facility was, at the time, being properly operated [section 122.41(n)(3)(ii)];
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) [section 122.41(n)(3)(iii)]; and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [section 122.41(n)(3)(iv)].
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [section 122.41(n)(4)].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

in Part 503 unless other test procedures have been specified in this Order [section 122.41(j)(4) and section 122.44(i)(1)(iv)].

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [section 122.41(j)(2)].

B. Records of monitoring information shall include:

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

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

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

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [section 122.41(h)] [Water Code section 13267].

B. Signatory and Certification Requirements

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

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

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” [section 122.22(d)].

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order [section 122.22(l)(4)].
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices [section 122.41(l)(4)(i)].
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [section 122.41(l)(4)(ii)].
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [section 122.41(l)(4)(iii)].

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 15 days following each schedule date [section 122.41(l)(5)].

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it

is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [section 122.41(l)(6)(i)].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [section 122.41(l)(6)(ii)]:
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order [section 122.41(l)(6)(ii)(A)].
 - b. Any upset that exceeds any effluent limitation in this Order [section 122.41(l)(6)(ii)(B)].
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [section 122.41(l)(6)(iii)].

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) [section 122.41(l)(1)(i)]; or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [section 122.41(l)(1)(ii)].
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [section 122.41(l)(1)(iii)].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [section 122.41(l)(2)].

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are

submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above [section 122.41(l)(7)].

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information [section 122.41(l)(8)].

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.
- B.** The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions [section 122.41(a)(2)] [Water Code sections 13385 and 13387].

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 1603)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP) NO. 1603

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

I. GENERAL MONITORING PROVISIONS

- A.** An effluent sampling station shall be established for the point of discharge (Discharge Point 001 [Latitude 33° 54' 29" North, Longitude 118° 26' 17" West]) and shall be located where representative samples of that effluent can be obtained.
- B.** Effluent samples shall be taken downstream of any addition to treatment works and prior to mixing with the receiving waters.
- C.** The Regional Water Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.
- D.** Pollutants shall be analyzed using the analytical methods described in sections 136.3, 136.4, and 136.5 (revised March 12, 2007); or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. Laboratories analyzing effluent samples and receiving water samples shall be certified by the California Department of Public Health Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.
- E.** For any analyses performed for which no procedure is specified in the USEPA guidelines or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.
- F.** Each monitoring report must affirm in writing that "all analyses were conducted at a laboratory certified for such analyses by the Department of Public Health or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP".
- G.** The monitoring reports shall specify the analytical method used, the Method Detection Limit (MDL), and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported by one of the following methods, as appropriate:
 - 1. An actual numerical value for sample results greater than or equal to the ML; or

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

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

Current Minimum Levels (MLs) (Attachment H) are those listed in Appendix II of the California Ocean Plan (COP).

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

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

1. When the pollutant under consideration is not included in Attachment H;
 2. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in Part 136 (revised March 12, 2007);
 3. When the Discharger agrees to use an ML that is lower than that listed in Attachment H;
 4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment H, and proposes an appropriate ML for their matrix; or,
 5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.
- I.** Water/wastewater samples must be analyzed within allowable holding time limits as specified in section 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Water

Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.

- J.** All analyses shall be accompanied by the chain of custody, including but not limited to data and time of sampling, sample identification, and name of person who performed sampling, date of analysis, name of person who performed analysis, QA/QC data, method detection limits, analytical methods, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.
- K.** The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.
- L.** The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Unless otherwise specified in the analytical method, duplicate samples must be analyzed at a frequency of 5% (1 in 20 samples) with at least one if there is fewer than 20 samples in a batch. A batch is defined as a single analytical run encompassing no more than 24 hours from start to finish. A similar frequency shall be maintained for analyzing spiked samples.
- M.** When requested by the Regional Water Board or USEPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger must have a success rate equal to or greater than 80%.
- N.** For parameters that both average monthly and daily maximum limits are specified and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the average monthly limit, the Discharger shall collect four additional samples at approximately equal intervals during the month, until compliance with the average monthly limit has been demonstrated. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. In the event of noncompliance with an average monthly effluent limitation, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the average monthly effluent limitation has been demonstrated. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.
- O.** Each monitoring report shall state whether or not there was any change in the discharge as described in the Order during the reporting period.
- P.** Laboratories analyzing monitoring samples shall be certified by the Department of Public Health, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
T-710	EFF – T-710	T-710 represents the combined effluent flow from the segregated system downstream of the Activated Sludge Clarifier Units (T-601 and T-701) which are the final treatment units on the segregated side. T-710 is a sampling location and is not actually a treatment unit. Only bacteria indicators (total coliform, fecal coliform, and enterococcus) will be sampled at T-710.
001	EFF-001	Effluent samples for Discharge Point 001 shall be collected from a concrete “forebay” structure following the combination of the treated “segregated” and “unsegregated” waste streams and prior to the effluent pipe to Santa Monica Bay. [Latitude 33° 54' 29" N, Longitude 118° 26' 17" W]
---	RSW-001 ¹	Previously identified as Station RW1; directly inshore of Station RSW-006, at a depth of 20 feet.
---	RSW-003 ¹	Previously identified as Station RW3; at the previous discharge point, at a depth of 20 feet.
---	RSW-005 ¹	Previously identified as Station RW5; directly inshore of RSW-010, at a depth of 20 feet.
---	RSW-006 ¹	Previously identified as Station RW6; 1000 feet upcoast of the discharge, at a depth of 40 feet.
---	RSW-007 ¹	Previously identified as Station RW7; 500 feet upcoast of the discharge, at a depth of 40 feet.
---	RSW-008 ¹	Previously identified as Station RW8; at the discharge point, at a depth of 40 feet.
---	RSW-009 ¹	Previously identified as Station RW9; 500 feet downcoast of the discharge point, at a depth of 40 feet.
---	RSW-010 ¹	Previously identified as Station RW10; 1000 feet downcoast of the discharge point, at a depth of 40 feet.
---	RSW-014 ¹	Previously identified as Station RW14; 100 feet upcoast of the discharge point; at a depth of 40 feet.
---	RSW-015 ¹	Previously identified as Station RW15; 100 feet downcoast of the discharge point, at a depth of 40 feet.
---	RSW-016 ¹	Previously identified as Station RW16; directly offshore of RSW-006, at a depth of 60 feet.
---	RSW-017 ¹	Previously identified as Station RW17; directly offshore of RSW-008, at a depth of 60 feet.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
---	RSW-018 ¹	Previously identified as Station RW18; directly offshore of RSW-010, at a depth of 60 feet.
---	RSW-021 ¹	Previously identified as Station S1; directly inshore of RSW-001, in the surf zone.
---	RSW-023 ¹	Previously identified as Station S3; directly inshore of RSW-003, in the surf zone.
---	RSW-025 ¹	Previously identified as Station S5; directly inshore of RSW-005, in the surf zone.

1. Figure C-2 shows the location of the Receiving Water Monitoring Station.

III. INFLUENT MONITORING REQUIREMENTS – Not Applicable

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor the discharge of treated wastewater comprised of refinery wastewater, petroleum hydrocarbon contaminated shallow well groundwater, and intermittent sources and rainfall runoff through Discharge Point 001 at Monitoring Location EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-2. Effluent Monitoring, Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	gpd	Continuous	Continuous ²	-
Temperature	°F	Continuous	Continuous ²	-
pH	Standard Units	Continuous	Continuous ²	-
Oil and Grease ¹²	mg/L	Grab	1/Week	1
Biochemical Oxygen Demand (BOD ₅ @20 °C) ¹²	mg/L	24-Hour Composite	1/Week	1
Chemical Oxygen Demand (COD) ¹²	mg/L	24-Hour Composite	1/Week	1
Total Suspended Solids ¹²	mg/L	24-Hour Composite	1/Week	1
Ammonia as Nitrogen ¹²	mg/L	24-Hour Composite	1/Week	1
Settleable Solids	MI/L	Grab	1/Month	1
Sulfide ¹²	mg/L	24-Hour Composite	1/Month	1
Phenolic Compounds ¹²	mg/L	24-Hour Composite	1/Month	1
Turbidity	NTU	24-Hour Composite	1/Month	1
Total Chromium ¹²	mg/L	24-Hour Composite	1/Month	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Arsenic, Total Recoverable ¹²	µg/L	24-Hour Composite	1/Month	1
Cadmium, Total Recoverable ¹²	µg/L	24-Hour Composite	1/Month	1
Hexavalent Chromium (VI) ¹²	mg/L	24-Hour Composite	1/Month	1
Copper, Total Recoverable ¹²	µg/L	24-Hour Composite	1/Month	1
Lead, Total Recoverable ¹²	µg/L	24-Hour Composite	1/Month	1
Mercury, Total Recoverable ^{12, 17}	µg/L	24-Hour Composite	1/Month	1
Nickel, Total Recoverable ¹²	µg/L	24-Hour Composite	1/Month	1
Selenium, Total Recoverable ¹²	µg/L	24-Hour Composite	1/Month	1
Silver, Total Recoverable ¹²	µg/L	24-Hour Composite	1/Month	1
Zinc, Total Recoverable ¹²	µg/L	24-Hour Composite	1/Month	1
Chronic Toxicity ¹⁹	TU _c	24-Hour Composite	1/Month	1
Acute Toxicity	TU _a	24-Hour Composite	1/Month	1
PCBs(as arochlors)	µg/L	24-Hour Composite	1/Month	1,5
PCBs (as individual congeners)	µg/L	24-Hour Composite	1/Month	15
DDT ^{10, 12, 16}	µg/L	24-Hour Composite	1/Month	1
Total coliform ^{13, 14}	CFU/100 ml or MPN/100ml	Grab	1/Quarter	1
Enterococcus ^{13, 14}	CFU/100 ml or MPN/100ml	Grab	1/Quarter	1
Fecal coliform ^{13, 14}	CFU/100 ml or MPN/100ml	Grab	1/Quarter	1
Total chlorine residual ¹²	mg/L	Grab	1/Quarter	1
Toluene	µg/L	Grab	1/Quarter	1
Methyl Tertiary Butyl Ether (MTBE) ¹²	µg/L	Grab	1/Quarter	1
Chlorinated phenolics ^{3,12}	µg/L	24-Hour Composite	1/Quarter	1
Cyanide ¹²	µg/L	24-Hour Composite	1/Quarter	1
Benzene ¹²	µg/L	Grab	1/Quarter	1
Ethylbenzene ¹²	µg/L	Grab	1/Quarter	1
Tributyltin ¹²	µg/L	24-Hour Composite	1/Semi-Annual Period	1
1,1,1-Trichloroethane ¹²	µg/L	Grab	1/Semi-Annual Period	1
PAHs ⁴	µg/L	24-Hour Composite	1/Semi-Annual Period	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
TCDD Equivalents ^{6, 12}	µg/L	24-Hour Composite	1/Semi-Annual Period	18
Trichloroethylene ¹²	µg/L	Grab	1/Year	1
1,2-Trans-dichloroethylene ¹²	µg/L	Grab	1/Year	1
Endrin ¹²	µg/L	24-Hour Composite	1/Year	1
Tetrachloroethylene ¹²	µg/L	Grab	1/Year	1
Toxaphene ¹²	µg/L	24-Hour Composite	1/Year	1
Radioactivity	pci/L	24-Hour Composite	1/Year	1
Antimony ¹²	µg/L	24-Hour Composite	1/Year	1
Endosulfan ¹²	µg/L	24-Hour Composite	1/Year	1
Acrolein ¹²	µg/L	Grab	1/Year	1
HCH ^{7,12}	µg/L	24-Hour Composite	1/Year	1
Methylene chloride ¹²	µg/L	Grab	1/Year	1
Bis(2-chloroethoxyl)methane ¹²	µg/L	24-Hour Composite	1/Year	1
Bis(2-chloroisopropyl)ether ¹²	µg/L	24-Hour Composite	1/Year	1
Chlorobenzene ¹²	µg/L	Grab	1/Year	1
Chloroethane ¹²	µg/L	Grab	1/Year	1
Chromium III ¹²	µg/L	24-Hour Composite	1/Year	1
Di-n-butyl phthalate ¹²	µg/L	24-Hour Composite	1/Year	1
Dichlorobenzene ^{8,12}	µg/L	24-Hour Composite	1/Year	1
Diethyl phthalate ¹²	µg/L	24-Hour Composite	1/Year	1
Dimethyl phthalate ¹²	µg/L	24-Hour Composite	1/Year	1
4,6-dinitro-2-methyl-phenol ¹²	µg/L	24-Hour Composite	1/Year	1
2,4-Dinitrophenol ¹²	µg/L	24-Hour Composite	1/Year	1
Fluoranthene ¹²	µg/L	24-Hour Composite	1/Year	1
Hexachlorocyclopentadiene ¹²	µg/L	24-Hour Composite	1/Year	1
Nitrobenzene ¹²	µg/L	24-Hour Composite	1/Year	1
Thallium ¹²	µg/L	24-Hour Composite	1/Year	1
1,1,2,2-Tetrachloroethane ¹²	µg/L	Grab	1/Year	1
1,1,2-Trichloroethane ¹²	µg/L	Grab	1/Year	1
Acrylonitrile ¹²	µg/L	Grab	1/Year	1
Aldrin ¹²	µg/L	24-Hour Composite	1/Year	1
Benzidine ¹²	µg/L	24-Hour Composite	1/Year	1
Beryllium ¹²	µg/L	24-Hour Composite	1/Year	1
Bis(2-chloroethyl)ether ¹²	µg/L	24-Hour Composite	1/Year	1
Bis(2-ethylhexyl)phthalate ¹²	µg/L	24-Hour Composite	1/Year	1
Di-n-butyl phthalate ¹²	µg/L	24-Hour Composite	1/Year	1
Carbon tetrachloride	µg/L	Grab	1/Year	1
Chloroform ¹²	µg/L	Grab	1/Year	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chlordane ¹²	µg/L	24-Hour Composite	1/Year	1
Chlorodibromomethane ¹²	µg/L	Grab	1/Year	1
1,4-Dichlorobenzene ¹²	µg/L	24-Hour Composite	1/Year	1
1,2,4-Trichlorobenzene ¹²	µg/L	24-Hour Composite	1/Year	1
3,3-Dichlorobenzidine ¹²	µg/L	24-Hour Composite	1/Year	1
1,2-Dichloroethane ¹²	µg/L	Grab	1/Year	1
1,1-Dichloroethylene	µg/L	Grab	1/Year	1
Dichlorobromomethane ¹²	µg/L	Grab	1/Year	1
Dichloromethane ¹²	µg/L	Grab	1/Year	1
1,3-Dichloropropene ¹²	µg/L	Grab	1/Year	1
Dieldrin ¹²	µg/L	24-Hour Composite	1/Year	1
2,4-Dinitrotoluene ¹²	µg/L	24-Hour Composite	1/Year	1
1,2-Diphenylhydrazine	µg/L	24-Hour Composite	1/Year	1
Halomethanes ^{11, 12}	µg/L	Grab	1/Year	1
Heptachlor ¹²	µg/L	24-Hour Composite	1/Year	1
Heptachlor epoxide ¹²	µg/L	24-Hour Composite	1/Year	1
Hexachlorobenzene ¹²	µg/L	24-Hour Composite	1/Year	1
Hexachlorobutadiene ¹²	µg/L	24-Hour Composite	1/Year	1
Hexachloroethane ¹²	µg/L	24-Hour Composite	1/Year	1
Isophorone ¹²	µg/L	24-Hour Composite	1/Year	1
N-nitrosodimethylamine ¹²	µg/L	24-Hour Composite	1/Year	1
N-nitrosodiphenylamine ¹²	µg/L	24-Hour Composite	1/Year	1
N-nitrosodi-n-propylamine ¹²	µg/L	24-Hour Composite	1/Year	1
2,4,6-Trichlorophenol ¹²	µg/L	24-Hour Composite	1/Year	1
Vinyl chloride ¹²	µg/L	Grab	1/Year	1
Xylene ¹²	µg/L	Grab	1/Year	1

¹ Pollutants shall be analyzed using the analytical methods described in Part 136; where no methods are specified for a given pollutant, by methods approved by this Regional Water Board, the State Water Board and USEPA Region 9. For any pollutant whose effluent is lower than all the minimum levels (MLs) specified in Appendix II of the California Ocean Plan, the analytical method with the lowest ML must be selected..

² Where continuous monitoring of temperature, pH and flow is required the following shall be included in each report: Temperature – maximum temperature recorded each day; pH – maximum and minimum values recorded each day; flow – total daily flow and peak daily flow.

³ Sum of 2-chlorophenol, 4-chloro-3-methylphenol, 2,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, and pentachlorophenol.

⁴ 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.

⁵ Pollutants shall be analyzed using the USEPA Method 608. for PCBs (as arochlors). They are defined as Aroclor-1016, 1221, 1232, 1242, 1248, 1254, and 1260. The Discharger shall comply with the PCBs limit of 10 grams/year as specified in the Santa Monica Bay Total Maximum Daily Loads (TMDL) for DDT and PCBs.

⁶ To determine compliance with effluent limitations or to conduct Reasonable Potential Analysis (RPA), this Order requires the Discharger to calculate and report dioxin-toxicity equivalencies (TEQs) using the following formula, where the toxicity equivalency factors (TEFs) are listed in the table below:

$$\text{Dioxin-TEQ} = \sum (C_x * \text{TEF}_x)$$

Where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

Toxicity Equivalency Factors and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Toxicity Equivalency Factor (TEF)
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3, 7,8-hexa CDD	0.1
2,3, 7,8-hepta CDD	0.01
Octa CDD	0.001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3, 7,8-hexa CDF	0.1
2,3, 7,8-hepta CDF	0.01
Octa CDF	0.001

- 7 Sum of alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.
- 8 Sum of 1,2- and 1,3-dichlorobenzene.
- 9 Sum of chlordane-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma and oxychlordane.
- 10 Sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD. The Discharger shall comply with the DDT limit of 358 grams/year as specified in the Santa Monica Bay Total Maximum Daily Loads (TMDL) for DDT and PCBs.
- 11 Sum of bromoform, bromomethane (methylbromide), chloromethane (methyl chloride), chlorodibromomethane and dichlorobromo-methane.
- 12 The mass emission (lbs/day) for the discharge shall be calculated and reported using the actual concentration and the actual flow rate measured at the time of discharge, using the formula.

$$M = 8.34 \times C_e \times Q$$

where: M = mass discharge for a pollutant, lbs/day

C_e = actual concentration for a pollutant, mg/L

Q = actual discharge flow rate, MGD

- 13 Minimum of five samples for any 30-day period shall be collected, once every quarter.
- 14 The Discharger shall monitor for Total Coliform, Fecal Coliform, and Enterococcus at the Monitoring Location T-710.
- 15 USEPA draft Method 1668c and individually quantified and reported. PCBs (as congeners) are defined as PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105,110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206
- 16 Pollutants shall be analyzed using the USEPA Method 608.
- 17 USEPA Method 1631 E with a quantitation level of of 0.5 ng/L shall be used to analyze total mercury.
- 18 USEPA Method 1613 for refinery discharges. 1613 contains test procedures for determination of the 17 tetra-through octa-chlorinated 2,3,7,8-substituted CDD/CDFs using high resolution gas chromatography coupled with high resolution mass spectrometry.
- 19 The presence of chronic toxicity shall be estimated as specified in Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995).

