

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2008-0013

UPDATED WASTE DISCHARGE REQUIREMENTS AND RESCISSION OF
ORDER NO. 98-038

CONOCOPHILLIPS COMPANY
CONTRA COSTA CARBON PLANT
RODEO, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Water Board) finds that:

FACILITY OWNERSHIP AND LOCATION

1. ConocoPhillips Company (hereinafter called Discharger) presently owns and operates the Contra Costa Carbon Plant, a petroleum coke calcining and power generating facility (hereinafter called the Facility). On January 1, 2003, Tosco Corporation merged into ConocoPhillips Company, with the latter assuming the rights and responsibilities associated with the environmental permits for the Facility.
2. The Facility is located at 2101 Franklin Canyon Road, approximately two miles southeast of Rodeo (Figure 1).
3. Tosco Refining Company (hereinafter called Tosco) owned and operated the Facility from April 1997 until January 2003.
4. Unocal Corporation (hereinafter called Unocal) owned and operated the Facility from 1896 to April 1997.

PURPOSE OF ORDER UPDATE

5. The primary objectives of this Order are to: 1) bring the Facility into compliance with Title 27, California Code of Regulations (CCR), 2) require upgrades to the Facility's waste treatment process infrastructure, and 3) reflect the ownership of the Facility.

FACILITY DESCRIPTION AND HISTORY

6. Waste Discharge Requirements for this Facility have been established for the operation, maintenance, and monitoring of the Facility's surface impoundment, settling basins, and groundwater monitoring wells. The Facility uses rain and make-up water for plant operations and dust control. This water is collected in the Discharger's Basin System for the recovery and recycling of coke fines, and water for plant operations.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

7. The Facility constructed the Basin System, consisting of two settling basins and a large surface impoundment, in 1983. The Basin System was designed to recover water used at the Facility, including 1) cooling tower blowdown water, 2) dust control water, and 3) storm water runoff; and recover coke fines. This water is recycled from the surface impoundment and used in Facility processes, in a closed loop system.
8. The following activities conducted at the Facility could adversely affect water quality and are subject to Waste Discharge Requirements:
 - a. Approximately 94,000 gallons per day (GPD) of wastewater from the boiler and cooling tower blowdown, filter backwashing, make-up water from a water supply agency, and excess spray runoff from the uncalcined coke (green coke) storage area are discharged to the Basin System.
 - b. Green coke is stored in large piles on the asphalt pavement. The piles are sprayed with water from the Basin System for dust control. Storm water runoff and excess-sprayed water drains from the asphalted areas back into the Basin System.
 - c. Approximately 40 tons of used, non-hazardous refractory brick is stored on site. The Facility continues to implement its December 1996 Used Brick Storage Reduction Plan and anticipates that the remaining 40 tons of refractory brick will be removed by August 1, 2008.
9. In 1997, Basin System operational changes were made to increase the storage capacity of the surface impoundment to prevent releases due to overtopping of the surface impoundment. This action was taken primarily in response to three process wastewater releases from the Basin System between 1993 and 1995.
10. Two process wastewater releases from the Basin System have occurred since the capacity of the surface impoundment was increased in 1997, prompting a recent investigation into the adequacy of its capacity.
11. The surface impoundment is classified as a Class II structure, because it isolates non-hazardous waste from State waters. Activities taking place at the Facility contribute or potentially contribute to elevated concentrations of vanadium, zinc, nickel, chloride, sodium, total phosphorus, diesel and gasoline, in the process wastewater. The current Class II surface impoundment is clay lined and irregularly shaped, measuring approximately 460 by 325 feet at its widest and approximately 460 by 135 feet at its smallest, and has a storage capacity of approximately 15.89 acre feet to the height where freeboard is equal to two feet. There is no regulated discharge from the surface impoundment.
12. The concrete lined settling ponds and the surface impoundment are underlain by silty clay material to a depth of at least two feet with a permeability of less than 1×10^{-6} cm/s.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

13. Section 20240(c) of Title 27 requires that a surface impoundment be operated to ensure that wastewater will be a minimum of five feet above the highest anticipated elevation of underlying water. The Basin System, which was constructed in 1983 before the five-foot separation regulatory requirement was established, does not have at least five feet of separation between groundwater and wastewater. Groundwater monitoring results do not indicate the Basin System has impacted groundwater. The current surface impoundment will not require a retrofit to achieve this requirement; however any new surface impoundments and significant additions to the Basin System must meet current requirements of Title 27 in this regard.
14. Eight monitoring wells (MW 88-1 through MW 88-5 and UZM 88-1 through UZM 88-3) are installed around the surface impoundment to monitor shallow groundwater to detect potential impacts of the surface impoundment on shallow groundwater.
15. On behalf of ConocoPhillips, URS submitted to the Water Board a Report on Drainage Analysis and Capacity Increase Proposal for Surface Impoundment on August 14, 2007. This report identified that the capacity of the surface impoundment is insufficient to store the worst case scenario volume of process water and storm water runoff from a 100-year, 24-hour precipitation event, with two feet of freeboard as required by Title 27 of the CCR. The surface impoundment capacity must be increased to comply with Title 27 regulations.

WASTE DISCHARGE REQUIREMENTS AND RELATED ORDERS

16. Currently active Waste Discharge Requirements Order No. 98-038 rescinded Waste Discharge Requirements Order Nos. 88-096 and 87-082 and required Tosco to complete the following:
 - a. Submit a groundwater monitoring plan;
 - b. Submit a leak or spill contingency plan;
 - c. Maintain a financial assurance instrument; and
 - d. Submit a post earthquake inspection and corrective action plan.
17. Waste Discharge Requirements Order No. 88-096 amended Waste Discharge Requirements Order No. 87-082. Requirements of these orders included the following:
 - a. Submit groundwater monitoring program plan;
 - b. Revise operation monitoring management practices; and
 - c. Build a surface impoundment to prevent the discharge of wastewater.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

18. The Discharger has filed a Notice of Intent to comply with the State Water Resources Control Board's General Permit for Storm Water Discharges Associated with Industrial Activities. The attached Self-Monitoring Program presents specific storm water monitoring requirements.

GEOLOGICAL SETTING

19. The Facility is situated in a small valley trending east-west and accommodating Rodeo Creek. The local topography consists of gently rolling hills and valleys predominantly covered with short grasses. The principal drainage for this area is Rodeo Creek, which is an intermittent stream. It has several small tributaries, including an unnamed creek that flows intermittently just north of the Basin System. Rodeo Creek flows west on the south side of the Facility, ultimately draining into San Pablo Bay, located approximately two miles downstream.

Geologically the region is characterized by a series of northwest-trending folds. The Facility is situated southwest of a fault at the nose of a plunging anticline. This results in surrounding formations dipping away from the Facility with the exception of rocks to the east which dip toward the plant. The region consists of a Miocene-age marine sedimentary formation and valley alluvium. The predominant lithology in the vicinity of the Basin System consists of dark brown to black, plastic clay with varying amounts of fine-grain sand and silt.

SURFACE WATER

20. The Facility and surface impoundment is located approximately 75 feet south of an ephemeral unnamed creek, a seasonal tributary of Rodeo Creek, which is a tributary of San Pablo Bay.

HYDROGEOLOGY

21. As of May 2007, eight monitoring wells are included in the groundwater monitoring program (MW-88-1 through MW-88-5 and UZM-88-1 through UZM-88-3). Depth to water ranges from 2.4 ft to 8.1 ft in spring, to 3.2 ft to 8.5 in the fall. Groundwater flows in a southwesterly direction under the settling basins and under the eastern portion of the surface impoundment, and westerly under the west portion of the surface impoundment.

