

DUG EAST

**Sustainable and Responsible Development of
Shale Resources Remaining in Appalachia**

June 14, 2022

Wright & Company, Inc.

Petroleum Consultants

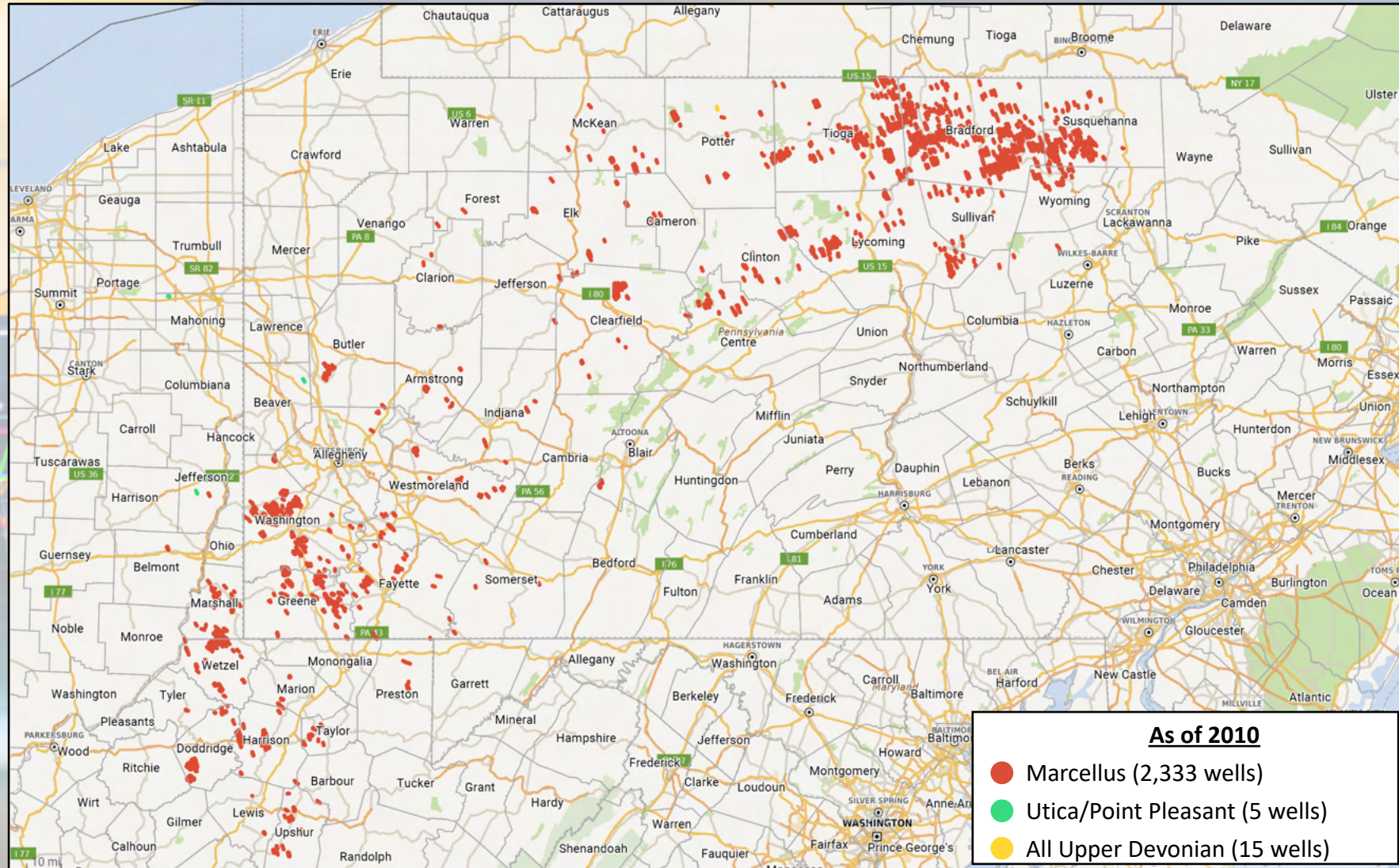
Wright Energy Advisors

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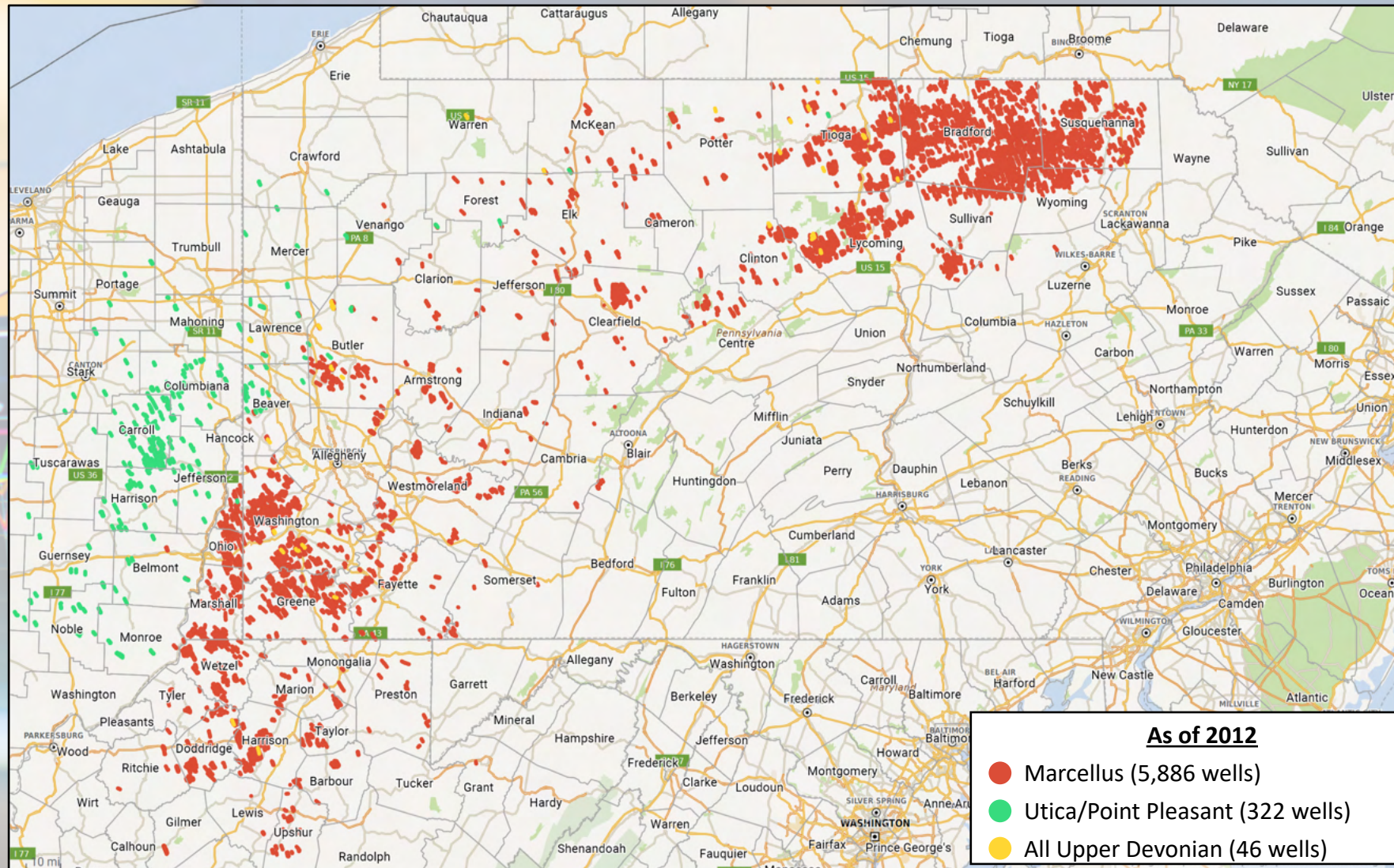
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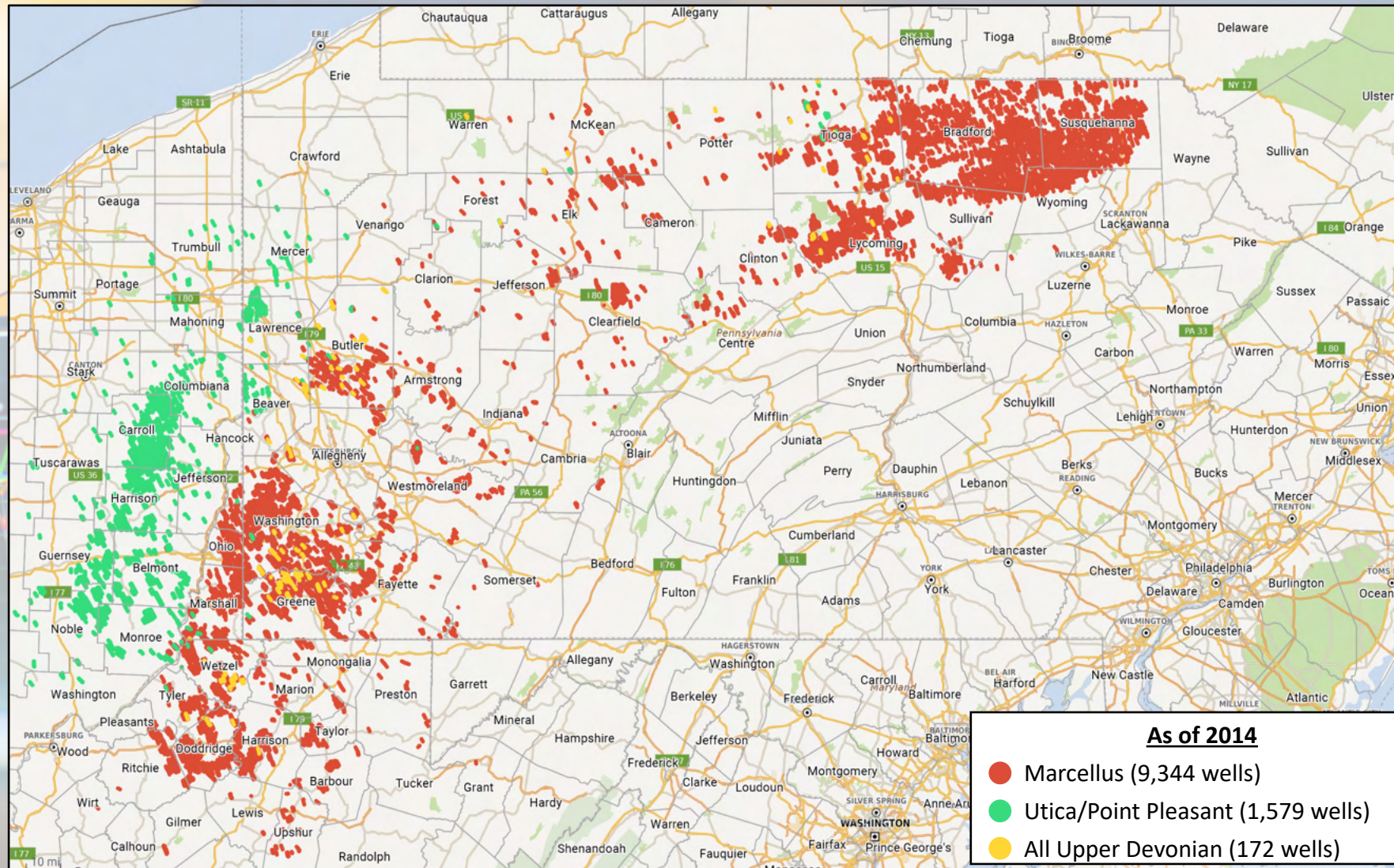
MARCELLUS, UTICA/POINT PLEASANT, AND UPPER DEVONIAN



