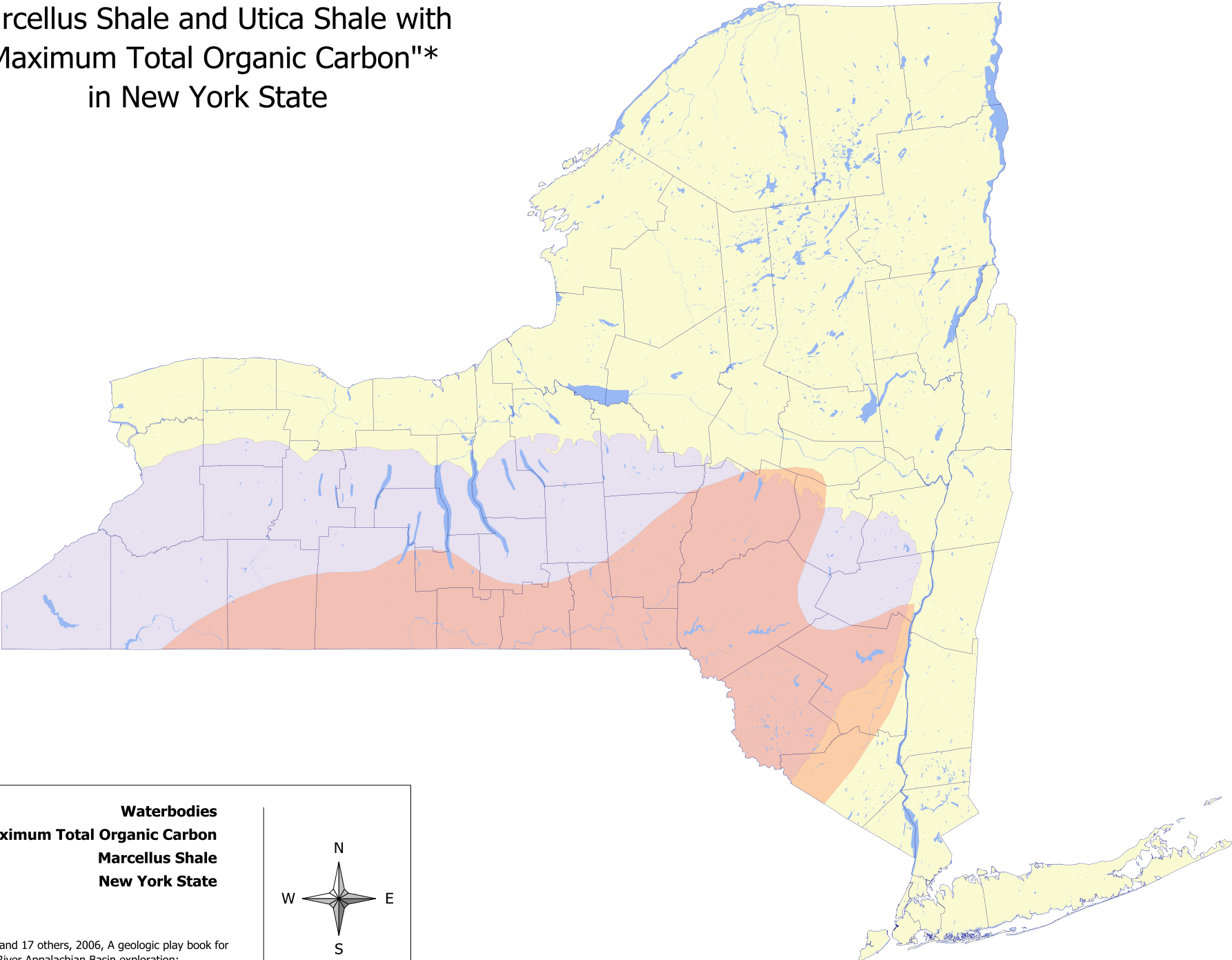
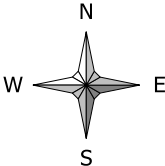


Marcellus Shale and Utica Shale with
"Maximum Total Organic Carbon"*
in New York State



Waterbodies
Maximum Total Organic Carbon
Marcellus Shale
New York State



*Source:
Patchen, D.G., and 17 others, 2006, A geologic play book for
Trenton-Black River Appalachian Basin exploration:
Final report prepared for U.S. Department of Energy,
contract no. DE-FC26-03NT41856, p. 231-240.

