ANTERO RESOURCES

Battlement Mesa Natural Gas Development Plan

Meeting #6

Drilling, Completion, and Water Management Plan

September 16, 2009

Antero Resources – Brief Overview

- Antero is a private energy company
  - headquarters located in Denver, Colorado
  - field office located in Rifle, Colorado
- Current operations in Colorado, Oklahoma, and West Virginia
- Development in Fort Worth Basin, Texas 2002-2005 (200+ wells)
  - Antero gained experience operating within city limits
- Development in Piceance Basin, Garfield County, Colorado 2004-2009 (175+ wells)
  - Primary operations in Garfield County focused along the Rifle – Silt corridor
  - Battlement Mesa area operations began August 2009 (outside PUD)

BMOGC Meeting Series – Brief Overview

- July 29th - Pad Locations, Facilities, and Setbacks
- August 5th - Surface Use Agreement
- August 19th - Drilling Schedule and Pace
- September 2nd - Traffic Plan
- **September 16th – Drilling, Completion, and Water Management Plan**
- October 7th – Environmental Program
- October 21st – Emergency Response Plan and Pad Security Plan
- November 4th – Post Drilling and Completion Operations and Interim Reclamation

(All meetings are open to the public and times are posted in *Grand Valley Echo* and on battlementmesacolorado.com website)

Today's Meeting Purpose

- Review Drilling Process
- Review Completion Process
- Discuss Water Management Plan
- Question and Answer Session

Drilling Process Overview

- Drilling permits are submitted to COGCC

  If permit is approved:

  - COGCC Form 2A – gives operator permission to build access road and pad and drill conductor hole (50-100ft)
  - COGCC Form 2 – gives operator permission to drill well
- Access road and pad site construction
- Mobile rig drills conductors
- Drilling rig is mobilized to location and "rigs-up" (assembled)
- Drilling rig drills wells, runs casing, and cements casing in place
- Drilling rig "rigs-down" (disassembled) and is mobilized off location
- Well logging can occur before casing has been run ("open-hole" logs) or after the casing has been run ("cased-hole" logs)

- Location is then cleared and prepared for completion operations

Access Road and Pad Construction

- Surveyed, Permitted, and notifications
- Secure County Operational permits
- Equipment cleaned prior to being mobilized to location
- Pad surface soil horizons segregated
- Pad topsoil is stock-piled and stabilized
- Pad is sloped and bermed - water shed and SPCCP
- Dust suppression and road washing/brushing utilized
- Pad is graveled, silt fencing, BMP's implemented
- Drill conductor hole and install cellar
- Secure exposed cellar areas

Access Road, Pad Construction, and Drilling Sequence

Access road is built

Pad is built

Conductor rig mobilizes to pad

Conductors holes are drilled (cellars not yet installed)

Drilling rig mobilizes and is assembled

Drilling rig begins drilling surface hole and then production hole

Drilling and Completion Video

Drilling Sequence

1. Conductor hole and steel conductor pipe (cemented)
2. Surface hole and steel surface casing (cemented)
3. Production hole and steel production casing (cemented)

- When Antero begins exploring deeper Mancos reservoirs, an intermediate "string" of production casing will most likely be utilized

- Each successive deeper portion of the well is drilled with a smaller diameter drill-bit and therefore smaller diameter "strings" of steel casing are cemented into the well as the well is drilled towards the "TD" (total depth)

