

# Efforts to Establish Well Drilling & Geothermal Standards in Adams County, PA

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# Background

- No well construction standards in PA (Alaska only other)
- Approximately 50% (50K) of Adams County residents rely on private ground water wells for their source of water
- 40- 65% of the water samples test positive for Bacteria
- Increased construction of open and closed-loop geothermal systems has become a water quantity and quality concern

# Major Partners

- Adams Co Conservation District (ACCD)
- Adams Co Commissioners
- Adams Co Office of Planning and Development (ACOPD)
- Adams Co Water Resources Advisory Committee (WRAC)
- PA DEP
- Penn State Extension
- Knouse Foods, Inc
- local well drillers
  - Alexander's, Eichelbergers, Negley's, Reichart's Wilson's
- local municipalities
  - Straban, Hamiltonban, Germany, Tyrone

# Commonwealth of PA

**67 Counties**

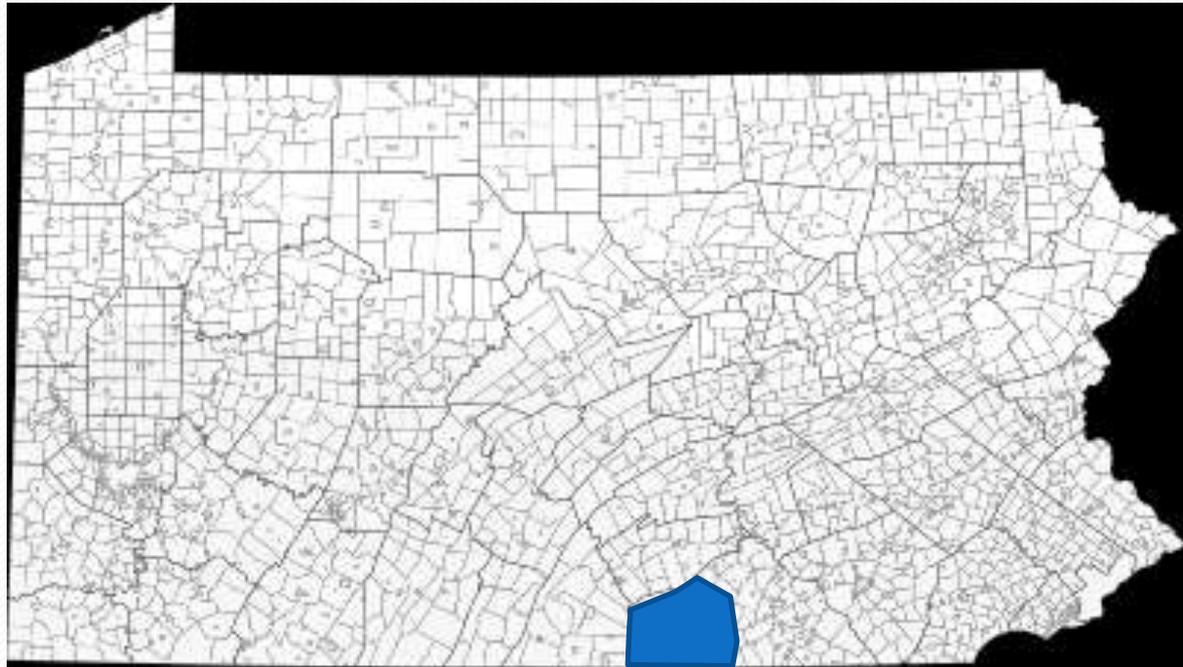
56 Cities

958 Boroughs

1547 Townships

+ 1 Town

**2,562 Municipalities**



*according to the Center for Rural PA, over 80% have less than 5,000 population*

# Adams Co Local Governments

34 Municipalities

- 13 boroughs
- 21 townships

Municipalities have authority over land use unless defaulted to County

Having consistent ordinances difficult



# Ordinance Development

Fall 2011, WRAC and the Commissioners recommended that the ACCD and ACOPD create a model well construction ordinance for municipalities for private wells

- Bottom up approach working w/ local well drillers and municipalities

Fall/Winter 2011, ACCD met with 5 local well drilling companies to develop the technical section of the standards

- What are they already doing
- Selected Spring Creek Ordinance (PGWA) as template
- Geology in the County
- Well drillers wanted to see consistency

