

# Marcellus Shale Update

POA Committee  
15 June '13 Board Meeting

# Situation Review

- Legislative outcomes---no statutory moratoriums or prohibitions
- Assurance of “safe drilling” squarely in the hand of the Governor-tasked studies and the follow-up processes
  - Current focus on “Best Management Practices” (BMP) report (August 2013 target)
  - UMD “Appalachian Lab” report ass critical input to MDE/DNR/Commission
  - Multiple presentations and Commission reviews (latest and last, 10 June)
  - Release for public comment imminent (30 day comment period)
- Industry interest/activity in MD---permits withdrawn (few), prices still low, momentum elsewhere (esp. PA), tracking BMP report (with concerns)
- Things pretty “quiet” in terms of press and citizen activity (at the moment)

# A Perspective

**On the one hand**---It can be argued that:

- Economic factors plus the prospect of an onerous MD “gold standard” discourage industry

- Drilling will not occur locally “for years” (or forever??)

- More “safe” technology/practices will evolve over this period

- Sooooo----”not to worry”

**On the other hand**---It can also be argued that:

- Gas economics can change, even dramatically (export licenses)

- The ongoing process provides a unique opportunity to influence regulations for the future

- The POA and others have a derivative opportunity and obligation(?) to engage constructively

- Sooooo---”remain diligent” (i.e. engage seriously where appropriate and productive)

# MDE/DNR “BMP” Report Structure

- III – Comprehensive Gas Development Plans (CGDP’s)
  - IV - Location Restrictions and Setbacks
  - V - Plan for Each Well
  - VI - Engineering, Design, and Environmental Controls and Standards
  - VII - Monitoring, Recordkeeping, and Reporting
  - VIII – Miscellaneous Recommendations (incl. general comments on zoning)
  - IX – Modifications to Permitting Procedures
  - X – Implementing the Recommendations
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- App. B – Consultation with the Advisory Commission
  - App. C – UMCES-AL Report
  - App. D – Marcellus Shale Constraint Analysis
  - App. E – Marcellus Shale and Recreational and Aesthetic Resources in Western Maryland (DNR product)

# Topics Addressed in the Engineering Section (VI)

- A. **Site Construction---**
- B. Transportation Planning
- C. **Water**
- D. Chemical Disclosure
- E. **Casing and Cement**
- F. **Blowout Prevention**
- G. **Fracking**
- H. **Flowback and Produced Water**
- I. Air Emissions
- J. **Wastewater Treatment and Disposal**
- K. Leak Detection
- L. Light
- M. **Noise**
- N. Invasive Species
- O. **Spill Prevention**, Controls, Countermeasures and Emerg. Response
- P. Site Security
- Q. Closure and Reclamation

# BMP Report----Observations (1 of 3)

- Adopts most and strengthens some of the App. Lab recommendations (121)--- appears to justify the “gold standard” characterization
- Particular recommendations that seem critical to “safety”, but are onerous from an industry standpoint---
  - Extensive CGDP’s mandatory, requiring review/approval before also-extensive applications for a single well (2-step process to receive a well permit)
  - Baseline monitoring (e.g., water quality) for 2yrs. before development
- Relatively conservative setback and siting constraints
- Strong provisions on (1) handling of wastewater (e.g., recycle >90% within closed-loop system and (2) prevention of pad, pit, etc. “leakage” to groundwater (e.g., liners, impermeable berms, etc.)

## BMP Report---Observations (2 of 3)

- Proposed casing and cement “standards”/practices quite strong as related to protecting groundwater, but could be stronger (“common” cause of failure, re-charging of lake as well as well/aquifer integrity at stake, DCL “uniqueness”)
- Some interesting “devil is in the detail” issues---e.g., not standards for “rural gathering lines”, yet HF requires larger diam. pipe handling greater pressure
- No definitive content, in this report, on MDE/DNR posturing to handle all of this, tho potential reviewer/inspector “capacity” issues acknowledged. Analog to Bureau of Mines? Next/last report?
- “Surprising” results of the Constraint Analysis---e.g., even if drilling in 64% of the applicable surface area is precluded (public lands, Accident storage field, setbacks), 94% of the natural gas can be recovered with only 4,000 feet of horiz, drilling/fracing) [*Hmmmmmm---hints regarding the economic impact of zoning???*]

