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Production Water Reuse
And
Waste Minimization Plan

For
Water Transfers Between

Encana Oil & Gas (USA) Inc.
And
Axia Energy LLC

May 21, 2012

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Introduction

Encana Oil and Gas (USA) Inc. ("Encana") and Axia Energy, LLC ("Axia") are each currently and separately engaged in natural gas exploration and production operations in the Piceance Basin, which encompasses areas of Garfield and Mesa Counties, Colorado. Hydraulic fracturing operations associated with completing individual natural gas wells in the Piceance Basin require large volumes of water. A very significant percentage of the water used to conduct hydraulic fracturing is provided by operators from recycling and reuse of formation water co-produced with natural gas from their previously drilled production wells. In addition, the flowback water obtained from the return of hydraulic fracturing fluids following well stimulation is recovered for subsequent reuse during additional well completion operations. Producers typically operate various permitted facilities, which include pits, tanks and ponds, needed to treat and store produced water from its operations ("Production Water" as defined more specifically in Appendix A's Water Custody Transfer Agreement), to support recycling and reuse of water during additional drilling, completion and workover activities.

Depending largely on the level and location of drilling activity, conditions may exist when and where Encana's Production and Flowback Water volumes exceed its available treatment and storage capacity and Encana Production and Flowback Water is transferred for final disposal (with no further possibility for recycling or reuse) to a licensed commercial disposal facility. Under other conditions, Encana may need additional water to support its activities in new or peripheral areas that are removed from its infrastructure of water gathering lines, and water treatment and storage facilities or otherwise where its own supply of Production and Flowback Water may be inadequate or inconvenient for that specific location or time.

Encana's operations also occur in the Piceance Basin and in some areas are proximal to Axia's operations. Similarly, Encana's operations experience conditions where its supply of Production and Flowback Water is excessive or insufficient to meet its demands for drilling, completion and workover activities for a given location or time. When either operator's demand for makeup water exceeds their current and foreseeable supply of Production and Flowback Water, historically one recourse has been to extract fresh water from either company's rightful water rights and store and treat the fresh water for subsequent downhole use even though other nearby operators may have an abundant supply of Production and Flowback Water that they have no immediate or foreseeable need to use. The Colorado Oil and Gas Conservation Commission ("COGCC") approval of this Plan satisfies the "director approval" requirement to reuse and recycle under COGCC Rules 907(a)(3) and (c)(3).

Purpose

In order to establish a mutually beneficial relationship, that promotes the reuse of Production and Flowback Water and avoids the withdrawal of precious fresh water supplies, Encana and Axia have entered into a legally binding agreement, a copy of which is attached as Appendix A, whereby volumes of each company's Production and Flowback Water could be transferred to

the other company, on an as-needed, as requested basis, for re-use in each other's respective drilling, completion, and workover operations.

Sharing via transfer of Production and Flowback Water between operators represents a best management practice that promotes fresh water conservation, waste minimization, recycling, and re-use; consistent with the stated regulatory objectives of various State agencies (DWR, CDPHE and COGCC). This Production Water Reuse and Waste Minimization Plan (Reuse Plan) is intended to satisfy the requirements of the COGCC Rule 907.a(3) for the reuse and recycling of E&P Waste, which states:

> ***Reuse and recycling.*** *To encourage and promote waste minimization, operators may propose plans for managing E&P waste through beneficial use, reuse, and recycling by submitting a written management plan to the Director for approval on a Sundry Notice, Form 4, if applicable. Such plans shall describe, at a minimum, the type(s) of waste, the proposed use of the waste, method of waste treatment, product quality assurance, and shall include a copy of any certification or authorization that may be required by other laws and regulations. The Director may require additional information]*

Anticipated Benefits

Under this Reuse Plan, each party shall use reasonable and available means to safely transfer Production and Flowback Water, in sufficient volumes and quality, to meet the other party's transfer requests, when mutually agreeable to do so. The benefits of this plan include:

- Shorter haul distances and an overall reduction of truck traffic on lease and county roads, and state and federal highways, for an operator to supply and/or dispose of Production and Flowback Water in the absence of sharing and transfer of Production and Flowback Water between operators. This will result in:
    - Less road damage
    - Decreases in criteria air pollutions from water truck exhaust emissions and fugitive dust
    - Less noise
    - Fewer accidents and spills involving water trucks
- Fewer fresh water withdrawals from surface water sources
- Less reliance on injection wells for disposal of Production and Flowback Water, and
- Increased operating efficiencies from reusing local supplies of Production and Flowback Water to meet water demands for drilling, completion and workover activities.