MONITORING PROGRAMS

22. Groundwater: The Discharger conducts semiannual detection monitoring for the Facility at eight monitoring wells in order to identify releases from the surface impoundment to groundwater. Groundwater quality indicators used include total organic carbon (TOC), total dissolved solids (TDS), specific conductance, pH, bicarbonate alkalinity, vanadium, nickel, zinc, potassium, chloride, sulfate, sodium, and total phosphorous.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

23. Surface Water: A composite sample of the surface impoundment surface water is collected semiannually and analyzed for the groundwater constituents listed in Finding 22 and total petroleum hydrocarbons (TPH) in the diesel and gasoline ranges (with silica gel cleanup) . When the ephemeral creek flows during the sampling season, a sample upstream and downstream of the surface impoundment is analyzed for nickel, vanadium, zinc, pH, and TPH as diesel and gasoline (with silica gel cleanup). The creek is sampled because it has the potential to be impacted by runoff from the green coke storage area (Figure 2).
24. Facility Observations: The thickness of the settled solids is measured daily in the concrete settling basins, and quarterly in the surface impoundment. The pH of the waters of the Basin System is monitored twice per day, and the freeboard of the Basin System is measured daily.

BASIN PLAN AND BENEFICIAL USES

25. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board (State Board), U.S. EPA, and the Office of Administrative Law where required.
26. The existing and potential beneficial uses of Rodeo Creek and San Pablo Bay are:
 - a. Fish spawning;
 - b. Warm fresh water habitat;
 - c. Wildlife habitat;
 - d. Water contact recreation;
 - e. Non-contact water recreation;
 - f. Industrial service supply;
 - g. Ocean, commercial, and sport fishing;
 - h. Shellfish harvesting;
 - i. Estuarine habitat;

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

- j. Fish migration;
 - k. Preservation of rare and endangered species; and
 - l. Navigation.
27. The existing and potential beneficial uses of the groundwater in the vicinity of the site include:
- a. Municipal and domestic supply;
 - b. Industrial process and service supply
 - c. Groundwater recharge
 - d. Fresh water replenishment to surface waters; and
 - e. Agricultural supply.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

28. This action is an Order to enforce the laws and regulations administered by the Water Board. This action is categorically exempt from the provisions of the California Environmental Quality Act pursuant to Section 15308, Title 14, CCR.

NOTIFICATIONS AND MEETING

29. The Water Board has notified the Discharger and interested agencies and persons of its intent to update these Waste Discharge Requirements, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
30. The Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED pursuant to the authority in Section 13263 of the California Water Code (CWC), Title 27, Division 2, Subdivision 1 of the California Code of Regulations (27CCR), and Chapter 15, Division 3, Title 23 of the California Code of Regulations (Chapter 15) that the Dischargers, their agents, successors, and assigns shall meet the applicable provisions contained in 27CCR, Chapter 15, and Division 7 CWC, and shall comply with the following:

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

A. PROHIBITIONS

1. The discharge of "hazardous waste" at this Facility is prohibited. For the purposes of this Order, the term "hazardous waste" is as defined in Section 20164 of Title 27.
2. The discharge of wastewater (including from the Basin System, process waters, and runoff from the coke storage areas) which: 1) have the potential to cause corrosion or decay, or otherwise reduce or impair the integrity of the containment structures; 2) if mixed or commingled with other wastes in the unit, could produce a violent reaction including heat, pressure, fire, explosion, or the production of toxic by-products; 3) require a higher level of containment than provided by the unit; 4) are "restricted hazardous wastes", or 5) impair the integrity of the containment structures, are prohibited per Section 20200(2)(b) of Title 27.
3. The discharge of pollutants from the Basin System onto land, into groundwater or surface water is prohibited.
4. The discharge of wastewater from washing trucks is permitted, provided the wastewater does not exceed hazardous waste criteria and is directed to the Class II surface impoundment via an oil/water separator or similar oil removal process.
5. There shall be no discharges to a surface impoundment, and any residual liquids and sludge shall be removed expeditiously if it is determined the surface impoundment is leaking or there is a Basin System failure which causes a threat to water quality.
6. Neither the treatment, discharge, nor the storage of waste shall create a condition of pollution, contamination or nuisance as defined in Section 13050 of the CWC.
7. Wastes shall not be disposed in any position where they migrate from the disposal site to adjacent geologic materials, waters of the State or of the United States during disposal operations, closure, and during the post-closure maintenance period, per Section 20310(a) of Title 27.
8. Activities associated with subsurface investigation and cleanup that will cause significant adverse migration of pollutants are prohibited.
9. The Discharger, or any future owner or operator of this site, shall not cause the following conditions to exist in waters of the State at any place outside the Facility as the result of operation of the Basin System:
 - a. Surface Water
 - i. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - ii. Bottom deposits or aquatic growth;

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

- iii. Adversely altered temperature, turbidity, or apparent color beyond natural background levels;
- iv. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
- v. Toxic or other deleterious substances present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

b. Groundwater

- i. The groundwater shall not be degraded as a result of the waste disposal operation; and
- ii. Migration of pollutants through subsurface transport to waters of the State is prohibited.

c. Wastewater

- i. Wastewater collected within the Basin System shall not be discharged to waters of the State. State Board General Permit No. CAS000001 for Discharges of Storm Water Associated with Industrial Activities does not allow for discharge from the Basin System.

B. SPECIFICATIONS

Basin System Specifications

1. Title 27, Section 20310, requires that Class II surface impoundments be designed and constructed to prevent migration of wastewater from the impoundment to adjacent geologic materials, groundwater, or surface water during operations, closure, and the post-closure maintenance periods.
2. The Basin System must be designed to isolate wastewater from Waters of the State pursuant to Title 27, Section 20250(b). This is accomplished by a low permeability liner.
3. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
4. The surface impoundment will be operated such that scouring by wave action at the water line will not degrade the surface impoundment lining.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

5. Storm water runoff from impervious surfaces of the Facility will be allowed to discharge to the Basin System after passing through an oil/water separator or similar process. Hydrocarbon-sheen free rainwater may be pumped directly to the impoundment.
6. The Discharger is required to maintain asphalt surfaces in the Facility to ensure that they remain impervious.
7. The Discharger shall remediate soil and water contamination that actually or threatens to degrade water quality or adversely affect the beneficial uses of the waters of the State.
8. The pipeline discharge to the Basin System shall be equipped with devices, or fail-safe operating procedures, to prevent overfilling.
9. To prevent overtopping, the surface impoundment shall be operated to accommodate the precipitation of a 24-hour storm with a 100-year return frequency, in addition to the maximum volume of wastewater requiring storage considering a worst case scenario. The surface impoundment shall have sufficient freeboard to accommodate seasonal precipitation and precipitation conditions specified for each waste management unit (surface impoundment), but in no case less than **two feet (vertical)** of freeboard, and shall be designed and constructed to prevent overtopping as a result of wind conditions likely to accompany such precipitation conditions.
10. The Discharger shall ensure that all engineered structures (including, but not limited to, containment structures) of any part of the Basin System shall have a foundation capable of: 1) providing support for the structures; 2) withstanding hydraulic pressure gradients; and 3) preventing failure due to settlement, compression, or uplift and all effects of ground motions including the maximum credible earthquake event.
11. The materials used for containment structures shall have appropriate chemical and physical properties to ensure the containment of wastes at all times. Liner permeabilities shall be determined relative to the liquids contained in the respective impoundments and shall be determined by appropriate test methods in accordance with accepted civil engineering practice.
12. The Basin System structures shall be designed, constructed, and operated to withstand ground accelerations associated with the maximum credible earthquake without damage to the foundation, the containment structures, or other structures which control wastewater, surface drainage, or erosion.
13. The containment structures of the Basin System shall be maintained to preclude failure as a result of potential rapid geologic changes.
14. Containment, drainage, and monitoring systems at the Facility shall be maintained as long as its wastes pose a threat to water quality. The Discharger shall continue the water

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

quality-monitoring program, pursuant to Section 20410 of Title 27, as long as a threat of a release from the Basin System exists.

