



COLORADO

Air Pollution Control Division

Department of Public Health & Environment

CONSTRUCTION PERMIT

Permit number: **18RB0312** Issuance: **1**

Date issued: **July 3, 2018**

Issued to: **Ursa Operating Company LLC**

Facility Name: **BR Production Pits**
Plant AIRS ID: **103/0711**
Physical Location: **NWNE SEC 33 T2S R98W**
County: **Rio Blanco**
General Description: **Wastewater Management Facility**

Equipment or activity subject to this permit:

Facility Equipment ID	AIRS Point	Equipment Description	Emissions Control Description
Oil 1-2	001	Two (2) 400 bbl above ground fixed roof condensate storage tanks for collection of oils removed from water processed at facility	Enclosed Combustor
Load-1	002	Hydrocarbon liquid loadout	None
Pit-1	003	One water storage pit to store, treat, and recycle produced water	None
Treatment-1	004	Four (4) 1,000 bbl above ground fixed roof storage tanks for produced water and flowback water; used for removing oil prior to discharge into Pit-1 (point 003) as required by RACT	Enclosed Combustor
Sand-1	005	One (1) 750 bbl above ground fixed roof storage tanks for produced water and flowback water; used for removing suspended solids and oil prior to discharge into Pit-1 (point 003) as required by RACT	Enclosed Combustor

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 the specific 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 of the latter of commencement of operation or issuance of this permit, by submitting a Notice of Startup form to the Division for the equipment covered by this permit. The Notice of Startup form may be downloaded online at www.colorado.gov/pacific/cdphe/other-air-permitting-notice. Failure to notify the Division of startup of the permitted source is a violation of Air Quality Control Commission (AQCC) Regulation Number 3, Part B, Section III.G.1. and can result in the revocation of the permit.
2. Within one hundred and eighty days (180) of the latter of commencement of operation or 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. A self certification form and guidance on how to self-certify compliance as required by this permit may be obtained online at www.colorado.gov/pacific/cdphe/air-permit-self-certification. (Regulation Number 3, Part B, Section 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. (Regulation Number 3, Part B, Section III.F.4.)
4. Upon commencement of operation, the owner or operator shall install a pre-treatment system for the removal of entrained petroleum hydrocarbons from produced and flowback wastewater received at the facility prior to discharge into the uncovered storage pond. The installed pre-treatment system shall demonstrate a minimum petroleum hydrocarbon removal efficiency of 70% in order to satisfy the control equipment requirements of Reasonably Available Control Technology (RACT). (Reference: Regulation No. 3, Part B, Section III.E.)
5. Within one hundred and eighty (180) days after issuance of this permit, the owner or operator shall complete the initial compliance testing and sampling, as specified in the Initial Compliance Testing and Sampling section of this permit, and determine the removal efficiency of the pre-treatment system by sampling the inlet wastewater stream to the pre-treatment system and the outlet treated wastewater stream of the pre-treatment system as detailed in this permit. The owner or operator shall submit the initial compliance sampling and pre-treatment system removal efficiency performance test results to the Division as part of the self-certification process. (Reference: Regulation No. 3, Part B, Section III.E.)
6. Upon commencement of operation, the owner or operator shall install a flow meter on the treated wastewater outlet of the pre-treatment system as required in this permit and demonstrate compliance to the Division as part of the self-certification process. The flow meter shall continuously measure and record the instantaneous volumetric flowrate of the treated wastewater discharged to the storage pond. Total treated wastewater flow volume to the storage pond shall be recorded each calendar month. (Reference: Regulation No. 3, Part B, Section III.E.)
7. 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. (Regulation Number 3, Part B, Section III.E.)

8. 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

9. Emissions of air pollutants shall not exceed the following limitations. Annual records of the actual emission rates shall be maintained by the owner or operator and made available to the Division for inspection upon request. (Regulation Number 3, Part B, Section II.A.4.)

