

STATE OF  
COLORADO

Kubeczko - DNR, Dave &lt;dave.kubeczko@state.co.us&gt;

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## Axia Energy, Bulldog 17-11H-893 Pad, NWNW Sec 17 T8N R93W, Moffat County, Form 2A (#40040784) Review

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Jess Peonio &lt;jpeonio@axiaenergy.com&gt;

Tue, Jun 4, 2013 at 6:59 AM

To: Dave Kubeczko - DNR &lt;dave.kubeczko@state.co.us&gt;, "Ispermitco@aol.com" &lt;Ispermitco@aol.com&gt;

Axia concurs to the below COA's.

### Jess A. Peonio

Sr. Drilling Engineer/Regulatory Manager

Axia Energy

1430 Larimer, Suite #400; Denver, CO 80202

O: 720-746-5212; C: 303-349-6026

F: 720-746-5201; jpeonio@axiaenergy.com

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**From:** Dave Kubeczko - DNR [mailto:[dave.kubeczko@state.co.us](mailto:dave.kubeczko@state.co.us)]

**Sent:** Monday, June 03, 2013 5:08 PM

**To:** [Ispermitco@aol.com](mailto:Ispermitco@aol.com)

**Cc:** Jess Peonio

**Subject:** Axia Energy, Bulldog 17-11H-893 Pad, NWNW Sec 17 T8N R93W, Moffat County, Form 2A (#40040784) Review

Lisa,

I have been reviewing the Bulldog 17-11H-893 Pad **Form 2A** (#400401784). COGCC would like to attach the following conditions of approval (COAs) based on the data Axia Energy has submitted on or attached to the Form 2A prior to passing the Oil and Gas Location Assessment (OGLA) review.

**Construction (Section 6):** The box answering the question will salt (>15,000 ppm TDS CI) or oil based muds (OBM) be used? has been marked **Yes**; therefore the following condition of approval (COA) will apply:

**COA 11** - A closed loop system must be implemented during drilling (which operator has indicated on the Form 2A). All cuttings generated during drilling with oil based muds or high chloride/TDS mud must be kept in a lined cuttings trench, or placed either in containers, or on a lined/bermed portion of the well

pad; prior to offsite disposal. The moisture content of any drill cuttings in a cuttings trench or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts.

**General:** The following conditions of approval (COAs) will apply:

**COA 91** - Notify the COGCC 48 hours prior to start of pad/access road construction, rig mobilization, spud, and start of hydraulic stimulation operations using Form 42 (the appropriate COGCC individuals will automatically be email notified, including the LGD for hydraulic stimulation operations).

**COA 23** - Operator must ensure 110 percent secondary containment for any volume of fluids (excluding freshwater) contained at well site during drilling and completion operations (as shown in the Proposed BMPs attachment); 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.

**COA 5** - Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via buried or temporary surface pipelines.

**COA 44** - The access road will be constructed as to not allow any sediment to migrate from the access road to nearby surface water or any drainages leading to surface water.

**COA 76** - Strategically apply fugitive dust control measures, including enforcing established speed limits on private roads, to reduce fugitive dust and coating of vegetation and deposition in water sources.

**COA 38** - The moisture content of any freshwater generated drill cuttings in a cuttings trench, area, or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts.

At the time of closure, if the freshwater generated drill cuttings are to be onsite, they must also meet the applicable standards of table 910-1.

**COA 25** - Flowback and stimulation fluids must be sent to tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline, storage vessel, or lined pit (only if an amended Form 2A has been submitted/approved and a Form 15 Earthen Pit Permitted has been submitted/approved) located on the well pad; or into tanker trucks for offsite disposal. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material.

**COA 58** - Berms or other containment devices shall be constructed to be sufficiently impervious (preferably corrugated steel with poly liner) to contain any spilled or released material around crude oil, condensate, and produced water storage tanks.