Isolating and Protecting Water Sources and Natural Gas

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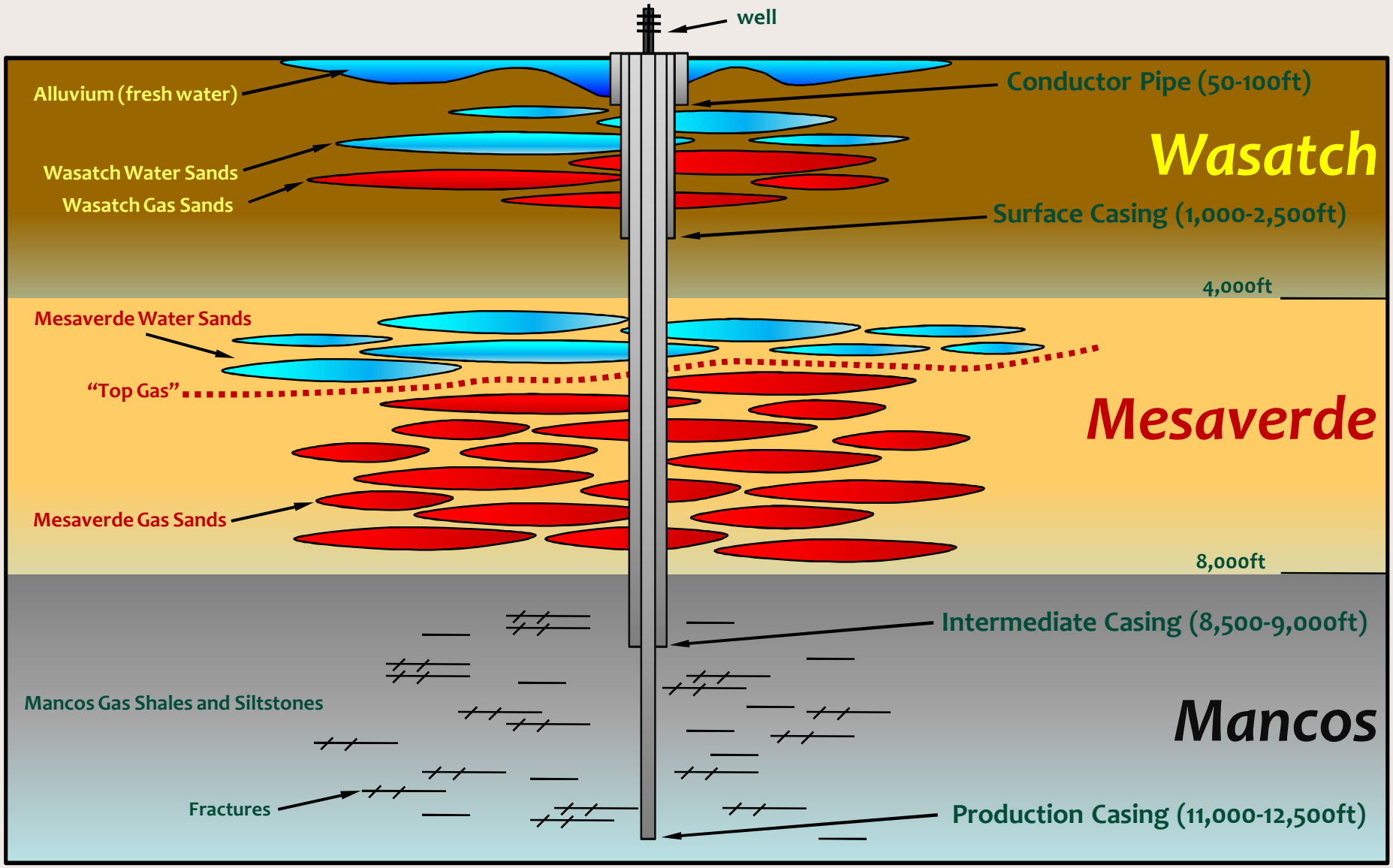
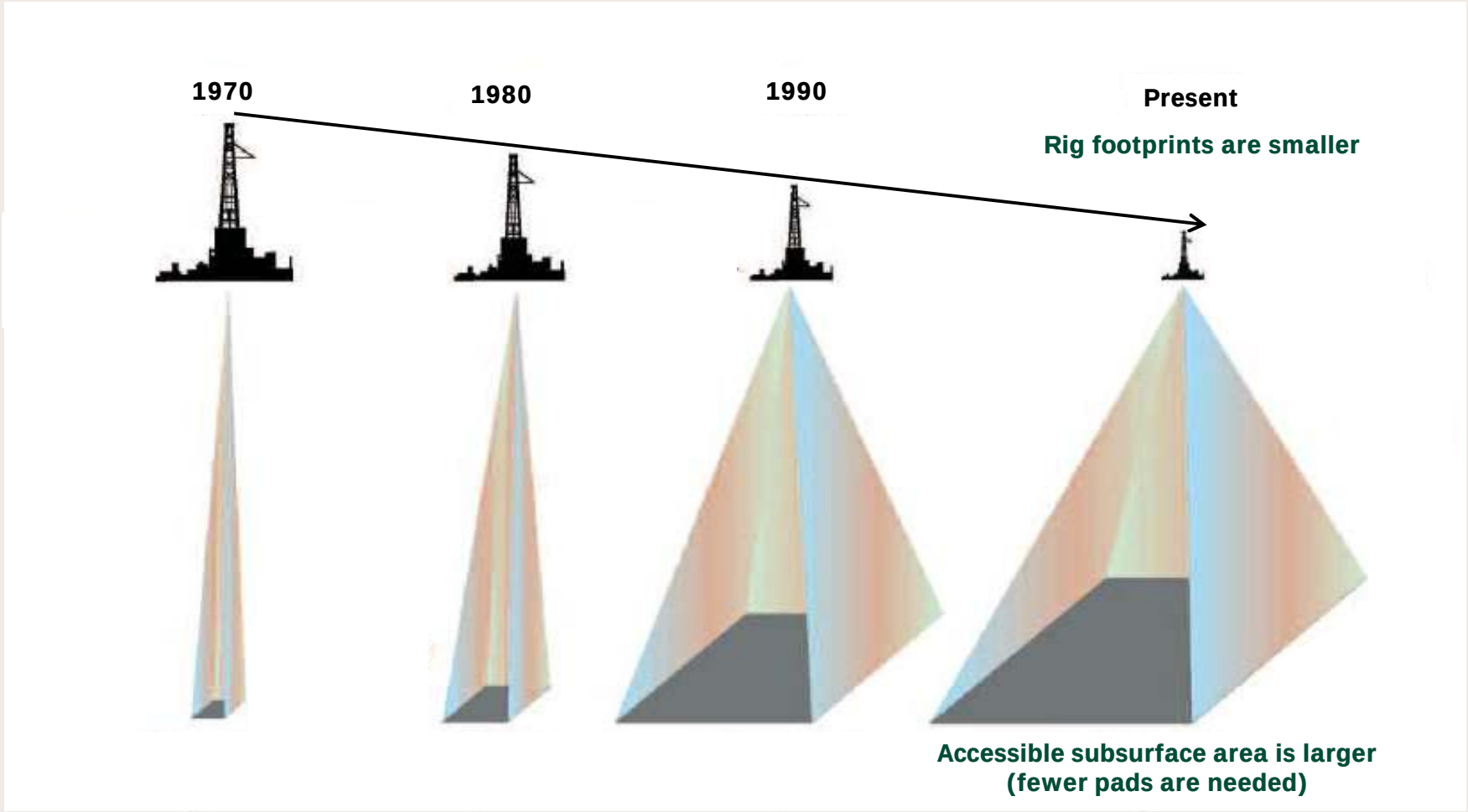