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

1. Methods and test species

The Discharger shall conduct 96-hour static renewal acute toxicity tests on flow-weighted 24-hour composite effluent samples. When conducting toxicity tests in accordance with the specified chronic test methods manual, if daily observations of mortality make it possible to also calculate acute toxicity for the desired exposure period and the dilution series for the toxicity test includes the acute IWC, such method may be used to estimate the 96-hour LC50. The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA 821-R-02-012, 2002), with preference for West Coast vertebrate and invertebrate species.

2. Frequency

a. Screening - The Discharger shall conduct the first acute toxicity test screening for three consecutive months in 2014. Re-screening is required every 24 months. The Discharger shall re-screen with a marine vertebrate species and a marine invertebrate species 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, then the 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.

b. Regular toxicity tests – After the screening period, monitoring shall be conducted monthly using the most sensitive marine species.

3. Toxicity Units. The acute toxicity of the effluent shall be expressed and reported in Acute Toxic Units, TU_a, where,

$$TU_a = \frac{100}{LC50}$$

The Lethal Concentration, 50 Percent (LC50) is expressed as the estimate of the percent effluent concentration that causes death in 50% of the test population, in the time period prescribed by the toxicity test.

B. Chronic Toxicity Effluent Monitoring Program

1. Definition of Chronic Toxicity.

Chronic toxicity measures a sub-lethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms. Chronic toxicity shall be measured in TU_c, where TU_c =

100/NOEC. The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test. The IWC for this discharge is 1.2 percent effluent.

2. Chronic Toxicity Effluent Monitoring Program

a. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water.

b. Test Species and Methods

i. The Discharger shall conduct critical life stage chronic toxicity tests on flow weighted, 24-hour composite effluent samples. The presence of chronic toxicity shall be estimated as specified in Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995).

ii. The Discharger shall conduct tests as follows: with a vertebrate, an invertebrate, and a plant for the first three suites of tests. After the screening period, monitoring shall be conducted using the most sensitive species.

The Discharger shall conduct the first three chronic toxicity test screening for three consecutive months in 2014. Re-screening is required every 24 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive then re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

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-821-R-02-012 and/or EPA/600/R-95/136), then the Discharger must re-sample and re-test within 14 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.

4. A series of at least five dilutions and a control shall be tested. The dilution series shall include the instream waste concentration (IWC) and two dilutions above and

two below the IWC. The chronic IWC for Discharge Point 001 is 1.2% effluent. 1.2 % is the result of 1 divided by 81, which is sum of dilution credit 80 plus 1.

5. If the discharged effluent is chlorinated, then chlorine shall not be removed from the effluent sample prior to toxicity testing without written approval by the permitting authority.

D. Preparation of an Initial Investigation TRE Workplan

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

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

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

1. If the results of the implementation of the Facility's Initial Investigation TRE workplan indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 30 days of completion of the Initial Investigation TRE. The detailed workplan shall include, but not be limited to:
 - a. Further actions to investigate and identify the cause of toxicity;
 - b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - c. A schedule for these actions.
2. The following section summarizes the stepwise approach used in conducting the TRE:
 - a. Step 1 includes basic data collection. Data collected for the accelerated monitoring requirements may be used to conduct the TRE.

- b. Step 2 – Evaluates optimization of the treatment system operation, facility housekeeping, and the selection and use of in-plant process chemicals;
- c. If Steps 1 and 2 are unsuccessful, Step 3 implements TIE and employment of all reasonable efforts using currently available TIE methodologies. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity;
- d. Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options;
- e. Step 5 evaluates in-plant treatment options; and,
- f. Step 6 consists of confirmation once a toxicity control method has been implemented.

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

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

F. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia *because of* increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH-sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.
 - a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
 - b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
 - c. Conduct graduated pH tests as specified in the TIE methods. For example, mortality should be higher at pH 8 and lower at pH 6.
 - d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite-treated effluent should be lower than the non-zeolite-treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.
2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

G. Reporting

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 as TU_a ($=100/LC50$) for acute toxicity test results and as TU_c ($=100/NOEC$) for chronic toxicity test results and included in the self-monitoring reports (SMR) 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 SMR for the period in which the investigation occurred.

If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Sections V.A.2.d. and V.B.2.b., then those results also shall be submitted with the SMR for the period in which the investigation occurred.

1. The full report shall be submitted on or before the end of the month in which the SMR is submitted.

2. 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 average limit or chronic toxicity performance goal (trigger) and (4) printout of the ToxCalc or CETIS (Comprehensive Environmental Toxicity Information System) program results.
3. A full laboratory report for all toxicity testing shall be submitted as an attachment to the SMR and DMR for the month in which the toxicity test was conducted and shall also include: the toxicity test results reported according to the test methods manual chapter on report preparation and test review; the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE/TIE investigations. Routine reporting shall include, at a minimum, as applicable, for each toxicity 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. IC₁₅, IC₂₅, IC₄₀ and IC₅₀ values in percent effluent;
 - g. Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable);
 - h. NOEC and LOEC values for reference toxicant test(s);
 - i. IC₂₅ value for reference toxicant test(s);
 - j. Any applicable charts; and
 - k. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia, chlorine).
4. The Discharger shall provide a compliance summary, which includes a summary table of toxicity data from all samples collected during that year.

The Discharger shall notify by telephone or electronically, this Regional Water Board of any toxicity exceedance of the limit or trigger within 24 hours of receipt of the results followed by a written report within 14 calendar days of receipt of the results. The verbal or electronic notification shall include the exceedance and the plan the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – Not Applicable

VII. RECLAMATION MONITORING REQUIREMENTS – Not Applicable

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Receiving Water Monitoring Objectives

1. The receiving water monitoring program shall consist of periodic surveys of the area surrounding the discharge point and shall include studies of those physico-chemical characteristics of the receiving waters which may be impacted by the discharge.

Table E-3. Receiving Water Monitoring Requirements – RSW-001, RSW-003, RSW-005, through RSW-010, and RSW-014 through RSW-018

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Temperature ²	°F	Grab	1/Quarter	1
Dissolved oxygen ³		Grab	1/Quarter	1
pH ³	Standard Units	Grab	1/Quarter	1
Conductivity ³		Grab	1/Quarter	1

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

² Temperature profiles shall be measured at each station from surface to bottom at a minimum of one-meter intervals. All stations shall be sampled on both a flooding tide and an ebbing tide during each survey.

³ Dissolved oxygen levels, conductivity, and pH shall be measured at the surface, mid-depth and bottom, at a minimum. All stations shall be sampled on both a flooding tide and an ebbing tide during each survey.

Table E-4. Receiving Water Monitoring Requirements – RSW-001, RSW-003, RSW-005, through RSW-010, RSW-014 through RSW-018, RSW-021, RSW-023 and RSW-025

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Oil and Grease	mg/L	Grab	1/Semi-Annual Period	1
Benzene	µg/L	Grab	1/Semi-Annual Period	1
Toluene	µg/L	Grab	1/Semi-Annual Period	1
Xylene	µg/L	Grab	1/Semi-Annual Period	1
Ethylbenzene	µg/L	Grab	1/Semi-Annual Period	1
Arsenic	µg/L	Grab	1/Semi-Annual Period	1
Cadmium	µg/L	Grab	1/Semi-Annual Period	1
Copper	µg/L	Grab	1/Semi-Annual Period	1
Chromium	µg/L	Grab	1/Semi-Annual Period	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Lead	µg/L	Grab	1/Semi-Annual Period	1
Mercury	µg/L	Grab	1/Semi-Annual Period	1
Nickel	µg/L	Grab	1/Semi-Annual Period	1
Silver	µg/L	Grab	1/Semi-Annual Period	1
Zinc	µg/L	Grab	1/Semi-Annual Period	1
Selenium	µg/L	Grab	1/Semi-Annual Period	1
PAHs ²	µg/L	Grab	1/Semi-Annual Period	1
Total coliform ³	MPN/100 ml	Grab	1/Semi-Annual Period	1
Fecal coliform ³	MPN/100 ml	Grab	1/Semi-Annual Period	1
Enterococcus ³	MPN/100 ml	Grab	1/Semi-Annual Period	1
Ammonia	mg/L	Grab	1/Semi-Annual Period	1
PCBs(as arochlors) ⁵	µg/L	Grab	1/Semi-Annual Period	6
PCBs (as individual congeners) ⁷	µg/L	Grab	1/Semi-Annual Period	8
DDT ⁹	µg/L	Grab	1/Semi-Annual Period	1
Priority Pollutants ⁴	µg/L	Grab	1/Year	1

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

² 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.

³ Monitoring shall be conducted only at monitoring station RSW-001. A minimum of five samples for any 30-day period shall be collected at RSW-001 once every six months.

⁴ Priority Pollutants as defined by the CTR defined in Finding II.I of the Limitations and Discharge Requirements of this Order, and included as Attachment I. Priority pollutant monitoring shall be conducted at Station RSW-014.

⁵ They are defined as Aroclor-1016, 1221, 1232, 1242, 1248, 1254, and 1260.

⁶ Pollutants shall be analyzed using the USEPA Method 608. for PCBs (as arochlors).

⁷ PCBs (as congeners) are defined as PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105,110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206.

⁸ USEPA draft Method 1668c and individually quantified and reported.

⁹ Sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD

2. Benthic Infaunal Sampling

- a. Benthic infaunal sampling shall be conducted at Stations B1, B5 through B10, B16, and B18. Benthic infaunal sampling stations are identical to Receiving Water monitoring stations (B1 is located at RW1 and B5 is located at RW5).
- b. Benthic infaunal samples shall be collected annually (during August) at each station using a 0.1 square meter Van Veen sediment grab, or equivalent device approved by the Executive Officer.

- c. The entire contents of each sample shall be passed through a 1.0 mm standard mesh screen to retrieve the benthic organisms. All organisms recovered shall be enumerated and identified to the lowest taxon possible. Infaunal organisms shall be reported as concentrations per liter for each replicate and each station. Total abundance, number of species and Shannon-Weiner diversity indices shall be calculated (using natural logs) for each replicate and each station.
- d. Biomass shall be determined as the wet weight in grams or milligrams retained on a 1.0 millimeter screen per unit volume (e.g., 1 liter) of sediment. Biomass shall be reported for each major taxonomic group (i.e. polychaetes, crustaceans, mollusks, echinoderms, all other macroinvertebrates) for each sample.
- e. A separate grab sample shall be collected at each benthic station for sediment chemistry analysis. Sediment grain size analyses shall be performed on each sediment sample (sufficiently detailed to calculate percent weight in relation to phi size).

Sub-samples (upper two centimeters) shall be taken from each sediment sample and analyzed for dissolved sulfides (pore water), total organic carbon, organic nitrogen, trace metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, and selenium), total DDT and derivatives, total PCB. Total PCBs (polychlorinated biphenyls) is 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. Derivatives of PCBs include at a minimum, chlorinated biphenyl congeners whose analytical characteristics resemble those of PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105, 110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206). Analysis should also include total PAH and derivatives, and any priority pollutants detected in the effluent monitoring.

IX. REGIONAL MONITORING REQUIREMENTS

A. Basis for Regional Monitoring

1. The Regional Water Board and USEPA, working with other groups, have developed a comprehensive basis for effluent and receiving water monitoring appropriate to large industrial and publicly owned treatment works (POTWs) discharging to waters of the Southern California Bight. This effort has culminated in the publication by the Southern California Coastal Water Research Project (SCCWRP) of the Model Monitoring Program guidance document (Schiff, K.C., J.S. Brown and S.B. Weisberg. 2001. *Model Monitoring Program for Large Ocean Dischargers in Southern California*. SCCWRP Tech. Rep. #357. Southern California Coastal Water Research Project, Westminster, CA. 101 pp.). This guidance provides the principles, framework and recommended design for effluent and receiving water monitoring elements that have guided development of the monitoring program described below.

2. In July 2000, the Santa Monica Bay Restoration Project (SMBRP) published “An Assessment of the Compliance Monitoring System in Santa Monica Bay” to set forth recommendations and priorities for compliance monitoring in Santa Monica Bay. This report reasoned that a reduced level of receiving water monitoring is justified for large POTWs discharging to Santa Monica Bay due to improvements in effluent quality and associated decreases in receiving water impacts. Like the Model Monitoring Plan developed by SCCWRP, SMBRP recommendations are focused on providing answers to management questions and allowing a reduction in POTW receiving water monitoring where discharge effects are well understood. The monitoring plan set forth here has been guided by SMBRP recommendations.

B. Specific Requirements

1. Regional monitoring is focused on questions that are best answered by a region-wide approach that incorporates coordinated survey design and sampling techniques. The major objective of regional monitoring is to collect information required to assess how safe it is to swim in the ocean, how safe it is to eat seafood from the ocean, and whether the marine ecosystem is being protected. Key components of regional monitoring include elements to address pollutant mass emission estimations, public health concerns, monitoring of trends in natural resources, assessment of regional impacts from all contaminant sources, and protection of beneficial uses. The final design of regional monitoring programs is developed by means of steering committees and technical committees comprised of participating agencies and organizations, and is not specified in this Order/Permit. Instead, for each regional component, the degree and nature of participation of the Discharger is specified. For this Order/Permit, these levels of effort are based upon past participation by Chevron Products Company, El Segundo Refinery, in the regional monitoring programs. The Discharger shall participate in regional monitoring activities coordinated by the SCCWRP or any other appropriate agency approved by the Regional Water Board and USEPA.
2. The Discharger shall complete collection and analysis of samples in accordance with the schedule established by the Steering Committee directing the regional monitoring surveys. The level of participation shall be similar to that provided by the Discharger in previous regional surveys conducted in 1994, 1998, 2003 and 2008.
3. The regional programs where the Discharger is required to participate include:
 - a. Bight 2013 Regional Survey and future regional surveys, including benthic infauna, sediment chemistry, fish communities, and fish predator risk.
 - b. Central Region Kelp Monitoring Program – coordinated by the Los Angeles Regional Board.

C. Bight 2013 Regional Survey

1. Bight Regional Monitoring. Regular regional monitoring for the Southern California Bight has been established, occurring at five-year intervals, and is coordinated through SCCWRP with discharger agencies and numerous other entities. The fourth

regional monitoring program (Bight '08) occurred primarily during summer 2008. The next (fifth) regional monitoring program (Bight '13) is expected to take place during 2013. While participation in regional monitoring programs is required under this Order, revisions to the Discharger's monitoring program at the direction of the Regional Water Board and USEPA may be necessary to accomplish the goals of regional monitoring or to allow the performance of special studies to investigate regional or site-specific water issues of concern. These revisions may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples to be collected. Such changes may be authorized by the Regional Water Board Executive Officer and USEPA Director upon written notification to the Discharger.

D. Regional Kelp Survey

1. The Regional Board has helped to establish the Central Region Kelp Survey Consortium to conduct regional kelp bed monitoring. This program is designed to require ocean dischargers in the Regional Water Board's jurisdiction to undertake a collaborative program (which may include participation by Orange County ocean dischargers) to monitor kelp beds in the Southern California Bight, patterned after the successful program implemented by the San Diego Regional Board since 1985.
2. Data collected in this regional survey will be used to assess status and trends in kelp bed health and spatial extent. The regional nature of the survey will allow the status of beds local to specific dischargers to be compared to regional trends. Additionally, this survey provides data to the Santa Monica Bay Restoration Commission's Kelp Beds program. The regional kelp monitoring survey was initiated during 2003.
3. The regional survey will consist primarily of quarterly aerial overflights to assess the size and health of existing kelp beds. The Discharger shall participate in the management and technical committees responsible for the final survey design and shall provide appropriate financial support to help fund the survey (share based strictly on the number of participants in the study, but not to exceed a maximum of \$10,000 per year).

E. Bay Comprehensive Monitoring Program

The Santa Monica Bay Restoration Commission adopted a new comprehensive monitoring program for Santa Monica Bay in April 2007. This new monitoring program, developed by the Commission's Technical Advisory Committee, culminates efforts that began in the mid-1990s with the identification of key management questions and monitoring priorities. It lays out new monitoring designs for five major habitats within the Bay:

- Pelagic Ecosystem
- Soft Bottom Ecosystem
- Hard Bottom Ecosystem
- Rocky and Sandy Intertidal
- and Wetlands.

Design for each habitat includes a core motivating question, a number of related objectives, specific monitoring approaches, indicators, data products, and sampling designs detailing number and locations of stations, sampling frequency, and measurements to be collected. The Bay Monitoring Program also includes an implementation plan that includes a detailed schedule, cost estimates for individual Program elements, and recommendations on the Program's management structure, including data management and assessment strategies.

The Bay Monitoring Program is designed to be implemented in part through modifications to existing receiving water monitoring programs for major NPDES dischargers into coastal ocean waters. Some elements of this monitoring program already have been implemented, for example, through establishment of periodic Bight-wide regional monitoring surveys (Southern California Bight Pilot Project '94, Bight '98, Bight '03, and Bight '08) and kelp bed monitoring. However, other elements of the program have yet to be implemented.

SMBRC, USEPA, the Regional Water Board, the Discharger, affected NPDES permit holders, and other interested agencies and stakeholders will develop plans to collaboratively fund these elements of the program and determine each party's level of participation. Redirection of existing monitoring requirements and/or the imposition of additional monitoring efforts conducted under the terms of this Order are subject to a public hearing before the Regional Water Board and public notice by USEPA. This Order may be reopened and modified by the Regional Water Board and USEPA to incorporate conforming monitoring requirements and schedule dates for implementation of the Comprehensive Monitoring Program for Santa Monica Bay (Santa Monica Bay Restoration Commission, January 2007). Each year, at a Spring Regional Water Board meeting, the Discharger shall provide an informational report summarizing to date its contributing activities towards coordinated implementation of the Comprehensive Monitoring Program for Santa Monica Bay (SMBRC, January 2007).

X. OTHER MONITORING REQUIREMENTS

A. Monitoring of the Microbial Mat

Chevron shall monitor the accumulation of biosolids in the vicinity of the outfall on a quarterly basis through visual observation to insure that the biosolids do not significantly expand or change from the current condition. The frequency of monitoring may revert to annually if the condition disappears. Chevron shall collect at least one benthic infaunal sample annually from an area affected by the accumulation of biosolids.

B. Sediment Toxicity Testing

1. Sediment toxicity testing shall be conducted at Stations RSW-006, RSW-008, RSW-010, RSW-016 and RSW-018.
2. Sediment grab samples shall be collected annually (during August) at each station using a 0.1 square meter Van Veen sediment grab, or equivalent device approved

by the Executive Officer. Three replicate samples shall be collected for testing at each station. Sub-samples (upper two centimeters) shall be taken from each sediment sample and tested with any of the three test species ; Eohaustorius estuarius, Leptocheirus plumulosus, and Rhepoxynius abronius. Alternative species may be used subject to approval by the Executive Officer.

C. Outfall Inspection Requirements

1. The Chevron ocean outfall shall be externally inspected a minimum of once a year.
2. Inspections shall include general observations and photographic and videographic records of the outfall pipe and adjacent ocean bottom.
3. The pipes shall be visually inspected by a diver, manned submarine, or remotely operated vehicle.
4. A summary report of the inspection findings shall be provided to the Regional Water Board. This written report, augmented with videographic and/or photographic images, will provide a description of the observed condition of the discharge pipes from shallow water to their respective termini.
5. The summary report is due on February 1 of each year.

D. Hauling Reports

1. In the event that liquid wastes, solid wastes or sludge are transported offsite during the reporting period, the following shall be reported annually:
 - a. Types of wastes and quantity of each type.
 - b. Location of the final point(s) of disposal for each type of waste.
2. If no wastes are transported offsite during the reporting period, a statement to that effect shall be submitted.

