SLIDES: Experience on the Ground, Part Two: Water Use in the Marcellus

Susan Packard LeGros

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2014 MARTZ SUMMER CONFERENCE

Water Supply and Quality

“Experience on the Ground, Part Two: Water Use in the Marcellus.”

Susan Packard LeGros
President & Executive Director
June 5, 2014
...an unprecedented collaboration built on constructive engagement among environmental organizations, philanthropic foundations and energy companies from across the Appalachian Basin.
CSSD History

• Working group (2011)
• Promulgation of 15 Performance Standards (2013)
  • Air Emissions and Surface & Groundwater Protection
• Certification Program (2014)
  • Bureau Veritas North America Certification
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  and former CEO of Alcoa

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  and former Governor of New Jersey

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  EQT Corporation
WATER RESOURCES IN THE MARCELLUS
Unconventional Wells

10,019 Wells Drilled Through November 19, 2013

Year Drilled
- 2012-2013 (3,186 wells 11.19.13)
- 2010-2011 (4,285 wells)
- 2008-2009 (1,997 wells)
- 2006-2007 (500 wells)
- 2004-2005 (15 wells)

Marcellus, Upper Devonian, and/or Utica Outline
http://marcellus.psu.edu

Source: http://www.marcellus.psu.edu/resources/maps.php
RIVER BASIN COMMISSIONS
Delaware River Basin Commission (DRBC)

- New York, Pennsylvania, Maryland, New Jersey, Delaware
- Covers 13,539 square miles
- DRBC Compact – November 1961
- Water supply for > 15 million people
- Marcellus underlies ~36%
- Has authority over water quantity and water quality issues
- Regulations drafted and proposed; postponed since 2011
Susquehanna River Basin Commission (SRBC)

- New York, Pennsylvania, Maryland
- Covers 27,510 square miles
- SRBC Compact – December 1970 – Agreement among states under consent of Congress
- Independent regulatory body
- Responsible for water quality and water supply
Ohio River Basin Commission (ORBC)

- Covers 203,000 square miles
- ORBC founded in 1971
PERFORMANCE STANDARDS
Groundwater Protection Standards

- Zero discharge of wastewater until adoption of a treatment standard.
- Wastewater recycling – > 90%.
- Closed loop containment of drilling fluids.
- Double-lined impoundments with leak detection.
- Pad specific Area of Review and risk analysis.
- Groundwater monitoring – pre and post operation.
- Casing and cement standards.
- Disclosure of well stimulation fluids.
- Well pad design – minimizing risk to water sources.
- Spill response and public notification plans.
What next?

- Net Water Producers
- Advanced Water Treatment
  - Evaporation
  - Distillation
  - Crystallization
  - Reverse Osmosis
CONTACTS

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