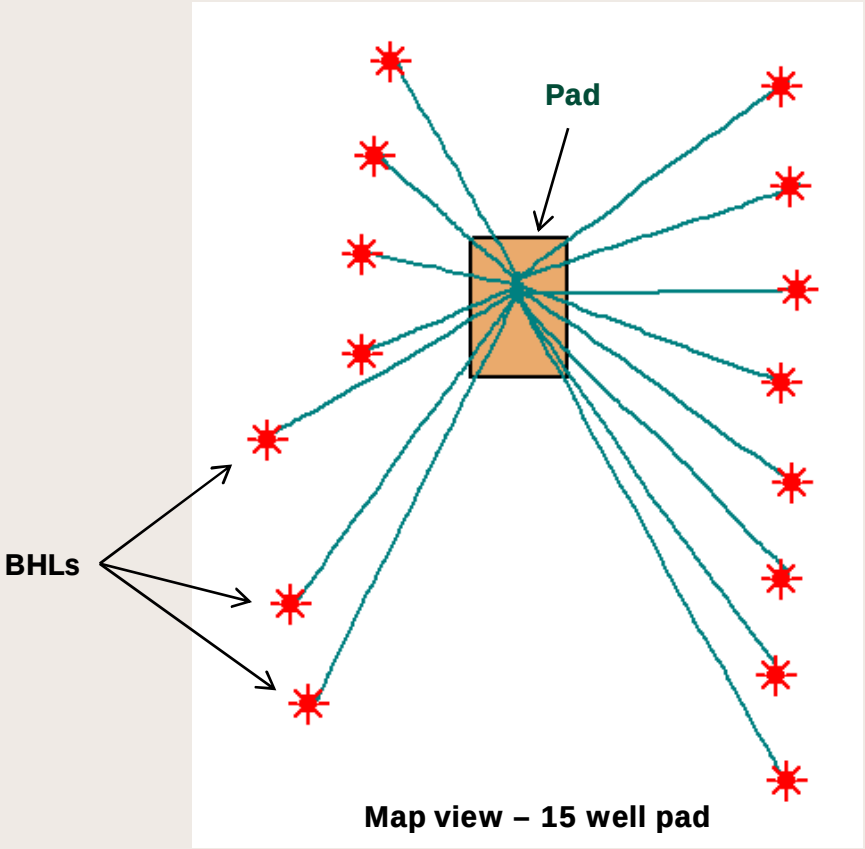
Drilling Operations

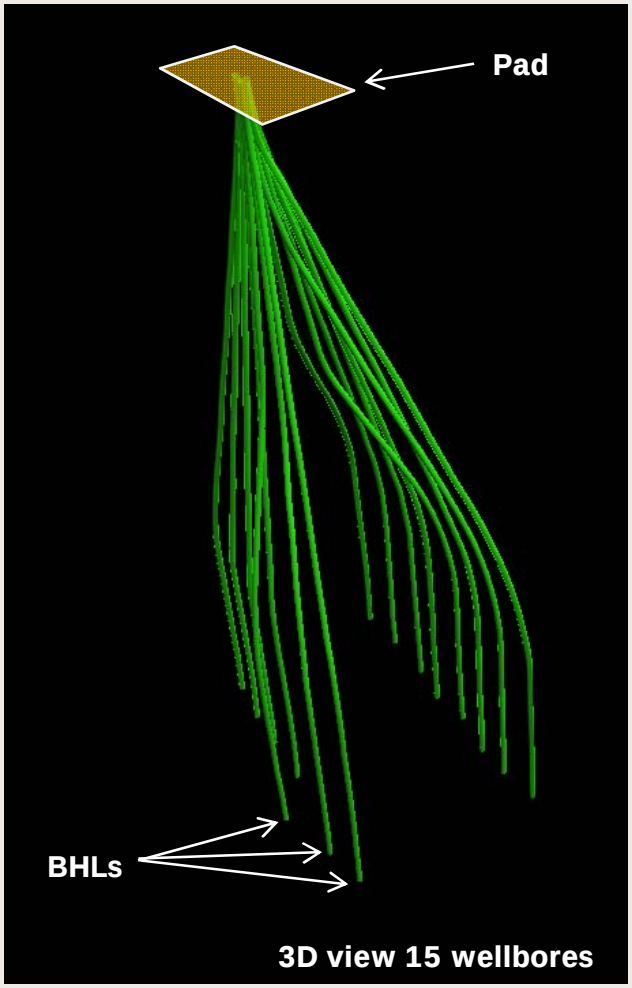
- Drilling operations are 24hrs
- Baseline sound monitoring and noise suppression will be employed
- 10 days approx per Williams Fork well
  - If Mancos proves economic, 20 days per well
- 24hr on-site supervision
- Closed-loop drilling fluid system (no pits)
- Utilize technological gains in drilling processes
- Light mitigation and rig orientation
- Sound suppression, draw works, drill floor
- Independent SIMOPS approach, lessens impact

