COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
AIR POLLUTION CONTROL DIVISION
TELEPHONE: (303) 692-3150

CONSTRUCTION PERMIT

PERMIT NO: **13WE1363**

Issuance 2

DATE ISSUED:
ISSUED TO: **Bonanza Creek Energy Operating Company LLC**

THE SOURCE TO WHICH THIS PERMIT APPLIES IS DESCRIBED AND LOCATED AS FOLLOWS:

Oil and gas exploration and production facility known as the North Platte P-T-34HZ Production Facility, located in the SESE, Section 27, T5N, R63W, Weld County, Colorado.

THE SPECIFIC EQUIPMENT OR ACTIVITY SUBJECT TO THIS PERMIT INCLUDES THE FOLLOWING:

Facility Equipment ID	AIRS Point	Description
PW Tanks	008	Two above ground 300 bbl tanks and two 60 bbl concrete vaults used for produced water storage. The 300 bbl tanks are controlled by an enclosed flare. The 60 bbl vaults are uncontrolled.
TL	009	Truck Condensate Loadout
FUG	010	Fugitive equipment leaks
P-1 & P-2	011	Two 600 scf/hr pneumatic pump used for water transfer & heat trace
Sep-1 & Sep-2	012	Two separators controlled by 4 enclosed flares. Flares have a minimum combustion efficiency of 95%. The flares are enclosed.
FL-1	013	Flare stack. Flare has a minimum combustion efficiency of 95%. The flare is not enclosed.

Point 011: This pump may be replaced with another pump in accordance with the provisions of the Alternate Operating Scenario (AOS) in this permit.

THIS PERMIT IS GRANTED SUBJECT TO ALL RULES AND REGULATIONS OF THE COLORADO AIR QUALITY CONTROL COMMISSION AND THE COLORADO AIR POLLUTION PREVENTION AND CONTROL ACT C.R.S. (25-7-101 et seq), TO THOSE GENERAL TERMS AND CONDITIONS INCLUDED IN THIS DOCUMENT AND THE FOLLOWING SPECIFIC TERMS AND CONDITIONS:

REQUIREMENTS TO SELF-CERTIFY FOR FINAL AUTHORIZATION

1. **YOU MUST notify the Air Pollution Control Division (the Division) no later than fifteen days after issuance of this permit, by submitting a Notice of Startup form to**

the Division. The Notice of Startup form may be downloaded online at www.cdphe.state.co.us/ap/downloadforms.html. Failure to notify the Division of startup of the permitted source is a violation of Air Quality Control Commission (AQCC) Regulation No. 3, Part B, Section III.G.1 and can result in the revocation of the permit.

2. Within one hundred and eighty days (180) after issuance of this permit, compliance with the conditions contained in this permit shall be demonstrated to the Division. It is the owner or operator's responsibility to self-certify compliance with the conditions. Failure to demonstrate compliance within 180 days may result in revocation of the permit. (Reference: Regulation No. 3, Part B, III.G.2).

3. This permit shall expire if the owner or operator of the source for which this permit was issued: (i) does not commence construction/modification or operation of this source within 18 months after either, the date of issuance of this construction permit or the date on which such construction or activity was scheduled to commence as set forth in the permit application associated with this permit; (ii) discontinues construction for a period of eighteen months or more; (iii) does not complete construction within a reasonable time of the estimated completion date. The Division may grant extensions of the deadline per Regulation No. 3, Part B, III.F.4.b. (Reference: Regulation No. 3, Part B, III.F.4.)

4. Within one hundred and eighty days (180) after issuance of this permit, the operator shall install a flow meter to monitor and record volumetric flow rate of natural gas vented from each low pressure separator. The operator shall use the gas flow rate listed in the application for actual flow rate until the flow meter is installed, not to exceed one hundred and eighty (180) days after issuance of this permit.

