

# NYS DEC's Regulation of Oil and Gas Drilling in New York



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# Regulatory Authority



- **New York State Environmental Conservation Law Article 23**
  - Oil, Gas & Solution Mining Law – Titles 1, 3, 5, 7, 9, 11, 13, 17, 19, 21, 23, and 24
- **Regulations 6NYCRR Parts 550-559**
- **State Environmental Quality Review Act**
- **Site-specific permits: environmental and technical reviews**
  - Site considerations
  - Well drilling and construction methods
  - Fluid handling and disposal
  - Well spacing and correlative rights
  - Plugging permits and reclamation
- **Guidance and special permit conditions**
- **Other DEC jurisdictions**
  - Water
  - Solid and Hazardous Materials

# Environmental Conservation Law

## Article 23



- Issue permits to drill and plug wells
- Collect and disseminate oil and gas well geological, technical and production data
- Require financial security to ensure well plugging and reclamation
- Set well spacing and order compulsory integration
- Lease state lands for oil and gas
- Issue permits for underground gas storage fields

# ECL Supersedure 23-0303 2.



- The provisions of this article shall supersede all local laws or ordinances relating to the regulation of the oil, gas and solution mining industries; but shall not supersede local government jurisdiction over local roads or the rights of local governments under the real property tax law.

# Oil & Gas Regulatory Program



- Oil, Gas & Solution Mining Law passed in 1963; major amendments 1981, 2005
- Regulate oil and gas activity to:
  - Prevent waste
  - Protect public health, safety and the environment
  - Provide for greater ultimate recovery of oil and gas
  - Protect correlative rights of all persons
- 1992 FGEIS - site review under SEQR

# Use of a GEIS to Fulfill SEQRA



- Evaluates separate actions having common impacts
- Individual EIS not needed if GEIS adequately addresses all potential impacts
- Gas well drilling in NYS was reviewed in a 1992 GEIS
- <http://www.dec.ny.gov/energy/45912.html>

# 1992 Findings on Gas Well Drilling



- **No significant impacts if:**
  - Consistent with Final GEIS
  - No other DEC permits needed
  - Not in a State Parkland
  - Less than 2.5 acres in Agricultural District disturbed
  - Greater than 2,000 feet from a municipal water supply well
  - Includes wells drilled in primary and principal aquifers

# Draft SGEIS



- Addresses separate actions with common impacts not covered in the existing GEIS
  - *The action of well permit issuance for horizontal drilling and high-volume hydraulic fracturing to develop the Marcellus Shale and other low permeability gas reservoirs*
- Builds upon existing GEIS
- Proposes SEQRA determinations for the new activity
- **<http://www.dec.ny.gov/energy/58440.html>**

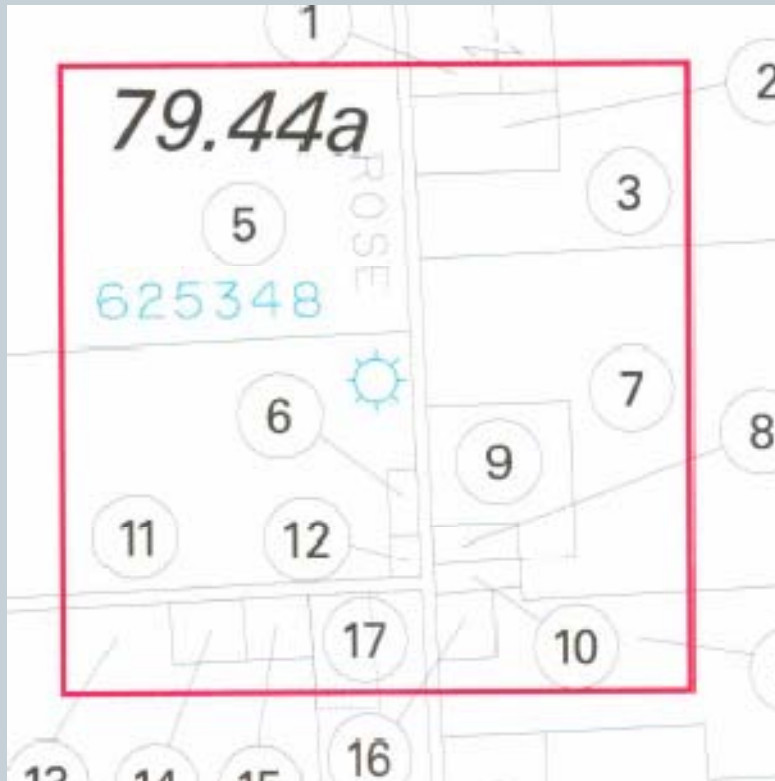


# Well Spacing and Compulsory Integration



- Wells are drilled within “spacing units” of 40 - 640 acres, established by law.
- Spacing unit acreage is “assigned to the well” for the purpose of sharing costs and production revenue.
- Lessors and royalty owners have no costs.
- Unleased owners may choose to participate (share) in well costs and a greater share of production if a well is successful.