Drilling Operations: Technological gains



Drilling Operations: Technological gains





Minimal Impact Approach to Drilling Operations

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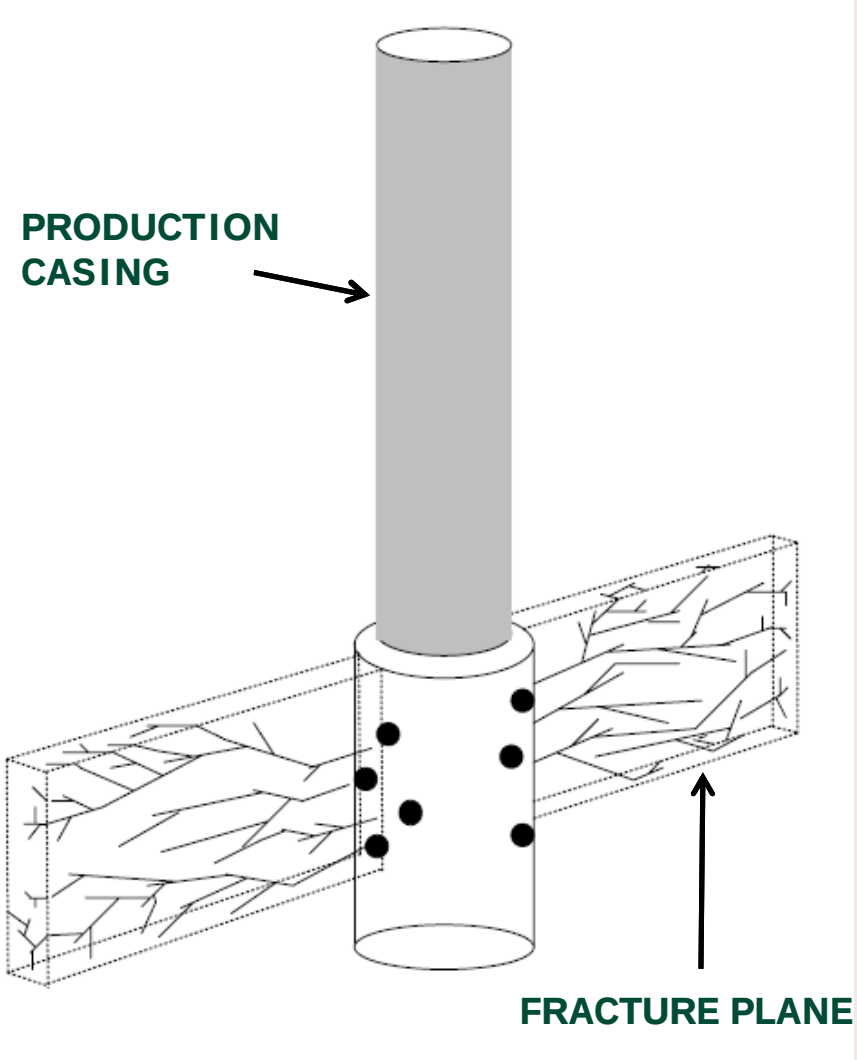
- Antero implements an integrated approach utilizing advanced technologies and best management practices (BMPs) to minimize drilling impacts
  - Pad size and density
  - Noise
  - Light
  - Dust
  - Odors
  - Traffic
  - Safety and security

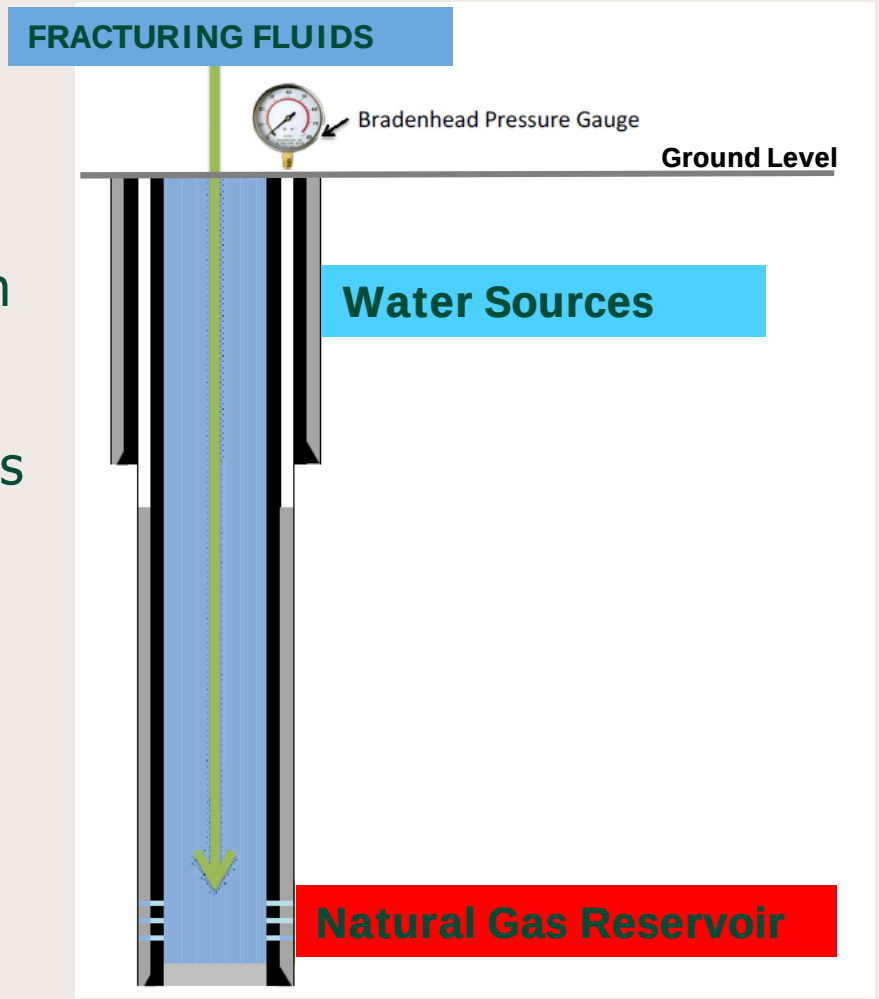
What is Hydraulic Fracturing?