5. The operator shall complete all initial compliance testing and sampling as required in this permit and submit the results to the Division as part of the self-certification process. (Reference: Regulation No. 3, Part B, Section III.E.)

6. The operator shall retain the permit final authorization letter issued by the Division, after completion of self-certification, with the most current construction permit. This construction permit alone does not provide final authority for the operation of this source.

EMISSION LIMITATIONS AND RECORDS

7. Emissions of air pollutants shall not exceed the following limitations (as calculated in the Division's preliminary analysis). (Reference: Regulation No. 3, Part B, Section II.A.4)

Annual Limits:

Facility Equipment ID	AIRS Point	Tons per Year			Emission Type
		NO_x	VOC	CO	
PW Tanks	008		0.5		Point
TL	009		14.4		Point
FUG	010		14.6		Fugitive
P-1 & P-2	011	0.5	4.0	2.6	Point
Sep-1 & Sep-2	012	0.4	7.2	2.1	Point

FL-1	**013**	**0.5**	**2.0**	**2.8**	**Point**

See "Notes to Permit Holder" for information on emission factors and methods used to calculate limits.

Facility-wide emissions of each individual hazardous air pollutant shall be less than 8.0 tpy.

Facility-wide emissions of total hazardous air pollutants shall be less than 20.0 tpy.

Compliance with the annual limits shall be determined by recording the facility's annual criteria pollutant emissions, (including all HAPs above the de-minimis reporting level) from each emission unit, on a rolling twelve (12) month total. By the end of each month a new twelve-month total shall be calculated based on the previous twelve months' data. The permit holder shall calculate emissions each month and keep a compliance record on site or at a local field office with site responsibility, for Division review. This rolling twelve-month total shall apply to all permitted emission units, requiring an APEN, at this facility.

8. Point 010: The operator shall calculate actual emissions from this emissions point based on representative component counts for the facility as required in the Compliance Testing and Sampling section of this permit. The operator shall maintain records of the results of component counts and sampling events used to calculate actual emissions and the dates that these counts and events were completed. These records shall be provided to the Division upon request.

9. The emission points in the table below shall be operated and maintained with the control equipment as listed in order to reduce emissions to less than or equal to the limits established in this permit (Reference: Regulation No.3, Part B, Section III.E.)

Facility Equipment ID	AIRS Point	Control Device	Pollutants Controlled
PW Tanks	**008**	**Enclosed Flares**	**VOC**
P-1 & P-2	**011**	**Enclosed Flares**	**VOC**
Sep-1 & Sep-2	**012**	**Enclosed Flares**	**VOC**
FL-1	**013**	**Open Flare**	**VOC**

PROCESS LIMITATIONS AND RECORDS

10. This source shall be limited to the following maximum processing rates as listed below. Monthly records of the actual processing rates shall be maintained by the owner or operator and made available to the Division for inspection upon request. (Reference: Regulation 3, Part B, II.A.4)

Process/Consumption Limits

Facility Equipment ID	AIRS Point	Process Parameter	Annual Limit
PW Tanks	**008**	Produced Water Throughput	78840 bbl
TL	**009**	Oil Loaded	144540 bbl
P-1 & P-2	**011**	Natural Gas	10.5 MMscf

Sep-1 & Sep-2	**012**	Gas vented to enclosed flares from separator	6.0 MMscf
FL-1	**013**	Gas vented from separator	5.8 MMscf

Compliance with the annual throughput limits shall be determined on a rolling twelve (12) month total. By the end of each month a new twelve-month total is calculated based on the previous twelve months' data. The permit holder shall calculate throughput each month and keep a compliance record on site or at a local field office with site responsibility, for Division review.

11. Upon installation of the flow meter required under Condition 4, the owner or operator shall continuously monitor and record the volumetric flow rate of natural gas vented from each low pressure separator using a flow meter. The flow meter shall continuously measure flow rate and record total volumetric flow vented from each separator. The owner or operator shall use monthly throughput records to demonstrate compliance with the limits specified in Condition 10 and to calculate emissions as described in this permit.