Brian Baker - Re: Fw: EPA News Release (HQ): EPA Formally Requests Information From Companies About Chemicals Used in Natural Gas Extraction

From: <Willis.Kevin@epamail.epa.gov>
To: <Kiselica.Bruce@epamail.epa.gov>
Date: 9/10/2010 9:43 PM
Subject: Re: Fw: EPA News Release (HQ): EPA Formally Requests Information From Companies About Chemicals Used in Natural Gas Extraction
CC: <Thompkins.Anita@epamail.epa.gov>, <Finazzo.Barbara@epamail.epa.gov>, <M...

<http://www.theglobeandmail.com/news/national/quebec/exploration-for-natural-gas-causes-consternation-in-quebec/article1689467/>

As you all know, the Utica Shale is below the Marcellus and is thicker, as rich or richer in hydrocarbon, is far more extensive and is lower in radionuclides. Looking at the mineral-rights leasing sites, the oil and gas companies are certainly not ignoring this unit. Deeper units need more fluid. The above article relates a public meeting which was discussing the tapping of the Utica up there.

Brian Baker - Re: Fw: IPA News Release (HQ): EPA Formally Requests Information From Companies About Chemicals Used in Natural Gas Extraction

From: <Willis.Kevin@epamail.epa.gov>
To: <Westgate.Matthew@epamail.epa.gov>, <Hillenbrand.Charles@epamail.epa.gov>
Date: 9/13/2010 11:02 AM
Subject: Re: Fw: IPA News Release (HQ): EPA Formally Requests Information From Companies About Chemicals Used in Natural Gas Extraction
CC: <Thompkins.Anita@epamail.epa.gov>, <Finazzo.Barbara@epamail.epa.gov>, <M...

Basically, I was just looking at the simple fact that more drilling in a similar shale would directly relate to more fracking and more fluid use. The lower radioactivity within the formation would also be attractive. The news article was purely FYI. Sorry, I'm new to the group.

From: Matthew Westgate/R2/USEPA/US
To: Charles Hillenbrand/R2/USEPA/US@EPA
Cc: Kevin Willis/R2/USEPA/US@EPA
Date: 09/13/2010 09:28 AM
Subject: Re: Fw: IPA News Release (HQ): EPA Formally Requests Information From Companies About Chemicals Used in Natural Gas Extraction

Chip,

Kevin and I were talking about this Utica Shale issue over the past few weeks. Having been in the Oil and Gas industry for a while, I know that the hardest things for the gas companies to arrange are the leases to drill and the infrastructure to get the gas out once the well is producing. If they drill and frac the Marcellus and have a producing well, it would be automatic for them to use the same lease agreement and drill another on or near the same pad into the deeper Utica shale. Thus, they would use at least twice as much drilling and fracturing fluid at that location. Since the Utica Shale is thicker, it probably would require more fracturing fluid to penetrate deeper into the formation. Also since it is thicker it probably would have more reserves which means more production for a longer time. I think the exploration companies are not bringing this up now because it would complicate the immediate permitting process. Long term, it is a big issue for us because of the fact that we are concerned about how much water they are using (allocation issue) to drill and fracture, how much wastewater is generated, and how many wells penetrate the drinking water aquifers. The infrastructure to carry the gas away wouldn't be that much different for one or two formations at the same location.

I would be happy to discuss this further or investigate it more if you want.