E. Special Monitoring and Reporting Provisions

1. In the event that continuous temperature and/or pH recorders are temporarily out of service, informal backup data is to be obtained from 6 daily grab samples conducted by plant operators at approximately 4-hour intervals. Should the continuous pH recorder be out of service for more than one week, daily grab samples shall commence being obtained and analyzed by a certified laboratory in accordance with current EPA guideline procedures until the recorder is placed back into service.
2. In the event that the continuous flow recorder is temporarily out of service, backup data on total daily flow and peak flow rate shall be obtained by summing readings from the individual flow recorders which together monitor the total effluent stream.
3. Whenever backup procedures are used for daily monitoring of pH, temperature or flow, the report shall so state, together with the dates thereof and the reason(s) the recorder(s) could not be utilized.

- F. Nutrient Special Studies: The Discharger will consult with Regional Board staff and SCCWRP and submit a work plan for Executive Officer approval within 6 months of the date of adoption of this Order to outline their participation in the nutrient related component of the BIGHT 13 program referred in paragraph IX.C.1.Special Monitoring and Reporting Provisions.

XI. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.
3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.

4. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.
5. The Discharger shall report the results of acute and chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, Section V.F.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit SMRs in a searchable Portable Document Format (PDF). Documents that are less than 10 MB should be emailed to losangeles@waterboards.ca.gov. Documents that are 10 MB or larger should be transferred to a disk and mailed to:

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

The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through VIII. The Discharger shall submit quarterly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	March 9, 2013	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1 / Day	March 9, 2013	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	May 1 August 1 November 1 February 1
1 / Month	March 9, 2013	1 st day of calendar month through last day of calendar month	May 1 August 1 November 1 February 1
1 / Quarter	March 9, 2013	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1 / Semi-annual period	March 9, 2013	January 1 through June 30 July 1 through December 31	August 1 February 1
1 / Year	March 9, 2013	January 1 through December 31	February 1 May 1 August 1 November 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.
5. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:
 - a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
 - b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated

entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

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

C. Discharge Monitoring Reports (DMRs)

- 1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
- 2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 "I" Street, 15 th Floor Sacramento, CA 95814

- 3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

- 1. The Discharger shall report the results of any special studies, acute toxicity testing, TRE/TIE, SWPPP and BMPP Plan required by Special Provisions – VI.C.2 and 3 of this Order. The Discharger shall report the progress in satisfaction of compliance schedule dates specified in Special Provisions – VI.C.7 of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.
- 2. Within 90 days of the effective date of this permit, the Discharger is required to submit the following to the Regional Water Board:
 - a. Initial Investigation TRE workplan.
 - b. Storm Water Pollution Prevention Plan (SWPPP)

c. Best Management Practices and Spill Prevention Control and Countermeasure Plans.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	4B192113001
Discharger	Chevron Products Company
Name of Facility	El Segundo Refinery
Facility Address	324 West El Segundo Blvd.
	El Segundo, CA 90245
	Los Angeles County
Facility Contact, Title and Phone	Soli George, Waste/Water Supervisor (310) 615 – 3471
Authorized Person to Sign and Submit Reports	Frank Semancik, General Manager, (310) 615 - 5200
Mailing Address	324 West El Segundo Blvd.El Segundo, CA 90245
Billing Address	Same as above
Type of Facility	Industrial, SIC Code 2911
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Reclamation Requirements	No
Facility Permitted Flow	Up to 27 million gallons per day (MGD) during both dry and wet weather [the wastewater is comprised of refinery wastewater, petroleum hydrocarbon contaminated shallow well groundwater, intermittent sources and rainfall runoff]
Facility Design Flow	Up to 27 MGD
Watershed	Santa Monica Bay (El Segundo/LAX sub-watershed)
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean

- A. Chevron Products Company (hereinafter Discharger or Chevron) is the operator of El Segundo Refinery (hereinafter Facility) a petroleum refinery. Chevron Products Company is hereinafter referred to as Discharger.

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

- B. The Facility discharges treated wastewater from the Facility to the Pacific Ocean, and is currently regulated by Order No. R4-2006-0089, which was adopted on December 14, 2006, and expired on November 10, 2011. The terms and conditions of the current Order have been administratively continued and remain in effect until new Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.
- C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and NPDES permit on April 27, 2011. A site visit was conducted on April 29, 2011, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Chevron Products Company (Discharger or Chevron) El Segundo Refinery (Facility or Refinery) is a petroleum refinery located at 324 West El Segundo Boulevard in El Segundo, CA. Chevron has operated the El Segundo Refinery since 1911. The Facility converts crude oil and other intermediates into refined petroleum products, including: motor gasoline, jet fuel, diesel fuel, fuel oils, gas oils, liquefied petroleum gases, fuel blending components, coke, ammonia, and molten sulfur. The Facility also maintains the ability to import and export motor gasoline, jet fuel, diesel fuel, fuel oils, gas oils, and fuel blending components through the refinery’s marine terminal and to import and export liquefied petroleum products through the refinery’s rail and truck loading racks.

Crude oil and intermediates are delivered by ship to the refinery’s marine terminal and pumped to the Facility by existing underwater pipelines and/or received via pipeline directly to the Facility. The Facility utilizes a variety of technologies to turn the crude oil and intermediates into refined products including: atmospheric and vacuum distillation, catalytic cracking, alkylation, isomerization, coking, catalytic reforming, hydrogenation, sulfur recovery, chemical treating, and product blending. Auxiliary systems are maintained to support refinery operations including hydrogen plants to produce hydrogen needed for certain technologies, boilers to produce steam, cogeneration plants to produce electricity and steam, product storage facilities, and water treatment systems.

The Facility has a rated crude capacity of 275,000 barrels per operating day.

A. Description of Wastewater and Biosolids Treatment or Controls

The El Segundo Refinery’s wastewater treatment facility consists of two separate drain and treatment systems: the “un-segregated” system and the “segregated” system.

Un-segregated System

The unsegregated system is normally used for non-process wastewater including cooling tower blowdown, steam condensate, a portion of the refinery's recovery well groundwater, and other wastewater streams containing free oil removed with primary treatment only. This system is also used to collect and treat storm water. The unsegregated system includes a gravity separator and an induced air flotation (IAF) unit. The purpose of the separator is to provide a means of separation of oil and solids from water with residence time, gravity and internal design features. The water flows from the separator to an IAF unit. The IAF unit removes additional oil and solids by a combination of chemical flocculation and induced air flotation. The chemical additive, a polymer, attaches to solid particles and oil globules in the wastewater to form a coagulated floc. The suspended floc particles (including attached oil and solids) adhere to air bubbles created by the mechanical aerator/mixers forming foamy floc. This mass floats to the water's surface and is removed by skimmers. If the water meets the refinery's specifications, the unsegregated water is ready for discharge after the separator and IAF treatment. If it does not meet the specifications it is sent to one of two diversion tanks for additional IAF treatment.

Segregated System

The segregated system is normally used to treat petroleum process wastewater containing emulsified oils and a portion of the refinery's recovery well groundwater. It is comprised of gravity separators, a dissolved air flotation (DAF) unit, and activated sludge units for secondary (biological) treatment. Effluent from the segregated system that does not meet the established specifications may receive additional solids removal from an auxiliary off-specification DAF unit, or routed to auxiliary effluent diversion tanks for additional IAF treatment. The auxiliary effluent diversion tanks are available for handling off-specification process wastewater from either of the two systems, in addition to rainfall run-off.

A different separator than the one used by the unsegregated system is the initial step for clean-up of process wastewater. It flows from the separator to one of two tanks. The wastewater is fed from these tanks to a DAF unit. A DAF unit works on the same premise as an IAF unit. Oil and solids attach to tiny bubbles which rise to the surface and are then skimmed off. Whereas IAF introduces air into the unit to create the bubbles, a DAF uses an air-saturated water stream that recycles from the unit to create the same effect.

After the process wastewater receives separator and DAF treatment, the mechanical removal of oil and solids is completed which concludes the "primary" treatment of this system.

The wastewater from the DAF unit then flows directly to the Activated Sludge Unit (ASU) for biological treatment. In the ASU, the wastewater (food) mixes with oxygen, nutrients, and microorganisms which treat the wastewater. The result is clean water, along with microorganism growth and reproduction. The microorganisms floc together and are removed in a clarifier, which are sent back to the ASU, with a portion sent to the Hyperion Wastewater Treatment Plant (HWTP) per an industrial waste discharge permit. This keeps the microorganism population at an optimum state. The water from

the clarifier is now clean and ready for discharge. If it does not meet the required water specifications, it will receive further “primary” or “secondary” treatment.

The two systems can be operated such that flow from either system can be diverted to effluent diversion tankage or to the other system, where if needed, the diverted flow can receive alternative or additional treatment. This operational treatment flexibility provides control such that final effluent quality is maintained in compliance with requirements.

The wastewater discharged from the Facility includes the following:

- 1) Refinery wastewater including both process and non-process wastewater.
- 2) Groundwater generated from a groundwater remediation project required by Regional Board Cleanup and Abatement Order No. 88-055 directing Chevron to extract and treat hydrocarbon-contaminated groundwater from the Old Dune Sand Aquifer underlying Chevron’s facility. Flow weighted analyses of the extracted groundwater, i.e., after separation of petroleum free products, show that it is similar to the refinery’s wastewater quality, but has lower concentrations of total suspended solids (TSS), chemical oxygen demand (COD), phenolics, and oil and grease. The extracted groundwater is treated together with the refinery wastewater in the Effluent Treatment Plant.
- 3) Storm water runoff at the El Segundo Refinery and storm water runoff from construction sites including those one acre or more are collected and treated in the refinery’s unsegregated drain system along with non-process wastewater. The refinery has two storage tanks for storm water with a combined capacity of approximately 14 million gallons. If required for the total effluent stream to meet limitations contained in this Order, storm water runoff can be diverted to auxiliary diversion tanks for IAF treatment. Based on the information provided by the Discharger, 89.3% of the rainfall run-off is considered contaminated as defined in 40 CFR Part 419.11(g).
- 4) Other intermittent sources. Chevron also operates numerous land-based marketing terminals and gas stations, which generate washdown water, hydrotest water, tank water draws, tank rinsate, and other wastewater similar in quality to that typically generated by the El Segundo Refinery. These Chevron facilities and the Chevron Pipeline Company may occasionally send non-hazardous wastewater batch shipments and recoverable oil-water mixtures to the refinery for oil recovery, treatment, and discharge. In addition, the refinery may occasionally receive ship ballast water or tank rinsates from its marine terminal. Sections 419.23(c) and 419.24(c) provide for incremental pollutant allowances for ballast and similar wastes.

B. Discharge Points and Receiving Waters

The Discharger proposes to discharge up to 27 MGD during wet weather with an expected maximum of 8.8 MGD during dry weather (and an average flow of 7.375 MGD) of treated wastewater, into Santa Monica Bay, a water of the United States, (Latitude 33° 54' 29" North, Longitude 118° 26' 17" West).

The Santa Monica Bay watershed includes the Santa Monica Bay and the land area that drains naturally into the Bay. It is located in the Los Angeles Coastal Plains and has nine sub-watershed areas that are grouped from 28 catchment basins based on their distinctive geographical (topographical and land use) characteristics.

The discharge occurs through an outfall line located approximately 2,200 feet south of Grand Avenue adjacent Dockweiler Beach that extends approximately 3,500 feet offshore with its terminus at a depth of 42 feet.

In 1994 Chevron voluntarily constructed the 3,200-foot outfall line extension consisting of a 60-inch nominal diameter, high density polyethylene pipe that was fitted to the existing 300-foot outfall line. A diffuser was attached at the end of the extension. The extended outfall provides a minimum dilution ration of 80 parts of seawater to one part of effluent (80:1).

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

Effluent limitations contained in the existing Order for discharges from Discharge Point 001 (Monitoring Location EFF-001) are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data Discharge Points 001

Parameter	Units	Effluent Limitation				Monitoring Data
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum	Range of Reported Values (February 2007 – February 2011)
Effluent Flow	MGD	--	--	--	--	5,223,848 - 19,856,160
Temperature	°F	--	--	--	104	89 - 101
pH	Standard Units	--	--	--	6.0 – 9.0	6.0 – 9.0
Oil and Grease	mg/L	--	12	24	--	2.2 – 23
Biochemical Oxygen Demand (BOD) (5-day @ 20°C)	mg/L	--	30	60	--	3.6 - 17
Chemical Oxygen Demand (COD)	mg/L	--	264	528	--	87 – 250
Total Suspended Solids (TSS)	mg/L	--	30	60	--	< 10 – 37
Ammonia as nitrogen	mg/L	48.6	--	194.4	--	0.35 - 29
Settleable Solids	ml/L	--	--	--	--	< 0.1 – 1.2

Parameter	Units	Effluent Limitation				Monitoring Data
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum	Range of Reported Values (February 2007 – February 2011)
Sulfide	mg/L	--	0.195	0.390	--	< 0.1 – 0.324
Phenolic Compounds	µg/L	--	--	--	--	< 0.1 – 0.1
Turbidity	NTU	--	--	--	--	1.5 – 17
Total Chromium	µg/L	--	--	--	--	ND – 3.7
Arsenic, Total Recoverable	µg/L	408	--	2352	--	2.7 – 13
Cadmium, Total Recoverable	µg/L	81	--	324	--	< 0.29 – 2.6
Copper, Total Recoverable	µg/L	81	--	812	--	< 1 – 16
Lead, Total Recoverable	µg/L	162	--	648	--	< 1 – 4.4
Mercury, Total Recoverable	µg/L	3.2	--	12.9	--	< 0.2 – 0.26
Nickel, Total Recoverable	µg/L	405	--	1,620	--	4.3 – 16
Selenium, Total Recoverable	µg/L	--	--	--	--	24 - 200
Silver, Total Recoverable	µg/L	44	--	214	--	All ND (< 1)
Thallium, Total Recoverable	µg/L	--	162	--	--	All ND (MDL not available)
Zinc, Total Recoverable	µg/L	--	--	--	--	< 5 – 740
Cyanide	µg/L	81	--	324	--	< 0.005 – 0.021
Chronic Toxicity	TUc	--	--	81	--	< 10 - 77
Acute Toxicity	TUa	--	--	--	--	0.94 – 15.7
Total Coliform	CFU/100 ml or MPN/100 ml	--	1,000	--	10,000	< 2 – 900
Enterococcus	CFU/100 ml or MPN/100 ml	--	35	--	104	< 2 – 30
Fecal Coliform	CFU/100 ml or MPN/100 ml	--	200	--	400	< 2 – 300
Total Chlorine Residual	mg/L	162	--	648	--	All ND (<0.1)
Hexavalent Chromium	µg/L	162	--	648	--	< 1 – 1.3
Toluene	µg/L	--	--	--	--	< 0.36 – 19
MTBE	µg/L	--	--	--	--	3.8 – 39
Chlorinated Phenolics	µg/L	81	--	324	--	All ND (< 2.5 - < 11)
Endosulfan	µg/L	0.729	--	1.458	--	All ND (< 0.0008)
Endrin	µg/L	0.162	--	0.324	--	All ND (< 0.0019)

Parameter	Units	Effluent Limitation				Monitoring Data
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum	Range of Reported Values (February 2007 – February 2011)
HCH	µg/L	0.320	--	0.640	--	All ND (< 0.0123)
Tributyltin	µg/L	--	0.11	--	--	All ND (< 0.00074)
Acrylonitrile	µg/L	--	8.1	--	--	All ND (< 0.7)
Aldrin	µg/L	--	0.00178	--	--	All ND (< 0.0014)
Benzene	µg/L	--	478	--	--	< 0.28 – 54
Benzidine	µg/L	--	0.0056	--	--	All ND (< 0.5)
Beryllium	µg/L	--	2.7	--	--	All ND
Bis(2-chloroethyl) ether	µg/L	--	3.6	--	--	All ND (< 0.1)
Carbon tetrachloride	µg/L	--	73	--	--	All ND (< 0.28)
Chlordane	µg/L	--	0.00186	--	--	All ND (< 0.029)
DDT	µg/L	--	0.0138	--	--	All ND (< 0.0655)
3,3'-dichlorobenzidine	µg/L	--	0.66	--	--	All ND (< 0.4)
Dieldrin	µg/L	--	0.0032	--	--	All ND (< 0.0019)
1,2-diphenylhydrazine	µg/L	--	13.0	--	--	All ND (< 0.2)
Heptachlor	µg/L	--	0.0041	--	--	All ND (< 0.003)
Heptachlor epoxide	µg/L	--	0.00162	--	--	All ND (< 0.002)
Hexachlorobenzene	µg/L	--	0.0170	--	--	All ND (< 0.1)
N-nitrosodi-N-propylamine	µg/L	--	30.8	--	--	All ND (< 0.1)
PAHs	µg/L	--	0.71	--	--	< 1.3 – 0.25
PCBs	µg/L	--	0.00154	--	--	All ND (< 1.6750)
TCDD equivalents	µg/L	--	0.00000032	--	--	ND – 0.00000009 (pg/L)
Toxaphene	µg/L	--	0.0170	--	--	All ND (< 0.066)
2,4,6-trichlorophenol	µg/L	--	23	--	--	All ND (< 0.1)
Bromoform	µg/L	--	--	--	--	5
Chlorodibromomethane	µg/L	--	--	--	--	< 0.28 – 7.2
Chloroform	µg/L	--	--	--	--	< 0.33 – 1.4
Ethylbenzene	µg/L	--	--	--	--	< 0.25 – 39

DNQ = Detected, but not quantified; ND = Not Detected

D. Compliance Summary

Data submitted to the Regional Water Board indicate that the Discharger has not exceeded permit limitations included in the previous Order R4-2006-0089. An NPDES Permit Compliance Evaluation Inspection (CEI) was conducted on April 29, 2011; and there were no violations documented in the CEI report.

E. Planned Changes

The Discharger has requested that storm water discharges associated with construction activity greater than one acre occurring within the refinery boundaries be included. All storm water within the Facility is captured, treated, and discharged as commingled wastewater. Hence, the discharge of storm water from construction activities is included in this permit.

A new acute toxicity limit is included based on historical monitoring data. A Time Schedule Order has been developed to address elevated acute toxicity concentrations detected in the Chevron effluent. An interim limit is included in the Time Schedule Order which will be effective for four years and 2 months. This time will be used to investigate the causes of elevated toxicity values and to implement a new treatment technology, if required, to meet the final acute toxicity limit.

No other planned changes were enumerated by the Discharger.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

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

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Uses
001	Santa Monica Bay – El Segundo/LAX sub-watershed (Dockweiler Beaches – Hydrologic Unit 405.12)	<p>Existing Uses: Industrial Water Supply; Navigation; Contact and Non-Contact Water Recreation; Commercial and Sport Fishing; Marine Habitat; and Wildlife Habitat.</p> <p>Potential Uses: Fish Spawning</p> <p>Nearshore Zone Existing Uses: Industrial Water Supply; Navigation; Contact and Non-Contact Water Recreation; Commercial and Sport Fishing; Marine Habitat; Wildlife Habitat; Preservation of Biological Habitats; Rare, Threatened or Endangered Species; and Migration of Aquatic Organisms.</p> <p>Offshore Zone Existing Uses: Industrial Water Supply; Navigation; Contact and Non-Contact Water Recreation; Commercial and Sport Fishing; Marine Habitat; Wildlife Habitat; Preservation of Biological Habitats; Rare, Threatened or Endangered Species; and Migration of Aquatic Organisms.</p>

2. Thermal Plan. The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. The Thermal Plan cites temperature objectives for coastal waters. Requirements of this Order implement the Thermal Plan.
3. California Ocean Plan. In 1972, the State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (hereinafter Ocean Plan), as amended. The latest amendment became effective on March 10, 2010. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean waters of the State. Ocean Plan beneficial uses applicable to ocean waters of the State are shown in Table F-3a.

