

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No. 1:17-cv-01552-MSK-MJW

United States of America, and
the State of Colorado,

Plaintiffs

v.

PDC Energy, Inc.

Defendant.

CONSENT DECREE

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WHEREAS, on June 26, 2017, Plaintiff United States of America, on behalf of the United States Environmental Protection Agency (“EPA”), and Plaintiff State of Colorado, on behalf of the Colorado Department of Public Health and Environment (“CDPHE”), filed a Complaint, pursuant to Section 113(b) of the Clean Air Act (“Act”), 42 U.S.C. § 7413(b), and Sections 121 and 122 of the Colorado Air Pollution Prevention and Control Act (the “Colorado Act”), C.R.S. §§ 25-7-121 and 122. The Complaint alleges that Defendant, PDC Energy, Inc. (“PDC”) violated requirements of the Act and Colorado’s federally approved State Implementation Plan (“SIP”), specifically Colorado Air Quality Control Commission Regulation Number 7 (“Reg. 7”),¹ at Condensate tanks that are part of PDC’s natural gas production system in the Denver-Julesburg (“D-J”) Basin. The Condensate tanks covered by this Decree are all within the Non-Attainment Area;

WHEREAS, the Condensate tanks store hydrocarbon liquids known as “Condensate” prior to transport and sale. Condensate is separated from natural gas near the well-head in a device known as a “Separator.” After reaching pre-set levels in the Separator, the Condensate, also known as “Pressurized Liquids,” is emptied in batches into storage tanks kept at or near atmospheric pressure. As Condensate is “dumped” (the term commonly used within the industry) into storage tanks, the pressure decreases and vapors, which include volatile organic compounds (“VOCs”) and other air pollutants, are released or “flashed” into a gaseous state. Such vapors are known as “flash gas.” Additional vapors are released from the Condensate due

¹ Reg. 7 has been periodically revised over time. The latest SIP-Approved version of Reg. 7 was approved by EPA on February 13, 2008 with an effective date of April 14, 2008. *See* 73 Fed. Reg. 8,194 (Feb. 13, 2008). Since then, the State has revised Reg. 7 several times. For clarity and completeness sake, where appropriate, the Consent Decree will cite both versions, designated as “SIP-Approved Reg. 7” and “State-Approved Reg. 7.”

to temperature fluctuations and liquid level changes. These are known as “working” and “standing” losses;

WHEREAS, the Condensate tanks that are subject to this Decree are equipped with systems to route vapors from the Condensate tanks by vent lines to emission control devices;

WHEREAS, the Condensate tanks that are subject to this Decree are subject to certain requirements of Reg. 7, including the general requirements that: “[a]ll condensate collection, storage, processing and handling operations, regardless of size, shall be designed, operated and maintained so as to minimize leakage of volatile organic compounds to the atmosphere to the maximum extent practicable,” SIP-Approved Reg. 7, Sec. XII.D.2.b and State-Approved Reg. 7, Sec. XII.C.1.b; and “all such air pollution control equipment shall be adequately designed and sized . . . to handle reasonably foreseeable fluctuations in emissions of [VOCs]. Fluctuations in emissions that occur when the separator dumps into the tank are reasonably foreseeable.” SIP-Approved Reg. 7, Sec. XII.D.2.a and State-Approved Reg. 7, Sec. XII.C.1.a;

WHEREAS, the Complaint alleges that from September 2013 through April 2015, inspectors from CDPHE’s Air Pollution Control Division conducted inspections of groups of one or more Condensate tanks with a unique AIRS identification number (“AIRS Tanks”), and using optical gas imaging infrared cameras observed that many of the AIRS Tanks were emitting VOCs to the atmosphere at the time of the inspection. In some instances, the inspectors had complementary sensory observations of VOC emissions, including observations of hydrocarbon odor, observations of audible hissing, observations of visible wave refractions, and observations of hydrocarbon stains on the Condensate tanks emanating from pressure relief valves (“PRVs”) and thief hatches indicative of past VOC emissions. The inspectors observed VOC emissions, or alleged signs of VOC emissions, at many of the AIRS Tanks inspected. The inspectors also

observed valves on vent lines and PRV stacks in an open (or not fully closed) position allowing VOCs to be emitted uncontrolled to the atmosphere rather than being routed to a control device;

WHEREAS, in response to an August 2015 request for information by the EPA pursuant to Section 114 of the Act, 42 U.S.C. § 7414, PDC provided extensive data to EPA and CDPHE regarding certain AIRS Tanks. The data includes detailed analyses of samples of Pressurized Liquids taken at AIRS Tanks and associated production data, as well as detailed information about the vapor control systems at those AIRS Tanks. Based upon an evaluation of this data, the United States and the State further allege in the Complaint that a number of the AIRS Tanks were equipped with vapor control systems that, even under optimal conditions, would not have had sufficient capacity to route all the vapors from the Condensate tanks to emission control devices without first building pressure in the Condensate tanks that exceeds the set point of the PRVs and/or thief hatches, such that vapors would have been emitted directly to the atmosphere without any combustion;

WHEREAS, CDPHE issued a Compliance Advisory to PDC on December 10, 2015 regarding alleged violations of SIP-Approved Reg. 7, Sec. XII.D.2.b and State-Approved Reg. 7, Sec. XII.C.1.b at 64 PDC well production facilities;

WHEREAS, CDPHE issued a Notice of Violation to PDC on May 1, 2017 regarding alleged violations of SIP-Approved Reg. 7, Sec. XII.D.2.b and State-Approved Reg. 7, Sec. XII.C.1.b at 14 PDC well production facilities;

WHEREAS, PDC represents that, in May of 2015, it initiated a systematic and voluntary environmental audit of its Colorado oil and gas production facilities to identify potential noncompliance issues under certain Colorado and Federal air quality laws and regulations, including, but not limited to, the state requirement that “[a]ll condensate collection, storage,

processing and handling operations . . . be designed, operated and maintained so as to minimize leakage of volatile organic compounds to the atmosphere to the maximum extent practicable.”

SIP-Approved Reg. 7, Sec. XII.D.2.b and State-Approved Reg. 7, Sec. XII.C.1.b. PDC represents that, in mid-October 2015, PDC’s environmental audit team reached certain preliminary conclusions and determined that some of its well production facilities may require certain design and operational modifications to further minimize storage tank emissions, per regulatory requirements. On November 2, 2015, PDC submitted a letter entitled “PDC Energy, Inc.’s Voluntary Self-Disclosure Pursuant to the EPA Audit Policy” to EPA and a letter entitled “Voluntary Self-Disclosure of Environmental Self-Evaluation/Discovery of Potential Noncompliance by PDC Energy, Inc.” to CDPHE. Both letters identified 553 PDC well production facilities that PDC represented were potentially noncompliant with the audited regulatory requirements. PDC represented that it was continuing to gather more site-specific data and information to refine the results of the environmental audit. PDC asserted, and both EPA and CDPHE have disputed, that the letters were submitted pursuant to the requirements and criteria under the “Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations” (65 Fed. Reg. 19,618, April 11, 2000), as amended (the “EPA Audit Policy”) and the Colorado Environmental Audit Privilege and Immunity Law, C.R.S. §§ 13-25-126.5, 13-90-107, 25-1-114.5, and 25-1-114.6 (“Colorado Audit Law”).

WHEREAS, PDC, on March 31, 2016, submitted to EPA and CDPHE a document titled “PDC Energy DJ Basin Facility Design Audit—Audit Implementation Summary,” which included a summary of PDC’s implementation efforts and timeline to complete its ongoing environmental audit, as well as any corrective action that would be required. PDC has since provided EPA and CDPHE with quarterly updates regarding the status of PDC’s ongoing

environmental audit and corrective actions. While EPA and CDPHE have continuously noted that they do not believe that these actions fall within the EPA Audit Policy or the Colorado Audit Law, EPA and CDPHE acknowledge PDC's prompt efforts at evaluating compliance and implementing comprehensive corrective actions;

WHEREAS, PDC represents that, as a result of its ongoing environmental audit, it has already completed an Engineering Evaluation at approximately 51% of the relevant Tank Systems and completed 76% of the identified modifications for those Tank Systems as of the Date of Lodging of this Consent Decree;

WHEREAS, PDC represents that it is and will continue through March 31, 2018, to perform the operation and maintenance activities in subparagraph 13.a.(1)(a) through (c) on a weekly basis, with the exception of checking the Separator operating pressure. PDC further represents that it is and will continue through calendar year 2017 to perform the activities in subparagraph 13.c.(1) through (4) annually for well pads less than 6 TPY in the previous calendar year and or semi-annually for well pads greater than or equal to 6 TPY in the previous calendar year, with the exception of blowing out vapor lines on the frequency described above instead of quarterly and checking Separator dump valve orifices;

WHEREAS, PDC represents that in summer 2015 it began testing process changes to voluntarily implement American Petroleum Institute ("API") Method 18.2 (which became final in 2016) for gauging tanks, such that all well pads equipped with automation capability are either using a Lease Automatic Custody Transfer unit or API Method 18.2 to sell oil without the need to open thief hatches on tanks for sampling or gauging, which results in over 90% of PDC's current production being sold without opening thief hatches;

WHEREAS, as of the Date of Lodging of this Decree, PDC has entered a Purchase and

Sale Agreement to acquire additional Tank Systems in the D-J Basin. The Tank Systems subject to Reg. 7 Sec. XII at the date PDC is expected to acquire these Tank Systems are identified in Appendix A-2 and, upon PDC's notice to the Court of closing of that transaction, will become subject to the requirements of this Decree, as identified herein;

WHEREAS, PDC does not admit any liability to the United States or the State arising out of the transactions or occurrences alleged in the Complaint; and

WHEREAS, the Parties recognize, and the Court by entering this Decree finds, that this Decree has been negotiated by the Parties in good faith and will avoid litigation among the Parties and that this Decree is fair, reasonable, and in the public interest;

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I (Jurisdiction and Venue), and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action and the Parties pursuant to 28 U.S.C. §§ 1331, 1345, 1355, and 1367, and Section 113(b) of the Act, 42 U.S.C. § 7413(b). Venue is proper in this judicial district pursuant to Section 113(b) of the Act, 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1391(b) and 1395(a), because the violations alleged in the Complaint are alleged to have occurred in, and PDC conducts business in, this judicial district. PDC consents to and shall not challenge entry of this Consent Decree or this Court's jurisdiction to enter and enforce this Decree, and PDC further consents to venue in this judicial district. Except as expressly provided for herein, this Decree shall not create any rights in or obligations of any party other than the Parties to this Decree. Except as provided in Section XXI (Public

Participation) of this Decree, the Parties consent to the entry of this Decree without further notice.

2. The State has actual notice of the commencement of this action in accordance with the requirements of Section 113 of the Act, 42 U.S.C. § 7413.

II. APPLICABILITY

3. The obligations of this Consent Decree apply to and are binding upon the United States and the State, and upon PDC and any successors, assigns, or other entities or persons otherwise bound by law. Unless otherwise noted, the obligations of this Decree shall become enforceable on its Effective Date as provided in Section XVII (Effective Date).

4. The Appendix A-2 attached to this Decree on the Date of Lodging, includes AIRS Tanks that PDC plans to acquire from another operator in the D-J Basin subject to Reg. 7 Sec. XII at the date of acquisition. That transaction is expected to close in December 2017. Within five (5) Business Days of closing, PDC will notify the Court and submit a final Appendix A-2 to the Court that includes all AIRS Tanks actually acquired by PDC that are subject to Reg. 7 Sec. XII at the date of acquisition. If the transaction closed, and only if the transaction closed, the AIRS Tanks identified in the final Appendix A-2 will become subject to the requirements of this Decree upon the date of PDC's notice of closing to the Court.

5. PDC shall: (1) provide a copy of this Consent Decree to its President/CEO, COO, CFO, Vice Presidents, General Counsel, Senior Asset Director - DJ, EHS Managers, and other managers or field supervisors who will be responsible for implementing the terms of this Consent Decree, and shall ensure that any employees and contractors whose duties might reasonably include compliance with any provision of this Consent Decree are made aware of this Consent Decree and specifically aware of the requirements of this Consent Decree that fall

within such person's duties; and (2) place an electronic version of the Consent Decree on its internal website. PDC shall be responsible for ensuring that all employees and contractors involved in performing any work pursuant to this Consent Decree perform such work in compliance with the requirements of this Consent Decree.

6. In any action to enforce this Consent Decree, PDC shall not raise as a defense to liability or a stipulated penalty the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Decree. This Section does not preclude PDC from holding any employee, agent, or contractors who are alleged to have not complied with this Consent Decree liable for their actions.

III. DEFINITIONS

7. For purposes of this Consent Decree, every term expressly defined by this Section shall have the meaning given that term herein. Every other term used in this Decree that is also defined in the Act, 42 U.S.C. § 7401 *et seq.*, in the regulations promulgated pursuant to the Act, or in the Colorado SIP (including Reg. 7 that was approved as part of the Colorado SIP effective on April 14, 2008, 73 Fed. Reg. 8194 (Feb. 13, 2008)), shall mean in this Decree what such term means under the Act, those regulations, or the Colorado SIP. In the case of a conflict between federal and state definitions, federal definitions shall control.

a. "Active Use" shall mean a Tank System connected to one or more Active Wells. For a Tank System to be deemed "not in Active Use" under this Consent Decree, it must not be reasonably capable of receiving production from any Active Wells.

b. "Active Well" shall mean a well that is capable of producing hydrocarbons through the wellhead, and where the well is currently in operation or may be restored to operation by opening valves or by energizing equipment involved in

operating the well.

c. “Actual Uncontrolled Annual VOC Emissions” shall mean the amount of VOC emissions from a Tank System during the previous 12-month period based on actual production prior to the routing of those VOCs to an emission control device.

d. “AIRS Tank” shall mean one or more tanks that store Condensate and have a unique AIRS identification number. The AIRS Tanks that are subject to this Decree are identified in columns two and three of Appendices A-1 and A-2. Appendix A-1 includes all AIRS Tanks that were listed on PDC’s November 30, 2016 Reg. 7 Spreadsheet and employed an emission control device at that time. As discussed in Paragraph 4, the Appendix A-2 attached to this Decree on the Date of Lodging includes AIRS Tanks that PDC plans to acquire from another operator in the D-J Basin, which are subject to Reg. 7 Section XII reporting at the time of the acquisition, and which will become a part of this Decree only upon PDC’s notice of closing to the Court. If and when that transaction is closed, PDC will file a final Appendix A-2 as required by Paragraph 4.

e. “Business Day” shall mean Monday through Friday, with the exception of federal holidays. In computing any period of time under this Decree expressed in Business Days, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until 11:59 p.m. Mountain Time of the next Business Day.

f. “Calendar Day” shall mean any of the seven days of the week. In computing any period of time under this Decree expressed in Calendar Days (as opposed to Business Days), where the last Calendar Day would fall on a Saturday, Sunday, or federal holiday, the period shall not be extended to the next Business Day.

g. “CDPHE” shall mean the Colorado Department of Public Health and Environment, and its Air Pollution Control Division (“APCD”).

h. “Complaint” shall mean the complaint filed by the United States and the State in this action.

i. “Compromised Equipment” shall mean equipment associated with a Vapor Control System that is beginning to show signs of wear beyond normal wear and tear (and cannot be addressed by cleaning the equipment). Examples include, but are not limited to, cracks or grooves in gaskets, abnormally or heavily corroded equipment, beveling or other indications of inefficient connection of the thief hatch to the tank.

j. “Condensate” shall mean hydrocarbon liquids that remain liquid at standard conditions (68 degrees Fahrenheit and 29.92 inches mercury) and are formed by condensation from, or produced with, natural gas, and which have an API gravity of 40 degrees or greater.

k. “Consent Decree” or “Decree” shall mean this Consent Decree and all appendices attached hereto listed in Section XXV (Appendices).

l. “Date of Lodging” shall mean the date this Decree is filed for lodging with the Clerk of the Court for the United States District Court for the District of Colorado.

m. “Day” or “day” shall mean a Calendar Day unless expressly stated to be a Business Day.

n. “Defendant” or “PDC” shall mean PDC Energy, Inc.

o. “Effective Date” shall have the definition provided in Section XVII (Effective Date).

p. “Engineering Design Standard” shall mean an engineering standard

developed by PDC pursuant to Paragraph 9 (Engineering Design Standards).

q. “Environmental Mitigation Projects” shall mean the requirements specified in Section V and Appendix B of this Consent Decree to remedy, reduce, or offset past excess ozone precursor emissions resulting from PDC’s alleged violations of the Clean Air Act in this matter. Ozone is formed by chemical reactions between VOC and oxides of nitrogen (NO_x) in the presence of sunlight.

r. “EPA” shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.

s. “Flame Arrestor” shall mean a device in a Vapor Control System which allows gas to pass through it but stops a flame in order to prevent a larger fire or explosion.

t. “IR Camera Inspection” shall mean an inspection of a Vapor Control System using an optical gas imaging infrared camera designed for and capable of detecting hydrocarbon and VOC emissions, conducted by trained personnel who maintain proficiency through regular use of the optical gas imaging infrared camera.

u. “Malfunction” shall mean any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

v. “Modeling Guideline” shall mean the modeling guideline developed by PDC pursuant to Paragraph 8 (Development of a Modeling Guideline).

w. “Non-Attainment Area” shall mean the 8-hour Ozone Control Area within the meaning of SIP-Approved Reg. 7, Sec. I.A.1.d and State-Approved Reg. 7, Sec.

II.A.1.

x. “Normal Operations” shall mean all periods of operation, excluding Malfunctions. For storage tanks at well production facilities, normal operations includes, but is not limited to, liquid dumps from the Separator.

y. “Paragraph” shall mean a portion of this Decree identified by an Arabic numeral.

z. “Parties” shall mean the United States, the State, and PDC.

aa. “Plaintiffs” shall mean the United States and the State.

bb. “Potential Peak Instantaneous Vapor Flow Rate” shall mean the maximum instantaneous rate of vapors routed to a Vapor Control System during Normal Operations, including flashing, working, and standing losses, as determined using the Modeling Guideline.

cc. “Pressurized Liquids” shall mean hydrocarbon liquids separated from, condensed from, or produced with natural gas while still under pressure and upstream of the Condensate tanks servicing the well.

dd. “Project Dollars” shall mean PDC’s expenditures and payments incurred or made in carrying out the Environmental Mitigation Projects identified in Appendix B to the extent that such expenditures or payments both: (a) comply with the requirements set forth in Section V and Appendix B; and (b) constitute PDC’s direct payments for such projects or PDC’s external costs (*e.g.*, for labor and equipment).

ee. “Reg. 7 Spreadsheet” shall mean the spreadsheet listing AIRS Tanks, which PDC submitted to CDPHE on November 30, 2016 to comply with SIP-Approved Reg. 7 and State-Approved Reg. 7. Nothing in this Decree shall be construed to require

PDC to include an AIRS Tank listed on the November 30, 2016 submittal on any future spreadsheets submitted to CDPHE if not otherwise required to meet Reg. 7, Sec. XII system-wide requirements.

ff. “Reliable Information” shall mean any observance or detection of VOC emissions from a Tank System, associated open-ended line (*e.g.*, vent line, blowdown valve or line), or associated pressure relief device using an optical gas imaging infrared camera, EPA Method 21 monitoring, CDPHE Approved Instrument Monitoring Method (“AIMM”), or audio, visual, olfactory (“AVO”) techniques by EPA, CDPHE, local government inspectors acting as duly designated representatives of CDPHE, PDC employees, or PDC contractors trained to conduct inspections for emissions. For purposes of this Decree only, evidence of surface staining alone shall not be considered Reliable Information. As to combustion devices used in a Vapor Control System, Reliable Information shall also include any observance or detection of Visible Smoke Emissions by EPA, CDPHE, local government inspectors acting as duly designated representatives of CDPHE, PDC employees, or PDC contractors trained to conduct inspections for emissions. Reliable Information may be obtained at any time. Observations from a Tank System while all wells associated with that Tank System are temporarily shut-in, and during which working and standing emissions may occur, will not be considered Reliable Information. Further, observations from a Tank System while pressure relief devices (*e.g.*, thief hatches) are open for active maintenance, well unloading, tank truck loadout, or gauging activities shall also not be considered Reliable Information.

gg. “Section” shall mean a portion of this Decree identified by a Roman

numeral.

hh. “Separator” shall mean a pressurized vessel used for separating a well stream into gaseous and liquid components.

ii. “State” shall mean the State of Colorado, acting on behalf of CDPHE.

jj. “Tank System” shall mean one or more atmospheric tanks that store Condensate, and any other interconnected tank (*e.g.*, produced water tank), that share a common Vapor Control System. The Tank Systems that are subject to this Decree are identified in column one of Appendices A-1 and A-2.

kk. “TPY” shall mean tons per year.

ll. “United States” shall mean the United States of America, acting on behalf of EPA.

mm. “Vapor Control System” shall mean the system used to contain, convey, and control vapors from one or more Condensate tank(s) (including flashing, working, and standing losses, as well as any emissions routed to the Condensate tank Vapor Control System). A Vapor Control System includes a Tank System, piping to convey vapors from a Tank System to a combustion device and/or vapor recovery unit, fittings, connectors, liquid knockout vessels, openings on tanks (such as PRVs and thief hatches), and emission control devices.

nn. “VCS Root Cause Analysis” shall mean an assessment conducted through a process of investigation to determine the primary cause and contributing cause(s), if any, of VOC emissions from a Vapor Control System.

oo. “Visible Smoke Emissions” shall mean observations of smoke for any period or periods of duration greater than or equal to one (1) minute in any fifteen (15)

minute period during Normal Operations, pursuant to EPA Method 22. Visible smoke emissions do not include radiant energy or water vapor.

pp. “VOC” or “VOCs” shall mean volatile organic compounds.

qq. “Well Production Operations” shall mean those surface operations to produce Condensate and/or natural gas from a well but shall not include well maintenance activities (*e.g.*, swabbing).

