

FACT SHEET AND SUPPLEMENTAL INFORMATION
FOR THE PROPOSED REISSUANCE OF
THE NPDES GENERAL PERMIT FOR DISCHARGES
FROM THE
OIL AND GAS EXTRACTION POINT SOURCE CATEGORY
TO COASTAL WATERS IN TEXAS
(TXG330000)

March 7, 2012

U.S. Environmental Protection Agency
Region 6
1445 Ross Ave.
Dallas, TX 75202

This page is intentionally left blank.

FACT SHEET AND SUPPLEMENTAL INFORMATION

Note: Public Notice of the proposed permit announcing the availability of the draft permit, fact sheet, and a public meeting and public hearing being held in Houston, TX on April 11, 2012, is being published in the Federal Register. Notice of The Federal Register Notice will start the public comment period and includes instructions on how to request more information and how to provide comments on the proposed permit.

I. Legal Basis

Section 301(a) of the Clean Water Act (CWA or the Act), 33 USC 1311(a), renders it unlawful to discharge pollutants to waters of the United States in the absence of authorizing permits. CWA section 402, 33 USC 1342, authorizes EPA to issue NPDES permits allowing discharges on condition they will meet certain requirements, including CWA sections 301, 304, 306, 401 and 403. Those statutory provisions require NPDES permits to include effluent limitations for authorized discharges: (1) meet standards reflecting levels of technological capability; (2) comply with EPA-approved state water quality standards; (3) comply with other state requirements adopted under authority retained by states under CWA section 510, 33 USC 1370; and, (4) cause no unreasonable degradation to the territorial seas, waters of the contiguous zone or the oceans.

CWA section 301 requires compliance with best conventional pollution control technology (BCT) and best available pollution control technology economically achievable (BAT) no later than March 31, 1989. CWA section 306 requires compliance with New Source Performance Standards (NSPS) no later than the effective date of such standards. Accordingly, three types of technology-based effluent limitations are included in the proposed permit. With regard to conventional pollutants, e.g., pH, oil and grease, and etc., CWA section 301(b)(1)(E) requires effluent limitations based on BCT. With regard to nonconventional and toxic pollutants, CWA sections 301(b)(2)(A), (C) and (D) require effluent limitations based on BAT. For New Sources, CWA section 306 requires effluent limitations based on NSPS. Final effluent guidelines specifying BCT, BAT and NSPS for the Coastal Subcategory of the Oil and Gas Point Source Category (40 CFR 435, Subpart D) were issued October 31, 1996, and were published at 61 FR 66125 on December 16, 1996. Effluent guidelines limitations have not been developed for the Stripper Subcategory. For stripper wells, this proposed permit continues technology based discharge limits from previous permits and adds no new technology based limits.

II. Ocean Discharge Criteria

For discharges into waters of the territorial sea, contiguous zone, or oceans, CWA section 403 requires EPA to consider guidelines for determining potential degradation of the marine environment when issuing NPDES permits. These Ocean Discharge Criteria (40 CFR 125, Subpart M) are intended to "prevent unreasonable degradation of the marine environment and to authorize imposition of effluent limitations, including a prohibition of discharge, if necessary, to ensure this goal" (see 45 FR 65942, October 3, 1980). The reissued general permit will not authorize discharges to the territorial sea, contiguous zone or oceans; therefore, no conditions are

included in the proposed permit to comply with Ocean Discharge Criteria.

III. Regulatory Background

On September 21, 1993 (see 58 FR 49126), EPA issued the first general NPDES permit authorizing discharges from facilities in the Coastal Subcategory of the Oil and Gas Extraction Point Source Category located in Texas. That permit, TXG330000, authorized discharges from facilities located in coastal waters. It did not address the discharge of produced water or produced sand. Discharges of produced water and produced sand were later prohibited under a general permit issued on January 9, 1995 (see 60 FR 2387). Although the 1995 permit prohibited the discharge of produced water and produced sand from Coastal Subcategory wells, it did authorize produced water discharges from Stripper Subcategory wells producing from several non-saline formations in Texas. The 1993 and 1995 coastal general permits were reissued and combined on November 15, 2001 (see 66 FR 57457). That permit expired December 15, 2006. EPA reissued the general permit on June 7, 2007 (see 72 FR 31579) and included monitoring requirement for total dissolved solids in the permit. The 2007 reissued permit (2007 permit) expires July 6, 2012.

IV. Permit Area/Facility Coverage

The general permit covers existing source and New Source facilities in the Coastal and Stripper Subcategories of the oil and gas extraction point source category which are located in Texas. A Coastal Subcategory facility is defined as any facility where the wellhead is located in or on a water of the United States, landward of the inner boundary of the territorial seas inland to a line defined at 40 CFR 435.40(b) (see map in Appendix A). The 2007 permit has authorized the discharge of produced water from some Stripper Subcategory wells located east of the 98th meridian. Those Stripper Subcategory wells produce less than ten barrels of oil per day from Carrizo/Wilcox, Reklaw, and Bartosh formations. Produced water from these formations must contain less than 3000 mg/l of total dissolved solids to be authorized for discharge under this permit.

A facility must file a Notice of Intent (NOI) to be covered by this permit. A facility which does not discharge any authorized waste stream does not need to file an NOI and therefore it is not covered by this general permit. Any facility which files an NOI must submit Discharge Monitoring Reports in accordance with the permit requirements even the facility does not discharge during the reporting period (would report “no discharge” if that were the case).

