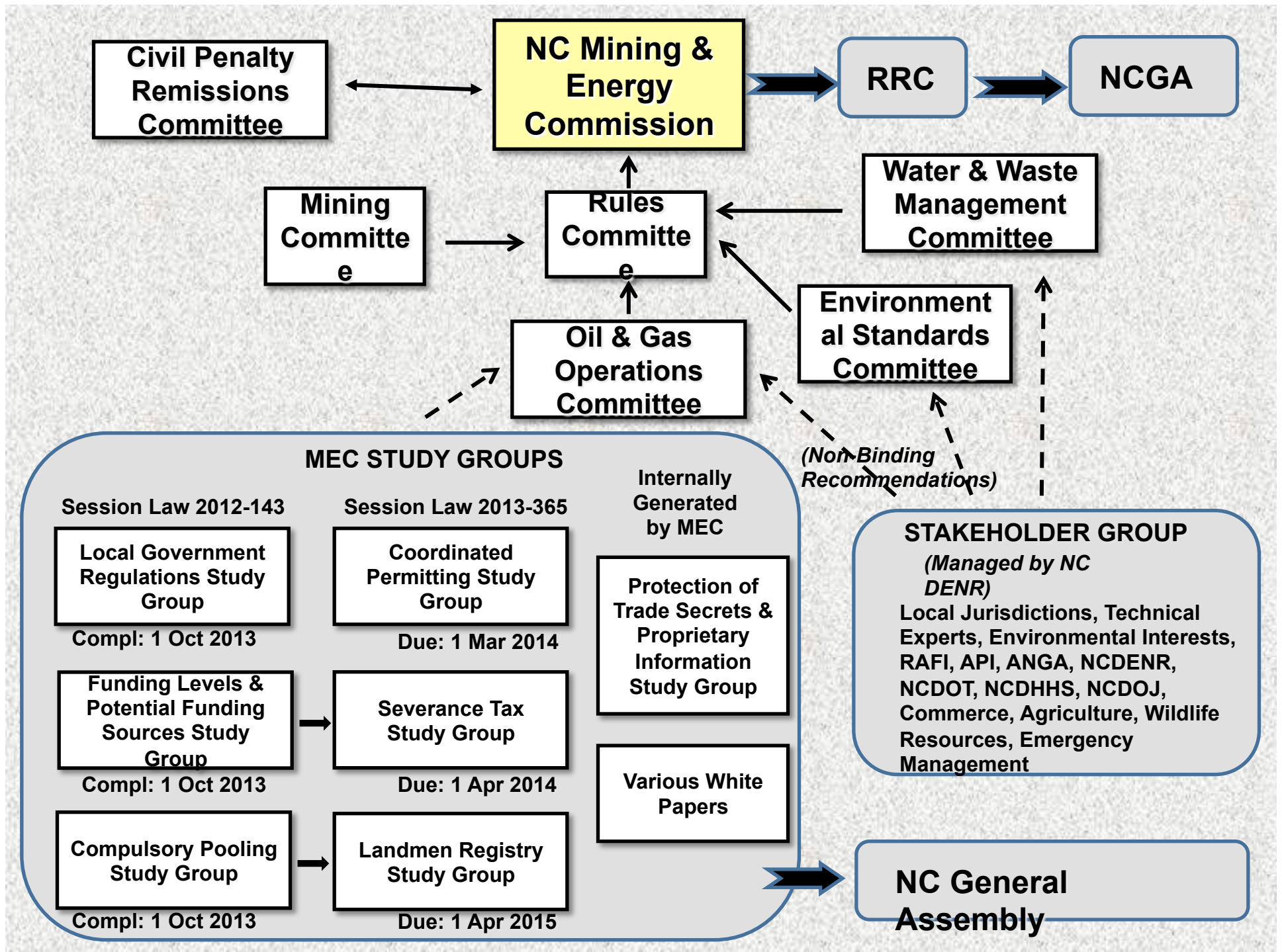


Update on Oil & Gas Regulatory Framework

February 4, 2014

**Presented by:
North Carolina Mining & Energy Commission**





MEC Accomplishments

- MEC Constituted by Statute-- 1 Aug 2012
- MEC Sworn In at First Meeting-- 6 Sep 2012
- By-Laws Adopted & Committees Assigned-- 2 Nov 2012
- Staff Research & Presentations Began-- 18 Dec 2012
- Study Groups Began Meeting-- 8 Feb 2013
- First Rules Passed by MEC-- 3 May 2013
- Study Group Reports Transmitted-- 27 Sep 2013

