

# STATE OF COLORADO

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



## CONSTRUCTION PERMIT

PERMIT NO: **06GA0811**

DATE ISSUED: **MAY 31 2012**

**Issuance 1**

ISSUED TO: **EnCana Oil & Gas (USA) Inc.**

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

Water management facility for wastewater treatment and storage, known as the High Mesa Water Treatment Facility, located at SENWSection 36, Township 7 South, Range 96 West, in Garfield County, Colorado.

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

Facility Equipment ID	AIRS Point	Description
Uncovered DAF-treated Wastewater Ponds	002	Three (3) uncovered ponds storing DAF treated wastewater. A Dissolved Air Flotation (DAF) unit is used to treat wastewater prior to entering the pond system.
Flowback Pond	017	One uncovered pond storing flowback water. An inlet separator tank is used to treat wastewater prior to entering the pond.
Covered DAF-treated Wastewater Ponds	019	Four (4) ponds storing DAF treated wastewater. A Dissolved Air Flotation (DAF) unit is used to treat wastewater prior to entering the pond system. The ponds are sealed with a floating cover.

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 APCD no later than fifteen days after commencement of the permitted operation or activity by submitting a Notice of Startup (NOS) form to the APCD. The Notice of Startup (NOS) form may be downloaded online at [www.cdphe.state.co.us/ap/downloadforms.html](http://www.cdphe.state.co.us/ap/downloadforms.html). Failure to notify the APCD of startup of the permitted source is a violation of AQCC Regulation No. 3, Part B, Section III.G.1 and can result in the revocation of the permit.
2. **AIRS Points 002 and 017:** Within one hundred and eighty days (180) after issuance of this permit, compliance with the conditions contained on this permit shall be demonstrated to the



- Division. It is the permittee'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, II.G.2).
3. **AIRS Point 019:** Within one hundred and eighty days (180) after commencement of operation, compliance with the conditions contained on this permit shall be demonstrated to the Division. It is the permittee'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, II.G.2).
  4. 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.)
  5. The operator shall complete all initial compliance 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)

#### **Quarterly Limits<sup>1</sup>:**

Facility Equipment ID	AIRS Point	VOC Emissions (Pounds per Quarter)	Emission Type
Uncovered DAF-treated Wastewater Ponds	002	79,800	Fugitive
Flowback Pond	017	15,250	Fugitive
Covered DAF-treated Wastewater Ponds	019	650	Point

1: Quarterly limits will be established beginning with the calendar month of permit issuance.

#### **Annual Limits:**

Facility Equipment ID	AIRS Point	VOC Emissions (Tons per Year)	Emission Type
Uncovered DAF-treated Wastewater Ponds	002	159.6	Fugitive



Flowback Pond	017	30.5	Fugitive
Covered DAF-treated Wastewater Ponds	019	1.3	Point

See "Notes to Permit Holder #4" for information on emission factors and methods used to calculate limits.

During the first twelve (12) months of operation, compliance with both the quarterly and annual emission limitations shall be required. After the first twelve (12) months of operation, compliance with only the annual limitation shall be required.

Compliance with the synthetic minor status of this facility shall be determined by recording the facility's annual criteria pollutant emissions, from each emission unit, on a rolling (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 monthly emissions 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 emission units, requiring an APEN, at this facility.