IV. INJUNCTIVE RELIEF

8. Development of a Modeling Guideline. PDC shall develop a written modeling guideline (“Modeling Guideline”). The purpose of the Modeling Guideline is to determine Potential Peak Instantaneous Vapor Flow Rate for purposes of designing and adequately sizing Vapor Control Systems and to provide procedures for achieving this objective.

a. The Modeling Guideline shall address the following, where relevant:

(1) Vapor sources (*e.g.*, atmospheric storage tanks and transfer and loading systems) tied or to be tied into the Vapor Control System;

(2) The maximum operating pressure from the last stage of separation prior to the Tank System to which the Vapor Control System is certified for operation in accordance with Paragraph 11 (Vapor Control System Initial Verification);

(3) Vapor pressure of the final weathered product transported from the Condensate tank(s);

(4) Estimation of flash gas that reflects the highest potential for flash gas emissions utilizing pressurized or atmospheric liquid sampling (*e.g.*, API gravity), lab analyses including flash gas to oil ratio, process simulation,

correlations, or any combination thereof;

(5) The maximum design flow rate across the Separator liquid dump valve (reflective of valve size, trim, and presence of other restrictions);

(6) Simultaneous dump events to the same Tank System (unless all potential simultaneous dump events have been precluded through installation of timers, automation, or other measures);

(7) The calculation methods or simulation tools for processing the data inputs;

(8) The accuracy of the input data and results (*e.g.*, uncertainty of empirical correlations, representativeness of samples, process conditions); and

(9) Any other inputs needed to estimate the Potential Peak Instantaneous Vapor Flow Rate (*e.g.*, process heating, blanket gas, purge gas if applicable).

b. PDC submitted an initial version of the Modeling Guideline to the EPA and CDPHE for their review and comment on November 10, 2016 and the most recent version on September 29, 2017.

c. PDC may periodically update the Modeling Guideline as appropriate. Should the Modeling Guideline be updated, the use of the version current at the time of the Engineering Evaluation is acceptable. Updates to the Modeling Guideline do not in and of themselves require PDC to redo Engineering Evaluations.

9. Engineering Design Standards. PDC shall complete one or more Engineering Design Standard(s) to assess whether Vapor Control Systems are adequately sized and properly

functioning. The Engineering Design Standard(s) may apply to Vapor Control Systems at individual Tank Systems or to groupings of Tank Systems, as PDC may determine appropriate.

a. These standards shall include, as appropriate:

(1) A review of vapor control technologies applicable to the Tank System, including equipment-specific considerations and any associated pressure losses (*e.g.*, from flame arrestor);

(2) Identification of site-specific construction constraints (*e.g.*, footprint limitations, setbacks, maximum equipment counts);

(3) Size and design of the piping system between the tank(s) and the emission control device, and the size and design of the emission control device (including consideration of equivalent pipe length and back pressure valves or other restrictions on vapor flow);

(4) Volume and duration of individual dump events; the nature of the flow of liquids to the Separator (*i.e.*, steady flow, slug flow, intermittent flow (*e.g.*, due to discrete well cycling events)); the minimum time between dump events; and the maximum number of dump events associated with a single well cycle with slug or intermittent flow;

(5) Minimum available headspace in the tank(s); and

(6) Engineering design considerations applied to account for issues associated with the Vapor Control System (*e.g.*, fouling, potential for liquids accumulation in lines, winter operations) and variability of data.

b. PDC may rely on manufacturer specifications for individual components or pieces of equipment that are part of a Vapor Control System.

c. These Engineering Design Standards shall be completed in sufficient time for PDC to complete the Engineering Evaluations and any necessary modifications for all of the Vapor Control Systems by no later than the deadlines set forth in subparagraph 10.e (Vapor Control System Field Survey, Engineering Evaluation, and Modification). PDC may, but is not required to, submit the Engineering Design Standards to EPA and CDPHE for their review and comment.

10. Vapor Control System Field Survey, Engineering Evaluation, and Modification.

a. For each Tank System, PDC shall verify the associated equipment installed and operating through a field survey. PDC will then apply the Modeling Guideline to determine the Potential Peak Instantaneous Vapor Flow Rate of the associated Vapor Control System.

b. During the field survey, or other Tank System site visit, PDC shall evaluate the condition of all PRVs, thief hatches, mountings, and gaskets at each tank in the Tank System, and the possibility of upgrading such equipment to reduce the likelihood of VOC emissions. This evaluation shall include the following actions:

(1) PDC shall ensure that every thief hatch is either welded or mounted with a suitable gasket to the tank in order to prevent emissions at the tank attachment point;

(2) If while evaluating the PRVs, thief hatches, mountings, and gaskets, PDC observes Compromised Equipment or evidence of VOC emissions attributable to such PRVs, thief hatches, mountings, or gaskets, PDC shall repair, replace, or upgrade such equipment, as appropriate; and

(3) PDC shall maintain records of the following information:

- (a) The date each Tank System underwent this evaluation;
- (b) The name of the employee who performed the evaluation;
- (c) Whether Compromised Equipment or evidence of VOC emissions attributable to PRVs, thief hatches, mountings, or gaskets was observed (to include without limitation, hissing, olfactory observations, wave refractions, significant staining emanating from pressure relief devices); and
- (d) What, if any, repair, replacement, upgrade, or other corrective action was performed, including a description of the existing PRV, thief hatch, mounting, or gasket, and a description of how that equipment was repaired or with what it was replaced/upgraded. Descriptions of PRVs or thief hatches shall include pressure set points where such information is available, and descriptions of PRVs, thief hatches, mountings, or gaskets shall include the manufacturer and model where such information is available.

c. Engineering Evaluation. PDC shall then apply an appropriate Engineering Design Standard to determine if the existing Vapor Control System at each Tank System is adequately designed and sized to handle the Potential Peak Instantaneous Vapor Flow Rate that was calculated through the subparagraph 10.a application of the Modeling Guideline (“Engineering Evaluation”). An Engineering Evaluation is not required for a Vapor Control System at a Tank System that is not in Active Use, which remains not in Active Use, and that is associated only with wells that are plugged and abandoned before the termination of this Consent Decree.

d. Vapor Control System Modification. For those Vapor Control Systems that are not adequately designed and sized based on the Engineering Evaluation, PDC shall make necessary modifications to reduce the Potential Peak Instantaneous Vapor Flow Rate (as recalculated using the Modeling Guideline) and/or increase the capacity of the Vapor Control System in accordance with the applicable Engineering Design Standard. PDC shall ensure that each Vapor Control System is adequately designed and sized to handle the Potential Peak Instantaneous Vapor Flow Rate, as determined through application of an Engineering Design Standard.

e. PDC shall complete all requirements of subparagraphs 10.a through 10.d for each Tank System in accordance with the schedule in the table below.

Deadlines for Requirements of Subparagraphs 10.a through 10.d

Tank System Group	Deadline
Tank System Group A	December 31, 2017
Tank System Group B	June 30, 2018
Tank System Group C	December 31, 2018
Tank System Group D	March 31, 2019
Tank System Group E	June 30, 2019

f. If PDC has not completed an Engineering Evaluation (subparagraph 10.c) for a Tank System and necessary modifications (subparagraph 10.d) by the applicable deadline (subparagraph 10.e), PDC shall shut-in all Well Production Operations associated with that Tank System by such deadline until the requirements of subparagraphs 10.c and 10.d have been completed.

g. In the event that Well Production Operations are temporarily shut-in due to activities required of the wellbore(s) (*e.g.*, wellbore maintenance or per Colorado Oil and Gas Conservation Commission's ("COGCC") Wellbore Integrity program) or because well(s) cannot run due to high line pressure, PDC shall for the sole purpose of (i) undertaking an Engineering Evaluation at a Tank System, (ii) making necessary modifications pursuant to subparagraph 10.d (Vapor Control System Modification), or (iii) taking corrective actions pursuant to Paragraph 15 (Reliable Information, Investigation, and Corrective Action) be allowed to resume Well Production Operations associated with that Tank System for a period not to exceed 30 Calendar Days. In the event that Well Production Operations are temporarily shut-in for other reasons, PDC shall, for the reasons identified above, be allowed to resume Well Production Operations associated with that Tank System for a period not to exceed five (5) Calendar Days. Upon EPA and CDPHE written approval, the period of resumed Well Production Operations associated with a Tank System may be extended for up to five (5) additional Calendar Days.

11. Vapor Control System Initial Verification. PDC shall complete the requirements of this Paragraph for each Tank System in accordance with the following schedule: (i) for all Tank Systems in a Tank System Group, by no later than 60 days after the applicable deadline for a Tank System Group (see subparagraph 10.e), except Tank Systems for which associated Well Production Operations were temporarily shut-in pursuant to subparagraph 10.f; and (ii) for all Tank Systems for which associated Well Production Operations were temporarily shut-in pursuant to subparagraph 10.f: (1) for subparagraph 11.a, by no later than 30 days after any associated Well Production Operations are first resumed, and (2) for subparagraph 11.b, by the

deadline for the next Semi-Annual Report that is due at least 60 days after any associated Well Production Operations are first resumed. No later than 60 days after the applicable deadline for a Tank System Group (see subparagraph 10.e), PDC shall submit a written notification to EPA and CDPHE advising of any Tank Systems for which PDC either did not meet the Engineering Evaluation deadline in subparagraph 10.e or for which PDC shut-in Well Production Operations in accordance with subparagraph 10.f.

a. Conduct an IR Camera Inspection of all Tank Systems, associated open-ended lines (*e.g.*, vent lines, blowdown valves or lines), and associated pressure relief devices during Normal Operations, including while and immediately after Condensate is being sent to the Tank System from all associated Well Production Operations that are not shut-in at the time of the IR Camera Inspection (or, in the event that the potential for simultaneous dump events has been precluded, from the associated Well Production Operations that are not shut-in that yield the highest, non-precluded Potential Peak Instantaneous Vapor Flow Rate), to confirm the Vapor Control System is adequately designed and sized and not emitting VOCs detected with the IR Camera. In the event that any associated Well Production Operations are shut-in at the time of this IR Camera Inspection, and the shut-in Well Production Operations contribute to the highest, non-precluded Potential Peak Instantaneous Vapor Flow Rate, PDC shall perform additional IR Camera Inspection(s) in accordance with this subparagraph within 30 days of resuming such Well Production Operations. Inspections under this subparagraph must be conducted pursuant to a written Standard Operating Procedure (“SOP”) prepared by PDC and submitted to EPA and CDPHE for review and comment. A video record of each IR Camera Inspection done to comply with this subparagraph shall be recorded and kept on

file.

b. Complete and submit to EPA and CDPHE with the Semi-Annual Report due following the applicable Engineering Evaluation deadline in subparagraph 10.e the following information as a Certification of Completion Report, in a spreadsheet or database format: (i) the Engineering Design Standard (which could be for an individual Tank System) that was used for each Vapor Control System; (ii) the result of the Engineering Evaluation, including identification of any changes made to equipment and/or operation as a result of the Engineering Evaluation; (iii) identification of site-specific or system-wide operational parameters or practices relied upon in the Engineering Evaluation (*e.g.*, maximum operating pressure for final stage of separation, measures to preclude simultaneous dump events, minimum available headspace in tanks); (iv) the minimum Tank System thief hatch or PRV setting and the calculated maximum pressure modeled in the Tank System in ounces per square inch; and (v) the date an IR Camera Inspection was completed and the results of such inspection.

12. Post-Certification of Completion Modifications. If, after PDC has submitted to EPA and CDPHE a Certification of Completion Report for a Tank System, PDC determines that a specific Vapor Control System design needs to be modified to address Reliable Information or meet the Performance Standards (Paragraph 16) in this Consent Decree, PDC shall evaluate whether similar modifications are necessary at other Vapor Control Systems using the same Engineering Design Standard. PDC shall submit in the next required Semi-Annual Report: (i) a summary of any evaluations of whether modifications were necessary at other Vapor Control Systems and (ii) the timing, results, locations, and description of any modifications of other Vapor Control Systems or a timeline for the completion of such modifications.

13. Directed Inspection and Preventative Maintenance Program. No later than February 1, 2018, PDC shall develop and submit for review and comment by EPA and CDPHE, a directed inspection and preventative maintenance (“DI/PM”) program. PDC shall implement the DI/PM program at each Tank System, and associated Well Production Operations equipment, by no later than April 1, 2018. PDC is not required to implement the requirements of subparagraphs 13.a through c. at a well pad where all Tank Systems are not in Active Use and remain not in Active Use, so long as PDC performs the subparagraph 13.c actions prior to returning one or more Tank System(s) to Active Use and performs the actions specified in subparagraphs 13.a and 13.b within seven (7) days of returning one or more Tank System(s) to Active Use. As part of the DI/PM program, PDC shall:

a. Address system-wide inspection, response, and preventative maintenance procedures for the Vapor Control Systems, including without limitation:

(1) Weekly AVO walk-around inspection of all Tank Systems to check for VOC emissions, including checking for hissing, significant new staining, evidence of a spill, or other indicators of emissions or operational abnormalities. PDC shall develop a SOP for the AVO walk-around inspection. The SOP will define the "audio," "visual," and "olfactory" components of AVO inspections to assist in training of the personnel who will conduct these inspections. This SOP should be informed by the results of Engineering Evaluations performed by PDC. The AVO walk-around inspection will check the following, where relevant:

(a) Separators – whether the Separator was properly operating at time of inspection, whether the dump valve was operating properly as

observed from outside, any corrective actions made to dump valve(s), and Separator operating pressure.

- (b) Tank System – PRVs are properly sealed; thief hatches are closed, latched, and properly sealed; other valves are in the correct position (*e.g.*, blowdown valve is not stuck open); and absence of other AVO observations in tank piping (*e.g.*, load line, blowdown line, etc.).
- (c) Vapor Control System – combustion device checks for proper operation of emission control device (*e.g.*, no visible clogging of burner tray), presence of a pilot light, draining of liquids from knock-out vessel, and auto-ignitor (and SAU-kit/motor valve, if present) properly functioning.

b. Within 60 days of the Engineering Evaluation deadline for each Tank System (see subparagraph 10.e), PDC shall commence and continue addressing any site-specific or system-wide parameters or practices relied upon in the verification of a Vapor Control System (including those parameters or practices included in a Certification of Completion Report, such as final stage separation operating pressure) by ensuring that such parameters or practices are readily identified and available to PDC field personnel while on location (via on-site labeling, PDC provided forms, PDC's field data collection software, or other readily available means) and verified during the weekly AVO inspection required by this Paragraph.

c. Establish and implement procedures for preventive maintenance, including evaluation of equipment performance to identify appropriate long-term maintenance and

inspection schedules and a replacement program (*e.g.*, replacement of “wear” equipment and periodic maintenance schedules to prevent diminished control efficiencies). PDC shall propose initial maintenance and inspection schedules and a replacement program in the DI/PM program, along with an SOP for such activities indicating specific equipment and inspection/work to be performed, which includes:

(1) Clean off and check PRV and thief hatch seals and gaskets for integrity, replace any Compromised Equipment, clean Flame Arrestor (replacing as appropriate) and air-intake, check and clean burner tray (replace as appropriate), check proper operation of dump valve on Separator, blow out vent lines to address liquids that may have accumulated, and perform other appropriate maintenance and inspection activities. These activities shall occur no less frequent than semi-annually. This SOP should be informed by the results of Engineering Evaluations performed by PDC.

(2) Check Separator dump valve orifices, where present, are in good condition and replace as necessary. This shall occur no less frequent than annually.

(3) Blow out VCS vapor lines at locations where line runs underground. This shall occur no less frequent than quarterly. Completion of this activity during the semi-annual maintenance addressed in subparagraph 13.c.(1) counts towards this subparagraph. Should maintenance activities or other inspection activities, including any VCS Root Cause Analysis, indicate that liquids are accumulating in vapor lines and causing VOC emissions, PDC shall update this schedule to be more frequent to prevent, as much as practicable,

liquids accumulation in vapor lines.

(4) PDC shall perform maintenance, repair, replacement, upgrade, or other corrective action, as appropriate.

d. Maintain a spare parts program adequate to support normal operating, maintenance, and replacement requirements, establish written procedures for the acquisition of parts on an emergency basis (*e.g.*, vendor availability on a next-day basis), and evaluate appropriate parts to be kept on hand for pumpers and emissions crew (*e.g.*, thief hatch gaskets and seals on trucks and PRVs at a central PDC facility). At all times during the pendency of this Consent Decree, PDC shall ensure that a current employee has been designated with the responsibility for maintaining the adequacy of the spare parts inventory. The spare parts inventory may be based initially on vendor recommendations.

e. Establish and implement requirements for appropriate documentation of compliance with DI/PM practices and procedures (by Tank System or AIRS ID) so that the Parties can verify that the DI/PM program is being implemented. This includes creating and maintaining documentation of maintenance, inspection, repair, replacement, upgrade, and other corrective action work. Activities identified within the DI/PM plan as being performed on a regular basis that are not a direct result of finding Compromised Equipment may not be considered “corrective action” work for purposes of this subparagraph. In addition, activities responsive to Reliable Information are always considered “corrective action” work for purposes of this subparagraph. Any activities excluded from “corrective action” work should be described in the DI/PM program.

f. Ensure that all persons (*e.g.*, employees and contractors) responsible for

implementation or execution of any part of the DI/PM program, except for independent contractors solely responsible for servicing equipment (*e.g.*, combustor manufacturer personnel replacing a burner tray), have completed training on the aspects of the DI/PM program, including any SOPs, which are relevant to the person's duties. PDC shall develop a training protocol to ensure that refresher training is performed once per calendar year and that new personnel are sufficiently trained prior to any involvement in the DI/PM program. Both refresher and new personnel training will include a job shadowing program.

g. Commencing in 2018, PDC shall perform the following during each Calendar year:

(1) A DI/PM program-trained employee or contractor of PDC, whose primary responsibilities do not include performing duties in the DI/PM program on a routine basis for the particular Tank System under evaluation, shall undertake the following at each Tank System, and associated Well Production Operations equipment, in consultation with persons performing DI/PM program duties for that particular Tank System:

- (a) Verify that maintenance and inspection schedules and the replacement program have been followed at the appropriate frequency;
- (b) Review maintenance and corrective action work records to confirm proper recordkeeping, timely response to all issues (*e.g.*, emissions or other operational issues), and determine if there are recurrent or systemic issues associated with a particular Tank System; and

(c) Make any appropriate updates to the DI/PM program, including SOPs.

