NPDES PERMIT NO. TX0134054
STATEMENT OF BASIS

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT:

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ISSUING OFFICE:

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DATE PREPARED:

March 20, 2018

PERMIT ACTION

It is proposed that the facility be issued an NPDES permit for a 5-year term in accordance with regulations contained in 40 Code of Federal Regulations (CFR) 122.46(a).

40 CFR CITATIONS: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of March 16, 2018.

RECEIVING WATER – BASIN

Unnamed pond on landowner's property, then to the wet weather creek into Leon Creek, approximately 4.5 miles NE. The pond is on an unnamed draw (intermittent) that is a tributary of Leon Creek. Leon Creek is an upstream tributary of the Upper Pecos River, Texas Segment 2311 of the Rio Grande Basin.

DOCUMENT ABBREVIATIONS

For brevity, Region 6 used acronyms and abbreviated terminology in this Statement of Basis document whenever possible. The following acronyms were used frequently in this document:

BAT	Best Available Technology Economically Achievable)
BOD_5	Biochemical oxygen demand (five-day unless noted otherwise)
BOPD	Barrels of oil per day
BPJ	Best professional judgment
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
F&WS	United States Fish and Wildlife Service
GPD	Gallon per day
IP	Procedures to Implement the Texas Surface Water Quality Standards
µg/l	Micrograms per litter (one part per billion)
mg/l	Milligrams per liter (one part per million)
Menu 7	Intermittent stream with perennial pools
MGD	Million gallons per day
MSGP	Multi-Sector General Permit
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
RRC	Railroad Commission of Texas
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDS	Total dissolved solids
TMDL	Total maximum daily load
TOC	Total Organic Carbon
TRC	Total residual chlorine
TSS	Total suspended solids
TSWQS	Texas Surface Water Quality Standards
WET	Whole effluent toxicity
WQMP	Water Quality Management Plan
WQS	Water Quality Standards

I. PROPOSED CHANGES FROM PREVIOUS PERMIT

New Discharger

II. APPLICANT LOCATION and ACTIVITY

Under the SIC Code 1311, the applicant is engaged in crude petroleum and natural gas extraction.

As described in the application, the facility is located at Bill Dewitt Lease, Gomez field, Lat N.30.9642, Long. W.-102.975^{o}, Pecos County, Texas. Produced water discharges from the facility flows into unnamed pond on landowner's property, then to the wet weather creek into Leon Creek, approximately 4.5 miles NE. The pond is on an unnamed draw (intermittent) that is a tributary of Leon Creek. Leon Creek is an upstream tributary of the Upper Pecos River, Texas Segment 2311 of the Rio Grande Basin.

Discharges are located on that water at:

Outfall 001: Latitude 30^{o} 57' 51.264" N; Longitude -102^{o} 58' 30.0036" W

III. PROCESS AND DISCHARGE DESCRIPTION

The facility, Guinn Operating Company, LLC. has the following leases with the respective discharge volumes in MGD:

Name of Lease	Latitude/Longitude	Receiving Stream	Avg. MGD	Max. MGD	No. of Wells
Bill Dewitt Parke Lease	Latitude 30^{o} 57' 49.536" N; Longitude -102^{o} 58' 30.9714" W	Unnamed pond then to wet weather creek into Leon Creek, of the Upper Pecos River, Texas Segment 2311 of the Rio Grande Basin.	0.0017115	0.008232	1

The well does not produce oil and produces water from the Ellenburger formation.
The produced water is being generated in conjunction with the operation of a natural gas extraction well. The produced water and gas goes through 2-phase horizontal separator, where gas is being extracted from water after which the gas is sent to sales. From the horizontal 2-phase separator, the water then flows to a 2-phase weir separator (final retention step to capture any residue) and then into the dump. No chemicals are used in the extraction process.

Table 1: Discharge Characteristics for Outfall 001

The table below shows facility's pollutant concentrations contained in the NPDES application.

Parameter	Max Concentration, mg/L unless noted	Average Concentration, mg/L unless noted
Flow, MGD	0.008232	0.0017115
pH, su	6.74	6.74
TSS	<2.5	<2.5
DO		
Oil & Grease	23.6	14
BOD	-	<25
Ammonia (as N)	64	64
Temperature, winter, ^{o}F	70	65
Temperature, summer, ^{o}F	98	95
Sulfate	7.27	2.41
Chloride	63	24.46
Total Dissolved Solids	780	190.05
Arsenic	0.0374	0.0274
Chromium	0.0567	0.0234
Copper	0.0274	0.0274
Mercury	0.0192	0.01026
Nickel	0.0313	0.0313
Lead	0.00792	0.00532
Zinc	0.968	0.09201

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water;" more commonly known as the "swimmable, fishable" goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR 122.46(a). This is a first-time permit issuance. An NPDES Application for a Permit to Discharge (Form 1) was received on May 19, 2017. Additional permit application information were received on December 4, 2017, and January 18, 2018, was deemed administratively complete on February 9, 2018.

