

DRAFT

STATE OF COLORADO

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



CONSTRUCTION PERMIT

PERMIT NO: 14WE1298

Issuance 1

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 State Antelope 14-2 Production Facility, located in the SWSW SEC 2 T5N R62W, Weld County, Colorado.

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

Facility Equipment ID	AIRS Point	Description
Condensate Tank Battery	007	Eight (8) 400 bbl Condensate Storage Tanks; Emissions from the Tanks are controlled by two enclosed flares with minimum destruction efficiencies of 95%.
PW Tanks	008	Two (2) 400 bbl and One (1) 60 bbl produced water storage tanks; Emissions from the 400 bbl tanks are controlled by two enclosed flares with minimum destruction efficiencies of 95%. The 60 bbl tank is uncontrolled
Truck Loadout	009	Loadout of Condensate; Emissions from the loadout are controlled by a vapor balance system with a minimum collection efficiency of 70% that routes emissions to two enclosed flares with a minimum destruction efficiency of 95%.
FUG	010	Facility Wide Fugitive Equipment Leaks
FL-2	012	One (1) Candlestick Flare to be used in case of emergency; Flare has a minimum destruction efficiency of 95%. This flare is not enclosed.
VRT-1	013	One (1) Vapor Recovery Tower (VRT); Emissions from the VRT are controlled by two enclosed flares with minimum destruction efficiencies of 95% when gas compressors are down.
P-1	014	One (1) Pneumatic Pump use for water transfer; Emissions from the Pneumatic Pump are controlled by two enclosed flares with minimum destruction efficiencies of 95%.

Facility Equipment ID	AIRS Point	Description
Sep-1, Sep-2, and Sep-3	015	Three (3) Low Pressure Separators; Emissions from the Low Pressure Separators are controlled by two enclosed flares with minimum destruction efficiencies of 95% when the gas compressors are down.

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 or commencement of operations (whichever is later), 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 or commencement of operations (whichever is later), 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. 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.)
5. **Points 013 and 015:** Within one hundred and eighty (180) days after issuance of this permit, the operator shall install a flow meter to monitor and record volumetric flow rate of natural gas vented from the separators and vapor recovery tower. 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.

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	
Condensate Tank Battery	007	0.10	2.47	0.55	Point
PW Tanks	008	---	2.32	---	Point
Truck Loadout	009	0.02	4.50	0.10	Point
FUG	010	---	17.14	---	Fugitive
FL-2	012	0.68	6.74	3.70	Point
VRT-1	013	0.08	2.48	0.45	Point
P-1	014	0.24	2.36	1.30	Point
Sep-1, Sep-2, and Sep-3	015	0.34	7.30	1.84	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 with the most recent gas and liquids analyses, 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
Condensate Tank Battery	007	Two (2) Enclosed Flares. The Flares have a minimum destruction efficiency of 95% and constant pilot lights.	VOC and HAPs
PW Tanks	008	Two (2) Enclosed Flares. The Flares have a minimum destruction efficiency of 95% and constant pilot lights.	VOC and HAPs
Truck Loadout	009	Two (2) Enclosed Flares. The Flares have a minimum destruction efficiency of 95% and constant pilot lights.	VOC and HAPs
FL-2	012	Candlestick Flare with a minimum destruction efficiency of 95% and a constant pilot light.	VOC and HAPs
VRT-1	013	Two (2) Enclosed Flares. The Flares have a minimum destruction efficiency of 95% and constant pilot lights.	VOC and HAPs
P-1	014	Two (2) Enclosed Flares. The Flares have a minimum destruction efficiency of 95% and constant pilot lights.	VOC and HAPs
Sep-1, Sep-2, and Sep-3	015	Two (2) Enclosed Flares. The Flares have a minimum destruction efficiency of 95% and constant pilot lights.	VOC and HAPs

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
Condensate Tank Battery	007	Condensate Throughput	197,100 BBL
PW Tanks	008	Produced Water Throughput	354,780 BBL
Truck Loadout	009	Oil Loaded	197,100 BBL
FUG	010	NA	
FL-2	012	Vented Gas	15 MMSCF
VRT-1	013	Gas Vented from VRT	0.85 MMSCF
P-1	014	Gas Vented from Pneumatic Pump	5.3 MMSCF
Sep-1, Sep-2, and Sep-3	015	Gas Vented from Low Pressure Separators	5 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.

Points 013 and 015: The operator shall continuously monitor and record the volumetric flowrate of natural gas vented from the separators and VRT using a flow meter. The flow meter shall continuously measure flowrate and record total volumetric flow vented from the separators. The operator shall use monthly throughput records to demonstrate compliance with the process limits and to calculate emissions as described in this permit.