# Ordinance Development

Spring 2012, ACCD and ACOPD met with local municipalities and other water professionals

- Reviewed technical section and created admin section
- Create two documents
  - Model Municipal Well Construction Ordinance (model ordinance)
  - Adams County Construction Standards and Material Specifications for Wells & Geothermal Systems (well standards)

# Model Ordinance

## Administrative

- Municipal permitting process, inspections, *completion report*

## Technical

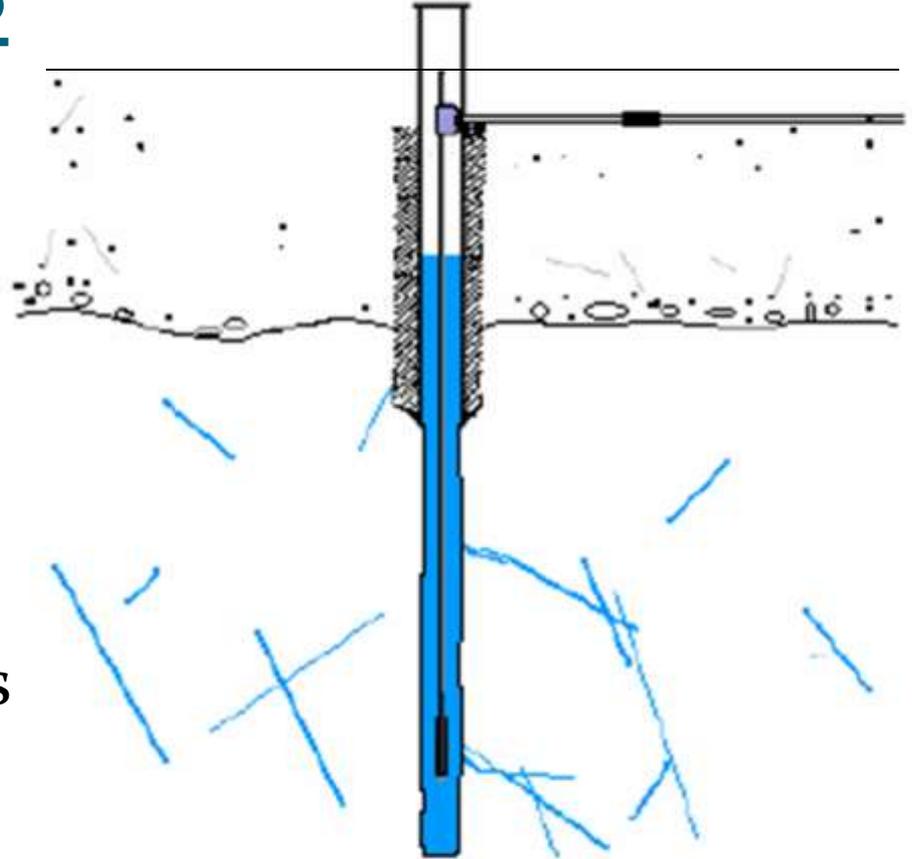
- Prohibits of open-loop geothermal
- Well depth and setbacks

Needs to be adopted by municipalities

# Well Standards

## Technical

- Casing requirements
- Grouting
- Well cap
- Disinfection
- Geothermal
- Replacing water supplies
- Living document
  - Conservation District



# Standard vs Sanitary Cap



# Grouting Well

- 
- Grout is pumped from the bottom of the casing (bedrock) to the surface
  - Minimum 20ft below surface to surface

# Grouting Truck





# Water Testing?

- We didn't forget – decided it wasn't the best time
  - false negatives
  - positive then chlorinated negative
  - hard sales tactics
- Recommendation to Municipalities
  - send Penn State water testing fact sheet along with well drillers report
  - recommend resident get water test by independent lab and get unbiased support

# Yield Requirement?

- We choose not to add one
- Goal of ordinance was to protect quality and quantity of the water in Adams Co through proper construction
- 34 municipalities
- Make municipalities aware that they should consider a yield requirement

# Next Steps

- Municipal solicitor review
- Approval of documents by ACCD BOD
- WRAC's Roll Out Plan
  - Get the word out – medias, email blasts, newsletters
  - Municipal Workshops - COG mtg, municipal engineer mtg, municipal official workshop
  - Attend individual mtgs upon request

# Questions?

“When the wells dry, we know the worth of water.”

~ Ben Franklin

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