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

A. OVERVIEW of TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITION FOR PERMIT ISSUANCE

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, on best professional judgment (BPJ) in the absence of guidelines, and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent. Technology-based effluent limitations are established in the proposed draft permit for Oil and grease. Water quality-based effluent limitations are established in the proposed draft permit for pH and Mercury.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Effluent Limitations

Produced Water discharges are covered under the effluent guideline for onshore oil and gas operations. These activities are subject to the Oil and Gas Extraction Point Source Category (40 CFR Part 435). The Oil and Gas Extraction Point Source Category Subpart C - Onshore Subcategory establishes the effluent limitation for produced water from Onshore operations as "No Discharge" [40 CFR 435.52 (a)]. Oil wells with very small production (i.e. Stripper wells producing less than 10 bbl/day of oil) are not regulated by the Onshore Subcategory but are regulated by the Stripper Subcategory (40 CFR 435.60). Cimarex Energy does not fall under the Stripper Subcategory, which excludes gas wells. However, Subpart E - Agricultural and Wildlife Water Use Subcategory, allows the discharge of produced water from facilities west of the 98th meridian for use in agricultural and wildlife propagation. . Cimarex Energy is located west of the 98^{th} meridian. The effluent guideline further requires " . . . that the produced water is of good enough quality to be used for wildlife or livestock watering or other agricultural uses and that the produced water is actually put to such use during periods of discharge." The technology base limit for oil and grease is 35 mg/l.

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State Water Quality Standards

The Clean Water Act in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR 122.44(d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant. If the discharge poses the reasonable potential to cause an in-stream violation of narrative standards, the permit must contain prohibitions to protect that standard. Additionally, the TWQS found at 30 TAC Chapter 307 states that "surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life." The methodology outlined in the "Procedures to Implement the Texas Surface Water Quality Standards" (IP) is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed to discharge any wastewater which: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

The IP document is not a state water quality standard, but rather, a non-binding, non-regulatory guidance document. See IP at page 2 stating that "this is a guidance document and should not be interpreted as a replacement to the rules. The TWQS may be found in 30 TAC Sections (§§) 307.1-.10."). EPA does not consider the IP to be a new or revised water quality standard and has never approved it as such. EPA did comment on and conditionally “approve” the IP as part of the Continuing Planning Process (CPP) required under 40 CFR §130.5(c) and the Memorandum of Agreement between TCEQ and EPA, but this does not constitute approval of the IP as a water quality standard under CWA section 303(c). Therefore, EPA is not bound by the IP in establishing limits in this permit – but rather, must ensure that the limits are consistent with the EPA-approved state WQS. However, EPA has made an effort, where we believe the IP procedures are consistent with all applicable State and Federal regulations, to use those procedures.

The general criteria and numerical criteria which make up the stream standards are provided in the 2000 EPA-approved Texas Water Quality Standards, Texas Administrative Code (TAC), 30 TAC Sections 307.1 - 307.9, effective September 23, 2014.

The designated uses of Upper Pecos River, Segment 2311 are primary contact recreation and limited aquatic life.

4. Reasonable Potential- Procedures

EPA develops draft permits to comply with State WQS, and for consistency, attempts to follow the IP where appropriate. However, EPA is bound by the State's WQS, not State guidance, including the IP, in determining permit decisions. EPA performs its own technical and legal review for permit issuance, to assure compliance with all applicable State and Federal requirements, including State WQS, and makes its determination based on that review. Waste load allocations (WLA's) are calculated using estimated effluent dilutions, criteria outlined in the TWQS, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentrations that can be discharged and still meet instream criteria after mixing with the receiving stream. From the WLA, a long term average (LTA) is calculated, for both chronic and acute toxicity, using a log normal probability distribution, a given coefficient of variation (0.6), and either a 90th or a 99th percentile confidence level. The 90th percentile confidence level is for discharges to rivers, freshwater streams and narrow tidal rivers with upstream flow data, and the 99th percentile confidence level is for the remainder of cases. For facilities that discharge into receiving streams that have human health standards, a separate LTA will be calculated. The implementation procedures for determining the human health LTA use a 99th percentile confidence level, along with a given coefficient of variation (0.6). The lowest of the calculated LTA; acute, chronic and/or human health, is used to calculate the daily average and daily maximum permit limits.

Procedures found in the IP for determining significant potential are to compare the reported analytical data either from the DMR history and/or the application information, against percentages of the calculated daily average water quality-based effluent limitation. If the average of the effluent data equals or exceeds 70% but is less than 85% of the calculated daily average limit, monitoring for the toxic pollutant will usually be included as a condition in the permit. If the average of the effluent data is equal to or greater than 85% of the calculated daily average limit, the permit will generally contain effluent limits for the toxic pollutant. The permit may specify a compliance period to achieve this limit if necessary.

Procedures found in the IP require review of the immediate receiving stream and effected downstream receiving waters. Further, if the discharge reaches a perennial stream or an intermittent stream with perennial pools within three-miles, chronic toxicity criteria apply at that confluence.

5. Permit-Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. pH

Wastewater discharges from the facility flow into unnamed pond on landowner's property, then to the wet weather creek into Leon Creek, approximately 4.5 miles NE. The pond is on an unnamed draw (intermittent) that is a tributary of Leon Creek. Leon Creek is an upstream tributary of the Upper Pecos River, Texas Segment 2311 of the Rio Grande Basin. pH shall be limited to the standards for the Upper Pecos River in Water Body Segment No. 2311 of the Rio Grande Basin to the range of 6.5 to 9.0 s.u.

b. Oil and Grease

To ensure that this discharge is of sufficient quality for livestock and wildlife water use, and therefore meets the requirements of Subpart E, the proposed permit establishes a more stringent Oil and Grease limit of 10 mg/L monthly average, with a daily maximum limit of 15 mg/l. This limit is based on BPJ in accordance with 40 CFR 125.3(h)(1) and is consistent with other produced water permits issued by other EPA Regions. The EPA has issued similar permits with same limits. Examples of such permits include TX0134020 – JB Bomba, NPDES MT0023183 – Soap Creek Oil Field located in the NW¼ of Section 34, Township 6 South, Range 32 East, Montana Principal Meridian, Big Horn County, Montana; NPDES Permit WY0000949 – Marathon Oil Company – Circle Ridge oil production facility located in NW ¼ of the SW 1/4 of Section 6, Township 6 North, Range 2 West in Fremont County, Wyoming.

c. Narrative Limitations

Narrative protection for aesthetic standards will propose that surface waters shall be maintained so that oil, grease, or related residue will not produce a visible film or globules of grease on the surface or coat the banks or bottoms of the watercourse; or cause toxicity to man, aquatic life, or terrestrial life.