# Sample Spacing Unit



The Well Operator must have 60% of the unit acreage under lease to submit an application for permit to drill (APD)

# Establish the Unit



- The spacing unit is the area assigned to the well, usually more than one property.
- “Pooling” or “integration” refers to the grouping of more than one property into a single spacing unit.
- Unit set when permit is issued.
- Usually established by permit without a hearing.
- May sometimes require review and a hearing if exception from law is requested.

# Compulsory Integration



- If the Well Operator has control of *100%* of unit acreage, compulsory integration is NOT necessary.
- If the Well Operator has *less than 100%*, then compulsory integration IS required.
- Compulsory integration requires a DEC hearing and order.
- Compulsory integration does not affect owners leased to the well operator.

# Compulsory Integration - Elections



1. “Integrated non-participating owner”
    - If unleased: no royalty paid during penalty phase (accelerates payout)
    - If leased: sliding scale royalty paid during penalty phase (1/16, 3/32, 1/8)
  2. “Integrated participating owner”
    - Pay your share of costs and receive WI share of production
  3. “Integrated royalty owner”
    - Lowest royalty in unit but not less than 1/8<sup>th</sup> (paid on gross)
- \*\*Consider not only the rewards, but also the costs, risks and responsibilities associated with each option.**

**\*\*See DEC’s brochure, consult an expert.**

# Compulsory Integration - Hearing



- In Albany, approximately once a month
- Attendance not mandatory *unless*:
  - Integrated participating owner has not yet made the required payment; OR
  - Uncontrolled owner has an objection to the notice or proposed order

# Compulsory Integration - Hearing Notice



- 30 days before the hearing
- In the newspaper
- On the DEC website
- Direct mailing to “uncontrolled owners”
  - Unleased owners
  - Other lessees not in a joint operating agreement with the well operator

# The Integration Order



- Issued after the hearing.
- NOT a lease or a contract.
- Will be filed in the county courthouse against all properties in the unit.
- Owners affected by all future drilling and well-related operations in unit.
  - May have to make elections for subsequent operations.
  - DEC will NOT be involved in most disputes between owners and operators, only violations.



# State Land Leasing Program



- Leasing of state lands for oil & gas authorized by law since 1930s
- DMN oil & gas leasing agent for all state lands except Forest Preserves, State Parks, lands under Lake Ontario
- 83,021 acres under lease at year-end 2007
- 104 wells on or adjacent to state land

# State Lease Components



- Primary Term – 5 years
- Secondary Term – as long as well produces
- Bonus Bid – dollars per acre by high bidder
- Delay Rental Payment – during primary term should no production occur
- 12.5% Royalty – if drilled well is productive
- Excluded Areas – based on tract assessments
  - (>50% of total acreage excluded in 2006 sale)
- Special Conditions – site specific restrictions
- Lease Termination – reclamation of all sites