15. The Discharger shall operate the Basin System so as to isolate wastewater from waters of the State and to prevent a statistically significant increase in monitoring parameter concentrations associated with a release from the Basin System in the waters passing through the point of compliance, as defined in the Self-Monitoring Program (Attachment A) and Section 20405 and 20420 in Title 27, or in any newly installed monitoring wells downgradient of the Basin System. The Discharger shall operate the Basin System so as to not exceed the concentration limits of the Self-Monitoring Program or a concentration determined by an approved statistical method.
16. The Discharger shall operate the Basin System according to a detailed operating and contingency plan, which will include at a minimum, procedures for routine inspection of the Basin System, discharge into an impoundment, recovery out of an impoundment, contingency measures if seepage is detected in compliance wells or problems with the containment structures are found, investigations of the impact of releases from the surface impoundment, and notifications of agencies.
17. During the active life of the surface impoundment, the settled solids shall be removed from the surface impoundment when the bottom solids (to be measured quarterly) measure an average of 12 inches thick. An inspection shall be made of the liner system to assure there is no damage prior to refilling the impoundment.

General Specifications

18. All reports pursuant to this Order shall be prepared under the supervision of a registered civil engineer, California registered geologist, or certified engineering geologist.
19. The Discharger shall install, maintain in good working order, and operate efficiently any facility alarm or control system necessary to assure compliance with these Waste Discharge Requirements.
20. The Water Board considers the property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result of this waste discharge or related operations during the active life and post-closure maintenance period.
21. The Discharger shall implement any Self-Monitoring Program issued by the Executive Officer. The purpose of the Self-Monitoring Program is to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Basin System, or any unreasonable impairment of beneficial uses associated with the Facility's past or present activities.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

22. The Discharger shall install any additional groundwater monitoring/collection devices required to fulfill the terms of any future Self-Monitoring Program issued by the Executive Officer.
23. The Water Board shall be notified immediately of any waste containment system failures occurring at the site. Any failure, which potentially compromises the integrity of containments structures, shall be promptly corrected after approval of the method and schedule by the Executive Officer.
24. The Discharger shall notify the Water Board **at least 180 days** prior to beginning any intermediate or final closure activities. This notice shall include a statement that all closure activities will conform to the most recently approved closure plan and that the plan provides for site closure in compliance with all applicable regulations.
25. Closure of all waste management units (surface impoundments) shall be in compliance with the requirements of Section 21400, Title 27.
26. If the Water Board determines that any of the surface impoundments or waste containment facility is polluting or threatening to pollute State waters, the Water Board may require the Discharger to immediately cease the discharge.
27. All monitoring wells shall be constructed in a manner that maintains the integrity of the drill hole, prevents cross-contamination of saturated zones, and produces representative groundwater samples from discrete zones within the aquifer unit each well is intended to monitor.
28. All borings for monitoring wells shall be continuously cored, and the cores shall be archived for no less than 90 days. The drill holes shall be logged during drilling under the direct supervision of a registered geologist whose signature appears on the corresponding well log. Logs of monitoring wells shall be filed with the Department of Water Resources. Design and construction details shall be submitted to the Water Board upon completion of the wells.
29. All samples shall be analyzed by State-certified laboratories, or laboratories accepted by the Water Board, using approved U.S. EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Water Board review. This provision does not apply to analyses that can only be reasonably performed onsite (e.g., temperature).
30. If it is determined, based on groundwater monitoring information in accordance with Section 20385 of Title 27, that water quality impairment outside of the Basin System is not improving, or continues to degrade, the Discharger is required to submit additional site specific groundwater corrective action proposals.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

31. At any time, the Discharger may file a written request (including appropriate supporting documents) with the Executive Officer, proposing appropriate modifications to the Self-Monitoring Program.

C. PROVISIONS

Compliance

1. The Discharger shall comply immediately, or as prescribed by the time schedule below, with all Prohibitions, Specifications, and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. Violations may result in enforcement actions, including Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these Waste Discharge Requirements by the Water Board [CWC Sections 13261, 13267, 13263, 13265, 13268, 13300, 13301, 13304, 13340, and 13350].
2. All technical and monitoring reports required by this Order are requested pursuant to Section 13267 of the CWC. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to Section 13268 of the CWC.

Reporting Requirements

3. Technical reports/plans, submitted by the Discharger, in compliance with the Prohibitions, Specifications, and Provisions of this Order, shall be submitted to the Water Board on the schedule specified herein. These reports/plans shall consist of a letter report that includes the following:
 - a. Identification of any obstacles that may threaten compliance with the schedule,
 - b. In the event of non-compliance with any Prohibition, Specification or Provision of this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order; and
 - c. In the self-monitoring reports, an evaluation of the current groundwater monitoring system and a proposal for modifications as appropriate.
4. All application reports or information to be submitted to the Executive Officer shall be signed and certified as follows:

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

- a. For a corporation – by a principle executive officer or the level of vice-president or an appropriate delegate.
 - b. For a partnership or sole proprietorship – by a general partner or the proprietor, respectively.
 - c. For a municipality, state, federal, or other public agency – by either a principal executive officer or ranking elected official.
5. The State Board has adopted regulations requiring electronic report and data submittal to Geotracker. The text of the regulations can be found at http://www.waterboards.ca.gov/ust/cleanup/electronic_reporting/docs/final_electronic_regs_dec04.pdf

The Discharger is responsible for submitting the following via internet:

- a. Groundwater analytical data;
 - b. Surveyed locations of monitoring wells;
 - c. Boring logs describing monitoring well construction; and
 - d. Portable data format (PDF) copies of all reports (the document, in its entirety [signature pages, text, figures, tables, etc.] must be saved to a single PDF file).
6. Upon request, monitoring results shall also be provided electronically in Microsoft Excel® to allow for ease of review of site data, and to facilitate data computations and/or plotting that Water Board staff may undertake during the review process. Data tables submitted in electronic spreadsheet format will not be included in the case of file review and should therefore be submitted on CD and included with the hard copy of the report. Electronic tables shall include the following information;
- a. Well designations;
 - b. Well location coordinates (latitude and longitude);
 - c. Well construction (including top of well casing elevation, total well depth, screen interval depth below ground surface, screen interval elevation, and a characterization of geology of subsurface the well is located in);
 - d. Groundwater depths and elevations (water levels);
 - e. Current analytical results by constituent of concern (including detection limits for each constituent);

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

- f. Historical analytical results (including the past five years, unless otherwise requested); and
 - g. Measurement dates.
7. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order related to the surface impoundment, submitted by the Discharger, shall also be provided to the **Contra Costa County Health Department**.

Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order related to storm water and compliance with the State Board General Permit No. CAS000001 for the Discharge of Storm Water Associated with Industrial Activities shall be submitted to the Water Board. The Executive Officer may modify this distribution list as needed.