The discharge shall not present a hazard to humans, wildlife, or livestock.

The following narrative limitations in the proposed permit represent protection of water quality for Outfall 001:

"The effluent shall contain no visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse."

d. Oxygen Demand and Total Petroleum Hydrocarbons

In order to protect water quality from impacts to DO in the receiving water, a Chemical Oxygen Demand limit of 100 mg/l, daily maximum is established in the draft permit based on BPJ. The COD limit is consistent with other permits issued in Region 6.

Produced wastewater discharges may contain various organic chemicals, inorganic chemicals, metals, and naturally occurring radioactive materials (NORM). Monitoring and reporting requirements for Total Petroleum Hydrocarbons will be proposed based on Best Professional Judgment, BPJ. The data reported for these pollutants will be evaluated during the next permit cycle to see if a discharge limit is required.

e. Toxics

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant.

The facility discharges into an unnamed draw (intermittent) that is a tributary of Leon Creek. Leon Creek is an upstream tributary of the Upper Pecos River, Texas Segment 2311. TCEQ'S TEXTOX Menu 4 (Discharge is directly to a lake or a water body that acts like a lake.) is appropriate for evaluating the discharge. It discharges into a perennial pond (50 feet in width).

The pond that outfall 001 discharges to is 50 feet wide. Its average flow is 0.002 MGD. Percent effluent is determined by the Jet Plume Equation as follows:

Mixing Zone (MZ) = 2.8 x 3 x (3.14)1/2 / 25 ft = 59.5%

Zone of Initial Dilution (ZID) = 2.8 x 3 x (3.14)1/2 / 6.25 ft = 100%

Human Health (HH) = 2.8 x 3 x (3.14)1/2 / 50 ft = 29.8%

Human Health criteria apply at the 10-4 risk level (Incidental Freshwater Fish Tissue).

The reasonable potential calculations were performed based on data obtained from the permit application. Segment specific values for pH, TSS, total hardness, TDS, chloride, and sulfate values were obtained from table 5 of the IP. These values were also used in Menu 4 to calculate reasonable potential. The result of the Menu 4 model run revealed that total mercury showed reasonable potential to violate TSWQS. The average concentration of total mercury reported in the permit application and additional permit information is 10.26 µg/L. This value exceeded the 85% of the calculated daily average limit. As a result, the final permit established limitations and monitoring requirements for total mercury, with a 12- month compliance period. See Menu 4 attachment.

TDS, sulfate and chloride are present in the discharge and were screened using the procedures found on pages 175/176 of the ITWQS. Using these procedures, the daily average effluent concentration of TDS obtained from the permit application (190.05 mg/L) was compared to the screening value to determine whether a TDS permit limit is needed. The screening procedure follows:

Screen for TDS using Equation the equation below, which compares the concentration of TDS at the edge of the human health mixing zone (right side of equation) with the TDS criterion (CC) for the segment (left side of equation). A permit limit is usually not required when the equation below is satisfied (that is, $C_C \geq$ right side of equation).

$Cc >= (E_F)(C_E) + (1 - E_F)(C_A)$

where: C_C = segment TDS criterion (mg/L)
E_F = effluent fraction at the edge of the human health mixing zone
C_E = effluent TDS concentration (mg/L)

C_A = ambient TDS concentration (mg/L)
For Segment 2311, C_C = 15,000 mg/L
E_F = 29.8% = 0.298
C_E = 190.05 mg/L
CA = 9,840 mg/L (from Appendix D, Table D-23

$Cc >= (E_F)(C_E) + (1 - E_F)(C_A)$

15,000 mg/L>= 0.298 * 190.05 mg/L +(1 - 0.298) (9,840 mg/L)

15,000 mg/L >= 56.635 mg/L + 6, 907.68 mg/l

15,000 mg/L >= 6,964.32 mg/L

Since Cc>= the right side of the equation, TDS limitations and monitoring requirements are not established in the draft permit.

TDS screening guidelines for intermittent streams are intended to protect livestock, wildlife, shoreline vegetation, and aquatic life during periods when the stream is flowing; the screening is also intended to preclude excessive TDS loading in watersheds that could eventually impact distant downstream perennial waters.

Similarly, sulfate and chloride concentrations were also screened using equation the above equation as shown below:

For Segment 2311, C_C = 15,000 mg/L
E_F = 29.8% = 0.298
C_E = 190.05 mg/L
CA = 9,840 mg/L (from Appendix D, Table D-23

$Cc >= (E_F)(C_E) + (1 - E_F)(C_A)$

Cc for Chloride = 7,000 mg/L; C_E for Chloride = 24.46 mg/L; C_A = 4,030 mg/L

7,000 mg/L >= 0.298 * 24.46 mg/L +(1 - 0.298) (4,030 mg/L)

7,000 mg/L >= 7.289 mg/L + 2,829.06 mg/L

7,000 mg/L >= 2,836.35 mg/L

Since Cc>= the right side of the equation, Chloride limitations and monitoring requirements are not established in the draft permit.