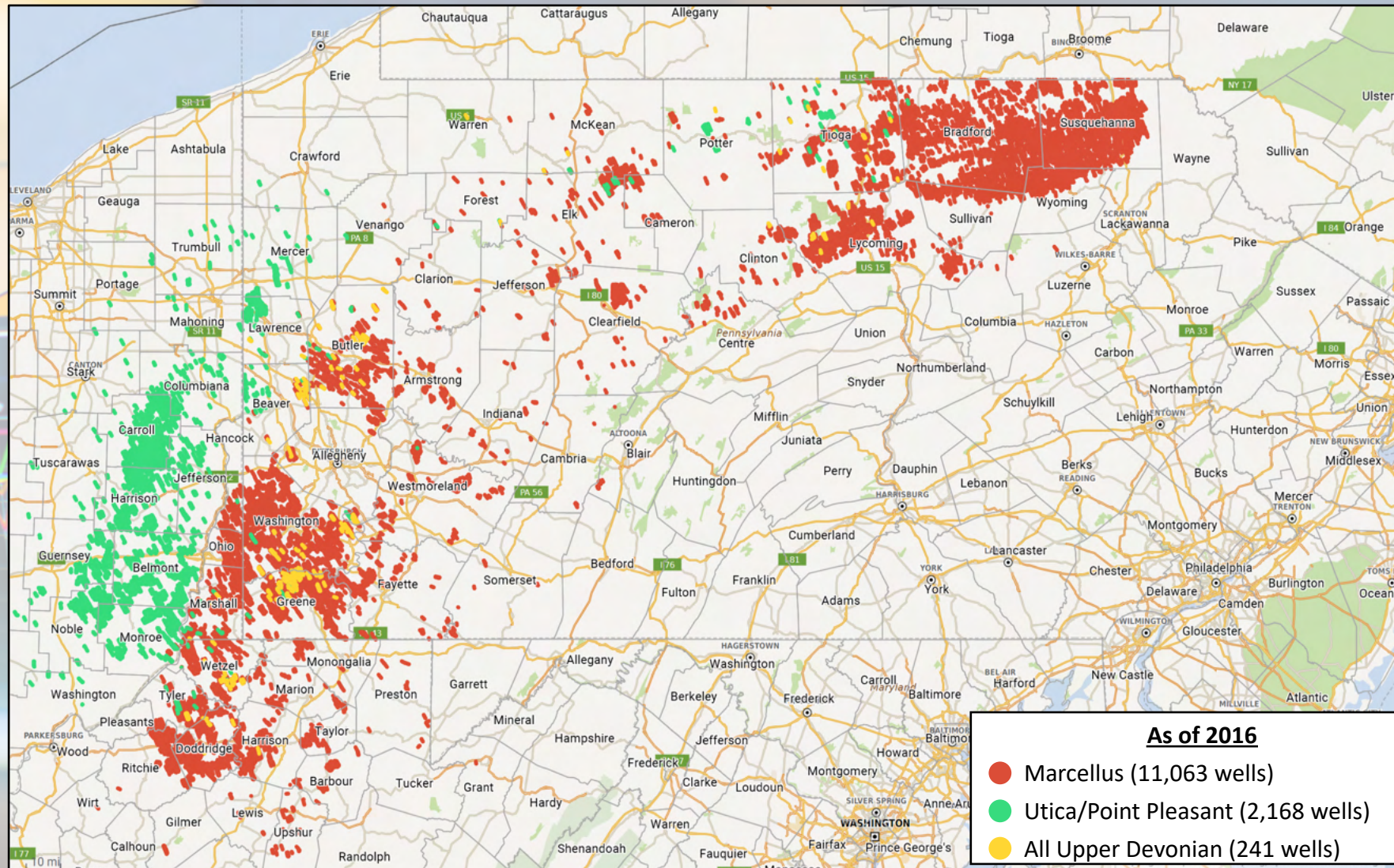
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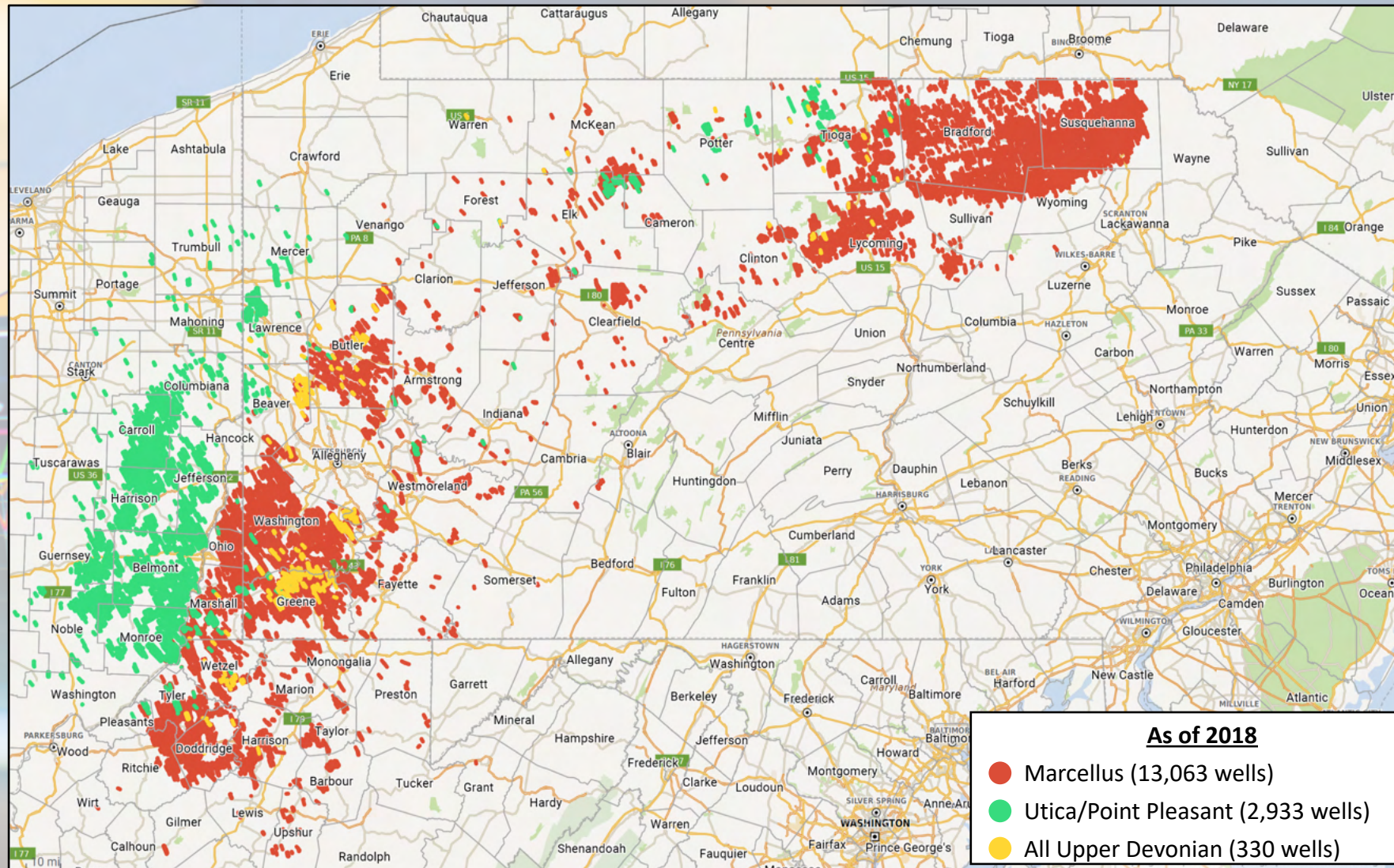
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