Annual Limits:

Facility Equipment ID	AIRS Point	Tons per Year				Emission Type
		PM2.5	NO _x	VOC	CO	
Oil 1-2	001	---	---	0.4	---	Point
Load-1	002	---	---	2.0	---	Point
Pit-1	003	---	---	26.7	---	Fugitive
Treatment-1	004	---	---	0.2	---	Point
Sand-1	005	---	---	0.2	---	Point

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

Compliance with the annual limits, for both criteria and hazardous air pollutants, 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 actual emissions of criteria pollutants and hazardous air pollutants (HAP) each month and keep a compliance record on site or at a local field office with site responsibility for Division review.

10. **Point 003:** The owner or operator shall calculate emissions for AIRS ID 003 on a monthly basis using AP-42, Chapter 4.3, Equations 1, 2, 7 and 12 in conjunction with the most recent monthly treated wastewater pollutant concentration data and volumes of treated wastewater as required by this permit. In AP-42, Chapter 4.3, Equations 1, 2, 7, and 12, the owner or operator shall use the chemical properties of n-Heptane in order to approximate the chemical properties of total petroleum hydrocarbons (gasoline range organics plus diesel range organics). Compliance with the VOC emission limit shall be determined by summing gasoline range organics plus diesel range organics plus methanol. Compliance records shall be kept on site or at a local field office with site responsibility, for Division review.

11. The emission points in the table below shall be operated and maintained with the emissions control equipment as listed in order to reduce emissions to less than or equal to the limits established in this permit. (Regulation Number 3, Part B, Section III.E.)

Facility Equipment ID	AIRS Point	Control Device	Pollutants Controlled
Oil 1-2	001	Enclosed Combustor	VOC and HAP
Pit-1	003	One (1) pre-treatment system with a demonstrated minimum removal efficiency of 70% for petroleum hydrocarbons entrained in wastewater prior to discharge into the uncovered storage pit. The pre-treatment system is fully enclosed and covered.	VOC and HAP
Treatment-1	004	Enclosed Combustor	VOC and HAP
Sand-1	005	Enclosed Combustor	VOC and HAP

PROCESS LIMITATIONS AND RECORDS

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

Process Limits

Facility Equipment ID	AIRS Point	Process Parameter	Annual Limit
Oil 1-2	001	Condensate throughput	15,000 barrels
Load-1	002	Condensate throughput	15,000 barrels
Pit-1	003	Total Treated Wastewater throughput	4,600,000 barrels
Treatment-1	004	Total Wastewater throughput	4,600,000 barrels
Sand-1	005	Total Wastewater throughput	4,600,000 barrels

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 monitor and record throughputs each month and keep a compliance record on site or at a local field office with site responsibility, for Division review.

13. **Point 002:** Condensate loading to truck tanks shall be conducted by submerged fill. (Reference: Regulation Number 3, Part B, III.E)
14. **Point 003:** The owner or operator shall continuously monitor and record the volumetric flowrate of the treated wastewater discharged into the pond by using a flow meter(s). The flowmeter(s) shall continuously measure treated produced and flowback wastewater flowrate and record total volumetric flow discharged to the pond. The operator shall use monthly throughput records to demonstrate compliance with the annual limits in this permit.

15. Records shall be kept in either an electronic file or hard copy provided that they can be promptly supplied to the Division upon request. All records shall be retained for a consecutive period of three years.