STATE AND FEDERAL REGULATORY REQUIREMENTS

12. The permit number and AIRS ID point number (e.g. 123/4567/890) shall be marked on the subject equipment for ease of identification. (Reference: Regulation Number 3, Part B, III.E.) (State only enforceable)

13. Visible emissions shall not exceed twenty percent (20%) opacity during normal operation of the source. During periods of startup, process modification, or adjustment of control equipment visible emissions shall not exceed 30% opacity for more than six minutes in any sixty consecutive minutes. Emission control devices subject to Regulation 7, Sections XII.C.1.d or XVII.B.1.c shall have no visible emissions. (Reference: Regulation No. 1, Section II.A.1. & 4.)

14. This source is subject to the odor requirements of Regulation No. 2. (State only enforceable)

15. Point 008: The storage tanks covered by this permit are subject to the emission control requirements in Regulation No. 7, Section XVII.C.1. The owner/operator must install and operate air pollution control equipment that achieves an average hydrocarbon control efficiency of 95%. The source shall follow the inspection requirements of Regulation No. 7, Section XVII.C.1.d. and maintain records of the inspections for a period of two years, made available to the Division upon request. This control must be achieved according to the following schedule:

    - If constructed on/after May 1, 2014, within 90 days of the date that the storage tank commences operation;
    - If constructed before May 1, 2014, by May 1, 2015.

16. Point 009: This source is located in an ozone non-attainment or attainment-maintenance area and is subject to the Reasonably Available Control Technology (RACT) requirements of Regulation Number 3, Part B, III.D.2.a. Condensate loading to truck tanks shall be conducted by submerged fill. (Reference: Regulation 3, Part B, III.E)

17. Point 009: The owner or operator shall follow loading procedures that minimize the leakage of VOCs to the atmosphere including, but not limited to (Reference: Regulation 3, Part B, III.E):

a. Hoses, couplings, and valves shall be maintained to prevent dripping, leaking, or other liquid or vapor loss during loading and unloading.

b. All compartment hatches (including thief hatches) shall be closed and latched at all times when loading operations are not active, except for periods of maintenance, gauging, or safety of personnel and equipment.

c. The owner or operator shall inspect loading equipment and operations on site at the time of the inspection to ensure compliance with Condition 17 (a) and (b) above. The inspections shall occur at least monthly. Each inspection shall be documented in a log available to the Division on request.

18. Point 009: All hydrocarbon liquid loading 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.

19. Point 010: This source is subject to Regulation No. 7, Section XII.C General Provisions (State only enforceable). 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. The operator shall comply with all applicable requirements of Section XII.

20. Point 010: Minor sources in designated nonattainment or attainment/maintenance areas that are otherwise not exempt pursuant to Section II.D. of Regulation No. 3, Part B, shall apply Reasonably Available Control Technology for the pollutants for which the area is nonattainment or attainment/maintenance (Reference: Regulation No. 3, Part B, III.D.2.a). Directed Inspection & Maintenance (DI&M), as required by Conditions No. 21 shall satisfy the requirement to apply Reasonably Available Control Technology (RACT).

21. Point 010: Minor sources in designated nonattainment or attainment/maintenance areas that are otherwise not exempt pursuant to Section II.D. of Regulation No. 3, Part B, shall apply Reasonably Available Control Technology (RACT) for the pollutants for which the area is nonattainment or attainment/maintenance (Reference: Regulation No. 3, Part B, III.D.2.a). This requirement to apply RACT shall be satisfied by installing/implementing the following emission controls:

a. Directed Inspection & Maintenance as described below shall satisfy the requirement to apply RACT.

i. Auditory/visual/olfactory inspection (AVO) will be performed on a semi-annual basis. The first annual inspection shall occur within 180 days of permit issuance.