# Private Oil & Gas Leasing

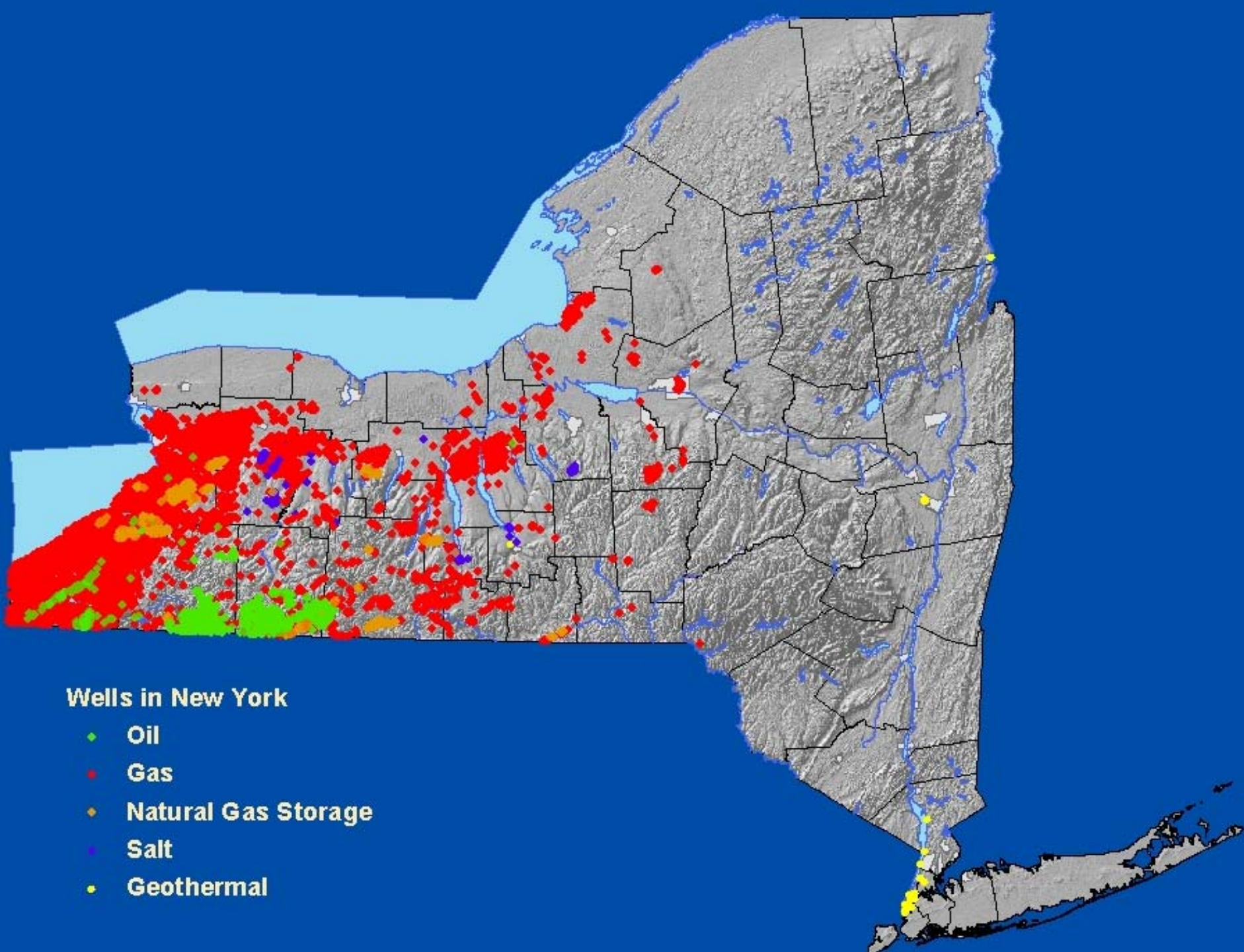


- Leases are negotiable contracts
- Many leased properties are never drilled or placed into spacing units
- DEC has no jurisdiction over lease offers or lease terms, but does provide educational information
- DEC does have jurisdiction over well site, drilling and environmental issues

# NY Oil and Gas Statistics



- Oil seeps - Cuba, NY - 1627
- First natural gas - Fredonia, NY - 1821
- First oil well - Allegany County -1863
- Est. 75,000 wells drilled since the 1820s
- Approx. 12,000 active wells
- 453 new well permit applications received in 2010
- 2008 oil and gas production
  - 50.3 bcf produced
  - 397,000 bbl oil produced