Table F-3a. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Uses
001	Pacific Ocean	Industrial Water Supply; Navigation; Contact and Non-Contact Water Recreation; Commercial and Sport Fishing; Mariculture; Preservation and enhancement of designated Area of Special Biological Significance; Rare, Threatened or Endangered Species; Marine Habitat; Fish Migration; Fish spawning and Shellfish harvesting.

To protect the beneficial uses in ocean water, the Ocean Plan establishes water quality objectives and a program implementation. Requirements of this Order implement the Ocean Plan.

4. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
5. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board’s Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.
6. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations¹ section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

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

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

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

On November 10, 2010, the USEPA approved the State Water Board's 2010 303(d) List of Water Quality Limited Segments (hereinafter 303(d) list). The 303(d) list identifies water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations by point sources (water quality limited water bodies).

Santa Monica Bay (Offshore and Nearshore) is on the 303(d) list for the following pollutants/stressors from point and non-point sources: DDT (tissue & sediment, centered on Palos Verdes Shelf), PCBs (tissue & sediment), sediment toxicity, debris, and fish consumption advisory. Santa Monica Bay Beaches Total Maximum Daily Loads (TMDLs) for DDT, PCBs, sediment toxicity, and fish consumption advisory have not been scheduled.

On November 4, 2010, the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) adopted Resolution No. R10-010, a TMDL for debris in the nearshore and offshore areas of Santa Monica Bay. The Basin Plan amendment was adopted on May 2, 2011, and became effective on March 20, 2012. Discharges of debris, including trash and plastic pellets into Santa Monica Bay violate water quality objectives, impair beneficial uses, and cause pollution and nuisance. Zero trash is defined as no trash discharged into water bodies within the Santa Monica Bay Watershed Management Area (WMA) and then into Santa Monica Bay or on the shoreline of Santa Monica Bay. WLAs are assigned to the California Department of Transportation, Los Angeles County and the Cities in Los Angeles County (under Los Angeles County storm water MS4 NPDES Permit). This TMDL does not include WLAs applicable to individual industrial dischargers.

The Regional Board has adopted two TMDLs to reduce bacteria at Santa Monica Bay beaches (including Dockweiler Beach) during dry and wet weather. The Regional Board adopted the Dry Weather and Wet Weather TMDLs on January 24, 2002, and December 12, 2002, respectively (Resolution Nos. 2002-004 and 2002-022). These TMDLs were approved by the State Water Board, State Office of Administrative Law and USEPA Region 9 and became effective on July 15, 2003. In these TMDLs, waste load allocations (WLAs) are expressed as the number of sample days at a shoreline monitoring site that may exceed the single sample targets for total coliform, fecal coliform and enterococcus identified under "Numeric Target" in the TMDLs. Waste load allocations are expressed as allowable exceedance days because the bacterial density and frequency of single sample exceedances are the most relevant to public health protection at beaches. Chevron was not assigned a WLA in this TMDL.

Consistent with 40 CFR 130.2 and 130.7, section 303(d) of the CWA and USEPA guidance for developing TMDLs in California (USEPA, 2000a), the USEPA issued the *Santa Monica Bay TMDLs for DDTs and PCBs* on March 26, 2012. It includes waste load allocations (WLAs) for DDT and PCBs for point sources, including the Chevron El Segundo Refinery that are given in Table 6-2 of the TMDL. This Order implements the requirements of the Santa Monica Bay TMDL for DDTs and PCBs.

E. Other Plans, Policies and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

The list of pollutants of concern is based on constituents that are regulated in the Ocean Plan and were detected in the effluent, as well as pollutants listed in the 303(d) List for the Santa Monica Bay, Dockweiler Beach and pollutants that commonly occur at similar facilities. The Facility produces: reformulated gasoline, jet fuel, diesel fuel, fuel oils, liquefied petroleum gases, fuel blending components, coke, ammonia, and molten sulfur.

As reported in the permit renewal application, process and non-process wastewater, cooling tower blowdown, facility storm water generated on site and in the process areas, and storm water from construction sites including those greater than one acre or more may be discharged through Discharge Point 001 to the Santa Monica Bay. There are no City managed storm water catch basins close to construction activities, therefore, the storm water from construction sites will be collected and treated with the other wastewaters. The industrial storm water from the Facility may come in contact with the raw materials and the products, which consist of several organic and inorganic compounds. Therefore, the pollutants of concern for this type of discharge include: anthracene; benzo(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; benzo(a)pyrene; chrysene; dibenzo(a)anthracene; indeno(1,2,3-cd)pyrene; fluorene; pyrene; arsenic; cadmium; copper; lead; mercury; nickel; selenium; silver; thallium; zinc, cyanide, and total petroleum hydrocarbons (TPH). The storm water may also come in contact with roads, buildings, and service areas. Solids and oil and grease are typical pollutants found in storm water discharges from industrial facilities, specifically refineries.

Based on the type of operation, the Facility is categorized as a cracking refinery as defined in section 419.20, which establishes effluent limitations for pH, BOD, COD, TSS, oil and grease, phenolic compounds, ammonia as N, sulfide, total chromium, and hexavalent chromium for contaminated storm water runoff; therefore, they are considered pollutants of concern. These constituents have limits included in the Order.

Data collected over the term of the previous permit indicates that the discharge does not have reasonable potential to exceed water quality objectives for arsenic, cadmium, copper, lead, mercury, nickel, selenium, silver, zinc, cyanide, benzene, ethylbenzene, and toluene (these pollutants were limited in Order No. R4-2006-0089).

The variety of potential pollutants found at the Facility present a potential for aggregate toxic effects to occur. Acute and chronic toxicity are considered pollutants of concern for evaluation of narrative Basin Plan Objectives. The permit includes limits for acute toxicity.

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

Mass-based effluent limitations have been included for the wet weather events and during dry weather. The mass emission rates for wet weather events are applicable when there is 0.1 inches of rain or more in a 24-hour period. The wet weather event limits are calculated based on the wet weather event maximum flow rate of 27 million gallons per day (MGD). The dry weather emission rates are calculated based on the flow rate of 8.8 MGD. However, in instances where the dry weather discharge flow exceeds 8.8 MGD, the mass effluent limits are recalculated using the actual flow up to 27 MGD.

A. Discharge Prohibitions

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

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.

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

- a. Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.
- d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

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

USEPA has established standards of performance (technology-based limitations and standards) for the petroleum refining industry at Part 419, *Effluent Limitations Guidelines for the Petroleum Refining Point Source Category*. Subpart B of these regulations for the Cracking Subcategory apply to discharges from the Facility and have been used to develop limitations and requirements of this Order.

2. Applicable Technology-Based Effluent Limitations

The refinery is classified as a “cracking refinery” as defined by the USEPA in section 419.20. Therefore, the USEPA Effluent Guidelines and Standards for Petroleum Refining Point Sources (Part 419, Subpart B) based on Best Available Technology Economically Achievable (BAT), Best Practicable Control Technology (BPT), and/or Best Conventional Pollutant Control technology (BCT), whichever are more stringent, are applicable to the discharge. Effluent limitations guidelines have been established for the following pollutants: BOD₅, TSS, COD, oil and grease, phenolic compounds, ammonia as N, sulfide, total chromium, hexavalent chromium, and pH. The application of these guidelines and standards requires that technology-based

effluent limitations for Discharge Point 001 be derived based on refinery production (the total crude oil throughput of the facility, also known as feed rate) and the treatment processes used.

A crude oil credit has been granted for the treatment of contaminated groundwater. The crude oil credit has been carried over from the previous Order (R4-2006-0089). Analysis by the Discharger of the contaminated groundwater indicates that it is similar to normal Facility effluent. The estimated contaminated groundwater processed will be similar to the previous five-year average, approximately 795,500 gallons per day (gpd). This translates to a 24,500 BPOD crude credit. The crude credit was derived by using Table 19 of EPA's report *Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Petroleum Refining Point Source Category*, dated April 1974. Using median flow values obtained from Table 19, the throughput of one barrel of crude generates 32.5 gallons of wastewater. Therefore, the treatment of 795,500 gpd of contaminated groundwater is equivalent to approximately 24,500 barrels per day.

Based on information provided by the Discharger in the Report of Waste Discharged, the effluent limitations in this permit are based on facility production rates of 289,500 barrels per operating day (BPOD). Future refinery production rates are expected to continue at approximately 265,000 BPOD, and the refinery's rated throughput capacity is 275,000 BPOD. The technology-based effluent limitations for Discharge Point 001 have been derived based on refinery production (the total crude oil throughput of the facility) and the treatment processes used:

Table F-4. Determination of Size and Process Factor per 40 CFR 419 Subpart B

Size Factor	
1,000 bbl of feedstock per stream day	Size Factor
Less than 24.9	0.91
25.0 to 49.9	0.95
50.0 to 74.9	1.04
75.0 to 99.9	1.13
100.0 to 124.9	1.23
125.0 to 149.9	1.35
150.0 or greater	1.41
Process Factor	
Process configuration	Process Factor
Less than 2.49	0.58
2.5 to 3.49	0.63
3.5 to 4.49	0.74
4.5 to 5.49	0.88
5.5 to 5.99	1.00
6.0 to 6.49	1.09
6.5 to 6.99	1.19
7.0 to 7.49	1.29
7.5 to 7.99	1.41
8.0 to 8.49	1.53

Limits = Throughput x Size Factor x Process Factor x Effluent limit (found in 40 CFR).

Where the following was applicable:

Throughput = 289.5 (kbbbl/day)

Size Factor = 1.41

Process Factor = 1.19

Size Factor. At a crude processing rate of 285,500 bbls/day, the appropriate size factors, pursuant to the ELGs at section 419.52(b)(1) for BPT, at section 419.53(b)(1) for BAT, and at section 419.54(b)(1) for BCT, for derivation of technology-based effluent limitations is 1.41.

Process Factor. The process configuration for each process is determined by summing the process feedstock rates for each crude, cracking and coking, lube, and asphalt process at the refinery. Each individual feedstock rate is multiplied by the capacity relative to the throughput, and a weight factor specific for each process, to derive a “process configuration,” which in turn is used to determine a “process factor” in accordance with the ELGs at section 419.22 for BPT, at section 419.23 for BAT, and at section 419.24 for BCT.

Processes considered in deriving the process factors are those processes within the crude and cracking and coking categories as reported by the Discharger, which correspond to the process groups listed within the Guide for the Application of Effluent Limitations Guidelines for the Petroleum Refining Industry (page 19). The Discharger does not include asphalt or lube processes, so these process groups are not considered in determining process factors.

Derivation of the process configuration for a production rate of 289,500 bbls/day is shown in the following table.

Table F-5. Process Configuration for Discharge Point 001

Production at 289,500 bbls/day				
Process	Process Feedstock Rate (x 1,000 bbls/day)	Process Feedstock Rate Relative to Refinery Feedstock Rate	Weighting Factor	Process Configuration
Crude				
Atomospheric Distillation	289.5	1.00		
Vacuum Crude Distillation	155.8	0.54		
Desalting	287	0.99		
Total	732.3	2.53	1	2.53
Cracking & Coking				
Fluid Catalytic Cracking	71.1	0.25		
Coking	80.3	0.28		

Production at 289,500 bbls/day				
Process	Process Feedstock Rate (x 1,000 bbls/day)	Process Feedstock Rate Relative to Refinery Feedstock Rate	Weighting Factor	Process Configuration
Hydrocracking	49.6	0.17		
Hydrotreating products		0.00		
Total	201.0	0.69	6	4.17
Hydrotreating products (not included in process configuration for cracking and coking)	70.6			
Lubes				
Total	0	0.00	13	0.00
Asphalt				
Total	0	0.00	12	0.00
Reforming & Alkylation				
Cat reforming	46.6			
H2SO4 Alkylation	21.4			
Total	68			
Total Refinery Process Configuration at 289,500 bbls/day				6.70

Using BOD as an example, and shown in Table F-4 below, the technology-based effluent limits were calculated as the following:

$$289.5 \times 1.41 \times 1.19 \times 9.9 = 4,808.94$$

Table F-6 summarizes the technology-based effluent limitations based on the ELGs for process wastewater discharges during dry weather (up to 8.8 MGD):

Table F-6. Summary of Process Wastewater Technology-based Effluent Limitations for Discharge Point 001 During Dry Weather

Parameter	Effluent Limit in 40 CFR 419 B						Final Limit ¹		ELG Basis for Final Limit
	BPT 419.22		BAT 419.23		BCT 419.24		Daily Max	30-day Avg.	
	Daily Max	30-day Avg.	Daily Max	30-day Avg.	Daily Max	30-day Avg.			
	(lb/kbbl)	(lb/kbbl)	(lb/kbbl)	(lb/kbbl)	(lb/kbbl)	(lb/kbbl)	(lb/day)	(lb/day)	
BOD ₅	9.9	5.5	--	--	9.9	5.5	4,809	2,672	BPT/BCT
TSS	6.9	4.4	--	--	6.9	4.4	3,352	2,137	BPT/BCT
COD	74	38.4	74	38.4	--	--	35,946	18,653	BPT/BAT
Oil and Grease	3	1.6	--	--	3	1.6	1,457	777	BPT/BCT
Phenolic Compounds	0.074	0.036	2	2	--	--	36	14	BPT/BAT
Ammonia	6.6	3	6.6	3	--	--	3,206	1,457	BPT/BAT

Parameter	Effluent Limit in 40 CFR 419 B						Final Limit ¹		ELG Basis for Final Limit
	BPT 419.22		BAT 419.23		BCT 419.24		Daily Max	30-day Avg.	
	Daily Max	30-day Avg.	Daily Max	30-day Avg.	Daily Max	30-day Avg.			
	(lb/kbbl)	(lb/kbbl)	(lb/kbbl)	(lb/kbbl)	(lb/kbbl)	(lb/kbbl)	(lb/day)	(lb/day)	
Sulfide	0.065	0.029	0.065	0.029	--	--	32	14	BPT/BAT
Total Chromium	0.15	0.088	²	²	--	--	48	17	BAT
Hexavalent Chromium	0.012	0.0056	²	²	--	--	3.0	1.4	BAT
pH	The pH of the wastes discharged shall be within the range of 6.0 to 9.0 pH units.						6.0 – 9.0		BPT/BAT/BCT

¹ Final Limits = throughput x size factor x process factor x effluent limit in 40 CFR. The feed rate for the Facility is 289.5; the Size Factor = 1.41; and the Process Factor = 1.19.

² BAT effluent limitation factor for Phenolic Compounds, Total Chromium and Hexavalent Chromium is found at section 419.23(c) – see Table F-8 below for derivation of BAT limitations for total and hexavalent chromium and phenolic compounds.

BAT limitations for total and hexavalent chromium and phenolic compounds are based on feedstock rates. Figures used in calculations for this Order are shown in the following table.

Table F-7. Feedstock Rates for Determining BAT Limitations

Refinery Throughput	289,500 bbls/day
Crude	
Atmospheric Distillation	289.5
Vacuum Crude Distillation	155.8
Desalting	287
Total	732.3
Cracking & Coking	
Fluid Catalytic Cracking	71.1
Coking	80.3
Hydrocracking	49.6
Hydrotreating products	70.6
Total	271.6
Lubes	
Total	0
Asphalt	
Total	0
Reforming & Alkylation	
Cat reforming	46.6
H2SO4 Alkylation	21.4
Total	68

Based on the total feedstock rates shown above, derivation of BAT limitations for total and hexavalent chromium and phenolic compounds are shown in the following table.

Table F-8. BAT Limitations for Process Wastewater (Chromium and Phenolics)

Pollutant	Preliminary Effluent Limitations Factor		Feedstock Rate	Effluent Limitations	
	Maximum Daily	Average Monthly		Maximum Daily	Average Monthly
Production at 289,500 bbls/day					
<i>Phenolic Compounds</i>					
Crude	0.013	0.003	732.3	9.52	2.20
Cracking & Coking	0.147	0.036	271.6	39.93	9.78
Asphalt	0.079	0.019	---	---	---
Lube	0.369	0.090	---	---	---
Reforming & Alkylation	0.132	0.032	68.0	8.98	2.18
Limit (sum)	--	--	---	58	14.2
<i>Total Chromium</i>					
Crude	0.011	0.004	732.3	8.06	2.93
Cracking & Coking	0.119	0.041	271.6	32.32	11.14
Asphalt	0.064	0.022	---	---	---
Lube	0.299	0.104	---	---	---
Reforming & Alkylation	0.107	0.037	68.0	7.28	2.52
Limit (sum)	---	---	---	48	16.6
<i>Hexavalent Chromium</i>					
Crude	0.0007	0.0003	732.3	0.51	0.22
Cracking & Coking	0.0076	0.0034	271.6	2.06	0.92
Asphalt	0.0041	0.0019	---	---	---
Lube	0.0192	0.0087	---	---	---
Reforming & Alkylation	0.0069	0.0031	68.0	0.47	0.21
Limit (sum)	---	---	---	3.0	1.4

Additionally, incremental limits are permitted during wet weather discharges (during periods of rainfall and thereafter when rainfall runoff is being discharged) during the wet season [November 1 – March 31] in addition to the 30-day average and daily maximum process limitations during dry weather for pollutants with limits based on Part 419, Subpart B. The Discharger, as entitled, is given higher flow limits during rain events. The percentage of daily runoff that is considered “contaminated runoff” shall not be changed from that previously determined unless a revised percentage has been approved in writing by the Executive Officer. Based on information

provided by the Discharger 89.3% of the rainfall runoff is considered contaminated as defined in section 419.11(g).

Technology-based effluent limitations for contaminated runoff through Discharge Point 001 have been calculated based on the total wet weather flow minus the dry weather process flow (27 MGD - 8.8 MGD) of which the Discharger indicated that 89.3% of this rainfall runoff was considered contaminated as defined in section 419.11(g). These limits were calculated based on the contaminated runoff ELGs: BPT section 419.22(e); BAT section 419.23(f) and BCT section 419.24(e).

