

Battlement Mesa Oil & Gas Committee

Meeting with Antero Resources

October 7, 2009

Present:

Committee members: Bill Nelson (Chair), Chuck Hall and Mac McCurdy

Antero Resources: Kevin Kilstrom, Lars Inman, Jon Black, Kelly Bruchez, Jerry Alberts

Jerry Dismukes (Independent Air Modeling Consultant)

Garfield County: Jim Rada, Paul Raiser, Dianne Quinn

Public: Approximately 20 members of the community

Subject: Environmental Program

The first part of the scheduled presentation covered air quality and potential impacts thereon.

The potential emission sources were identified as Temporary (shorter term) and Long Term.

In the "Temporary" category and potentially affecting us are –

Truck traffic and construction work on pads and pipelines.

Drilling Rig Generators

Fracking Operations.

In the Long Term category, potentially affecting us are –

Production Tanks (VOC emissions)

Separators and Wellheads (fugitive VOC's from valves and flanges)

In response to previously expressed concerns about air quality and potential health risks, Antero prepared a model of VOC emissions from production tanks, which are a continuous source of emissions over the productive life of a gas well. Also, if uncontrolled, these emissions can be relatively significant.

The basis for the model was explained in detail and shows a worst case scenario for totally uncontrolled emissions. Meteorological conditions data used in the model were taken from a dataset over a 5-year period at Rifle (Garfield County) Airport, provided by the Colorado Dept. of Public Health & Environment. Similarity of terrain, altitude, etc. to Battlement Mesa were cited as justification for using this location.

This was challenged vigorously by members of the audience. Some claimed that the wind here never blows from the South, which is not correct.

The model goes into a tremendous amount of statistical data and calculated concentrations of benzene at each of the proposed pad locations. Antero's conclusion was that the highest modeled benzene concentration (worst case scenario) at the nearest residence to a drilling site is about 30% of the acceptable EPA health-based standard. The average of all well sites is about 19%.

Considerable impromptu questioning was allowed. A lot of the questions had been posed and answered at earlier meetings. Several questions by John Sargent concerned adequate safety precautions at the well sites. Of special interest was his question concerning the use of electric

motors for the fracing operation, instead of multiple diesel engines. Jon Black, of Antero, stated that to his knowledge, there were none currently available that are capable of handling the extremely high pressures required involved.

Jim Rada, Environmental Health Manager for Garfield County, suggested that the data that has been used in the model was old and that Garfield County now has up-to-date data, which is EPA compliant. He also stated that the study should not concentrate on benzene alone; there are other VOC's to consider, like toluene, xylene and others; most of which are known carcinogens.

He offered to make the data available to Antero.

Sandy Getter observed that the aerial photo under the overlay of the pad locations is an old one that does not correctly portray the actual density of construction in some of the villages.

In view of the multitude of questions, plus a technical problem with the projector, it was decided to halt the presentation after two hours. The balance of the presentation will be made at the next meeting, which is scheduled for October 21, 2009 at 6:00 pm.