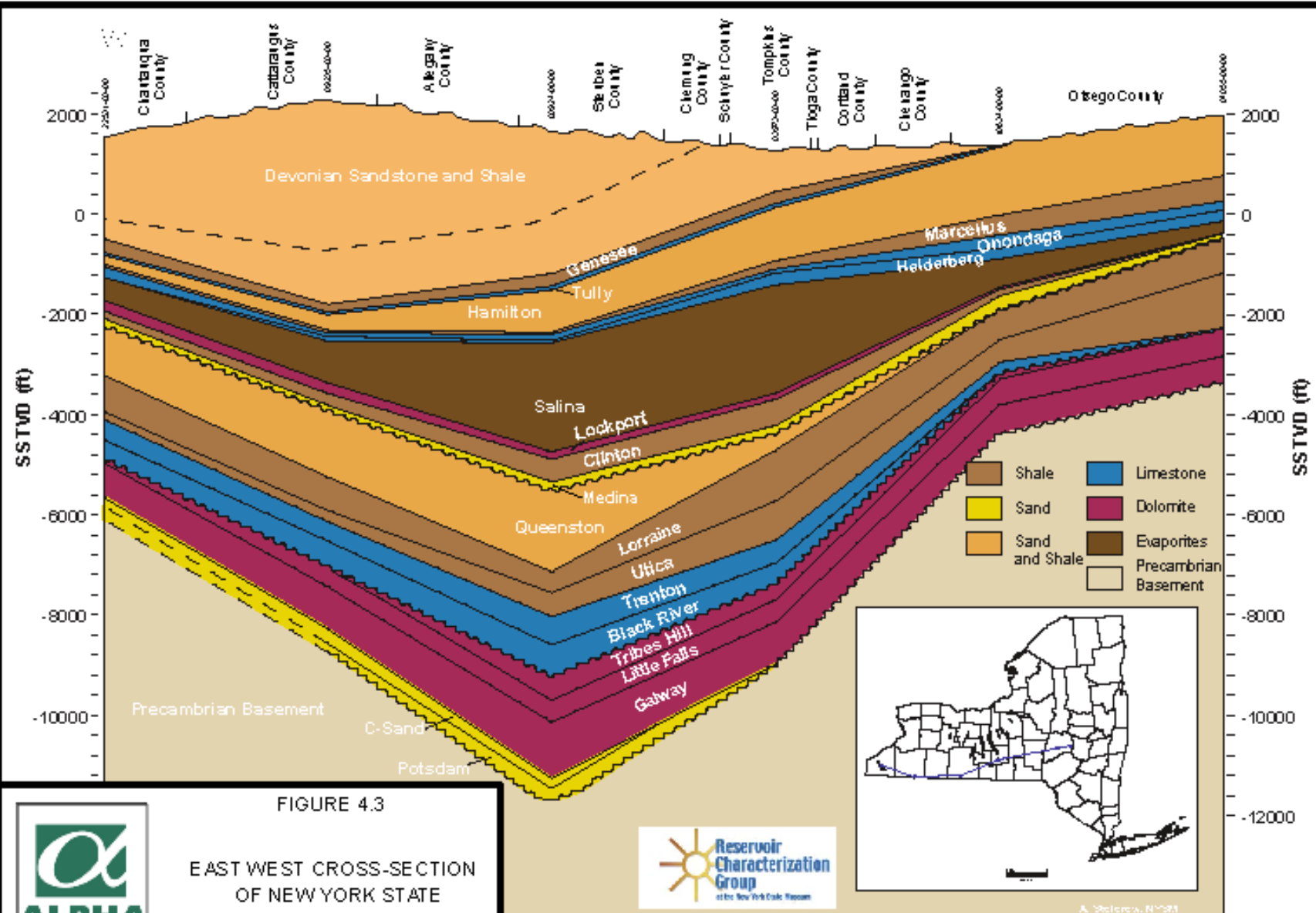


FIGURE 4.3

# EAST WEST CROSS-SECTION OF NEW YORK STATE

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### Legend

- Depth to the Top of the Marcellus Shale
- ▨ Marcellus Shale and Hamilton Group Outcrop
- Extent of the Marcellus Shale in New York