V. Types of Discharges Covered

The discharges proposed to be either authorized or prohibited by the permit are listed below. The definitions of the waste streams are the same as those given in the Coastal and Stripper Subcategory guidelines (40 CFR 435, Subparts D and F) except for miscellaneous discharges which were not covered by those guidelines. The waste streams specifically are:

- A. Drilling fluids - the circulating fluid (mud) used in the rotary drilling of wells to clean and condition the hole and to counterbalance formation pressure. Classes of drilling fluids are:
- (a) "Water-Based Drilling Fluid" means the continuous phase and suspending medium for solids is a water-miscible fluid, regardless of the presence of oil.
 - (b) "Non-Aqueous Drilling Fluid" means the continuous phase and suspending medium for solids is a water-immiscible fluid, such as oleaginous materials (*e.g.*, mineral oil, enhanced mineral oil, paraffinic oil, C₁₆-C₁₈ internal olefins, and C₈-C₁₆ fatty acid/2-ethylhexyl esters).
 - (i) "Oil-Based" means the continuous phase of the drilling fluid consists of diesel oil, mineral oil, or some other oil, but contains no synthetic material or enhanced mineral oil.
 - (ii) "Enhanced Mineral Oil-Based" means the continuous phase of the drilling fluid is enhanced mineral oil.
 - (iii) "Synthetic-Based" means the continuous phase of the drilling fluid is a synthetic material or a combination of synthetic materials.
- B. Drill cuttings - the particles generated by drilling into subsurface geologic formations including cured cement carried out from the wellbore with the drilling fluid. Examples of drill cuttings include small pieces of rock varying in size and texture from fine silt to gravel. Drill cuttings are generally generated from solids control equipment and settle out and accumulate in quiescent areas in the solids control equipment or other equipment processing drilling fluid (*i.e.*, accumulated solids).
- (a) "Wet Drill Cuttings" means the unaltered drill cuttings and adhering drilling fluid and formation oil carried out from the wellbore with the drilling fluid.
 - (b) "Dry Drill Cuttings" means the residue remaining in the retort vessel after completing the retort procedure specified in Appendix 7 of 40 CFR 435, Subpart A.
- C. Deck drainage - any waste resulting from deck washings, spillage, rainwater, and runoff from gutters and drains including drip pans and work areas within facilities subject to this permit.
- D. Produced water - the water (brine) brought up from the hydrocarbon-bearing strata during the extraction of oil and gas, and can include formation water, injection water, and any chemicals added downhole or during the oil/water separation process.

- E. Produced sand - slurried particles used in hydraulic fracturing, the accumulated formation sands, and scale particles generated during production. Produced sand also includes desander discharge from produced water waste stream and blowdown of water phase from the produced water treating system.
- F. Well treatment, completion fluids and workover fluids - well treatment fluids are any fluids used to restore or improve productivity by chemically or physically altering hydrocarbon-bearing strata after a well has been drilled, well completion fluids are salt solutions, weighted brines, polymers, and various additives used to prevent damage to the well bore during operations which prepare the drilled well for hydrocarbon production, and workover fluids are salt solutions, weighted brines, polymers, or other specialty additives used in a producing well to allow for maintenance, repair or abandonment procedures. Packer fluids, low solids fluids between the packer, production string and well casing, are considered to be workover fluids.
- G. Sanitary waste - human body waste discharged from toilets and urinals.
- H. Domestic waste - material discharged from galleys, sinks, showers, safety showers, eye wash stations, hand washing stations, fish cleaning stations, and laundries.
- I. Miscellaneous discharges -
 - Distillation and reverse osmosis brine - wastewater associated with the process of creating freshwater from seawater.
 - Blowout preventer fluid - fluid used to actuate the hydraulic equipment on the blow-out preventer.
 - Uncontaminated ballast and bilge water - seawater added or removed to maintain proper draft (ballast water) or water from a variety of sources that accumulates in the lowest part of the vessel/facility (bilge water) without contact with or addition of chemicals, oil, or other wastes or being treated for removal of contaminants prior to discharge. (Definitions of bilge water and “uncontaminated” are added for clarification and better understanding.)
 - Mud, cuttings and cement at the sea floor - discharges that occur at the seafloor prior to installation of the marine riser and during marine riser disconnect, well abandonment and plugging operations.
 - Boiler blowdown - discharges from boilers necessary to minimize solids build-up in the boilers, including vents from boilers and other heating systems.

Excess cement slurry - the excess mixed cement, including additives and wastes from equipment washdown, after a cementing operation. This excludes unused excess cement slurry or mixed cement for equipment testing purposes.

Diatomaceous earth filter media - filter media used to filter seawater or other authorized completion fluids and subsequently washed from the filter.

Uncontaminated water - freshwater or seawater which is returned to the receiving water without the addition of any chemicals. Included are (1) discharges of excess water that permit the continuous operation of fire control and utility lift pumps, (2) excess water from pressure maintenance and secondary recovery projects, (3) water released during the training and testing of personnel in fire protection, (4) water used to pressure test piping, (5) once-through, non-contact cooling water, (6) potable water released during transfer and tank emptying operations and (7) condensate from air conditioning units, (8) seawater cooling overboard discharge, (9) chain locker effluent, and (10) firemain system discharge.

Any discharge which is not authorized is prohibited under CWA §301(a).

VI. Impaired Waters and Anti-degradation Issues

States are required to submit EPA with water quality assessments every two years under CWA sections 305(b) and 303(d) and develop total maximum daily loads (TMDLs) for impaired waters. According to the most recent Texas Integrated Report for Clean Water Act Sections 305(b) and 303(d) (available at: http://www.tceq.texas.gov/waterquality/assessment/305_303.html), there are coastal, near coastal, and shoreline waters in the area covered by this permit that are identified as impaired on the CWA Section 303(d) list, or have an EPA-approved or established TMDL. Pollutants associated with impairments include one or more of the following: Dissolved Oxygen, PCB(s) in Fish Tissue, Dioxin (Including 2,3,7,8-TCDD), Bacteria (Oyster Waters), Bacteria, Zinc in Edible Tissue, and Mercury in Fish Tissue. (See Appendix B of this Fact Sheet for the list of impaired waterbodies.) The Integrated Report does not include resource extraction as a probable source contributing to impairments to bays and estuaries or coastal shoreline, but refined assessment of sources is done as part of the TMDL process. For the purposes of this permit, a facility will be considered to discharge to an impaired water if the first water of the U.S. to which it discharges is identified by the state or EPA pursuant to Section 303(d) of the CWA as not meeting an applicable water quality standard, or is included in an EPA-approved or established TMDL. Note that the conditions proposed for water quality impaired waters are tied to the waterbody named in the State's assessment report and then only for the specified type of discharge, (which for produced waters could only include stripper wells), so not all facilities that would be authorized under this permit would be affected.

The EPA currently has no information indicating discharges authorized by this permit would significantly contribute to impairments associated with PCBs, or Dioxin. PCBs and dioxin would not be expected to be present in authorized discharges due to the nature of those

discharges and the State's impairment listing did not identify resource extraction as a source of the impairment.