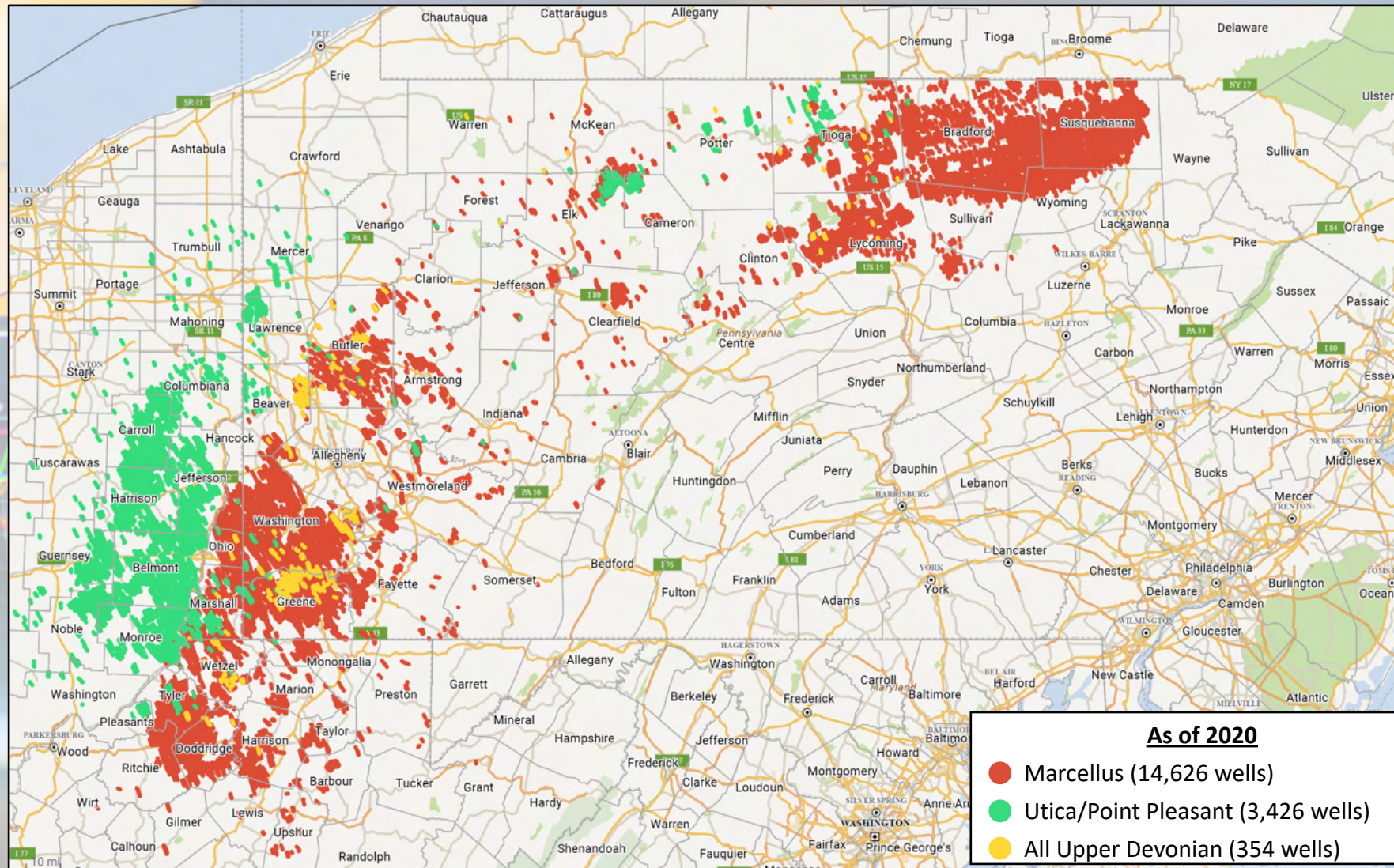
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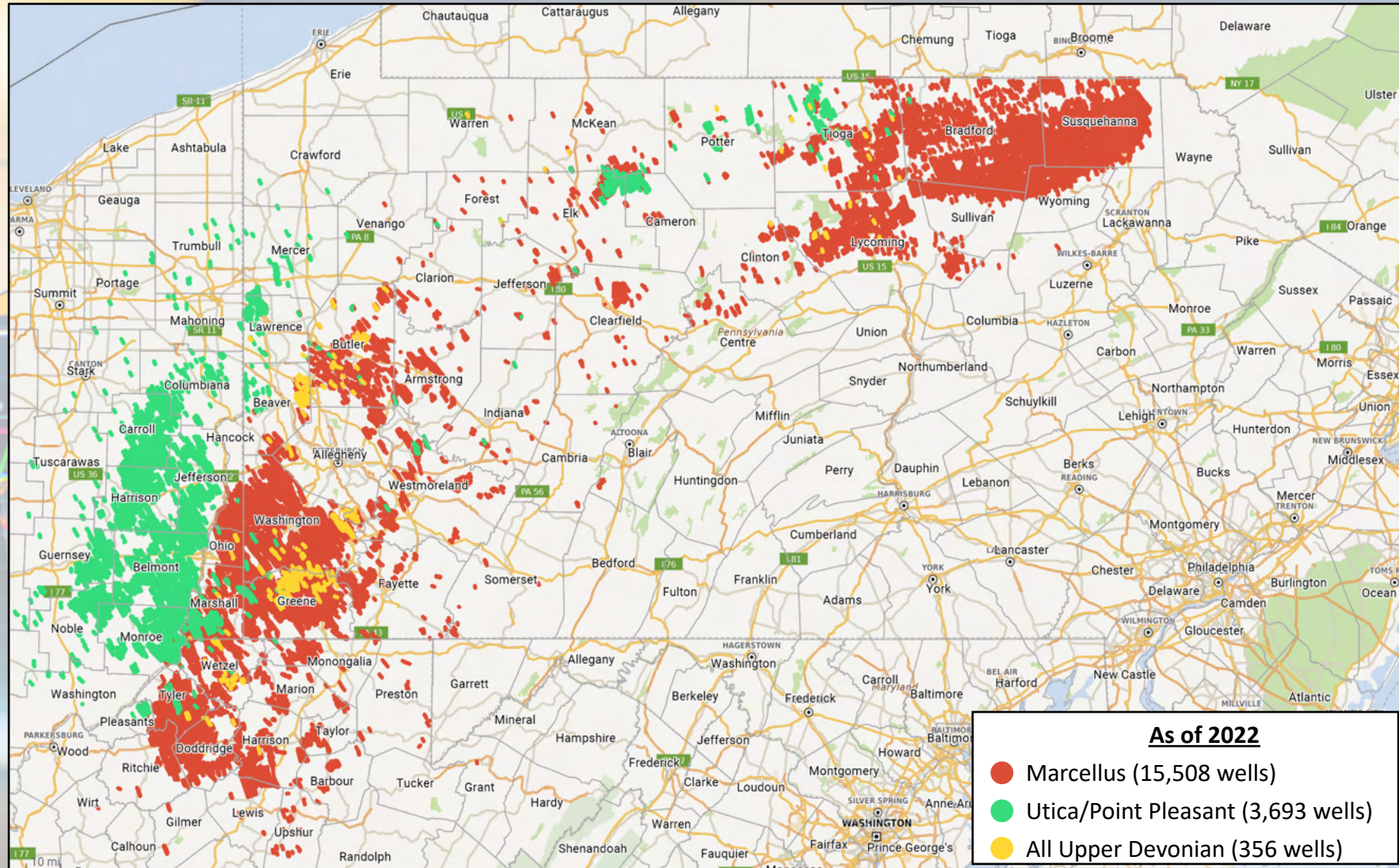
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