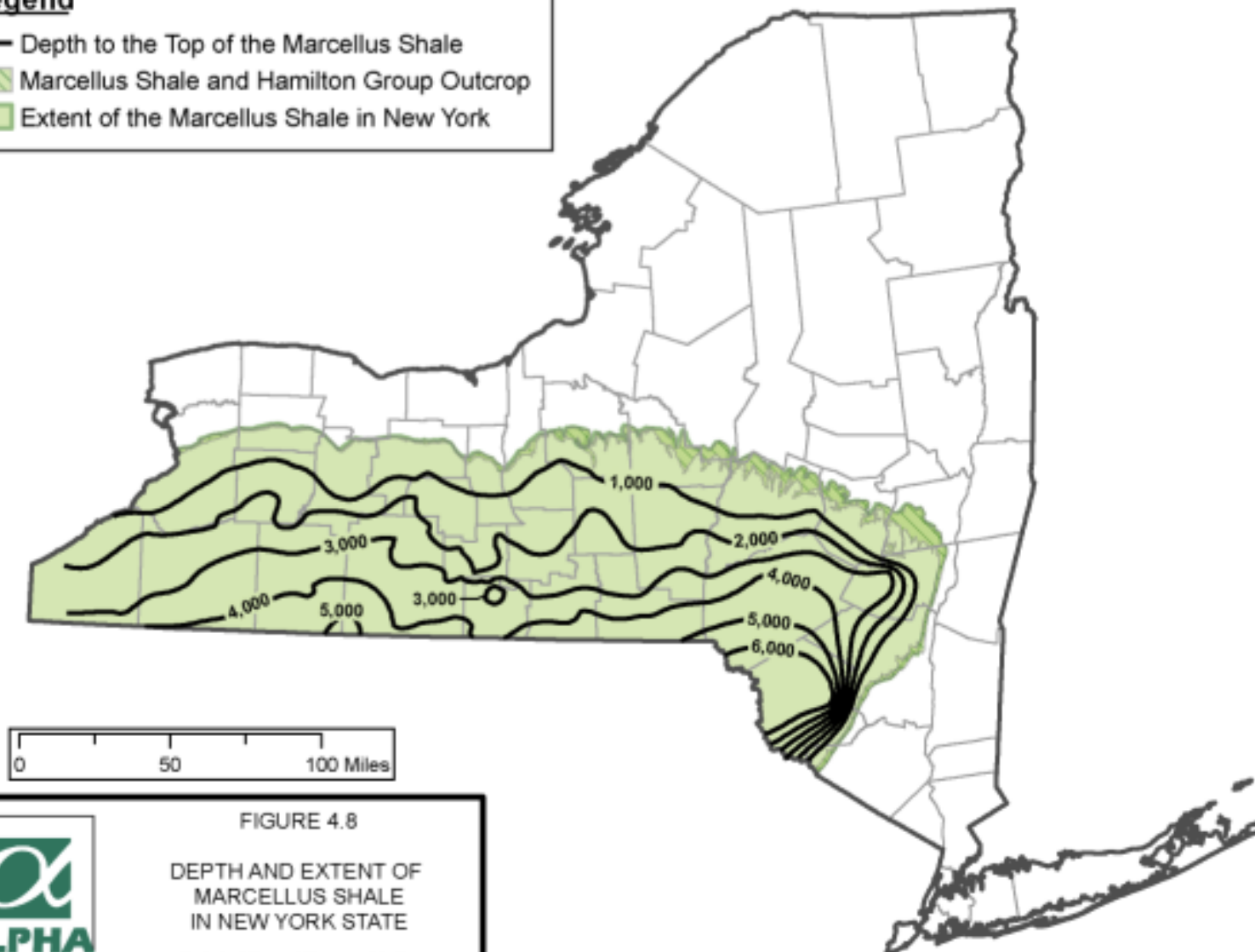


FIGURE 4.8

### DEPTH AND EXTENT OF MARCELLUS SHALE IN NEW YORK STATE

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Source:  
- New York State Museum - Reservoir Characterization Group (Leone, 2009).

### Legend

- Thickness Organic-Rich Marcellus Shale (in feet)
- Marcellus Shale and Hamilton Group Outcrop
- Extent of the Marcellus Shale in New York

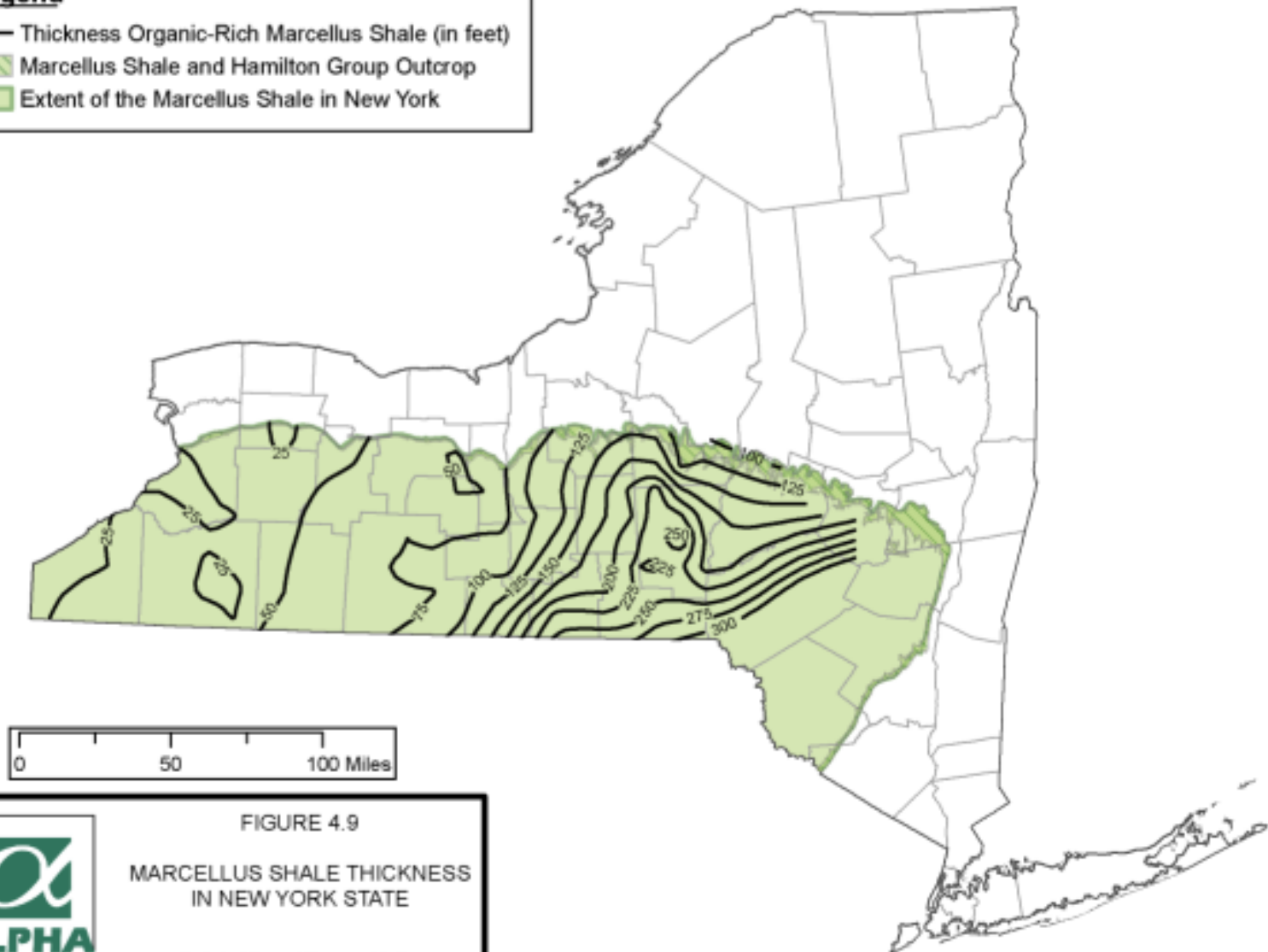


FIGURE 4.9

### MARCELLUS SHALE THICKNESS IN NEW YORK STATE






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#### Notes:

- Source: New York State Museum - Reservoir Characterization Group (Leone, 2006)
- Organic-rich Marcellus includes Union Springs and Oatka Creek Members and lateral equivalents.



## Legend

-  Marcellus Shale and Hamilton Group Outcrop
-  Marcellus Shale Fairway
-  Extent of the Marcellus Shale in New York

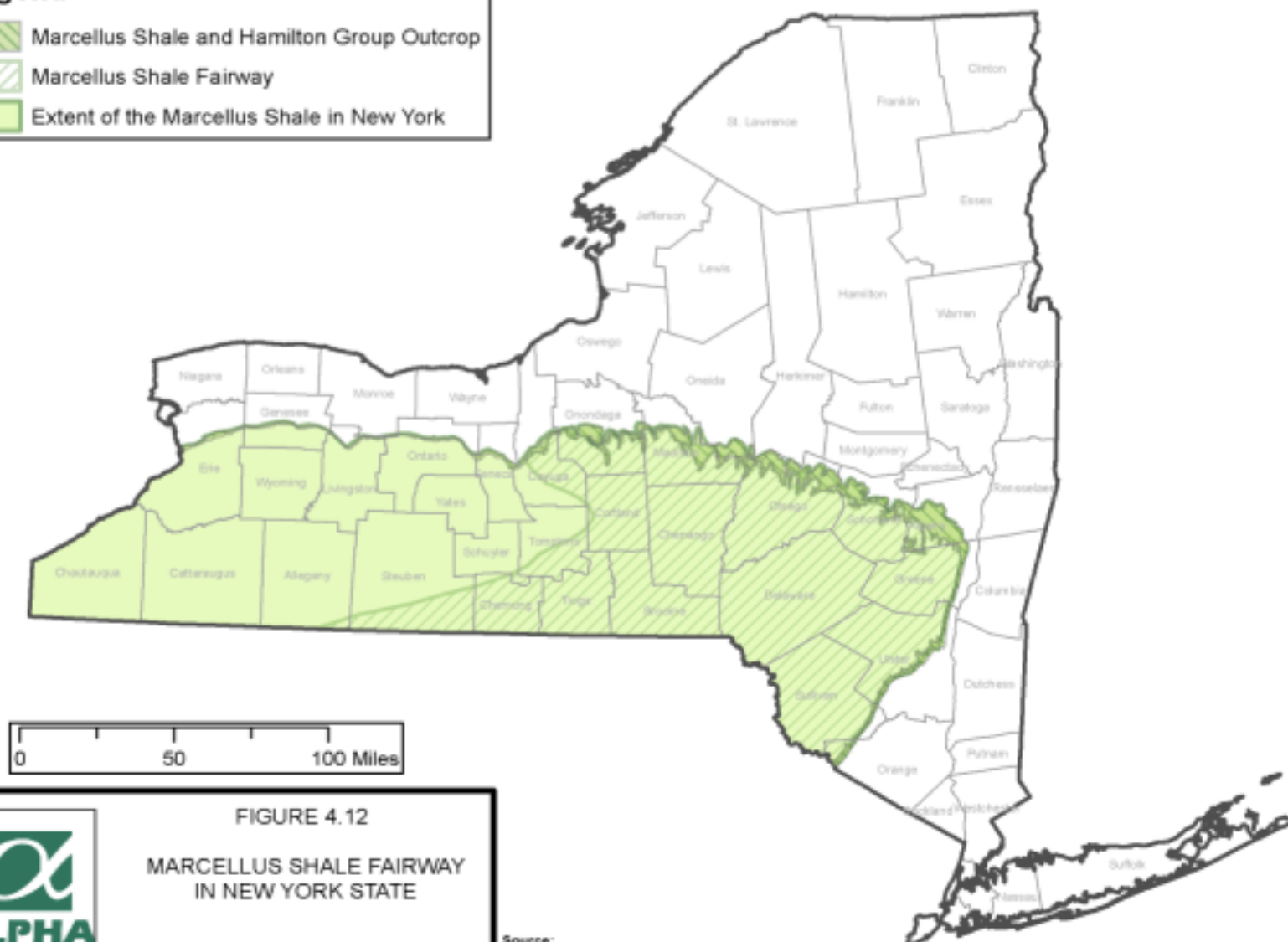


FIGURE 4.12

## MARCELLUS SHALE FAIRWAY IN NEW YORK STATE

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### Legend

- Utica Shale Thickness Contour (in feet)
- ▨ Utica Shale Outcrop
- Extent of the Utica Shale in New York