Due to the nature and volumes of discharges authorized under this permit, produced water, which can only be discharged by stripper wells, is the only waste stream considered to have potential to have a significant, if localized, impact on dissolved oxygen. Little information on oxygen demand and dissolved oxygen in produced water discharges from stripper wells is available. However, there is information on produced waters from offshore facilities that indicates such discharges have the reasonable potential to further exacerbate impairments in waters already listed as impaired for dissolved oxygen (Study could be found at <http://www.evs.anl.gov/pub/doc/ANL-hypoxia-report.pdf>). For this reason, the permit proposes to prohibit new stripper well discharges of produced water where the receiving water has been listed in the latest Texas Integrated Report for Clean Water Act Sections 305(b) and 303(d) as impaired for dissolved oxygen. For the purposes of this limitation, a new stripper well is one that did not meet the definition of a stripper well until after the effective date of this permit or has not discharged produced water prior to the effective date of this permit. As of the 2010 report, this requirement would only apply to portions of the Laguna Madre, Lavaca Bay Ship Channel Area, and Oso Bay.

Bacteria impairments constitute the majority of listed impairments. The permit controls bacteria with 35 cfu/100 ml daily average and 104 colonies/100 ml daily maximum limit on sanitary waste discharges based on meeting the state criteria at the end-of-pipe. Where the discharge is to a waterbody with a bacteria (oyster) impairment, the permit would also impose a Fecal Coliform - 14 cfu/100 ml daily maximum limit with monitoring once per week to protect the State's water quality standard for oyster waters. These limits, combined with the small volumes that would be discharged and the other limitations for sanitary waste discharges, would ensure authorized discharges would not cause or contribute to bacteria impairments and can be expected to be consistent, absent evidence to the contrary, with the requirements of applicable bacteria TMDLs. Note that some facilities that would be regulated under this permit are unmanned or for other reasons would not have sanitary waste discharges.

The only 2010 Integrated Report listing for zinc impairment in bays and estuaries or coastal shorelines is for edible tissue (not water column) and is in approximately 30.5 square miles of Nueces Bay (Oyster Waters). The Texas Commission on Environmental Quality adopted a TMDL for this waterbody on November 1, 2006, and it was approved by the EPA on December 15, 2006 (available at: <http://m.tceq.texas.gov/waterquality/tmdl/21-nuecesbay.html#tmdl>). The TMDL and its associated Implementation Plan indicate that there is reserve capacity for zinc loadings from point and non-point sources. The TMDL also identified sediments as a significant reservoir of zinc. Furthermore, the Implementation Plan states “[s]ince the TMDL does not require a reduction in total loads of zinc to surface waters, control of sources will not be necessary.” Since 1) the TMDL process did not identify resource extraction as a significant source of zinc, 2) the TMDL found that control of sources will not be necessary, and 3) the impairment listing is for concentrations in edible tissue and not a water column exceedance of the zinc standard, the EPA has determined that it is not necessary to include a limitation on zinc at this time. However, the permit will require monitoring of zinc in produced

water discharges once per month to gather information for future permitting decisions. The permit reopener at Part I.B.13 allows the EPA to include additional requirements should monitoring results warrant. Note that the zinc monitoring requirement will only apply to stripper wells discharging produced waters to Nueces Bay.

The mercury in fish tissue impairments are found in assessments of the bays and estuaries, shoreline and ocean and near coastal waters, with atmospheric deposition believed to be a primary source. The impairment listing for mercury is for fish tissue and not for exceedance of a water column mercury standard. Produced waters are the only waste stream expected to have the potential to contain mercury in other than trace amounts. Since 1) impairment listing process did not identify resource extraction as a significant source of mercury, 2) air deposition is identified as a probable source of the impairment, and 3) the impairment listing is for concentrations in fish tissue and not a water column exceedance of the mercury standard, the EPA has determined there is insufficient information on which to base the need for a limitation on mercury at this time. However, the permit will require monitoring of mercury in produced water discharges once per month to gather information for future permitting decisions. The permit reopener at Part I.B.13 allows the EPA to include additional requirements should monitoring results warrant. Note that the mercury monitoring requirement will only apply to stripper wells, which are the only facilities authorized to discharge produced water under this permit.

If the permittee discharges to an impaired water that is impaired for dissolved oxygen, bacteria, mercury, or zinc, the permittee is required to comply with the requirements in Part I.B.13. of the proposed permit. Part I.B.13 also clarifies that permittees may be informed if any additional limits or controls are necessary for the discharge to be consistent with the assumptions of any available wasteload allocation in the TMDL, or if coverage under an individual permit is necessary. Note that 40 CFR 122.28(b)(3) allows the Director to require any discharger authorized under a general permit to apply for and obtain an individual NPDES permit.

Since, in accordance with the effluent limitation guidelines at 40 CFR 435, Subparts D and F, stripper wells are the only facilities authorized by this permit to discharge produced water, EPA requests comment on whether new discharges of produced water from stripper wells to impaired waters should be prohibited as a mechanism to avoid contributing to existing water quality impairments. New stripper well produced water discharges would be those from wells that only met the definition of a stripper well after issuance of this permit. Information on impaired waters and TMDLs can be obtained online via: <http://www.epa.gov/waters/ir/index.html>.

In the absence of information demonstrating otherwise, EPA expects that compliance with the requirements of this permit, including the requirements applicable to such discharges in section B of Part I, will not result in discharges that will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. Note that 40 CFR 122.28(b)(3) allows the Director to require any discharger authorized under a general permit to apply for and obtain an individual NPDES permit. New information on a particular discharger or approval of a TMDL with specific requirements for discharges covered by the

permit are examples the Agency might determine that the conditions of this permit were not sufficiently protective of water quality and an individual permit for a particular facility might be required.

If the permittee discharges to an impaired water that is impaired for a parameter other than bacteria, mercury, or zinc, EPA may inform the permittee if any additional limits or controls are necessary for the discharge to be consistent with the assumptions of any available wasteload allocation in the TMDL, or if coverage under an individual permit is necessary.

Antidegradation requirements applicable to Tier 2 and Tier 3 waters are established by §307.5 of the Texas Water Quality Standards. For Tier 2 waters, no activities subject to regulatory action that would cause degradation of waters that exceed fishable/swimmable quality are allowed unless it can be shown to the State's satisfaction that the lowering of water quality is necessary for important economic or social development. Degradation is defined as a lowering of water quality by more than a de minimis extent, but not to the extent that an existing use is impaired. Water quality sufficient to protect existing uses must be maintained. Tier 3 outstanding national resource waters are defined as high quality waters within or adjacent to national parks and wildlife refuges, state parks, wild and scenic rivers designated by law, and other designated areas of exceptional recreational or ecological significance. The quality of outstanding national resource waters must be maintained and protected.