ii. For each leak found in the AVO inspection, a gas detector may be used to determine the size of the leak. The gas detector shall be regularly calibrated. Component leaks greater than 10,000 ppm shall be managed in accordance with Item (vi) below, unless it is unfeasible to make the repair without shutting down the affected operation of the facility. Component leaks less than 10,000 ppm shall not require repair. For such component leaks that require a shutdown to be repaired, repair shall occur during the first shutdown of the affected operation after the leak is discovered.

iii. For repair, valves adjacent to the equipment to be repaired will be closed if practicable, minimizing the volume released.

iv. Repaired components shall be re-screened using AVO to determine if the leak is repaired.

v. The following records shall be maintained for a period of two years:

- The name of the site screened via AVO inspection and the name of the inspector.
- Components evaluated with the gas detector.
- Repair methods applied.
- Dates of the AVO inspections, gas detector calibrations, attempted repairs, successful repairs, repair delays, and post-repair screenings.

vi. Leaks shall be repaired as soon as practicable, but no later than 15 calendar days after detection, unless it is technically or operationally infeasible to make the repair within 15 calendar days. Records documenting the rationale shall be maintained if it is technically or operationally infeasible to make the repair within 15 calendar days.

22. Point 010: The owner or operator shall follow the Directed Inspection and Maintenance (DI&M) program and record keeping format as approved by the Division, in order to demonstrate compliance on an ongoing basis with the requirements of this permit. Revisions to your DI&M plan are subject to Division approval.

23. Point 013: The open flare covered by this permit has been approved as an alternative emissions control device under Regulation No. 7, Section XVII.B.2.e. The open flare shall have no visible emissions during normal operations and be designed so that an observer can, by means of visual observation from the outside of the open flare, or by other convenient means approved by the Division, determine whether it is operating properly. The operator shall comply with all applicable requirements of Section XVII. This flare must be equipped with an operational auto-igniter according to the following schedule:

- If installed on/after May 1, 2014, upon installation of the combustion device;
- If installed before May 1, 2014, by or before May 1, 2016, or after the next combustion device planned shutdown, whichever comes first.

OPERATING & MAINTENANCE REQUIREMENTS

24. Upon startup of these points, the owner or operator shall follow the most recent operating and maintenance (O&M) plan and record keeping format approved by the Division, in order to demonstrate compliance on an ongoing basis with the requirements of this permit. Revisions to your O&M plan are subject to Division approval prior to implementation. (Reference: Regulation No. 3, Part B, Section III.G.7.)

25. Point 008:

a. VCUs shall be enclosed, have no visible emissions, and be designed so that an observer can, by means of visual observation from the outside of the enclosed VCU, or by other convenient means approved by the Division, determine whether the VCU is operating properly.

b. If a control device is used to comply with the emission limits of this permit, the following conditions must be met:

(i) Leakage of VOCs to the atmosphere must be minimized as follows:

1. Thief hatch seals shall be inspected for integrity annually and replaced as necessary. Thief hatch covers shall be weighted and properly seated.

2. Pressure relief valves (PRV) shall be inspected for proper operation annually and replaced as necessary. PRVs shall be set to release at a pressure that will ensure flashing, working and breathing losses are routed to the control device under normal operating conditions.

3. Annual inspections of thief hatches and PRV shall be documented with an indication of status, a description of any problems found, and their resolution.

(ii) Control devices shall be adequately designed, and operated and maintained according to manufacturer specifications to achieve a control efficiency of at least 95%, and to handle reasonably foreseeable fluctuations in emissions of VOCs. Fluctuations in emissions that occur when the separator dumps into the tank are reasonably foreseeable.

(iii) The permittee shall monitor and document the proper operation of the control device. Time intervals between monitoring shall not exceed 14 days. Indications of improper operation for a VCU include, but are not limited to, absence of pilot light, malfunction of electronic ignition, and/or presence of smoke. A check box is suitable for recording proper operation. Improper operation of a control device shall be further documented with a description of the problem and its resolution, the date range the control was inoperable, and the produced water production through the battery during the downtime. During control device downtime, emissions shall be considered to be uncontrolled.