Cc for Sulfate = 3,500 mg/L; C_E for Sulfate = 2.41 mg/L; CA = 2,381 mg/L

3,500 mg/L >= 0.298 * 2.41 mg/L + (1 - 0.298) (2,381 mg/L)

3,500 mg/L >= 0.718 mg/L + 1,671.462 mg/L

3,500 mg/L >= 1,672. 18 mg/L

Since Cc>= the right side of the equation, Sulfate limitations and monitoring requirements are not established in the draft permit.

Produced wastewater discharges may contain various organic chemicals, inorganic chemicals, metals, and naturally occurring radioactive materials (NORM). Monitoring and reporting requirements for Benzene, BETX (sum of benzene, ethyl benzene, toluene and xylene), radium 226, radium 228, radium 226 + radium 228 and adjusted gross alpha will be proposed based on Best Professional Judgment, BPJ. The data reported for these pollutants will be evaluated during the next permit cycle to see if a discharge limit is required.

Solids and Foam

The prohibition of the discharge of floating solids or visible foam in other than trace amounts is established in the proposed permit. In addition, there shall be no discharge of visible films of oil, globules of oil, grease or solids in or on the water, or coatings on stream banks.

D. MONITORING FREQUENCY FOR LIMITED PARAMETERS

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). The monitoring frequencies are based on BPJ, taking into account the nature of the facility, the previous permit, and past compliance history.

Flow shall be measured weekly. pH, oil & grease, Mercury, TDS, sulfate, & chloride, shall be monitored twice a month, using grab sample. For any monitoring event, the first sample of any event shall be collected at least seven (7) days from the first sample of the previous monitoring event.

Total Petroleum Hydrocarbon, Benzene, BETX (sum of benzene, ethyl benzene, toluene and xylene), radium 226, radium 228, radium 226 + radium 228 and adjusted gross alpha shall be monitored once per three months using grab sample.

E. WHOLE EFFLUENT TOXICITY LIMITATIONS

Biomonioring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity.

Based on the IP, discharges directly to a lake or a water body that acts like a lake will conduct chronic testing with a critical dilution of 15% if the effluent flow is less than or equal to 10 MGD and the mixing zone is 100 feet wide. But If the effluent flow is greater than 10 MGD or if the mixing zone is less than 100 feet wide, the TCEQ typically uses the horizontal Jet Plume equation (see page 74 of the Texas IP) to determine the percentage of effluent at the edge of the mixing zone. Accordingly, the proposed permit requires that discharge to outfall 001 be monitored by a 7-day chronic toxicity test, with quarterly monitoring according to the provisions indicated in Parts I and II of this permit.

OUTFALL 001

The TCEQ Implementation Plan directs the WET test to be a 7-day chronic test using *Ceriodaphnia dubia* and *Pimephales promelas* at a quarterly frequency for the first year of the permit. If all WET tests pass during the first year, the permittee may request a monitoring frequency reduction for the either or both of the test species for the following 2-5 years of the permit. The invertebrate species (*Ceriodaphnia dubia*) may be reduced to twice per year and the vertebrate species (*Pimephales promelas*) may be reduced to once per year. If any tests fail during that time the frequency will revert back to the once per three months' frequency for the remainder of the permit term. Both test species shall resume monitoring at a quarterly frequency on the last day of the permit.

Since the facility is a new discharger, there is no WET data; as a result, EPA will not perform reasonable potential analysis. The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations shall be 25 %, 33%, 45%, 60%, and 80%. The low-flow effluent concentration (critical low-flow dilution) is defined as 60% effluent.

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 - the discharge to unnamed pond on landowner's property, then to the wet weather creek into Leon Creek, an upstream tributary of the Upper Pecos River, Texas Segment 2311 of the Rio Grande Basin Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING	MONITORING REQUIREMENTS	
WHOLE EFFLUENT TOXICITY (7-Day Chronic NOEC) (*1)	VALUE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Pimephales promelas	Report	Once/Quarter	24-Hr Composite
Ceriodaphnia dubia	Report	Once/Quarter	24-Hr Composite

FOOTNOTES

1/ Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

In addition to conducting the 7-day chronic test, the facility is required to conduct 24-hour acute tests using 100% effluent. This end-of pipe test measures compliance with 30 TAC §307.6(e)(2)(B) of the TSWQS, which requires that greater than 50% of the test organisms survive exposure to 100% effluent for 24 hours. This provision is designed to ensure that water in the state will not be acutely toxic to aquatic life.

The test shall be a 24-Hour, LC-50 at 100% critical dilution. This test shall be protective of the direct end-of-pipe discharge. The frequency for this test shall be once/six months when discharging.

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001. Discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE MONITORING	
	30-DAY AVG MINIMUM	24-Hr. MINIMUM
Whole Effluent Toxicity Testing (TX 24-Hr. LC50)		
Ceriodaphnia dubia	REPORT	REPORT
Pimephales promelas	REPORT	REPORT

EFFLUENT CHARACTERISTIC	MONITORING REQUIREMENTS	
	FREQUENCY	SAMPLE TYPE
Whole Effluent Toxicity Testing (TX 24-Hr. LC50)		
Ceriodaphnia dubia	1/6 MONTHS	GRAB
Pimephales promelas	1/6 MONTHS	GRAB

F. FINAL EFFLUENT LIMITATIONS

See the draft permit for limitations.

VI. FACILITY OPERATIONAL PRACTICES

A. WASTE WATER POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute programs directed towards pollution prevention. The permittee will institute programs to improve the operating efficiency and extend the useful life of the treatment system.

B. OPERATION AND REPORTING

The permittee must submit Discharge Monitoring Report's (DMR's) quarterly, beginning on the effective date of the permit, lasting through the expiration date of the permit or termination of the permit, to report on all limitations and monitoring requirements in the permit.