STATE AND FEDERAL REGULATORY REQUIREMENTS

16. The permit number and ten digit AIRS ID number assigned by the Division (e.g. 123/4567/001) shall be marked on the subject equipment for ease of identification. (Regulation Number 3, Part B, Section III.E.) (State only enforceable)
17. **Points 004 & 005:** 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. (Regulation Number 1, Section II.A.5.)
18. This source is subject to the odor requirements of Regulation Number 2. (State only enforceable)
19. **Point 003:** This source is subject to the Reasonably Available Control Technology (RACT) requirements of Regulation No. 7, Section V. In order to satisfy the requirements of RACT, the owner or operator of this emission source shall install and operate a pre-treatment system capable of continuously achieving petroleum hydrocarbon removal efficiency greater than or equal to 70%.
- a. The design, construction, and continued operation of the pre-treatment system will ensure that no less than 70% of the petroleum hydrocarbons entrained in the wastewater received at the facility are removed from the wastewater stream prior to discharge into the storage pit. Petroleum hydrocarbons entrained in the wastewater are herein defined as gasoline range organics plus diesel range organics.
 - b. The owner or operator of this emission source shall demonstrate that the pre-treatment system is compliant with the 70% minimum removal efficiency of petroleum hydrocarbons from the wastewater received at the facility prior to discharge into the storage pond on an initial and ongoing annual basis as required by this permit.
 - c. The owner or operator shall ensure that the newly installed pre-treatment system is fully enclosed and covered.
 - d. The owner or operator shall route all wastewater received at the facility through the newly installed pre-treatment system prior to discharge into the storage pit.
20. **Point 003:** The owner or operator shall maintain the pond such that neither an oil film layer nor an oil sheen exist on the surface. Visual inspection of the storage pond shall be performed on a weekly basis. The following records shall be maintained for a period of two years:
- a. Dates of the visual screenings and the name(s) of the inspector performing the visual inspection.
 - b. The presence/absence of an oil film layer or an oil sheen on the pond surface. In the event of a positive visual identification of an oil film layer or an oil sheen, the following shall be recorded:
 - (i) Methods utilized to remove the oil film layer/oil sheen from the surface.
 - (ii) Duration of non-compliance.
 - (iii) Process improvements implemented to ensure pond surface remains free of an oil film layer/oil sheen.
21. **Point 003:** The owner or operator shall not employ any methods for enhancing evaporation of the treated wastewater from the storage pond such as, but not limited to, utilization of spray bars and aerators. The source may utilize circulation pumps provided the pumps do not either enhance evaporation or create a turbulent surface area.

22. **Point 002:** 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.D.2):
- Hoses, couplings, and valves shall be maintained to prevent dripping, leaking, or other liquid or vapor loss during loading and unloading.
 - All compartment hatches at the facility (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.
 - The owner or operator shall inspect onsite loading equipment during loading operations to monitor 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.
23. **Point 002:** 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.
24. **Point 001:** The combustion device covered by this permit is subject to Regulation Number 7, Section XVII.B.2. 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, as defined under Regulation Number 7, XVII.A.17; 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. This flare must be equipped with an operational auto-igniter according to the following schedule:
- All combustion devices installed on or after May 1, 2014, must be equipped with an operational auto-igniter upon installation of the combustion device

OPERATING & MAINTENANCE REQUIREMENTS

25. This source is not required to follow a Division-approved operating and maintenance plan.

COMPLIANCE TESTING AND SAMPLING

Initial Testing Requirements

26. **Point 003:** The owner or operator shall be processing wastewaters during the duration of all compliance and testing periods. The owner or operator shall ensure that no freshwater is processed during any compliance testing demonstration or sampling event.
27. **Point 003:** The owner or operator shall complete the initial treated wastewater sampling at the inlet to the pond (pre-treatment system outlet) as required by this permit. In lieu of collecting an additional sample, the owner or operator may use the sample collected during the pre-treatment system removal efficiency test sampling event, required below, as long as the sample is analyzed to determine concentrations of volatile organic compounds (VOC) and hazardous air pollutant (HAP), including total petroleum hydrocarbons (gasoline range organics plus diesel range organics), benzene, toluene, ethylbenzene, xylene, n-hexane, 224 trimethylpentane and methanol in accordance with the test methods described in this permit. Results shall be submitted to the Division as part of the self-certification process and to demonstrate compliance with the corresponding annual emission limit in this permit. (Reference: Regulation No. 3, Part B, Section III.E.)

(Initial Pre-treatment System Removal Efficiency Testing)

28. **Point 003:** A petroleum hydrocarbon removal efficiency test shall be conducted on the pre-treatment system in order to assess compliance with the requirement to install reasonably available control technology as required by Regulation No. 7, Section V. The removal efficiency test for petroleum hydrocarbons shall consist of sample and analysis of wastewater prior to the inlet of the pre-treatment system (e.g. at or near the inlet to the first tank receiving wastewater

for the site) and sample and analysis of treated wastewater at the outlet of the pre-treatment system prior to discharge into the storage pond.