In the absence of information demonstrating otherwise, EPA expects that compliance with the requirements of this permit will result in discharges that will not lower the water quality of the applicable receiving water beyond that allowed under TAC §307.5.

These provisions are intended to implement the requirements of 40 CFR 122.44(d)(1)(vii)(B), which requires that water quality based effluent limits in permits be "... consistent with the assumptions and requirements of any available wasteload allocation for the discharge ..." and of 40 CFR 122.4(i), which creates conditions for the issuance of permits for new sources discharging to impaired waters.

VII. Summary of Major Changes from the 2007 Permit

A. Notice of Intent and Discharge Monitoring Report

This permit renewal defines "operators" to clarify who is required to file notices of intent (NOIs). The 2007 issued permit allows existing operators to be covered by the renewed permit without filing new NOIs. But, this permit renewal proposes to change that practice and requires every operator to re-file a new NOI so that they may be covered by this permit. Additional information to be included in the NOI to better identify where facilities are located and what types of discharges are present can be found in the proposed permit. Also, for operators that determine they have a discharge to an impaired water (e.g., via <http://www.epa.gov/waters/ir/index.html>), the permit requires that the permittee provide the following supplemental information on the NOI:

1. A list of all impaired waters in the lease block for which the NOI is submitted;
2. The pollutant(s) for which the water is impaired;
3. Whether a TMDL has been approved or established by EPA for that pollutant; and
4. If so, the title or reference of the TMDL document.

These new items for the NOI require operators to report whether they have a discharge to an impaired water and to provide additional information regarding their discharge. This information allows identification of those facilities subject to the additional requirements in Part I.B.13 and highlights to the operator that those conditions apply to them.

EPA is phasing out paper discharge monitoring report (DMR) and replacing it with an electronic DMR (NetDMR). All operators who file NOIs are required to report NetDMR quarterly even if no discharges occur during the reporting period. Quarterly NetDMR reports will allow the public access dischargers' data and enable EPA to take prompt enforcement actions against permit violations in a timely manner. Permittees must submit the first quarterly results in NetDMR within 120 days from filing of the NOI.

B. Prohibition of Dewatering

The Effluent Guidelines BCT, BAT, and NSPS prohibit the discharge of dewatering effluent, except for dewatering from reserve pits which as of January 15, 1997, no longer received drilling fluids and/or drilling cuttings. Therefore, the 2007 permit allows the discharge of dewatering effluent from reserve pits which received drilling fluids and/or drill cuttings prior to January 15, 1997. Those discharges were limited for free oil, oil and grease, total suspended solids (TSS), total dissolved solids (TDS), chemical oxygen demand (COD), pH, chlorides, and hazardous metals. Reserve pits were designed for storage or disposal of drilling fluids and drill cuttings. Because the previous authorization for dewatering discharges would not apply where drilling fluids and drill cuttings were added after January 15, 1997, it is reasonable to assume that either the authorized discharges of wastes in those eligible reserve pits were wholly emptied or pits were closed during the past fourteen years (1997 – 2011). Also, the existing best technology available can achieve no discharge of dewatering and all facilities shall have technologies to achieve no discharge of dewatering waste for operations after January 15, 1997. This permit proposes to simply prohibit all dewatering discharge consistent with BAT.

C. Produced Water from Stripper Subcategory Wells

The 2007 permit authorizes discharges of produced water from Stripper Subcategory wells with specific effluent limitations. As stated above, this permit renewal proposes to add annual 24-hour acute toxicity testing requirements for existing wells. For discharges to impaired waters, site-specific requirements, limitations and restrictions are described in VI above.

D. Enterococci Effluent Limitation

The 2007 permit established effluent limitation of fecal coliform for sanitary waste. Because the Texas Surface Water Quality Standards have adopted Enterococci standards as

criteria for bacteria, this permit proposes to replace effluent limitation and monitoring requirement for fecal coliform with Enterococci. The effluent limitation is 104 colonies/100 ml for discharges not to an impaired water. For discharges to an impaired water, a daily average limitation of 33 colonies/100 ml is also established in accordance with the standards established for saltwater primary contact recreation.

E. Reporting Requirements

The 2007 permit requires reporting if a discharge exceeds the highest level of four “notification levels.” This permit proposes to change the reporting requirements under Part II.D.10.a, and b. to report if the discharge exceeds any of the applicable “notification levels” as below:

The permittee shall notify the Director as soon as it knows or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed any of the following "notification levels":
 - (1) One hundred micrograms per liter (100 ug/L); two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitro-phenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (2) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - (3) The level established by the Director.

- b. That any activity has occurred or will occur which would result in any discharge, on a non routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed one of the following applicable "notification levels":
 - (1) Five hundred micrograms per liter (500 ug/L); one milligram per liter (1 mg/L) for antimony;
 - (2) Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
 - (3) The level established by the Director.

EPA considers it is necessary to modify this permit condition to avoid any misleading. For instance, a certain pollutant X may exceed the 500 µg/l level but is lower than the 10 times the maximum concentration value reported in the permit application. Under the current permit conditions, a report is not required, although the concentration of that pollutant in the discharge may have potential to affect the environment.

F. Cooling Water Intake Structures

Section §316(b) of the Clean Water Act requires that the location, design, construction and capacity of cooling water intake structures (CWIS) reflect the best technology available (BTA) for minimizing adverse environmental impact. EPA promulgated 316(b) Phase III regulations which require that new offshore oil and gas facilities take measures to reduce entrainment and impingement of aquatic life. The 316(b) Phase III regulation applies to new facilities which intake 2 million gallons per day of water and use at least 25 percent for cooling. The facilities which are affected by these new requirements are new facilities which are regulated by the Offshore or Coastal Subcategories of the Oil and Gas Extraction Point Source Category Effluent Guidelines in 40 CFR 435 and commence construction after July 17, 2006. In general, the regulations require operators to submit information demonstrating that new 316(b) Phase III facilities will be designed so that the water intake velocity is less than 0.5 feet per second and other measures such as screens are employed to reduced entrainment when feasible. These new requirements are proposed to be included in the reissued permit. Every new facility which meets the criteria above must comply with the CWIS requirements even when more than one new facility are working at the same site.

