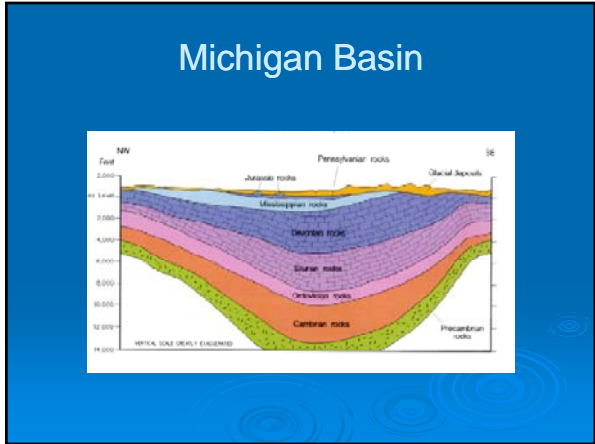
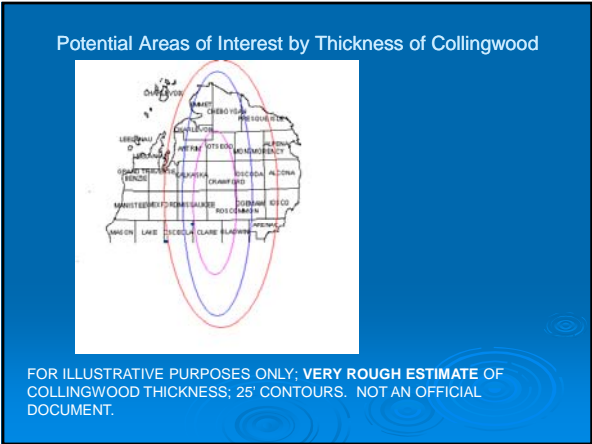
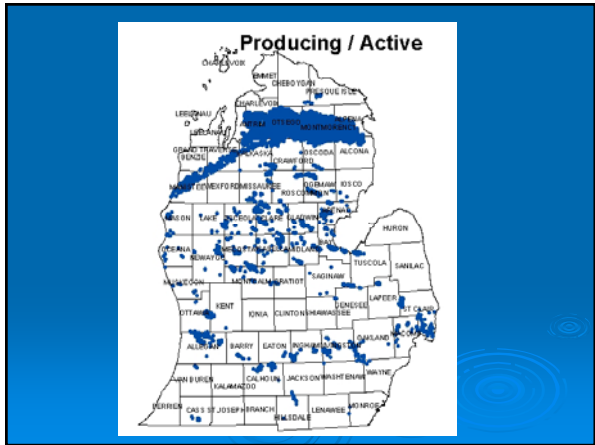
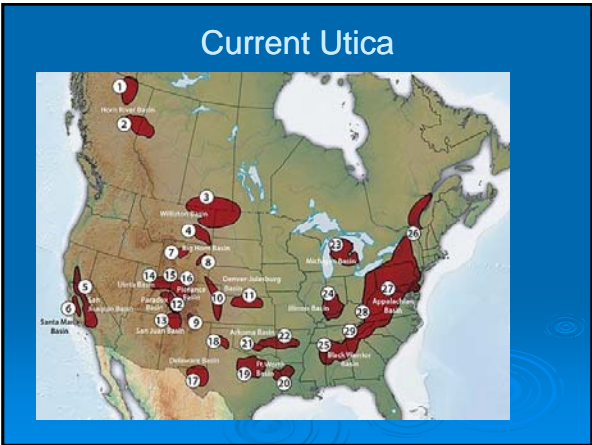
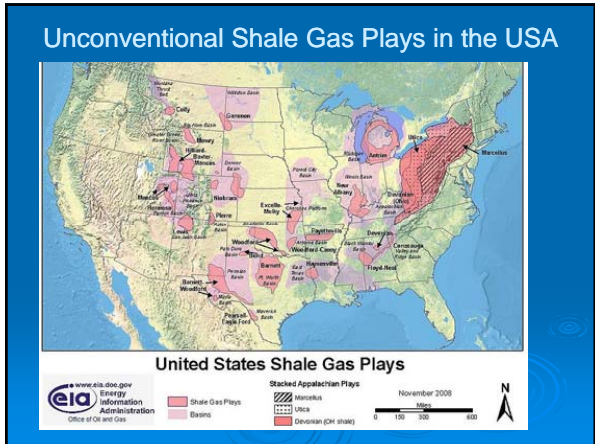