8. **AIRS Point 002:** The operator shall calculate actual emissions for **AIRS Point 002** on a monthly basis using AP-42, Chapter 4.3 equations 1, 2, 7 and 12 in conjunction with the most recent monthly DAF outlet water pollutant concentration data and volume of DAF-treated wastewater as required by Conditions 12 and 29. For the first twelve (12) months of operation, monthly emissions from the three calendar months of a quarter shall be summed to demonstrate compliance with the quarterly emission limits in Condition 7 for **AIRS Point 002** as well as the annual limitations. After the first twelve (12) months of operation, the operator shall calculate monthly emissions to demonstrate compliance with the annual limits in Condition 7 and to maintain the 12-month rolling total. Compliance with the VOC emission limit shall be determined by summing total hydrocarbons (including gasoline range plus diesel range) **plus** methanol.
9. **AIRS Point 017:** The operator shall calculate actual emissions for **AIRS Point 017** on a monthly basis using AP-42, Chapter 4.3 equations 1, 2, 7 and 12 in conjunction with the most recent monthly flowback water pollutant concentration data and volume of flowback water as required by Conditions 12 and 30. For the first twelve (12) months of operation, monthly emissions from the three calendar months of a quarter shall be summed to demonstrate compliance with the quarterly emission limits in Condition 7 for **AIRS Point 017** as well as the annual limitations. After the first twelve (12) months of operation, the operator shall calculate monthly emissions to demonstrate compliance with the annual limits in Condition 7 and to maintain the 12-month rolling total. Compliance with the VOC emission limit shall be determined by summing total hydrocarbons (including gasoline range plus diesel range) **plus** methanol.
10. **AIRS Point 019:** The operator shall calculate actual emissions for **AIRS Point 019** on a monthly basis using the emission factors provided in "Notes to Permit Holder #4" in conjunction with the most recent monthly volume of DAF-treated wastewater as required by Condition 12. For the first twelve (12) months of operation, monthly emissions from the three calendar months of a quarter shall be summed to demonstrate compliance with the quarterly emission limits in Condition 7 for **AIRS Point 019** as well as the annual limitations. After the first twelve (12) months of operation, the operator shall calculate monthly emissions to demonstrate compliance with the annual limits in Condition 7 and to maintain the 12-month rolling total.



## **PROCESS LIMITATIONS AND RECORDS**

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

### **Process/Consumption Limits**

<b>Facility Equipment ID</b>	<b>AIRS Point</b>	<b>Process Parameter</b>	<b>Annual Limit</b>	<b>Quarterly Limit<sup>1</sup> (3 months)</b>
Uncovered DAF-treated Wastewater Ponds	002	Total DAF treated wastewater throughput	7,300,000 BBL/yr	1,825,000 BBL/quarter
Flowback Pond	017	Total flowback water throughput	1,825,000 BBL/yr	456,250 BBL/quarter
Covered DAF-treated Wastewater Ponds	019	Total DAF treated wastewater throughput	7,300,000 BBL/yr	1,825,000 BBL/quarter

1: Quarterly limits will be established beginning with the calendar month of permit issuance.

During the first twelve (12) months of operation, compliance with both the quarterly and annual throughput limitations shall be required. After the first twelve (12) months of operation, compliance with only the annual limitation shall be required.

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 monthly condensate throughput and keep a compliance record on site or at a local field office with site responsibility, for Division review.

12. The operator shall continuously monitor and record the volumetric flowrate of wastewater discharged into each pond system by using flow meters. At a minimum, flow meters shall be installed at the following locations:
- Inlet to the DAF unit
  - Pipeline discharging flowback water into the Flowback Pond (AIRS Point 017)
  - Inlet of AIRS Point 002 or the inlet of AIRS Point 019 prior to commencement of operation of AIRS Point 019
  - Pipeline transferring any previously treated DAF wastewater from another EnCana owned wastewater treatment facility.

All wastewater that is discharged into a pond, either via truck or pipeline, shall be introduced upstream of a flow meter. The flow meter(s) shall capture total wastewater discharged into each pond system. If a pond system will receive multiple streams, the monthly volumes of all streams routed to the pond system shall be summed to demonstrate compliance with the limits within this permit.

For the first twelve (12) months of operation, monthly total inlet wastewater flow from the three calendar months of a quarter shall be summed to demonstrate compliance with the quarterly limits in Condition 11. After the first twelve (12) months of operation, the operator



shall calculate monthly throughput to demonstrate compliance with the annual limits in Condition 11 and to maintain the 12-month rolling total.