STATE AND FEDERAL REGULATORY REQUIREMENTS

11. **Points 007, 008, 009, 012, 013, 014, 015:** 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)
12. 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.)
13. This source is subject to the odor requirements of Regulation No. 2. (State only enforceable)
14. **Point 007:** No owner or operator of a smokeless flare or other flare for the combustion of waste gases shall allow or cause emissions into the atmosphere of any air pollutant which is in excess of 30% opacity for a period or periods aggregating more than six minutes in any sixty consecutive minutes. (Reference: Regulation No. 1, Section II.A.5.)
15. **Point 007:** This source is subject to the recordkeeping, monitoring, reporting and emission control requirements of Regulation 7, Section XII. The operator shall comply with all applicable requirements of Section XII.
16. **Point 007:** The flare covered by this permit is subject to Regulation No. 7, Section XII.C General Provisions (State only enforceable). If a combustion device is used to control emissions of volatile organic compounds to comply with Section XII.D, it 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 combustion device, or by other means approved by the Division, determine whether it is operating properly. The operator shall comply with all applicable requirements of Section XII.
17. **Points 007, 008, 013, 015:** The flare covered by this permit is subject to Regulation No. 7, Section XVII.B General Provisions (State only enforceable). If a flare or other combustion device is used to control emissions of volatile organic compounds to comply with Section XVII, it shall be enclosed, 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 enclosed flare or combustion device, 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.

18. **Point 007:** The condensate storage tanks covered by this permit are subject to Regulation 7, Section XVII emission control requirements. These requirements include, but are not limited to:

Section XVII.C. - Emission reduction from condensate storage tanks at oil and gas exploration and production operations, natural gas compressor stations, natural gas drip stations and natural gas processing plants.

XVII.C.1. Beginning May 1, 2008, owners or operators of all atmospheric condensate storage tanks with uncontrolled actual emissions of volatile organic compounds equal to or greater than 20 tons per year based on a rolling twelve-month total shall operate air pollution control equipment that has an average control efficiency of at least 95% for VOCs on such tanks.

XVII.C.3. Monitoring: The owner or operator of any condensate storage tank that is required to control volatile organic compound emissions pursuant to this section XVII.C. shall visually inspect or monitor the Air Pollution Control Equipment to ensure that it is operating at least as often as condensate is loaded out from the tank, unless a more frequent inspection or monitoring schedule is followed. In addition, if a flare or other combustion device is used, the owner or operator shall visually inspect the device for visible emissions at least as often as condensate is loaded out from the tank.

XVII.C.4. Recordkeeping: The owner or operator of each condensate storage tank shall maintain the following records for a period of five years:

XVII.C.4.a. Monthly condensate production from the tank.

XVII.C.4.b For any condensate storage tank required to be controlled pursuant to this section XVII.C., the date, time and duration of any period where the air pollution control equipment is not operating. The duration of a period of non-operation shall be from the time that the air pollution control equipment was last observed to be operating until the time the equipment recommences operation.

XVII.C.4.c. For tanks where a flare or other combustion device is being used, the date and time of any instances where visible emissions are observed from the device.

19. **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)

20. **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 above conditions. The inspections shall occur at least monthly. Each inspection shall be documented in a log available to the Division on request.
21. **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.
22. **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.
23. **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:

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

- a. Conduct Audible, Visual, and Olfactory Inspections (AVOs) on a semi-annual basis of all pumps, valves, connectors, and pressure relief devices on the pad. The first semi-annual AVO will be conducted within 180 days of permit issuance.
- b. For each leak found in the AVO inspection, a gas detector shall 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 (iii) below.
- c. Repair Components with detectable leaks above the limit within 15 days.
 - o If a leak is detected but it is not possible to repair without a process unit shutdown, repair of this equipment will be performed before the end of the next process unit shutdown.
 - o Records will be kept to document the delay in repair along with the estimated time the component will be repaired in.
- d. Re-Screen repaired components to determine if the leak is repaired
- e. If the rescreening shows that the leak was not repaired then another attempt to repair the leak will be made as soon as possible, but no later than 15 days after the rescreening.
- f. Steps c and d will be repeated until the rescreening shows no leak
- g. Leaking components will be documented along with the date the leak is detected, date the leak is repaired, and date that the leak is rescreened.
- h. The following records will be maintained and kept for two years at Bonanza Creek Energy's Kersey Field Office:

- List of components screened and associated dates;
 - List of currently leaking components;
 - List of repaired components along with the repair method and associated repair dates;
 - List of successful repairs, repair delays, and post-repair screenings and associated dates.
24. **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.
25. **Point 012:** 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. The owner/operator must equip the open flare with an operational auto-igniter by or before May 1, 2016, or after the next combustion device planned shutdown, whichever comes first. (Regulation No. 7, Section XVII.B.)