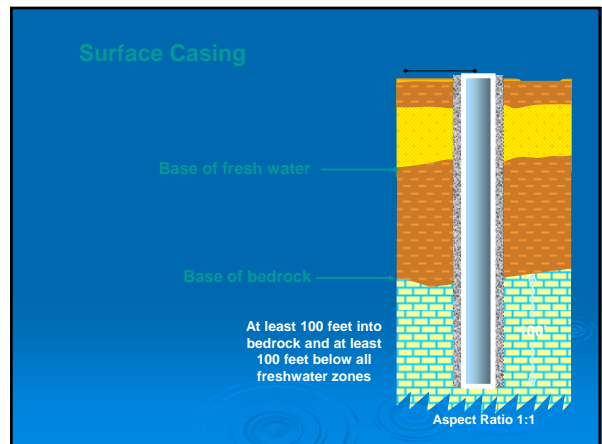
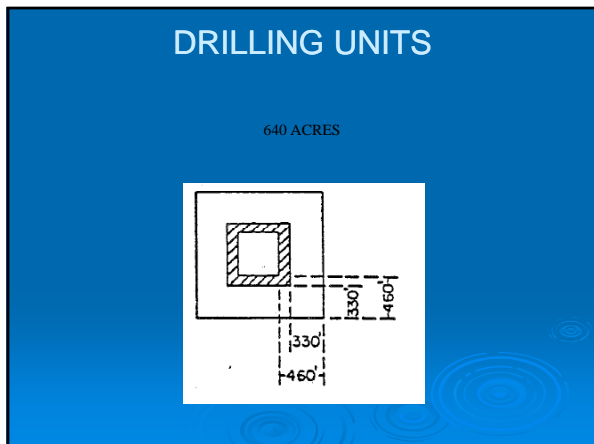
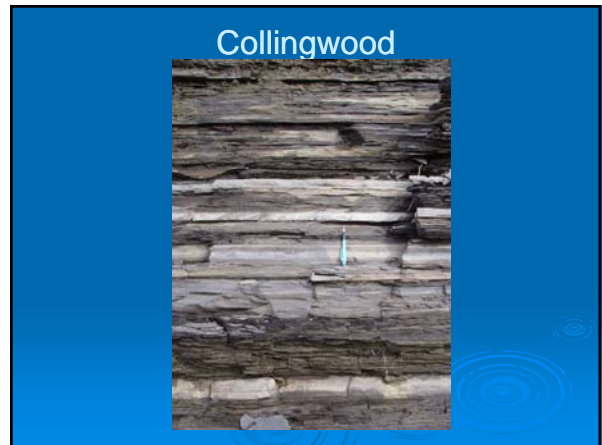
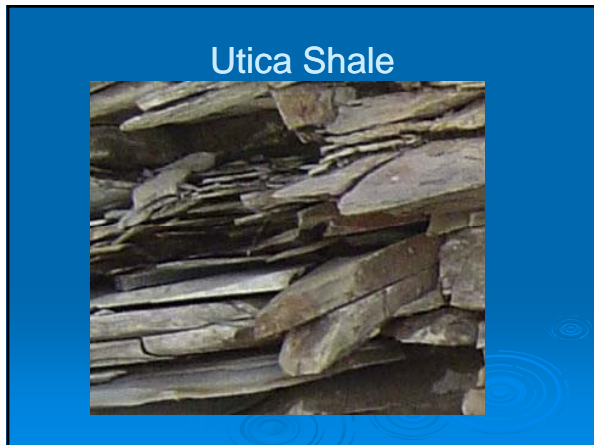
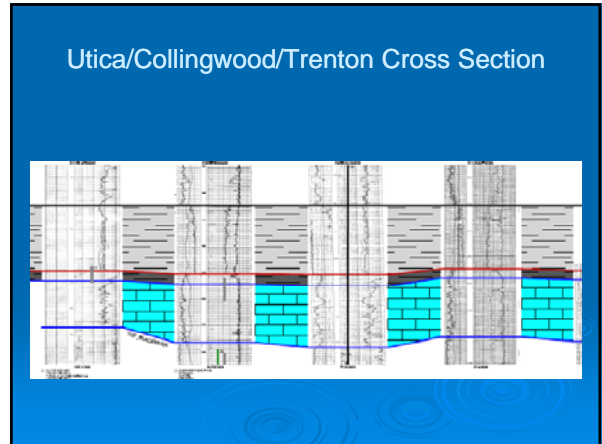
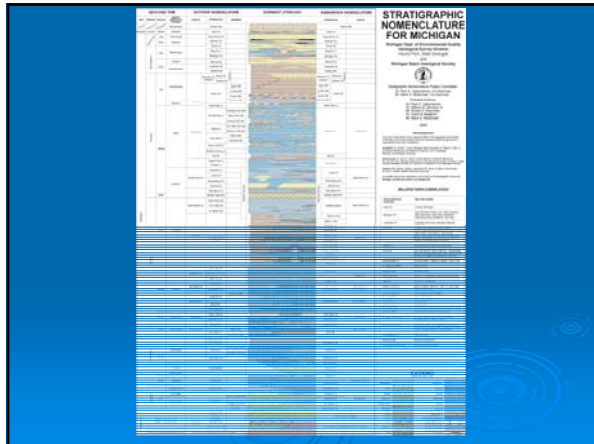
Utica (Collingwood) Gas Play
 Andrea Sullivan, MDNRE
 June 2, 2010