The 316(b) Phase III regulations also require baseline and periodic biological monitoring. Baseline monitoring is required to characterize the biological community which could be impacted by the intake of cooling water. Periodic monitoring is intended to measure the number of organisms and types of species entrained in the system. As proposed, the permit will require new 316(b) Phase III facilities to conduct this biological monitoring. Such a study will need to include sufficient detail so that EPA can determine if intake structure designs are sufficient to minimize impacts due to entrainment and impingement and if additional measures are warranted.

G. Spill Prevention Best Management Practices

This general permit does not authorize uncontrollable discharges caused by failures of equipment, blowout, damage of facility, or any form of unexpected discharge. A provision for Spill Prevention Best Management Practices is proposed as part of Proper Operation and Maintenance.

VIII. Specific Permit Conditions

Conditions in the proposed permit are based on: (A) NSPS for New Source facilities; (B) BCT to control conventional pollutants; (C) BAT to control toxic and nonconventional pollutants; and (D) State Water Quality Standards (WQS). Discussions of the rationale for the specific effluent limitations for each regulated waste stream appear below.

A. Drilling Fluids and Drill Cuttings

The limitations in the permit are based on National Effluent Limitations Guidelines. The 2007 permit prohibits the discharge of drilling fluids and drill cuttings based on BCT (40 CFR

435.44), BAT (40 CFR 435.43), and NSPS (40 CFR 435.45). Those prohibitions are included in the permit without any changes.

B. Dewatering

As stated above, this permit does not authorize discharges of dewatering of pit reservoir in accordance with a BPJ-based BAT.

C. Produced Water

1. Coastal Subcategory

NSPS (40 CFR 435.45) and BAT (40 CFR 435.43) established by the Coastal Subcategory Effluent Guidelines prohibit the discharge of produced water. This permit renewal remains the “no discharge” condition.

2. Stripper Subcategory

The Stripper Subcategory (40 CFR, Subpart F) covers wells located onshore and producing 10 barrels of crude oil per day or less. No limitations are established by the Effluent Guidelines for the Stripper Subcategory. BPJ-based BAT for produced water discharges from Stripper Subcategory wells was established when the permit was issued in 1995. The discharge of produced water from wells located east of the 98th meridian and originated from the Charrizo/Wilcox, Reklaw, and Bartosh formations was authorized and limited to a total dissolved solids concentration of 3000 mg/l and monthly average and daily maximum oil and grease concentration of 25 mg/l and 35 mg/l, respectively. This permit renewal proposes to add annual 24-hour end-of-pipe acute toxicity monitoring requirements for produced water discharge in accordance with the Texas Administrative Code, Title 30 (TAC 30) Chapter 307.6(e)(2)(b). EPA has established the 24-hour toxicity limit in the Texas Territorial Seas general permit (TXG260000). TAC 30 Chapter 307(e)(2)(b) states “In addition to the other requirements of this section, the effluent of discharges to water in the state shall not be acutely toxic to sensitive species of aquatic life, as demonstrated by effluent toxicity tests. Toxicity testing for this purpose shall be conducted on samples of 100% effluent, and the criterion for acute toxicity shall be mortality of 50% or more of the test organisms after 24 hours of exposure.” The facility must conduct the first 24-hour acute toxicity test within 60 days from the effective date of the permit for each existing produced water discharge outfall to the coastal water. If a facility collects produced waters from varied wells and disposes the combined waste at one outfall, only one toxicity test is required. Discharges of produced water are not authorized if the facility either fails to conduct the test or fails the test result. After the failure of the toxicity test, the operator has up to three months to cease such discharges. The discharge of produced water can only be resumed after it passes two confirmation tests.

More requirements are proposed for discharges of produced water to impaired waters as included below:

Only for authorized discharges to an impaired water that is impaired for zinc, the produced water discharges must also be monitored once per month for total zinc. The sample type for above tests may be either grab, or a 24-hour composite consisting of the arithmetic average of the results of 4 grab samples taken over a 24-hour period.

Only for authorized discharges to an impaired water that is impaired for mercury, the produced water discharges must also be monitored once per month for total mercury. The sample type for above tests may be either grab, or a 24-hour composite consisting of the arithmetic average of the results of 4 grab samples taken over a 24-hour period.

Only for new stripper wells, no discharge of produced waters to an impaired water that is impaired for dissolved oxygen is authorized by this permit. For the purposes of this limitation, a new stripper well is one that did not meet the definition of a stripper well until after the effective date of this permit.

3. Offshore Subcategory

Transfer of waste water from one Effluent Guidelines subcategory to another is addressed under 40 CFR 435, Subpart G. Subpart G requires that the Effluent Guidelines that apply are those which cover the more stringent of either the location where the waste water was produced or the location where it is disposed. Therefore, produced water from an Offshore Subcategory well is not authorized for discharge to coastal waters. Likewise, any discharge prohibited under the Coastal Subcategory shall not be transported to Offshore waters for disposal.

D. Produced Sand

The 2007 permit prohibits the discharge of produced sand based on NSPS, BAT, and BCT, established by the Coastal Subcategory Effluent Guidelines. That prohibition is continued.

E. Well Treatment, Completion and Workover Fluids

The 2007 permit prohibits such discharges based on NSPS and BAT, established by the Coastal Subcategory Effluent Guidelines. That prohibition is continued.

F. Deck Drainage

The 2007 permit limits are based on the Coastal Subcategory NSPS, BAT, BCT, and BPT Effluent Guidelines which all require No Discharge of Free Oil as determined by the presence of a film or sheen upon, or a discoloration of, the surface of the receiving water (visual sheen). No changes to those limits are proposed.

G. Sanitary Waste

For sanitary waste, the Coastal Subcategory NSPS and BCT Effluent Guidelines require residual chlorine be maintained as close to 1 mg/l as possible for facilities continuously manned by ten or more persons. Also, the NSPS, BCT, and best practicable control technology currently available (BPT) Effluent Guidelines require No Discharge of floating solids for facilities continuously manned by nine or fewer persons or intermittently manned by any number of persons. The 2007 permit also contains daily maximum BOD limit, daily maximum TSS limit, and fecal coliform limit for sanitary wastewater. This permit renewal proposes to change the fecal coliform limit to Enterococci limit in accordance with Texas water quality standards. This permit renewal applies the saltwater standard for a single sample not to exceed 104 colony forming units of bacteria per 100 milliliters of water (104 colonies/100 ml) at the effluent.