29. **Point 003:** The owner or operator shall sample and analyze the inlet wastewater stream to the pre-treatment system in order to determine the concentration of petroleum hydrocarbons entrained in the wastewater entering the facility. This sample shall be analyzed for total petroleum hydrocarbons (gasoline range organics and diesel range organics). Results shall be submitted to the Division as part of the self-certification process. (Reference: Regulation No. 3, Part B, Section III.E.)
30. **Point 003:** The owner or operator shall sample and analyze the outlet treated wastewater stream from the pre-treatment system in order to determine the concentration of petroleum hydrocarbons entrained in the treated wastewater prior to discharge into the storage pond. This sample shall be analyzed for total petroleum hydrocarbons (gasoline range organics and diesel range organics). Results shall be submitted to the Division as part of the self-certification process. (Reference: Regulation No. 3, Part B, Section III.E.)
 - a. The pre-treatment system wastewater outlet sampling event shall occur subsequent to the pre-treatment system wastewater inlet sampling event. The pre-treatment system wastewater outlet sampling event shall occur only once the load(s) of wastewater received as part of the inlet concentration sampling event exceeds the total volumetric capacity of all process equipment in the pre-treatment system. Total volumetric capacity of the pre-treatment system is determined by summation of the operational volume of each piece of equipment in the pre-treatment system.
31. **Point 003:** Compliance with the requirement to install and operate a pre-treatment system with a 70% minimum removal efficiency of entrained petroleum hydrocarbons from the wastewater received at the facility prior to discharge into the storage pond shall be demonstrated by the following equation:

$$R_e = \left(\frac{C_i - C_o}{C_i} \right) * 100\%$$

Where:

R_e = Removal efficiency

C_i = Concentration of petroleum hydrocarbons in the pre-treatment system wastewater inlet

C_o = Concentration of petroleum hydrocarbons in the pre-treatment system wastewater outlet

Note: Concentration of petroleum hydrocarbons includes gasoline range organics plus diesel range organics as determined per sample analysis

If multiple loads of wastewater are received during the compliance demonstration, the concentration of petroleum hydrocarbons and a load volume shall be determined for each load received. If multiple loads of wastewater are received during the compliance demonstration, a weighted average based on the concentration of petroleum hydrocarbons and volume of each wastewater load received shall be determined and considered representative of the pre-treatment system wastewater inlet petroleum hydrocarbon concentration ($\bar{C} = C_i$) for the purpose of the compliance demonstration.

$$\bar{C} = \frac{\sum_1^n (C_1 V_1 + C_2 V_2 + C_3 V_3 \dots + C_n V_n)}{\sum_1^n (V_1 + V_2 + V_3 \dots + V_n)}$$

Where:

\bar{C} = Weighted average petroleum hydrocarbon concentration at the pre-treatment system wastewater inlet

$C_{1,2,3 \dots n}$ = Concentration of petroleum hydrocarbons in first, second, third and nth load

$V_{1,2,3 \dots n}$ = Volume of truck load for the first, second, third and nth wastewater delivery

If pipeline flowback wastewater is used during the compliance demonstration, each continuous, uninterrupted period of pipeline flowback wastewater into the pre-treatment system shall be considered a single load. Load volume shall be determined using a flowmeter located at the facility upstream from the pre-treatment system. A continuous pipeline load is any such load where the instantaneous flowrate in gallons per minute (gpm) of flowback wastewater received via pipeline deviates less than 10% from the average flowrate (gpm) of flowback wastewater received via pipeline, as determined across the duration of the pipeline flowback wastewater load receipt period.