## BMP Report---Observations (3 of 3)

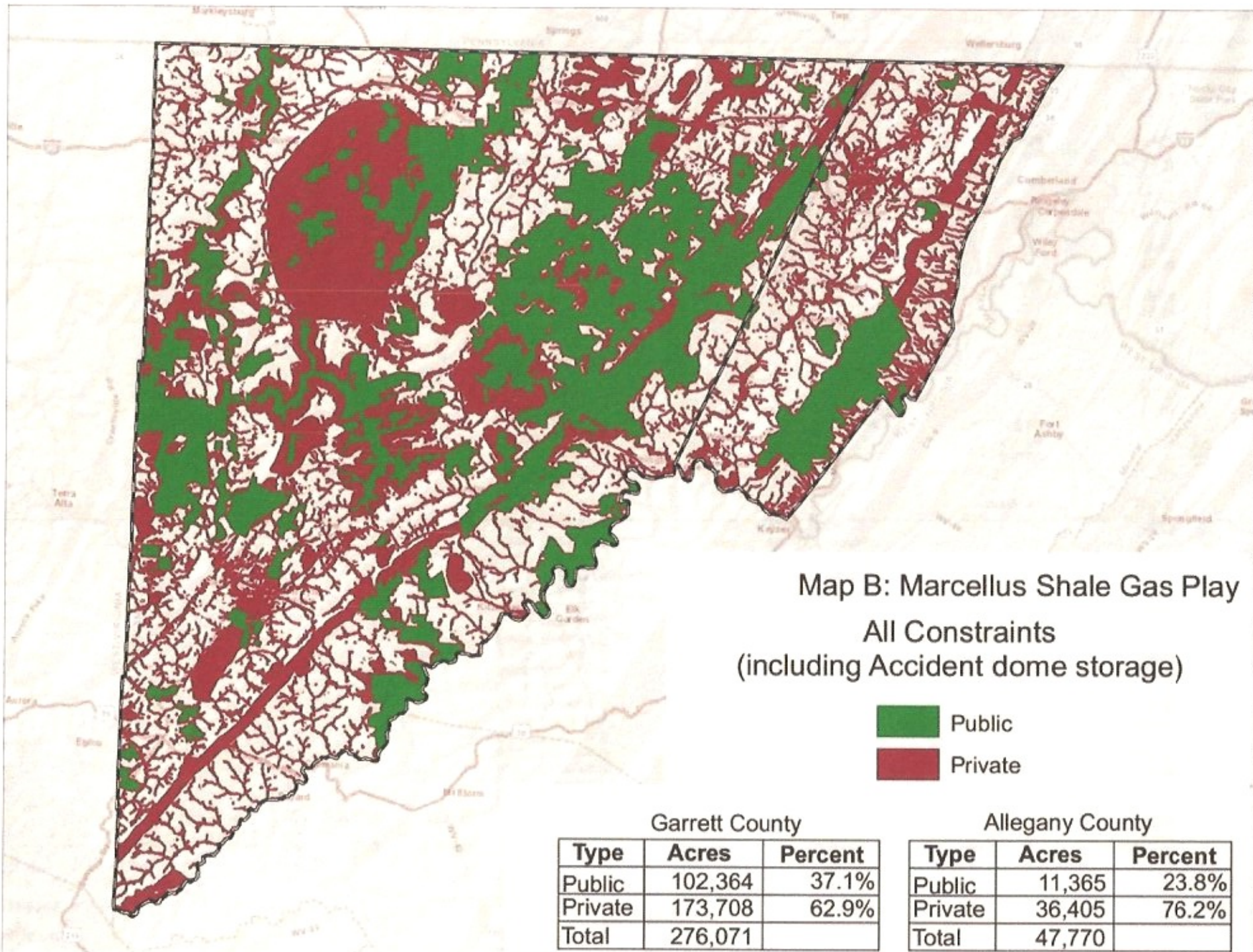
- The DNR commitment to further explore the protection/preservation of “recreational and aesthetic resources”
  - Includes the notion of larger setbacks
  - Commits to outreach and consultation with the public (POA Role)

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*NOTE: This report, like the others we've seen, fails to quantify risks (e.g., probability of certain incidents/failures, probability of certain impacts)*

- *NOT the fault of the authors/researchers; the 'data' just doesn't seem to exist (atho the EPA study of water issues promises case studies and incident analyses, including three regions in PA)*
- *So, not a great situation when working a “risk management” problem, but---*
- *Hopefully, there will be some real data by the time no kidding drilling decisions are made in MD*
- *A discussion topic with MDE, or have they exhausted the possibilities??*