Thanks, Matt Westgate
x4422

From: Charles Hillenbrand/R2/USEPA/US
To: Kevin Willis/R2/USEPA/US@EPA
Cc: Bruce Kiselica/R2/USEPA/US@EPA, Anita Thompkins/R2/USEPA/US@EPA, Barbara Finazzo/R2/USEPA/US@EPA, Barbara McGarry/R2/USEPA/US@EPA, Berry Shore/R2/USEPA/US@EPA, Bonnie Weinbach/R2/USEPA/US@EPA, Daniel Montella/R2/USEPA/US@EPA, David McLeod/R2/USEPA/US@EPA, Deborah Craig/R2/USEPA/US@EPA, Diana Cutt/R2/USEPA/US@EPA, Diane Buxbaum/R2/USEPA/US@EPA, Diane Gomes/R2/USEPA/US@EPA, Douglas McKenna/R2/USEPA/US@EPA, Elizabeth Myer/R2/USEPA/US@EPA, Frank Brock/R2/USEPA/US@EPA, Gina Ferreira/R2/USEPA/US@EPA, Grace Musumeci/R2/USEPA/US@EPA, Irene Purdy/R2/USEPA/US@EPA, Jacqueline Rios/R2/USEPA/US@EPA, Janice Whitney/R2/USEPA/US@EPA, John Cantilli/R2/USEPA/US@EPA, John Filippelli/R2/USEPA/US@EPA, John Senn/R2/USEPA/US@EPA, Judith Enck/R2/USEPA/US@EPA, Justine Modigliani/R2/USEPA/US@EPA, Kevin Bricke/R2/USEPA/US@EPA, Lauren Fischer/R2/USEPA/US@EPA, Laurie Dubriel/R2/USEPA/US@EPA, Leena Raut/R2/USEPA/US@EPA, Lingard Knutson/R2/USEPA/US@EPA, Marie OShea/R2/USEPA/US@EPA, Matthew Westgate/R2/USEPA/US@EPA, Michelle Josilo/R2/USEPA/US@EPA, Nadine Orrell/R2/USEPA/US@EPA, Nicole Kraft/R2/USEPA/US@EPA, Nidal Azzam/R2/USEPA/US@EPA, Paul Zambratto/R2/USEPA/US@EPA, Philip Sweeney/R2/USEPA/US@EPA, Phyllis Feinmark/R2/USEPA/US@EPA, Raymond Werner/R2/USEPA/US@EPA, Robie Anson/R2/USEPA/US@EPA, Seth Ausubel/R2/USEPA/US@EPA, Stephen Gould/R2/USEPA/US@EPA, Stephen Venezia/R2/USEPA/US@EPA, Towana Joseph/R2/USEPA/US@EPA, Virginia Wong/R2/USEPA/US@EPA, William Lometti/R2/USEPA/US@EPA, "Angus Eaton" <akeaton@gw.dec.state.ny.us>, "Bradley Field"

<bjfield@gw.dec.state.ny.us>, "Brian Baker" <brbaker@gw.dec.state.ny.us>, "Gerard Palumbo" <gapalumb@gw.dec.state.ny.us>, "Jack Dunn" <jmd02@health.state.ny.us>, "Kathleen Sanford" <kfsanfor@gw.dec.state.ny.us>, "Kenneth Lynch" <kplynch@gw.dec.state.ny.us>, "Koon Tang" <kstang@gw.dec.state.ny.us>, "Timothy Rice" <tbrice@gw.dec.state.ny.us>, "Vic E. Pisani" <vep01@health.state.ny.us>

Date: 09/13/2010 08:04 AM

Subject: Re: Fw: IPA News Release (HQ): EPA Formally Requests Information From Companies About Chemicals Used in Natural Gas Extraction

I dispute your statement that the Utica Shale is higher in hydrocarbon content than the Marcellus Shale. The Marcellus Shale has a higher TOC (Total Organic Content) than the Utica and hence it is the main target of exploration today. It will eventually become a big target, after the Marcellus. Fracing of the Utica shouldn't use more fluid than the Marcellus. The drilling of deeper units would entail more drilling fluid, but Marcellus versus Utica depth of drilling is relative to where you are in the State.