- Pumping fluid and sand under high pressure into natural gas reservoirs
  - Tiny fractures created
  - Sand fills the fractures
  - Fractures act as conduits for natural gas to flow into well
  - Many wells would not flow without "fraccing"



Wellbore Configuration to Protect Groundwater

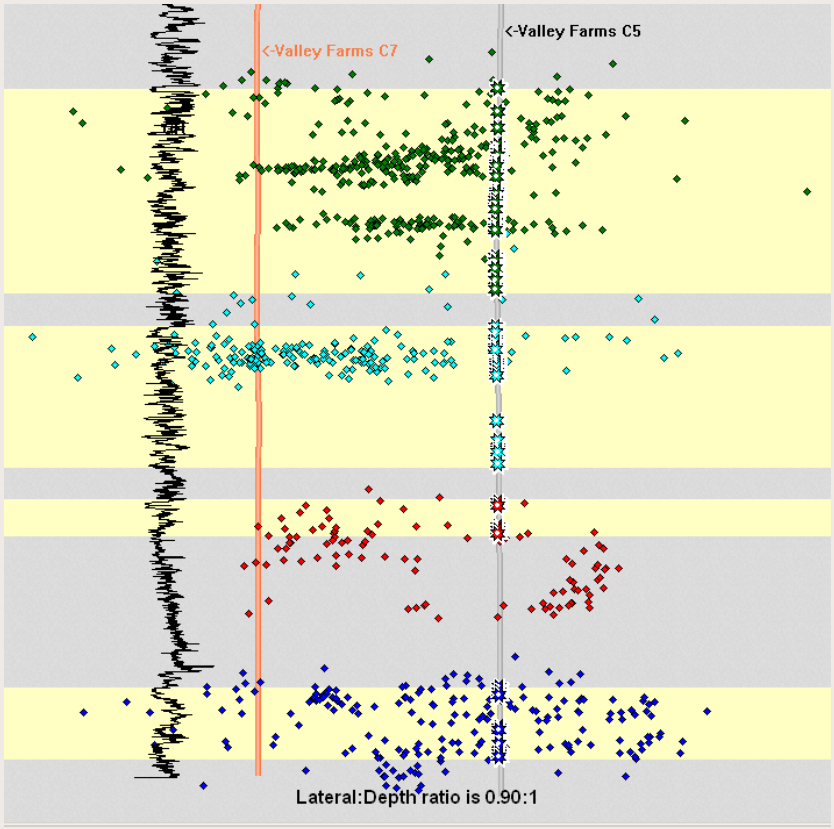
- Conductor / Surface casing
  - Cemented to surface
  - State determines setting depth
- Production casing
  - Cemented per state regulations
  - Testing ensures integrity
  - Subject to high pressure
- COGCC Rule 341
  - Continuous monitoring of bradenhead pressure during fraccing operations



Microseismic Monitoring

- Demonstrates frac height containment

Cross-Section View

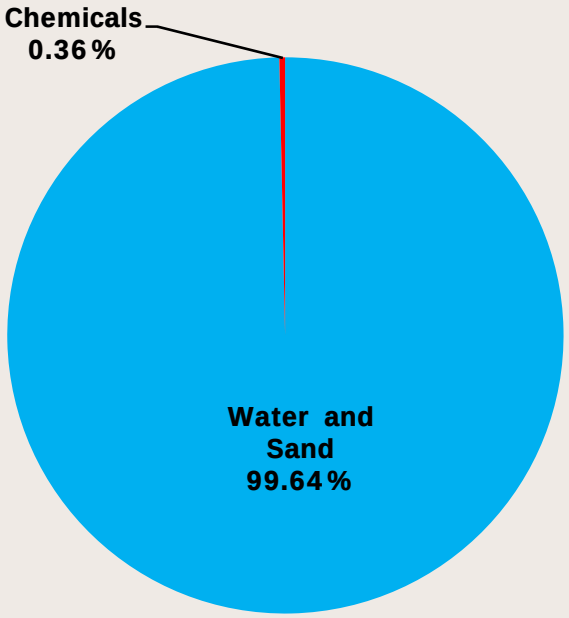


5000 ft

8000 ft

Frac Fluid Additives

- Scale Inhibitor
  - Prevents scale deposits in pipe
  - 0.01% of total fluid volume
- Friction Reducer
  - Reduces wellhead treating pressures
  - 0.05% of total fluid volume
- Biocide
  - Eliminates bacteria
  - 0.05% of total fluid volume
- Acid
  - Remove drilling mud damage
  - 0.25% of total fluid volume