# Looking Forward

- Continued tracking/engaging of “safe drilling initiative”
    - BMP report comments and potential follow-up
    - Review of further studies toward final Aug. 2014 report (e.g., public health)
    - Progress toward legislation and enforceable regulations
  - Further look at “industrialization” issues (e.g., visual impact, traffic patterns)
  - Consideration of DCL Watershed zoning option/tradeoffs
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- And, engagement in Towson U. (Regional Economic Studies Institute) study of community and economic impacts (MDE invite to POA/Troy)

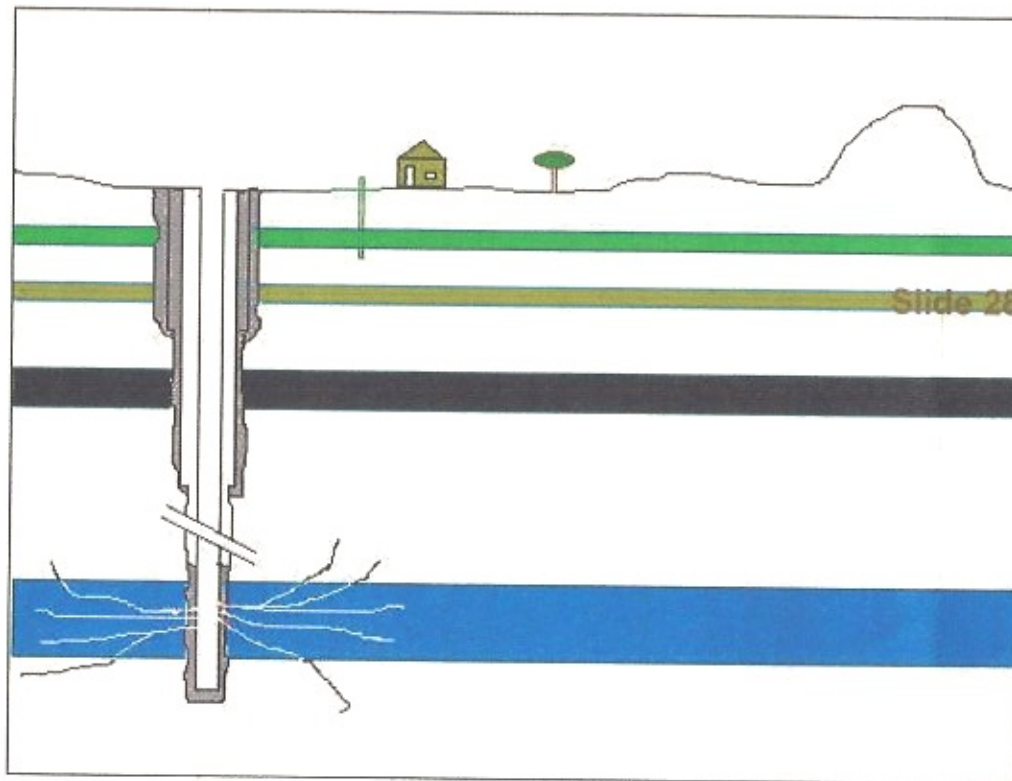
Backup

# Comprehensive Gas Development Plan Content (Extracted)

- **B. Planning principles**
- 1. Use multi-well, clustered drilling pads to minimize surface disturbance.
- 2. Comply with location restrictions, setbacks and other environmental requirements of State and local law and regulations.
- 3. Avoid, minimize and mitigate impact on resources as discussed in Section IV.
- 4. Preferentially locate operations on disturbed, open lands or lands zoned for industrial activity.
- 5. Co-locate linear infrastructure with existing roads, pipelines and power lines.
- 6. Consider impacts from other gas development projects and land use conversion activities and plan to minimize cumulative surface impacts.
- 7. Avoid surface development beyond 2% of the watershed area in high value watersheds.
- 8. Minimize fragmentation of intact forest, with particular emphasis on interior forest habitat.
- 9. Adhere to Departmental siting policies (to be developed) to guide pipeline planning and direct where hydraulic directional drilling and additional specific best management practices are necessary for protecting sensitive aquatic resources when streams must be crossed.
- 10. Additional planning elements include
  - a) Area wide transportation plan.
  - b) Water supply and waste management plans
  - c) Sequence of well drilling over the lifetime of the plan that places priority on locating early well pads in areas removed from sensitive natural resource values.
  - d) Consistency with local zoning ordinances and comprehensive planning elements

# Typical Gas Well Design/Configuration

(from WVA Surface Owner's Rights Association site)



Slide 28