For sanitary wastes discharge to an impaired water, the following limitations also apply:

Enterococci - 35 colonies/100 ml daily average and 104 colonies/100 ml daily maximum. Monitoring shall be once per week using grab samples.

Discharges to waters listed as impaired for bacteria (oyster) only - fecal coliform 14 colonies/100 ml. Monitoring shall be once per week using grab samples.

H. Domestic Waste

The permit limits for domestic waste are based on the Coastal Subcategory NSPS, BAT and BCT established by the Effluent Limitations Guidelines. Based on BAT, the discharge of foam is proposed to be prohibited. The discharge of floating solids and garbage is proposed to be prohibited based on BCT and NSPS. The prohibition of the discharge of garbage, including operational waste is consistent with the requirements of 33 CFR 151. These requirements are included in the 2007 permit and no changes are proposed.

I. Miscellaneous Discharges

The 2007 permit authorizes the following miscellaneous discharges: distillation and reverse osmosis brine, blowout preventer fluid, uncontaminated ballast and bilge water, mud, cuttings and cement at the sea floor, boiler blowdown, excess cement slurry, diatomaceous earth filter media, and uncontaminated water. No technology based limits have been established by the Coastal Subcategory Effluent Guidelines for these discharges. The 2007 permit contains limits of no free oil, which are based on BCT developed using BPJ. No changes to those limits are proposed.

VIII. State Certification

The permit is being sent to the Railroad Commission of Texas for certification. Additional conditions may be included in the final permit if that agency determines they are

needed to ensure compliance with Water Quality Standards.

IX. References

Development Document for Final Effluent Limitations Guidelines and Standards for the Coastal Subcategory of the Oil and Gas Extraction Point Source Category, USEPA, Office of Water, EPA-821-R-96-023, October, 1996.

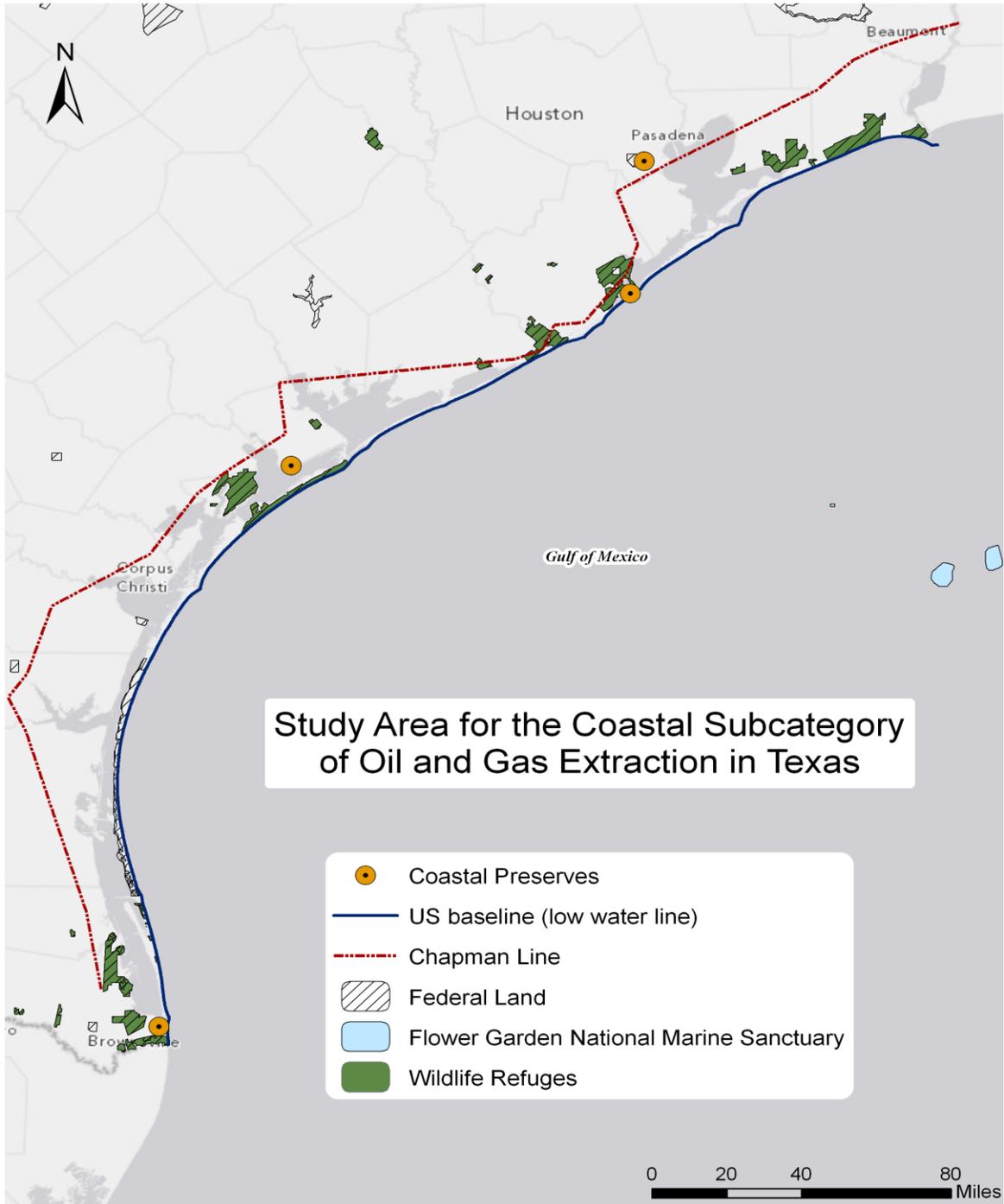
Final NPDES General Permit for Discharges from the Oil and Gas Extraction Point Source Category to Coastal Waters in Texas (TXG330000), 72 FR 31579, June 7, 2007.

Characteristics of Produced Water Discharged to the Gulf of Mexico Hypoxic Zone, August 2005, <http://www.evs.anl.gov/pub/doc/ANL-hypoxia-report.pdf>

40 CFR 125, subpart N – Requirements Applicable to Cooling Water Intake Structures for New Offshore Oil and Gas Extraction Facilities Under Section 316(b) of the Act, 71 FR 35040, June 16, 2006.