Anticipated Milestones

- Subsequent Study Group Reports-- Mar/Apr 2014
- Completion of MEC Internal Rule-making-- May 2014
- Public Comment Period-- June/July 2014
 - 3 Public Hearings
- MEC Adoption of Rule-set-- 5 Sep 2014*
- RRC Consideration of Rules-- 16 Oct 2014

****S.L. 2012-143 Requires Adoption by 1 Oct 2014***

Anticipated Development Milestones*

- 2-D & 3-D Seismic Studies- Spring 2014
- Vertical Well & Core Drilling- Summer/Fall 2014
- NCGA 'Green Light' for Permitting-- O/A 1 Mar 2015
- First Horizontal Wells Permitted- April 2015
- ~5 Wells Completed- 2015
- ~15 Wells Completed- 2016
- ~55 Wells Completed- 2017
- ~140 Wells Completed- 2018



****Depends heavily on demand for and market price of gas; NGL content in the gas; maturation of mid-stream infrastructure; among other variables.***

Committee Updates

Water & Waste Management Committee

Environmental Standards Committee

- Update on Committee Rules Completion :
- Baseline & Subsequent Testing Rules - *MEC Approved*
- Chemical Disclosure Rules - *MEC Approved*
- Set-Back Rules - *MEC Approved*



Water & Waste Management Committee

Environmental Standards Committee

Need General Assembly's Help:

- **Reduce from 5000' – 2500' the distance from wellhead within which recurring water sampling is required**
- **Need explicit authority from NCGA for DENR to review trade secrets asserted by industry; and to deny use of materials or methods which pose potential health or safety risks**

Special Challenge:

- **Develop health, safety, aesthetic, or other objective justification for each established set-back****

*****No evidence of this being done in any other state***

Administration of Oil & Gas Operations Committee

Charles Holbrook- Chairman

- Update on Committee Rules Completion:
 - *Well Construction Rules – MEC Approved*
 - *Well Spacing Rules - MEC Approved*
 - *Well Closure Rules - MEC Approved*
 - *Site Development Rules – 12 Feb 2014*
 - *Operations & Production Rules – 12 Feb 2014*
 - *Coordinated Permitting Rules – 17 Feb 2014*
 - *Bonding & Reclamation Rules - 17 Feb 2014*
 - *Unitization & Pooling Rules – 6 Mar 2014*
 - *Enforcement & Penalty Rules - 6 Mar 2014*



Administration of Oil & Gas Operations Committee

Need General Assembly's Help:

- **MEC & Department Need Explicit Variance Authority**
 - **Vertical Separation Distances**
 - **Horizontal Set-back Distances**
- **Legislative intent needed on regulating Mid-Stream Infrastructure (Utilities Commission or MEC)**
- **MEC needs explicit authority to establish permit criteria**
- **DENR needs explicit authority for permit denials**



Rules Committee

Amy Pickle- Chairwoman

- Update on Committee Rules Completion :
 - Administrative Rules – 7 Mar 2014
 - Definitions - 3 Apr 2014
 - Full Rules Bundle Ready for MEC – 2 May 2014



Rules Committee

Public Comments, Adoption, RRC Review:

- Public Comment Period: 2 June – 1 Aug 2014
- Public Hearings (3 ea.) June / July 2014
 - Near Deep River Basin
 - Near Dan River Basin
 - Raleigh
- Work Sessions on Comments 24 July – 4 Sep 2014
- MEC Adoption 5 Sept 2014
- RRC Review 16 Oct 2014



Coordinated Permitting Study Group

Dr. Kenneth Taylor, Director

Coordinated Permit Scope & Caveats

- Single, Coordinated, Digital Permit for each Site of One or more Wells
- Addresses Well Development through Well Completion
- Production & Post-production Activities May Require Additional Permits or Plans
- Waste Management is part of Permit
- NCDOT Coordination is Separate
- Off-site Disposal of Solid Wastes
- Water re-use strongly encouraged
- Sedimentation Control Commission Coordination
- Environmental Management Commission Coordination