Electronic Reporting Rule

The EPA published the electronic reporting rule in the federal register (80 FR 64063) on October 22, 2015. The rule became effective on December 21, 2015. One year after the effective date of the final rule, NPDES regulated entities that are required to submit DMRs (including majors and non-majors, individually permitted facilities and facilities covered by general permits) must do so electronically. EPA and authorized NPDES programs will begin electronically receiving these DMRs from all DMR filers and start sharing these data with each other.

Sufficiently Sensitive Analytical Methods (SSM)

The permittee must use sufficiently sensitive EPA-approved analytical methods (SSM) (under 40 CFR part 136 or required under 40 CFR chapter I, subchapters N or O) when quantifying the presence of pollutants in a discharge for analyses of pollutants or pollutant parameters under the permit. In case the approved methods are not sufficiently sensitive to the limits, the most SSM with the lowest method detection limit (MDL) must be used as defined under 40 CFR 122.44(i)(1)(iv)(A). If no analytical laboratory is able to perform a test satisfying the SSM in the region, the most SSM with the lowest MDL must be used after adequate demonstrations by the permittee and EPA approval.

VII. IMPAIRED WATER - 303(d) LIST AND TMDL

Wastewater discharges from the facility flow into unnamed pond on landowner's property, then to the wet weather creek into Leon Creek, approximately 4.5 miles NE. The pond is on an unnamed draw (intermittent) that is a tributary of Leon Creek. Leon Creek is an upstream tributary of the Upper Pecos River, Texas Segment 2311 of the Rio Grande Basin.

The receiving stream is listed as impaired for depressed dissolved oxygen in the 2014 State of Texas 303(d) List for Assessed River/Stream Reaches Requiring Total Maximum Daily Loads (TMDLs). The impaired parameter is under TCEQ's Category 5b. Category 5b implies that a review of the water quality standards for this water body will be conducted before a TMDL is scheduled. Since the receiving stream has limited aquatic life use, the WQS for DO is applied end of pipe to prevent the discharge from contributing to the to the impairment of the receiving water. The proposed permit establishes the minimum dissolved Oxygen limit of 2.0 mg/l, with a mean DO of 3.0 mg/l. In the spring, the minimum dissolved oxygen limit shall be 3.0 mg/l, with a mean DO of 4.0 mg/l. Note also that if the waterbody is listed at a later date for additional pollutants, and a total maximum discharge loading determined for the segment, the standard reopener clause would allow the permit to be revised and additional pollutants and/or limits added. No additional requirements beyond the already proposed technology-based and/or water-quality based requirements are needed in the proposed permit.

VIII. ANTIDEGRADATION

The Texas Commission on Environmental Quality, Texas Surface Water Quality Standards, Antidegradation, Title 30, Part 1, Chapter 307, Rule §307.5 sets forth the requirements to protect designated uses through implementation of the State WQS. The limitations and monitoring requirements set forth in the proposed permit are developed from the State WQS and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water. This facility is currently authorized by the Texas Railroad Commission to discharge produced water.

IX. ANTIBACKSLIDING

The proposed permit is consistent with the requirements and exemption to meet Antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR Part 122.44(i)(B), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit,

unless information is available which was not available at the time of permit issuance. Since this is a first time NPDES Permit for this discharge, antibacksliding does not apply.

X. ENDANGERED SPECIES

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action, fourteen species are listed as endangered or threatened in Pecos County. The listed species are Black-capped Vireo *(Vireo atricapilla)*, least tern *(Sterna antillarum)*, Mexican Spotted Owl *(Strix occidentalis lucida)*, Northern Aplomado Falcon *(Falco femoralis septentrionalis)*, Red Knot *(Calidris canutus)*, Piping Plover *(Charadrius melodus)*, Leon Springs Pupfish *(Cyprinodon bovinus)*, Pecos Gambusia *(Gambusia nobilis)*, Diamond Tryonia *(Pseudotryonia adamantina)*, Gonzales Tryonia *(Tryonia circumstriata =stocktonensis)*, Pecos Assiminea Snail *(Assiminea pecos)*, Pecos Amphipod *(Gammarus pecos)*, Lloyd's Mariposa Cactus *(Echinomastus mariposensis)*, and Pecos (=puzzle, =paradox) Sunflower *(Helianthus paradoxus)*.

A description of the species and its effects to the proposed permit follows:

BLACK-CAPPED VIREO (Vireo atricapilla)

The Black-capped vireo populations have declined due to habitat destruction of low growing woody cover from overgrazing, range fires, and agricultural use. Nest parasitism by the Cow bird is also one of the reasons for decline in populations. There are no specific sightings for Pecos County.

LEAST TERN (Sterna Antillarum)

The Least Tern populations have declined due to habitat destruction by permanent inundation, destruction by reservoir releases, channelization projects, alterations of Natural River or lake dynamics resulting in vegetational succession of potential nesting sites, and recreational use of potential nesting sites. Issuance of this permit is found to have no impact on the habitat of this species, as none of the aforementioned listed activities is authorized by this permitting action.