2010 Texas Integrated Report for Clean Water Act Sections 305(b) and 303(d), <http://www.tceq.texas.gov/waterquality/assessment/10twqi/10twqi>

Appendix A: Overview Map of Permit Area



Appendix B: Texas Coastal Impairments Data (Source: http://iaspub.epa.gov/tmdl_waters10/attains_state.control?p_state=TX&p_cycle=2010&p_report_type=A#BAY/ESTUARY)

Causes of Impairment Texas Bays and Estuaries 2010

[Description of this table](#)

<u>Cause of Impairment</u>	<u>Cause of Impairment Group</u>	<u>Square Miles Threatened or Impaired</u>
Dissolved Oxygen	Organic Enrichment/Oxygen Depletion	614.4
PCB(s) in Fish Tissue	Polychlorinated Biphenyls (PCBs)	540.5
Dioxin (Including 2,3,7,8-TCDD)	Dioxins	540.5
Bacteria (Oyster Waters)	Pathogens	491.2
Bacteria	Pathogens	105.0
Zinc in Edible Tissue	Metals (other than Mercury)	30.5
Mercury in Fish Tissue	Mercury	1.6

Waters and Specific State Causes that make up the Organic Enrichment/Oxygen Depletion Cause of Impairment Group for in Texas

[Description of this table](#)

NOTE: Sizes are in square miles.

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Cause(s) of Impairment</u>	<u>Size</u>
Laguna Madre	TX-2491_01	Upper Portion Of Bay North Of The Arroyo Colorado Confluence	Dissolved Oxygen	520.3
Laguna Madre	TX-2491_02	Area Adjacent To The Arroyo Colorado Confluence	Dissolved Oxygen	91.6
Lavaca Bay Ship Channel Area (Unclassified Water Body)	TX-2453D_01	Entire Segment	Dissolved Oxygen	1.6
Oso Bay	TX-2485_02	Middle Bay (State Park Road 22 To Holly Road)	Dissolved Oxygen	.9

**Waters and Specific State Causes that make up the Metals (other than Mercury)
Cause of Impairment Group for in Texas**

[Description of this table](#)

NOTE: Sizes are in square miles.				
Waterbody Name	Waterbody ID	Location	Cause(s) of Impairment	Size
Nueces Bay (Oyster Waters)	TX-2482OW_01	Entire Segment	Zinc in Edible Tissue	30.5

**Waters and Specific State Causes that make up the Pathogens Cause of Impairment
Group for in Texas**

[Description of this table](#)

NOTE: Sizes are in miles.				
Waterbody Name	Waterbody ID	Location	Cause(s) of Impairment	Size
Gulf Of Mexico	TX-2501_02	Jefferson-Chambers County Line Area	Bacteria	27.0

**Waters and Specific State Causes that make up the Pathogens Cause of Impairment
Group for in Texas**

[Description of this table](#)

NOTE: Sizes are in square miles.				
Waterbody Name	Waterbody ID	Location	Cause(s) of Impairment	Size
Bastrop Bay/Oyster Lake (Oyster Waters)	TX-2433OW_02	Oyster Lake	Bacteria (Oyster Waters)	.8
Brownsville Ship Channel	TX-2494_01	From The Laguna Madre Confluence Upstream To The Port Of Brownsville	Bacteria	2.7
Carancahua Bay	TX-2456_02	Upper Half Of Bay	Bacteria	7.0
Carancahua Bay (Oyster Waters)	TX-2456OW_01	Lower Portion Of Bay	Bacteria (Oyster Waters)	11.8
Cedar Lakes (Oyster Waters)	TX-2442OW_01	Entire Segment	Bacteria (Oyster Waters)	6.6
Chocolate Bay (Oyster Waters)	TX-2432OW_01	Entire Segment	Bacteria (Oyster Waters)	7.7

			Waters)	
Christmas Bay (Oyster Waters)	TX-2434OW_01	Area Adjacent To West Bay	Bacteria (Oyster Waters)	.7
Copano Bay/Port Bay/Mission Bay (Oyster Waters)	TX-2472OW_01	Mission Bay, Aransas River Arm, Port Bay, And Eastern Shoreline	Bacteria (Oyster Waters)	21.5
Corpus Christi Bay (Recreational Beaches)	TX-2481CB_03	Cole Park (Beach Id Tx259473)	Bacteria	.1
Corpus Christi Bay (Recreational Beaches)	TX-2481CB_04	Ropes Park (Beach Id Tx821303)	Bacteria	.0
Cox Bay (Oyster Waters)	TX-2454OW_01	North End Of Bay Near Cox Creek	Bacteria (Oyster Waters)	.2
Drum Bay (Oyster Waters)	TX-2435OW_01	Area Adjacent To Christmas Bay	Bacteria (Oyster Waters)	.1
East Bay (Oyster Waters)	TX-2423OW_01	East End Of Bay Adjacent To The Icw And East Bay Bayou	Bacteria (Oyster Waters)	9.3
East Matagorda Bay (Oyster Waters)	TX-2441OW_01	Caney Creek Arm And Western Shoreline Area	Bacteria (Oyster Waters)	8.2
Keller Bay (Oyster Waters)	TX-2455OW_01	Upper Arm	Bacteria (Oyster Waters)	1.0
Laguna Madre	TX-2491_02	Area Adjacent To The Arroyo Colorado Confluence	Bacteria	91.6
Laguna Madre (Oyster Waters)	TX-2491OW_02	Area Adjacent To The Arroyo Colorado Confluence	Bacteria (Oyster Waters)	27.6
Lavaca Bay/Chocolate Bay (Oyster Waters)	TX-2453OW_02	North-Northeastern Portion Of The Bay Near Point Comfort	Bacteria (Oyster Waters)	11.5
Lavaca Bay/Chocolate Bay (Oyster Waters)	TX-2453OW_03	Chocolate Bay Area	Bacteria (Oyster Waters)	9.0
Lower Galveston Bay (Oyster Waters)	TX-2439OW_01	Area Adjacent To The Texas City Ship Channel And Moses Lake	Bacteria (Oyster Waters)	23.7