COMPLIANCE TESTING AND SAMPLING

Initial Testing Requirements

26. Point 010: Within one hundred and eighty days (180) after issuance of this permit, the operator shall complete a hard count of components at the source and establish the number of components that are operated in “heavy liquid service”, “light liquid service”, "water/oil service" and “gas service”. The operator shall submit the results to the Division as part of the self-certification process to ensure compliance with emissions limits.

27. Point 013: Within one hundred and eighty days (180) after issuance of this permit, the owner or operator shall demonstrate compliance with opacity standards, using EPA Method 9 to measure opacity from the flare. (Reference: Regulation No. 1, Section II.A.1 & 4)

Periodic Testing Requirements

28. Point 010: On an annual basis, the owner or operator shall complete an extended gas analysis of gas samples that are representative of volatile organic compounds (VOC) and hazardous air pollutants (HAP) that may be released as fugitive emissions. This extended gas analyses shall be used in the compliance demonstration as required in the Emission Limits and Records section of this permit.

ALTERNATE OPERATING SCENARIOS

29. Point 011: This pump may be replaced with a like-kind pump in accordance with the requirements of Regulation 3, Part A, Section IV.A and without applying for a revision to this permit or obtaining a new construction permit. A like-kind replacement pump shall be the same make, model and capacity as authorized in this permit.

30. Point 011: The owner or operator shall maintain a log on-site or at a local field office to contemporaneously record the start and stop dates of any pump replacement, the manufacturer, model number, serial number and capacity of the replacement pump.

31. Point 011: All pump replacements installed and operated per the alternate operating scenarios authorized by this permit must comply with all terms and conditions of this construction permit.

ADDITIONAL REQUIREMENTS

32. All previous versions of this permit are cancelled upon issuance of this permit.

33. A revised Air Pollutant Emission Notice (APEN) shall be filed: (Reference: Regulation No. 3, Part A, II.C)

    a. Annually by April 30th whenever a significant increase in emissions occurs as follows:

       For any criteria pollutant:

       For sources emitting **less than 100 tons per year**, a change in actual emissions of five (5) tons per year or more, above the level reported on the last APEN; or

       For volatile organic compounds (VOC) and nitrogen oxides sources (NO_x) in ozone nonattainment areas emitting **less than 100 tons of VOC or NO_x per year**, a change in annual actual emissions of one (1) ton per year or more or five percent, whichever is greater, above the level reported on the last APEN; or

       For sources emitting **100 tons per year or more**, a change in actual emissions of five percent or 50 tons per year or more, whichever is less, above the level reported on the last APEN submitted; or

       For any non-criteria reportable pollutant:

       If the emissions increase by 50% or five (5) tons per year, whichever is less, above the level reported on the last APEN submitted to the Division.

    b. Whenever there is a change in the owner or operator of any facility, process, or activity; or

    c. Whenever new control equipment is installed, or whenever a different type of control equipment replaces an existing type of control equipment; or

d. Whenever a permit limitation must be modified; or

e. No later than 30 days before the existing APEN expires.

f. Within 14 calendar days of commencing operation of a permanent replacement engine under the alternative operating scenario outlined in this permit as Attachment A. The APEN shall include the specific manufacturer, model and serial number and horsepower of the permanent replacement engine, the appropriate APEN filing fee and a cover letter explaining that the owner or operator is exercising an alternative-operating scenario and is installing a permanent replacement engine.

34. Federal regulatory program requirements (i.e. PSD, NANSR or Title V Operating Permit) shall apply to this source at any such time that this source becomes major solely by virtue of a relaxation in any permit condition. Any relaxation that increases the potential to emit above the applicable Federal program threshold will require a full review of the source as though construction had not yet commenced on the source. The source shall not exceed the Federal program threshold until a permit is granted. (Regulation No. 3 Part D).