OPERATING & MAINTENANCE REQUIREMENTS

26. **Points: 007, 008, 009, 012, 013, 014, 015:** 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.)
27. **Point 009:** The owner or operator of a loadout at which vapor balancing is used to control emissions shall:
- a. Install and operate the vapor collection and return equipment to collect vapors during loading of tank compartments of outbound transport trucks and route these vapors to the flare
 - b. Include devices to prevent the release of vapor from vapor recovery hoses not in use.
 - c. Use operating procedures to ensure that hydrocarbon liquid cannot be transferred unless the vapor collection equipment is in use.
 - d. Operate all recovery and disposal equipment at a back pressure less than the pressure relief valve setting of transport vehicles.
 - e. Inspect thief hatch seals annually for integrity and replace as necessary. Thief hatch covers shall be weighted and properly seated.
 - f. Inspect pressure relief devices (PRD) annually for proper operation and replace as necessary. PRDs 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.

- g. Document annual inspections of thief hatch seals and PRD with an indication of status, a description of any problems found, and their resolution.

COMPLIANCE TESTING AND SAMPLING

Initial Testing Requirements

- 28. **Points 007, 008, 009, 012, 013, 014, 015:** The owner or operator shall demonstrate compliance with opacity standards, using EPA Method 22 to determine the presence or absence of visible emissions. "Visible Emissions" means 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 operation. (Reference: Regulation No. 7, Section XVII.A.II)
- 29. **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.

Periodic Testing Requirements

- 30. **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. These extended gas analyses shall be used in the compliance demonstration for each point on the permit as required in the Emission Limits and Records section of this permit.
- 31. **Points 012, 013, 015:** On an annual basis, the operator shall complete a site specific extended gas analysis of the natural gas produced at this site that is routed to the flare in order to verify the VOC and hazardous air pollutants (HAP) content (weight fraction) of this emission stream used in the permit application. Results of testing shall be used to determine site-specific emission factors using Division approved methods.

ALTERNATE OPERATING SCENARIOS

- 32. **Point 014:** 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.
- 33. **Point 014:** 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.
- 34. **Point 014:** 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

- 35. 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.
36. 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

37. 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.
38. 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.**

- 39. 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.
- 40. 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.
- 41. 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.
- 42. 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.
- 43. 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:



Christopher Kester
Permit Engineer

Permit History

Issuance	Date	Description
Issuance 1	This Issuance	Issued to Bonanza Creek Energy Operating Company

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)
007	Benzene	71432	842	Yes	42
	n-Hexane	110543	5,129	Yes	256
	Toluene	108883	848	Yes	42
	2,2,4-TMP	540841	375	Yes	19
008	Benzene	71432	2484	Yes	124
	n-Hexane	110543	7805	Yes	390
009	Benzene	71432	219	No	73
	n-Hexane	110543	1467	Yes	492
010	Benzene	71432	168	No	---
	n-Hexane	110543	983	Yes	---
	Toluene	108883	324	Yes	---
	Ethylbenzene	100414	78	No	---
	Xylenes	1330207	299	Yes	---
012	Benzene	71432	708	Yes	35
	n-Hexane	110543	4240	Yes	212
	Toluene	108883	536	Yes	27

	Ethylbenzene	100414	63	No	3
	Xylenes	1330207	177	No	9
013	Benzene	71432	1207	Yes	60
	n-Hexane	110543	7308	Yes	365
	Toluene	108883	980	Yes	49
	Ethylbenzene	100414	94	No	5
	Xylenes	1330207	320	Yes	16
014	Benzene	71432	250	Yes	13
	n-Hexane	110543	1490	Yes	75
	Toluene	108883	190	No	10
	Ethylbenzene	100414	22	No	1
	Xylenes	1330207	63	No	3
015	Benzene	71432	1200	Yes	60
	n-Hexane	110543	6900	Yes	345
	Toluene	108883	810	Yes	41
	Ethylbenzene	100414	74	No	4
	Xylenes	1330207	192	No	10

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

Point 007:

Pollutant	Emission Factors Uncontrolled (lb/BBL Condensate Throughput)	Source
VOC	0.5	ProMax Simulation
n-Hexane	0.026	ProMax Simulation
Benzene	0.004	ProMax Simulation
Toluene	0.004	ProMax Simulation
2,2,4-TMP	0.002	ProMax Simulation

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

Point 008:

Pollutant	Emission Factors Uncontrolled lb/BBL Produced Water Throughput	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	Emission Factors - Uncontrolled	
	lb/BBL loaded	Source
VOC	0.136	AP-42
n-Hexane	0.0075	AP-42

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

$$L = 12.46 \cdot S \cdot P \cdot M / T$$

S = 1 (Submerged loading: dedicated vapor balance)

P (true vapor pressure) = 2.48 psia

M (vapor molecular weight) = 58.92 lb/lb-mol

T (temperature of liquid loaded) = 523.67 °R

The uncontrolled non-criteria reportable air pollutant (NCRP) emission factors were calculated by multiplying the mass fraction of each NCRP in the vapors by the VOC emission factor.