-----Kevin Willis/R2/USEPA/US wrote: -----

To: Bruce Kiselica/R2/USEPA/US@EPA

From: Kevin Willis/R2/USEPA/US

Date: 09/10/2010 09:43PM

Cc: Anita Thompkins/R2/USEPA/US@EPA, Barbara Finazzo/R2/USEPA/US@EPA, Barbara McGarry/R2/USEPA/US@EPA, Berry Shore/R2/USEPA/US@EPA, Bonnie Weinbach/R2/USEPA/US@EPA, Bruce Kiselica/R2/USEPA/US@EPA, Charles Hillenbrand/R2/USEPA/US@EPA, Daniel Montella/R2/USEPA/US@EPA, David McLeod/R2/USEPA/US@EPA, Deborah Craig/R2/USEPA/US@EPA, Diana Cutt/R2/USEPA/US@EPA, Diane Buxbaum/R2/USEPA/US@EPA, Diane Gomes/R2/USEPA/US@EPA, Douglas McKenna/R2/USEPA/US@EPA, Elizabeth Myer/R2/USEPA/US@EPA, Frank Brock/R2/USEPA/US@EPA, Gina Ferreira/R2/USEPA/US@EPA, Grace Musumeci/R2/USEPA/US@EPA, Irene Purdy/R2/USEPA/US@EPA, Jacqueline Rios/R2/USEPA/US@EPA, Janice Whitney/R2/USEPA/US@EPA, John Cantilli/R2/USEPA/US@EPA, John Filippelli/R2/USEPA/US@EPA, John Senn/R2/USEPA/US@EPA, Judith Enck/R2/USEPA/US@EPA, Justine Modigliani/R2/USEPA/US@EPA, Kevin Bricke/R2/USEPA/US@EPA, Lauren Fischer/R2/USEPA/US@EPA, Laurie Dubriel/R2/USEPA/US@EPA, Leena Raut/R2/USEPA/US@EPA, Lingard Knutson/R2/USEPA/US@EPA, Marie OShea/R2/USEPA/US@EPA, Matthew Westgate/R2/USEPA/US@EPA, Michelle Josilo/R2/USEPA/US@EPA, Nadine Orrell/R2/USEPA/US@EPA, Nicole Kraft/R2/USEPA/US@EPA, Nidal Azzam/R2/USEPA/US@EPA, Paul Zambratto/R2/USEPA/US@EPA, Philip Sweeney/R2/USEPA/US@EPA, Phyllis Feinmark/R2/USEPA/US@EPA, Raymond Werner/R2/USEPA/US@EPA, Robie Anson/R2/USEPA/US@EPA, Seth Ausubel/R2/USEPA/US@EPA, Stephen Gould/R2/USEPA/US@EPA, Stephen Venezia/R2/USEPA/US@EPA, Towana Joseph/R2/USEPA/US@EPA, Virginia Wong/R2/USEPA/US@EPA, William Lometti/R2/USEPA/US@EPA, "Angus Eaton" <akeaton@gw.dec.state.ny.us>, "Bradley Field" <bjfield@gw.dec.state.ny.us>, "Brian Baker" <brbaker@gw.dec.state.ny.us>, "Gerard Palumbo" <gapalumb@gw.dec.state.ny.us>, "Jack Dunn" <jmd02@health.state.ny.us>, "Kathleen Sanford" <kfsanfor@gw.dec.state.ny.us>, "Kenneth Lynch" <kplynch@gw.dec.state.ny.us>, "Koon Tang" <kstang@gw.dec.state.ny.us>, "Timothy Rice" <tbrice@gw.dec.state.ny.us>, "Vic E. Pisani" <vep01@health.state.ny.us>

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