(2) Upon completion of review of all Tank Systems, PDC shall evaluate whether there are recurrent or systemic issues across PDC's Tank Systems.

(3) Should PDC determine that actions need to be taken to address operations or maintenance activities at one or more Tank Systems based on PDC's review (as described above), such as making appropriate updates to the DI/PM program, including SOPs, PDC shall take such actions as soon as practicable.

(4) PDC shall use best efforts to complete the review required by this subparagraph 13.g for half of its Tank Systems during each semi-annual period (*i.e.*, PDC would review its 2018 records for half of its Tank Systems between January 1 and June 30 of 2019, etc.).

(5) With the Semi-Annual report following the completion of the review on the schedule described in subparagraph 13.g.(4) above, PDC shall submit documentation of the following information: (a) the date that review of the Tank System was completed; (b) the nature and timing of any modifications or corrective actions as a result of this review; and (c) a discussion of whether PDC identified any systemic issues and if so, what actions PDC is taking to address those issues.

14. Periodic Inspections and Monitoring. Beginning on the Date of Lodging, PDC shall undertake a program for inspection and monitoring of all Tank Systems, and any associated

open-ended lines (*e.g.*, vent lines, blowdown valves or lines) and pressure relief devices, in accordance with the following requirements:

a. These inspections must be conducted pursuant to a written SOP prepared by PDC and approved by EPA and CDPHE. PDC must use an AIMM. AIMM includes optical gas imaging infrared cameras or other inspection methods meeting EPA Method 21 standards. Alternative methods may be used subject to the approval of both EPA and CDPHE, which approval shall not be unreasonably withheld.

b. PDC shall perform inspections on the schedule set forth in the table below. An IR Camera Inspection completed pursuant to subparagraph 11.a (Vapor Control System Initial Verification) for a Tank System during the applicable inspection period (see table below) shall also count as an inspection for purposes of this Paragraph.

Size of Highest Emitting Tank Battery at Well Pad (Actual Uncontrolled VOC Emissions)	Frequency of Inspections
≥ 50 TPY	Monthly
≥ 12 and < 50 TPY	Quarterly
< 12 TPY	Semi-annual

c. PDC shall maintain one or more logs documenting the following for each inspection:

- (1) The date and AIRS ID associated with the Tank System, and number of tanks inspected;
- (2) The date and duration of any period where emissions are observed:
 - (a) from a PRV, thief hatch, or other opening on a tank, except for emissions that

are reasonably required for maintenance (*i.e.*, while actively performing maintenance, but not while awaiting commencement of maintenance activities) or gauging; or (b) from an open-ended line (*e.g.*, vent line, blowdown valve or line);

(3) The timing of and efforts made to eliminate emissions from thief hatches, PRVs, other openings on a tank, open-ended lines, or PRV stacks.

15. Reliable Information, Investigation, and Corrective Action. Within 5 Calendar Days after PDC obtains any Reliable Information, including, but not limited to, observances or detections during inspections required by subparagraph 11.a (Vapor Control System Initial Verification), Paragraph 13 (Directed Inspection and Preventative Maintenance Program), Paragraph 14 (Periodic Inspections and Monitoring), and subparagraph 19.c (Tank Pressure Monitoring), PDC shall either (i) complete all necessary corrective actions to address the Reliable Information or (ii) temporarily shut-in Well Production Operations associated with the Tank System. If the Reliable Information can be addressed by isolation of one or more tanks in a Tank System, shutting in one or more wells or Separators, or other similar action, such action may be an acceptable corrective action to meet the deadline in this Paragraph if completed within such deadline.

a. For each Tank System with associated Well Production Operations temporarily shut-in pursuant to the requirements of this Paragraph, PDC shall proceed as follows:

(1) If the Tank System has not yet undergone an Engineering Evaluation, Well Production Operations shall remain shut-in until the Engineering Evaluation and any necessary modifications have been completed, and PDC shall comply with the requirements of subparagraph 11.a (Vapor Control System Initial

Verification) at that Tank System within 60 days of resuming any Well Production Operations associated with that Tank System.

(2) If the Tank System has already undergone an Engineering Evaluation, Well Production Operations shall remain shut-in until completion of any necessary modifications, including, if appropriate, a re-evaluation of the Vapor Control System and Engineering Evaluation. PDC shall comply with the requirements of subparagraph 11.a (Vapor Control System Initial Verification) at that Tank System within 60 days of resuming any Well Production Operations associated with that Tank System.

b. For each Tank System with associated Well Production Operations temporarily shut-in pursuant to the requirements of this Paragraph, PDC shall provide in a spreadsheet the following:

(1) The date Reliable Information was obtained resulting in a temporary shut-in;

(2) The AIRS ID associated with that Tank System;

(3) The date that such Well Production Operations were temporarily shut-in;

(4) The date modifications were made, including a description of the modifications;

(5) The date that Well Production Operations were resumed; and

(6) The date post-repair/Engineering Evaluation that an IR Camera Inspection was completed, and the results of that inspection.

c. For each instance where PDC obtains Reliable Information and within the

deadline provided in Paragraph 15, above, completes all necessary corrective actions to address the emissions, PDC shall provide in a spreadsheet the following:

- (1) The date Reliable Information was obtained;
- (2) The AIRS ID associated with that Tank System; and
- (3) The date(s) all necessary corrective actions to address the emissions were made, including a description of such actions.

d. PDC shall attach copies of the spreadsheets required by this Paragraph to the next Semi-Annual Report that follows at least 30 days after all necessary corrective actions to address the emissions were made or any required IR Camera Inspection was completed.

e. If PDC obtains three or more instances of Reliable Information related to any single Tank System in any rolling six-month period, PDC shall complete within 90 days a VCS Root Cause Analysis and identify any appropriate response actions to be taken to address any common operation, maintenance, or design cause(s) identified, along with a proposed schedule for the implementation of those response actions. Appropriate response actions may include proactive solutions to maintenance problems (*e.g.*, if thief hatches with gaskets are observed to have an increased failure rate, then a replacement schedule may be appropriate to implement pursuant to subparagraph 13.c (Directed Inspection and Preventative Maintenance Program)).

- (1) In the next Semi-Annual Report, PDC shall submit the results of each VCS Root Cause Analysis, including the proposed timeline for response actions if those are not already completed at the time of the submission of the VCS Root Cause Analysis results.

(2) Additional instances of Reliable Information at a Tank System at which PDC is currently performing a VCS Root Cause Analysis shall be added as additional information in that VCS Root Cause Analysis, but shall not trigger additional VCS Root Cause Analyses until PDC has completed the ongoing VCS Root Cause Analysis.

16. Performance Standards. Following the completion of an Engineering Evaluation and any necessary modifications at a Tank System, PDC shall:

- a. Operate and maintain air pollution control equipment consistent with manufacturer specifications and good engineering and maintenance practices and shall keep manufacturer specifications on file;
- b. Ensure that all air pollution control equipment is adequately designed and sized to achieve at least a 95% control efficiency for VOCs and to handle reasonably foreseeable fluctuations in emissions of VOCs (fluctuations in emissions that occur when a Separator dumps into the tank are reasonably foreseeable); and
- c. Ensure that all Condensate collection, storage, processing, and handling operations, regardless of size, are designed, operated, and maintained so as to minimize leakage of VOCs to the atmosphere to the maximum extent practicable.

17. Compliance with State-Approved Reg. 7, Sec. XVII.C.2.b. “STEM Plan” shall mean the Storage Tank Emission Management plan required by State-Approved Reg. 7, Sec. XVII.C.2.b. The requirements of this Paragraph are intended to provide injunctive relief for violations of State-Approved Reg. 7, Sec. XVII.C.2.b, which has no analogous provision in SIP-Approved Reg. 7; therefore, the Parties intend that the requirements of this Paragraph shall be enforceable under this Decree only by the State. For purposes of this Paragraph, updates to a

STEM Plan may be made by including language in the STEM Plan itself or by appending a document that includes the required information. PDC shall:

- a. By no later than the date PDC submits a Certification of Completion Report for each Tank System, append an analysis of the Engineering Evaluation for that Tank System to the STEM Plan for that Tank System;
- b. By no later than the date PDC submits a Certification of Completion Report for each Tank System, update the STEM Plan as a result of the field survey or other Tank System site visit performed pursuant to subparagraph 10.b (Vapor Control System Field Survey, Engineering Evaluation, and Modification), if corrective action was undertaken;
- c. By no later than 60 days following completion of a VCS Root Cause Analysis for a particular Tank System, make updates to the STEM Plan as necessary; and
- d. By no later than March 31 of each calendar year, beginning with 2019 for the 2018 calendar year, update the STEM Plan(s) to document completion and results of the review completed during the previous calendar year as required by subparagraph 13.g (Directed Inspection and Preventative Maintenance Program), including a statement describing whether and how the inspection and maintenance schedules in the STEM Plan need to be updated based upon the results of the review.

18. Verification of Design Analysis. In calendar year 2018 for 50% of the Tank Systems that are included in Certification of Completion Reports submitted as of March 1, 2018 and in calendar year 2019 for 50% of the Tank Systems that are included in Certification of Completion Reports submitted after March 1, 2018, PDC shall verify that the Engineering Evaluations and any necessary modifications were completed in accordance with the

requirements of this Decree. PDC shall use its best efforts to ensure that Tank Systems selected for verification are representative of all Tank Systems potentially included in that verification.

a. No later than January 31, 2018 for the first verification and no later than January 31, 2019 for the second verification, PDC shall notify EPA and CDPHE in writing of PDC's proposed verification work plan, including identifying the engineer(s) (PDC in-house and any independent third-party Professional Engineer(s) or other approved engineer pursuant to subparagraph 18.c) who will be conducting the verification and providing statements of qualification. In the proposed work plan, PDC shall specify which Tank Systems will be included in the verification and explain the basis for their selection and how those Tank Systems are representative of all Tank Systems potentially included in the verification. After consultation with CDPHE, EPA shall either approve or disapprove the proposed work plan. If EPA has not responded within 30 days, PDC may proceed with its proposed work plan. In the event EPA disapproves the proposed work plan, EPA shall state the reasons for its disapproval in writing, and the process will be repeated with PDC having 30 days from the date of disapproval to propose a revised work plan. In the event a work plan is not approved by March 31, 2018 for the first verification and March 31, 2019 for the second verification, all deadlines in this Paragraph shall be extended by an equivalent period to the time beyond March 31 that it takes for work plan approval.

b. After EPA approval of the work plan, PDC shall perform the following for each Tank System included in the verification:

- (1) Conduct a document review to verify that PDC's consultant performing the Engineering Evaluation applied the Modeling Guideline correctly

to determine the Potential Peak Instantaneous Vapor Flow Rate in accordance with the requirements of this Decree;

(2) Conduct a review (document and/or field visit, as necessary) to verify that PDC's consultant performing the Engineering Evaluation:

- (a) applied the correct inputs and assumptions in calculating Vapor Control System capacity, and
- (b) correctly performed the calculations to evaluate the existing capacity of the Vapor Control System by using an Engineering Design Standard in accordance with the requirements of this Decree;

(3) Conduct a document review to verify that PDC's consultant performed the Engineering Evaluation comparison of the calculated Potential Peak Instantaneous Vapor Flow Rate to the calculated existing Vapor Control System capacity to determine that the Vapor Control System is adequately designed and sized to handle the Potential Peak Instantaneous Vapor Flow Rate; and

(4) Conduct a review (document and/or field visit, as necessary) to verify that any necessary modifications identified through the Engineering Evaluation performed by PDC's consultant have been completed in accordance with the requirements of this Decree.

c. If PDC performs the Engineering Evaluation in-house for one or more Tank Systems potentially included in a verification, PDC will have the verification duties identified in subparagraphs 18.b.(1) through (3) performed by an independent third-party

Professional Engineer or other approved engineer (as part of work plan approval).

d. The first verification shall be completed by no later than February 28, 2019, and the second verification shall be completed by no later than February 28, 2020. PDC shall prepare (and/or have the independent third-party, per subparagraph 18.c, prepare) a written report (“Verification Report”) describing work performed and conclusions reached, and accompanied by a certification from each PDC in-house and any independent third-party performing verification duties identified in subparagraphs 18.b.(1) through (4) that the duties were completed in accordance with the requirements of this Decree. PDC shall submit each Verification Report with the next Semi-Annual Report.

19. Tank Pressure Monitoring. No later than six months from the Date of Lodging, PDC shall install, calibrate (in accordance with manufacturer recommendations, if available), operate, and maintain pressure monitors linked to and continuously monitored (*i.e.*, one measurement every 15 seconds with a data transmission every hour) by a central monitoring location in accordance with the requirements of this Paragraph.

a. The Tank Systems to be equipped with monitors are: (i) all Tank Systems in Appendix A-1 that had, as of calendar year 2016, Actual Uncontrolled Annual VOC Emissions of 50 TPY or more; (ii) at least 60% of all Tank Systems in Appendix A-1 that had, as of calendar year 2016, Actual Uncontrolled Annual VOC Emissions less than 50 TPY and equal to or greater than 25 TPY; (iii) at least 25% of all Tank Systems in Appendix A-1 that had, as of calendar year 2016, Actual Uncontrolled Annual VOC Emissions less than 25 TPY and equal to or greater than 12 TPY; and (iv) at least 5% of all Tank Systems in Appendix A-1 that had, as of calendar year 2016, Actual

Uncontrolled Annual VOC Emissions less than 12 TPY. PDC shall use its best efforts to equally distribute pressure monitors for Tank Systems in each of the groupings described above among differing operating conditions (*e.g.*, sales line pressure). Where a Tank System has multiple Condensate tanks, PDC shall only be required to install a pressure monitor on one of the Condensate tanks.

b. For the first six months after the deadline for installation of pressure monitors, PDC shall have a performance optimization period to evaluate calibration and optimize pressure monitor performance and reliability. This period will allow PDC, and its contractors or pressure monitor vendors, an opportunity to ensure that the pressure monitors, to the greatest extent practicable, are producing quality data that may be used to identify the potential for over-pressurization of Tank Systems (*e.g.*, optimization of pressure monitor location on a Tank System, determination of pressure measurements and frequency indicative of potential for over-pressurization).

c. Following the performance optimization period, if a pressure monitor measurement exceeds the “trigger point” at a Tank System, PDC shall conduct a site investigation. Measurements at a Tank System while all wells associated with that Tank System are temporarily shut-in, and during which working and standing emissions may occur, will not trigger a site investigation. Multiple pressure monitor measurements in exceedance of the “trigger point” in one day will result in only one site investigation. The investigation shall include a site visit to test the pressure monitor and the operating parameters of the associated Tank System (“site investigation”). During the site investigation, PDC shall conduct an IR Camera Inspection of the Tank System. The site investigation shall be completed no later than the end of the Calendar Day following the

measurement that exceeded the “trigger point.” For purposes of this Paragraph, “trigger point” means the lowest set point of any device designed to relieve pressure from a tank in a Tank System, minus two ounces. Set point refers to the pressure (in ounces) at which a device is designed to relieve pressure. For example, if a tank is equipped with a PRV and a thief hatch and the set point of the PRV is 14 ounces and the set point of the thief hatch is 16 ounces, the “trigger point” would be 12 ounces (*i.e.*, the lowest set point of any device on the tank minus two ounces). In the event a Tank System requires three site investigations in a consecutive 30 Calendar Day period, PDC shall conduct a VCS Root Cause Analysis within 90 days and identify appropriate response actions to be taken to address any common operation, maintenance, or design cause(s) identified, along with a proposed schedule for the implementation of those response actions. Appropriate response actions may include proactive solutions to maintenance problems (*e.g.*, if thief hatches with gaskets greater than one year old are observed to have an increased failure rate, then a replacement schedule at or before one year after installation may be appropriate to implement pursuant to subparagraph 13.c (Directed Inspection and Preventative Maintenance Program)). Additional site investigations at a Tank System at which PDC is currently performing a VCS Root Cause Analysis shall be added as additional information in that VCS Root Cause Analysis, but shall not trigger additional VCS Root Cause Analyses until PDC has completed the ongoing VCS Root Cause Analysis.

d. PDC shall maintain records of the following and this information shall be provided in a spreadsheet (unless the Parties agree in writing to a different format) with each Semi-Annual Report: (i) the date, time, location, and numerical value of all pressure

readings in excess of the trigger point, and (ii) the date and results of all corresponding site investigations and all corresponding VCS Root Cause Analyses, along with the timeline for response actions identified if not already completed.

e. At any time, PDC may submit to EPA and CDPHE a request for alternative criteria (*e.g.*, pressure measurements and number of measurements in a given time period) triggering a site investigation and/or VCS Root Cause Analysis. EPA may, after consultation with CDPHE, grant or deny PDC's request in whole or in part.

f. After at least 18 months of operation of the pressure monitors, including the six-month performance optimization period, if PDC demonstrates and EPA in consultation with CDPHE determines that it is infeasible or overly burdensome in relation to the benefits to continue operating one or more of the pressure monitors, PDC may discontinue operation of and remove that/those pressure monitor(s). As part of PDC's demonstration, PDC shall submit to EPA and CDPHE an analysis of operation and maintenance of such monitors to date, including a summary of all measurements triggering site investigations or VCS Root Cause Analyses, the results of those site investigations or analyses, and corrective actions taken. If EPA, after consultation with CDPHE, rejects PDC's demonstration, such conclusions are subject to Section XI (Dispute Resolution). Operation of a pressure monitor shall be considered infeasible if (i) the monitor cannot be kept in proper condition (including calibration) for sufficient periods of time to produce reliable, adequate, or useful measurements; or (ii) recurring, chronic, or unusual equipment adjustment, servicing, or replacement needs cannot be resolved through reasonable expenditures.

V. ENVIRONMENTAL MITIGATION PROJECTS

20. PDC shall implement the Environmental Mitigation Projects (“Projects”) described in Appendix B in compliance with the approved plans and schedules for such Projects and other terms of this Consent Decree. In implementing the Projects described in Appendix B, PDC shall spend no less than \$1.7 million in Project Dollars. PDC shall not include its own personnel costs in overseeing the implementation of the Projects as Project Dollars.

21. PDC shall maintain and, within 30 days of an EPA or CDPHE request, provide copies of all documents to identify and substantiate the Project Dollars expended to implement the Projects described in Appendix B.

22. All plans and reports prepared by PDC pursuant to the requirements of this Section V (Environmental Mitigation Projects) and required to be submitted to EPA and CDPHE shall be made available to the public from PDC upon request and without charge.

23. PDC shall certify, as part of each plan submitted pursuant to Appendix B to EPA and CDPHE for any Project, that:

a. PDC is not required to perform the Project by any federal, state, or local law or regulation or by any agreement, grant, or as injunctive relief awarded in any other action in any forum;

b. The Project is not a project that PDC was planning or intending to construct, perform, or implement other than in settlement of the claims resolved in this Consent Decree; and

c. PDC has not received and will not receive credit for the Project in any other enforcement action.