Coordinated Permitting Study Group

Dr. Kenneth Taylor, Director

Findings & Recommendations

- Single, Coordinated Digital Permit is Possible
- Follow same general procedures as Mining Permits
- Need statutory language specifying agencies to participate
- Need oil & gas permit denial criteria
- Need to establish reasonable time period for permit review
- Need to establish required permit content
- Must establish public notification procedures



Pooling, Unitization, & Statutory Needs

***Dr. Ray Covington,
Director***

- Current North Carolina law authorizes the voluntary and compulsory pooling of the rights of landowners in order to develop their lands as a drilling unit. The General Assembly enacted the Oil and Gas Conservation Act of 1945 to allow pooling to prevent waste of oil and gas in the state.

- The Study Groups scope included:

- Statutory Review
- Rules in other states
- Surface Use agreements
- Severed estates
- Pooling
- Unitization



- Full report:

<http://portal.ncdenr.org/web/mining-and-energy-commission/compulsory-pooling-agendas>

Pooling, Unitization, & Statutory Needs

*Dr. Ray Covington,
Director*

Findings and Recommendations**

- Mineral Rights Clarifications Needed (NCGA Action)
- Surface Use Agreements Required
- Fair and Reasonable Offer
- Landowner Protections
- Cost Sharing Options
- Risk Penalty Provisions
- Time Limitation on Pooling Order
- Indemnification
- Notice and Reporting
- 90% Secured Lease Recommended

***** Need Legislative Intent on each; to be regulated by Statute or by Rule-Making***

Questions?

Commissioner Jim Womack
Chairman, Mining & Energy Commission
(919) 770-4783
commissioner.womack@gmail.com

Tracy E. Davis, PE, CPM
Director, Division of Energy, Mineral, and Land
Resources
(919) 707-9200
tracy.davis@ncdenr.gov



To stay abreast of the activities of the Mining and Energy Commission

Join the Shale Gas Listserv at:

<http://lists.ncmail.net/mailman/listinfo/denr.shale.gas>

Or

Visit the Mining and Energy Commission web page at:

<http://portal.ncdenr.org/web/mining-and-energy-commission/home>



Back-up Slides

Senate Bill 820 (2012-143)

Clean Energy & Economic Security Act

- Establishes the Mining & Energy Commission
- Requires a Modern Regulatory Program for Oil & Gas Development
- Authorizes Horizontal Drilling & Hydraulic Fracturing
- Enhances Landowner & Public Protections
- Establishes Joint Legislative Commission on Energy Policy