### **STATE REGULATORY REQUIREMENTS**

13. The permit number and AIRS ID number shall be marked on the subject equipment for ease of identification. Alternatively, the source shall maintain a facility diagram that depicts the permit number and AIRS ID. The facility diagram shall be maintained on-site and made available to the Division for inspection upon request. (Reference: Regulation Number 3, Part B, III.E.) (State only enforceable)
14. 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. (Reference: Regulation No. 1, Section II.A.1. & 4.)
15. This source is subject to the odor requirements of Regulation No. 2. (State only enforceable)
16. The operator shall not employ any methods for enhancing evaporation of the produced water or flowback water from the ponds such as, but not limited to, utilization of spray bars.
17. The operator shall maintain all ponds such that an oil film layer does not exist on the surface. The methods utilized to maintain the pond surfaces such that an oil film layer does not exist shall be included in the operating and maintenance plan.
18. The operator shall implement and maintain a sediment management plan for all ponds that shall be included in the operating and maintenance plan.
19. **AIRS Points 002 and 019:** This source is subject to the Reasonably Available Control Technology (RACT) requirements of Regulation No. 7, Section V. To satisfy RACT, the operator shall operate a Dissolved Air Flotation (DAF) unit to treat all produced water. The operator shall route all produced water through a DAF unit prior to entering the pond system (AIRS Point 002 and 019). The DAF unit shall be sealed to prevent the escape of emissions. Additionally, the operator shall maintain a floating cover on four produced water ponds (AIRS Point 019) at all times of normal operation.
20. **AIRS Point 017:** This source is subject to the Reasonably Available Control Technology (RACT) requirements of Regulation No. 7, Section V. To satisfy RACT, the operator shall route all flowback water through a 5,000 bbl Inlet Separator Tank equipped with a skimming unit prior to discharging the flowback water into the pond. The Inlet Separator Tank shall be equipped with a fixed roof.
21. **AIRS Point 019:** Each covered pond shall be equipped with a floating membrane cover designed to meet the following specifications:
  - The floating membrane cover shall be designed to float on the liquid surface during normal operations, and form a continuous barrier over the entire surface area of the liquid.
  - The cover shall be fabricated from a synthetic membrane material that is either:
    - High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or
    - A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material



listed above; and chemical and physical properties that maintain the material integrity for the intended service life of the material.

- The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings. The width of any portion of any gap around pipeline sleeves, such as pipeline sleeves for the wastewater discharge lines, shall not exceed 0.5 inches.
  - Each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.
  - The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal. Alternatively, the source may use surface lines to remove stormwater provided that the surface lines do not penetrate the cover.
  - The cover and its closure devices shall be made of suitable materials that will minimize exposure of the wastewater to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the cover and closure devices shall include: organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed.
22. **AIRS Point 019:** Whenever wastewater is in a covered pond, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:
- Opening of closure devices or removal of the cover is allowed at the following times:
    - To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable.
    - To remove accumulated sludge or other residues from the bottom of surface impoundment.
  - Opening of a spring-loaded or manual pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the pressure in the vapor headspace underneath the cover in accordance with the cover design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which



the device opens shall be established such that the device remains in the closed position whenever the cover vapor headspace pressure is within the pressure operating range determined by the owner or operator based on the cover manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials

- Opening of a safety device is allowed at any time conditions require it to do so to avoid an unsafe condition.

23. **AIRS Point 019:** The source shall visually inspect each pond cover in accordance with the following requirements:

- The floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.
- The source must perform an initial inspection following installation of the floating membrane cover. Thereafter, the owner or operator must perform the inspections at least once per calendar year.
- In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements listed in this permit.
- The source shall maintain a record of the inspection in accordance with the requirements listed in this permit.

24. **AIRS Point 019:** The source shall repair all detected defects as follows:

- The source shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as discussed below.
- Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative surface impoundment or tank capacity is available at the site to accept the wastewater normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect at the next time the process or unit that is generating the wastewater managed in the surface impoundment stops operation. Repair of the defect shall be completed before the process or unit resumes operation.
- The source shall record for each defect detected during inspections the following information: the location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the requirements discussed above, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

25. **AIRS Point 019:** The source shall prepare and maintain the following records:



- Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment.
- A record for each inspection required by this permit that includes the following information: a surface impoundment identification number (or other unique identification description as selected by the owner or operator) and the date of inspection.

## **OPERATING & MAINTENANCE REQUIREMENTS**

26. Upon startup of these points, the applicant shall follow the 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.)

## **COMPLIANCE TESTING AND SAMPLING**

### **Initial Testing Requirements**

27. **AIRS Point 002:** The operator shall complete the initial water sampling for the wastewater outlet of the DAF as required by this permit in Condition 29 and submit the results to the Division as part of the self-certification process to demonstrate compliance with emission limits. (Reference: Regulation No. 3, Part B, Section III.E.)
28. **AIRS Point 017:** The operator shall complete the initial water sampling for the flowback water inlet to the pond as required by this permit in Condition 30 and submit the results to the Division as part of the self-certification process to demonstrate compliance with emission limits. (Reference: Regulation No. 3, Part B, Section III.E.)