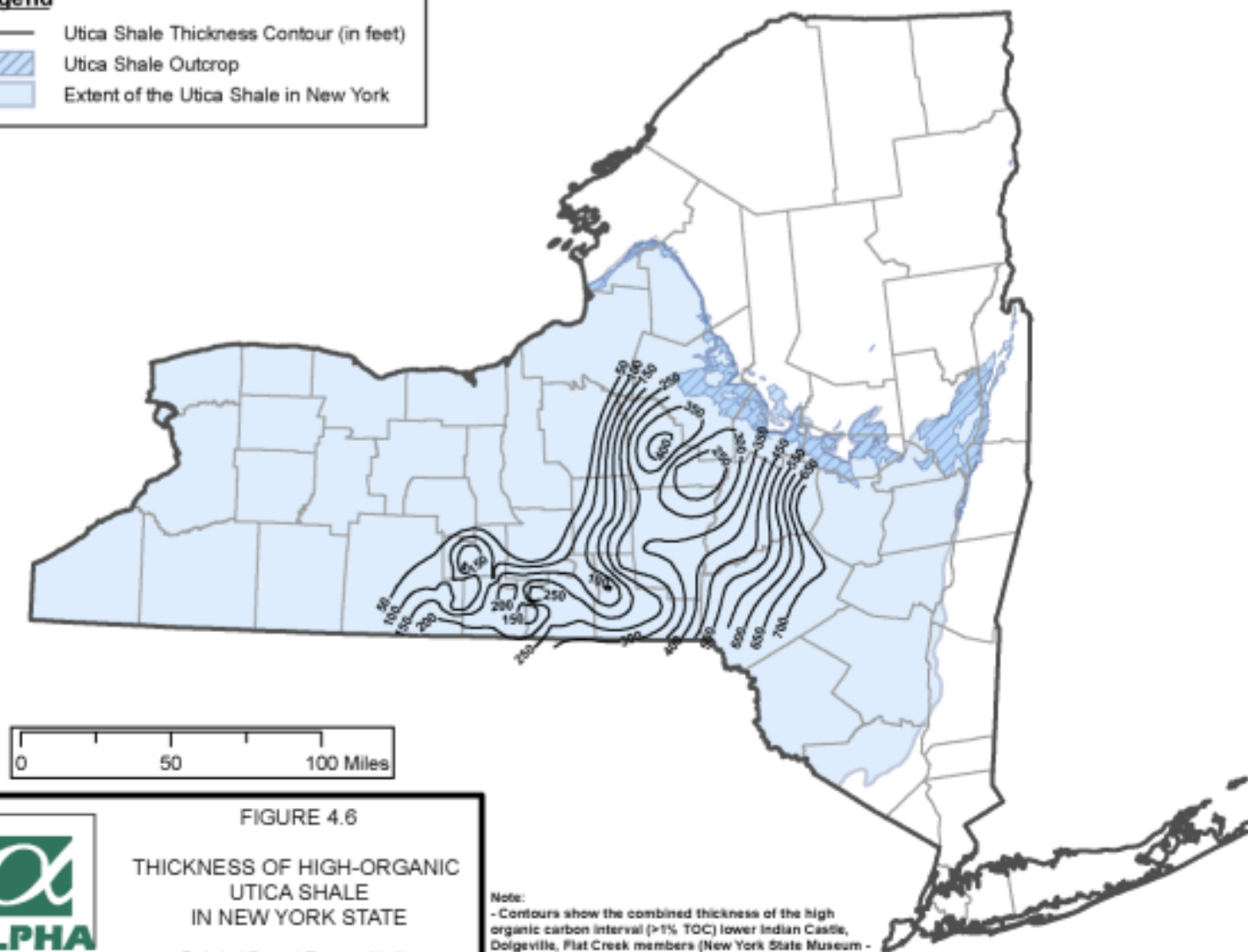


FIGURE 4.6

### THICKNESS OF HIGH-ORGANIC UTICA SHALE IN NEW YORK STATE

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Note:  
- Contours show the combined thickness of the high organic carbon interval (>1% TOC) lower Indian Castle, Dolgeville, Flat Creek members (New York State Museum - Reservoir Characterization Group, 2009).