Proposed Use, Transfer and Ownership of Production Water

To promote waste minimization, Axia, as the Receiver, will accept Production and Flowback Water generated from Encana's operations as the Supplier/Shipper in the Piceance Basin of Colorado, if and when needed by Axia and as consented to by Encana, to support Axia's drilling, completion or workover operations. Encana's Production and Flowback Water will be delivered by pipeline or truck to a mutually agreed upon transfer location ("Transfer Location" as identified in a Record of Transfer included as Exhibit A in Appendix A). Transfer locations will

be COGCC approved locations or facilities, such as storage tanks on well pads, multi-well pits or centralized E&P Waste Management Facilities. Transfer Locations will change over time as activities conclude in one area and move on to other locales. Best management practices for spill prevention and control will be applied at each Transfer Location. Encana will be responsible for measuring and recording the volumes of Production and Flowback Water transferred utilizing a Record of Transfer.

Similarly, Encana has agreed to accept Production and Flowback Water as the Receiver generated from Axia's operations as the Supplier/Shipper in the Piceance Basin of Colorado, if and when needed by Encana and as consented by Axia, to support Encana's drilling, completion or workover operations. Axia's Production and Flowback Water will be delivered by Axia to a mutually agreed upon Transfer Location. Transfer Locations will be COGCC approved locations or facilities, such as well pads, multi-well pits or centralized E&P Waste Management Facilities. Transfer Locations will change over time as completion activities conclude in one area and move on to other locales. Spill prevention and control Best Management Practices will be applied at each Transfer Location. Axia will be responsible for measuring and recording the volumes of Production and Flowback Water transferred utilizing a Record of Transfer. The COGCC has determined that the activities contemplated herein do not qualify as a Centralized E&P Waste Management Facility.

Encana shall maintain all legal and regulatory responsibility, custody and control for its Production and Flowback Water until it is delivered to Axia. At the time of delivery Axia will assume all legal and regulatory responsibility, custody and control for that Production and Flowback Water. Similarly, Axia shall maintain all legal and regulatory responsibility, custody and control for its Production and Flowback Water until it is delivered to Encana when Encana will assume all legal and regulatory responsibility, custody and control for that Production and Flowback Water. The Water Custody Transfer Agreement between Encana and Axia in Appendix A provides the details of this arrangement.

In the event that one party desires to terminate the Water Transfer Agreement, written notice shall be provided to the other party at least 30 days prior to the effective date of the termination. In addition, the terminating party is also responsible for notifying the COGCC in writing of the termination of the Water Transfer Agreement with the respective operator.

Source, Treatment and Quality of Production Water

The Supplier/Shipper will be responsible for identifying the source of the Production and Flowback Water on the Record of Transfer, which will only include water from facilities permitted by the COGCC including produced water storage tanks, multi-use or production storage pits, and centralized E&P waste management facilities. The majority of natural gas wells in the Piceance Basin are completed in the Williams Fork Formation, and a minority of the wells are completed in the Iles, Mancos and Niobrara Formations. Varying amounts of formation water are co-produced with the natural gas from within these formations and over the life of the well.

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This Reuse Plan recognizes the Colorado State Engineer Office's ("SEO") Rules for Produced Nontributary Ground Water (C.R.S. § 37-90-137(7), 2 CCR 402-17) that govern the administration of wells, including oil and gas wells, that dewater geologic formations by withdrawing nontributary ground water to facilitate or permit the mining of minerals. Only Production and Flowback Water derived from an operator's nontributary oil and gas wells will be allowed as a supply source for a transfer between operators to accommodate reuse under this Reuse Plan. The operator acting as the Supplier/Shipper is responsible for ensuring that only Production and Flowback Water from non-tributary and non-coalbed methane formations is utilized as a source for water transfer and re-use by another operator.