GENERAL TERMS AND CONDITIONS

35. This permit and any attachments must be retained and made available for inspection upon request. The permit may be reissued to a new owner by the APCD as provided in AQCC Regulation No. 3, Part B, Section II.B upon a request for transfer of ownership and the submittal of a revised APEN and the required fee.

36. If this permit specifically states that final authorization has been granted, then the remainder of this condition is not applicable. Otherwise, the issuance of this construction permit does not provide "final" authority for this activity or operation of this source. Final authorization of the permit must be secured from the APCD in writing in accordance with the provisions of 25-7-114.5(12)(a) C.R.S. and AQCC Regulation No. 3, Part B, Section III.G. Final authorization cannot be granted until the operation or activity commences and has been verified by the APCD as conforming in all respects with the conditions of the permit. Once self-certification of all points has been reviewed and approved by the Division, it will provide written documentation of such final authorization. **Details for obtaining final authorization to operate are located in the Requirements to Self-Certify for Final Authorization section of this permit.**

37. This permit is issued in reliance upon the accuracy and completeness of information supplied by the owner or operator and is conditioned upon conduct of the activity, or construction, installation and operation of the source, in accordance with this information and with representations made by the owner or operator or owner or operator's agents. It is valid only for the equipment and operations or activity specifically identified on the permit.

38. Unless specifically stated otherwise, the general and specific conditions contained in this permit have been determined by the APCD to be necessary to assure compliance with the provisions of Section 25-7-114.5(7)(a), C.R.S.

39. Each and every condition of this permit is a material part hereof and is not severable. Any challenge to or appeal of a condition hereof shall constitute a rejection of the entire permit and upon such occurrence, this permit shall be deemed denied *ab initio*. This permit may be revoked at any time prior to self-certification and final authorization by the Air Pollution Control Division (APCD) on grounds set forth in the Colorado Air Quality

Control Act and regulations of the Air Quality Control Commission (AQCC), including failure to meet any express term or condition of the permit. If the Division denies a permit, conditions imposed upon a permit are contested by the owner or operator, or the Division revokes a permit, the owner or operator of a source may request a hearing before the AQCC for review of the Division's action.

40. Section 25-7-114.7(2)(a), C.R.S. requires that all sources required to file an Air Pollution Emission Notice (APEN) must **pay an annual fee** to cover the costs of inspections and administration. If a source or activity is to be discontinued, the owner must notify the Division in writing requesting a cancellation of the permit. Upon notification, annual fee billing will terminate.

41. Violation of the terms of a permit or of the provisions of the Colorado Air Pollution Prevention and Control Act or the regulations of the AQCC may result in administrative, civil or criminal enforcement actions under Sections 25-7-115 (enforcement), -121 (injunctions), -122 (civil penalties), -122.1 (criminal penalties), C.R.S.

By:
Kirk Bear
Permit Engineer

Permit History

Issuance	Date	Description
Issuance 2	This Issuance	Issued to Bonanza Creek Energy Operating Company LLC

Notes to Permit Holder at the time of this permit issuance:

1) The permit holder is required to pay fees for the processing time for this permit. An invoice for these fees will be issued after the permit is issued. The permit holder shall pay the invoice within 30 days of receipt of the invoice. Failure to pay the invoice will result in revocation of this permit (Reference: Regulation No. 3, Part A, Section VI.B.)

2) The production or raw material processing limits and emission limits contained in this permit are based on the consumption rates requested in the permit application. These limits may be revised upon request of the owner or operator providing there is no exceedance of any specific emission control regulation or any ambient air quality standard. A revised air pollution emission notice (APEN) and complete application form must be submitted with a request for a permit revision.