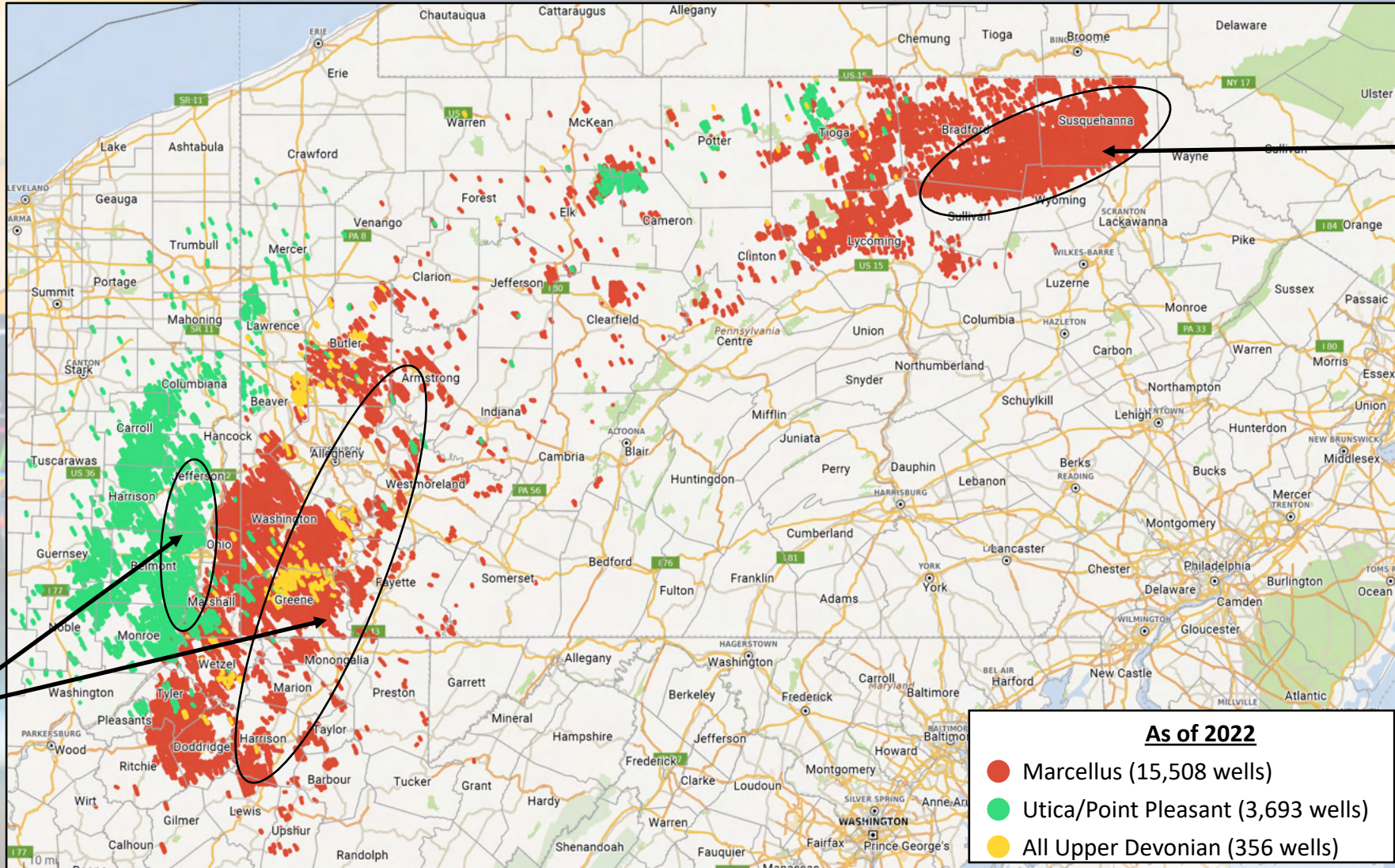
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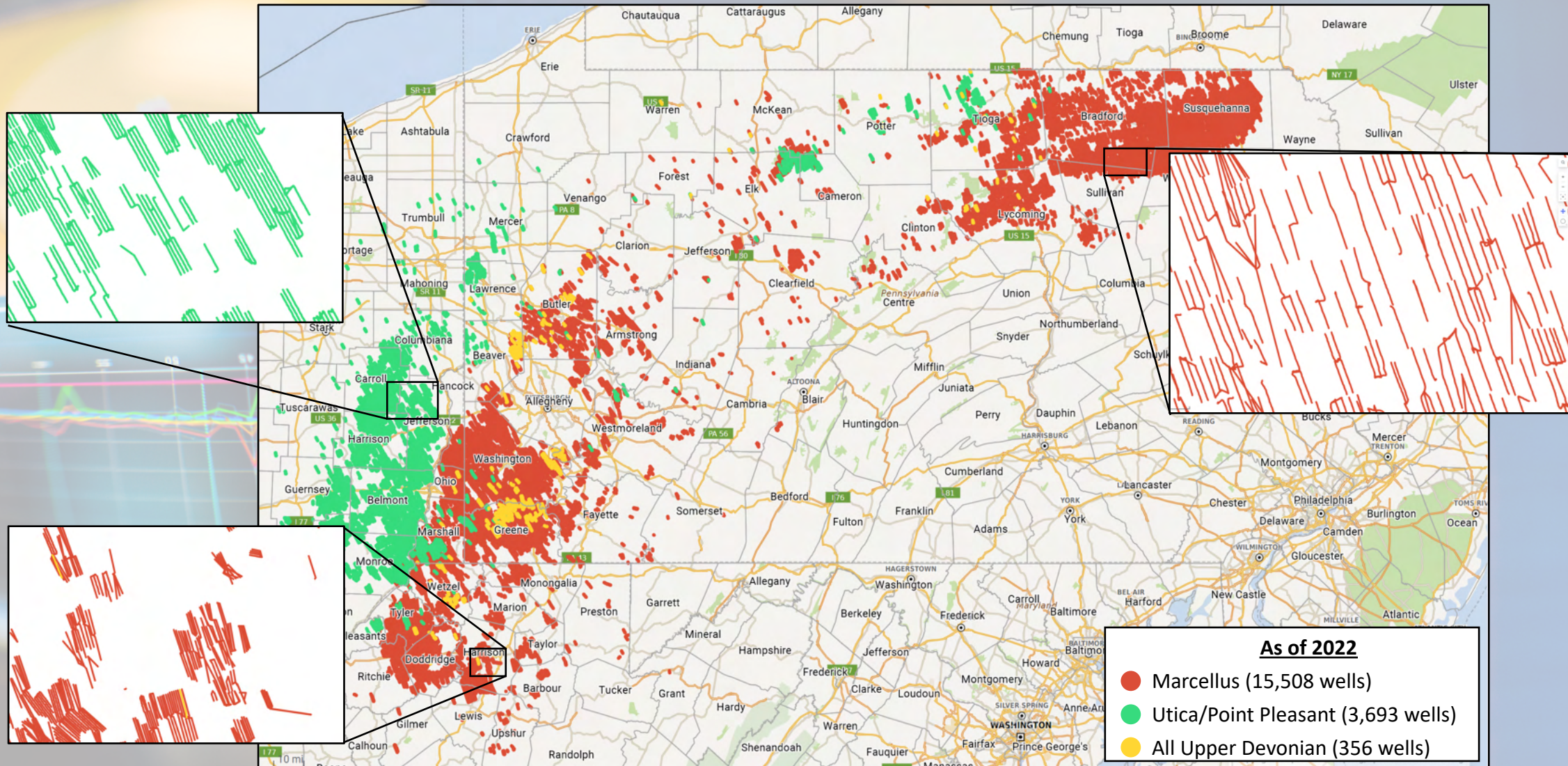
EXAMPLES OF DENSELY DRILLED AREAS – DRY GAS