MEXICAN SPOTTED OWL (Strix occidentalis lucida)

Owls use areas that contain a number of large trees of different types including mixed-conifer and pine-oak with smaller trees under the canopy of the larger trees. The primary owl prey species are woodrats, peromyscid mice and microtine voles. A diverse prey base is dependent on availability and quality of diverse habitats. Owls have not been reported to drink water, so it is likely that owls meet much of their biological water requirements through the prey they consume. However, the presence of water does provide related benefits to owls as the availability of water may contribute to improved vegetation diversity and structure which improves cover and possibly prey availability. The primary cause for the population decreases leading to threatened status for the Mexican Spotted Owl is destruction of habitat. No pollutants are identified which might affect species habitat or prey species and are not reviewed by the permitting process. Catastrophic fires and elimination of riparian habitat also were identified as threats to species habitat. The NPDES program regulates the discharge of pollutants and does not regulate forest management practices and agricultural practices, which contribute to catastrophic fires and elimination of riparian habitat, and thus, species habitat. The proposed permit is found to have no impact on the habitat of listed species since no construction is authorized by this permitting action.

NORTHERN APLOMADO FALCON *(*Falco femoralis septentrionalis*)*

The aplomado falcon has a steel grey back, red breast, black "sash" on its belly, and striking black markings on the top of its head, around its eyes, and extending down its face.

Aplomado falcons are most often seen in pairs. They do not build their own nests, but use stick nests built by other birds. Pairs work together to find prey and flush it from cover. Aplomados eat mostly birds and insects. They are fast fliers, and often chase prey animals as they try to escape into dense grass. They live up to 20 years in captivity.

Aplomado falcons require open grassland or savannah habitat with scattered trees or shrubs. Severe overgrazing by domestic livestock and resultant brush encroachment in the Southwest, including Texas, has been most frequently implicated as the principal cause for the species' decline. Direct adverse effects of livestock grazing on potential falcon prey species have also been suggested as a possible cause. However, a recent review of the history of livestock trends and practices and other ecological factors in the Southwest in relation to the decline of Aplomados suggests different causes. Climate change may also be a reason for the falcons decline. Organophosphate pesticides are still heavily used throughout the range of the Aplomado Falcon, including in the U.S., and remain a serious threat to Aplomados.

RED KNOT (Calidris canutus)

Red Knot is a medium-sized shorebird and the largest of the "peeps" in North America, and one of the most colorful. It makes one of the longest yearly migrations of any bird, traveling 15,000 km (9,300 mile) from its Arctic breeding grounds to Tierra del Fuego in southern South America.

Their diet varies according to season; arthropods and larvae are the preferred food items at the breeding grounds, while various hard-shelled molluscs are consumed at other feeding sites at other times.

The Red Knot nests on the ground, near water, and usually inland. The nest is a shallow scrape lined with leaves, lichens and moss. Males construct three to five nest scrapes in their territories prior to the arrival of the females. The female lays three or more usually four eggs, apparently laid over the course of six days. Both parents incubate the eggs, sharing the duties equally. The incubation period last around 22 days.

The birds have become threatened as a result of commercial harvesting of horseshoe crabs in the Delaware Bay which began in the early 1990s. Delaware Bay is a critical stopover point during spring migration; the birds refuel by eating the eggs laid by these crabs (with little else to eat in the Delaware Bay).

PIPING PLOVER (Charadrius melodus)

A small plover has wings approximately 117 mm; tail 51 mm; weight 46-64 g (average 55 g); length averages about 17-18 cm. Inland birds have more complete breast band than Atlantic coast birds. The nonbreeding plovers lose the dark bands. In Laguna Madre, Texas, non-breeding home ranges were larger in winter than in fall or spring. The breeding season begins when the adults reach the breeding grounds in mid- to late-April or in mid-May in

northern parts of the range. The adult males arrive earliest, select beach habitats, and defend established territories against other males. When adult females arrive at the breeding grounds several weeks later, the males conduct elaborate courtship rituals including aerial displays of circles and figure eights, whistling song, posturing with spread tail and wings, and rapid drumming of feet. The plovers defend territory during breeding season and at some winter sites. Nesting territory may or may not contain the foraging area. Home range during the breeding season generally is confined to the vicinity of the nest. Plovers are usually found in sandy beaches, especially where scattered grass tufts are present, and sparsely vegetated shores and islands of shallow lakes, ponds, rivers, and impoundments.

Food consists of worms, fly larvae, beetles, crustaceans, mollusks, and other invertebrates. The plovers prefer open shoreline areas, and vegetated beaches are avoided. It also eats various small invertebrates. It obtains food from surface of substrate, or occasionally probes into sand or mud.

Destruction of habitat, disturbance and increased predation rates due to elevated predator densities in piping plover habitat are described as the main reasons for this species' endangered status and continue to be the primary threats to its recovery. The remaining populations, whether on the breeding or wintering grounds, mostly inhabit public or undeveloped beaches. These populations are vulnerable to predation and disturbance.

Research of available material finds that the primary cause for the population decreases leading to threatened or endangered status for these species is destruction of habitat. Issuance of the permit will have no effect on this species, in that the discharge is not expected to lead to the destruction of habitat.

LEON SPRINGS PUPFISH (Cyprinodon bovinus)

Leon Springs pupfish are found only in Pecos County, Texas. The Leon Springs pupfish feeds primarily on the bottom, ingesting large amounts of decomposed organic matter and mud. Its diet consists of diatoms, algae, and small invertebrates. Leon Springs pupfish spawn throughout the year, with females laying up to 10 eggs per day. Spawning occurs on the bottom, and males aggressively defend their territories. Natural spring-fed marshes, pools, and slow-flowing waters with a substrate of mud and aquatic plant roots are the Leon Springs pupfish's native habitat.

The major threats to this species include habitat loss from declining springflows and reduced surface waters, competition with introduced species, and hybridization with introduced fishes.