3) This source is subject to the Common Provisions Regulation Part II, Subpart E, Affirmative Defense Provision for Excess Emissions During Malfunctions. The owner or operator shall notify the Division of any malfunction condition which causes a violation of any emission limit or limits stated in this permit as soon as possible, but no later than noon of the next working day, followed by written notice to the Division addressing all of the criteria set forth in Part II.E.1 of the Common Provisions Regulation. See: http://www.colorado.gov/cs/Satellite?c=Document_C&childpagename=CDPHE-Main%2FDocument_C%2FCBONAddLinkView&cid=1251599389641&pagename=CBONWrapper

4) The following emissions of non-criteria reportable air pollutants are estimated based upon the process limits as indicated in this permit. This information is listed to inform the operator of the Division's analysis of the specific compounds emitted if the source(s) operate at the permitted limitations.

AIRS Point	Pollutant	CAS #	Uncontrolled Emission Rate (lb/yr)	Are the emissions reportable?	Controlled Emission Rate (lb/yr)
008	Benzene	71432	552	Yes	28
008	n-Hexane	110543	1734	Yes	87
009	Benzene	71432	361	Yes	361
009	n-Hexane	110543	2155	Yes	215
009	Toluene	108883	837	Yes	837
009	Ethylbenzene	100414	114	No	114
009	Xylenes	1330207	700	Yes	700
010	Benzene	71432	140	No	140
010	n-Hexane	110543	862	Yes	862
010	Toluene	108883	282	Yes	282
010	Ethylbenzene	100414	43	No	43
010	Xylenes	1330207	232	No	232
011	Benzene	71432	212	No	11
011	n-Hexane	110543	2000	Yes	100
011	Toluene	108883	132	No	7
011	Ethylbenzene	100414	12	No	0

011	Xylenes	1330207	52	No	3
012	Benzene	71432	1519	Yes	76
012	n-Hexane	110543	9198	Yes	460
012	Toluene	108883	1224	Yes	61
012	Ethylbenzene	100414	129	No	6
012	Xylenes	1330207	437	Yes	22
013	n-Hexane	110543	1371.6	Yes	68.6

5) The emission levels contained in this permit are based on the following emission factors:

Point 008:

Pollutant	Uncontrolled Emission Factors lb/bbl Produced Water	Source
VOC	0.262	CDPHE
n-Hexane	0.022	CDPHE
Benzene	0.007	CDPHE

Note: The controlled emissions for this point are based on the flare control efficiency of 95%.

Point 009:

Pollutant	Uncontrolled Emission Factors lb/bbl loaded	Source
VOC	0.1997	AP-42
Benzene	0.0025	AP-42
n-Hexane	0.0149	AP-42
Toluene	0.0058	AP-42
Xylenes	0.0049	AP-42

The uncontrolled VOC emission factor was calculated using AP-42, Chapter 5.2, Equation 1 (version 1/95) using the following values:

L = 12.46*S*P*M/T

S = 0.6 (Submerged loading: dedicated normal service)

P (true vapor pressure) = 4.9 psia

M (vapor molecular weight) = 68 lb/lb-mol

T (temperature of liquid loaded) = 524 °R

Point 010:

Component	Gas	Heavy Oil	Light Oil	Water/Oil
Connectors	1762	0	676	534
Flanges	98	0	16	20
Open-ended Lines	54	0	6	2
Pump Seals	8	0	0	2
Valves	246	0	90	58
Other	124	0	14	20

VOC Content (wt. fraction)	0.2528	0.3	0.9964	1
Benzene Content (wt. fraction)	0.0003	0.001	0.0125	0.0012
Toluene Content (wt. fraction)	0.0002	0.001	0.029	0.0003
Ethylbenzene (wt. fraction)	0.0001	0.001	0.004	0.0001
Xylenes Content (wt. fraction)	0.0001	0.02	0.0243	0.0001
n-hexane Content (wt. fraction)	0.0032	0.001	0.0747	0.0001

*Other equipment type includes compressors, pressure relief valves, relief valves, diaphragms, drains, dump arms, hatches, instrument meters, polish rods and vents

TOC Emission Factors (kg/hr-component):