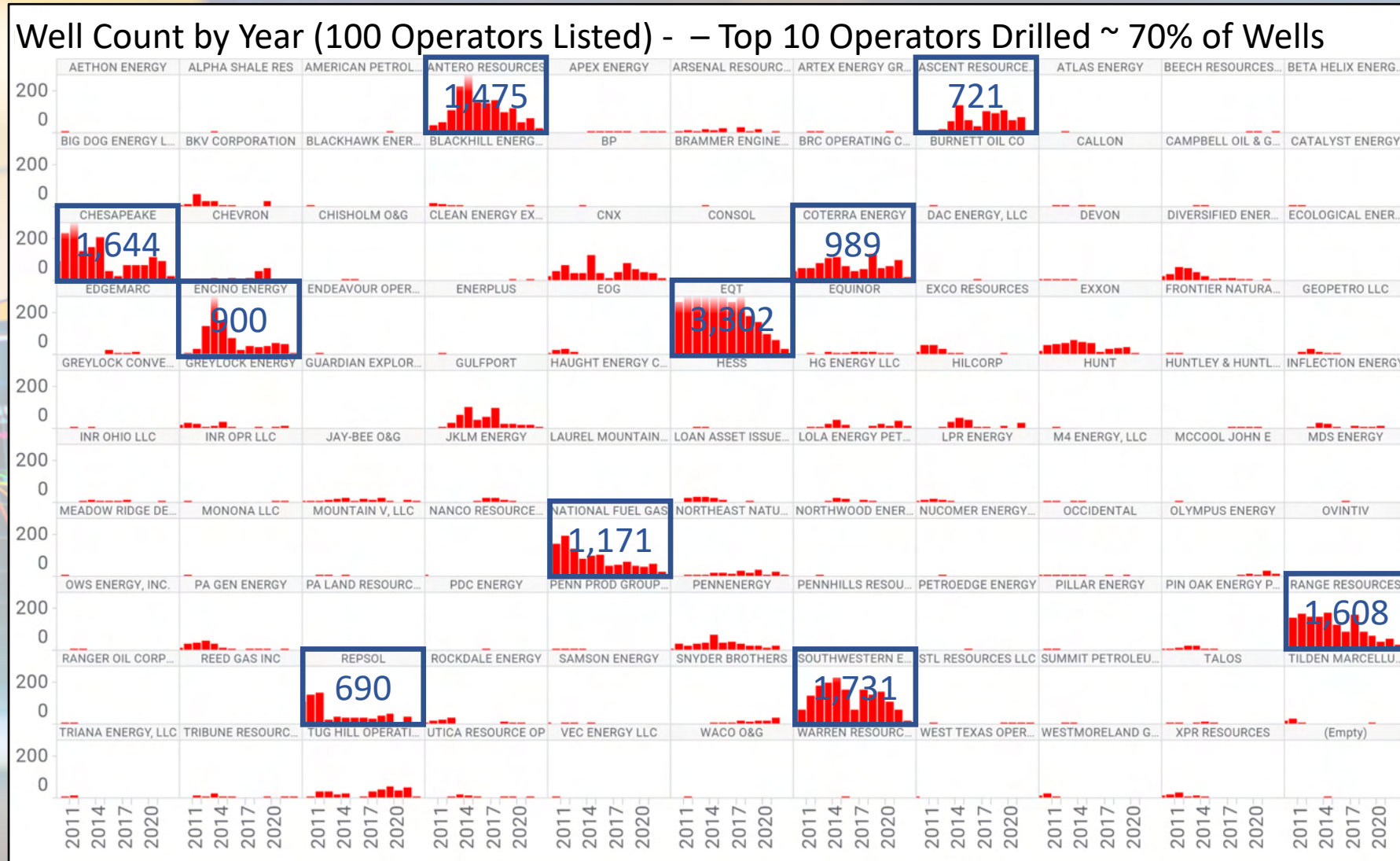
Up to 4+
Bcf/1,000'