Specifically, SEO Rule 17.7.D delineates geographic areas under which the ground water in certain geologic formations is nontributary. Nontributary ground water in this area of the Piceance Basin includes ground water from the currently producing formations of the Undifferentiated, Middle, and Lower Wasatch Formation, the Iles Formation, the Williams Fork Formation, and the Undifferentiated Mesa Verde Group. The delineated areas and subject formations defined as nontributary may be viewed through Division of Water Resources' public data viewing tools as they are developed and the data files describing the areas are also available for downloading from the Division of Water Resources' website.

Prior to transfer for reuse by another operator, the Supplier/Shipper or Receiver, as mutually agreed upon, shall be responsible for treatment of the Production and Flowback Water which may involve one or more of the following: primary separation at the wellhead, addition of bactericide, removal of any surface accumulations of oil/condensate, and basic separation of solids. Treatment shall be sufficient to allow for the intended reuse of the Production and Flowback Water for makeup fluid to support either drilling, completion, or workover operations for natural gas wells. Each operator will be obligated to provide and maintain documentation of the quality of its Production and Flowback Water and the volumes transferred in accordance with applicable laws and regulations.

Specifically, Encana and Axia will each be obligated to maintain laboratory analytical results for a representative sample(s) of its Production and Flowback Water. On an annual basis, one or more samples will be collected for the type of source(s) representative of the Production and Flowback Water and analyzed for the following chemical parameters using the appropriate EPA standard analytical method:

- Volatile organic compounds — EPA Method 624 (GC/MS)
- Semi-volatile organic compounds — EPA Method 625 (GC/MS)
- Dissolved Metals — EPA Method 200.7 (ICP)
- Dissolved Inorganics (non-metals) — EPA Method 300.0 (IC)
    - Br, Cl, F, Nitrate/Nitrite, Sulfate
- General water quality parameters
    - Specific Conductance — EPA Method 120.1
    - Hardness — EPA Method 130.1

- o Total Dissolved Solids EPA Method 160.1
- o pH EPA Method 150.2
- o Alkalinity EPA Method 310.1
- Gross alpha and beta radioactivity EPA Method 900.0

Measurements, Recordkeeping and Reporting

In addition, the party acting as the Supplier/Shipper for each Water Transfer will be responsible for measuring transfer volumes and maintaining records for the volumes transferred in accordance with applicable laws and regulations including COGCC Rule 907.b.(2) which states:

> ***Waste generator requirements.*** *Generators of E&P waste that is transported off-site shall maintain, for not less than five (5) years, copies of each invoice, bill, or ticket and such other records as necessary to document the following requirements A through F:*
>
> *A. The date of the transport;*
>
> *B. The identity of the waste generator;*
>
> *C. The identity of the waste transporter;*
>
> *D. The location of the waste pickup site;*
>
> *E. The type and volume of waste; and*
>
> *F. The name and location of the treatment or disposal site.*
>
> *Such records shall be signed by the transporter, made available for inspection by the Director during normal business hours, and copies thereof shall be furnished to the Director upon request.*

Encana and Axia will each separately submit an annual report to the COGCC summarizing the transfers of Production and Flowback Water (both as the Supplier/Shipper and the Receiver) during the calendar year and including laboratory analytical results for representative sample(s) of the Production and Flowback Water provided as the Supplier/Shipper. The annual report will include a spreadsheet that summarizes the information contained in the Record(s) of Transfer, and include copies of individual Records of Transfer. The annual report for the previous calendar year will be submitted to the COGCC by February 15 of the following year.

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Voluntary Standard Operating Procedures and Approval Conditions

- If locations are in a sensitive area because of its proximity to surface water; Operator must ensure 110% secondary containment for any volume of fluids contained at the Water Handling Facility site during natural gas development activities and operations; including but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e. Best Management Practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

- Operator must implement Best Management Practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface pipelines.

- Operator shall provide overflow protection for each tank proposed, if tanks are used.

- Operator proposes that the transfer facilities/locations will be in operation for a period less than three (3) years. Should the operation of this facility continue more than three years, a form 28 shall be submitted and approved before the three-year anniversary date of the first use of the transfer facility/location.

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Encana's Planned Delivery Location

Water Handling Facility, Location ID 421047

Encana's Planned Receipt Location

Standard Shale 6401, Location ID 323905

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Points of Contact

The primary and secondary points of contact representing Encana are:

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The primary and secondary points of contact representing Axia are:

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