Component	Gas Service	Heavy Oil	Light Oil	Water/Oil Service
Connectors	2.0E-04	7.5E-06	2.1E-04	1.1E-04
Flanges	3.9E-04	3.9E-07	1.1E-04	2.9E-06
Open-ended Lines	2.0E-03	1.4E-04	1.4E-03	2.5E-04
Pump Seals	2.4E-03	NA	1.3E-02	2.4E-05
Valves	4.5E-03	8.4E-06	2.5E-03	9.8E-05
Other	8.8E-03	3.2E-05	7.5E-03	1.4E-02

Source: EPA-453/R-95-017 Table 2-4

Compliance with emissions limits in this permit will be demonstrated by using the TOC emission factors listed in the table above with representative component counts, multiplied by the VOC content from the most recent gas analyses.

Point 011:

Pollutant	Uncontrolled Emission Factors lb/MMscf vented	Source
NOx (lb/MMBtu)	0.068	AP-42
CO (lb/MMBtu)	0.37	AP-42
VOC	15056.2	Gas Analysis
Benzene	20.3	Gas Analysis
n-Hexane	190.4	Gas Analysis
Toluene	12.7	Gas Analysis
Xylenes	4.9	Gas Analysis

Point 012:

Pollutant	Uncontrolled Emission Factors lb/MMscf	Source
NOx (lb/MMBtu)	0.068	AP-42
CO (lb/MMBtu)	0.37	AP-42
VOC	47854.1	Gas Analysis
Benzene	125.5	Gas Analysis
Toluene	101.1	Gas Analysis
Ethylbenzene	10.6	Gas Analysis
Xylenes	36.1	Gas Analysis
n-hexane	760.1	Gas Analysis

Point 013:

Pollutant	Uncontrolled Emission Factors lb/MMscf	Source
NOx (lb/MMBtu)	0.068	AP-42
CO (lb/MMBtu)	0.37	AP-42
VOC	13782.8	Gas Analysis
Benzene	23.3	Gas Analysis
Toluene	16.3	Gas Analysis
Ethylbenzene	1.7	Gas Analysis
Xylenes	6.2	Gas Analysis
n-hexane	163.7	Gas Analysis

6) In accordance with C.R.S. 25-7-114.1, each Air Pollutant Emission Notice (APEN) associated with this permit is valid for a term of five years from the date it was received by the Division. A revised APEN shall be submitted no later than 30 days before the five-year term expires. Please refer to the most recent annual fee invoice to determine the APEN expiration date for each emissions point associated with this permit. For any questions regarding a specific expiration date call the Division at (303)-692-3150.

7) This facility is classified as follows:

Applicable Requirement	Status
Operating Permit	Synthetic Minor Source of: VOC
NANSR	Synthetic Minor Source of: VOC
MACT HH	Major Source Requirements: Not Applicable Area Source Requirements: Not Applicable

8) Full text of the Title 40, Protection of Environment Electronic Code of Federal Regulations can be found at the website listed below:

http://ecfr.gpoaccess.gov/

Part 60: Standards of Performance for New Stationary Sources		
NSPS	60.1-End	Subpart A – Subpart KKKK
NSPS	Part 60, Appendixes	Appendix A – Appendix I
Part 63: National Emission Standards for Hazardous Air Pollutants for Source Categories		
MACT	63.1-63.599	Subpart A – Subpart Z
MACT	63.600-63.1199	Subpart AA – Subpart DDD
MACT	63.1200-63.1439	Subpart EEE – Subpart PPP
MACT	63.1440-63.6175	Subpart QQQ – Subpart YYYY
MACT	63.6580-63.8830	Subpart ZZZZ – Subpart MMMMM
MACT	63.8980-End	Subpart NNNNN – Subpart XXXXXX

9) A self certification form and guidance on how to self-certify compliance as required by this permit may be obtained online at: http://www.colorado.gov/pacific/cdphe/air-permit-self-certification