8. Storage Capacity Increase of the Surface Impoundment: The Discharger shall develop and submit a final design proposal plan, acceptable to the Executive Officer, to increase the storage capacity of the surface impoundment, which will meet the applicable requirements of Title 27, sections 20310-20375. The capacity of the surface impoundment must meet or exceed the storage requirement for process water in the worst case scenario (where maximum process water requires storage), assuming a simultaneous 100-year, 24-hour precipitation event. The plan shall include a schedule for construction, a plan for Construction Quality Assurance (CQA), and a requirement that construction must be complete by **November 1, 2008**.

PLAN DUE DATE: May 15, 2008.

Self-Monitoring Program

9. Revision of Self-Monitoring Program: The Discharger shall develop and submit a **revised** Self-Monitoring Program plan acceptable to the Executive Officer in order to incorporate modifications due to the surface impoundment's capacity increase. The Self-Monitoring Program must meet the current groundwater monitoring requirements of Title 27, Sections 20380-20435. The approved Self-Monitoring Program will be attached to this Order, and shall constitute a Detection Monitoring Program pursuant to Title 27, Section 20420, intended to identify water quality impacts from the Basin System, and shall include approved statistical methods to detect a release from the Basin System. The attached Self-Monitoring Program may be amended as necessary at the discretion of the Executive Officer.

The Discharger shall propose a Self-Monitoring Program, acceptable to the Executive Officer, to detect leaks from the Basin System to groundwater. The plan shall include surface impoundment water samples that shall be analyzed for the compounds that are likely to exist in the surface impoundment water (measured every five years), and a

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

subset of those which would indicate a release (measured semi-annually). These constituents are heretofore referred to as Constituents of Concern (COCs) and monitoring parameters, respectively.

The plan shall also include surface water samples of the unnamed ephemeral creek that shall be analyzed for contaminants that are likely to be derived from the coke storage area. The results of the analyses shall then be used to identify whether the creek has been contaminated by Facility processes.

The Industrial Activities Storm Water General Permit requires ConocoPhillips to analyze storm water samples for at least four parameters. These are pH, Total Suspended Solids (TSS), Specific Conductance (SC) and Total Organic Carbon (TOC). Oil and Grease (O&G) may be substituted for TOC. ConocoPhillips must also monitor for any other pollutants listed in Table D of the General Permit which may be present as a result of industrial activity. All applicable storm water monitoring and reporting requirements are currently contained in Section V of the Facility's Storm Water Pollution Prevention Plan (SWPPP) pursuant to the revised Industrial Activities Storm Water General Permit No. CAS000001 that was adopted by the State Board (Water Quality Order No. 97-03-DWQ), on April 17, 1997. The Facility is also required to submit a certified copy of an Annual Report for Storm Water Discharges Associated with Industrial Activities to the Water Board by July 1 of each year.

PLAN DUE DATE: July 15, 2008

10. Self-Monitoring Program Implementation: Upon the Executive Officer's approval of the Discharger's revised Self-Monitoring Program plan, the Discharger shall implement, **within 6 months**, the revised Self-Monitoring Program. Until the Executive Officer's approval of the revised Self-Monitoring Program, the current self-monitoring plan attached to Waste Discharge Requirements Order No. 98-038 will remain in effect.
11. Self-Monitoring Program Reporting: The Discharger shall submit semi-annual monitoring reports no later than **May 30th** and **November 30th** of each year in accordance with the attached revised Self-Monitoring Program (Attachment A). As part of the November 30th report, the Discharger shall submit an annual monitoring report. Sample collection shall be conducted at all locations and frequencies specified in the revised Self-Monitoring Plan. The annual report to the Water Board shall cover the previous calendar year as described in Part A of the revised Self-Monitoring Program.

The November 30th report shall include a storm water management information summary from the July 1st Annual Report for Storm Water Discharges Associated with Industrial Activities. The presented information shall include storm water sampling locations, laboratory analytic results, best management practices (BMPs) implemented or changed, and a map showing the storm water flow direction across the site.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

**REPORT DUE DATES: 1st SEMI-ANNUAL REPORT
– May 30th of each year**

**-2nd SEMI- ANNUAL REPORT & ANNUAL REPORT
– November 30th of each year**

12. Storm Water Pollution Prevention Plan: If warranted due to construction of additions or enhancements to the Basin System, the Discharger shall submit to the Water Board a revised Storm Water Pollution Prevention Plan (SWPPP) acceptable to the Executive Officer, in compliance with State Board General Permit No. CAS000001 for the Discharge of Storm Water Associated with Industrial Activities. The SWPPP shall include a section detailing the repair and maintenance activities for storm water infrastructure that need to be completed prior to the commencement of the following rainy season. The SWPPP shall also include a schedule for repair and maintenance activities and monitoring during the next 12 months. Repair and maintenance activities shall be based on rainy season inspections conducted throughout the winter as required in the attached Self-Monitoring Plan. Following the September 2008 submittal of a revised SWPPP, the subsequent submittals shall include all changes to the SWPPP, only. Every three years, the Discharger shall submit the current SWPPP to the Water Board that shall include the most recent BMPs implemented at the Facility.

REPORT DUE DATE: September 30th 2008, and every three years thereafter

13. Operation and Maintenance Plan: The Discharger shall submit an operation and maintenance plan, acceptable to the Executive Officer, including, but not necessarily limited, to the following:
- a. The scheduled periodic removal of surface impoundment sludge and the inspection of the liner/containment system;
 - b. A contingency plan in the event of a leak or spill from the surface impoundment;
 - c. A contingency plan for violations of the Title 27 freeboard requirement; and
 - d. A contingency plan for primary liner failure.

PLAN DUE DATE: August 1st, 2008

14. As-Built Drawings: Provision 8 of this order requires the Discharger to increase the storage capacity of the surface impoundment. The Discharger shall submit the as-built construction drawings and final Construction Quality Assurance (CQA) documentation acceptable to the Executive Officer, for the construction for this capacity increase. The CQA will demonstrate that the construction of containment features is in full compliance with this Order and Title 27 requirements. The CQA will contain written certification by

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

a California registered civil engineer or a certified engineering geologist that the containment structure was built in accordance with a Water Board approved final design proposal.

PLAN DUE DATE: May 1st, 2009

15. Closure Plan: The Discharger shall submit a Closure and Post-Closure Maintenance plan acceptable to the Executive Officer, as outlined in Title 27, section 21090-21200. This notice shall include a statement that all closure activities will conform to the most recently approved closure plan and that the plan provides for site closure in compliance with all applicable regulations.

PLAN DUE DATE: 180 Days prior to closure

16. Financial Assurance: The Discharger shall maintain a Financial Assurance Instrument for site closure acceptable to the Executive Officer, pursuant to Section 22207 (a) of Title 27. The Closure Fund must provide sufficient funds to clean close the Class II surface impoundment and for the contingent post-closure monitoring and maintenance of the site. For the purposes of planning the amount of the fund, the Discharger shall assume a post-closure period of at least 30 years. However, the post-closure maintenance period shall extend as long as the wastes pose a threat to water quality. The Discharger shall submit a report every five years that either validates the Instrument's ongoing validity or proposes and substantiates any needed changes (e.g., a documented increase in the monitoring system's ability to provide reliable early detection of a release can cause a decrease in the Instrument's financial coverage). In addition, the Financial Assurance instrument shall be updated annually based on inflation, and a brief report of these details shall be submitted.

The Discharger shall also submit a corrective action cost estimate for known or reasonably foreseeable releases pursuant to Title 27, Chapter 6, Article 4, Section 22220, and must demonstrate financial assurances for the cost of initiation and completing corrective action for all known or reasonably foreseeable releases.