24. PDC shall use its best efforts to secure as much environmental benefit as possible for the Project Dollars expended, consistent with the applicable requirements and limits of this Decree.

25. PDC shall comply with the reporting requirements described in Appendix B.

26. In connection with any communication to the public or shareholders regarding PDC's actions or expenditures relating in any way to the Environmental Mitigation Projects in this Decree, PDC shall include prominently in the communication the information that the actions and expenditures were required as a part of a Decree.

27. Within 60 days following the completion of each Project required under this Consent Decree (including any applicable periods of demonstration or testing), PDC shall submit to EPA and CDPHE a report that documents the date the Project was completed, the results achieved by implementing the Project, including the estimated emissions reductions or other environmental benefits, and the Project Dollars expended by PDC in implementing the Project.

VI. CIVIL PENALTY

28. Within 30 days after the Effective Date, PDC shall pay to the Plaintiffs a total civil penalty, pursuant to Section 113 of the Act, 42 U.S.C. § 7413, and Section 25-7-122 C.R.S., in the amount of \$1.5 million. If any portion of the civil penalty is not paid when due, PDC shall pay interest on the amount past due, accruing from the Effective Date through the date of payment at the rate specified in 28 U.S.C. § 1961.

29. Federal Payment Instructions. Of the total amount of the civil penalty, PDC shall pay \$1.25 million to the United States by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice account in accordance with current EFT procedures. The costs of such EFT shall be PDC's responsibility. Payment shall be made in accordance with instructions to be

provided to PDC by the Financial Litigation Unit (FLU) of the U.S. Attorney's Office for the District of Colorado. The payment instructions provided by the FLU will include a Consolidated Debt Collection System (CDCS) number that PDC shall use to identify all payments required to be made in accordance with this Consent Decree. The FLU will provide the payment instructions to: VP Finance, PDC Energy, Inc., 1775 Sherman Street, Suite 3000, Denver, CO 80203, 303-860-5800 and a copy to Sr. EHS Manager, PDC Energy Inc., 1775 Sherman Street, Suite 3000, Denver, CO 80203, 303-860-5800, on behalf of PDC. PDC may change the individual to receive payment instructions on its behalf by providing written notice of such change in accordance with Section XV (Notices).

At the time of payment, PDC shall send notice that payment has been made: (i) to EPA via email at acctsreceivable.cinwd@epa.gov or via regular mail at EPA Cincinnati Finance Office, 26 Martin Luther King Drive, Cincinnati, Ohio 45268; (ii) to the United States via email or regular mail in accordance with Section XV (Notices); and (iii) to EPA in accordance with Section XV (Notices). Such notice shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States and the State of Colorado v. PDC Energy, Inc.*, and shall reference the civil action number, CDCS number, and DOJ case number 90-5-2-1-11467.

30. State Payment Instructions. Of the total amount of the civil penalty, PDC shall pay \$250,000 to the State. PDC shall make payment by certified, corporate or cashier's check drawn to the order of "Colorado Department of Public Health and Environment" and delivered to the attention of Enforcement Unit Supervisor, Air Pollution Control Division, 4300 Cherry Creek Drive South, APCD-SS-B1, Denver, Colorado 80246-1530.

At the time of payment, PDC shall send notice that payment has been made the State in accordance with Section XV (Notices). Such notice shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States and the State of Colorado v. PDC Energy, Inc.*, and shall reference the civil action number.

31. Not Tax Deductible. PDC shall not deduct any penalties paid under this Consent Decree pursuant to this Section or Section IX (Stipulated Penalties) in calculating its federal, state, or local income tax.

VII. STATE-ONLY SUPPLEMENTAL ENVIRONMENTAL PROJECTS

32. In order to settle the matters contained herein, and in addition to the State portion of the civil penalty identified in Section VI (Civil Penalty), PDC agrees to perform one or more State-Only Supplemental Environmental Project(s) (“SSEP(s)”), which PDC and CDPHE agree is intended to secure significant environmental or public health protection and improvements. PDC intends to spend not less than \$1 million for SSEP(s). Any portion of the \$1 million not spent on SSEP(s) shall be remitted to the State as an additional civil penalty.

33. PDC is currently considering one or more possible third party SSEP activities in the State of Colorado. PDC will submit one or more SSEP proposals for CDPHE approval within 90 days after the Effective Date. If CDPHE disapproves the SSEP(s) or the State and PDC are otherwise unable to agree upon SSEP(s) within 150 days of the Effective Date, PDC shall pay the SSEP component of the civil penalty as an additional civil penalty in the manner prescribed in Paragraph 30 (State Payment Instructions) above and no later than 180 days after the Effective Date.

34. PDC shall not deduct the payment of the SSEP donation provided for in this Section for any tax purpose or otherwise obtain any favorable tax treatment for such payment or project.

35. The SSEP(s) performed by PDC may not be any project that PDC is required to perform or develop by any federal, state, or local law or regulation and may not be one that PDC is required to perform or develop by any agreement, grant, or injunctive relief in this or any other case. PDC further agrees that it has not and will not receive any credit in any other enforcement action for the SSEP(s).

36. PDC shall submit a SSEP Completion Report to CDPHE within 60 days of the completion of each of the SSEP(s). The SSEP Report shall contain the following information:

- a. A detailed description of the SSEP as implemented;
- b. A description of any operating problems encountered and the solutions thereto;
- c. Itemized costs, documented by copies of purchase orders and receipts or canceled checks;
- d. Certification that the SSEP has been fully implemented pursuant to the provisions of this Consent Decree; and
- e. A description of the environmental and public health benefits resulting from implementation of the SSEP (with quantification of the benefits and pollutant reductions, if feasible).

37. PDC agrees that failure to submit the Completion Report with the required information shall be deemed a violation of this Consent Decree and PDC shall become liable for penalties as a violation of this Decree.

38. All SSEPs must be completed to the satisfaction of CDPHE, within four years of the Effective Date of this Consent Decree, and must be operated for the useful life of the SSEP. If PDC fails to fully and satisfactorily implement a SSEP within this time period or fails to operate the SSEP for its entire useful life, CDPHE shall provide written notice of such failure and a demand for payment of the remaining amount up to \$1 million. Notwithstanding the approval of any SSEP expenditures previously submitted to CDPHE, the remaining amount up to \$1 million shall be paid to CDPHE within 30 days of receipt of a demand for payment by CDPHE.

39. PDC shall include in any public statement, oral or written making reference to the SSEP the following language: “This project was undertaken in connection with the settlement of an enforcement action taken by the Colorado Department of Public Health and Environment, Air Pollution Control Division, for violations of air quality laws and regulations.”

VIII. PERIODIC REPORTING

40. After entry of this Consent Decree, PDC shall submit to the United States and the State in accordance with the requirements of Section XV (Notices), a periodic Semi-Annual Report within 60 days after the end of each half of the calendar year (January through June, and July through December). The first Semi-Annual Report shall be due March 1, 2018, and each Semi-Annual Report shall contain the following information:

- a. Development of a Modeling Guideline (Paragraph 8): A copy of the Modeling Guideline if it was revised during the reporting period.
- b. Engineering Design Standards (Paragraph 9): Copies of any Engineering Design Standards completed and implemented during the reporting period that were used at more than one Tank System, unless previously provided. PDC shall not be required to

submit site-specific Engineering Design Standards, unless requested by EPA or CDPHE.

c. Vapor Control System Field Survey, Engineering Evaluation, and Modification (Paragraph 10): Status and/or completion of Engineering Evaluations and any modifications, including a list of any Tank Systems with associated Well Production Operations temporarily shut-in pending completion of the Engineering Evaluation and any modifications during the reporting period, a summary of modifications to Vapor Control Systems, and the information specified in subparagraph 10.b(3) for Tank Systems that underwent the subparagraph 10.b evaluation during the reporting period.

d. Post-Certification of Completion Modifications (Paragraph 12): A summary of any evaluations undertaken during that reporting period of whether modifications were necessary at Vapor Control Systems for other Tank Systems and the timing, results, locations, and description of any modifications of other Vapor Control Systems or a timeline for the completion such modifications.

e. Directed Inspection and Preventative Maintenance Program (Paragraph 13): Status as to development and implementation of the DI/PM program, including a copy of PDC's DI/PM program if revised during the reporting period, identification of any new or modified maintenance or inspection schedules, or replacement program (see subparagraph 13.c), a summary of any reviews of or modifications to the spare parts program (see subparagraph 13.d), and, for March reports beginning with 2019, the information required by subparagraph 13.g(5).

f. Periodic Inspections and Monitoring (Paragraph 14): A summary of inspections and monitoring undertaken at Tank Systems, including a summary of inspection methods used and attachment of the information identified in subparagraph

14.c.

g. Reliable Information, Investigation, and Corrective Action (Paragraph 15):

Copies of the spreadsheets as specified and required by subparagraph 15.d and the results of any VCS Root Cause Analysis as specified and required pursuant to subparagraph 15.e(1).

h. Verification of Design Analysis (Paragraph 18): Status as to any ongoing verification.

i. Tank Pressure Monitoring (Paragraph 19): Status and/or completion of installation of pressure monitors, including attachment of the information specified and required by subparagraph 19.d.

j. Environmental Mitigation Projects (Section V and Appendix B): A summary of activities undertaken, status of Environmental Mitigation Project milestones set forth in Appendix B, and a summary of costs incurred since the previous report.

k. State-Only SEPs (Section VII): A summary of activities undertaken and a summary of costs incurred since the previous report.

l. A summary of any problems encountered or anticipated, together with implemented or proposed solutions, if available.

m. A description of any non-compliance with the requirements of this Consent Decree and an explanation of the likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation.

41. If PDC violates, or has reason to believe that it may violate, any requirement of this Consent Decree, PDC shall notify the United States and the State in accordance with the requirements of Section XV (Notices) of such violation and its likely duration, in writing, within

10 Business Days of the day PDC first becomes aware of the violation, with an explanation of the likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, PDC shall so state in the report. PDC shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within 30 days of the day PDC becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves PDC of its obligation to provide the notice required by Section X (Force Majeure). If EPA or CDPHE become aware of any violation of any requirement of this Consent Decree, EPA and CDPHE will use best efforts to promptly notify PDC of such violation.

42. Whenever any event affecting PDC's operations or PDC's performance under this Consent Decree may pose an immediate threat to the public health or welfare or the environment, PDC shall comply with any applicable federal and state or local laws and, in addition, shall notify EPA and the State as per Section XV (Notices) orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after PDC first knew of the violation or event. This notice requirement is in addition to the requirement to provide notice of a violation of this Decree set forth in the preceding Paragraph.

43. Each report submitted by PDC under this Section, and each Certification of Completion Report submitted pursuant to the requirements of subparagraph 11.b (Vapor Control System Initial Verification), shall be signed by an official of the submitting party and include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for

gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

This certification requirement does not apply to emergency notifications where compliance would be impractical.

44. The reporting requirements of this Consent Decree do not relieve PDC of any reporting obligations required by the Act or the Colorado Act, or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

45. Any information provided pursuant to this Consent Decree may be used by the United States or the State in any proceeding to enforce the provisions of this Decree and as otherwise permitted by law.

IX. STIPULATED PENALTIES

46. PDC shall be liable for stipulated penalties to the United States and the State for violations of this Consent Decree as specified below, unless excused under Section X (Force Majeure), or reduced or waived by one or both of the Plaintiffs pursuant to Paragraph 52 of the Decree. A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

a. Compliance Requirements.

Consent Decree Violation	Stipulated Penalty
Failure to develop a written Modeling Guideline as required by Paragraph 8 (Development of a Modeling Guideline).	\$1,000 per day for the first 15 days of noncompliance; \$2,500 per day from the 16th to 30th days of noncompliance; and \$5,000 per day

Consent Decree Violation	Stipulated Penalty
	thereafter.
Failure to evaluate the condition of all PRVs, thief hatches, mountings, and gaskets at each Tank System as required by subparagraph 10.b and/or take the actions required by subparagraphs 10.b(1) or 10.b(2) by the deadlines set forth in subparagraph 10.e (Vapor Control System Field Survey, Engineering Evaluation, and Modification).	\$500 per day per Tank System for the first 30 days of noncompliance; \$2,500 per day per Tank System thereafter.
Failure to comply with the requirements of subparagraph 10.b(3) (Vapor Control System Field Survey, Engineering Evaluation, and Modification).	\$250 per day per violation for the first 30 days of noncompliance; \$1,000 per day per violation thereafter.
Failure to complete an Engineering Evaluation for a Tank System as required by subparagraphs 10.c and 10.e (Engineering Evaluation).	For each Tank System unless associated Well Production Operations temporarily shut-in as required by subparagraph 10.f: \$1,000 per day for the first 15 days of noncompliance; \$2,500 per day from the 16th to 30th days of noncompliance; and \$5,000 per day thereafter.
Failure to complete modifications for a Vapor Control System as required by subparagraphs 10.d and 10.e (Vapor Control System Modification).	For each Tank System unless associated Well Production Operations temporarily shut-in as required by subparagraph 10.f: \$1,000 per day for the first 15 days of noncompliance; \$3,000 per day from the 16th to 30th days of noncompliance; and \$9,000 per day thereafter.
Failure to conduct an IR Camera Inspection of a Tank System as required by subparagraph 11.a (Vapor Control System Initial Verification).	\$500 per day per violation for the first 15 days of noncompliance; \$1,000 per day per violation from the 16th to 30th days of noncompliance; and \$2,000 per day per violation thereafter.
Failure to complete and submit a Certification of Completion Report as required by subparagraph 11.b (Vapor Control System Initial Verification).	\$500 per day for the first 15 days of noncompliance; \$2,500 per day from the 16th to 30th days of noncompliance; and \$5,000 per day

Consent Decree Violation	Stipulated Penalty
	thereafter.
Failure to develop and submit a DI/PM program as required by Paragraph 13 (Directed Inspection and Preventative Maintenance Program).	\$1,000 per day for the first 15 days of noncompliance; \$2,500 per day from the 16th to 30th days of noncompliance; and \$5,000 per day thereafter.
Failure to implement the DI/PM program at each Tank System, and associated Well Production Operations equipment, as required by Paragraph 13 (Directed Inspection and Preventative Maintenance Program).	\$500 per day per Tank System for the first 30 days of noncompliance; \$2,500 per day per Tank System thereafter.
Failure to establish, implement, or revise schedules as required by subparagraph 13.c; maintain, review, or modify spare parts inventory as required by subparagraph 13.d; train personnel as required by subparagraph 13.f; or perform the verifications, reviews, updates, evaluations, and corrections as required by subparagraph 13.g (Directed Inspection and Preventative Maintenance Program).	\$1,000 per day per violation for the first 15 days of noncompliance; \$2,500 per day per violation from the 16th to 30th days of noncompliance; and \$5,000 per day per violation thereafter.
Failure to conduct periodic inspections as required by Paragraph 14 (Periodic Inspections and Monitoring).	\$500 per day per Tank System for the first 30 days of noncompliance; \$2,500 per day per Tank System thereafter.
Failure to maintain one or more logs documenting Tank System inspection information as required by subparagraph 14.c (Periodic Inspections and Monitoring).	\$500 per day for the first 30 days of noncompliance; \$2,500 per day thereafter.
Failure to complete all necessary corrective actions or temporarily shut-in Well Production Operations as required by Paragraph 15 and subparagraph 15.a (Reliable Information, Investigation, and Corrective Action).	\$5,000 per day per Tank System for the first 15 days of noncompliance; \$10,000 per day per Tank System from the 16th to 30th days of noncompliance; and \$20,000 per day per Tank System thereafter.
Failure to comply with the requirements of subparagraphs 15.b, 15.c, or 15.d (Reliable	\$250 per day per violation for the first 30 days of noncompliance; \$1,000 per

Consent Decree Violation	Stipulated Penalty
Information, Investigation, and Corrective Action).	day per violation thereafter.
Failure to complete a VCS Root Cause Analysis and/or identify or implement appropriate response actions as required by subparagraph 15.e (Reliable Information, Investigation, and Corrective Action).	\$500 per day per violation for the first 30 days of noncompliance; and \$1,000 per day per violation thereafter.
Failure to provide notification to EPA and CDPHE of PDC's proposed verification work plan as required by subparagraph 18.a (Verification of Design Analysis).	\$250 per day for the first 30 days of noncompliance; \$1,000 per day thereafter.
Failure to equip Tank Systems with pressure monitors in accordance with the requirements of Paragraph 19 (Tank Pressure Monitoring).	\$500 per day per Tank System for the first 30 days of noncompliance; and \$1,000 per day per Tank System thereafter.
Failure to conduct a site investigation or VCS Root Cause Analysis in accordance with the requirements of subparagraph 19.c (Tank Pressure Monitoring).	\$250 per day per Tank System for the first 15 days of noncompliance; and \$500 per day per Tank System thereafter.
Failure to comply with the requirements of subparagraph 19.d (Tank Pressure Monitoring).	\$250 per day per violation for the first 30 days of noncompliance; \$1,000 per day per violation thereafter.

b. Environmental Mitigation Projects.

Consent Decree Violation	Stipulated Penalty
Failure to undertake and complete any of the Environmental Mitigation Projects in compliance with Section V and Appendix B to this Decree.	\$1,000 per day per violation for the first 30 days of noncompliance; \$5,000 per day per violation thereafter.

c. Periodic Reports.

Consent Decree Violation	Stipulated Penalty
Failure to submit a Semi-Annual Report as required by Paragraph 40.	\$1,000 per day for the first 30 days of noncompliance; and \$2,500 per day thereafter.

47. Late Payment of Civil Penalty. If PDC fails to pay the civil penalty required to be paid under Section VI (Civil Penalty) when due, PDC shall pay a stipulated penalty of \$10,000 per day for each day that the payment is late to the United States, and a stipulated penalty of \$10,000 per day for each day that the payment is late to the State. Late payment of the civil penalty shall be made in accordance with Section VI (Civil Penalty). Stipulated penalties for late payment of the civil penalty shall be paid in accordance with Paragraphs 48, 49, 50, and 51 below. All transmittal correspondence shall state that any such payment is for late payment of the civil penalty due under this Consent Decree, or for stipulated penalties for late payment, as applicable, and shall include the identifying information set forth in Section VI (Civil Penalty).

48. Stipulated penalties under this Section shall begin to accrue on the day after performance is due or on the day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

49. PDC shall pay stipulated penalties to the United States and the State within 30 days of a written demand by either the United States or the State, unless PDC invokes the dispute resolution procedures under Section XI (Dispute Resolution) within the 30-day period. PDC shall pay 50% of the total stipulated penalty amount due to the United States and 50% to the

State. The Plaintiff making a demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other Plaintiff.

50. Stipulated penalties shall continue to accrue as provided in Paragraph 48, during any Dispute Resolution, but need not be paid until:

a. If the dispute is resolved by agreement or by a decision of EPA or the State that is not appealed to the Court, PDC shall pay accrued penalties agreed to or determined to be owing, together with interest, to the United States and the State within 30 days of the effective date of the agreement or the receipt of EPA's or the State's decision or order;

b. If the dispute is appealed to the Court and the United States or the State prevails in whole or in part, PDC shall pay all accrued penalties determined by the Court to be owing, together with interest, within 60 days of receiving the Court's decision or order, except as provided in subparagraph c, below; or

c. If any Party appeals the Court's decision, PDC shall pay all accrued penalties determined to be owing, together with interest, within 15 days of receiving the final appellate court decision.