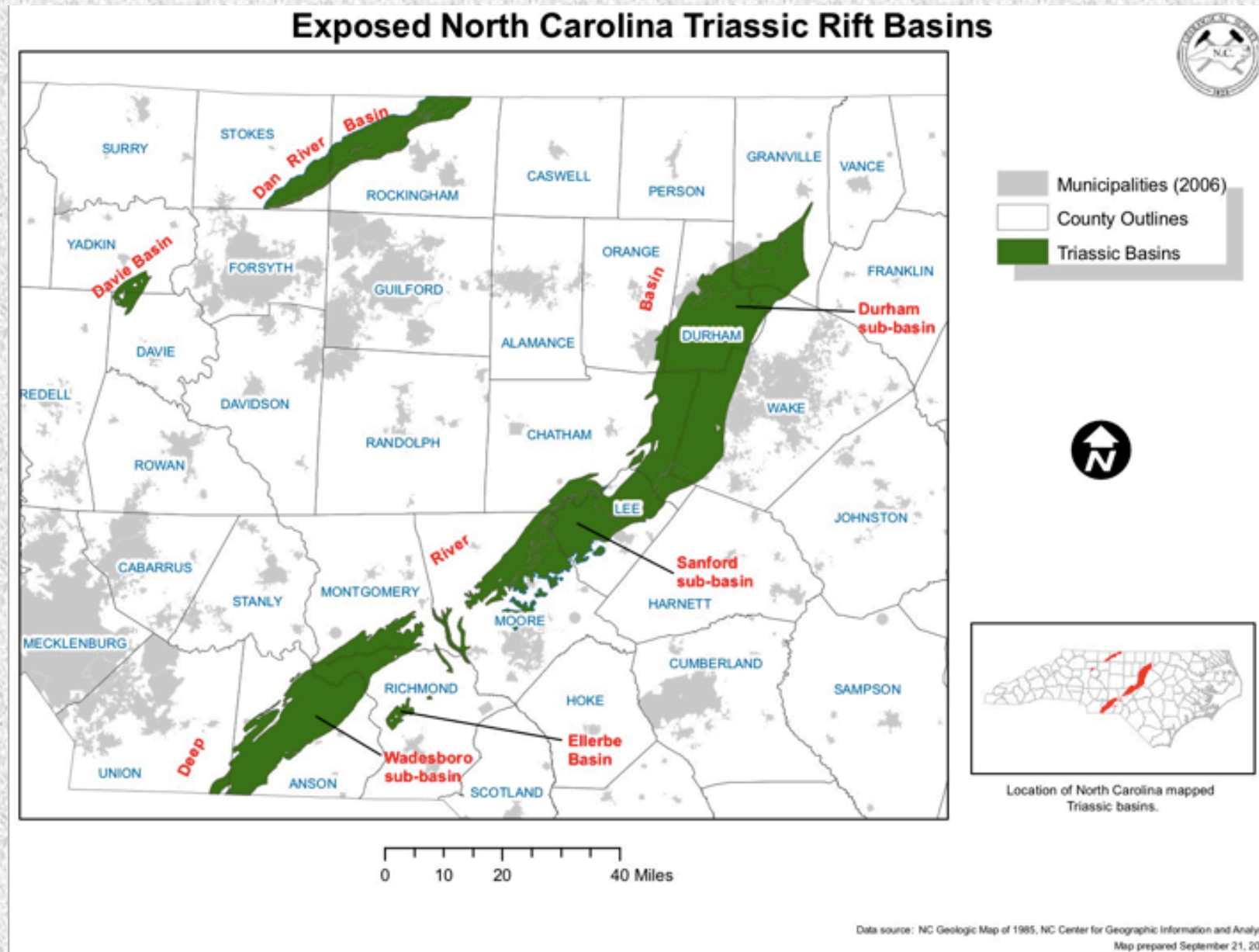
Senate Bill 76 (S.L. 2013-365)