REPORT DUE DATE: July 1st, 2008, and every five years thereafter and an update yearly.

17. Post Earthquake Inspection and Corrective Action Plan: The Discharger shall submit a detailed Post Earthquake Inspection and Corrective Action Plan acceptable to the Executive Officer, to be implemented in the event of any earthquake generating shaking of Richter Magnitude 6.5 or greater or within 30 miles of the Facility. The report shall describe the containment features, and groundwater monitoring facilities potentially impacted by the static and seismic deformations of the surface impoundments and waste containment systems. The plan shall provide for reporting results of the post earthquake inspection to the Water Board within 72 hours of the occurrence of the earthquake. Immediately after an earthquake event causing damage to any waste containment

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

structures (surface impoundment, extraction system, etc.), the corrective action plan shall be implemented and the Water Board shall be notified of any damage.

PLAN DUE DATE: August 1st, 2008

18. Change in Discharge: In the event of a material change in the character, location or volume of a discharge, the Discharger shall file with the Water Board a new Report of Waste Discharge [CWC Section 13260]. A material change includes, but is not limited to the following:
- a. Addition of a major industrial waste discharge to discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste;
 - b. Significant change in disposal method, (e.g., change from a land disposal to a direct discharge to water), or change in the method of treatment which would significantly alter the characteristics of the waste;
 - c. Significant change in the Basin System, (e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area potentially causing different water quality or nuisance problems);
 - d. Increase in flow beyond that specified in the Waste Discharge Requirements; and/or
 - e. Increase in area or depth to be used for solid or liquid waste disposal beyond that specified in the Waste Discharge Requirements [CCR Title 23 Section 2210].

REPORT DUE DATE: 120 days prior to any material change

19. Closure Report: The Discharger shall submit, **within 90 days** after the closure of any waste unit, a closure certification report acceptable to the Executive Officer which documents that the area has been closed according to the requirements of this Order and Title 27. The discharger shall certify under penalty of perjury that all closure activities were performed in accordance with the most recently approved closure plan and in accordance with all applicable regulations.
20. Document Availability: The Discharger shall maintain a copy of this Order at the Facility so as to be available at all times to project personnel [CWC Section 13263].
21. Change in Ownership: In the event of any change in control or ownership of the Facility presently or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Water Board upon final change in ownership. To assume operation of

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of this Order **within 30 days** of the change of ownership. The request must contain the requesting entity's full legal name, mailing address, electronic address, and telephone number of the persons responsible for contact with the Water Board. Failure to submit the request shall be considered a discharge without requirements, a violation of the CWC [CWC Section 13263 and 13267].

22. Order Revision: This Order is subject to Water Board review and updating, as necessary, to comply with changing State or Federal laws, regulations, policies, or guidelines; changes in the Water Board's Basin Plan; or changes in the discharge characteristics. The Water Board will review this Order periodically and may revise the requirements when necessary [CCR Section 13263].
23. Submittal Revision: Where the Discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Water Board, it shall promptly submit and/or correct such facts or information [CWC Sections 13260 and 13267].
24. Vested Rights: This Order does not convey property rights of any sort or any exclusive privileges. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under Federal, State, or Local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations, nor do they create a vested right for the Discharger to continue the waste discharge [CWC Sections 13263 (g)].
25. Severability: Provisions of these Waste Discharge Requirements are severable. If any provisions of these requirements are found to be invalid, the remainder of these requirements shall not be affected [CWC 9213].
26. Operation and Maintenance: The Discharger shall, at all times, properly operate and maintain the facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of this Order [CWC Section 13263(f)].
27. Monitoring Devices: All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, as part of the annual Self-Monitoring Program report, the Discharger shall submit to the Executive Officer a written statement signed by a registered

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

professional engineer certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required. Unless otherwise permitted by the Executive Officer, all analyses shall be conducted at a laboratory certified for such analysis by the State Department of Health Services. The Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with “EPA Standard Methods”, as presented in the latest edition of “Guidelines Establishing Test Procedures for Analysis of Pollutants” [40 CFR Part 136] promulgated by the U.S. Environmental Protection Agency [CCR Title 23, Section 2230].

28. Treatment: In an enforcement action, it shall not be a defense for the Discharger that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with the Order. Upon reduction, loss, or failure of the treatment facility, the Discharger shall, to the extent necessary to maintain compliance with the Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost [CWC Section 13263(f)].
29. Reporting of Hazardous Substance Release: If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it probably will be discharged in or on any waters of the State, the Discharger shall:
 - a. Report such discharge to the following:
 - i. The Water Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8 a.m. – 5 p.m.); and to
 - ii. The Office of Emergency Services (800) 852-7550.
 - b. A written report shall be filed with the Water Board within five working days. The report shall describe:
 - i. The nature of the waste or pollutant;
 - ii. The estimated quantity involved;
 - iii. The duration of the incident;
 - iv. The cause of the release;
 - v. The estimated size of the affected area, and nature of the effect;
 - vi. The corrective actions taken or planned, and a schedule of those measures; and

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

- vii. The persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services that is required pursuant to the Health and Safety Code.

30. Reporting Releases: Except for a discharge which is in compliance with these Waste Discharge Requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the Water Board as soon as:

- a. That person has knowledge of the discharge;
- b. Notification is possible; and
- c. Notification can be provided without substantially impeding cleanup or other emergency measures.

This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the CWC unless the discharger is in violation of a prohibition in the applicable Water Quality Control Plan [CWC Section 13271(a)].

31. Reporting Petroleum Releases: Except for a discharge which is in compliance with these Waste Discharge Requirements, any person who, without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the Water Board as soon as:

- a. That person has knowledge of the discharge;
- b. Notification is possible; and
- c. Notification can be provided without substantially impeding cleanup or other emergency measures.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the CWC unless the discharger is in violation of a prohibition in the applicable Water Quality Control Plan [CWC Section 13271(a)].

32. Release Reporting Requirements: In the case of a release defined by Provisions 29 and 30, the following must be provided to the Water Board within five days of knowledge of the release:
 - a. Site map illustrating location and approximate size of impacted area;
 - b. Photographs of the impacted area before and after remediation; and
 - c. A report detailing the remediation method chosen and its efficacy, and illustrating that the release contingency plan was effective, or else proposing modifications to the contingency plan to increase its effectiveness.
33. Entry and Inspection: In accordance with CWC Section 13267 (c), the Discharger shall, at any time, permit the Water Board or its authorized representative, upon presentation of credentials:
 - a. Immediate entry upon the premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
 - b. Access to copy, at reasonable times, any records required to be kept under the terms and conditions of this Order;
 - c. Inspection at reasonable times, of any treatment facilities, equipment, monitoring equipment, practices, operations, or monitoring method required by this Order or by any other California State agency; and
 - d. Sampling or monitoring at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the CWC, any substance or parameters at any location [CWC Section 13267].
34. Discharges to Navigable Waters: Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to Section 404 of the Clean Water Act and discharge subject to a general NPDES permit) must file an NPDES permit application with the Water Board [CCR Title 2 Section 22357].
35. Endangerment of Health or the Environment: The Discharger shall report any noncompliance that may endanger human health or the environment. Any such information shall be provided orally to the Executive Officer, or authorized representative, **within 24 hours** from the time the Discharger becomes aware of the

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

circumstances. A written submission shall also be provided within five days of the time the Discharger becomes aware of the circumstances. The written submission shall contain:

- a. A description of the noncompliance, and its cause;
- b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected;
- c. The anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours [CWC Sections 13263 and 13267]. The following occurrences must be reported to the Executive Officer within 24 hours:

- a. Any bypass from any portion of the treatment facility;
- b. Any discharge of industrial products, or treated or untreated wastewater; and
- c. Any treatment plant upset which causes the discharge limitation(s) of this Order to be exceeded [CWC Sections 13263 and 13267].