Utica Shale (Collingwood) Gas Play

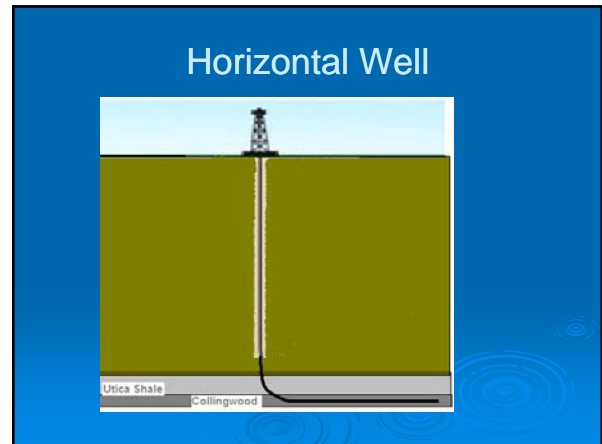
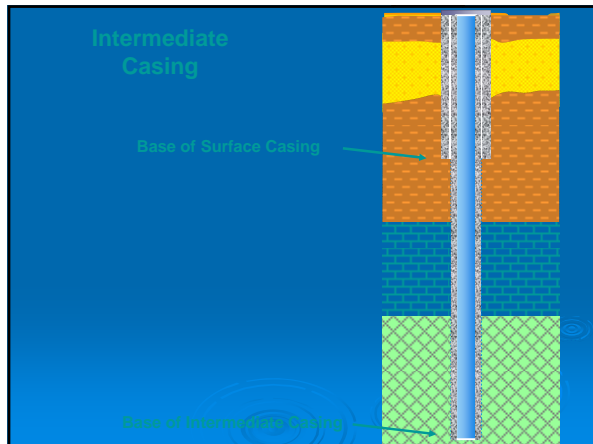
- Unconventional Shale Oil and Gas Development
- Utica Shale Current and Michigan Potential
- Oil and Gas Activity in Michigan
- Potential Area of Interest
- The "Geology"
- Drilling and Well Completion Technology
- The "Pioneer" Well
- Shale Drilling and Completion Video
- Questions



Utica (Collingwood) Gas Play
Andrea Sullivan, MDNRE
June 2, 2010



Utica (Collingwood) Gas Play
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June 2, 2010



Hydrofrac

- 140,000 barrels of water
- 42 gallons per barrel
- 5,880,000 gallons
- 15 stages
- 9,333 barrels or 392,000 gallons per stage

Pioneer Well (February)



Pioneer Well (April)



Horizontal Drilling and Fracturing Video

- <http://www.api.org/policy/exploration/hydraulicfracturing/hydraulicfracturing.cfm>