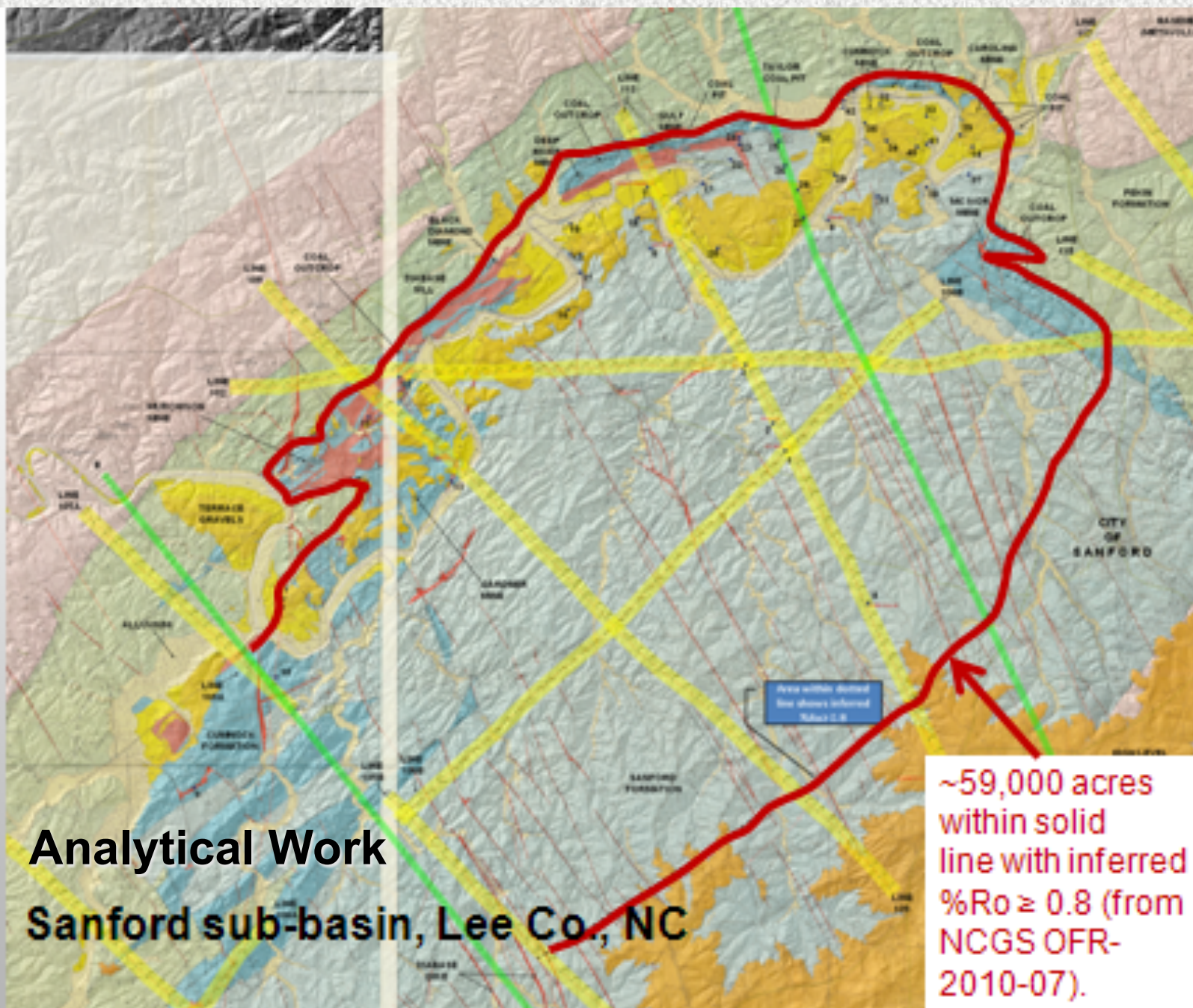
Domestic Energy Jobs Act

- Streamlines Regulatory Process by Waiving Fiscal Notes
- Mandates Legislative Review of Rules before Commencement of Drilling
- Requires Special Study of Coordinated Permitting
- Requires Special Study of Landmen Registration and Taxation of Hydrocarbons
- Establishes Energy Policy Council

Active Shale Gas Plays in U.S.