51. If PDC fails to pay stipulated penalties within 30 days after receiving the United States' or the State's written demand as required by Paragraph 49, PDC shall pay interest on unpaid stipulated penalties, as provided for in 28 U.S.C. § 1961, as follows: (i) if PDC has timely invoked dispute resolution such that the obligation to pay stipulated penalties has been stayed pending the outcome of dispute resolution, interest accrues from the date stipulated penalties are due pursuant to Paragraph 48 until the date of payment; and (b) if PDC does not timely invoke dispute resolution, interest accrues from PDC's receipt of the written demand

pursuant to Paragraph 49 until the date of payment. Nothing in this Paragraph limits the United States or the State from seeking any remedy otherwise provided by law for PDC's failure to pay any stipulated penalties or interest.

52. Either the United States or the State may, in the unreviewable exercise of their respective discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree. The determination by one Plaintiff not to seek stipulated penalties, or subsequently to waive or reduce the amount it seeks, shall not preclude the other Plaintiff from seeking the full amount of the stipulated penalties owing.

53. Obligations Prior to the Effective Date. Upon the Effective Date, the stipulated penalty provisions of this Consent Decree shall be retroactively enforceable with regard to any and all violations of subparagraph 10.c (Engineering Evaluation) and subparagraph 10.d (Vapor Control System Modification) by the deadlines set forth in subparagraph 10.e that have occurred after the Date of Lodging and prior to the Effective Date, provided that stipulated penalties that may have accrued after the Date of Lodging and prior to the Effective Date may not be collected unless and until this Decree is entered by the Court.

54. PDC shall pay stipulated penalties owing to the United States in the manner set forth and with the confirmation notices required by Paragraph 29 (Federal Payment Instructions), except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid. PDC shall pay stipulated penalties owing to the State in the manner set forth and with the confirmation notices required by Paragraph 30 (State Payment Instructions) except that the transmittal letter shall state the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

55. PDC shall not deduct stipulated penalties paid under this Section in calculating its state and federal income tax.

56. Subject to the provisions of Section XIII (Effect of Settlement/Reservation of Rights), the stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States or the State for PDC's violation of this Decree or applicable law. Where a violation of this Decree is also a violation of relevant statutory or regulatory requirements, PDC shall be allowed a credit, for any stipulated penalties paid, against any statutory penalties imposed for such violation under the applicable federal or State requirement.

X. FORCE MAJEURE

57. "Force majeure," for purposes of this Consent Decree, means any event arising from causes beyond the control of PDC, of any entity controlled by PDC, or of PDC's contractors, which delays or prevents the performance of any obligation under this Decree despite PDC's best efforts to fulfill the obligation. The requirement that PDC exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (i) as it is occurring and (ii) following the potential force majeure, such that the delay and any adverse effects of the delay are minimized to the greatest extent possible. "Force majeure" does not include PDC's financial inability to perform any obligation under this Consent Decree.

58. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, for which PDC intends or may intend to assert a claim of force majeure, PDC shall provide notice orally or by electronic transmission to EPA and CDPHE as provided in Section XV (Notices), within 72 hours of when PDC first knew that the event

might cause a delay. Within seven days thereafter, PDC shall provide in writing to EPA and CDPHE (i) an explanation and description of the reasons for the delay; (ii) the anticipated duration of the delay; (iii) all actions taken or to be taken to prevent or minimize the delay; (iv) a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; and (v) PDC's rationale for attributing such delay to a force majeure event if it intends to assert such a claim. PDC shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. PDC will be deemed to know of any circumstance of which PDC, any entity controlled by PDC, or PDC's contractors knew or should have known. Failure to comply with the above requirements regarding an event precludes PDC from asserting any claim of force majeure regarding that event, provided, however, that if EPA, after reasonable opportunity for review and comment by CDPHE, despite the late notice, is able to assess to its satisfaction whether the event is a force majeure under Paragraph 57 and whether PDC has exercised best efforts under Paragraph 57, EPA may, in its unreviewable discretion, excuse in writing PDC's failure to submit timely notices under this Paragraph.

59. If EPA, after a reasonable opportunity for review and comment by CDPHE, agrees that the delay or anticipated delay is attributable to a force majeure, the time for performance of the obligations under this Consent Decree that are affected by the force majeure will be extended by EPA, after a reasonable opportunity for review and comment by CDPHE, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure does not, of itself, extend the time for performance of any other obligation. EPA will notify PDC in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure.

60. If EPA, after a reasonable opportunity for review and comment by CDPHE, does not agree that the delay or anticipated delay has been or will be caused by a force majeure, EPA will notify PDC in writing of its decision.

61. If PDC elects to invoke the dispute resolution procedures set forth in Section XI (Dispute Resolution), it shall do so no later than 30 days after receipt of EPA's notice. In any such proceeding, PDC bears the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that PDC complied with the requirements of Paragraphs 57 and 58. If PDC carries this burden, the delay at issue will be deemed not to be a violation by PDC of the affected obligation of this Consent Decree identified to EPA and the Court.

XI. DISPUTE RESOLUTION

62. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section are the exclusive mechanism to resolve disputes regarding this Consent Decree, provided that the Party invoking such procedure has first made a good faith attempt to resolve the matter with the other Party.

63. The dispute resolution procedure required herein shall be invoked by one Party giving written notice to the other Party advising of a dispute pursuant to this Section. The notice shall describe the nature of the dispute and shall state the noticing Party's position with regard to such dispute. The Party receiving such a notice shall acknowledge receipt of the notice, and the Parties in dispute shall expeditiously schedule a meeting to discuss the dispute informally not later than 14 days following receipt of such notice.

64. Disputes submitted to dispute resolution under this Section shall, in the first instance, be the subject of informal negotiations among the disputing Parties. Such period of informal negotiations shall not extend beyond 30 days from the date of the first meeting among the Parties' representatives unless they agree in writing to shorten or extend this period.

65. If the Parties are unable to reach agreement during the informal negotiation period, the EPA, after consultation with CDPHE, shall provide PDC with a written summary of its position regarding the dispute. The written position provided by EPA and CDPHE shall be considered binding unless, within 45 days thereafter, PDC seeks judicial resolution of the dispute by filing a petition with this Court. The United States may respond to the petition within 45 days of filing.

66. Where the nature of the dispute is such that a more timely resolution of the issue is required, the time periods set forth in this Section may be shortened upon motion of one of the Parties to the dispute.

67. This Court shall not draw any inferences nor establish any presumptions adverse to either Party as a result of invocation of this Section or the Parties' inability to reach agreement.

68. As part of the resolution of any dispute under this Section, in appropriate circumstances the Parties may agree, or this Court may order, an extension or modification of the schedule for completion of the activities required under this Consent Decree to account for the delay that occurred as a result of dispute resolution. PDC shall be liable for stipulated penalties for its failure thereafter to complete the work in accordance with the extended or modified schedule, provided that PDC shall not be precluded from asserting that a force majeure event has caused or may cause delay in complying with the extended or modified schedule.

69. The Court shall decide all disputes pursuant to applicable principles of law for resolving such disputes. In their initial filings with the Court, the Parties shall state their respective positions as to the applicable standard of law for resolving the particular dispute.

XII. INFORMATION COLLECTION AND RETENTION

70. The United States, the State, and their representatives, including attorneys, contractors, and consultants, shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times (subject to any applicable federal health and safety laws and regulations), upon presentation of credentials, to conduct the items below. None of the items below will include operating or adjusting PDC equipment (*e.g.*, opening thief hatches) without reasonable notice to PDC and accompaniment by a PDC employee.

- a. Monitor the progress of activities required under this Decree;
- b. Verify any data or information submitted to the United States or the State in accordance with the terms of this Decree;
- c. Obtain samples and, upon request, splits or duplicates of any samples taken by PDC or its representatives, contractors, or consultants related to activities under this Decree;
- d. Obtain documentary evidence, including photographs and similar data related to activities under this Decree; and
- e. Assess PDC's compliance with this Decree.

71. Upon request, PDC shall provide EPA, CDPHE, or their authorized representatives, splits or duplicates of any samples taken by PDC at a Tank System or other associated equipment. Upon request, EPA and CDPHE shall provide PDC splits or duplicates of any samples taken by EPA, CDPHE, or their authorized representatives.

72. Except for data recorded by pressure monitors installed pursuant to Paragraph 19, until two years after the termination of this Consent Decree, PDC shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) (hereinafter referred to as “Records”) in its or its contractors’ or agents’ possession or control, or that come into its or its contractors’ or agents’ possession or control, and that directly relate to PDC’s performance of its obligations under this Decree. This information-retention requirement applies regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States or the State, PDC shall provide copies of any Records required to be maintained under this Paragraph. This retention requirement does not apply to voicemail or text messages, so long as those forms of communication are not used for substantive discussions concerning compliance with the Decree. Nor does this retention requirement apply to PDC’s outside counsel or consultants retained specifically for the purposes of potential litigation. PDC shall retain the data recorded by any pressure monitors required pursuant to Paragraph 19 for two years from the date of recording, except that PDC shall keep any such data until two years after termination if PDC was required to keep the data pursuant to subparagraph 19.d.

73. Privileged and Business Confidential Documents. In response to a request for Records pursuant to Paragraphs 71 or 72:

a. PDC may assert that all or part of a Record is privileged or protected under federal law. If PDC asserts such a privilege, it shall provide the following: (1) the title of the Record; (2) the date of the Record; (3) the name and title of each author of the Record; (4) the name and title of each addressee and recipient; (5) a general description

of the contents of the Record that does not reveal any privileged or protected information; and (6) the privilege or protection asserted by PDC. If a claim of privilege or protection applies only to a portion of a Record, the Record shall be provided to the United States in redacted form to mask the privileged or protected portion only. PDC shall retain all Records that it claims to be privileged or protected until the United States has had a reasonable opportunity to dispute the privilege or protection claim and any such dispute has been resolved in PDC's favor.

b. PDC may also assert business confidentiality claims covering part or all of the Records required to be provided under this Section to the extent permitted by and in accordance with 40 C.F.R. § 2.203(b) and 24-72-204, C.R.S. Records determined to be confidential by EPA or CDPHE will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B and 24-72-204, C.R.S. If no claim of confidentiality accompanies Records when they are submitted to EPA and CDPHE, or if EPA or CDPHE has notified PDC that the Records are not confidential under the standards of 40 C.F.R. Part 2, Subpart B or 24-72-204, C.R.S., the public may be given access to such Records without further notice to PDC.

c. PDC may make no claim of privilege or protection (other than claims of Confidential Business Information) regarding any Records that PDC is required to create or generate pursuant to this Consent Decree.

74. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or the State pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of

PDC to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XIII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

75. This Consent Decree resolves the civil and administrative claims that the United States and/or the State may have against PDC for the following violations at the Tank Systems listed in Appendix A-1 and A-2, including associated Vapor Control Systems, through the Date of Lodging:

a. Failure to achieve the system-wide emissions reductions required by SIP-Approved Reg. 7, Sec. XII.A.2 and State-Approved Reg. 7, Sec. XII.D.2;

b. Failure to comply with the requirement of SIP-Approved Reg. 7, Sec. XII.D.2.a and State-Approved Reg. 7, Sec. XII.C.1.a that:

(1) “All air pollution control equipment required by this Section XII shall be operated and maintained consistent with manufacturer specifications and good engineering and maintenance practices. The owner or operator shall keep manufacturer specifications on file”; and

(2) “[A]ll such air pollution control equipment shall be adequately designed and sized to achieve the control efficiency rates required by this Section XII and to handle reasonably foreseeable fluctuations in emissions of volatile organic compounds. Fluctuations in emissions that occur when the separator dumps into the tank are reasonably foreseeable”;

c. Failure to comply with the requirement of SIP-Approved Reg. 7, Sec. XII.D.2.b and State-Approved Reg. 7, Sec. XII.C.1.b, that all “condensate collection, storage, processing and handling operations, regardless of size, shall be designed,

operated and maintained so as to minimize leakage of volatile organic compounds to the atmosphere to the maximum extent practicable;”

d. Failure to achieve a control efficiency of 95% from any vapor recovery unit or combustion device as required by SIP-Approved Reg. 7, Sec. XII.A.7 and State-Approved Reg. 7, Sec. XII.C.1.c or properly install, operate and maintain air pollution control equipment as required by SIP-Approved Reg. 7, Sec. XII.A.4.h and State-Approved Reg. 7, Sec. XII.C.1.c;

e. Failure to comply with any of the recordkeeping and reporting requirements under SIP-Approved Reg. 7, Sec. XII.A.4 and A.5 and State-Approved Reg. 7, Sec. XII.F, including, but not limited to, violations related to unreported air pollution control equipment downtime;

f. Failure to comply with SIP-Approved Reg. 7, Sec. XII.D.2.c and State-Approved Reg. 7, Sec. XII.C.1.d to have no visible emissions from a flare or other combustion device and have such devices designed so that an observer can determine whether it is properly operating;

g. Failure to comply with any of the monitoring requirements under SIP-Approved Reg. 7, Sec. XII.A.3 and State-Approved Reg. 7, Sec. XII.E; and

h. Failure to properly report any information to the United States or the State with respect to any of the violations resolved in this Section XIII (Effect of Settlement/Reservation of Rights) of the Consent Decree.

76. This Consent Decree further resolves the civil and administrative claims that the State may have against PDC relating to the following issues at the Tank Systems listed in

Appendices A-1 and A-2, including associated Vapor Control Systems, through the Date of Lodging:

- a. All observations related to emissions from Tank Systems observed by AVO inspection methods;
- b. All observations related to emissions from Tank Systems observed by optical gas imaging infrared camera;
- c. Any failure to properly design, operate, or maintain a Tank System, including associated Vapor Control Systems, or achieve emission reductions from such Tank System as required by Reg. 7;
- d. Failure to comply with Reg. 7, Sec. XVII.B.1.a. that all “intermediate hydrocarbon liquids collection, storage, processing, and handling operations, regardless of size, shall be designed, operated, and maintained so as to minimize leakage of VOCs and other hydrocarbons to the atmosphere to the extent reasonably practicable;”
- e. Failure to comply with Reg. 7, Sec. XVII.B.1.b. that “at all times, including periods of start-up and shutdown, the facility and air pollution control equipment must be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions;”
- f. Failure to comply with Reg. 7, Sec. XVII.B.2.a. that
 - (1) “All air pollution control equipment shall be operated and maintained pursuant to the manufacturing specifications or equivalent to the extent practicable, and consistent with technological limitations and good engineering and maintenance practices. The owner or operator shall keep manufacturer specifications or equivalent on file;”

(2) “[A]ll such air pollution control equipment shall be adequately designed and sized to achieve the control efficiency rates and to handle reasonably foreseeable fluctuations in emissions of VOCs and other hydrocarbons during normal operations. Fluctuations in emissions that occur when the separator dumps into the tank are reasonably foreseeable;”

g. Failure to comply with Reg. 7, Sec. XVII.B.2.b. to have no visible emissions from a flare or other combustion device and have such devices designed so that an observer can determine whether it is properly operating;

h. Failure to comply with Reg. 7, Sec. XVII.C.2.a. that “[o]wners or operators of storage tanks must route all hydrocarbon emissions to air pollution control equipment, and must operate without venting hydrocarbon emissions from the thief hatch (or other access point to the tank) or pressure relief device during normal operation, unless venting is reasonably required for maintenance, gauging, or safety of personnel and equipment;”

i. Failure to comply with the STEM plan requirements in Reg. 7, Sec. XVII.C.2.b.; and

j. Failure to comply with the recordkeeping requirements of Reg. 7, Sec. XVII.C.3.

77. The United States and the State reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree, except as expressly stated in Paragraphs 75 and 76. This Consent Decree does not limit the rights of the United States or the State to obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal or

state laws, regulations, or permit conditions, except as expressly specified in Paragraphs 75 and 76. The United States and the State further reserve all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, the Tank Systems and associated Vapor Control Systems, whether related to the violations addressed in this Decree or otherwise.

78. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, civil penalties, or other appropriate relief relating to the Tank Systems and associated Vapor Control Systems or PDC's violations, PDC shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraphs 75 and 76.

79. This Consent Decree is not a permit, or a modification of any permit, under any federal, State, or local laws or regulations. PDC is responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and PDC's compliance with this Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and the State do not, by their consent to the entry of this Decree, warrant or aver in any manner that PDC's compliance with any aspect of this Decree will result in compliance with provisions of the Act, the Colorado Act, the Colorado SIP, Reg. 7, or with any other provisions of federal, State, or local laws, regulations, or permits.

80. This Consent Decree does not limit or affect the rights of PDC or of the United States or the State against any third parties, not party to this Decree, nor does it limit the rights of third parties, not party to this Decree, against PDC, except as otherwise provided by law.

81. This Consent Decree does not create rights in, or grant any cause of action to, any third party not party to this Decree.

XIV. COSTS

82. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States and the State shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by PDC.

XV. NOTICES

83. Unless otherwise specified in this Consent Decree, whenever notifications, submissions, or communications are required by this Decree, they shall be made electronically, unless otherwise requested, and addressed as follows:

As to the United States by email: eescdcopy.enrd@usdoj.gov
Re: DJ # 90-5-2-1-11467

As to the United States by mail: EES Case Management Unit
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
Re: DJ # 90-5-2-1-11467

As to EPA:	Director, Air Enforcement Division Office of Civil Enforcement USEPA Headquarters, MC 2242A 1200 Pennsylvania Ave., NW Washington, D.C. 20460
	Director, Air & Toxics Technical Enforcement Office of Enforcement, Compliance & Environmental Justice Environmental Protection Agency, Region 8 1595 Wynkoop Street Denver, CO 80202
As to the State of Colorado:	First Assistant Attorney General Air Quality Unit Natural Resources Section Colorado Attorney General's Office 1300 Broadway, 7 th Floor Denver, CO 80203
As to CDPHE:	Compliance & Enforcement Program Manager Colorado Department of Public Health and Environment Air Pollution Control Division APCD – SSP – B1 4300 Cherry Creek Drive South Denver, CO 80246-1530
As to PDC:	Chief Operating Officer PDC Energy, Inc. 1775 Sherman Street, Suite 3000 Denver, CO 80203

84. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

85. Notices submitted pursuant to this Section shall be deemed submitted upon electronic transmission or mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XVI. SALES OR TRANSFERS OF OPERATIONS

86. This Consent Decree does not prohibit the sale or transfer of PDC's ownership of a working interest in any well, or any well and associated Tank System, provided that PDC both (a) remains the Operator of the well and associated Tank System and (b) retains the minimum working interest necessary to remain the Operator of the well and associated Tank System. If PDC proposes to sell an operational interest in, or transfer Operation of, any well associated with a Tank System to a third party unaffiliated with PDC, PDC shall advise the third party in writing of the existence of this Consent Decree prior to such sale or transfer and shall send a copy of such written notification to the United States and the State pursuant to Section XV (Notices) at least 60 days before such proposed sale or transfer.

87. No sale or transfer of an operational interest in, or the operation of, any well associated with a Tank System shall take place before the third party, the United States, and the State have executed, and the Court has approved, a modification pursuant to Section XIX (Modification) of this Consent Decree making the third party a party to this Consent Decree and jointly and severally liable with PDC for all requirements of this Consent Decree that may be applicable to the well and associated Tank System.

88. This Consent Decree shall not be construed to impede the transfer of an operational interest in, or the Operation of, any well associated with a Tank System to a third party unaffiliated with PDC so long as the requirements of this Consent Decree are met. This Consent Decree shall not be construed to prohibit a contractual allocation – as between PDC and a third party – of the burdens of compliance with this Consent Decree provided that PDC and such third party shall remain jointly and severally liable for the obligations of this Consent

Decree applicable to the transferred or purchased Tank Systems and associated well production assets.