### **Periodic Testing Requirements**

29. **AIRS Point 002:** The operator shall sample wastewater outlet of the DAF to determine volatile organic compounds (VOC) and hazardous air pollutant (HAP) concentrations, including total hydrocarbons (including gasoline range and diesel range), benzene, toluene, ethylbenzene, xylene, n-hexane and methanol. These samples shall be analyzed using EPA Method 8260 for benzene, toluene, ethylbenzene, xylene, and n-hexane and EPA Method 8015 for methanol, gasoline range organics (total volatile hydrocarbons), and diesel range organics (total extractable hydrocarbons).

A sample of the wastewater outlet of the DAF 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 Condition 8. If more frequent sampling is conducted, then all samples of the wastewater outlet of the DAF collected during the calendar month will be averaged and then used to calculate emissions as specified in Condition 8. Samples shall be collected no less than at least seven (7) days apart. The operator shall maintain records of all sampling events and the records shall be made available to the Division for inspection upon request. The operator shall flag monthly records if any sampling results are noted by the laboratory as beyond QA/QC criteria limits.

30. **AIRS Point 017:** The operator shall sample the flowback water inlet to the pond to determine volatile organic compounds (VOC) and hazardous air pollutant (HAP) concentrations, including total hydrocarbons (including gasoline range and diesel range), benzene, toluene, ethylbenzene, xylene, n-hexane and methanol. These samples shall be



analyzed using EPA Method 8260 for benzene, toluene, ethylbenzene, xylene, and n-hexane and EPA Method 8015 for methanol, gasoline range organics (total volatile hydrocarbons), and diesel range organics (total extractable hydrocarbons).

A sample of the flowback water 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 Condition 9. If more frequent sampling is conducted, then all samples of the flowback water inlet to the pond collected during the calendar month will be averaged and then used to calculate emissions as specified in Condition 9. Samples shall be collected no less than at least seven (7) days apart. The operator shall maintain records of all sampling events and the records shall be made available to the Division for inspection upon request. The operator shall flag monthly records if any sampling results are noted by the laboratory as beyond QA/QC criteria limits.

### **ADDITIONAL REQUIREMENTS**

31. All previous versions of this permit are cancelled upon issuance of this permit.
32. A revised Air Pollutant Emission Notice (APEN) shall be filed: (Reference: Regulation No. 3, Part A, II.C)
  - a. Annually 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 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.
33. This source is subject to the provisions of Regulation Number 3, Part C, Operating Permits (Title V of the 1990 Federal Clean Air Act Amendments). The provisions of this construction permit must be incorporated into the operating permit. The application for the modification to the Operating Permit is due within one year of commencement of operation of the equipment or modification covered by this permit.
34. Prevention of Significant Deterioration (PSD) requirements 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 PSD threshold will require a full PSD review of the source as though construction had not yet



commenced on the source. The source shall not exceed the PSD threshold until a PSD permit is granted. (Regulation No. 3 Part D, VI.B.4)

### **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 applicant 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 applicant or applicant'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 applicant, or the Division revokes a permit, the applicant or 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:

*Carissa Money*

Carissa Money  
Permit Engineer  
Air Pollution Control Division

**Permit History**

Issuance	Date	Description
Issuance 1	This Issuance	Increase facility throughput from 3,650,000 bbl/yr to 7,300,000 bbl/yr produced water plus 1,825,000 bbl/yr flowback water. Add four new produced water ponds that will be covered.
Initial Approval	September 25, 2009	Issued to EnCana Oil & Gas (USA) Inc. for three produced water/flowback water ponds.