Limits = Effluent Limit (found in 40 CFR) X Contaminated runoff

Using BOD as an example, the following was applicable:

Effluent limit found in 40 CFR: 0.4 lb/1000 gallons

Contaminated runoff: 18.2 MGD x 89.3% = 16,252,000 gal/day

$$\text{Limit} = 0.4 \times \frac{16,252,000 \text{ gallons/day}}{1,000 \text{ gallons}} = 6,500.8 \text{ lb/day}$$

Table F-9 summarizes the contaminated storm water runoff technology-based effluent limitations based on the ELGs for discharges during wet weather (up to 27 MGD):

Table F-9. Summary of Storm water Technology-based Effluent Limitations for Discharge Point 001 During Wet Weather

Parameter	Effluent Limit in 40 CFR 419 B						Final Limit ¹		ELG Basis for Final Limit
	BPT 419.22(e)		BAT 419.23(f)		BCT 419.24(e)		Daily Max	30-day Avg.	
	Daily Max (lb/1000 gal)	30-day Avg. (lb/1000 gal)	Daily Max (lb/1000 gal)	30-day Avg. (lb/1000 gal)	Daily Max (lb/1000 gal)	30-day Avg. (lb/1000 gal)	(lb/day)	(lb/day)	
BOD ₅	0.4	0.22	--	--	0.4	0.22	6,501	3,576	BPT/BCT
TSS	0.28	0.18	--	--	0.28	0.18	4,551	2,925	BPT/BCT
COD	3.0	1.5	3.0	1.5	--	--	48,758	24,379	BPT/BAT
Oil and Grease	0.13	0.067	--	--	0.13	0.067	2,113	1,089	BPT/BCT
Phenolic Compounds	0.0029	0.0014	0.0029	0.0014	--	--	47.1	22.8	BPT/BAT
Ammonia	--	--	--	--	--	--	--	--	--
Sulfide	--	--	--	--	--	--	--	--	--
Total Chromium	0.006	0.0035	0.005	0.0018	--	--	81	29.3	BPT/BAT
Hexavalent Chromium	0.00052	0.0002	0.0005	0.00023	--	--	8.5	3.74	BPT/BAT
pH	The pH of the wastes discharged shall be within the range of 6.0 to 9.0 pH units.						6.0 – 9.0		BPT/BCT/BAT

The previous Order included effluent limitations for BOD, TSS, COD, oil and grease, sulfide, ammonia as N, hexavalent chromium and pH. This Order establishes limits for all applicable ELGs including the following: BOD₅, TSS, COD, oil and grease, phenolic compounds, ammonia as N, sulfide, total chromium, hexavalent chromium, and pH.

Section 402(o) of the CWA and section 122.44(l) require that effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Orders. Table F-10 summarizes the final technology based effluent limitations based on the ELGs for process wastewater discharges during dry weather:

Table F-10. Summary of Final Technology-based Effluent Limitations for Discharge Point 001 During Dry Weather

Parameter	Units	Average Monthly Effluent Limitations	Maximum Daily Effluent Limitations
BOD ₅	lbs/day	2,672	4,809
TSS	lbs/day	2,137	3,352
COD	lbs/day	18,653	35,946
Oil and Grease	lbs/day	777	1,457
Phenolic Compounds	lbs/day	14	36
Ammonia as N	lbs/day	3,206	1,457
Sulfide	lbs/day	14	32
Total Chromium	lbs/day	17	48
Hexavalent Chromium	lbs/day	1.4	3
pH	s.u.	---	1

The pH of the wastes discharged shall remain within the range of 6.0 to 9.0 pH units. Excursions from the range are permitted by 40 CFR 401.17 for (a) the total time during which the pH values may be outside of the required range shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

The final wet weather technology-based limits were calculated to take into account the storm water runoff during the wet season that is commingled with the process water before discharge. [These are the total process flow limits found in Table F-6 during dry weather plus the incremental contaminated storm water limits during wet weather found in Table F-9].

For example, the average monthly BOD₅ technology-based limit = 2,672 lbs/day (from Table F-6) + 3,576 lbs/day (from Table F-9) = 6,248 lbs/day

Table F-11. Summary of Final Technology-based Effluent Limitations for Discharge Point 001 During Wet Weather

Parameter	Units	Average Monthly Effluent Limitations	Maximum Daily Effluent Limitations
BOD ₅	lbs/day	6,248	11,310
TSS	lbs/day	5,062	7,903
COD	lbs/day	43,032	84,704
Oil and Grease	lbs/day	1,866	3,570
Phenolic Compounds	lbs/day	37	83
Ammonia as N	lbs/day	1,457	3,206
Sulfide	lbs/day	14	32
Total Chromium	lbs/day	46	129
Hexavalent Chromium	lbs/day	5.1	11.5
pH	s.u.	---	1

The pH of the wastes discharged shall be within the range of 6.0 to 9.0 pH units. Excursions from the range are permitted by 40 CFR 401.17 for (a) 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

This Order requires the Discharger to update and continue to implement the SWPPP, BMPP to prevent the discharge of hazardous waste/material to waters of the State. In order to prevent major oil spills, this Order requires the Discharger to update and implement a Spill Prevention, Control, and Countermeasures (SPCC) plan. Further discussion of SWPPP, and BMPP are provided in d Attachment G. The combination of the SWPPP, BMPP, and SPCC, and existing Order limitations based on ELGs shall serve as technology-based effluent limitations, in order to carry out the purposes and intent of the CWA.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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

supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Ocean Plan. Additional WQBELs for temperature are required as specified in the Thermal Plan.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

As noted in Section III.C of this Fact Sheet, the State Water Board adopted an Ocean Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Ocean Plan. The beneficial uses applicable to the Pacific Ocean are summarized in Section III.C.1 of this Fact Sheet. The Ocean Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

Table B of the Ocean Plan (Table B) includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

- 1) 6-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total residual chlorine and chronic toxicity, for the protection of marine aquatic life.
- 2) 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health.
- 3) 30-day average objectives for 42 carcinogenic chemicals for the protection of human health.
- 4) Daily maximum objectives for acute and chronic toxicity.

3. Determining the Need for WQBELs

The need for effluent limitations based on water quality objectives in Table B of the Ocean Plan was evaluated in accordance with section 122.44(d) and guidance for statistically determining the “reasonable potential” for a discharged pollutant to exceed an objective, as outlined in the California Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution), can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation.

The water quality objectives contained in the Ocean Plan for pollutants for which detected effluent data exist or were previously limited in Order No. R4-2006-0089, are summarized in Table F-12, below.

Table F-12. Ocean Plan Water Quality Objectives

Parameter	6-Month Median (µg/L)	Daily Maximum (µg/L)	Instantaneous Maximum (µg/L)	30-Day Average (µg/L)
Arsenic	8	32	80	--
Cadmium	1	4	10	--
Chromium VI	2	8	20	--
Copper	3	12	30	--
Lead	2	8	20	--
Mercury	0.04	0.16	0.4	--
Nickel	5	20	50	--
Selenium	15	60	150	--
Silver	0.7	2.8	7	--
Zinc	20	80	200	--
Cyanide	1	4	10	--
Total Residual Chlorine	2	8	60	--
Ammonia (as N)	600	2400	6000	--
Chronic Toxicity	--	1	--	--
Phenolic Compounds	30	120	300	--
Chlorinated Phenolics	1	4	10	--
Endosulfan	0.009	0.018	0.027	--
Endrin	0.002	0.004	0.006	--
HCH	0.004	0.008	0.012	--
Thallium	--	--	--	2
Tributyltin	--	--	--	0.0014
Acrylonitrile	--	--	--	0.10
Aldrin	--	--	--	0.000022
Benzene	--	--	--	5.9
Benzidine	--	--	--	0.000069
Beryllium	--	--	--	0.033
Bis(2-chloroethyl)ether	--	--	--	0.045
Carbon Tetrachloride	--	--	--	0.90
Chlordane	--	--	--	0.000023
3,3'-dichlorobenzidine	--	--	--	0.0081
Dieldrin	--	--	--	0.00004
1,2-diphenylhydrazine	--	--	--	0.16
Heptachlor	--	--	--	0.00005

Parameter	6-Month Median (µg/L)	Daily Maximum (µg/L)	Instantaneous Maximum (µg/L)	30-Day Average (µg/L)
Heptachlor Epoxide	--	--	--	0.00002
Hexachlorabenzene	--	--	--	0.00021
N-nitrosodi-N-propylamine	--	--	--	0.38
PAHs	--	--	--	0.0088
TCDD equivalents	--	--	--	0.0000000039
Toxaphene	--	--	--	0.00021
2,4,6-trichlorophenol	--	--	--	0.29
Total Chromium	No water quality objectives contained in the Ocean Plan			
Bromoform	No water quality objectives contained in the Ocean Plan			
Chlorodibromomethane	--	--	--	8.6
Chloroform	--	--	--	130
Ethylbenzene	--	--	--	4,100
Toluene	--	--	--	85,000

According to the 2009 Ocean Plan amendment, the reasonable potential analysis (RPA) can yield three endpoints:

- 1) Endpoint 1, an effluent limitation is required and monitoring is required;
- 2) Endpoint 2, an effluent limitation is not required and the Regional Water Board may require monitoring; and
- 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion.

Effluent data submitted to the Regional Water Board for the period from February 2007 through February 2011 and the dilution credit applicable to the ocean outfall (80:1) were considered to evaluate reasonable potential in accordance with the procedures contained in the Ocean Plan (2009). Based on the possible endpoints, a subset of parameters (i.e., arsenic, cadmium, copper, cyanide, lead, mercury, nickel, selenium, silver, zinc, chromium (total), ethylbenzene, toluene, and benzene) required additional evaluation using the *RPcalc 2.0* software tool developed by the State Water Board was used for conducting RPAs. Based on the evaluation using the *RPcalc 2.0* software tool, the discharge does not demonstrate reasonable potential for arsenic, lead, mercury, nickel, selenium, zinc, total chlorine residual, cadmium, , copper, cyanide, benzene, ethylbenzene and toluene; Endpoint 2 was reached through analysis. Thus, as specified in the 2009 Ocean Plan, the previous effluent limitations for arsenic, cadmium, copper, lead, mercury, nickel, cyanide, zinc, and benzene are not included; however, monitoring requirements remain in the Order. Mercury is being regulated using a performance goal. Using the *RPcalc 2.0*

software tool, it was determined for silver satisfied Endpoint 2 and thus a limit is not required under the California Ocean Plan.

For many of the Table B parameters, most of the sampling events yielded non-detect results. Evaluation using the *RPcalc 2.0* software tool yielded Endpoint 3 result. This result means the RPA was inconclusive. The Ocean Plan indicates monitoring for the pollutant or whole effluent toxicity testing is required. It also indicates an existing effluent limitation for a pollutant shall remain in the permit. Hence, the WQBELs for the constituents with an *RPcalc 2.0* Endpoint 3 that were included in Order R4-2006-0089 have been included in this Order along with the monitoring requirements.

4. 303(d) Listed Constituents and Discharge Limitations – DDT and PCBs

At various locations in Santa Monica Bay, DDT, and PCBs are found in sediments at levels that can be harmful to marine organisms. In addition, DDT and PCBs are found in certain Bay-captured seafood species at levels posing potential health risks to humans. A brief description of these pollutants and their occurrence in Santa Monica Bay is given below.

In the U.S., DDT, an organochlorine insecticide, was widely used in agricultural and urban settings until they were banned in 1973. PCBs, a large group of industrial and commercial chemicals, were widely used as coolants and lubricants in transformers, capacitors and other electronic equipment until the late 1970s when their manufacture was banned. Because of their stable properties, DDT and PCBs persist in the environment, the result of historical uses which no longer occur. They have low water solubility and are generally found in sediments and fish tissue.

Nearshore and offshore waters of Santa Monica Bay are on California’s 2010 303(d) list of water quality limited segments for DDT (sediment and tissue, centered on Palos Verdes Shelf) and PCBs (sediment and tissue). Consistent with 40 CFR 130.2 and 130.7, section 303(d) of the CWA and USEPA guidance for developing TMDLs in California (USEPA, 2000a), the USEPA issued the *Santa Monica Bay TMDLs for DDTs and PCBs* on March 26, 2012, The waste load allocations (WLAs) for DDT and PCBs for Chevron El Segundo Refinery as given in Table 6-2 of the TMDL are :

Facility	Design Flow, mgd	DDT ¹ (ng/l)	PCBs ² (ng/l)	DDT ¹ (grams/yr)	PCBs ² (grams/yr)
Chevron, El Segundo Refinery	27	9.6	0.259	358	10

1. DDT means the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD, and 2,4'-DDD.
 2. PCBs mean the sum of Aroclor-1016, 1221, 1232, 2342, 1248, 1254, and 1260 when monitoring using USEPA method 608. PCBs mean the sum of 41 congeners when monitoring using USEPA proposed method 1668c. PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105,110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206 shall be individually quantified

WQBELs for permitted facilities discharging directly to the Santa Monica Bay ocean waters are established assuming that the background concentrations of DDT and PCBs are zero, as prescribed in the California Ocean Plan (COP). However, as discussed in the TMDL, the concentrations of DDT and PCBs in Santa Monica Bay are not zero. Concentrations are typically highest near the sediment bed and decrease exponentially with distance from the sediment bed, such that concentrations in the surface water are below the COP objectives. The water column estimates derived for model development were used to calculate average background water column concentrations for DDT and PCBs. The estimated background DDT concentrations were 0.078 nanograms/liter (ng/l) for the Palos Verdes shelf and 0.057 ng/l for Santa Monica Bay. The estimated background PCBs concentrations were 0.017 ng/l for the Palos Verdes shelf and 0.016 ng/l for Santa Monica Bay.

For the specified facilities discharging directly to ocean waters, concentration-based WLAs in Table 6-2 were calculated with Equation 1 in the COP:

Equation 1: $C_e = C_o + D_m (C_o - C_s)$, where:

C_e = effluent concentration limit, ng/l

C_o = water quality objective to be met at the completion of initial dilution, ng/l

C_s = background seawater concentration, ng/l

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

For the Chevron El Segundo Refinery, the concentration-based WLAs in Table 6-2 are calculated with COP Equation 1, using the currently permitted initial dilution (D_m) value of 80 and the estimates of the background concentrations for DDT and PCBs developed for this TMDL.

5. WQBEL Calculations

From the Table B water quality objectives of the Ocean Plan, effluent limitations are calculated according to Equation 1 of the Ocean Plan for all pollutants, except for acute toxicity (if applicable) and radioactivity:

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

Where:

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

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

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

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

The Dm is based on observed waste flow characteristics, receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure.

The State Water Board had determined the minimum initial dilution factor, Dm, for the ocean outfall to be 80 to 1. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. As stated above, the water quality objective to be met at the completion of initial dilution is contained in Table B of the Ocean Plan. The values provided in Table C of the Ocean Plan are presented in Table F-13, below. , Cs equals zero for all pollutants, except the following:

Table F-13. Background Seawater Concentrations (Cs)

Parameter	Ocean Plan Table C Background Concentration (µg/L)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8

WQBELs based on the dilution provided at the outfall for mercury are developed using Equation 1 of the Ocean Plan and the Ocean Plan background concentration.

WQBELs Calculation Example

The following demonstrates how the WQBELs for mercury, are established.

Concentration-Based Effluent Limitations

Mercury

$$C_e = 0.04 \mu\text{g/L} + 80 (0.04 \mu\text{g/L} - 0.0005) = 3.2 \mu\text{g/L} \text{ (6-Month Median)}$$

$$C_e = 0.16 \mu\text{g/L} + 80 (0.16 \mu\text{g/L} - 0.0005) = 12.9 \mu\text{g/L} \text{ (Daily Maximum)}$$

$$C_e = 0.4 \mu\text{g/L} + 80 (0.4 \mu\text{g/L} - 0.0005) = 32.3 \mu\text{g/L} \text{ (Instantaneous Maximum)}$$

6. Temperature

On July 24, 1989, the Regional Water Board adopted Order 89-079 increasing the effluent temperature limitation from 100°F to 104°F. This Order carries over the following effluent temperature limitation: the temperature of the wastes discharged shall not exceed that necessary to assure protection of the beneficial uses of the receiving waters; but in no case shall the temperature exceed 104°F in the effluent.

7. Bacteria Compliance

Both the State Water Resources Control Board (SWRCB) and the California Department of Health Services (DHS) have established standards to protect water contact recreation in coastal waters from bacterial contamination. Bacterial objectives have been adopted by the SWRCB for ocean waters used for water contact recreation. The following bacteria objectives can be found in the Ocean Plan, and have been carried over from the previous Order.

Rolling 30-day Geometric Mean Limits:

- a) Total coliform density shall not exceed 1,000/100 ml
- b) Fecal coliform density shall not exceed 200/100 ml
- c) Enterococcus density shall not exceed 35/100 ml.

Single Sample Limits:

- a) Total coliform density shall not exceed 10,000/100 ml
- b) Fecal coliform density shall not exceed 400/100 ml
- c) Enterococcus density shall not exceed 104/100 ml.
- d) Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

8. Whole Effluent Toxicity (WET)

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

A review of discharge data the Discharger provided during the permit term indicated 49 data points exist for chronic toxicity results; the range of values reported from $< 10 \text{ TU}_c$ to 77 TU_c for the period from February 2007 through February 2011. The chronic toxicity limit of 81 TU_c included in Order No. R4-2006-0089 has been retained in this permit.

While the 2009 Ocean Plan specifies that discharges with dilution ratios below 100:1 must conduct chronic toxicity testing, it does not preclude permitting authorities implementing section 122.44(d)(1) from establishing acute toxicity testing requirements, and effluent limitations, to ensure protection of the acute toxicity objective. Because the acute toxicity effluent quality DMR data for Discharger’s ocean discharges having dilution ratios greater than 80:1 periodically show acute toxicity and acute toxicity data collected under the 2006 permit show that the Facility’s discharge has reasonable potential to exceed the current Ocean Plan objective for acute toxicity. A review of discharge data the Discharger provided during the permit term indicated 49 data points exist for acute toxicity results; the

range of values reported from 0.94 TU_a to 15.7 TU_a for the period from February 2007 through February 2011. This Order establishes a daily maximum acute toxicity effluent limitation for Discharge Point 001 and testing protocols consistent with the 2009 Ocean Plan.

Using the objective of 0.3 TU_a for the daily maximum and 10% of the dilution ratio (as the acute toxicity mixing zone), the daily maximum acute toxicity limit for Discharge Point 001 is calculated as follows:

$$C_e = C_a + (0.1) D_m (C_a)$$

Where:

C_e = the effluent daily maximum limit for acute toxicity

C_a = the concentration (water quality objective) to be met at the edge of the acute mixing zone

D_m = minimum probable initial dilution expressed as parts seawater per part wastewater (80:1 for Discharge Point 001) (This equation applies only when D_m > 24.)

$$C_e = 0.3 + (0.1)(80)(0.3) = 2.7 \text{ TU}_a$$

9. Final WQBELs

Effluent limitations for arsenic, cadmium, lead, mercury, nickel, silver, selenium, zinc, total chlorine residual, and benzene, have not been included since these constituents did not demonstrate reasonable potential. The RPA resulting in Endpoint 3 (which indicates that the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion) for a number of constituents. Based on this result, the following effluent limitations have been carried over from the previous Order: chlorinated phenols, endosulfan, endrin, HCH, radioactivity, thallium, tributyltin, acrylonitrile, aldrin, benzidine, beryllium, bis(2-chloroethyl)ether, carbon tetrachloride, chlordane, DDT, 3,3'-dichlorobenzidine, dieldrin, 1,2-diphenylhydrazine, heptachlor, heptachlor epoxide, hexachlorobenzene, N-nitrosodi-N-propylamine, PAHs, PCBs, TCDD equivalents, toxaphene and 2,4,6-trichlorophenol. Effluent limitations for temperature have also been included from the previous permit.