89. If the United States and the State consent, such consent not to be unreasonably delayed or withheld, Plaintiffs, PDC and the third party that has become a party to this Consent Decree pursuant to Paragraph 87 may execute a modification that relieves PDC of its liability under this Consent Decree for, and makes the third party liable for, all obligations and liabilities applicable to the purchased or transferred Tank Systems and associated well production assets. Notwithstanding the foregoing, however, PDC may not assign, and may not be released from, any obligation under this Consent Decree that is not specific to the purchased or transferred Tank Systems and associated well production assets, including the obligations set forth in Sections V (Environmental Mitigation Projects), VI (Civil Penalty), and VII (State-Only Supplemental Environmental Projects). PDC may propose, and the United States and State may agree, to restrict the scope of joint and several liability of any purchaser or transferee of any Tank Systems and associated well production assets for any obligations of this Consent Decree that are not specific to the transferred or purchased Tank Systems and associated well production assets, to the extent that such obligations may be adequately separated in an enforceable manner. The United States and State shall not unreasonably withhold its agreement.

90. Effect of Plug and Abandonment. The permanent plug and abandonment of a well shall be deemed to satisfy all requirements of this Consent Decree applicable to the well and associated equipment no longer servicing wells that have not been plugged and abandoned on and after the later of: (i) PDC's submission of and approval by COGCC of the initial Form 6; (ii) PDC's submission of the COGCC's subsequent Form 6; and (iii) PDC's notice of cancellation of an Emissions Permit/APEN Cancellation Request to CDPHE. Once PDC has decided to

permanently plug and abandon a well under this Paragraph, no Well Production Operations shall be permissible unless as required to prepare the well for plug and abandonment. PDC shall maintain copies of all documentation required by this Paragraph for inspection and review by EPA and CDPHE. In each Semi-Annual Report, PDC shall update Appendix A-1 and A-2 to reflect any wells and associated Tank Systems that have been permanently plugged and abandoned. Nothing herein shall preclude PDC from reusing any equipment from a plugged and abandoned well.

XVII. EFFECTIVE DATE

91. The Effective Date of this Consent Decree is the date upon which the approval of the Decree is recorded on the Court's docket; provided, however, that PDC hereby agrees that it shall be bound to perform duties scheduled to occur prior to the Effective Date. In the event the United States withdraws or withholds consent to this Decree before entry, or the Court declines to enter the Decree, then the preceding requirement to perform duties scheduled to occur before the Effective Date terminates.

XVIII. RETENTION OF JURISDICTION

92. The Court retains jurisdiction over this case until termination of this Consent Decree pursuant to Section XX (Termination) for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections XI (Dispute Resolution) and XIX (Modification), or effectuating or enforcing compliance with the terms of this Decree.

XIX. MODIFICATION

93. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by all the Parties. Where the

modification constitutes a material change to this Decree, it is effective only upon approval by the Court.

94. Any disputes concerning modification of this Consent Decree shall be resolved pursuant to Section XI (Dispute Resolution). The Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XX. TERMINATION

95. Termination as to Specific Tank System(s). PDC may seek consent to terminate the requirements of this Consent Decree with respect to Tank System(s) (and associated wells and well production assets that are not also associated with a Tank System that will remain subject to the requirements of the Consent Decree) that have completed all requirements of Paragraph 10 (including evaluation of PRVs and thief hatches, Engineering Evaluation, and any necessary modifications) and which are to be transferred entirely from PDC's operational control.

a. Such requests for termination shall be provided to the United States and the State, in writing, and contain the following information:

(1) the date a Certification of Completion Report was submitted for the Tank System(s); or if such report has not been submitted, PDC shall submit a Certification of Completion Report for the Tank System(s) in accordance with the requirements in Paragraph 11 (Vapor Control System Initial Verification); and

(2) whether any Tank System has a pressure monitor pursuant to the requirements of Paragraph 19 (Tank Pressure Monitoring) and if so the monitor(s) shall be moved to another Tank System. PDC will maintain records identifying

the Tank System to which the monitor(s) was/were moved, and the justification for selecting the new Tank System consistent with the location criteria in Paragraph 19.

b. Until such time as the United States and the State consent to PDC's request for termination, PDC's obligations under this Consent Decree shall remain in effect as to such Tank System(s). The United States and the State may request additional information as to such Tank System(s) to verify that PDC has substantially complied with other requirements of this Consent Decree as to such Tank System(s) up to that time. Such consent shall not be unreasonably withheld.

c. Any individual request for termination shall not include more than seven and a half percent (7.5%) of all Tank Systems subject to this Consent Decree and, under no circumstances, may PDC seek terminations pursuant to this Paragraph involving more than fifteen percent (15%) of all Tank Systems subject to this Consent Decree.

96. After PDC has: 1) completed the requirements of Paragraphs 10, 11, 12 (as may be applicable up to that time), 18, and installation of the pressure monitors in accordance with Paragraph 19; 2) completed Section V (Environmental Mitigation Projects), and Section VII (State-Only Supplemental Environmental Projects); 3) substantially complied with Paragraphs 12, 13, 14, 15, 16, 17 and 19 for at least two years after completion of the second verification of design analysis in accordance with Paragraph 18; and 4) has paid the civil penalty and any accrued stipulated penalties not waived or reduced by the United States or the State pursuant to Paragraph 52, PDC may send to the United States and the State a Request for Termination, which shall be certified in accordance with Paragraph 43, stating that PDC has satisfied those requirements, together with all necessary supporting documentation.

97. Following receipt by the United States and the State of PDC's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether PDC has satisfactorily complied with the requirements for termination of this Consent Decree, including documentation of compliance with and completion of each requirement. If the United States, after consultation with the State, agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

98. If the United States, after consultation with the State, does not agree that the Consent Decree may be terminated, PDC may invoke Dispute Resolution under Section XI (Dispute Resolution). However, PDC shall not seek Dispute Resolution of any dispute regarding termination until 60 days after service of its Request for Termination.

XXI. PUBLIC PARTICIPATION

99. This Consent Decree will be lodged with the Court for a period of not less than 30 days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Decree disclose facts or considerations indicating that the Decree is inappropriate, improper, or inadequate. PDC consents to entry of this Decree without further notice and agrees not to withdraw from or oppose entry of this Decree by the Court or to challenge any provision of the Decree, unless the United States has notified PDC in writing that it no longer supports entry of the Decree.

XXII. SIGNATORIES/SERVICE

100. Each undersigned representative of PDC, the State of Colorado, and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of

Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

101. This Consent Decree may be signed in counterparts, and its validity may not be challenged on that basis.

102. PDC shall identify, on the attached signature page, the name, address, and telephone number of an agent who is authorized to accept service of process by mail on its behalf with respect to all matters arising under or relating to this Consent Decree. PDC agrees to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court, including, but not limited to, service of a summons. PDC need not file an answer to the Complaint in this action unless or until the Court expressly declines to enter this Decree.

XXIII. INTEGRATION/HEADINGS

103. This Consent Decree and its Appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree. The Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Decree.

104. Headings to the Sections and subsections of this Consent Decree are provided for convenience and do not affect the meaning or interpretation of the provisions of this Consent Decree.

XXIV. FINAL JUDGMENT

105. Upon approval and entry of this Consent Decree by the Court, this Consent Decree constitutes a final judgment of the Court as to the United States, the State, and PDC.

XXV. APPENDICES

106. The following Appendices are attached to and part of this Consent Decree:

“Appendix A-1” and “Appendix A-2” is the List of AIRS Tanks/Tank Systems; and

“Appendix B” is Environmental Mitigation Projects.

Dated and entered this __ day of _____, 2017

UNITED STATES DISTRICT JUDGE

THE UNDERSIGNED PARTY enters into this Consent Decree in this action captioned United States and the State of Colorado v. PDC Energy, Inc.

FOR THE UNITED STATES OF AMERICA:

10/25/17
Date



JEFFREY H. WOOD

Acting Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

10/30/17
Date



MARK C. ELMER

Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Denver, CO 80202

THE UNDERSIGNED PARTY enters into this Consent Decree in this action captioned United States and the State of Colorado v. PDC Energy, Inc.

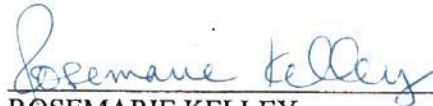
FOR THE U.S. ENVIRONMENTAL PROTECTION
AGENCY:

Date: 10/23/17



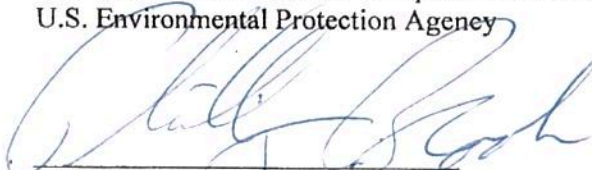
LAWRENCE E. STARFIELD
Acting Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

Date: 10/19/17



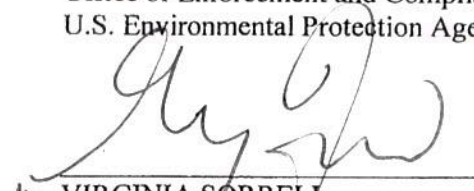
ROSEMARIE KELLEY
Acting Director, Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

Date: 10/18/17



PHILLIP A. BROOKS
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

Date: 10/20/17



VIRGINIA SORRELL
Attorney, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

THE UNDERSIGNED PARTY enters into this Consent Decree in this action captioned United States and the State of Colorado v. PDC Energy, Inc.

FOR THE U.S. ENVIRONMENTAL PROTECTION
AGENCY, REGION 8:

Date: 10/23/17

 for SJB

SUZANNE J. BOHAN
Assistant Regional Administrator
Office of Enforcement, Compliance
and Environmental Justice
U.S. Environmental Protection Agency, Region 8

Date: 10/12/17



JESSICA PORTMESS
Attorney
Legal Enforcement Program
Office of Enforcement, Compliance
and Environmental Justice
U.S. Environmental Protection Agency, Region 8

THE UNDERSIGNED PARTY enters into this Consent Decree in this action captioned United States and the State of Colorado v. PDC Energy, Inc.

FOR THE STATE OF COLORADO:

Date: 10/10/17



GARRISON KAUFMAN

Director

Air Pollution Control Division

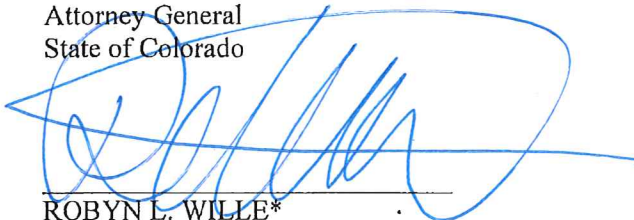
Colorado Department of Public Health and Environment

CYNTHIA COFFMAN

Attorney General

State of Colorado

Date: 10/11/17



ROBYN L. WILLE*

Assistant Attorney General

Attorney for the Air Pollution Control Division


Colorado Department of Public Health and Environment

*Counsel of Record

THE UNDERSIGNED PARTY enters into this Consent Decree in this action captioned United States and the State of Colorado v. PDC Energy, Inc.

FOR PDC ENERGY, INC.:

10/5/17
Date



SCOTT REASONER
Chief Operating Officer
PDC Energy, Inc.
1775 Sherman Street, Suite 3000
Denver, CO 80203

Appendix A-1

Consent Decree in United States and State of Colorado v. PDC Energy, Inc.
Civil Action No. 1:17-cv-01552-MSK-MJW

Tank System ID	AIRS ID	Tank System Name	Tank System Group
1	123-1554	Achziger 1; 14-4	A
2	123-9E26	Alm 33U-234, 404; 33V-314, 414	A
3	123-9E26	Alm 33V-234, 404; 33W-314, 404	A
4	123-6629	Anderson 11, 12-2	A
5	123-6252	Anderson 13, 23-34; 34B	A
6	123-9CDF	Anderson 34R-203, 223, 343, 403	A
7	123-1620	Angela 1; 42-28	A
8	123-1624	API 2-9, 10, 15, 16; 5	A
9	123-7952	B&B 10-11	A
10	123-9B3D	Baker 31, 32-5	A
11	123-7750	Baker 5-41	A
12	123-1633	Barclay 2-9, 10, 15; Bowen 2-7	A
13	123-7747	Barrell 41-4	A
14	123-1634	Barrett 11, 12-26	A
15	123-1637	Bauer 5; 12, 21-4	A
16	123-7689	Benjamin 1, 5; Nicholas 5	A
17	123-1461	Benson 24-15	A
18	123-1468	Bernhardt 13-A	A
19	123-2545	Bernhardt 13D; Bouge 1	A
20	123-2545	Bernhardt 13T; Mesha 1	A
21	123-2609	Bernhardt 24C; Kristen 1; Sarah 1	A
22	123-9E33	Bernhardt 6G-323, 403; 6K-243, 443 (North)	A
23	123-9E2F	Bernhardt 6K-323, 403; 6O-243, 443 (South)	A
24	123-1659	Binder 14-3	A
25	123-9282	Binder 22, 32-10DU & 10OU, CDU, KDU, NDU, SDU	A
26	123-1491	Blehm 30-1, 44-30; Urich 33, 43-30	A
27	123-1546	Bond 21, 32-9 / Boskas 9-23 / Boskas-Bond 9D	A
28	123-7012	Booth 11, 12, 21, 22-31 U & 31A U	A
29	123-7273	Booth 11, 12D, 21, 22-35U & 35AU	A
30	123-1677	Briggs Aggregate 1-25	A
31	123-1679	Briggs Aggregate 2, 3-25	A
32	123-5949	Bright 1, 2	A
33	123-2546	Brindl 1/ Bryce 1	A
34	123-2550	Brown McCarty 30-43, 30-5	A
35	123-6631	Brown-Orr 14, 24-26	A
36	123-1682	Cadi 1; Wolfe 1, 6I	A
37	123-1472	Capehart 1, 31, 42-29	A
38	123-1558	Capehart 41-29	A
39	123-9045	Carlson 14, 23, 24-2D, 2BD, 2OD & 2PD	A
40	123-1686	Carlson 29-1	A
41	123-4235	Carlson 5; Ottenhoff 29-1, 41-29; 41-6B, 7B; Roskop 29-1	A
42	123-5163	Cattleman 13, 14, 23, 24-31D	A
43	123-9691	Cervi 13-31H	A
44	123-6996	Chesnut 22-23, 24; 22BD, KD, OD, PD	A
45	123-9E40	Chesnut 27 Sec Pad 1/2	A
46	123-9E40	Chesnut 27 Sec Pad 3/4	A
47	123-1690	Churchill 28-1, 2; 28A-1, 2; 5-28; 2-6B, 7I	A
48	123-5876	Clark 11, 12-27	A
49	123-6991	Cockroft 41-19, 19V, 19C/ Christensen 8-19	A
50	123-9E92	Collins 18 Sec Pad (18Q-221, 301; 18T-201, 221, 321, 341)	A
51	123-2555	Coming 17-1, 2; Lajco 17 Sec HZ	A
52	123-9582	Coors Energy 14-25H	A
53	123-7463	Coors Energy 24, 34-25	A
54	123-4504	Culbreath 23-21	A
55	123-1700	Dad 1	A
56	123-9C00	Dalton 24L-201, 441	A
57	123-9BFF	Dalton 24Q-241, 441	A
58	123-9BAD	Danielson 15G-412	A

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59	123-1549	Danley 12-28/ Dewey 22-28	A
60	123-1553	Danley 13, 14-28	A
61	123-1699	Danley 33, 43-20; Danley Gilbert 20-1; Hoff 20-1	A
62	123-2576	Derrek 1/ Mattie 1	A
63	123-1550	Dewey 21-28, Danley 1	A
64	123-9CB2	Dillard 20M-203, 20R-303, 443	A
65	123-5940	Dillard 33, 34, 43, 44-20; Dillard 20T-221, 401; 20Y-401	A
66	123-1447	Dunn 22-18	A
67	123-1446	Dunn 1(W); 23, 24-7	A
68	123-2408	Irving 1-26;5; Payne 2-26	A
69	123-8203	Edwards 11D, 12D, 21, 22D-15U & 15ADU	A
70	123-7949	Edwards 16B U/ Hardman 1, 2, 3, 4	A
71	123-7933	Edwards 33, 43-16 U/ L&H 1	A
72	123-5099	Edwards 34, 44-9	A
73	123-7465	Edwards 34-16U, 16DU/ Hardman 5	A
74	123-1478	Ehrlich P M 2	A
75	123-5473	Erickson 14, 24-4	A
76	123-5193	Erickson 34-4	A
77	123-6995	Exco-Watkins 12-34, 44	A
78	123-2413	FHA 10, 15-1	A
79	123-2561	Fields 11-34/ Fields Nelson 34-1/ McDowell 34-1	A
80	123-2414	Flack 1; 5 / Millage 12-3; 1	A
81	123-8037	Foos 23-14	A
82	123-2417	Ford 23-13	A
83	123-5120	Francen 23, 24-8	A
84	123-5879	Francis 11, 21-8	A
85	123-5880	Francis 22-8	A
86	123-2419	Frank 32-23, 24	A
87	123-2420	French 1, 5; 41-4; Sitzman 1; 32-4	A
88	123-2421	Fry 5; 21-6I	A
89	123-4483	Gaddis 11, 21-36	A
90	123-1577	Gaddis 31, 41-36	A
91	123-5032	Gaddis 32, 42-36	A
92	123-9D28	Gaddis 36E-323, 403; 36J-223, 243, 303; 36M-443; 11-36	A
93	123-2422	Gamewell 34-1, 2, 4; 5	A
94	123-7931	Gold 11-9DU, 9ADU, GWS 2	A
95	123-8440	Gold 22-9U, 32-9U, 9NU	A
96	123-7937	Gold 31-9DU, 9CDU, GWS 1	A
97	123-7938	Gold 9VDU, GWS 6	A
98	123-4505	Grady Dyer 14, 23-5	A
99	123-6624	Groves 33, 34, 43, 44-34	A
100	123-2431	Gurley 31-23, 24	A
101	123-7019	Guttersen 13, 14, 23, 24-29U, 29BU, 29PU	A
102	123-7271	Guttersen 24, 33, 43, 44-18 & 18D	A
103	123-7419	Guttersen 31, 32, 41, 42-13, 13C,13N,13S	A
104	123-7088	Guttersen 32, 41, 42-8 & 8C	A
105	123-7021	Guttersen 33, 34, 43, 44-6 & 6D	A
106	123-7087	Guttersen 33, 34, 43, 44-8 & 8D	A
107	123-7420	Guttersen 33, 34, 43-21; Two E 1-21C	A
108	123-7279	Guttersen 33, 43, 44-29 U, Killeybegs 1	A
109	123-7417	Guttersen 34, 43, 44-13; 13D;13T/ LF 1-13	A
110	123-7454	Guttersen 43, 44-11	A
111	123-1502	Hahn 13, 14-27	A
112	123-1500	Hahn 23, 24-27	A
113	123-7228	Hankins 33, 43-17U & 17DU	A
114	123-5881	Harper 43-27	A
115	123-6616	Harvester 31, 32, 41, 42-15	A
116	123-9D37	Harvesters Resources 15M-303, 423; 15R-243	A