Notes to Permit Holder:

- 1) 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 permittee 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 application form must be submitted with a request for a permit revision.
- 2) This source is subject to the Common Provisions Regulation Part II, Subpart E, Affirmative Defense Provision for Excess Emissions During Malfunctions. The permittee 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.cdphe.state.co.us/regulations/airregs/100102aqcccommonprovisionsreg.pdf>.
- 3) 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 #	BIN	Uncontrolled Emission Rate (lb/yr)	Are the emissions reportable?	Controlled Emission Rate (lb/yr)
002	Benzene	71432	A	16,948	YES	16,071
	Toluene	108883	C	33,501	YES	30,754
	Ethylbenzene	100414	C	1,562	YES	951
	Xylene	1330207	C	27,160	YES	17,283
	Methanol	67561	C	125,258	YES	104,619
017	Benzene	71432	A	1,874	YES	1,611
	Toluene	108883	C	4,573	YES	3,465
	Ethylbenzene	100414	C	163	No	89
	Xylene	1330207	C	3,317	YES	1,882
	Methanol	67561	C	12,443	YES	12,443
019	Benzene	71432	A	22,596	YES	81
	Toluene	108883	C	44,665	YES	160
	Ethylbenzene	100414	C	2,082	YES	7
	Xylene	1330207	C	36,211	YES	129
	Methanol	67561	C	166,997	YES	597

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



**Point 002:**

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. The following site-specific parameters are also the basis for the emission levels contained in this permit.

Parameters for AP-42 Equations	Value
Average pond depth for all three ponds	16.2 ft
Total pond surface area for all three ponds (A)	84,812.5 ft <sup>2</sup>
Temperature (T)	70 °F
Wind speed (U <sub>10</sub> )	5.8 miles per hour

For the three ponds, actual emissions shall be calculated using AP-42, Chapter 4.3 Equations 1, 2, 7, and 12, parameters identified above, and the most recent operational parameters, including monthly DAF-treated wastewater throughput and monthly DAF outlet water contaminant concentrations. VOC emissions are based on the sum of total hydrocarbons (gasoline range organics plus diesel range organics) **plus** methanol.

**Point 017:**

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. The following site-specific parameters are also the basis for the emission levels contained in this permit.

Parameters for AP-42 Equations	Value
Pond depth	15.0 ft
Total pond surface area for flowback pond (A)	17,600 ft <sup>2</sup>
Temperature (T)	70 °F
Wind speed (U <sub>10</sub> )	5.8 miles per hour

For the one flowback 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 monthly flowback water throughput and monthly flowback water contaminant concentrations. VOC emissions are based on the sum of total hydrocarbons (gasoline range organics plus diesel range organics) **plus** methanol.

**Point 019:**

CAS #	Pollutant	Emission Factors Uncontrolled lb/BBL Wastewater Throughput	Emission Factors Controlled lb/BBL Wastewater Throughput	Source
	VOC	0.0984	$3.5 \times 10^{-4}$	EPA Tanks 4.0.9d
71432	Benzene	0.0031	$1.1 \times 10^{-5}$	EPA Tanks 4.0.9d
108883	Toluene	0.0061	$2.2 \times 10^{-5}$	EPA Tanks 4.0.9d
100414	Ethylbenzene	0.0003	$1.0 \times 10^{-6}$	EPA Tanks 4.0.9d
1330207	Xylene	0.0050	$1.8 \times 10^{-5}$	EPA Tanks 4.0.9d
67561	Methanol	0.0229	$8.2 \times 10^{-5}$	EPA Tanks 4.0.9d



Note: The controlled emissions factors for Point 019 are based on a control efficiency of 99.6% for operating a DAF unit and installing a floating cover on each pond.

- 5) In accordance with C.R.S. 25-7-114.1, the Air Pollutant Emission Notice (APEN) associated with this permit is valid for a term of five years. The five-year term for this APEN expires on **September 5, 2011**. A revised APEN shall be submitted no later than 30 days before the five-year term expires.
- 6) This facility is classified as follows:

Applicable Requirement	Status
Operating Permit	Major Source HAPs
PSD	Synthetic Minor Source CO, VOC

- 7) 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 YYYYY
MACT	63.6580-63.8830	Subpart ZZZZ – Subpart MMMMM
MACT	63.8980-End	Subpart NNNNN – Subpart XXXXXX

- 8) An Oil and Gas Industry Construction Permit Self-Certification Form is included with this permit packet. Please use this form to complete the self-certification requirements as specified in the permit conditions. Further guidance on self-certification can be found on our website at:

<http://www.cdphe.state.co.us/ap/oilgaspermitting.html>