36. General Prohibition: Neither the treatment nor discharge of waste shall create a pollution, contamination, or nuisance, as defined by Section 13050 of the CWC [Health and Safety Code Section 5411, CWC Section 13263].

37. Maintenance of Records: The Discharger shall retain records of all monitoring information including all calibration and maintenance records, all chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete application of this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding the discharge or when requested by the Executive Officer. Records of monitoring information shall include:

- a. The date, exact place, and time of sampling measurements;
- b. The individuals who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individuals who performed the analyses;

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

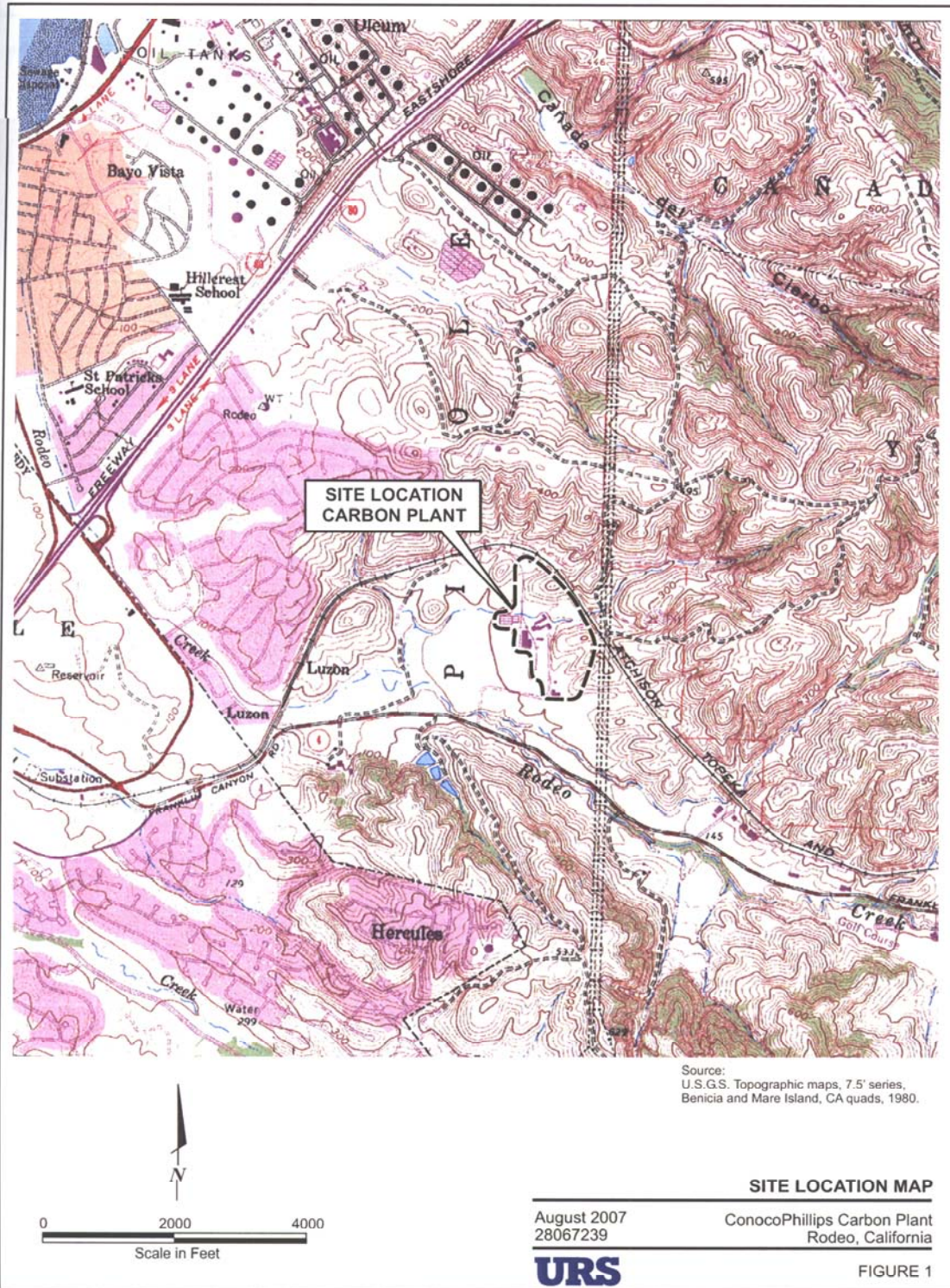
- e. The analytical techniques or method used; and
 - f. The results of the analyses.
38. If groundwater contamination or potential contamination is detected, the Discharger shall immediately notify the Water Board and the Local Enforcement Agency (LEA). The Discharger shall immediately initiate corrective action to stop and contain the migration of pollutants from the surface impoundment.
39. The Discharger shall notify the Water Board of any previously unknown soil or groundwater contamination discovered during any subsurface investigations conducted at the Facility, which may potentially have an adverse impact on ground or surface waters.
40. The Discharger shall remove and relocate any wastes that are discharged at this site in violation of these requirements.
41. The Discharger shall immediately notify the Water Board of any flooding, equipment failure, slope failure, or other change in site conditions that could impair the integrity of waste containment facilities or precipitation and drainage control structures. Any such failure shall be promptly corrected after approval of the method and schedule by the Executive Officer.
42. Water Board Order No. 98-038 is hereby rescinded.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 12, 2008.