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117	123-9D3E	Harvesters Resources 15R-323, 403; 15U-203, 443	A
118	123-5476	Hazen 23, 24-28	A
119	123-5446	Heinze 44-29	A
120	123-1481	Hettinger 1; 33, 44-18	A
121	123-7025	Heyde 1, 31, 32, 41, 42-26, 26RD, 26VD	A
122	123-7955	Highpointe 10D/B&B 10-34, 43, 44	A
123	123-5943	Hoffner 1, 32-32	A
124	123-7942	Honebein 13-7 U	A
125	123-9E88	Honebein 7 Sec HZ (7G-203 K-223, 243, 323, 403; O-423)	A
126	123-2565	Hoshiko 1, 2-2	A
127	123-1495	Mason 1	A
128	123-5477	Howard Lake 11, 12, 21-9	A
129	123-5478	Howard Lake 41, 42-9	A
130	123-7954	HP 10A, B, KD, LD, PD; B&B 10-12, 14; SF 10-4	A
131	123-6250	Hungenberg 13, 14-33	A
132	123-6249	Hungenberg 21, 22-16	A
133	123-9E9F	Hunt Federal 28 Sec HZ (28X-234, 314; 28Y-214, 314, 404)	A
134	123-1597	J & L Farms 12, 22, 23-29 & 29B	A
135	123-1609	J & L Farms 14, 24-29	A
136	123-1590	J & L Farms 29-34	A
137	123-1493	Jason 1, 2, 34-31	A
138	123-6201	Jeffers 11, 21-35	A
139	123-1515	Jeffers 41-35	A
140	123-2567	Jennifer 1/ Johnny 1	A
141	123-5024	Johnson 14, 24-4	A
142	123-2575	Kerbs 1-20; Marisa 1	A
143	123-5026	Kerbs 23, 24, 33, 34, 43, 44-15	A
144	123-6628	King 31, 32, 42-29	A
145	123-7626	Kinzer 11-28, 28-1, 28A & 28-KD	A
146	123-7027	Kinzer 13-28 & 28B	A
147	123-7923	Kinzer 28-2 & 28LD	A
148	123-1509	Kirby 29-11	A
149	123-6132	Kirby 33, 34, 43, 44-36	A
150	123-7466	Koerner 31, 32, 42- 24/ Glazier 2-24	A
151	123-5886	Kreps 31, 32-6	A
152	123-2464	Lair 1, 5; Ram Land 30G-303, 423; 30K-343	A
153	123-2556	Lajco 17C, 17ND, 17RD, 17SD; Coming 17-3, 4	A
154	123-4524	Law 1; 9-12	A
155	123-4522	Law 44-12	A
156	123-5447	Lawley 31, 32-4	A
157	123-5889	Lawley 33, 43-4; 44-4D	A
158	123-9EDD	LDS 1 Sec Pad 1	A
159	123-9ED0	LDS 1 Sec Pad 2	A
160	123-9E70	Ledford 22T-221, 321; 22Y-341, 401	A
161	123-2472	Leffler 1, 2-27; 5	A
162	123-7624	Leffler 13, 14, 23, 24-35 & 35B	A
163	123-9AC7	Leffler 14, 24-1H; 34-1CH; 11-204	A
164	123-9BE0	Leffler 26Q-421, 26T-421	A
165	123-8523	Leffler 31, 32, 41, 42-27 & 27C	A
166	123-8449	Leffler 33, 43-35 & 35D	A
167	123-8450	Leffler 34, 44-35	A
168	123-2477	Lohr 13-2; 32, 41-13; 5	A
169	123-1534	Loustalet 21-15/ Droegemuller 11-15	A
170	123-1530	Loustalet 41-15	A
171	123-9BB1	Magnuson 23I-221, 23I-421, 23L-201, 23L-421	A
172	123-1484	Marcy 31-32, 42-31	A
173	123-8953	Marostica Pad	A
174	123-5101	McKee 22-21	A

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175	123-5102	McKee 32, 42-21	A
176	123-4307	McLeod 29-1, 29X; 8	A
177	123-2590	Mellon 28-2	A
178	123-2592	Mellon 28-4 & 28N	A
179	123-4525	Meyer 31, 41-7	A
180	123-4225	Miller 33, 34, 43, 44-20; 5	A
181	123-1564	Miller 33, 43-29	A
182	123-1521	Miller-Deppe 1; 11, 12, 22-13	A
183	123-1458	Mininger 1, 33-34	A
184	123-4489	Monson 13, 14D, 23, 24-20	A
185	123-2595	Moser 1	A
186	123-9947	Moss 14-16H	A
187	123-4529	Motis 1	A
188	123-1489	Motis 33, 44-7	A
189	123-5037	National Hog Farm 13, 24-9	A
190	123-1610	National Hog Farm 17-11, 12	A
191	123-5036	National Hog Farm 21-9	A
192	123-1594	National Hog Farm 31, 32, 33, 41, 42-21	A
193	123-5951	National Hog Farm 34, 43, 44-21	A
194	123-9474	Nelson 13, 14, 23, 24-32D & 32BD	A
195	123-7616	Nelson 13, 14, 24-34/ P Nelson 34-42	A
196	123-7010	Nelson 23-34 & 34K	A
197	123-7614	Nelson 31, 32, 42-33; 33VD/ J Nelson 33-23	A
198	123-9475	Nelson 33, 34, 43, 44-32D & 32D	A
199	123-7615	Nelson 41-33	A
200	123-2412	Nicholas 1	A
201	123-1542	Noffsinger 11, 31-33	A
202	123-1543	Noffsinger 12, 22, 32-33	A
203	123-1463	Norris 3, 16-C	A
204	123-5892	Northern Prop 14-29	A
205	123-5618	Northern Prop 23, 24-29	A
206	123-8763	Ochsner 22-19/ Bijou 14, 24-19DU & 19BDU	A
207	123-1540	O'Grady 1, 34-4	A
208	123-1538	O'Grady 43-4	A
209	123-2603	Owen 12-2, 3	A
210	123-4253	P.J. 2, 3, 5, 8I	A
211	123-9E12	Peterson 14W-234, 434; 14X-304, 414	A
212	123-9E12	Peterson 14X-234, 434; 14Y-304, 414	A
213	123-5198	Peterson 24-16	A
214	123-1486	Plumb 2, 3, 4	A
215	123-9E8F	R&R Farms East 29 Sec Pad 3/4	A
216	123-9E91	R&R Farms West 29 Sec Pad 1/2	A
217	123-9D8A	Ram Land 30K-123, 403; 30O-303, 443	A
218	123-9E4E	Rieder 18 Sec (Pad 1/2) 18T-221, 321, 401; 18Y-241, 301, 441	A
219	123-9E52	Rieder 18 Sec(Pad 3/4)Q-221,321,421;T-201,241,301,341	A
220	123-4535	Riggs 33, 34-16	A
221	123-4536	Riggs 43, 44-16	A
222	123-2594	Riteaway 32E-323; 32J-103, 403; 32M-243; Miller 32-1	A
223	123-4257	Roth 5; 21-30	A
224	123-4258	Roth 5, 6-30	A
225	123-7035	Rotharmel 1; 22-33, 33A	A
226	123-7086	Rotharmel 11, 12-33	A
227	123-9753	Rotharmel 11-32H	A
228	123-7621	Rothe 13, 14, 23, 24-29 U & 29B U	A
229	123-4502	Roy Carlson 43-7/ Carlson 44-7	A
230	069-0444	Ryan 14, 23-25U, 25BU/ Scott 24-25 U/ MVS 1	A
231	123-6990	Ryland 33, 34, 43, 44-20D	A
232	123-8083	Sakata 11-36	A

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233	123-6116	Sakata 13-36	A
234	123-7520	Sakata 22-36	A
235	123-4261	Sandy 1	A
236	123-9E75	Sappington 22Q-221, 301; 22T-201, 341	A
237	123-9EE6	Sater 19 Sec Pad 1	A
238	123-9EE8	Sater 19 Sec Pad 2	A
239	123-1512	Sauer 33-31D, 43-31	A
240	123-5619	Schmerge 33, 34-4	A
241	123-5620	Schmerge 43, 44-4	A
242	123-1453	Schmidt 1	A
243	123-1510	Seele 31, 41, 42-31	A
244	123-6135	Shirley 1	A
245	123-6694	Shivers 1; 41-29	A
246	123-2585	Shultz 11-31D; 24-30D/ McCarty 30-4	A
247	123-7034	Shultz 13, 22, 23-30; 30-32/ Nygren 11, 21-30	A
248	123-6984	Shultz Farm 30-33	A
249	123-7623	Siebring 33D, 34-29U; 29PU/ W Hardin 1	A
250	123-4301	Sitzman 23-4	A
251	123-1653	Skurich 11, 21-7	A
252	123-1649	Skurich 33-7	A
253	123-1665	Skurich-Rothe State 12, 21-6 & Skurich-Rothe 6D	A
254	123-1663	Skurich-Rothe State 14, 24-6	A
255	123-8769	SLW 21-19/ Ochsner 19A & 19N	A
256	123-1650	Slw Ranch 22, 31, 32-7	A
257	123-4538	Slw Ranch 24, 34, 44-7; Skurich/SLW 7-A	A
258	123-1614	SLW Ranch 41, 42-7/ Skurich 43-7	A
259	123-7944	Smith-Reeves 27-1	A
260	123-9DD7	Sorin Natural Resources 2M-303, 423; 2R-243	A
261	123-9DD6	Sorin Natural Resources 2R 323, 403; 2U-203, 443	A
262	123-5107	State 13, 23-4/ State Wells 14-4	A
263	123-1580	State 24-4	A
264	123-1593	State 5519 31, 41-8	A
265	123-4494	State 6524 21-28	A
266	123-1582	State 6524 22-28	A
267	123-1595	State 6525 22-32 & 32D	A
268	123-1537	State 81 44-16	A
269	123-5151	State Lease 6525 41-32	A
270	123-4544	State Peterson 11, 12, 21, 22-16	A
271	123-4480	State Peterson 13, 14, 23, 24-16	A
272	123-9D06	Stonebraker 28U-234, 28V-414	A
273	123-9D0A	Stonebraker 28V-234, 314, 404; 28W-304	A
274	123-4274	Swanson Farms 43-27	A
275	123-7748	Telarico 31-33 & 33C/ Hollister 32-33	A
276	123-9CAD	Thornton 11V-404	A
277	123-9DEE	Thornton 17T-421	A
278	123-9DF3	Thornton 18L-401	A
279	123-9AC6	Thornton 19 X 404	A
280	123-9C5D	Thornton 21K-443	A
281	123-9C5C	Thornton 21R-403	A
282	123-4222	Tollgate 29-12/McLeod 29-13; 7	A
283	123-7042	Tracy 31, 32, 41, 42-23	A
284	123-9325	Tracy 31-23H, 23M-203, 23U-203; Tracy 14P-432	A
285	123-9E8E	Trimar Farms 29 Sec Pad 1/2	A
286	123-7935	Two E Ranch 1-10	A
287	123-5519	Two E Ranch 2-10, 3-10	A
288	123-1473	Uhrich 23-29	A
289	123-5112	Uyemura 33, 34-31; Pfenning 43, 44-31	A
290	123-7948	Village 11,22,A,F,K,N-16DU, Leonard & Sons 1,3	A

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291	123-8313	Village 31, 32, 41, 42-16DU, 16SDU, 16VDU	A
292	123-8960	Warner 42-09D	A
293	123-4289	Warner 6-14	A
294	123-7046	Waste Management 11,12, 21, 22-26, 26A, FD, JD, KD & Heyde 26ND	A
295	123-9C8B	Waste Management 2I-221, 2I-401, 2L-201, 2L-441	A
296	123-9C91	Waste Management 2L-301, 2L-421, 2Q-341, 2Q-401	A
297	123-9C50	W.M. 2Q-201, 321; 2T-241, 301 (Pad 2)	A
298	123-9C50	W.M. 2T-221, 401; 2Y-201, 441 (Pad 1)	A
299	123-1527	Waste Services 21-35	A
300	123-7533	Wells Ranch 11, 12, 21, 22-10 & 10A, F	A
301	123-5488	Wells Ranch 13, 14, 23, 24-14	A
302	123-4552	Wells Ranch 13, 14, 24-11	A
303	123-5490	Wells Ranch 13, 23, 24-2	A
304	123-5157	Wells Ranch 14, 23, 24-1	A
305	123-9530	Wells Ranch 14-14H	A
306	123-6256	Wells Ranch 31, 32, 41, 42-2	A
307	123-4556	Wells Ranch 31, 41-5	A
308	123-8918	Wells Ranch 33, 43, 44-12 & 12D	A
309	123-7047	Wells Ranch 33, 34, 43, 44-14	A
310	123-6247	Wells Ranch 33, 34, 43, 44-2	A
311	123-5150	Wells Ranch 41-3	A
312	123-8581	Wells Ranch State 32-28, 28C, 28R	A
313	123-8696	Wells Ranch State 33, 34, 43, 44-28, 28D, 28S	A
314	123-4290	White 27-2, 3, 5, 6, 7; 5	A
315	123-9E90	Wiedeman 28 Sec Pad 1	A
316	123-9E90	Wiedeman 28 Sec Pad 2	A
317	123-4292	Wiedeman 29G-323, 403; 29K-243; 29-1, 2, 29; 2, 5	A
318	123-4292	Wiedeman 29K-323, 343, 403; 29O-243	A
319	123-2563	Williams 28-1, 2/ Helen 1, Roger 1/ DGDG 28C	A
320	123-9C3A	Wyscaver 5-14	A
321	123-5868	Adams 31, 41-10; 41-10H	B
322	123-4440	Alles 23-13	B
323	123-5219	Alles 26-21; H L 26-1	B
324	123-6259	Anderson 1, 12-34	B
325	123-6235	Anderson 1-10	B
326	123-6630	Anderson 21, 22-34	B
327	123-6251	Anderson 31, 32, 42-10	B
328	123-4427	Brown 23 Sec HZ; 23-43	B
329	123-1639	Becker 8; 6-11I	B
330	123-9E68	Becker Ranch 5 (Pad 1) E-223, 403; J-303, 343	B
331	123-9E60	Becker Ranch 5 (Pad 2) J-203, 323R; M-243, 303	B
332	123-9E5A	Becker Ranch 5 (Pad 3) M-203,323,423; R-243,303,443	B
333	123-9E5A	Becker Ranch 5 (Pad 4) R-203,323;U-243,303,443	B
334	123-6620	Beebe Draw 1; Flippin 25B U	B
335	123-6621	Beebe Draw 2, 4	B
336	123-1667	Blackgold 1, 5	B
337	123-7934	Brown 1-23	B
338	123-2549	Brown 30-2, 30-31	B
339	123-1680	Buderus 1, 2-23	B
340	123-3024	Bunting 27-43	B
341	123-7015	Butterball B4, 13, 14, 23, 24-19/ Graznak 1-19	B
342	123-7924	Cannon Farms 1-35C	B
343	123-6637	CBO 11, 21-32	B
344	123-6638	CBO 12, 13, 22, 23-32	B
345	123-5874	Christiansen 34-7; Trinity 33, 44-7	B
346	123-9E11	Churchill 28 Sec. 28E-203, 423; 28J-203, 343, 423, 443; 28M -343, 443	B
347	123-5030	Cockroft 34, 43, 44-11	B
348	123-7231	Cook 43, 44-20 & 20D	B

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349	123-1698	Dabco 1, 2	B
350	123-7930	Dechant 1-31A	B
351	123-1479	Ehrlich 13, 14-32	B
352	123-3090	Etter 30-33 & LaFarge West 30-35	B
353	123-5220	Ewing 1, 32-31	B
354	123-6790	Floyd 5;Tarin Federal 32 Sec HZ (32W-234,434;32X-204,314,334;32Y-214,314,404)	B
355	123-5645	Frank 5, 6LL	B
356	123-7690	Girvan 22-10	B
357	123-2437	Hamilton 22, 31, 32-25	B
358	123-3051	Hankins 22-41, 42, 44 & 22D	B
359	123-7227	Hankins 34, 44-17U	B
360	123-7022	Hankins 43, 44-20U	B
361	123-6122	Hinkle 23, 24-5	B
362	123-4899	Hop 13-11B	B
363	123-2122	Hop 13-13B, F 13-25; Watters 13-14B	B
364	123-1560	Hoshiko 31, 32, 41, 42-17	B
365	123-5034	J & L Farms 11, 12-20	B
366	123-1529	J & L Farms 23-12	B
367	123-1526	J & L Farms 23-22	B
368	123-5885	J & L Farms 32, 42-19	B
369	069-0461	Jackson 34, 44-1 U & 1-D U	B
370	123-4506	Johnson 2-21	B
371	123-5119	Johnson 2-22	B
372	123-3052	Kinzer 23-3A, B, C, D	B
373	123-4521	Knox 41-3	B
374	123-5479	Kohlhoff 13, 14, 23, 24-22	B
375	123-7029	Lapp 33-12, Schrant 34-12	B
376	123-9CE6	LaSalle 25E-202, 25F-332, 412, 25G-212, 402	B
377	123-2470	Lee 1-10	B
378	123-9235	Leffler 33, 34-2 & 2SD	B
379	123-2474	Leroy 1; Leroy & Phyllis 5; Phyllis 1	B
380	123-6691	Lillie 1-23	B
381	123-2485	Mark 11, 12, 14-35; Mark E Unit 1	B
382	123-7613	Maxey 2, 33, 43, 44-24 & 24D	B
383	123-9D70	Maxey 24O-232, 402; 24P-312, 402	B
384	123-9D6A	Maxey 24P-232, 332; 24Q-112, 302	B
385	123-1525	Mcintosh 33-23	B
386	123-4478	Mcintosh 43, 44-23	B
387	123-4220	McKenney 5, 6-3	B
388	123-1480	Moser 25-32, 42	B
389	123-4228	Mossberg UP 2, 7-31	B
390	123-4231	Nadine 1-24	B
391	123-1600	National Hog Farm 17-21, 22	B
392	123-4233	Opel 17-2; 3, 4, 5	B
393	123-7530	Orr 24 -1/ Rory 1-7I	B
394	123-4248	Peschel 20 Sec HZ; 5-20	B
395	123-6093	Peschel 23-20B	B
396	123-2606	Phillips 1, Warren 10-1	B
397	123-8290	Phinney 33, 34, 43, 44-10	B
398	123-5483	Richter 23, 24-27	B
399	123-5941	Richter 33, 34, 44-27	B
400	123-9CF8	Richter Pad - 34M-203, 423; 34R-343	B
401	123-9CF8	Richter Pad - 34R-223, 403, 423; 34U-303	B
402	123-6619	Rotharmel 11, 21-32	B
403	123-4491	Rudolph 2-33, 2-34	B
404	123-5621	Ruff 21, 22-3; Vega 11-3	B
405	123-1475	Schaumberg 12-17	B
406	123-5160	Schrant 23, 24-12	B

