

Kubeczko, Dave

From: Kubeczko, Dave
Sent: Tuesday, July 13, 2010 4:14 PM
To: Kubeczko, Dave
Subject: FW: Antero Resources, Porter B Pad, SWSW Sec 17 T6S R90W, Garfield County, Form 2A (#400071791) Review

Scan No 2033251 CORRESPONDENCE 2A#400071791

From: Hannah Knopping [mailto:hknopping@anteroresources.com]
Sent: Tuesday, June 29, 2010 4:56 PM
To: Kubeczko, Dave
Subject: RE: Antero Resources, Porter B Pad, SWSW Sec 17 T6S R90W, Garfield County, Form 2A (#400071791) Review

Dave,

Antero does concur with the conditions of approval listed in your email below concerning the Porter B Pad.

Let me know if you need anything else.

Thanks!

Hannah Knopping
Permit Representative
Antero Resources Corporation
1625 17th Street
Denver, CO 80202
Office: (303) 357-6412
Cell: (720) 985-6647

From: Kubeczko, Dave [mailto:Dave.Kubeczko@state.co.us]
Sent: Monday, June 28, 2010 3:03 PM
To: Hannah Knopping
Subject: Antero Resources, Porter B Pad, SWSW Sec 17 T6S R90W, Garfield County, Form 2A (#400071791) Review

Hannah,

I have been reviewing the Porter B Pad **Form 2A** (#400071791). COGCC requests the following clarifications regarding the data Antero has submitted on or attached to the Form 2A prior to passing the Oil and Gas Location Assessment (OGLA).

1. **Water Resources (Section 14):** Form 2A indicates that the distance to the nearest surface water is 150 feet. COGCC's rules state that the distance to the nearest surface water should reflect intermittent (this includes ephemeral streams, irrigation ditches, drainages), as well as, perennial streams. COGCC guidelines require designating all locations within close proximity to surface water (the exact distance varies with the location and takes into consideration soil type, surface geology, initial grade/topographic slope, the grade/topographic slope adjacent to the location, vegetative cover, as well as other factors) a **sensitive area** and requiring the following conditions of approval (COAs):
COA 4 - Location is in a sensitive area because of close proximity to surface water, therefore, operator must ensure 110 percent secondary containment for any volume of fluids contained at well site during drilling and completion operations.

- COA 5** - Operator must implement best management practices to contain any unintentional release of fluids.
2. **Water Resources (Section 14):** Form 2A indicates the depth to groundwater to be 12 feet bgs for a well located 2050 feet from the proposed well pad. COGCC guidelines require designating all locations with shallow groundwater a *sensitive area*. The following condition of approval (COA) will apply:
- COA 1** - Location is in a sensitive area because of shallow groundwater; therefore either a lined drilling pit or closed loop system must be implemented.
3. **General:** Due to the steep slopes in this area (averaging 24 percent), the proximity to springs, the thin layer of moderately permeable topsoil (0 to 15 inches, and the potentially permeable weathered nature of the surface geology, the following conditions of approval (COAs) will also apply:
- COA 6** - Reserve pit must be lined or closed loop system must be implemented during drilling.
- COA 23** - Operator must ensure 110 percent secondary containment for any volume of fluids contained at well site during drilling and completion operations. If fluids are conveyed via pipeline, operator must implement best management practices to contain any unintentional release of fluids.
- COA 38** - The moisture content of any drill cuttings in a cuttings pit, trench, or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts. At the time of closure, the drill cuttings must also meet the applicable standards of table 910-1.
- COA 39** - No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.
- COA 44** - The access road will be constructed as to not allow any sediment to migrate from the access road to the nearby surface water or any drainages leading to surface water.

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

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