Up to 3
Bcf/1,000'

FUTURE DEVELOPMENT POTENTIAL



WHAT WILL DEVELOPMENT LOOK LIKE?



EQT, SOUTHWESTERN ENERGY, CHESAPEAKE, RANGE RESOURCES, ANTERO RESOURCES, NATIONAL FUEL GAS, COTERRA ENERGY, ENCINO ENERGY, ASCENT RESOURCES LLC, AND REPSOL

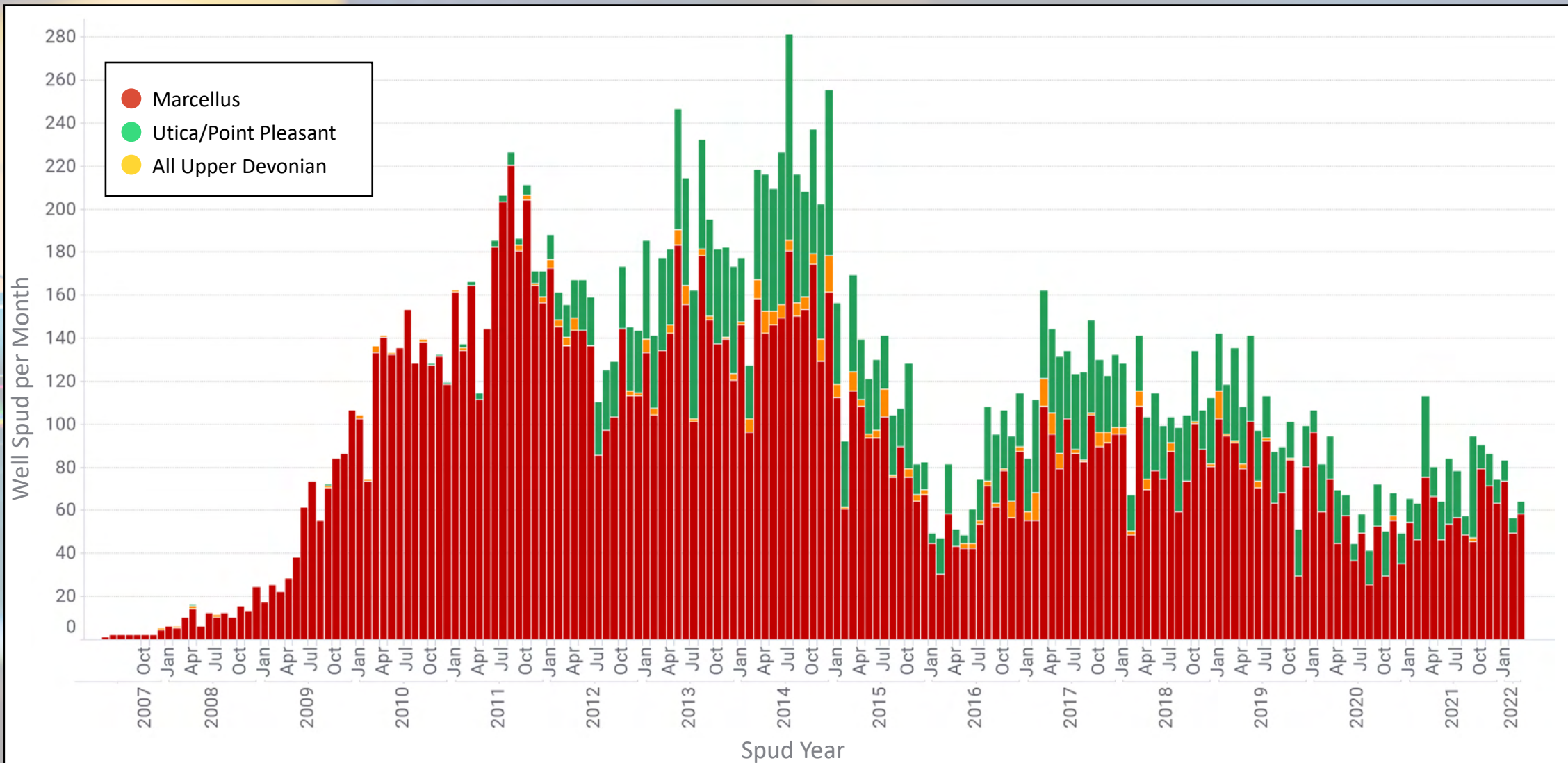
WHAT WILL DEVELOPMENT LOOK LIKE?

Well Count by Year (100 Operators Listed) - – Top 10 Operators Drilled ~ 70% of Wells



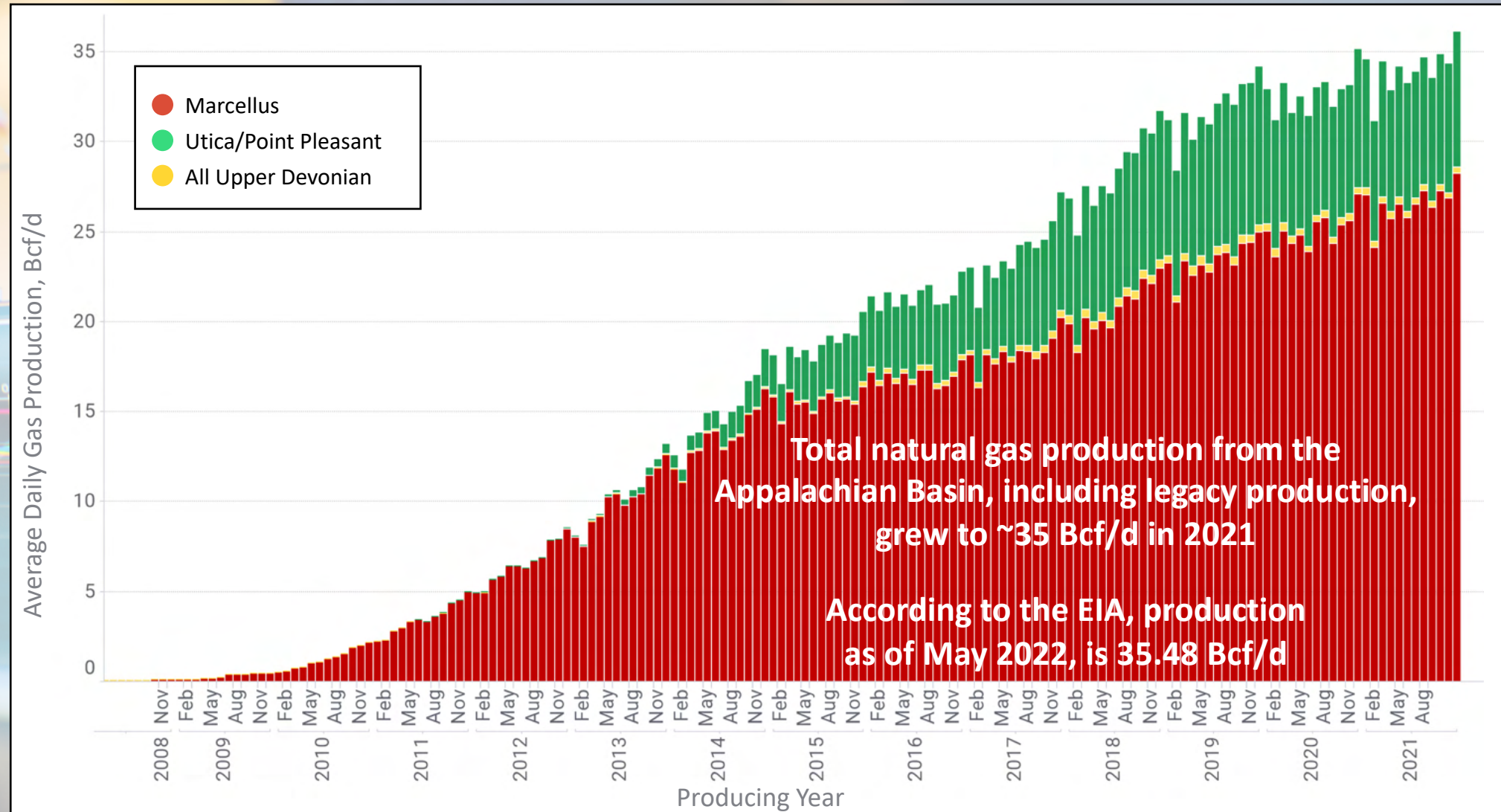
APEX ENERGY, ARSENAL RESOURCES, GREYLOCK ENERGY, NORTHEAST NATURAL, AND PENNENERGY