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407	123-3043	Shupe 13-32, 33/ Moore 13-31, 35	B
408	123-1444	Silva 1	B
409	123-3022	Sitzman 27-31	B
410	123-9EEA	Spaur 10 Sec Pad 1	B
411	123-9EEA	Spaur 10 Sec Pad 2	B
412	123-1605	State 5519 23-8	B
413	123-1589	State 5519 32-8	B
414	123-4495	State Peterson 31, 32, 41, 42-16	B
415	123-6117	Steinmetz 1; 21-17	B
416	069-0459	Steppel 33, 43-1 U	B
417	123-9E41	Stroh 13 Sec Pad 1/2	B
418	123-4272	Stroh 24-21, 22; 5	B
419	123-9DED	Thornton 15E-432	B
420	123-9DEC	Thornton 15Y-414	B
421	123-7229	Tolmachoff 41-33 / Hall 42-33	B
422	123-8292	Trinity 23-7; Johnston 14-7	B
423	123-8291	Von Feldt 1-25B	B
424	123-5896	Wells Ranch 13, 14-20	B
425	123-5898	Wells Ranch 23, 24-20	B
426	123-6625	Wells Ranch 23, 24-22	B
427	123-6626	Wells Ranch 33, 34, 43, 44-22	B
428	123-5622	Wells Ranch 33, 34, 43, 44-27	B
429	123-7460	Wiedeman 11, 12, 21, 22-21 U	B
430	123-2624	Wiedeman 24, 34, 44-21U; 21B; 21-2	B
431	123-7224	Wiedeman 33, 43-21 U	B
432	123-9EE9	Wiedeman Trust Federal Sec 29 Pad	B
433	123-4294	Wilken 15-6	B
434	123-1488	Witwer 34, 44-6D, 43-6/ Hoff 33-6	B
435	123-5902	Wolftrum 42-10	B
436	123-7946	Zeiler 13, 14, 23, 24-7DU, 7HDU, LDU, PDU / Gove 1	B
437	123-7011	Zimmerman 11D, 12, 21D, 22-17 U, 17AD U	B
438	123-4559	Zimmerman 14, 23-17	B
439	123-1616	Adamson 1-6I; 28-1, 2; 5	C
440	123-1460	Avery 13, 23-10 & 24-10D	C
441	123-1455	B & C Farms 1, 33-2	C
442	123-2568	Bauer Debus 22AD, JD, MD, ND; Joshua 1, Kaleb 1	C
443	123-9E39	Bernhardt Farms 13S-203, 323,343; 13W-243, 403	C
444	123-1657	Bihain 26-1, 4; 5	C
445	123-1666	BJB 4, 5, 6I	C
446	123-6206	Bolet 1; 34-17	C
447	123-1457	Bonertz 41-10	C
448	123-5190	Booth 11, 12-25	C
449	123-5022	Booth 14, 23, 24, 33-35	C
450	123-1678	Budagher 11-13/Riley 21-13; 5	C
451	123-5950	Caraccioli 1	C
452	123-1687	Cass 5 /Jan 1	C
453	123-5872	Cecil 11, 21-12	C
454	123-5873	Cecil 31, 41-2	C
455	123-9E04	Chesnut 28 (Pad 1) R-323, 403, 423; 28U-243, 403	C
456	123-9E04	Chesnut 28 (Pad 2) M-203,323,423; 28R-243,443	C
457	123-1466	Clark 2, 32-20	C
458	123-5939	Cockroft 33-11	C
459	123-8553	Cozzens 12, 13, 22, 23-9D, 9AD, 9K, 9OD	C
460	123-8010	Cozzens 14, 24, 33, 34, 43, 44-9D, 9BD, 9D, 9L, 9PD	C
461	123-8465	Cozzens 31, 32, 41, 42-9, 9C, 9SD, 9ND	C
462	123-8697	Cozzens 31, 42-8D, 41-8, 8CD, 8VD, 8WD	C
463	123-9C8D	Diana 6T-321, 241, 401; 6Q-421	C
464	123-2574	Doughman 22RD, 22VD & Lucas 1	C

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465	123-2407	Eckhardt 34-1; 34, 43, 44-34; 5	C
466	123-6211	Ehrlich 4, 22-7	C
467	123-5871	Fabrizius 31, 41-1/ Bay Family Trust 32-1	C
468	123-1469	Frank 25-42	C
469	123-6126	Gatewood 3, 6-1	C
470	123-5444	Green 13-24, 13-24H / Green Trust 24-24	C
471	123-2430	Gurley 5	C
472	123-7418	Guttersen 11, 12, 21, 22-24 & 24A, J, N	C
473	123-7272	Guttersen 11, 12, 21, 22-28 & 28A	C
474	123-6980	Guttersen 11, 12, 22-30 & 30A/ LF 2-30	C
475	123-8954	Guttersen 11, 22-25 & 25E, 25O, 25KD	C
476	123-7278	Guttersen 23, 24-33/ LF 1-33	C
477	123-1522	Guttersen 23-41	C
478	123-9DAB	Guttersen 31Q-221, 401; 31T-301, 441	C
479	123-9DA2	Guttersen 31T-221, 401; 31Y-301, 441	C
480	123-7281	Guttersen 33, 43-32	C
481	123-7455	Guttersen 43, 44-24 & 24S	C
482	123-9DB0	Guttersen 6M-303, 423; 6R-243, 403	C
483	123-9DA7	Guttersen 6R-323, 6U-203 (Pad 3)	C
484	123-2434	Hall 28-1, 5	C
485	123-2441	Hendricks 33-1, 2, 3, 4; 5; Bailey 33-1, 2	C
486	123-1505	Hicks 31, 32, 41-29	C
487	123-1505	Olson 29-12, 22	C
488	123-9D88	Hill 6L-421	C
489	123-4516	Hoshiko 1, 31-34	C
490	123-7026	Hungenberg 13, 14-16	C
491	123-5035	Johnson 13, 23-4	C
492	123-2456	Jones 4-11	C
493	123-9399	Kniesel 13, 14, 23, 24-12D & 12BD	C
494	123-4486	Kreps 24, 33, 43-6 / Kreps Trust 34, 44-6	C
495	123-5210	L F Ranch 1-24	C
496	123-6111	L F Ranch 2-25	C
497	123-1467	Leafgren 1, 13, 23-17	C
498	123-2478	Loloff 35-5	C
499	123-9F06	Loloff Farms 26 Sec Pad 1	C
500	123-9F00	Loloff Farms 26 Sec Pad 2	C
501	123-2480	Loustalet 13, 23, 24-25; 5	C
502	123-7532	Marcy 34-11	C
503	123-2580	McCarty 28-1	C
504	123-2578	SunMarke 28V-234, 304, 434; 28W-414; McCarty 28-2	C
505	123-2578	SunMarke 28U-334, 434; 28V-214, 404	C
506	123-6115	McLeod 1, 5; 1-29B	C
507	123-6785	Miening 1; 1-30B	C
508	123-6784	Miening 5	C
509	123-4306	Monfort 13-30; 2, 3, 4, 5	C
510	123-5891	Moody 12, 21, 22-6	C
511	123-5946	Noffsinger 31, 32-2D; 2C, RD, SD, VD/ Frudden 1	C
512	123-9CB1	O Investment Properties 6T-421, 6Y-241, 401	C
513	123-9D46	Ochsner 5G-421	C
514	123-4240	P&A Farms 28-1, 2	C
515	123-6987	P&H 22-32, 42; 22CD, 22SD	C
516	123-6199	Pappenheim 12, 22, 32-24	C
517	123-8296	Pappenheim 33, 34, 43, 44-26	C
518	123-6121	Pat Mike 6LL; 2-9; WFH 5	C
519	123-5960	Pettinger 33, 34, 43, 44-2	C
520	123-8861	Reichert 33, 43-29DU, 29SDU, 29DDU, 29PDU	C
521	123-9283	Schaefer 31, 41-7D; 7CD, MD, RD	C
522	123-6236	Schaefer Pad	C

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Tank System ID	AIRS ID	Tank System Name	Tank System Group
523	123-4264	Schlagel 26-2, 3, 4; 5-26	C
524	123-4266	Seeley Lake 1, 2, 3, 5	C
525	123-9B92	Simonsen 12E-223, 1I-421, 1L-241, 12J-243	C
526	123-9B9C	Simonsen 1L-421, 1Q-241	C
527	123-9C3C	Simonsen Schaefer 7E-203, 423; 7J-243, 403; 7M-243	C
528	123-9B09	Spaur 31V-204, 31V-214, 31V-404, 31W-214	C
529	123-4492	State 12-4	C
530	123-4493	State 42-4	C
531	123-9713	Stille 12-6H	C
532	123-9E01	Suden 34M-223, 423; 34R-203, 343	C
533	123-9E01	Suden 34R-323, 423; 34U-243, 403	C
534	123-4282	Todd 1; 13-25	C
535	123-5040	Webster 21, 22-11	C
536	123-4551	Webster 31-11	C
537	123-4496	Webster 32, 41, 42-11	C
538	123-3612	Welch 1; B 28-11	C
539	123-5487	Wells Ranch 11, 12, 21, 22-2	C
540	123-5486	Wells Ranch 21-34	C
541	123-5114	Wells Ranch 12, 21-3	C
542	123-7421	Wells Ranch 13, 14, 23, 24-36 & 36B, H, L, O	C
543	123-5156	Wells Ranch 13, 23, 24-33	C
544	123-5168	Wells Ranch 23, 24-34	C
545	123-5491	Wells Ranch 31, 32, 42-34	C
546	123-5155	Wells Ranch 33, 34, 43, 44-34	C
547	123-7469	Wells Ranch 33, 34, 43, 44-36; 36D, P, T, S	C
548	123-4497	Wells Ranch 33, 43, 44-10	C
549	123-9B0A	Wells Ranch 34F-202, 402, 212; 34E-232	C
550	123-9521	Wells Ranch 43-34H	C
551	123-6203	Wilson 11, 12, 21, 22-30	C
552	123-6197	Wilson 13, 14, 23, 24-30	C
553	123-4347	Wonenberg 1 & B 33-3	C
554	123-6618	Zahourek 11, 12, 21, 22-31	C
555	123-6617	Zahourek 32, 42-31	C
556	123-1617	Alles 22 Sec Pad 1; 9-22	D
557	123-1617	Alles 22 Sec Pad 2	D
558	123-1516	Benson 23-33D	D
559	123-1676	Brent 1-6I; 1; Duel 20-1; Lucille 1-6I, 20-1; Pigeon 1, 5; 1-6B	D
560	123-6614	Brown 13, 14, 23, 24-2	D
561	123-9B37	Brown 2E-232, 2F-202, 412, 432, 2G-212	D
562	123-1492	Carlson 33, 34-7	D
563	123-5028	Carlson 41, 42-18	D
564	123-9AD4	Carmichael 26M-223, 26U-243	D
565	123-9AD4	Carmichael 26R-203	D
566	123-7017	Carmichael 33, 43-26	D
567	123-1692	Coors Fee 2, 12-6; Coors V6-5	D
568	123-6632	Dalton 14, 24-24	D
569	123-1497	Ehrlich 24-7	D
570	123-1629	Emily 1; 24-19; Mowery 19-1; 5; Ivan Klein 13-20	D
571	123-8386	Evert 5; 20-2; Ivan Klein 20-2	D
572	123-6688	Gregerson 1; U 12-7, 10	D
573	123-1539	Heinrich 41-9	D
574	123-6130	Jacobucci 43-32	D
575	123-4520	Kerbs 14-15	D
576	123-6981	L F Ranch 2-12	D
577	123-5531	L F Ranch 2-2	D
578	123-1517	Leclerg 31-22	D
579	123-9D29	Lofland 22D-232, 22T-402	D
580	123-3020	Lorenz Farms 22-13/ River 1	D

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Tank System ID	AIRS ID	Tank System Name	Tank System Group
581	123-4268	Seth 1, 5	D
582	123-8074	Marie 1-23	D
583	123-4218	Maxey-Hoff 1, 2	D
584	001-1426	McElwain 3; 41, 42-17	D
585	123-1536	Millage 11-10	D
586	123-4527	Millage 23-3	D
587	123-5109	Minn.Pfeif 41-5,Noff. 32-5,Noff./Minn 5-C	D
588	123-1471	Noffsinger 21, 31-5	D
589	123-6693	Olander U 14-11, 14	D
590	123-4230	Schneider 19 Sec HZ	D
591	123-4230	Phil Wilson 19-1	D
592	123-9ACA	Schaefer 10E-223, 10M-243	D
593	123-9ACA	Schaefer 10J-203, 10J-403	D
594	123-5965	Skurich-Rothe State 34-6	D
595	123-7041	Sorensson 33-6, 6D/ Ucli 6-1,2	D
596	123-1571	State Lease 6525 32, 42-32	D
597	123-4541	State Lease 81 23-16	D
598	123-4542	State Lease 8461 12-16	D
599	123-9DC8	Thornton 14K-441	D
600	123-2622	Ucli 6-3	D
601	123-5199	Uhrich 44-8	D
602	123-8279	Wacker 2; 10-D	D
603	123-5113	Wacker 31, 32-10	D
604	123-1518	Weingardt 24-22	D
605	123-5122	Wells Ranch 32, 42-5	D
606	123-5899	Wells Ranch 41, 42-30	D
607	123-1555	Wells Trust 13, 24-21	D
608	123-9326	Wilson 34-34H	D

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Tank System	APCD ID	Tank Battery Name	Tank System Group
609	123-9469	Ahnstedt 10-4 & 15-4	E
610	123-9C37	Andolsek 1 & 2-2	E
611	123-8441	Apollo 41 & 42-18	E
612	123-9901	Bears 4 & 5-30	E
613	123-9C05	Booth (North 26) & 19-23 & Booth 26 HZ	E
614	123-9902	Booth (South 26) 9,10,15 16 & 20-26	E
615	123-9C06	Booth 23 Pad	E
616	123-9954	Bosworth-Bailey 16-31, 20-31, 9-31	E
617	123-99B8	Cameron #12, 13 & 19-15	E
618	123-9C32	Cecil 35-1/Owl Creek #49	E
619	123-9C1E	Cockcroft 10-4 (10-2)	E
620	123-9C68	Dyer 1 & 2-2	E
621	123-9470	G&D Hanks 10, 15 & 20-27	E
622	123-9899	Gies 11, 14, & 19-32	E
623	123-9D85	Godby 2 & 6-30 Battery	E
624	123-9C1F	Heidenreich 10-2 & 13-10 / Albrighton	E
625	123-99F0	Herrell 1, 2 & 17-22	E
626	123-9C33	Hird Trust 11-10 & Foss 1-10	E
627	123-9D86	Hirsch 1 & 2-29	E
628	123-9D81	Holton 12 HZ Battery	E
629	123-8443	Kaiser 2, 6, 7, 18, 21, 25 & 921,-10	E
630	123-9E4A	Kaiser HZ Battery	E
631	123-9C21	Larson Farms 1 thru 7-24	E
632	123-9188	Meyring 13 & 14-27	E
633	123-9187	Mojack 1 & 2-28 and Mojack HZ	E
634	123-9953	NC Farms 9,10,15,16,20-32	E
635	123-8447	NOCO Energie 3, 4, 6, 12 & 25-3	E
636	123-9C6B	Owl Creek #7 & Owl Creek 7-5	E
637	123-9C6C	Owl Creek #9	E
638	123-9C35	Owl Creek 10 & 10-2	E
639	123-99EF	Robel 12,14 & 19 -28	E
640	123-5546	Swanson 34-20	E
641	123-9C94	Thornton 12-22	E
642	123-9D2C	Triangle 4, 6, 18 & 32-22	E

APPENDIX B

Environmental Mitigation Projects

PDC shall comply with the requirements of this Appendix and with Section V (Environmental Mitigation Projects) of the Consent Decree to implement and secure the environmental benefits of each of the Projects described in this Appendix.

I. Project Plans

- A. At least 30 days prior to any proposed date for project initiation, PDC shall submit proposed plans (Project Plans) to EPA and CDPHE. Each Project Plan is subject to review and approval by EPA, after consultation with CDPHE, and such approval shall not be unreasonably withheld.
- B. PDC may, at its election, consolidate the Project Plans required by this Appendix into one or more Project Plans.
- C. All proposed Project Plans shall include the following:
 - 1. A plan for implementation of the Project;
 - 2. A summary-level budget for the Project;
 - 3. A timeline for implementation of the Project; and
 - 4. A summary of the anticipated environmental benefits of the Project.
- D. Upon approval by EPA, after consultation with CDPHE, of the Project Plan(s) required by this Appendix, PDC shall complete the approved Projects according to the approved Project Plan(s). Nothing in the Consent Decree shall be interpreted to prohibit PDC from completing the Projects ahead of schedule.
- E. Nothing in this Appendix shall relieve PDC of its obligation to comply with all applicable federal, state, and local laws and regulations, including, but not limited to, any obligations to obtain any permits pursuant to the Clean Air Act.
- F. In implementing Projects II and III, PDC shall spend no less than \$1.7 million in Project Dollars.

II. Installation of Tank Truck Loadout Control Systems

- A. At a minimum, starting on March 1, 2018 and consistent with the requirements of the Consent Decree and this Appendix, PDC shall, following its Project Plan, install and operate control systems for vapor balancing during tank truck loadout of Condensate tanks ("Loadout Control Systems") to capture and control at least 50% of PDC's

loadout emissions based on the 2016 calendar year that were, as of October 1, 2017, uncontrolled and within the Non-Attainment Area.

- B. Description of Loadout Control Systems. While unloading liquids from Condensate tanks into trucks, VOC vapors from the liquids unloading process accumulate in the vapor space of the haul tank truck. As liquids fill up the available vapor space, these VOC vapors are displaced from the haul truck's tank. Rather than being emitted to the atmosphere, these truck loadout VOC vapors may be captured by way of a Loadout Control System. The Loadout Control System will consist of a combination of pipes and hoses that route vapors to a combustion device, such as a combustor, so as to reduce VOC emissions associated with truck loadout operations at PDC well pads. VOC is an ozone precursor, and the alleged violations being resolved in this Consent Decree are alleged to have resulted in additional emissions of VOC.
- C. By May 1, 2018, PDC shall have installed Loadout Control Systems at no less than 23 well pads representing no less than 50% of PDC's loadout emissions based on the 2016 calendar year that were, as of October 1, 2017, uncontrolled and within the Non-Attainment Area.
- D. PDC will retain and operate the Loadout Control Systems consistent with manufacturer recommendations and good air pollution practices for minimizing emissions until the joint stipulation terminating the Consent Decree is entered by the court.
- E. Reporting Requirements: PDC's reporting requirements for this Project under Paragraph 40.j of the Consent Decree shall be satisfied by:
 - 1. Identification of the Tank Systems retrofitted with Loadout Control Systems during the period covered by the Semi-Annual Report; and
 - 2. For those Tank Systems retrofitted with Loadout Control Systems during the period covered by the Semi-Annual Report, providing a summary of expenditures for such retrofits.

III. Compressor Engine Retrofit Controls Project

- A. At a minimum, starting on March 1, 2018 and consistent with the requirements of the Consent Decree and this Appendix, PDC shall, following its Project Plan, install and operate an emissions control package on certain natural gas-fueled compressor engines that it owns and operates within the Non-Attainment Area that were not, as of October 1, 2017, required to comply with 40 C.F.R. Part 60, Subpart JJJJ.
- B. Description of Compressor Engine Retrofit Controls. Compressor Engine Retrofit Controls will include an air/fuel ratio controller and non-selective catalytic reduction (NSCR) so as to reduce combined hydrocarbon (HC) and nitrogen oxides (NOx) exhaust emissions to 3.8 g/kW-hr or less at PDC well pads. HC emissions include

VOC, which along with NO_x, are ozone precursors, and the alleged violations being resolved in this Consent Decree are alleged to have resulted in additional emissions of VOC.

- C. By no later than 12 months from the Effective Date, PDC shall have installed Compressor Engine Retrofit Controls at no less than 77 engines.
- D. For no less than 20 engines, within 90 days of installing Compressor Engine Retrofit Controls on the engine, PDC will complete field-testing in accordance with the procedures set forth in 40 C.F.R. Part 1048, Subpart F, so as to demonstrate that combined HC and NO_x exhaust emissions are at or below 3.8 g/kW-hr. PDC will use best efforts to ensure that engines selected for field-testing are representative of the overall set of engines receiving Compressor Engine Retrofit Controls. PDC shall not replace controlled engines with uncontrolled engines, and PDC will retain, maintain, and operate the Compressor Engine Retrofit Controls on each retrofitted engine operated by PDC consistent with manufacturer recommendations and good air pollution practices for minimizing emissions until the joint stipulation terminating the Consent Decree is entered by the court.
- E. Reporting Requirements: PDC's reporting requirements for this Project under Paragraph 40.j of the Consent Decree shall be satisfied by:
 - 1. Identification of well pads with compressor engines that received Compressor Engine Retrofit Controls, along with serial numbers of engines receiving controls at each well pad, during the period covered by the Semi-Annual Report;
 - 2. Providing copies of the results of all field-testing performed during the period covered by the Semi-Annual Report; and
 - 3. Providing a summary of expenditures for Compressor Engine Retrofit Controls installed during the period covered by the Semi-Annual Report.