**A list of all chemicals used in fracture treatment is available through the COGCC upon request. Operators are responsible for maintaining an inventory of all chemicals that are on site during drilling and fraccing operations

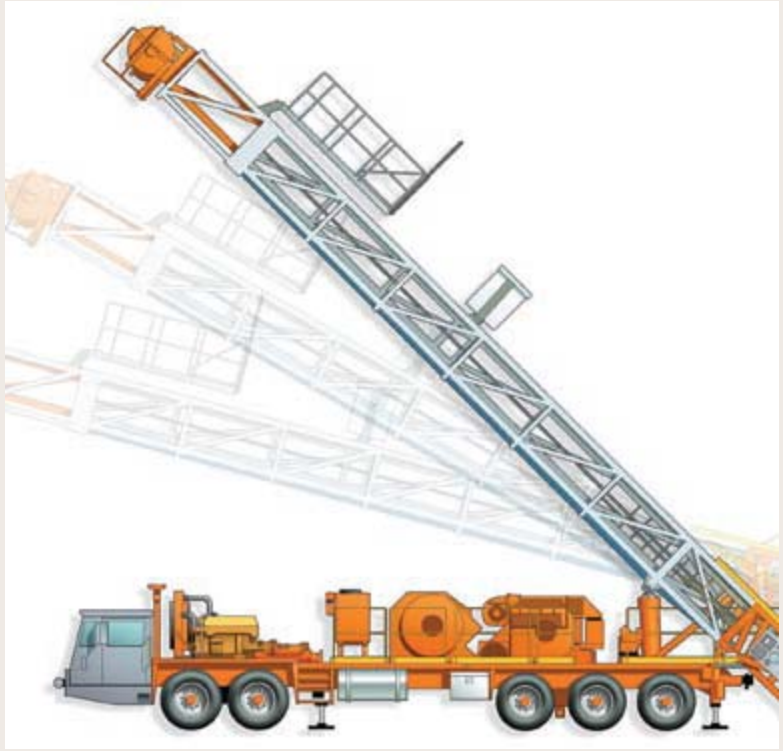
Completion Process

1. Test for casing and cement integrity
   - Acoustic and temperature tools
   - Pressure test casing
2. Move in frac tanks. Rig up wireline and frac crew.
3. Wireline perforate casing for 1st stage.
4. Frac 1st stage.
5. Use wireline to set plug above stage 1 and perforate 2nd stage.
6. Frac 2nd stage.

Frac Equipment and Crew

Completion Process (continued)

7. Continue perforating and fraccing for remainder of well.
   - 7 stages per well is typical
8. Rig down wireline & frac crew. Remove most of frac tanks from location.
9. Rig up workover rig.
10. Drill out plugs and clean out wellbore.
11. Hang off tubing in wellbore.
12. Rig down workover rig.
13. Flowback well. At first signs of gas, turn to sales.



Workover Rig

Antero Green Completion Practices

- Essentially eliminate venting of natural gas produced during new well completions
- Produced water and stimulation fluids are recycled
- Store water in tanks (no pits on drilling location)
  - Primary containment
  - Secondary containment (liners under tanks)
- Use of pipelines to transport water