WELLS SPUD PER YEAR



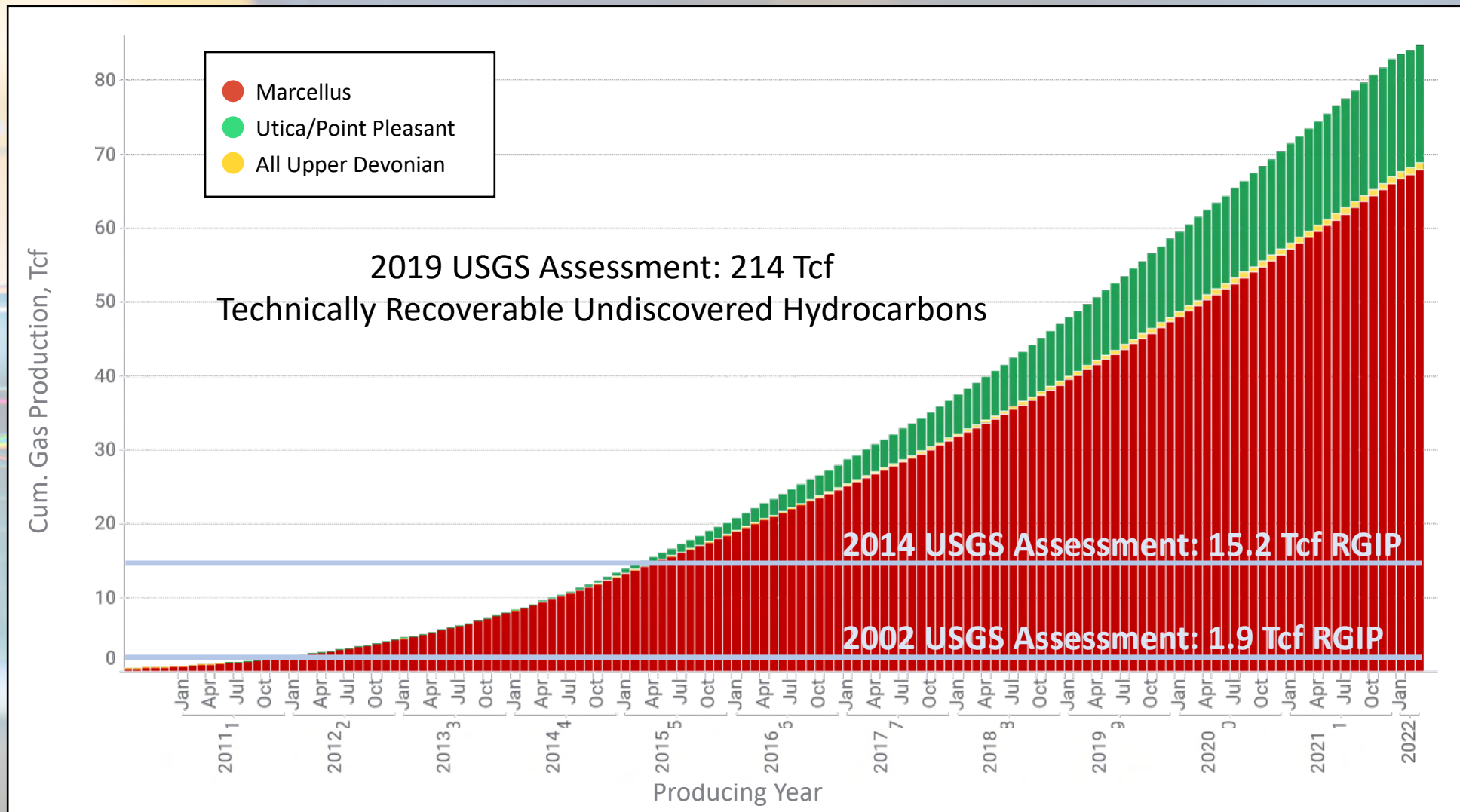
Source Data: Enverus May 2022

AVERAGE DAILY GAS PRODUCTION BY MONTH



Source Data: Enverus May 2022

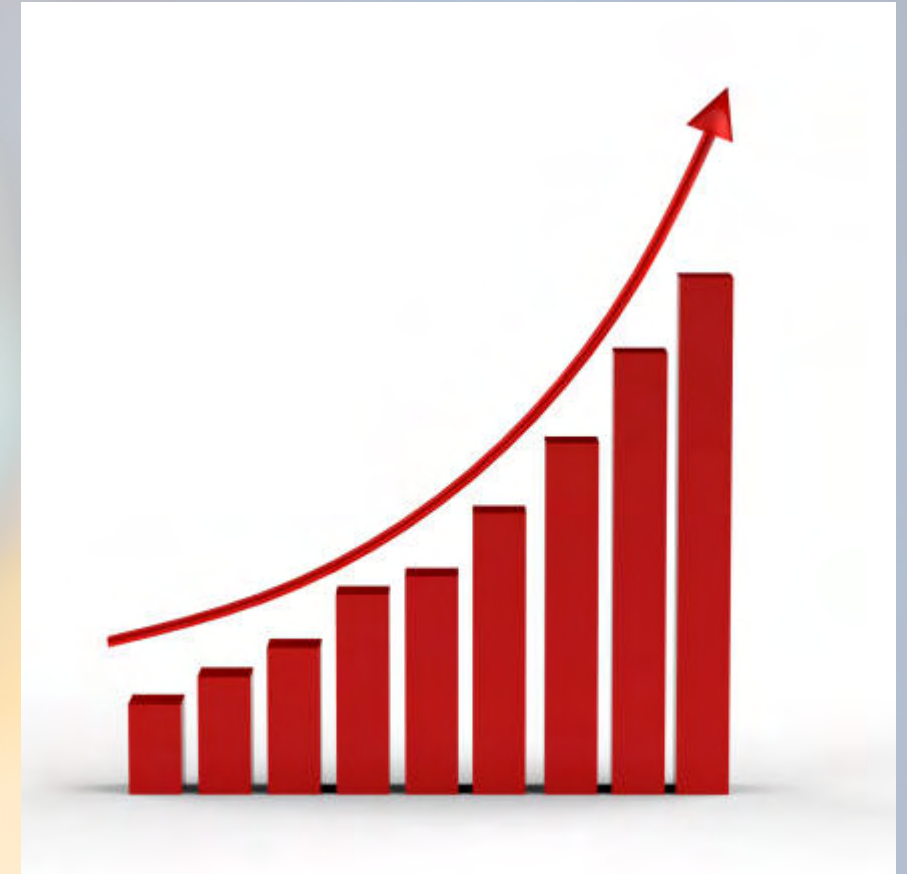
CUMULATIVE PRODUCTION OVER TIME



Source Data: Enverus May 2022

CONTINUED GROWTH POTENTIAL

- In February of 2022 the EIA reported: “We estimate that production from the Appalachian region will grow by 0.3 Bcf/d in 2022 and 0.7 Bcf/d in 2023.”
- It appears that production growth is on trend to meet that projection
- In order to accomplish this, operators in the region may need to add approximately 850 wells in 2022 and 850-900 wells in 2023
- Based on data available as of June 6, 2022, 362 wells have been spud in the region this year
- Based on this rate of development, in Wright’s opinion there is ample acreage to add this many wells per year - many still in “core/sweet spots?”



NATURAL GAS IS RAPIDLY BECOMING A GLOBAL COMMODITY



INFRASTRUCTURE

Necessary for a truly global commodity – and it's being developed



ENERGY SECURITY

Less resource-rich countries will be looking for clean energy sources



NEW QUESTIONS ASKED BY ENERGY LENDERS

- Do you have a written environmental, social, governance (ESG) policy?
- Do you plan to reduce emissions over the next 24 months?
- Do you plan to increase recycled water over the next 24 months?
- Are you actively monitoring gas emissions?
- Do you have a spill response plan?

NEW GUIDELINES/REGULATIONS COMING

- SEC proposes new guidelines for ESG investing with new disclosure rules
 - Publicly reporting companies
 - Affect on private companies - a matter of time (IPO=ESG)
- ESG investing is controversial
 - Variety of investing styles and strategies
- Ongoing process that is living and breathing with most of the work still ahead of us in the ESG space
- As energy prices hit near-record levels, will ESG gain or lose momentum?
- Some banks, private equity firms, and investment groups decreased their fossil fuel financing due to outside governmental pressures in anticipation of potential future mandates
- Some banks, private equity firms, and ESG funds have been more aggressive defending their fossil fuel related investments, but with more scrutiny due to potential future mandates

SUSTAINABLE AND RESPONSIBLE DEVELOPMENT

- What do we mean by sustainable and responsible development?
 - Multiple meanings, especially after 2020
 - Can we develop responsibly from an ESG perspective
 - o Reduce carbon emissions
 - o Some social issues are not applicable in the US, but may be applicable in the supply chain
- Activity has been dictated by prices as long as the industry has been around
 - Can we develop at a pace that prices are fair to producers and consumers
- Now there is new pressure on all industries to understand their impact on the world – of course we are talking about ESG
- There is uncertainty around the future of regulations and the pace at which ESG will be implemented

ESG – A GROWING EMPHASIS

Not Really New to Appalachia

Environmental

- Resource Efficiency
- Waste Pollution
- Greenhouse Gas Emission

Social

- Local Communities
- Health & Safety
- Diversity

Governance

- Diversity & Structure
- Corporate Ethics
- Compliance

WHAT IF YOUR STORY DOES NOT LOOK GOOD?

Tell It Anyway – Focus on How to Improve



BE SURE TO INCLUDE WHAT YOU ARE DOING WELL
WITH FOCUS ON CONTINUOUS IMPROVEMENT “GROWTH”

HOW IS YOUR COMPANY HANDLING ESG?

Probably Better Than You Realize


Scotiabank®



R**RANGE**
RESOURCES®



TCFD | TASK FORCE ON
CLIMATE-RELATED
FINANCIAL
DISCLOSURES

 **ENCINO**
Energy

J.P.Morgan

KeyBank 



 **PENNENERGY**
RESOURCES

Wright & Company, Inc.