32. **Point 003:** The owner or operator shall submit a test protocol to the Division for approval at least thirty (30) calendar days prior to performance of any tests required as part of the initial compliance demonstration for the pre-treatment system removal efficiency. The test protocol, test, and test reports will be prepared in accordance with the prescribed methods and requirements of the APCD Compliance Test Manual, as required by this permit. In addition, the test protocol will establish a pre-treatment system treated wastewater outlet sampling and analysis procedure. The test protocol will specify the duration and frequency of outlet sampling, make, model, and quantity of each process equipment unit in the pre-treatment system. For each process equipment unit in the pre-treatment system, the owner or operator shall specify the process unit's maximum design flowrate, requested flowrate (if operation will be different than maximum design flowrate), maximum volumetric capacity of the process unit, operational volume (if different than the maximum volume of the process unit) and the manufacturer's recommended residence time in order to achieve ideal separation.
33. **Point 003:** The test protocols, tests, and test reports must be in accordance with the requirements of the APCD Compliance Test Manual (https://www.colorado.gov/pacific/sites/default/files/AP_Compliance-Test-Manual.pdf). A petroleum hydrocarbon removal efficiency testing protocol shall be submitted to the Division for approval at least thirty (30) calendar days prior to performance of any tests required under this condition. No petroleum hydrocarbon removal efficiency test required herein shall be performed without the owner or operator first obtaining written prior approval of the test protocol from the Division. The Division reserves the right to witness the test. In order to facilitate the Division's ability to make plans to witness the test, notice of the date(s) for the petroleum hydrocarbon removal efficiency test shall be submitted to the Division at least thirty (30) calendar days prior to the test. The Division may for good cause shown, waive this thirty (30) day notice requirement. In instances when a scheduling conflict is presented, the Division shall immediately contact the owner or operator in order to explore the possibility of making modifications to the petroleum hydrocarbon removal efficiency test schedule. The test results shall be submitted to the Division within sixty (60) calendar days of the completion of the test unless a longer period is approved by the Division.
34. **Point 001:** The owner or operator shall demonstrate compliance with opacity standards, using EPA Reference Method 22, 40 C.F.R. Part 60, Appendix A, 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 minute in any fifteen-minute period during normal operation. (Regulation Number 7, Sections XVII.B.2. and XVII.A.16)
35. **Points 004 and 005:** The owner or operator shall demonstrate compliance with opacity standards, using EPA Reference Method 9, 40 C.F.R. Part 60, Appendix A, to measure opacity from the flare. This measurement shall consist of a minimum twenty-four consecutive readings taken at fifteen second intervals over a six minute period. (Regulation Number 1, Section II.A.1 and II.A.5)

Periodic Testing Requirements

36. **Point 003:** The owner or operator shall be processing wastewater during the duration of all compliance and testing periods. The owner or operator shall ensure that no freshwater is processed during any compliance testing demonstration or sampling event.

37. **Point 003:** The owner or operator shall sample the treated wastewater inlet to the pond (pre-treatment system outlet) to determine the concentrations of volatile organic compounds (VOC) and hazardous air pollutant (HAP), including total petroleum hydrocarbons (gasoline range organics plus diesel range organics), benzene, toluene, ethylbenzene, xylene, n-hexane, 224 trimethylpentane and methanol. These samples shall be analyzed in accordance with the test methods described in this permit. Compliance with the VOC emission limit shall be determined by summing gasoline range organics plus diesel range organics plus methanol.

A sample of the treated wastewater inlet to the pond shall be collected and analyzed at a minimum frequency of once per calendar month. Sample results shall be used to calculate emissions as required by this permit. If more frequent sampling is conducted, then all samples of the treated wastewater inlet to the pond collected during the calendar month will be averaged and then used to calculate emissions as specified in this permit. Samples shall be collected no less than seven (7) calendar days apart. The owner or operator shall maintain records of all sampling events and the records shall be made available to the Division for inspection upon request. The owner or operator shall flag monthly records if any sampling results are noted by the laboratory as beyond QA/QC criteria limits.

The owner or operator will not be required to perform periodic testing during a calendar month or year if there is zero wastewater processed through the facility during that given calendar month or year.

(Periodic Pre-treatment System Removal Efficiency Testing)

38. **Point 003:** Compliance with the requirement to install and operate a pre-treatment system capable of continuously achieving a 70% minimum removal efficiency of entrained petroleum hydrocarbons from the wastewater received at the facility prior to discharge into the storage pond shall be demonstrated on an ongoing annual basis using the removal efficiency calculation provided above.

Removal efficiency tests shall be conducted on the pre-treatment system at a minimum frequency of once per calendar year. Annual compliance demonstration for the pretreatment system removal efficiency shall occur no less than ninety (90) calendar days apart. Removal efficiency tests for petroleum hydrocarbons shall consist of sample and analysis of wastewater prior to the inlet of the pre-treatment system and sample and analysis of treated wastewater at the outlet of the pre-treatment system prior to discharge into the storage pond.