Expected NC Shale Gas Reserves



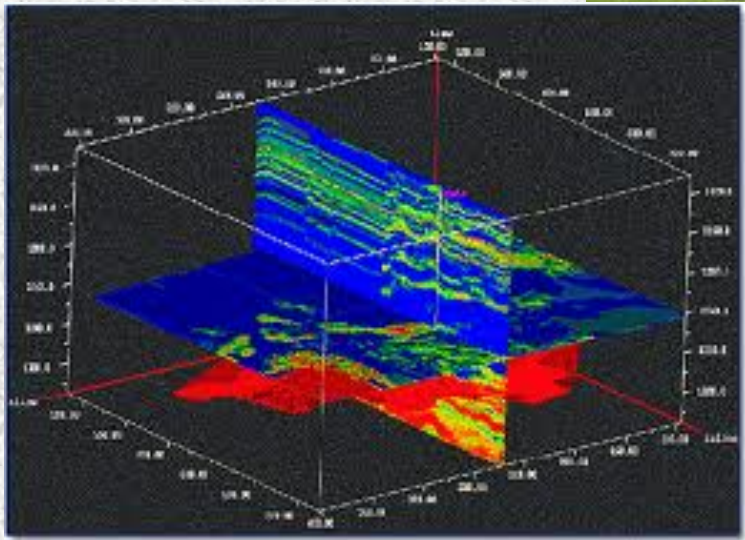


Analytical Work

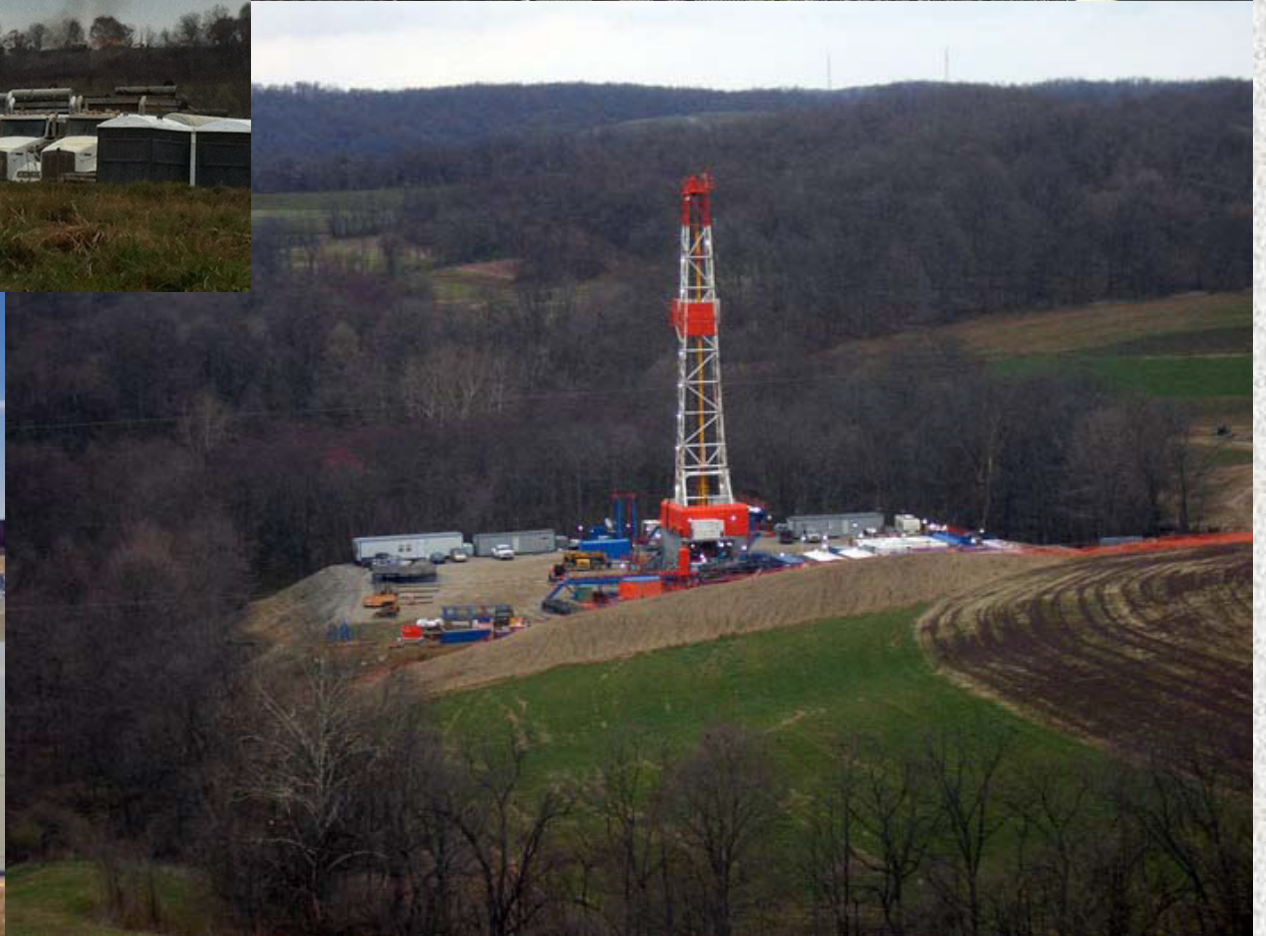
Sanford sub-basin, Lee Co., NC

~59,000 acres
within solid
line with inferred
 $\%R_o \geq 0.8$ (from
NCGS OFR-
2010-07).