PECOS GAMBUSA (Gambusia nobilis)

The Pecos gambusia is found in Jeff Davis and Pecos counties in west Texas. Presently in Texas, populations of Pecos gambusia occur near Balmorhea in aquatic habitat supported by nearby springs and at the man-made ciénega. A population also occurs in Leon Creek and in Diamond-Y Spring outflow north of Fort Stockton. Pecos gambusia are about 2 inches in length when fully grown. Small invertebrates and algae form the diet of the Pecos gambusia. It is primarily a surface feeder. Spring-fed pools and marshes with constant temperature are essential habitat for Pecos gambusia.

The primary threat to the survival of the Pecos Gambusia is the loss of the spring-fed waters that provide their habitat. In many parts of west Texas, more water is being withdrawn from aquifers by pumping than is being replaced by rainfall. Hybridization and competition with introduced

species that have similar diet and habitat requirements pose especially serious threats. Predation by Green Sunfish and Largemouth Bass can become a major problem in areas where there is no submerged vegetation or shallow water to provide protection from predators.

DIAMOND TRYONIA (Pseudotryonia adamantina)

The Diamond Y springsnail is a species of small freshwater snail with a gill and an operculum, an aquatic gastropod mollusk in the family Hydrobiidae. The species is endemic to the United States. The common name is a reference to the Diamond Y Spring which is on the Diamond Y Spring Preserve in West Texas, a cienaga system. This species is known from Diamond Y Spring proper, approximately 1mile of spring run, a tributary creek, and seeps with surface water connection to the spring run. Although previously found in the upper watercourse, more recent surveys have found that Diamond Y Spring snail is currently found in the isolated spring seeps near the Diamond Y Spring head pool, inside seeps at the downstream end of the upper watercourse and at the immediate outflow of Euphrasia Spring in the lower watercourse. The reason for the apparent reversal in distributional patterns of this species within the Diamond Y Spring system since the surveys by Taylor (1987) is unknown.

GONZALES TRYONIA (Tryonia circumstriata =stocktonensis)

The Gonzales springsnail lives in two separate stream segments—totaling about 1.5 miles—that flow from the spring. The Diamond Y Spring is also located in an active oil and gas extraction field. Active wells are located within 300 feet of surface water and a natural gas refinery is 100 feet upslope from the spring; old brine pits are just a few feet from the spring and oil and gas pipelines cross the spring outflow where the Gonzales springsnail occurs. Springsnails are highly sensitive to water pollution and any spills, leaks, or leachate from oil and gas wells, refineries, pipelines, or brine pits at Diamond Y Spring could be detrimental to the Gonzales springsnail.

The thirst for water in the American West has taken a heavy toll on freshwater springs, which are critical habitat for fish, wildlife, and plants. Groundwater pumping and water withdrawal in West Texas have caused many springs to cease flowing or diminished flow to a trickle. Only one major spring is still flowing in Pecos County, Texas: the Diamond Y Spring, home to the tiny Gonzales springsnail.

The Gonzales springsnail is also threatened by climate change and the exotic Melanoides snail, whose populations are so dense they virtually cover the underwater surfaces along parts of the spring outflow.

PECOS ASSIMINEA SNAIL (Assiminea pecos)

Assiminea pecos is a rare species of snail in the family Assimineidae known by the common name Pecos assiminea. It is native to New Mexico and Texas. It lives in mud and mats of saturated vegetation with small amounts of running water. The snail can be found at six sites: four in the Bitter Lake National Wildlife Refuge in New Mexico, one site at Diamond Y Spring and its drainage in Pecos County, Texas, and one site at East Sandia Spring in Reeves County, Texas.

These tiny creatures are very sensitive to oxygen levels, water temperature, sedimentation and contamination. Their disappearance usually indicates the loss of a pristine spring or watercourse.

Threats to this species and to other invertebrates living in the same habitat include the loss of the water sources that feed the karst cave network. This has been caused by the tapping of the aquifer beneath it; some areas have been drained dry. Diamond Y Spring and East Sandia Spring are in danger of being drained. The springs are also located in active oil and gas extraction regions, and pollution of the water is a threat. Fire is also a destructive force in the wildlife refuge habitat.

PECOS AMPHIPOD (Gammarus pecos)

Gammarus pecos is a species of crustacean in family Gammaridae. It is endemic to the United States. The Diamond Y Spring snail, Gonzales springsnail, and Pecos amphipod are restricted to spring outflow areas within the Diamond Y Spring system north of Fort Stockton in Pecos County. Pecos Amphipod is threatened by reduced spring flow, modification of spring channels, and water quality changes and contamination at the two spring complexes where they occur. Spring flow at the San Solomon Spring has been maintained by a pump system since 2000 to support species conservation.

LLOYD'S MARIPOSA CACTUS (Echinomastus mariposensis)

Lloyd's Mariposa cactus occurs in West Texas in Brewster and Presidio counties and also in the Mexican states of Coahuila and Nuevo León. Lloyd's Mariposa cactus occurs in Chihuahuan Desert shrublands on gravelly or rocky limestone slopes. Flowering occurs from February to March, and fruits ripen 1-2 months later. Lloyd's Mariposa cactus can be found year-round; however, it is more easily detected while in bloom in February and March. It is a succulent perennial with waxy blue-green, solitary stems, which are usually 3-10 cm tall and 3-6 cm in diameter. It's dense cluster of spines arises from each projection, which completely hides the blue-green stem. Flowers of Lloyd's Mariposa cactus are shades of pink, white, yellow, or green. The oval to round fruits are 10 mm long and, when dry, split open irregularly.