Table F-14. Summary of Water Quality-based Effluent Limitations Discharge Point 001

Parameter	Units	Effluent Limitations			
		6-Month Median	30-Day Average	Maximum Daily	Instantaneous Maximum
Temperature	°F	--	--	--	104
Acute Toxicity	TU _a	--	--	2.7	--
Chronic Toxicity	TU _c	--	--	81	--
Ammonia as N	mg/L	48.6	--	194.4	486

Parameter	Units	Effluent Limitations			
		6-Month Median	30-Day Average	Maximum Daily	Instantaneous Maximum
Chlorinated Phenolics	µg/L	81	--	324	810
Endosulfan	µg/L	0.729	--	1.458	2.187
Endrin	µg/L	0.162	--	0.324	0.486
HCH	µg/L	0.320	--	0.640	0.972
Radioactivity	pci/L	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the CFR. Reference to 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
Thallium	µg/L	--	162	--	--
Tributyltin	µg/L	--	0.11	--	--
Acrylonitrile	µg/L	--	8.1	--	--
Aldrin	µg/L	--	0.00178	--	--
Benzidine	µg/L	--	0.0056	--	--
Beryllium	µg/L	--	2.7	--	--
Bis(2-chloroethyl)ether	µg/L	--	3.6	--	--
Carbon Tetrachloride	µg/L	--	73	--	--
Chlordane	µg/L	--	0.00186	--	--
DDT ¹	µg/L	--	0.0096	--	--
3,3'-dichlorobenzidine	µg/L	--	0.66	--	--
Dieldrin	µg/L	--	0.0032	--	--
1,2-diphenylhydrazine	µg/L	--	13.0	--	--
Heptachlor	µg/L	--	0.0041	--	--
Heptachlor Epoxide	µg/L	--	0.00162	--	--
Hexachlorobenzene	µg/L	--	0.0170	--	--
N-nitrosodi-N-propylamine	µg/L	--	30.8	--	--
PAHs	µg/L	--	0.71	--	--
PCBs ²	µg/L	--	0.000259	--	--
TCDD equivalents	µg/L	--	0.00000032	--	--
Toxaphene	µg/L	--	0.0170	--	--
2,4,6-trichlorophenol	µg/L	--	23	--	--
Total coliform	MPN/100 ml	--	1,000	--	10,000
Fecal coliform	MPN/100 ml	--	200	--	400
Enterococcus	MPN/100 ml	--	35	--	104

¹. DDT means the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD, and 2,4'-DDD.

². PCBs mean the sum of Aroclor-1016, 1221, 1232, 2342, 1248, 1254, and 1260 when monitoring using USEPA method 608. PCBs mean the sum of 41 congeners when monitoring using USEPA proposed method 1668c. PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105, 110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206 shall be individually quantified.

D. Final Effluent Limitations

Section 402(o) of the CWA and section 122.44(l) require that effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Orders based on the submitted sampling data. Effluent limitations for BOD₅, TSS, COD, oil and

grease, sulfide, pH, temperature, mercury, chlorinated phenolics, endosulfan, endrin, HCH, radioactivity, thallium, tributyltin, acrylonitrile, adrin, benzidine, beryllium, bis(2-chloroethyl)ether, carbon tetrachloride, chlordane, DDT, 3,3'-dichlorobenzidine, dieldrin, 1,2-diphenylhydrazine, heptachlor, heptachlor epoxide, hexachlorobenzene, N-nitrosodi-N-propylamine, PAHs, PCBs, TCDD equivalents, toxaphene, 2,4,6-trichlorophenol total coliform, fecal coliform, and enterococcus are being carried over from the previous Order (Order No. R4-2006-0089). Removal of these numeric limitations would constitute backsliding under CWA section 402(o).

Instantaneous maximum limitations have been established for the following pollutants: mercury, chlorinated phenolics, endosulfan, endrin, and HCH. Effluent limitations for acute toxicity have been established based on the demonstration of reasonable potential and in accordance with procedures contained in the Ocean Plan.

Order R4-2006-0089 did not contain effluent limits for total chromium or phenolic compounds. Effluent limitations for phenolic compounds and total chromium have established based on applicable ELGs in this Order. Effluent limits for hexavalent chromium and ammonia (as N) have been revised in accordance with applicable ELGs and are more restrictive than the effluent limits contained in the previous Order.

Performance goals have been carried over pursuant to Chapter III, Section F.2, of the 2009 Ocean Plan which allows the Regional Water Board and USEPA to establish more restrictive water quality objectives and effluent limitations than those set forth in the Ocean Plan as necessary for the protection of the beneficial uses of ocean waters. Where a new effluent limitation has been included, performance goals have been established in this Order.

Pursuant to this provision and to implement the recommendation of the Water Quality Advisory Task Force (*Working Together for an Affordable Clean Water Environment, A final report presented to the California Water Quality Control Board, Los Angeles Region by Water Quality Advisory Task force, September 30, 1993*) that was adopted by the Regional Board on November 1, 1993, performance goals that are more stringent than those based on Ocean Plan objectives are prescribed in this Order. This approach is consistent with the antidegradation policy in that it requires the Discharger to maintain its treatment level and effluent quality, recognizing normal variations in treatment efficiency and sampling and analytical techniques. However, this approach does not address substantial changes in treatment plant operations that could significantly affect the quality of the treated effluent.

The performance goals are based upon the smaller dilution credit of 38:1 that was granted to Chevron before the extension of Ocean Outfall line and issuance of higher dilution credit of 80:1. Performance goals are intended to minimize pollutant loading (primarily for toxics) while maintaining the incentive for future voluntary improvement of water quality whenever feasible, without the imposition of more stringent limits based on improved performance. They are not considered as limitations or standards for the regulation of the discharge from the facility. The Executive Officer and USEPA may modify any of the performance goals if the Discharger requests and has demonstrated that the change is warranted.

Procedures for the determination of performance goals

1. Performance goals are calculated according to the equation $CPG = Co + Dm(Co - Cs)$ in the Ocean Plan, where

Co = is the most stringent six month median or 30-day average water quality objective value specified in Table B of the Ocean Plan.

Dm = Dilution credit of 38

Cs = Background seawater concentration.

The performance goal for mercury is calculated as follows:

Mercury

Co = 0.04 µg/L; Dm = 38; Cs = 0.0005

CPG = Performance Goal = $0.04 + 38(0.04 - 0.0005) = 1.54$ µg/L

The performance goals prescribed in this Order are not enforceable effluent limitations or standards. Any exceedance of the performance goals shall trigger an investigation into the cause of the exceedance. If the exceedance persists in two successive monitoring periods, the Discharger shall submit a written report to the Regional Board on the nature of the exceedance, the results of the investigation as to the cause of the exceedance, and the corrective actions taken or proposed corrective measures with a timetable for implementation, if necessary. No performance goals are established for pollutants that have limitations that are technology based. However, those pollutants have limits included and shall be monitored at an appropriate frequency.

1. Satisfaction of Anti-Backsliding Requirements

All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order (R4-2006-0089) with the exception of the effluent limits for: arsenic, cadmium, copper, lead, nickel, silver, cyanide, benzene and total residual chlorine. The effluent limitations for these constituents have been removed from this Order based on the determinations that they do not demonstrate Reasonable Potential using procedures in Appendix VI of the 2009 Ocean Plan and using the *RPcalc 2.0* tool. The removal of these effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations (CWA sections 402(o)(1)/303(d)(4)) because levels of these parameters in the discharge are not expected to increase during this permit term and no lowering of receiving water quality should result from continued discharge of these parameters at currently monitored levels (see Satisfaction of Antidegradation Policy, below). All other effluent limitations are at least as stringent as the effluent limitations in the previous Order.

2. Satisfaction of Antidegradation Policy

Section 131.12 requires that the state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. The final limitations in this Order hold the Discharger to performance levels that will not cause or contribute to water quality impairment or degradation of water quality. Therefore, the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, TSS, COD, oil and grease, phenolic compounds, ammonia (as N), sulfide, total chromium, hexavalent chromium and pH. Effluent limits for phenolic compounds and total chromium were not included in the previous Order and have been included pursuant to ELGs. This Order's technology-based pollutant restrictions implement the Ocean Plan requirements.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Instantaneous maximum effluent limitations have been included Pursuant to the water quality objectives contained in the Ocean Plan for the following pollutants: mercury, chlorinated phenolics, endosulfan, endrin, and HCH. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the Ocean Plan, the Ocean Plan is the applicable standard. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the Ocean Plan, which was adopted in 1972 and amended in 1978, 1983, 1988, 1990, 1997, 2001, 2005, and 2009. All beneficial uses and water quality objectives contained in the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

Table F-15. Summary of Final Effluent Limitations Discharge Point 001

Parameter	Units	Effluent Limitations				Yearly Waste Load Allocations	Performance Goals ⁴	Rationale ⁵
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum			
pH	S.U.	--	--	--	6.0 – 9.0 ⁶	--	--	E, ELG
Biochemical Oxygen Demand 5-day (BOD ₅) @ 20°C ⁷	mg/L ^{8a}	--	36	66	--	--	--	ELG
	lbs/day ⁸	--	2,672	4,809	--	--	--	
	lbs/day ⁹	--	6,248	11,310	--	--	--	
Total Suspended Solids (TSS)	mg/L ^{8a}	--	29	45	--	--	--	ELG
	lbs/day ⁸	--	2,137	3,352	--	--	--	
	lbs/day ⁹	--	5,062	7,903	--	--	--	
Chemical Oxygen Demand (COD)	mg/L ^{8a}	--	254	490	--	--	--	ELG
	lbs/day ⁸	--	18,653	35,946	--	--	--	
	lbs/day ⁹	--	43,032	84,704	--	--	--	
Oil and Grease	mg/L ^{8a}	--	11	20	--	--	--	ELG
	lbs/day ⁸	--	777	1,457	--	--	--	
	lbs/day ⁹	--	1,866	3,570	--	--	--	
Phenolic Compounds	mg/L ^{8a}	--	0.19	0.49	--	--	--	ELG
	lbs/day ⁸	--	14	36	--	--	--	
	lbs/day ⁹	--	37	83	--	--	--	
Ammonia (as N)	mg/L ^{8a}	--	20	44	--	--	--	ELG
	lbs/day ⁸	--	1,457	3,206	--	--	--	
	lbs/day ⁹	--	1,457	3,206	--	--	--	
Sulfide	mg/L ^{8a}	--	0.19	0.44	--	--	--	ELG
	lbs/day ⁸	--	14	32	--	--	--	
	lbs/day ⁹	--	14	32	--	--	--	
Total Chromium	mg/L ^{8a}	--	0.23	0.65	--	--	--	ELG
	lbs/day ⁸	--	17	48	--	--	--	
	lbs/day ⁹	--	46	129	--	--	--	
Hexavalent Chromium	mg/L ^{8a}	--	0.02	0.04	--	--	--	ELG
	lbs/day ⁸	--	1.4	3.0	--	--	--	
	lbs/day ⁹	--	5.1	11.5	--	--	--	

Parameter	Units	Effluent Limitations				Yearly Waste Load Allocations	Performance Goals ⁴	Rationale ⁵
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum			
Temperature	°F	--	--	--	104	--	--	E
Acute Toxicity	TU _a	--	--	--	2.7 ¹⁹	--	--	OP
Chronic Toxicity	TU _c	--	--	81	--	--	--	E, OP
Mercury, Total Recoverable	µg/L	--	--	--	--	--	1.54	OP
Chlorinated Phenolics ¹²	µg/L	81	--	324	810	--	39	E, OP
	lbs/day ¹⁰	5.9	--	23.8	59.4	--	--	
	lbs/day ¹¹	18.2	--	72.9	182.4	--	--	
Endosulfan	µg/L	0.729	--	1.458	2.187	--	0.357	E, OP
	lbs/day ¹⁰	0.05	--	0.1	0.16	--	--	
	lbs/day ¹¹	0.16	--	0.33	0.49	--	--	
Endrin	µg/L	0.162	--	0.324	0.486	--	0.078	E, OP
	lbs/day ¹⁰	0.012	--	0.02	0.04	--	--	
	lbs/day ¹¹	0.04	--	0.07	0.11	--	--	
HCH ¹³	µg/L	0.320	--	0.640	0.972	--	0.156	E, OP
	lbs/day ¹⁰	0.02	--	0.05	0.07	--	--	
	lbs/day ¹¹	0.07	--	0.14	0.22	--	--	
Radioactivity	pci/L	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the CFR. Reference to 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.				--	--	E
Thallium	µg/L	--	162	--	--	--	78	E, OP
	lbs/day ¹⁰	--	11.9	--	--	--	--	
	lbs/day ¹¹	--	36.5	--	--	--	--	
Tributyltin	µg/L	--	0.11	--	--	--	0.05	E, OP
	lbs/day ¹⁰	--	0.01	--	--	--	--	
	lbs/day ¹¹	--	0.02	--	--	--	--	
Acrylonitrile	µg/L	--	8.1	--	--	--	3.9	E, OP
	lbs/day ¹⁰	--	0.6	--	--	--	--	
	lbs/day ¹¹	--	1.8	--	--	--	--	

Parameter	Units	Effluent Limitations				Yearly Waste Load Allocations	Performance Goals ⁴	Rationale ⁵
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum			
Aldrin	µg/L	--	0.00178	--	--	--	0.0009	E, OP
	lbs/day ¹⁰	--	0.00013	--	--	--	--	
	lbs/day ¹¹	--	0.0004	--	--	--	--	
Benzidine	µg/L	--	0.0056	--	--	--	0.003	E, OP
	lbs/day ¹⁰	--	0.0004	--	--	--	--	
	lbs/day ¹¹	--	0.0013	--	--	--	--	
Beryllium	µg/L	--	2.7	--	--	--	1.3	E, OP
	lbs/day ¹⁰	--	0.2	--	--	--	--	
	lbs/day ¹¹	--	0.6	--	--	--	--	
Bis(2-chloroethyl) ether	µg/L	--	3.6	--	--	--	1.75	E, OP
	lbs/day ¹⁰	--	0.26	--	--	--	--	
	lbs/day ¹¹	--	0.81	--	--	--	--	
Carbon Tetrachloride	µg/L	--	73	--	--	--	35.1	E, OP
	lbs/day ¹⁰	--	5.4	--	--	--	--	
	lbs/day ¹¹	--	16.4	--	--	--	--	
Chlordane ¹⁴	µg/L	--	0.00186	--	--	--	0.0009	E, OP
	lbs/day ¹⁰	--	0.00014	--	--	--	--	
	lbs/day ¹¹	--	0.0004	--	--	--	--	
DDT ¹⁵	µg/L	--	0.0096	--	--	--	--	TMDL
	lbs/day ¹⁰	--	0.0007	--	--	--	--	
	lbs/day ¹¹	--	0.0022	--	--	--	--	
	grams/year	--	--	--	--	358	--	
3,3'-dichlorobenzi-dine	µg/L	--	0.66	--	--	--	0.32	E, OP
	lbs/day ¹⁰	--	0.05	--	--	--	--	
	lbs/day ¹¹	--	0.15	--	--	--	--	
Dieldrin	µg/L	--	0.0032	--	--	--	0.0015	E, OP
	lbs/day ¹⁰	--	0.0002	--	--	--	--	
	lbs/day ¹¹	--	0.0007	--	--	--	--	

Parameter	Units	Effluent Limitations				Yearly Waste Load Allocations	Performance Goals ⁴	Rationale ⁵
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum			
1,2-diphenylhydrazine	µg/L	--	13	--	--	--	6.2	E, OP
	lbs/day ¹⁰	--	0.95	--	--	--	--	
	lbs/day ¹¹	--	2.9	--	--	--	--	
Heptachlor	µg/L	--	0.0041	--	--	--	0.002	E, OP
	lbs/day ¹⁰	--	0.0003	--	--	--	--	
	lbs/day ¹¹	--	0.0009	--	--	--	--	
Heptachlor epoxide	µg/L	--	0.00162	--	--	--	0.00078	E, OP
	lbs/day ¹⁰	--	0.0001	--	--	--	--	
	lbs/day ¹¹	--	0.0004	--	--	--	--	
Hexachloro-benzene	µg/L	--	0.017	--	--	--	0.0082	E, OP
	lbs/day ¹⁰	--	0.0012	--	--	--	--	
	lbs/day ¹¹	--	0.004	--	--	--	--	
N-nitrosodi-N-propylamine	µg/L	--	30.8	--	--	--	14.8	E, OP
	lbs/day ¹⁰	--	2.26	--	--	--	--	
	lbs/day ¹¹	--	6.93	--	--	--	--	
PAHs ¹⁶	µg/L	--	0.71	--	--	--	0.34	E, OP
	lbs/day ¹⁰	--	0.052	--	--	--	--	
	lbs/day ¹¹	--	0.160	--	--	--	--	
PCBs ¹⁷	µg/L	--	0.000259	--	--	--	--	TMDL
	lbs/day ¹⁰	--	0.00002	--	--	--	--	
	lbs/day ¹¹	--	0.00006	--	--	--	--	
	grams/year	--	--	--	--	10	--	
TCDD equivalents ¹⁸	µg/L	--	0.0000003 2	--	--	--	0.00000015	E, OP
	lbs/day ⁰¹	--	0.0000000 2	--	--	--	--	
	lbs/day ¹¹	--	0.0000000 7	--	--	--	--	

Parameter	Units	Effluent Limitations				Yearly Waste Load Allocations	Performance Goals ⁴	Rationale ⁵
		6-Month Median ^{1,2}	Average Monthly ²	Maximum Daily ³	Instantaneous Maximum			
Toxaphene	µg/L	--	0.017	--	--	--	0.0082	E, OP
	lbs/day ¹⁰	--	0.0012	--	--	--	--	
	lbs/day ¹¹	--	0.004	--	--	--	--	
2,4,6-trichlorophenol	µg/L	--	23	--	--	--	11.3	E, OP
	lbs/day ¹⁰	--	1.69	--	--	--	--	
	lbs/day ¹¹	--	5.18	--	--	--	--	
Total coliform ¹⁹	MPN/100 ml	--	1,000	--	10,000	--	--	E
Fecal coliform	MPN/100 ml	--	200	--	400	--	--	E
Enterococcus	MPN/100 ml	--	35	--	104	--	--	E

¹ The 6-month median shall apply to all samples taken in the current compliance month and all samples taken in the previous 5 monthly monitoring period.

² If only one sample is collected during the time period associated with the water quality objective (e.g., monthly average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.

³ The daily maximum effluent concentration limit shall apply to flow-weighted 24-hour composite samples.

⁴ The performance goals are based upon the Ocean Plan Water Quality Objectives for 6-month median or 30-day average values with a dilution credit of 38 and are specified only as an indication of the treatment efficiency of the refinery. They are not considered as limitations or standards for the regulation of the facility. Chevron shall make best efforts to maintain, if not improve, the effluent quality at the level of these performance goals. The Executive Officer may modify any of the performance goals if the Discharger requests and has demonstrated that the change is warranted.

⁵ E = Existing Order, OP = Ocean Plan (effective March 10, 2010), ELG = Effluent Limitation Guidelines and Standards (40 CFR 419, Subpart B)

⁶ The pH of the effluent shall remain within the range of 6.0 to 9.0 pH units except during excursions as permitted by 40 CFR 401.17. The total time during which the pH values may be outside of the required range (1) shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes..

⁷ Analysis using Standard Method 5210 shall be reported as CBOD₅. When the nitrification inhibitor is not used, the monitoring report shall so state and the results shall be reported as BOD₅.

⁸ They are final dry weather mass limit. The final dry weather specified mass limit are based on refinery throughput, size factor, process factor and effluent limit specified in 40 CFR [USEPA Effluent Guidelines and Standards for Petroleum Refining Point Sources (Part 419, Subpart B) are applicable to the discharge. Effluent limitations guidelines (ELGs) have been established for the following pollutants: BOD₅, TSS, COD, oil and grease, phenolic compounds, ammonia as N, sulfide, total chromium, hexavalent chromium, and pH]. See Section IV and Table F-6 in the Fact Sheet for details

^{8a} These dry weather concentration-based effluent limitations are calculated using the following formula:

$$\text{Concentration-based effluent limitation} = M / (8.34 * Q)$$

Where: M = dry weather mass based effluent limit (see footnote 8) in lbs/day

Q = maximum expected discharge flow rate during dry weather (MGD). The maximum expected discharge flow during dry weather is 8.8 MGD (Q = 8.8 MGD)

⁹ The wet weather mass-based effluent limitations presented in this table for BODs, TSS, COD, oil and grease, phenolic compounds, ammonia (as N), sulfide, total chromium, and hexavalent chromium are based on the effluent limitations contained in the ELGs (40 CFR sections 419.22(e), 419.23(f), and 419.24(e)) and are calculated using the maximum storm water discharge provided by the discharger (27 MGD). The actual mass-based effluent limitation should be calculated as the sum of the technology base effluent mass limitation described in Footnote 8 and the storm water mass allocation (based on actual storm water flow) provided in the ELGs [40 CFR 419.23(f) and 419.24(e)].