Point 010:

Component	Gas	Heavy Oil	Light Oil	Water/Oil
Connectors	2282	0	954	0
Flanges	137	0	32	0
Open-ended Lines	77	0	8	0
Pump Seals	12	0	0	0
Valves	333	0	133	0
Other	159	0	24	0
VOC Content (wt. fraction)	0.2921	0	0.9977	0
Benzene Content (wt. fraction)	0.0008	0	0.0082	0
Toluene Content (wt. fraction)	0.0006	0	0.0202	0
Ethylbenzene (wt. fraction)	0.00007	0	0.0052	0
Xylenes Content (wt. fraction)	0.0002	0	0.0203	0
n-hexane Content (wt. fraction)	0.0046	0	0.0473	0

*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: Standard EFs - EPA-453/R-95-017 Table 2-4

Note that the emission limits included in this permit are derived by multiplying the equipment counts in the table above by a factor of 1.1 to accommodate other minor changes to the facility and to provide a conservative estimate of facility-wide emissions.

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 and liquids analyses.

Point 012:

Pollutant	Weight Fraction of Gas (%)	Emission Factors Uncontrolled lb/MMscf	Emission Factors Controlled lb/MMscf	Source
NO _x (lb/MMBTU)	---	0.068	---	AP-42
CO (lb/MMBTU)	---	0.37	---	AP-42
VOC	29.21	17,980	900	Sales Gas Analysis
Benzene	0.08	47	2.4	Sales Gas Analysis
Toluene	0.06	36	1.8	Sales Gas Analysis
Ethylbenzene	0.007	4	0.2	Sales Gas Analysis
Xylenes	0.02	12	0.6	Sales Gas Analysis
n-hexane	0.46	283	14	Sales Gas Analysis

Point 013:

Pollutant	Weight Fraction of Gas (%)	Emission Factors Uncontrolled lb/MMscf	Emission Factors Controlled lb/MMscf	Source
NO _x (lb/MMBTU)	---	0.068	---	AP-42
CO (lb/MMBTU)	---	0.37	---	AP-42
VOC	84.88	117,043	5852	ProMax
Benzene	1.03	1,423	71	ProMax
Toluene	0.84	1,156	58	ProMax
Ethylbenzene	0.08	111	6	ProMax
Xylenes	0.27	377	19	ProMax
n-hexane	6.26	8,628	431	ProMax

Point 014:

Pollutant	Weight Fraction of Gas (%)	Emission Factors Uncontrolled lb/MMscf	Emission Factors Controlled lb/MMscf	Source
NO _x (lb/MMBTU)	---	0.068	---	AP-42
CO (lb/MMBTU)	---	0.37	---	AP-42
VOC	29.21	17,980	900	Sales Gas Analysis
Benzene	0.08	47	2.4	Sales Gas Analysis
Toluene	0.06	36	1.8	Sales Gas Analysis
Ethylbenzene	0.007	4	0.2	Sales Gas Analysis
Xylenes	0.02	12	0.6	Sales Gas Analysis
n-hexane	0.46	283	14	Sales Gas Analysis

Point 015:

Pollutant	Weight Fraction of Gas (%)	Emission Factors Uncontrolled lb/MMscf	Emission Factors Controlled lb/MMscf	Source
NO _x (lb/MMBTU)	---	0.068	---	AP-42
CO (lb/MMBTU)	---	0.37	---	AP-42
VOC	62.77	58,550	2928	LP Gas Analysis
Benzene	0.26	239	12	LP Gas Analysis
Toluene	0.17	162	8	LP Gas Analysis
Ethylbenzene	0.02	15	1	LP Gas Analysis
Xylenes	0.04	38	2	LP Gas Analysis
n-hexane	1.48	1380	69	LP 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/Major Source of: VOC, CO, NO _x , HAP
NANSR	Synthetic Minor/Major Source of: VOC, CO, NO _x , HAP
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 YYY
MACT	63.6580-63.8830	Subpart ZZZZ – Subpart MMMMM
MACT	63.8980-End	Subpart NNNNN – Subpart XXXXX

- 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>