Lloyd's mariposa cactus declined in the 1940s when mining for mercury ore destroyed large sections of its habitat. Surviving plants are now widely scattered. Many plants have been destroyed or damaged by heavy livestock grazing in the dry, marginal habitat. Livestock-induced erosion has more recently been worsened by the intrusion of off-road vehicles, used as recreation or to develop mineral claims.

The habitat areas near Terlingua and Lajitas, Texas are being developed for resort homes; the populations at Dove Mountain, Reagan Canyon, and Big Canyon are subject to livestock grazing; and the Big Bend National Park population is exposed to camping, hiking, and road maintenance. As a rare show specimen, this cactus is always subject to collection.

PECOS SUNFLOWER (Helianthus paradoxus)

The Pecos sunflower is an annual species that must re-establish populations of adult plants each year from seed produced during previous years' reproductive efforts. Habitats with suitable alkaline soils and perennially wet hydrologic conditions for all of the life functions of the Pecos sunflower are typically small areas around springs and ponds. Therefore, populations tend to grow in crowded patches of dozens or even thousands of individuals. The loss or alteration of wetland habitat continues to be the main threat to the Pecos sunflower. There is evidence these habitats have been historically, and are presently being, reduced or eliminated by aquifer depletion, and severely impacted by agricultural activities and encroachment by exotic plants.

The lowering of water tables through aquifer withdrawals for irrigation and municipal use, diversion of water from wetlands for agriculture and recreational uses, and wetland filling for conversion to dry land uses destroy or degrade desert wetlands. There are three sites in the Fort Stockton-Balmorhea area, 11 in the Dexter to Roswell area, eight in the Santa Rosa area, one along the lower Rio San Jose, and two in the Grants area. The issuance of this permit is found to have no effect on the habitat of this species.

The Environmental Protection Agency has evaluated the potential effects of issuance of this permit upon listed endangered or threatened species. After review, EPA has determined that the issuance of this permit will have "no effect" on listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

> The proposed permit establishes limits to meet the current state water quality standards for the area of discharge. The limits established in the proposed permit are protective and will have no impact on the habitats of this species. The permit includes limitations and/or monitoring requirements for pH, oil & grease, TDS, sulfate, chloride, dissolved oxygen, aluminum, total Petroleum Hydrocarbon, benzene, BETX (sum of benzene, ethyl benzene, toluene and xylene), radium 226, radium 228, radium 226 + radium 228, adjusted gross alpha and mercury. The proposed permit also includes biomonitoring requirements for Mysidopsis bahia (Mysid shrimp) and Menidia beryllina (Inland Silverside minnow) for both 7-day static renewal and 24-hr LC50). These requirements are also consistent with the State of Texas implementation guidance.

Based on information described above, EPA Region 6 has determined that discharges proposed to be authorized by the proposed permit will have no effect on the listed species in Pecos County. The standard reopener clause in the permit will allow EPA to reopen the permit and impose additional limitations if it is determined that changes in species or knowledge of the discharge would require different permit conditions.

XI. HISTORICAL AND ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The issuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the issuance. In a letter dated March 13, 2017, the State Historic Preservation Officer concurred on April 13, 2017, that the project may proceed since no historic properties are affected.

XII. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of the Texas WQS are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the WQS are either revised or promulgated. Should the State adopt a new WQS, and/or develop a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standard and/or water quality management plan, in accordance with 40 CFR §122.44(d). Modification of the permit is subject to the provisions of 40 CFR §124.5.

XIII. VARIANCE REQUESTS

No variance requests have been received.

XIV. COMPLIANCE HISTORY

None

XV. CERTIFICATION

This permit is in the process of certification by the State agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XVI. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

XVII. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION

NPDES Application for Permit to Discharge, Form 1 & 2E, received on May 19, 2017. Additional permit application information were received on December 4, 2017, and January 18, 2018.

B. State of Texas References

The State of Texas Water Quality Inventory, 13th Edition, Publication No. SFR-50, Texas Commission on Environmental Quality, December 1996.

"Procedures to Implement the Texas Surface Water Quality Standards via Permitting," Texas Commission on Environmental Quality, June 2010.

Texas Surface Water Quality Standards, 30 TAC Sections 307.1 - 307.9, September 23, 2014.

C. http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action
https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/plants/lloyds_mariposa_cactus.phtml

http://www.encyclopedia.com/environment/science-magazines/lloyds-mariposa-cactus

http://www.encyclopedia.com/environment/science-magazines/pecos-sunflower

D. 40 CFR CITATIONS

Sections 122, 124, 125, 133, and 136

E. MISCELLANEOUS CORRESPONDENCE

Letter from Dorothy Brown, EPA, to Mr. Stuart Wittenbach, Director, ES & H, Cimarex Energy, dated February 9, 2018, informing the applicant that its' NPDES application received May 19, 2017, is administratively complete.

Letter from Mr. Stuart Wittenbach, Director, ES & H, Cimarex Energy received December 4, 2017 and revised received via email on January 18, 2017, on additional permit application information.

Email from Robert Kirkland, EPA, to Maria Okpala, EPA, dated February 1, 2018, on critical conditions information.

NPDES Permit WY0000671 – Devon Energy Production L.P. Riverton Dome, SW 1/4 of the SW 1/4 of Section 25, Township 01 South, Range 04 East located in Fremont County, Wyoming.

NPDES MT0023183 – Soap Creek Oil Field located in the NW¼ of Section 34, Township 6 South, Range 32 East, Montana Principal Meridian, Big Horn County, Montana

NPDES Permit WY0000949 – Marathon Oil Company – Circle Ridge oil production facility located in NW ¼ of the SW 1/4 of Section 6, Township 6 North, Range 2 West in Fremont County, Wyoming