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A PROBLEM FOR THOSE WHO IGNORE IT – AN OPPORTUNITY FOR THOSE WHO EMBRACE IT



- The industry's attitude is changing – this is largely driven by capital providers, who are driven in large part by fund investors and public opinion
- In some cases, sustainability reporting and implementation of ESG related policies and procedures may be costly, but the cost of not acting will be higher, especially once regulatory guidance on reporting is in place

CORPORATE GOVERNANCE RESPONSIBILITY

- There is a lot we cannot even begin to cover here
- Requires buy in from the highest levels of your company
- May require company culture changes
- Not just within your company, but must engage stakeholders as well

Governance encompasses all of ESG – ESG can't be implemented without corporate governance. It's an ongoing process – and new results will be compared on old reports – requires monitoring and accountability – channeling your resources appropriately.



Ethical standards and values and disclosure and transparency – ESG is in focus in much of the world – in some countries, particular issues will be much more prevalent.

GOOD ESG STRATEGY WILL BE REWARDED BY INVESTORS

- There is some controversy in the industry around ESG, but let's focus on what is good and provides for our mutual interests
- Our industry has a checkered past around the environment and sustainability, but let's all step up, as many of you already have



- Lower interest rates
- Premium gas prices
 - Having wells certified
- Focus on returns, good for investor
- Focus on public education around the industry and in general
- Stakeholders

MONETIZE YOUR SUSTAINABILITY INITIATIVES



- Tax credits for carbon capture
- Mine bitcoin/cryptocurrency with gas that would have been flared
- Utilize leased/surface land that goes unused for much of the life of the lease – possible solar onsite
- Reduce overall costs

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Carbon Capture

Gas Certification

M & A
Due Diligence

ESG

Litigation
Support

Database
Quality Control

Global Reporting Initiative (GRI)

Certified Sustainability Professional

**Ron Summers, Sr. Petroleum Consultant with
Wright & Company, Inc. for over 13 years**

CONCLUSIONS

- Current production in Appalachia is approximately 35.48 Bcf/d
- Thousands of locations for years of future development
- EIA estimates that production will grow by 0.3 Bcf/d in 2022 and 0.7 Bcf/d in 2023
This may require approximately 850 wells in 2022 and 850-900 wells in 2023
- Based on this rate of development, in Wright's opinion there is ample acreage to add this many wells per year - many still in core areas
- Natural gas is a worldwide commodity and a clean energy source

CONCLUSIONS

- Tell your ESG story – what you are doing and how you intend to grow
- Oil and gas industry will develop the energy necessary and will be around for decades to come
- Different companies of different sizes, in different locales, with different funding sources will implement at different rates, but there will be pressure from different sources on all
- Pricing is providing the incentive that producers need to invest in America's energy security, energy reliability, and energy sustainability

A small American flag is draped over a dark blue leather-bound book. A fountain pen with a brown barrel and gold accents lies horizontally across the middle of the book. The book's cover features a gold-colored oval label with the company name and logo.

THANK YOU!

D. Randall Wright, P.E.

(615) 370-0755

randy@wrightandcompany.com

wrightandcompany.com

Wright & Company, Inc.
Petroleum Consultants