39. **Point 003:** The owner or operator shall sample and analyze the inlet wastewater stream to the pre-treatment system in order to determine the concentration of petroleum hydrocarbons entrained in the wastewater entering the facility. This sample shall be analyzed for total petroleum hydrocarbons (gasoline range organics and diesel range organics). (Reference: Regulation No. 3, Part B, Section III.E.)
40. **Point 003:** The owner or operator shall sample and analyze the outlet treated wastewater stream from the pre-treatment system in order to determine the concentration of petroleum hydrocarbons entrained in the treated wastewater prior to discharge into the storage pond. This sample shall be analyzed for total petroleum hydrocarbons (gasoline range organics and diesel range organics). (Reference: Regulation No. 3, Part B, Section III.E.)
- a. The pre-treatment system treated wastewater outlet sampling event shall occur subsequent to the pre-treatment system wastewater inlet sampling event. The pre-treatment system treated wastewater outlet sampling event shall occur only once the load(s) of wastewater received as part of the inlet concentration sampling event exceeds the total volumetric capacity of all process equipment in the pre-treatment system. Total volumetric capacity of the pre-treatment system is determined by summation of the operational volume of each piece of equipment in the pre-treatment system.

- b. The pre-treatment system treated wastewater outlet sampling event shall be performed in accordance with the pre-approved test protocol as required by this permit. If any deviations from the initially approved test protocol method are anticipated, the owner or operator shall submit a revised test protocol to the Division for approval at least thirty (30) calendar days prior to performance of any tests required as part of the ongoing compliance demonstration for the pre-treatment system removal efficiency. The revised test protocol, test, and test reports will be prepared in accordance with the prescribed methods and requirements of the APCD Compliance Test Manual, as required by this permit. In addition, the revised test protocol will establish a pre-treatment system treated wastewater outlet sampling and analysis procedure. The revised test protocol will specify the duration and frequency of outlet sampling, make, model, and quantity of each process equipment unit in the pre-treatment system. For each process equipment unit in the pre-treatment system, the owner or operator shall specify the process unit's maximum design flowrate, requested flowrate (if operation will be different than maximum design flowrate), maximum volumetric capacity of the process unit, operational volume (if different than the maximum volume of the process unit) and the manufacturer's recommended residence time in order to achieve ideal separation.
- c. If appropriate, the owner or operator may use the results of one (1) pre-treatment system treated wastewater outlet sampling event per calendar year in order to satisfy the periodic testing requirement to sample treated wastewater inlet to the pond as required by this permit. This substitution requires the owner or operator to analyze the sample in order to determine concentrations of volatile organic compounds (VOC) and hazardous air pollutant (HAP), including total petroleum hydrocarbons (gasoline range organics plus diesel range organics), benzene, toluene, ethylbenzene, xylene, n-hexane, 224 trimethylpentane, and methanol in accordance with the test methods described in this permit.

ADDITIONAL REQUIREMENTS

41. A revised Air Pollutant Emission Notice (APEN) shall be filed: (Regulation Number 3, Part A, II.C.)

- 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.

- Whenever there is a change in the owner or operator of any facility, process, or activity; or
- Whenever new control equipment is installed, or whenever a different type of control equipment replaces an existing type of control equipment; or



- Whenever a permit limitation must be modified; or
- No later than 30 days before the existing APEN expires.