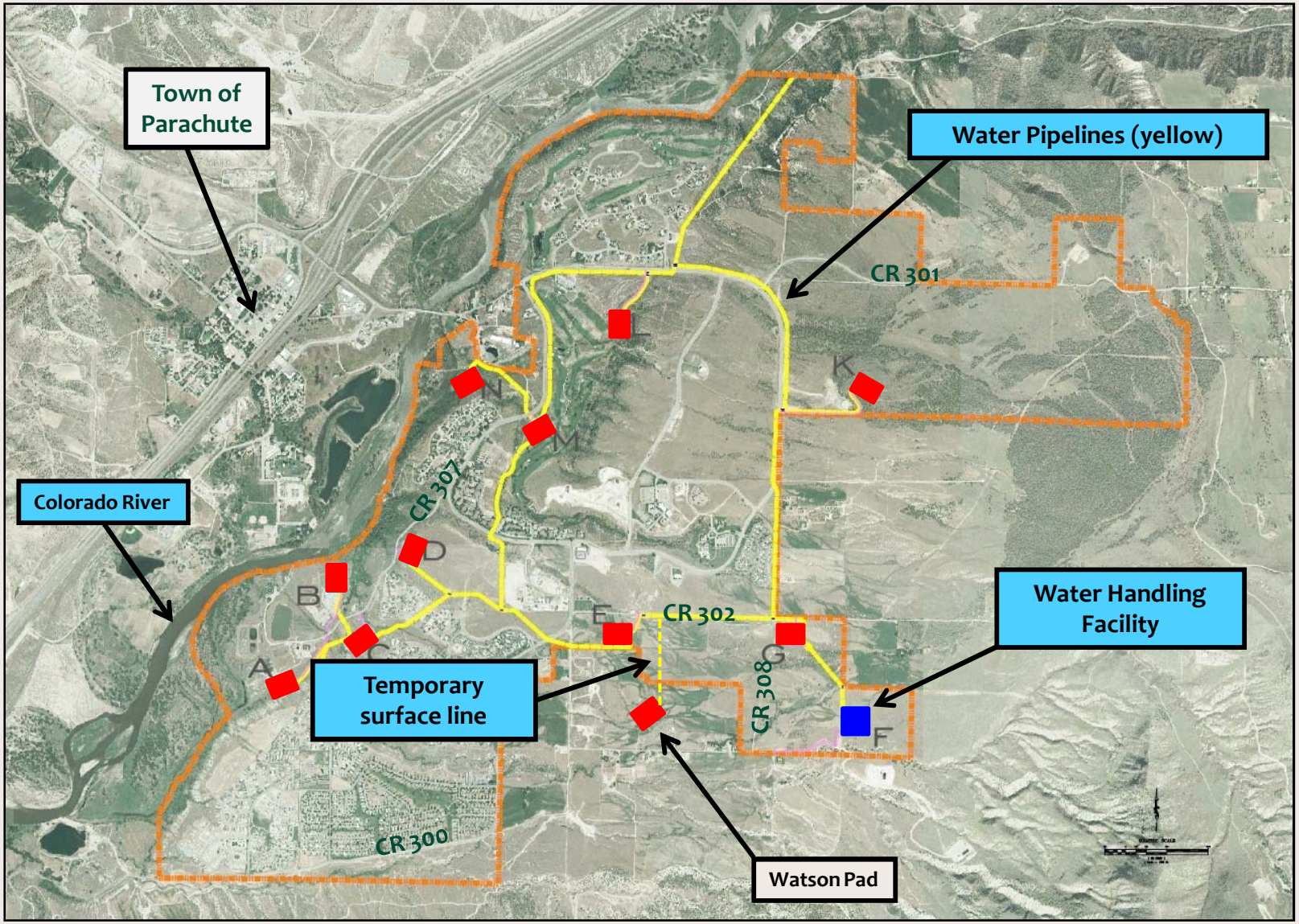
Additional Completion Comments

- Completion operations will be conducted during daylight hours
- Baseline sound monitoring and noise suppression
- 5-10 days approx per well
- 24 hr on-site supervision
- Green completion techniques, VOC controls
- Light mitigation – flowback operations
- Independent SIMOPS approach, lessens impact
- Emissions: Equipment used meets California Emission Standards

Water Management Plan - Overview

- Antero's Water Needs for Battlement Mesa Development
  - Construction
  - Drilling
  - Completion
  - Reclamation
- Local sources
  - Private Sources
  - Colorado River
- Water pipeline infrastructure and water handling facility will be in place for full field development
- Pipeline system will be installed as part of Antero's phased development approach (August 19th BMSA meeting)
- Water injection will be used for long term water disposal

Water Management Plan



Water Management Plan - Benefits

- **Major** reduction in water truck traffic
  - On average - this plan will eliminate 460 water truck loads per well (92,000 truck loads for a 200 well development plan)
  - Eliminates the associated dust, noise, and air pollution associated with truck traffic
  - Road damage and traffic impact is reduced

Question and Answer Session