Matagorda Bay/Powderhorn Lake (Oyster Waters)	TX-2451OW_01	Northern End Of Matagorda Bay	Bacteria (Oyster Waters)	148.1
Oso Bay	TX-2485_03	Lower Portion Of Bay (Ocean Drive To State Park Road 22)	Bacteria	3.4
Oso Bay (Oyster Waters)	TX-2485OW_01	Entire Bay	Bacteria (Oyster Waters)	5.9
Port Isabel Fishing Harbor (Unclassified Water Body)	TX-2494A_01	From The Laguna Madre Confluence To 0.4 Km (0.25 Mi) South Of Sh 100 In Port Isabel	Bacteria	.1
Redfish Bay (Oyster Waters)	TX-2483OW_01	Entire Segment	Bacteria (Oyster Waters)	41.1
San Antonio Bay/Hynes Bay/Guadalupe Bay (Oyster Waters)	TX-2462OW_01	Guadalupe Bay	Bacteria (Oyster Waters)	10.3
Tres Palacios Bay/Turtle Bay (Oyster Waters)	TX-2452OW_01	Turtle Bay And Tres Palacios Creek Arm	Bacteria (Oyster Waters)	10.4
Trinity Bay (Oyster Waters)	TX-2422OW_01	Upper Portion Of The Bay	Bacteria (Oyster Waters)	59.3
Upper Galveston Bay (Oyster Waters)	TX-2421OW_01	Entire Western Portion Of The Bay	Bacteria (Oyster Waters)	59.2
West Bay (Oyster Waters)	TX-2424OW_02	Area Adjacent To Lower Galveston Bay And Galveston Island	Bacteria (Oyster Waters)	16.9

Site-specific Targeted Monitoring Results
Causes of Impairment
Texas Coastal Shoreline 2010

[Description of this table](#)

<u>Cause of Impairment</u>	<u>Cause of Impairment Group</u>	<u>Miles Threatened or Impaired</u>
Mercury in Fish Tissue	Mercury	388.2
Bacteria	Pathogens	27.0

Site-specific Targeted Monitoring Results
Causes of Impairment
Texas Ocean and Near Coastal 2010

[Description of this table](#)

<u>Cause of Impairment</u>	<u>Cause of Impairment Group</u>	<u>Square Miles Threatened or Impaired</u>
Mercury in Fish Tissue	Mercury	68.3

[Top of page](#)

Site-specific Targeted Monitoring Results
Probable Sources
Texas Ocean and Near Coastal 2010

[Description of this table](#)

<u>Probable Source</u>	<u>Probable Source Group</u>	<u>Square Miles Threatened or Impaired</u>
Source Unknown	Unknown	68.3
Atmospheric Deposition - Toxics	Atmospheric Deposition	68.3

**Waters and Specific State Causes that make up the Polychlorinated Biphenyls
(PCBs) Cause of Impairment Group for in Texas**

[Description of this table](#)

NOTE: Sizes are in square miles.				
<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Cause(s) of Impairment</u>	<u>Size</u>
Barbours Cut	TX-2436_01	Entire Segment	PCB(s) in Fish Tissue	.4
Bayport Channel	TX-2438_01	Entire Segment	PCB(s) in Fish Tissue	.4
Black Duck Bay	TX-2428_01	Entire Segment	PCB(s) in Fish Tissue	1.2
Burnett Bay	TX-2430_01	Entire Segment	PCB(s) in Fish Tissue	2.1
Chocolate Bay	TX-2432_01	Entire Segment	PCB(s) in Fish Tissue	7.4
Clear Lake	TX-2425_01	Entire Segment	PCB(s) in Fish Tissue	2.8
Clear Lake Channel (Unclassified Water Body)	TX-2421A_01	From Lower Galveston Bay Confluence To Sh 146	PCB(s) in Fish Tissue	.0
Crystal Bay (Unclassified Water Body)	TX-2430A_01	Entire Segment	PCB(s) in Fish Tissue	.6
East Bay	TX-2423_01	Area Adjacent To The Icwv (Segment 0702)	PCB(s) in Fish Tissue	9.3
East Bay	TX-2423_02	Remainder Of Segment	PCB(s) in Fish Tissue	47.9
Lower Galveston Bay	TX-2439_01	Area Adjacent To The Texas City Ship Channel And Moses Lake	PCB(s) in Fish Tissue	23.7
Lower Galveston Bay	TX-2439_02	Main Portion Of The Bay	PCB(s) in Fish Tissue	120.0
Moses Lake	TX-2431_01	Entire Segment	PCB(s) in Fish Tissue	4.0
Offatts Bayou (Unclassified Water Body)	TX-2424D_01	Upper Area Bordered By Sh 342 And 71st Street	PCB(s) in Fish Tissue	.4
Offatts Bayou (Unclassified Water	TX-2424D_02	Middle Area Bordered By 71st Street And Walsh Street	PCB(s) in Fish Tissue	.5

Body)				
Offatts Bayou (Unclassified Water Body)	TX- 2424D_03	Lower Area Bordered By Walsh Street And Techmann Point	PCB(s) in Fish Tissue	.6
San Jacinto Bay	TX-2427_01	Entire Segment	PCB(s) in Fish Tissue	2.0
Scott Bay	TX-2429_01	Entire Segment	PCB(s) in Fish Tissue	1.4
Tabbs Bay	TX-2426_01	Entire Segment	PCB(s) in Fish Tissue	4.2
Taylor Lake (Unclassified Water Body)	TX- 2425A_01	From The Clear Lake Confluence To The Taylor Bayou Confluence Near Red Bluff Road	PCB(s) in Fish Tissue	.4
Texas City Ship Channel	TX-2437_01	Entire Segment	PCB(s) in Fish Tissue	.7
Trinity Bay	TX-2422_01	Upper Half Of Bay	PCB(s) in Fish Tissue	59.2
Trinity Bay	TX-2422_02	Lower Half Of Bay	PCB(s) in Fish Tissue	63.7
Upper Galveston Bay	TX-2421_01	Red Bluff To Five Mile Cut To Houston Point To Morgans Point	PCB(s) in Fish Tissue	20.8
Upper Galveston Bay	TX-2421_02	Western Portion Of The Bay	PCB(s) in Fish Tissue	38.1
Upper Galveston Bay	TX-2421_03	Eastern Portion Of The Bay	PCB(s) in Fish Tissue	55.1
West Bay	TX-2424_01	Main Portion Of Water Body	PCB(s) in Fish Tissue	56.8
West Bay	TX-2424_02	Area Adjacent To Lower Galveston Island	PCB(s) in Fish Tissue	16.9