GENERAL TERMS AND CONDITIONS

42. 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 Number 3, Part B, Section II.B. upon a request for transfer of ownership and the submittal of a revised APEN and the required fee.
43. 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 Number 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.**
44. 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.
45. 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.
46. 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.
47. 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.
48. 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 Ursa 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. (Regulation Number 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: <https://www.colorado.gov/pacific/cdphe/aqcc-reg>
- 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 Emissions (lb/yr)	Controlled Emissions (lb/yr)
001	Benzene	71432	969	49
	Toluene	108883	2627	131
	Xylenes	1330207	2692	135
002	Benzene	71432	255	255
	Toluene	108883	675	675
	Xylenes	1330207	690	690
003	Benzene	71432	3,906	3,906
	Toluene	108883	10,358	10,358
	Ethylbenzene	100414	554	554
	Xylenes	1330207	10,518	10,518
	Methanol	67561	8,632	8,632
004	Benzene	71432	390	20
	Toluene	108883	1058	53
	Xylenes	1330207	1086	54
005	Benzene	71432	329	16
	Toluene	108883	892	45
	Xylenes	1330207	911	46

Note: All non-criteria reportable pollutants in the table above with uncontrolled emission rates above 250 pounds per year (lb/yr) are reportable and may result in annual emission fees based on the most recent Air Pollution Emission Notice.

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

Point 001:

CAS #	Pollutant	Uncontrolled Emission Factors lb/bbl	Controlled Emission Factors lb/bbl	Source
	VOC	1.0127	0.05063	EPA TANKS 4.0.9d
71432	Benzene	0.0646	0.00323	
108883	Toluene	0.1750	0.00875	
1330207	Xylene	0.1793	0.00897	

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

Point 002:

CAS #	Pollutant	Uncontrolled Emission Factors lb/bbl	Source
	VOC	0.2625	AP-42 Chapter 5.2 Equation 1
71432	Benzene	0.0167	
108883	Toluene	0.0454	
1330207	Xylene	0.0465	

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 = 0.6 (Submerged loading: dedicated normal service)

P (true vapor pressure) = 6.7398 psia

M (vapor molecular weight) = 64 lb/lb-mol

T (temperature of liquid loaded) = 516.01 °R

Point 003:

The emission levels contained in this permit are based on information provided in the application and AP-42, Chapter 4.3, Equations 1, 2, 7, and 12. In AP-42, Chapter 4.3, Equations 1, 2, 7, and 12, the owner or operator used the chemical properties of n-Heptane in order to approximate the chemical properties of total petroleum hydrocarbons (gasoline range organics plus diesel range organics). The Division considers this approach a conservative representation of chemical properties. The emissions levels contained in this permit assume that the pre-treatment system is capable of achieving a removal efficiency of 70% for petroleum hydrocarbons. The following site-specific parameters are also the basis for the emission levels contained in this permit.

Parameters for AP-42 Equations	Value
Maximum Total Pond Surface Area (A)	25,439 m ²
Average Temperature (T)	281.76 K
Wind speed (U ₁₀)	2.36 m/s

For the storage pond, actual emissions shall be calculated using AP-42, Chapter 4.3, Equations 1, 2, 7, and 12 and the most recent operational parameters, including treated wastewater throughput, pond inlet contaminant concentrations, pond depth and pond surface area. In AP-42, Chapter 4.3, Equations 1, 2, 7, and 12, the owner or operator shall use the chemical properties of n-Heptane in order to approximate the chemical properties of total petroleum hydrocarbons (gasoline range organics plus diesel range organics). Compliance with the VOC emission limit shall be determined by summing gasoline range organics plus diesel range organics plus methanol.

Point 004:

CAS #	Pollutant	Uncontrolled Emission Factors lb/bbl	Controlled Emission Factors lb/bbl	Source
	VOC	0.001329	0.000066	EPA TANKS 4.0.9d
71432	Benzene	0.000085	0.000004	
108883	Toluene	0.000230	0.000012	
1330207	Xylene	0.000236	0.000012	

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

Point 005:

CAS #	Pollutant	Uncontrolled Emission Factors lb/bbl	Controlled Emission Factors lb/bbl	Source
	VOC	0.001121	0.000056	EPA TANKS 4.0.9d
71432	Benzene	0.000071	0.000004	
108883	Toluene	0.000194	0.000010	
1330207	Xylene	0.000199	0.000010	

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

- 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 permit fulfills the requirement to hold a valid permit reflecting the storage tank and associated control device per the Colorado Oil and Gas Conservation Commission rule 805b(2)(A) when applicable.
- 8) This facility is classified as follows:

Applicable Requirement	Status
Operating Permit	True Minor
PSD or NANSR	True Minor

- 9) 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