Bruce H. Wolfe
Executive Officer

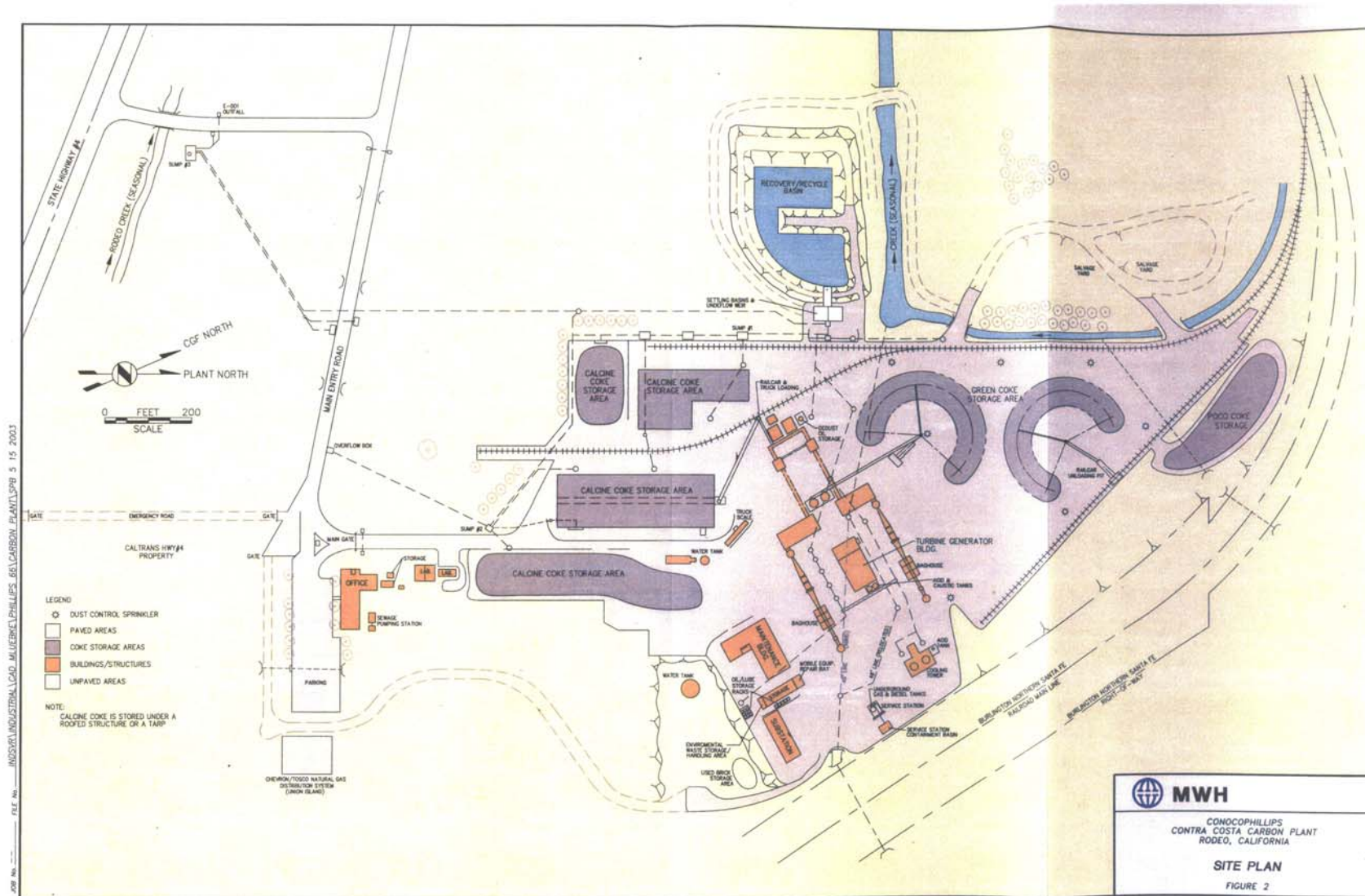
Attachments: Figure 1 - Site Location Map
Figure 2 - Site Plan
A - Self-Monitoring Program

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant



7/31/07 vsa .\28067239 Conoco Phillips\AUG 07\F1_slm.cdr

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant



Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

ATTACHMENT A
SELF-MONITORING PROGRAM

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION SELF-MONITORING PROGRAM

FOR

**CONOCOPHILLIPS COMPANY
CONTRA COSTA CARBON PLANT
2101 FRANKLIN CANYON ROAD
RODEO, CONTRA COSTA COUNTY**

ORDER NO. R2-2008-0013

CONSISTS OF

PART A

AND

PART B

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

PART A

A. AUTHORITY AND PURPOSE

Reporting responsibilities of waste discharges are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and the Water Board's Resolution No. 73-16. This Self-Monitoring Program is issued in accordance with Title 27 of the California Code of Regulations (27CCR).

The principal purposes of a Self-Monitoring Program are to:

1. Document compliance with waste discharge requirements and prohibitions established by the Water Board;
2. Facilitate self-policing by the waste dischargers in the prevention and abatement of pollution arising from waste discharge;
3. Develop or assist in the development of standards of performance and toxicity standards;
4. Assist the dischargers in complying with requirements of Title 27.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of U.S. EPA Standard Methods and in accordance with an approved sampling and analysis plan.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Water Board shall be signed by a duly authorized representative of the laboratory.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.
2. Receiving waters refers to any surface that actually or potentially receives surface or groundwater that pass over, through, or under waste materials or contaminated

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

soils. In this case the groundwater beneath and adjacent to the Basin System and the surface runoff from the site are considered receiving waters.

3. Standard observations refer to:
 - a. Receiving Waters
 - 1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;
 - 2) Discoloration and turbidity: description of color, source, and size of affected area;
 - 3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source;
 - 4) Evidence of beneficial use: presence of water associated wildlife;
 - 5) Flow rate; and
 - 6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.
 - b. Perimeter of the Basin System.
 - 1) Evidence of uncontrolled liquid leaving the Basin System, estimated size of affected area and flow rate. (Show affected area on map);
 - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source; and
 - 3) Evidence of erosion.
 - c. The Basin System.
 - 1) Evidence of odors, presence or absence, characterization, source, and distance of travel from source;
 - 2) Evidence of algal or other unusual growth, precipitation of sludge minerals, quantity, nature and chemical composition;
 - 3) Evidence of erosion, slope or ground movement;
 - 4) Adequacy of access road; and

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

- 5) Monitoring points and measurements (monitoring parameters) are listed on Table A-2 (attached).

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The Discharger is required to perform sampling, analyses, and observations in the following media:

1. Storm water discharges per the Industrial Activities Storm Water General Permit
2. Groundwater per Section 20415(b)
3. Surface water per Section 20415(c)

and per the general requirements specified in Section 20415(e) of Title 27.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the Discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Water Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number;
2. Date and time of sampling;
3. Date and time that analyses are started and completed, and name of the personnel performing the analyses;
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
5. Calculation of results; and
6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. **Self-Monitoring Reports**

Written monitoring reports shall be filed by **May 30 and November 30** of each year. As part of the November 30 report, an annual report shall be filed each year. The reports shall be comprised of the following:

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of **any requirement violations** found during the last report period, and actions taken or planned for correcting the violations. If the Discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last reporting period, this shall be stated in the letter of transmittal.

Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:

- 1) A graphic description of the direction of groundwater flow under/around Basin System, based upon the past and present water level elevations and pertinent visual observations;
- 2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature, conductivity and turbidity testing, well recovery time, and method of disposing of the purge water;
- 3) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations; and
- 4) A written discussion of the groundwater analyses indicating any change in the quality or characteristics of the groundwater.

c. A comprehensive discussion of the compliance record and corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the Waste Discharge Requirements and 27CCR.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

- d. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.
- e. Laboratory statements with the results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Water Board shall be signed by a duly authorized representative of the laboratory.
 - 1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than U.S. EPA Standard Methods are used, the exact methodology must be submitted for review and approved by the Executive Officer prior to use.
 - 2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that are outside laboratory control limits; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.
- f. A summary and certification of completion of all standard observations for the Basin System, the perimeter of the Basin System, and the receiving waters.
- g. The Annual Monitoring Report shall be submitted to the Water Board covering the previous year, and shall be filed by November 30 of each year. The Report shall include, but is not limited to, the following:
 - 1) A graphical presentation for each monitoring point, submit in graphical format the laboratory analytical data for all samples taken. Each such graph shall plot the concentration of one or more constituents over time for a given monitoring point, at a scale appropriate to show trends or variations in water quality. On the basis of any aberrations noted in the plotted data, the Executive Officer may direct the Discharger to carry out a preliminary investigation, the results of which will determine whether or not a release is indicated;
 - 2) A tabular summary of all the monitoring data obtained during the previous year;

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

- 3) A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements and 27CCR;
 - 4) A map showing the area, if any, in which filling has been completed during the previous calendar year; and
 - 5) A written summary of the groundwater analyses indicating any change in the quality of the groundwater.
- h. Tabular and graphical summaries of the monitoring data obtained during the previous year; the annual report should be accompanied by a compact disc, MS-EXCEL format, tabulating the year's data.