The storm water mass allocation (based on actual storm water flow) shall be calculated using the following formula:

$$\text{Storm water Mass Allocation} = S * Q$$

Where: S = Mass Allocation in the ELGs [40 CFR 419.23(f) and 419.24(e)] for the Specific Constituent

Q = Actual Storm water Flow calculated as the difference between the measured daily total effluent discharged and the consecutive 30-day average dry weather flow prior to rainfall period.

These storm water mass allocations shall only be applicable during a rainfall event and for 72 hours following the end of the associated rainfall event.

¹⁰ These mass-based effluent limitations for dry-weather discharges are calculated using the following formula:

$$\text{Mass-based effluent limitation} = C * Q * 0.00834$$

Where: C = concentration-based effluent limitation (µg/L)

Q = maximum expected discharge flow rate during dry weather (MGD)

These mass-based effluent limitations for dry-weather discharges are based on a maximum expected discharge flow rate of 8.8 MGD (Q = 8.8 MGD).

¹¹ These mass-based effluent limitations for wet-weather discharges (i.e., when there is a rain event of 0.1-inch or more in a 24-hour period) are calculated using the formula shown in Footnote 10 above, and are based on the wet weather maximum flow rate of 27 MGD (Q = 27 MGD).

¹² Sum of 2-chlorophenol, 4-chloro-3-methylphenol, 2,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, and pentachlorophenol.

¹³ HCH means the sum of the alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.

¹⁴ Sum of chlordane-alpha, chlordane-gamma, chlordane-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma and oxychlordane.

¹⁵ Sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

¹⁶ Sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo(k)fluoranthene, 1,12-benzoperylene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene.

¹⁷ PCBs mean the sum of Aroclor-1016, 1221, 1232, 2342, 1248, 1254, and 1260 when monitoring using USEPA method 608. PCBs mean the sum of 41 congeners when monitoring using USEPA proposed method 1668c. PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105, 110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206 shall be individually quantified.

¹⁸ To determine compliance with effluent limitations or to conduct Reasonable Potential Analysis (RPA), this Order requires the Discharger to calculate and report dioxin-toxicity equivalencies (TEQs) using the following formula, where the toxicity equivalency factors (TEFs) are listed in the table below:

$$\text{Dioxin-TEQ} = \sum (Cx * TEFx)$$

Where:

Cx = concentration of dioxin or furan congener x

TEFx = TEF for congener x

¹⁹ A Time Schedule Order (R4-2013-0026) has been issued to Chevron for acute toxicity compliance with an interim limit of 8.7 TUa which expires on May 9, 2017.

Toxicity Equivalency Factors and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Toxicity Equivalency Factor (TEF)
2,3,7,8-tetra CDD	1.0
,2,3,7,8-penta CDD	0.5
2,3, 7,8-hexa CDD	0.1
2,3, 7,8-hepta CDD	0.01
Octa CDD	0.001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3, 7,8-hexa CDF	0.1
2,3, 7,8-hepta CDF	0.01
Octa CDF	0.0001

¹⁹ Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1

- E. Interim Effluent Limitations – Not Applicable
- F. Land Discharge Specifications – Not Applicable
- G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

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

B. Groundwater – Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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

- A. Influent Monitoring – Not Applicable
- B. Effluent Monitoring

Monitoring for those pollutants expected to be present in discharges from Discharge Point No. 001 (Monitoring Locations EFF-001) will be required as shown on the proposed MRP (Attachment E). To determine compliance with effluent limitations, the proposed monitoring plan includes monitoring requirements for the contaminants of concern on a monthly frequency. Monitoring for the Table B parameters contained in the Ocean Plan on an annual basis is required. The monitoring of Table B parameters will provide data for reasonable potential analysis.

C. Whole Effluent Toxicity Testing Requirements

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

Section III.C.3.c.(4) of the Ocean Plan requires dischargers to conduct chronic toxicity testing if the minimum initial dilution of the effluent is below 100:1. This Order includes monthly monitoring requirements for chronic toxicity in the MRP (Attachment E) as specified in the Ocean Plan, and to determine reasonable potential of the discharge to exceed Table B. This Order includes monthly monitoring for acute toxicity in the MRP to determine reasonable potential.

The Ocean Plan establishes numeric objectives for acute and chronic toxicity in Section II.D, Table B, with a chronic toxicity daily maximum effluent objective of 1.0 (TUc).

D. Receiving Water Monitoring

1. Surface Water

Monitoring requirements are included in the MRP (Attachment E) to determine compliance with the receiving water limitations established in Limitations and Discharge Requirements, Receiving Water Limitations, Section V.A. Monitoring for temperature, pH, dissolved oxygen, conductivity, oil and grease, benzene, toluene, xylene, ethylbenzene, arsenic, cadmium, copper, chromium, lead, mercury, nickel, silver, zinc, selenium, PAHs, total coliform, fecal coliform, enterococcus and priority pollutants in the receiving water is included in the MRP.

2. Groundwater

Not Applicable

E. Other Monitoring Requirements

Monitoring for the Microbial Mat – Chevron shall monitor the accumulation of biosolids in the vicinity of the outfall on a quarterly basis through visual observation to insure that the biosolids does not significantly expand or change from the current condition. Chevron shall collect at least one benthic infaunal sample annually from an area affected by the accumulation of biosolids. These requirements are unchanged from the previous permit. Chevron shall also participate in the nutrient related component of the BIGHT program.

F. Regional Monitoring

Chevron El Segundo Refinery is one of a number of NPDES dischargers into coastal ocean waters that will be required to continue participation in the Southern California Bight Regional Monitoring Survey. Chevron El Segundo with coastal NPDES permit holders, and other interested agencies and stakeholders will develop implementation plans to collaboratively fund these programs and determine each party's level of participation. It is anticipated that funding for these programs from the Chevron El Segundo Refinery will be supplied through a combination of modifications to the Chevron El Segundo Refinery's Monitoring and Reporting Program, including redirection of existing effort and new monitoring efforts relevant to the Chevron El Segundo Refinery discharge. The Executive Officer of the Regional Board must be

notified of the redirection of existing monitoring requirements and/or the imposition of additional monitoring efforts.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

B. Special Provisions

1. Reopener Provisions

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

2. Special Studies and Additional Monitoring Requirements

- a. **Chronic Toxicity Trigger.** This provision is based on Table B of the Ocean Plan Toxicity Control Provisions.
- b. **Initial Investigation Toxicity Reduction Evaluation Workplan.** This provision is based on section III.C.9 of the Ocean Plan.

3. Best Management Practices and Pollution Prevention

- a. **Storm Water Pollution Prevention Plan (SWPPP).** The previous Order required the Discharger to develop and implement a SWPPP. This Order will require the Discharger to update and continue to implement a SWPPP. The revised SWPPP will reflect current operations, treatment activities, and staff responsible for implementing and supporting the SWPPP. The SWPPP will outline site-specific management processes for minimizing storm water

contamination and for preventing contaminated storm water from being discharged directly into surface waters. At a minimum, the management practices should ensure that raw materials and chemicals do not come into contact with storm water. Further, the SWPPP should address erosion and sediment control practices in areas affected by construction and land disturbance activities. The SWPPP must be consistent with requirements in Attachment G. SWPPP requirements are included as Attachment G, based on Part 122.44(k).

- b. **Best Management Practices Plan (BMPP).** The previous Order required the Discharger to develop and implement a BMPP in order to reduce the amount of pollutants entering the discharge. This Order requires the Discharger to update and continue to implement the BMPP, consistent with Order No. R4-2006-0089. The BMPP may be included as a component of the SWPPP. The purpose of the BMPP is to establish site-specific procedures that ensure proper operation and maintenance of equipment, to ensure that unauthorized non-storm water discharges (i.e. spills) do not occur at the Facility. The BMPP must include all discharges of process waters commingled with storm water, as permitted by this Order. Specifically, the BMPP shall address minimizing cooling tower blowdown and miscellaneous wash waters during periods of discharge and where possible, include estimates of volume reduction that can be achieved. In addition, the BMPP shall address specific areas that are considered sources of pollutants and shall include measures to minimize pollutants entering the discharge. Further, BMPs should address reducing or eliminating pollutants in storm water discharges from construction and land disturbance activities. The BMPP shall be consistent with requirements provided in Attachment G.
- c. **Spill Prevention Control and Countermeasures Plan.** As specified in Part 112, the owner or operator of an aboveground storage tank which stores more than 1,320 gallons of oil is required to submit an SPCC plan, with some exceptions. This Order requires the Discharger to implement an SPCC Plan for the Facility to protect the receiving water in the event of an oil spill. The Discharger shall review and update, if necessary, the SPCC after each incident and make it available for the facility personnel at all times.

4. Construction, Operation, and Maintenance Specifications

Not Applicable

5. Special Provisions for Municipal Facilities (POTWs Only)

Not Applicable

6. Other Special Provisions

- a. **Use of Recycled Water.** The El Segundo Refinery currently uses recycled water from the West Basin Municipal Water District (WBMWD) for both irrigation, cooling towers, low pressure and high pressure boilers. Reclaimed water that is treated and supplied as recycled water to Chevron El Segundo Refinery by West

Basin is the secondary treated effluent from the City of Los Angeles' Hyperion Treatment plant. West Basin has different treatment systems at their facilities. The following three separate pipelines supply different grades of treated recycled water to Chevron El Segundo Refinery.

Line 1 : Nitrified recycled water for the cooling tower at Chevron refinery

About 3 million gallons per day (mgd) of tertiary treated wastewater from West Basin is treated at a Nitrification Facility operated by West Basin located half way between the Chevron El Segundo Refinery and the West Basin Main Treatment Facility. At the Nitrification Facility, the tertiary treated water is treated by bacteria to remove/convert ammonia to nitrates. When the bugs are doing a good job, the ideal effluent concentration of ammonia will be between 2 to 3 mg/L. The nitrified water from the Nitrification Facility is sent to Chevron for cooling tower usage. Also, Chevron has provisions to switch to potable water, when the concentration of ammonia in the recycled water goes up.

Line 2: Single pass reverse osmosis (RO) water from West Basin to the Chevron Refinery for the Low Pressure Boilers

Approximately 1.2 mgd of single pass RO water is furnished to Chevron Refinery for usage as low pressure boiler feed water. The ammonia concentration in the supplied water is between 2 to 3 mg/L.

Line 3: Double pass RO water from West Basin to the Chevron Refinery for the High Pressure Boilers

About 2.6 mgd of the double pass RO water is supplied to Chevron for high pressure boiler usage. The ammonia concentration of the supplied water is around 2 mg/L.

No ammonia intake credits are required for the recycled water that is supplied for low and high pressure boilers and cooling towers usage.

Also, the refinery's daily consumption of recycled water for irrigation purposes is approximately 200,000 gallons per day (gpd). The ammonia concentrations in the water used for irrigation is approximately 3 mg/L.

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Chevron

Products Company El Segundo Refinery. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

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

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on December 17, 2012.

C. Public Hearing

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

Date: February 7, 2013
Time: 9:00 A.M.
Location: City of Culver City Council Chambers
9770 Culver Blvd., Culver City , California.

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

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

D. Nature of Hearing

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

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

E. Parties to the Hearing

The following are the parties to this proceeding:

1. The applicant/permittee

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

F. Public Comments and Submittal of Evidence

Persons wishing to comment upon or object to the tentative waste discharge requirements, or submit evidence for the Board to consider, are invited to submit them in writing to the above address. To be evaluated and responded to by staff, included in the Board's agenda folder, and fully considered by the Board, written comments must be received no later than close of business December 17, 2012. Comments or evidence received after that date will be submitted, ex agenda, to the Board for consideration, but only included in administrative record with express approval of the Chair during the hearing. Additionally, if the Board receives only supportive comments, the permit may be placed on the Board's consent calendar, and approved without an oral testimony.

G. Hearing Procedure

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

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

H. Waste Discharge Requirements Petitions

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

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

I. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576- 6600.

J. Register of Interested Persons

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

K. Additional Information

Requests for additional information or questions regarding this Order should be directed to Mazhar Ali at (213) 576-6652.

ATTACHMENT G – STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS

I. Implementation Schedule

A storm water pollution prevention plan (SWPPP) shall be developed and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented for each facility covered by this Permit within 10 days of approval from the Regional Water Board, or 6-months from the date of the submittal of the SWPPP to the Regional Water Board (whichever comes first).

II. Objectives

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site- specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, overhead coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

III. Planning and Organization

A. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Attachment E of this Permit. The SWPPP shall clearly identify the Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

B. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, State, and Federal requirements that impact, complement, or are consistent with the requirements of this General Permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, facility operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

IV. Site Map

The SWPPP shall include a site map. The site map shall be provided on an 8-1/2 x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE A FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION

Form Pollution Prevention Team Review other plans
--

ASSESSMENT PHASE

Develop a site map Identify potential pollutant sources Inventory of materials and chemicals List significant spills and leaks Identify non-storm water discharges Assess pollutant risks
--

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE

Non-structural BMPs Structural BMPs Select activity and site-specific BMPs
--

<p>IMPLEMENTATION PHASE</p> <p>Train employees Implement BMPs Conduct recordkeeping and reporting</p>
--

<p>EVALUATION / MONITORING</p> <p>Conduct annual site evaluation Review monitoring information Evaluate BMPs Review and revise SWPPP</p>

The following information shall be included on the site map:

- A.** The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.
- B.** The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.
- C.** An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.
- D.** Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section A.6.a.iv. below have occurred.
- E.** Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

V. List of Significant Materials

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials

shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

VI. Description of Potential Pollutant Sources

A. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section A.4.e above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1. **Industrial Processes.** Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.
2. **Material Handling and Storage Areas.** Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.
3. **Dust and Particulate Generating Activities.** Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.
4. **Significant Spills and Leaks.** Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 CFR, Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (USEPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 Code of Federal Regulations [CFR], Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this Permit.

5. **Non-Storm Water Discharges.** Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this

investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges (other boiler blowdown and boiler condensate permitted under the Order) that contain significant quantities of pollutants or that do not meet the conditions provided in Special Conditions D of the storm water general permit are prohibited by this Permit (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, rinse water, wash water, etc.). Non-storm water discharges that meet the conditions provided in Special Condition D of the general storm water permit are authorized by this Permit. The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

6. Soil Erosion. Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

B. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with Section A.8. below.

VII. Assessment of Potential Pollutant Sources

A. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in A.6. above to determine:

- 1.** Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and
- 2.** Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

B. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8 below.

VIII. Storm Water Best Management Practices

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections A.6. and 7. above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B
EXAMPLE
ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND
CORRESPONDING BEST MANAGEMENT PRACTICES
SUMMARY

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery. Spills caused by topping off fuel tanks. Hosing or washing down fuel oil fuel area. Leaking storage tanks. Rainfall running off fuel oil, and rainfall running onto and off fueling area.	fuel oil	Use spill and overflow protection. Minimize run-on of storm water into the fueling area. Cover fueling area. Use dry cleanup methods rather than hosing down area. Implement proper spill prevention control program. Implement adequate preventative maintenance program to preventive tank and line leaks. Inspect fueling areas regularly to detect problems before they occur. Train employees on proper fueling, cleanup, and spill response techniques.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

A. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section A.8.b. below). Below is a list of non-structural BMPs that should be considered:

1. **Good Housekeeping.** Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.
2. **Preventive Maintenance.** Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.
3. **Spill Response.** This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.
4. **Material Handling and Storage.** This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.
5. **Employee Training.** This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.
6. **Waste Handling/Recycling.** This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.
7. **Recordkeeping and Internal Reporting.** This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.
8. **Erosion Control and Site Stabilization.** This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of

vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

9. Inspections. This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

10. Quality Assurance. This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

B. Structural BMPs.

Where non-structural BMPs as identified in Section A.8.a. above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

- 1. Overhead Coverage.** This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.
- 2. Retention Ponds.** This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.
- 3. Control Devices.** This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.
- 4. Secondary Containment Structures.** This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.
- 5. Treatment.** This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

IX. Annual Comprehensive Site Compliance Evaluation

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

- A.** A review of all visual observation records, inspection records, and sampling and analysis results.

- B.** A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.
- C.** A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.
- D.** An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in Section A.10.e, for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this General Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions V.D.5 of Attachment D.