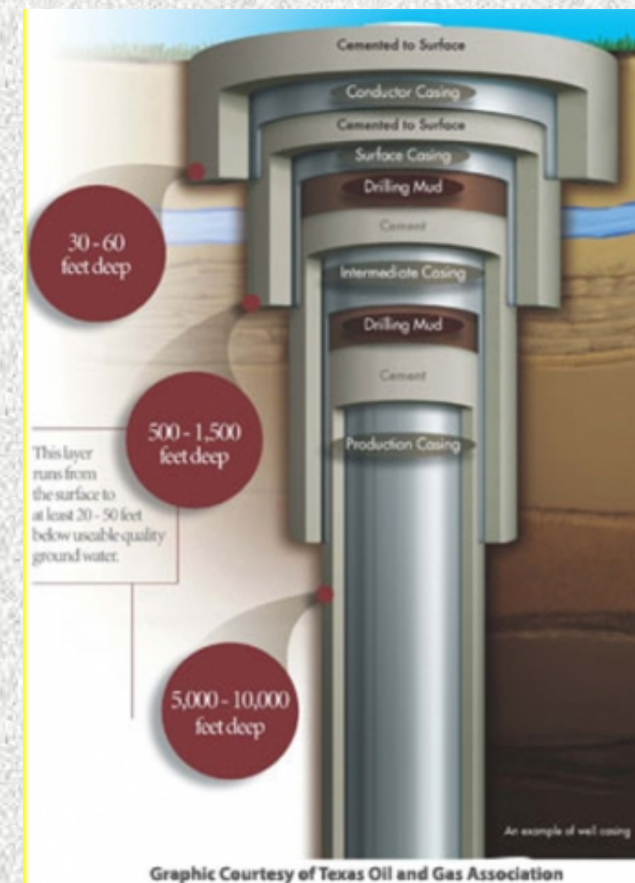
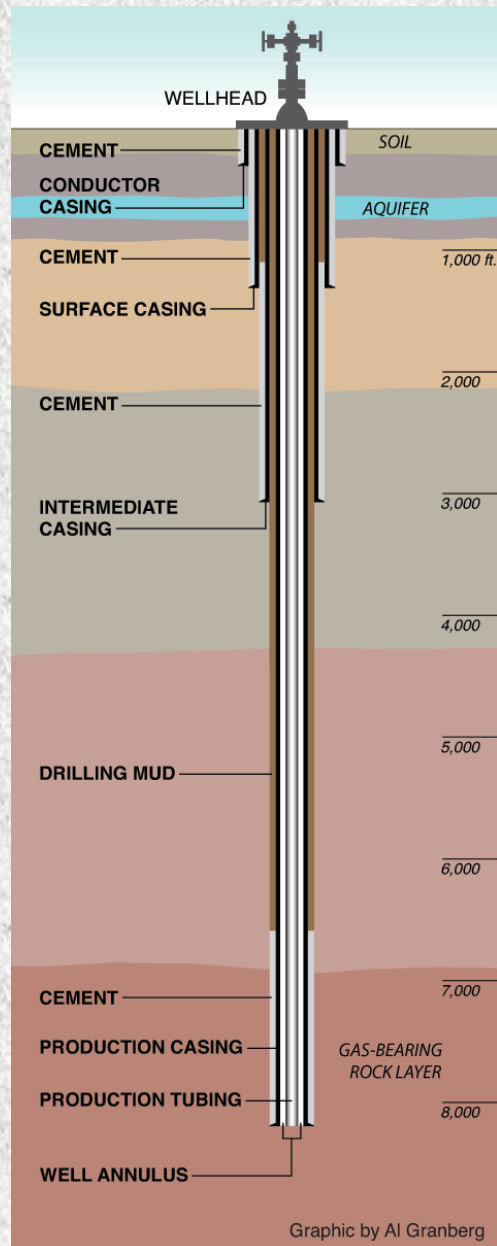
3-D Seismic Work