2. **Contingency Reporting**

- a. A report shall be made by telephone of any seepage from the Basin System immediately after it is discovered. A written report shall be filed with the Water Board within **five days** thereafter. This report shall contain the following information:
- 1) A map showing the location(s) of discharge if any;
 - 2) Approximate flow rate;
 - 3) The number of samples of the discharge collected for chemical analysis, or defensible reason samples could not be collected;
 - 4) The nature of effects; i.e. all pertinent observations and analyses; and
 - 5) The corrective measures underway, proposed, or as specified in the Waste Discharge Requirements.
- b. A report shall be made in writing to the Water Board within **seven days** of determining that a statistically significant difference occurred between a downgradient sample and a Water Quality Protection Standard (WQPS) (see Part A, Section G). Notification shall indicate which WQPS(s) has/have been exceeded. The Discharger shall immediately resample at the compliance point where the difference has been found and re-analyze.
- c. A report shall be made by telephone of any requirement violation(s) immediately after it is discovered. A written report shall also be filed within seven days that includes a discussion of the requirement violation(s), and actions taken or planned for correcting the violation(s).

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

- d. If resampling and analysis confirms the earlier finding of a significant difference between monitoring results and WQPS(s) the discharger must submit to the Water Board, an amended Report of Waste Discharge as specified in Title 27, Section 20420(k)(5) for establishment of an Evaluation Monitoring Program, meeting the requirements of Title 27, Section 20425.
- e. The Discharger is required to notify the Water Board report a release from the Basin System in accordance with Section 20420(k)(1-6) of Title 27 within 90 days following the discovery of the release. An Evaluation Monitoring Program must be initiated within 90 days following discovery of a release from the Basin System in accordance with Section 20420 (k)(5) of Title 27. Within **180 days** of determining a statistically significant evidence of a release, submit to the Water Board an engineering feasibility study for a Corrective Action Program necessary to meet the requirements of Title 27, Section 20430. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.

3. Well Logs

A boring log and a monitoring well construction log shall be submitted for each new sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 45 days after well installation.

G. **WATER QUALITY PROTECTION STANDARDS**

1. Constituents of Concern: The Constituents of Concern (COC) for groundwater and surface water are those listed in Table A-1 of this Self-Monitoring Program. The COC list contains waste constituents, reaction products and hazardous constituents that are reasonably expected to be in or derived from waste contained in the unit. Groundwater and surface water shall be analyzed for COCs at least one time **every five years**.
2. Monitoring Parameters: The Monitoring Parameters for groundwater and surface water are listed in Table A-2 of this Self-Monitoring Program. Monitoring Parameters are a subset of COCs that shall be analyzed and reported in every Self-Monitoring Report, serving to indicate if a release has occurred.
3. Concentration Limits or Statistical Method: The Concentration Limits (CLs) for each COC will be established per Provision 9 and listed in Table A-3. A statistically significant exceedance of the CL may indicate a release from the Basin System and after confirmatory resampling may require further investigation to determine the cause and impact. Alternative to Concentration Limits, a release

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

detection program can be based on an approved statistical method established per Provision 9.

4. Monitoring Points: Monitoring Points for the Basin System will be identified in Figure A-1 of this Self-Monitoring Program. If appropriate background water quality monitoring locations do not exist, intra-well comparisons can be used for evaluating monitoring data. For those areas where COC concentrations greater than the CLs existed prior to corrective measures, monitoring will be conducted to demonstrate that levels of COCs have either stabilized or are decreasing.
5. Point of Compliance: The Points of Compliance for the Facility is the vertical surface that extends from the outside edge of the lateral containment structures through the uppermost aquifer underlying the unit. The Points of Compliance will be illustrated in Figure A-1.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. GROUNDWATER AND SURFACE WATER MONITORING:

Semi-Annual Report: Due May 30 of each year
Annual Report: Due November 30 of each year

Groundwater shall be sampled and analyzed as detailed in Table A-2 until a revised Self-Monitoring Program is established. Tables A-1 and A-2 will be updated to reflect changes in the Self-Monitoring Program, and thereafter groundwater shall be sampled and analyzed according to Tables A-1 and A-2. Monitoring well locations will be proposed by the Discharger as part of the revised Self-Monitoring Program, and will be illustrated in Figure A-1. Similarly, CLs for groundwater sampled at the monitoring wells will be proposed by the discharger, and will be shown in and are described in Table A-3. Groundwater analyses shall include the following field measurements: pH, temperature, specific conductance, water level, volume purged, number of casings volumes purged, and whether the well went dry during sampling (including measures taken to ensure accuracy of analyses given this condition). Groundwater monitoring wells installed in the future will be sampled and analyzed as detailed in Tables A-1 and A-2 and on a quarterly basis until a statistically significant dataset is established. Storm water shall be monitored as detailed in the Facility's SWPPP.

B. SURFACE WATER MONITORING: Surface water samples from the unnamed ephemeral creek adjacent to the Basin System semi-annually (summer/fall and winter/spring) when flowing, and sampled in accordance with Table A-2.

C. FACILITIES MONITORING - Observe quarterly, report semi-annually

Semi-Annual Report: Due May 30 of each year
Annual Report: Due November 30 of each year

The Discharger shall inspect all facilities to ensure proper and safe operation and report semi-annually. The facilities to be monitored shall include, but not be limited to:

1. Waste Containment systems;
2. Surface water retention basins;
3. Leak detection systems (where applicable); and

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

4. Leachate/groundwater management facilities and secondary containment where applicable.

Attachments: Figure A-1 – Monitoring Well Location Map

Table A-1 – Constituents of Concern for Groundwater and Surface Water

Table A-2 – Monitoring Parameters for Groundwater and Surface Water

Table A-3 – Concentration Limits for Groundwater

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

Figure A-1. Monitoring Well Location Map.¹

¹PLACEHOLDER: The map of monitoring well locations will be included here subsequent to construction for the increase in surface impoundment storage capacity to allow for the establishment of new wells in a revised Self Monitoring Program.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

Table A-1 – Constituents of Concern for Groundwater and Surface Water (analyzed every five years)²

Monitoring Wells	Constituents of Concern

² PLACEHOLDER: Constituents of Concern will be proposed by the Discharger, and implemented upon approval by the Executive Officer, and included here subsequent to the establishment of the revised Self Monitoring Program.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

Table A-2 – Monitoring Parameters for Groundwater and Surface Water³

Monitoring Wells	Monitoring Parameters
All Groundwater Monitoring Wells	General Water Quality Parameters:
MW-88-1	pH, specific conductance, chloride, sodium, potassium, sulfate, total phosphorus, bicarbonate alkalinity, total dissolved solids, and total organic carbon
MW-88-2	
MW-88-3	
MW-88-4	
MW-88-5	Dissolved Metals
UZM-88-1	Nickel, Vanadium and Zinc
UZM-88-2	
UZM-88-3	
Surface Water	Fuel Constituents (Surface Water only):
SW-1 (Ephemeral Creek upstream of Basin System)	Total petroleum hydrocarbons as gasoline, diesel, and motor oil
SW-2 (Ephemeral Creek downstream of Basin System)	

³ The list of final monitoring parameters will be proposed by the Discharger, and implemented upon approval by the Executive Officer.

Waste Discharge Requirements for ConocoPhillips Company Carbon Plant

Table A-3 - Concentration Limits for Groundwater⁴

Constituent of Concern	Practical Quantitation Limit	US EPA Test Method	Concentration Limits (ppb)

⁴ PLACEHOLDER: Concentration Limits will be proposed by the Discharger and included subsequent to the establishment of the revised Self Monitoring Program.