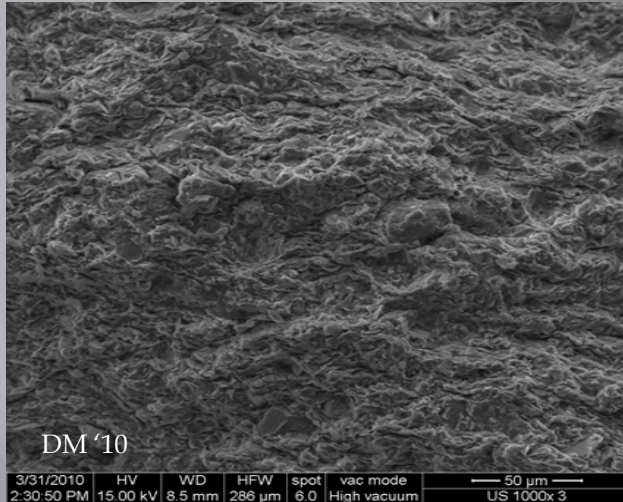


GEOCHEMISTRY AND TEXTURE OF ARGILLACEOUS HYDROCARBON SOURCE ROCKS

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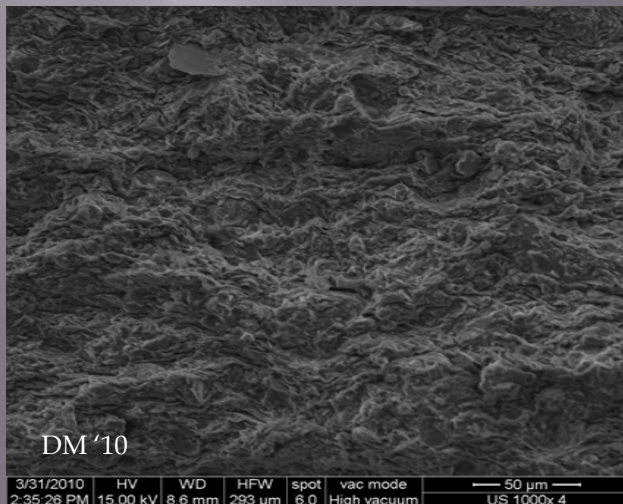
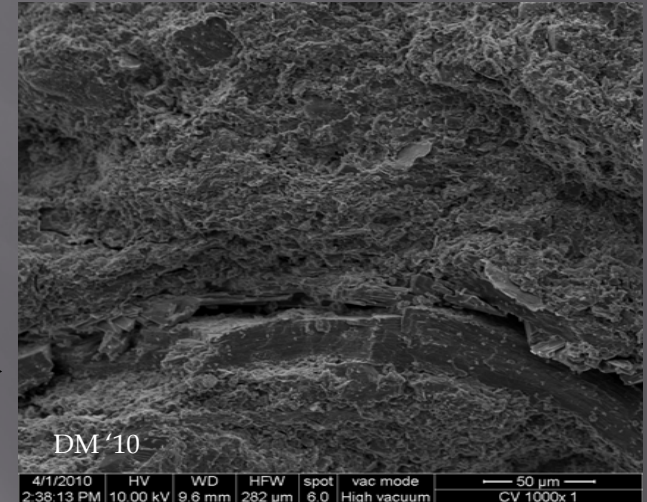
Union Springs Member:

- Weak preferred orientation
- Clay flakes
- Silt-sized quartz grains
- Palynomorphs

Cherry Valley Member:

- Random orientation
- Very fine-grained
- Few, silt-sized grains
- Shell fragments
- Limited porosity

Textural features of the Marcellus Shale



Union Springs Member:

- Random orientation
- Large clay flakes
- Silt-grains
- Pyrite-magnetite framboids
- Strong bioturbation

Oakta Creek Member:

- Random orientation
- Large clay flakes
- Bioturbation evident
- Abundant porosity