Oil & Gas Well Sites



Well Casing & Cementing



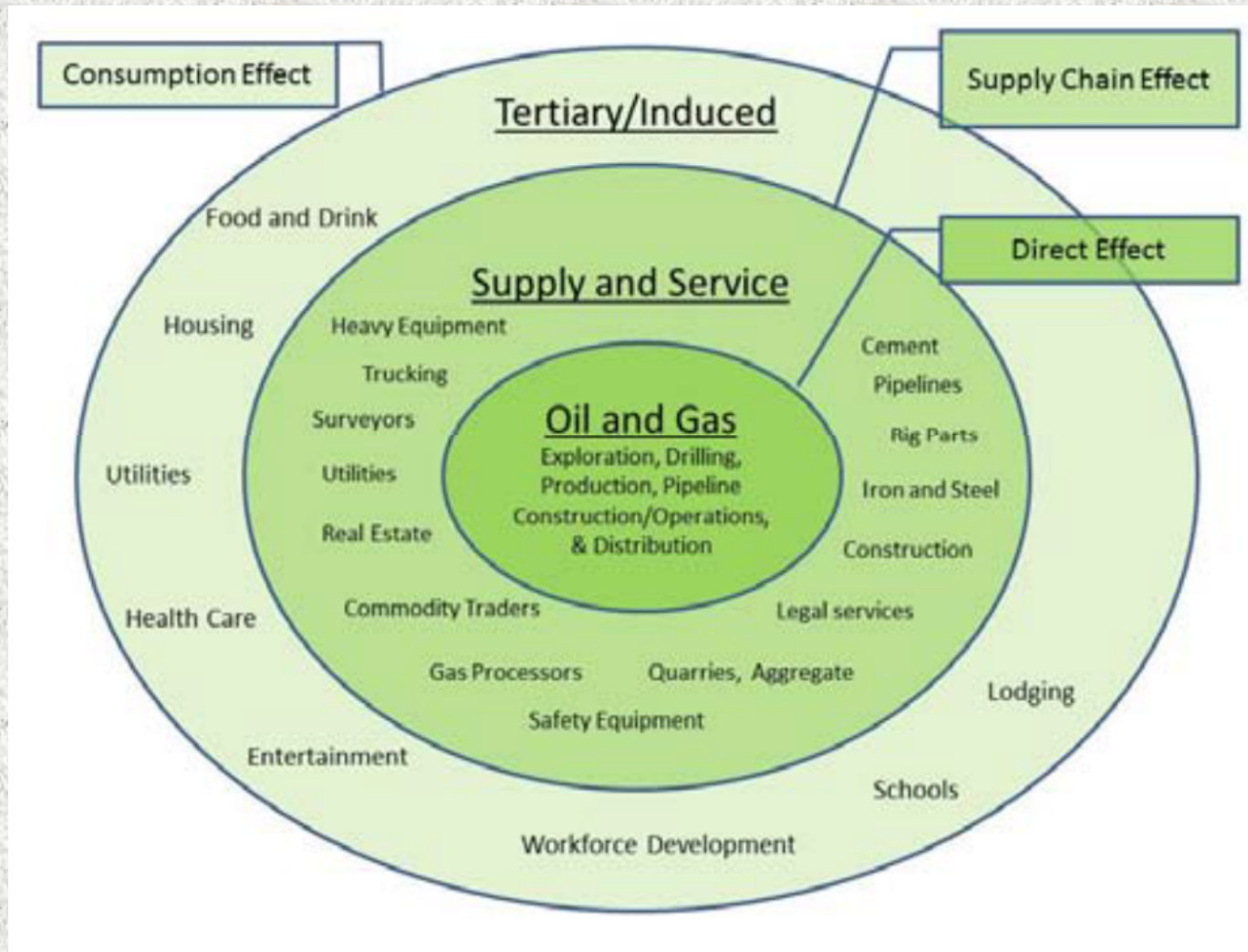
Water Withdrawal and Impoundments



EXCO
EXCO RESOURCES (PA), LLC
24 Hr. Emergency Contact 888-788-3781
EXCO RESOURCES (PA), LLC - 3000 Ericsson Drive, Suite 200 - Warrendale, PA 15086
SURFACE WATER WITHDRAWAL
From Muncy Creek - Penn Township, Lycoming County, PA
SRBC Docket #20111210
Effective Date of Approval: December 15, 2011
Expiration Date of Approval: December 14, 2015
Peak Day Withdrawal Rate: 1.5 million gallons per day
Maximum Pumping Rate: 1,041 gallons per minute
Minimum Stream Passby Flow Requirement: 11,042 gpm
Contact: Susquehanna River Basin Commission
1721 North Front Street
Harrisburg, PA 17102
Phone: (717) 238-0425
jmhoffman@srbc.net



Economic Impacts



Shale Oil & Gas Potential

- **Direct Economic Lift to Landowners & Government**
 - \$Millions in Royalties from Extraction of Oil, Condensates, Natural Gas, Helium
 - \$Millions in Severance & Ad Valorem Taxes, Impact Fees
- **Direct & Indirect Jobs**
 - Skilled Tradesmen, Service & Support Contractors
 - Hundreds of Secondary Jobs in Motels, Restaurants, Repair Shops, Storage Yards, Equipment Suppliers
- **Cheaper, Cleaner-burning Fuel for Power Generation & Local Consumption**
 - 20+ Years of Sustained Supply of Local Natural Gas