### Legend

- Utica Shale Outcrop
- Utica Shale Fairway
- Extent of the Utica Shale in New York

Source:  
- modified from Nyahay et al. (2007)

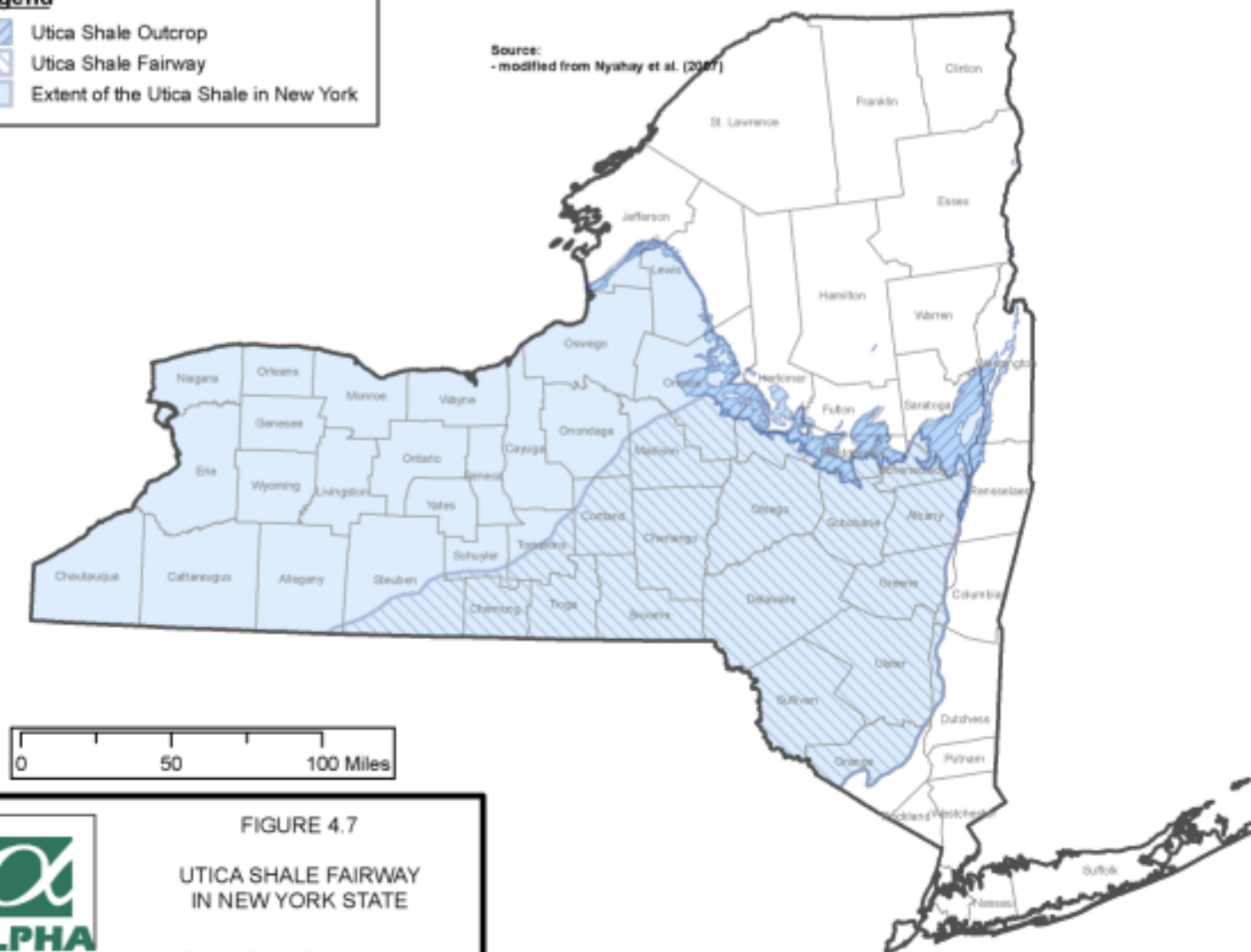


FIGURE 4.7

### UTICA SHALE FAIRWAY IN NEW YORK STATE

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# Chenango County Drilling History



- **Gas Field Development**
- **Genegantslet Field**
  - Towns of Smithville and Greene
  - Drilled 11 wells 1964 through 1967
  - Several producing gas for residential use from the Hamilton Shale at approx. depths of 2000 to 2400 ft.
  - Operator – Genegantslet Gas & Oil Co., Inc.
- **Beaver Meadow and Hawley Brook Fields**
  - Towns of Smyrna and Plymouth
  - Drilled to approx. 3500 to 4500 ft. from 2004 to present targeting the Oneida and Herkimer Sandstones
  - Operator - Norse Energy Corp USA
- **Recent Drilling/Permitting Activity**
  - Towns of Smyrna, Afton, Coventry, Plymouth, and Preston
  - 7 permits issued recently targeting Herkimer, Utica and Marcellus Formations
  - 10 pending permit applications for new wells
  - Operator – Norse Energy Corp USA

# Wells in Chenango County