**Groundwater/Surface Water Baseline Sampling:** Based on the wildcat status of the Axia Energy's Bulldog 17-11H-893 Pad, COGCC would like to attached the following additional condition of approval (COA) to the Form 2A to provide the COGCC with some baseline data for surface water and/or groundwater:

**COA 9** - Baseline Groundwater Testing: Prior to drilling, operator shall sample the two (2) closest domestic water wells or springs within a one (1) mile radius of the proposed oil and gas location. If possible, the water wells or springs selected should be on opposite sides of the oil and gas location not exceeding a one (1) mile radius. If water wells or springs on opposite sides of the oil and gas location cannot be identified, then the two (2) closest wells or springs within a one (1) mile radius of the oil and gas location shall be sampled. The sample location shall be surveyed in accordance with Rule 215.

Initial baseline testing shall include laboratory analysis of all major cations and anions, total dissolved solids, iron and manganese, nutrients (nitrates, nitrites, selenium), dissolved methane, pH, specific conductance, gasoline range organics (GRO), diesel range organics (DRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Sampling shall be performed by qualified individuals using methods consistent with commonly accepted environmental sampling procedures. Field observations such as pH, temperature, specific conductance, odor, water color, sediment, bubbles, and effervescence shall also be included.

After 90 days, but less than 180 days of completion of the first proposed well a "post-completion" test shall be performed for the same analytical parameters listed above and repeated once within 60 to 72 months. If no significant changes from the baseline have been identified after the 60 to 72 month test, no further testing shall be required. Additional "post-completion" test(s) may be required if changes in water quality are identified during follow-up testing. The Director may require further water well sampling at any time in response to complaints from water well owners.

If free gas or a methane concentration level greater than 1 mg/l is detected in a water quality testing well, gas compositional analysis, and stable isotopes of both the carbon and hydrogen isotopes of methane shall be performed to determine gas type (thermogenic, biogenic or a mixture).

Copies of all test results described above shall be provided to the COGCC OGLA Specialist for Western Colorado (Dave Kubeczko; email [dave.kubeczko@state.co.us](mailto:dave.kubeczko@state.co.us)); the COGCC Environmental Data Analyst (Arthur Koepsell; email [arthur.koepsell@state.co.us](mailto:arthur.koepsell@state.co.us)), and the landowner where the water quality testing well is located within three (3) months of collecting the samples used for the test. The analytical data and surveyed well locations shall also be submitted to the COGCC in an electronic data deliverable format.

Documented refusal to grant access by well owner or surface owner (for surface water and spring sampling) shall not constitute a violation of this COA.

**Surface Pipeline COAs:** The following conditions of approval (COAs) will apply to both the Form 2A and the Form 15 Pit Permit:

**COA 45** - Operator shall pressure test pipelines in accordance with Rule 1101.e.(1) prior to putting into initial service.

**COA 48** - Operator must implement best management practices to contain any unintentional release of fluids along all portions of the surface pipeline route where temporary pumps and other necessary equipment are located.

**COA 49** - Operator must routinely inspect the entire length of the surface pipeline to ensure integrity.

**COA 54** - Operator must ensure 110 percent secondary containment for any potential volume of fluids that may be released from the surface pipeline at all stream, intermittent stream, ditch, and drainage crossings.

**COA 55** - Operator will utilize, to the extent practical, all existing access and other public roads, and/or existing pipeline right-of-ways, when placing/routing the surface pipelines. This will reduce surface disturbance and fragmentation of wildlife habitat in the area.

COGCC would appreciate your concurrence with attaching these COAs to the Form 2A permit prior to passing the OGLA review. If you have any questions, please do not hesitate to call me at (970) 309-2514 (cell), or email. Thanks.

Dave

**David A. Kubeczko, PG**  
**Oil and Gas Location Assessment Specialist**  
**Western Colorado**

Colorado Oil & Gas Conservation Commission

Northwest Area Office

796 Megan Avenue, Suite 201

Rifle, CO 81650

FAX: (970) 625-5682

Cell: (970) 309-2514

[dave.kubeczko@state.co.us](mailto:dave.kubeczko@state.co.us)



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