X. SWPPP General Requirements

- A.** The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.
- B.** The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this Section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.
- C.** The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.
- D.** The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this Permit.
- E.** When any part of the SWPPP is infeasible to implement due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP,

and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

- F.** The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

ATTACHMENT H – OCEAN PLAN SPECIFIED MINIMUM LEVELS

MINIMUM LEVELS

The Minimum Levels identified in this appendix represent the lowest concentration of a pollutant that can be quantitatively measured in a sample given the current state of performance in analytical chemistry methods in California. These Minimum* Levels were derived from data provided by state-certified analytical laboratories in 1997 and 1998 for pollutants regulated by the California Ocean Plan and shall be used until new values are adopted by the SWRCB. There are four major chemical groupings: volatile chemicals, semi-volatile chemicals, inorganics, pesticides & PCB's. No Data" is indicated by "--"

MINIMUM LEVELS - VOLATILE CHEMICALS

Volatile Chemicals	CAS Number	Minimum Level (ug/L)	
		GC Method ^a	GCMS Method ^b
Acrolein	107028	2	5
Acrylonitrile	107131	2	2
Benzene	71432	0.5	2
Bromoform	75252	0.5	2
Carbon Tetrachloride	56235	0.5	2
Chlorobenzene	108907	0.5	2
Chlorodibromomethane	124481	0.5	2
Chloroform	67663	0.5	2
1,2-Dichlorobenzene (volatile)	95501	0.5	2
1,3-Dichlorobenzene (volatile)	541731	0.5	2
1,4-Dichlorobenzene (volatile)	106467	0.5	2
Dichlorobromomethane	75274	0.5	2
1,1-Dichloroethane	75343	0.5	1
1,2-Dichloroethane	107062	0.5	2
1,1-Dichloroethylene	75354	0.5	2
Dichloromethane	75092	0.5	2
1,3-Dichloropropene (volatile)	542756	0.5	2
Ethyl benzene	100414	0.5	2
Methyl Bromide	74839	1.	2
Methyl Chloride	74873	0.5	2
1,1,2,2-Tetrachloroethane	79345	0.5	2
Tetrachloroethylene	127184	0.5	2
Toluene	108883	0.5	2
1,1,1-Trichloroethane	71556	0.5	2
1, 1 ,2-Trichloroethane	79005	0.5	2
Trichloroethylene	79016	0.5	2
Vinyl Chloride	75014	0.5	2

- a) GC Method Gas Chromatography
b) GCMS Method Gas Chromatography/Mass Spectrometry

MINIMUM LEVELS - SEMI VOLATILE CHEMICALS

Semi-Volatile Chemicals	CAS Number	Minimum Level (ug/L)			
		GC method ^a	GCMS Method ^b	HPLC Method ^c	COLOR Method ^d
Acenaphthylene	208968	--	10	0.2	--
Anthracene	120127	--	10	2	--
Benzidine	92875	--	5	--	--
Benzo(a)anthracene	56553	--	10	2	--
Benzo(a)pyrene	50328	--	10	2	--
Benzo(b)fluoranthene	205992	--	10	10	--
Benzo(g,h,i)perylene	191242	--	5	0.1	--
Benzo(k)fluoranthene	207089	--	10	2	--
Bis 2-(1-Chloroethoxy)methane	111911	--	5	--	--
Bis(2-Chloroethyl)ether	111444	10	1	--	--
Bis(2-Chloroisopropyl)ether	39638329	10	2	--	--
Bis(2-Ethylhexyl)phthalate	117817	10	5	--	--
2-Chlorophenol	95578	2	5	--	--
Chrysene	218019	--	10	5	--
Di-n-butyl phthalate	84742	--	10	--	--
Dibenzo(a,h)anthracene	53703	--	10	0.1	--
1,2-Dichlorobenzene(semivolatile)	95504	2	2	--	--
1,3-Dichlorobenzene(semivolatile)	541731	2	1	--	--
1,4-Dichlorobenzene(semivolatile)	106467	2	1	--	--
3,3-Dichlorobenzidine	91941	--	5	--	--
2,4-Dichlorophenol	120832	1	5	--	--
1,3-Dichloropropene	542756	--	5	--	--
Diethyl phthalate	84662	10	2	--	--
Dimethyl phthalate	131113	10	2	--	--
2,4-Dimethylphenol	105679	1	2	--	--
2,4-Dinitrophenol	51285	5	5	--	--
2,4-Dinitrotoluene	121142	10	5	--	--
1,2-Diphenylhydrazine	122667	--	1	--	--
Fluoranthene	206440	10	1	0.05	--
Fluorene	86737	--	10	0.1	--
Hexachlorobenzene	118741	5	1	--	--
Hexachlorobutadiene	87683	5	1	--	--
Hexachlorocyclopentadiene	77474	5	5	--	--
Hexachloroethane	67721	5	1	--	--
Indeno(1,2,3-cd)pyrene	193395	--	10	0.05	--
Isophrone	78591	10	1	--	--

Semi-Volatile Chemicals	CAS Number	Minimum Level (ug/L)			
		GC method ^a	GCMS Method ^b	HPLC Method ^c	COLOR Method ^d
2-methyl-4,6-dinitrophenol	534521	10	5	--	--
3-methyl-4-chlorophenol	59507	5	1	--	--
N-nitrosodi-n-propylamine	621647	10	5	--	--
N-nitrosodimethylamine	62759	10	5	--	--
N-nitrosodiphenylamine	86306	10	1	--	--
Nitrobenzene	98953	10	1	--	--
2-Nitrophenol	88755	--	10	--	--
4-Nitrophenol	100027	5	10	--	--
Pentachlorophenol	87865	1	5	--	--
Phenanthrene	85018	--	5	0.05	--
Phenol	108952	1	1	--	50
Pyrene	129000	--	10	0.05	--
2,4,6-Trichlorophenol	88062	10	10	--	--

- a) GC Method Gas Chromatography
- b) GCMS Method Gas Chromatography | Mass Spectrometry
- c) HPLC Method High Pressure Liquid Spectrometry
- d) COLOR Method Chlorimetric

MINIMUM LEVELS - INORGANICS

Inorganic Substances	CAS Number	Minimum Level (ug/L)								
		COLOR Method ^a	DCP Method ^b	FAA Method ^c	GFAA Method ^d	HYDRIDE Method ^e	ICP Method ^f	ICPMS Method ^g	SPGFAA Method ^h	CVAA Method ⁱ
Antimony	7440360	--	1000	10	5	0.5	50	0.5	5	--
Arsenic	7440382	20	1000	--	2	1	10	2	2	--
Beryllium	7440417	--	1000	20	0.5	--	2	0.5	1	--
Cadmium	7440439	--	1000	10	0.5	--	10	0.2	0.5	--
Chromium (total)	--	--	1000	50	2	--	10	0.5	1	--
Chromium (VI)	18540299	10	--	5	--	--	--	--	--	--
Copper	7440508	--	1000	20	5	--	10	0.5	2	--
Cyanide	57125	5	--	--	--	--	--	--	--	--
Lead	7439921	--	10000	20	5	--	5	0.5	2	--
Mercury	7439976	--	--	--	--	--	--	0.5	--	0.2
Nickel	7440020	--	1000	50	5	--	20	1	5	--
Selenium	7782492	--	1000	--	5	1	10	2	5	--
Silver	7440224	--	1000	10	1	--	10	0.2	2	--
Thallium	7440280	--	1000	10	2	--	10	1	5	--
Zinc	7440666	--	1000	20	--	--	20	1	10	--

- a) COLOR Method Colorimetric
- b) DCP Method Direct Current Plasma
- c) FAA Method Flame Atomic Absorption
- d) GFAA Method Graphite Furnace Atomic Absorption
- e) HYDRIDE Method Gaseous Hydride Atomic Absorption
- f) ICP Method Inductively Coupled Plasma
- g) ICPMS Method Inductively Coupled Plasma/Mass Spectrometry
- h) SPGFAA Method Stabilized Platform Graphite Furnace Atomic Absorption (i.e., US EPA 200.9)
- i) CVAA Method Cold Vapor Atomic Absorption

MINIMUM LEVELS - PESTICIDES AND PCBs

Pesticides -- PCB's	CAS Number	GC Method ^a
Aldrin	309002	0.005
Chlordane	57749	0.1
4,4'-DDD	72548	0.05
4,4'-DDE	72559	0.05
4,4'-DDT	50293	0.01
Dieldrin	60571	0.01
a-Endosulfan	959988	0.02
b-Endosulfan	33213659	0.01
Endosulfan Sulfate	1031078	0.05
Endrin	72208	0.01
Heptachlor	76448	0.01
Heptachlor Epoxide	1024573	0.01
a-Hexachlorocyclohexane	319846	0.01
b-Hexachlorocyclohexane	319857	0.005
d-Hexachlorocyclohexane	319868	0.005
g-Hexachlorocyclohexane (Lindane)	58899	0.02
PCB 1016	--	0.5
PCB 1221	--	0.5
PCB 1232	--	0.5
PCB 1242	--	0.5
PCB 1248	--	0.5
PCB 1254	--	0.5
PCB 1260	--	0.5
Toxaphene	8001352	0.5

a) GC Method Gas Chromatography

ATTACHMENT I – LIST OF PRIORITY POLLUTANTS

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

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

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

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

ATTACHMENT J – SUMMARY OF REASONABLE POTENTIAL ANALYSIS (OCEAN PLAN)

Attachment J
Chevron Products Company
El Segundo Refinery
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Analyte	Ocean Plan Water Quality Objective (µg/L)				Number of Samples	Number of Non-Detects	Percent Non-Detects	Min	Max	RPA Procedure Result - Based on Appendix VI of the 2007 Ocean Plan	Reason/Comment	RP Determination	
	6-Month Median	Daily Max	Instan. Max.	30 day Avg.								Background Concentration	RPcalc Conclusion
Objectives for Protection of Marine Aquatic Life													
Arsenic	8	32	80	---	50	0	0%	2.7	13.00	Run RP Calc	Detected value greater than WQO (Co)	3	Endpoint 2
Cadmium	1	4	10	---	27	23	85%	ND	2.60	Run RP Calc	Detected value greater than WQO (Co)	0	Endpoint 2
Chlorinated Phenolics	1	4	10	---	8	0	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Chromium (VI)	2	8	20	---	19	18	95%	ND	1.3	Endpoint 2	Effluent limit and Appx III monitoring not required. Possible occasional monitoring.	0	Endpoint 2
Copper	3	12	30	---	50	1	2%	ND	16.0	Run RP Calc	Detected value greater than WQO (Co)	2	Endpoint 2
Cyanide	1	4	10	---	31	4	13%	ND	0.021	Run RP Calc		0	Endpoint 2
Endosulfan (total)	0.009	0.018	0.027	---	2	2	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Endrin	0.002	0.004	0.006	---	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
HCH	0.004	0.008	0.012	---	2	2	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Lead	2	8	20	---	18	12	67%	1.2	4.4	Run RP Calc	Detected value greater than WQO (Co)	0	Endpoint 2
Mercury	0.04	0.16	0.4	---	50	47	94%	0.3	0.260	Run RP Calc	Detected value greater than WQO (Co)	0.0005	Endpoint 2
Nickel	5	20	50	---	50	0	0%	4.3	17	Run RP Calc	Detected value greater than WQO (Co)	0	Endpoint 2
Ammonia as N	600	2400	6000	---	44	0	0%	70.0	29000	Run RP Calc		0	Endpoint 1
Non-chlorinated Phenolics	30	120	300	---	27	25	93%	ND	0.14	Endpoint 2	Effluent limit and Appx III monitoring not required. Possible occasional monitoring.	0	
Selenium	15	60	150	---	50	0	0%	24.0	100.00	Run RP Calc	Detected value greater than WQO (Co)	0	Endpoint 2
Silver	0.7	2.8	7	---	49	49	100%	ND	ND	Endpoint 2	Effluent limit and Appx III monitoring not required. Possible occasional monitoring.	0.16	Endpoint 2
Total Chlorine Residual	2	8	60	---	16	16	100%	ND	ND	Endpoint 2	Effluent limit and Appx III monitoring not required. Possible occasional monitoring.	0	
Zinc	20	80	200	---	50	1	2%	14	740	Run RP Calc	Detected value greater than WQO (Co)	8	Endpoint 2

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Analyte	Ocean Plan Water Quality Objective (µg/L)				Number of Samples	Number of Non-Detects	Percent Non-Detects	Min	Max	RPA Procedure Result Based on Appendix VI of the 2007 Ocean Plan	Reason/Comment	Background Concentration	RPcalc Conclusion
Objectives for Protection of Human Health - Noncarcinogens													
1,1,1-Trichloroethane	---	---	---	540,000	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
2,4-Dinitrophenol	---	---	---	4	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
2-Methyl-4,6-Dinitrophenol	---	---	---	220	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Acrolein	---	---	---	220	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Antimony	---	---	---	1,200	2	2	100%	ND	ND		Results were all DNQ, lab reports unavailable to determine MDL.	0	
Bis(2-Chloroethoxy)Methane	---	---	---	4.4	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Bis(2-Chloroisopropyl)Ether	---	---	---	1,200	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Chlorobenzene	---	---	---	570	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Chromium (III)	---	---	---	190,000	5	0	0%	1.2	3.5	Run RP Calc		0	Endpoint 2
Dichlorobenzenes	---	---	---	5,100	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Diethyl Phthalate	---	---	---	33,000	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Dimethyl Phthalate	---	---	---	820,000	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Di-n-Butyl Phthalate	---	---	---	3,500	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Ethylbenzene	---	---	---	4,100	17	14	82%	ND	39.0	Run RP Calc		0	Endpoint 2
Fluoranthene	---	---	---	15	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Hexachlorocyclopentadiene	---	---	---	58	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Nitrobenzene	---	---	---	4.9	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Thallium	---	---	---	2	3	3	100%	ND	ND		Results were all ND, lab reports unavailable to determine MDL.	0	
Toluene	---	---	---	85,000	18	13	72%	ND	19.0	Run RP Calc		0	Endpoint 2
Tributyltin	---	---	---	0.0014	9	9	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Objectives for Protection of Human Health - Carcinogens													
1,1,1,2-Tetrachloroethane	---	---	---	2.3	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
1,1,2-Trichloroethane	---	---	---	9.4	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
1,1-Dichloroethylene	---	---	---	0.9	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
1,2-Dichloroethane	---	---	---	28	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
1,2-Diphenylhydrazine	---	---	---	0.16	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
1,3-Dichloropropylene	---	---	---	8.9	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
1,4 Dichlorobenzene	---	---	---	18	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
TCDD Equivalents	---	---	---	3.9E-09	5	3	60%	ND	9.0E-08	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
2,4,6-Trichlorophenol	---	---	---	0.29	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
2,4-Dinitrotoluene	---	---	---	2.6	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
3,3'-Dichlorobenzidine	---	---	---	0.0081	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Acrylonitrile	---	---	---	0.1	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Aldrin	---	---	---	0.000022	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Benzene	---	---	---	5.9	18	13	72%	ND	54.0	Run RP Calc		0	Endpoint 2

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Analyte	Ocean Plan Water Quality Objective (µg/L)				Number of Samples	Number of Non-Detects	Percent Non-Detects	Min	Max	RPA Procedure Result Based on Appendix VI of the 2007 Ocean Plan	Reason/Comment	Background Concentration	RCalc Conclusion
Benzidine	---	---	---	0.000069	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Beryllium	---	---	---	0.033	0	--	--	--	--	--	--	0	
Bis(2-Chloroethyl)Ether	---	---	---	0.045	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Bis(2-Ethylhexyl)Phthalate	---	---	---	3.5	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Carbon Tetrachloride	---	---	---	0.9	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Chlordane	---	---	---	0.000023	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Chlorodibromomethane	---	---	---	8.6	5	3	60%	ND	7.2	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Chloroform	---	---	---	130	4	3	75%	ND	1.4	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
DDT (total)	---	---	---	0.00017	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Dichlorobromomethane	---	---	---	6.2	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Dieldrin	---	---	---	0.00004	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Halomethanes	---	---	---	130	0	--	--	--	--	--	--	0	
Heptachlor	---	---	---	0.00005	2	2	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Heptachlor Epoxide	---	---	---	0.00002	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Hexachlorobenzene	---	---	---	0.00021	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Hexachlorobutadiene	---	---	---	14	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Hexachloroethane	---	---	---	2.5	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Isophorone	---	---	---	730	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Methylene Chloride	---	---	---	450	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
N-Nitrosodimethylamine	---	---	---	7.3	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
N-Nitrosodi-n-Propylamine	---	---	---	0.38	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
N-Nitrosodiphenylamine	---	---	---	2.5	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
PAHs (total)	---	---	---	0.0088	7	6	86%	ND	0.25	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
PCBs	---	---	---	0.000019	2	2	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Tetrachloroethylene	---	---	---	2	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Toxaphene	---	---	---	0.00021	3	3	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Trichloroethylene	---	---	---	27	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	
Vinyl Chloride	---	---	---	36	4	4	100%	ND	ND	Endpoint 3	Less than 3 detects or greater than 80% ND	0	

		WQBEL Calculations				
Analyte	RPcalc Rationale	Dilution (if appropriate)	6-Month Median (µg/L)	Daily Max (µg/L)	Instan. Max. (µg/L)	30 day Avg. (µg/L)
Objectives for Protection of Marine Aquatic Life						
Arsenic	Parametric RPA found the LogNormal UCB(.95,.95,50) of 3.1189 does not exceed the Co of 8.					
Cadmium	Non-Parametric RPA found 27 conclusive non-exceedances of the WQO of 1; An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.					
Chlorinated Phenolics						
Chromium (VI)	Parametric RPA found the LogNormal UCB(.95,.95,58) of 0.0461 does not exceed the Co of 2; An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.					
Copper	Parametric RPA found the LogNormal UCB(.95,.95,50) of 2.1378 does not exceed the Co of 3; An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.					
Cyanide	Parametric RPA found the LogNormal UCB(.95,.95,31) of 0.0003 does not exceed the Co of 1; An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.					
Endosulfan (total)						
Endrin						
HCH						
Lead	Parametric RPA found the LogNormal UCB(.95,.95,18) of 0.0959 does not exceed the Co of 2.					
Mercury	Effluent limit is not required					---
Nickel	Parametric RPA found the LogNormal UCB(.95,.95,50) of 0.1982 does not exceed the Co of 5.					
Ammonia as N	Detected observation(s) after complete mixing of 660, 850, 1000, 1000, 1100, 1200, 1200, 1300, 1300, 1300, 1300, 1400, 1500, 1500, 1500, 1600, 1600, 1600, 1600, 1600, 1600, 1700, 1900, 1900, 1900, 2000, 2100, 2200, 2600, 2700, 3500, 3600, 3700, 4300, 5400, 6100, 6900, 7200, 8200, 9000, 11000, 15000, 29000, exceed the Co of 600.	80	48600	194400	486000	---
Non-chlorinated Phenolics						
Selenium	Parametric RPA found the LogNormal UCB(.95,.95,50) of 3.3397 does not exceed the Co of 15.					
Silver	Non-Parametric RPA found 49 conclusive non-exceedances of the WQO of 0.7.					
Total Chlorine Residual						
Zinc	Parametric RPA found the LogNormal UCB(.95,.95,50) of 13.2266 does not exceed the Co of 20.					

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Analyte	RPcalc Rationale	Dilution (if appropriate)	6-Month Median (µg/L)	Daily Max (µg/L)	Instan. Max. (µg/L)	30 day Avg. (µg/L)
Objectives for Protection of Human Health - Noncarcinogens						
1,1,1-Trichloroethane						
2,4-Dinitrophenol						
2-Methyl-4,6-Dinitrophenol						
Acrolein						
Antimony						
Bis(2-Chloroethoxy)Methane						
Bis(2-Chloroisopropyl)Ether						
Chlorobenzene						
Chromium (III)	Parametric RPA found the LogNormal UCB(.95,.95,58) of 0.0461 does not exceed the Co of 190,000; An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.					
Dichlorobenzenes						
Diethyl Phthalate						
Dimethyl Phthalate						
Di-n-Butyl Phthalate						
Ethylbenzene	Non-Parametric RPA found 17 conclusive non-exceedances of the WQO of 4100; An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.					
Fluoranthene						
Hexachlorocyclopentadiene						
Nitrobenzene						
Thallium						
Toluene	Parametric RPA found the LogNormal UCB(.95,.95,18) of 0.3732 does not exceed the Co of 85000; An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.					
Tributyltin						
Objectives for Protection of Human Health - Carcinogens						
1,1,2,2-Tetrachloroethane						
1,1,2-Trichloroethane						
1,1-Dichloroethylene						
1,2-Dichloroethane						
1,2-Diphenylhydrazine						
1,3-Dichloropropylene						
1,4 Dichlorobenzene						
TCDD Equivalents						
2,4,6-Trichlorophenol						
2,4-Dinitrotoluene						
3,3'-Dichlorobenzidine						
Acrylonitrile						
Aldrin						
Benzene	Parametric RPA found the LogNormal UCB(.95,.95,18) of 0.6302 does not exceed the Co of 5.9; An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.					

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Analyte	RPcalc Rationale	Dilution (if appropriate)	6-Month Median (µg/L)	Daily Max (µg/L)	Instan. Max. (µg/L)	30 day Avg. (µg/L)
Benzidine						
Beryllium						
Bis(2-Chloroethyl)Ether						
Bis(2-Ethylhexyl)Phthalate						
Carbon Tetrachloride						
Chlordane						
Chlorodibromomethane						
Chloroform						
DDT (total)						
Dichlorobromomethane						
Dieldrin						
Halomethanes						
Heptachlor						
Heptachlor Epoxide						
Hexachlorobenzene						
Hexachlorobutadiene						
Hexachloroethane						
Isophorone						
Methylene Chloride						
N-Nitrosodimethylamine						
N-Nitrosodi-n-Propylamine						
N-Nitrosodiphenylamine						
PAHs (total)						
PCBs						
Tetrachloroethylene						
Toxaphene						
Trichloroethylene						
Vinyl Chloride						