MARCELLUS
SHALE COALITION

THE CURIOUS CASE OF THE ONONDAGA

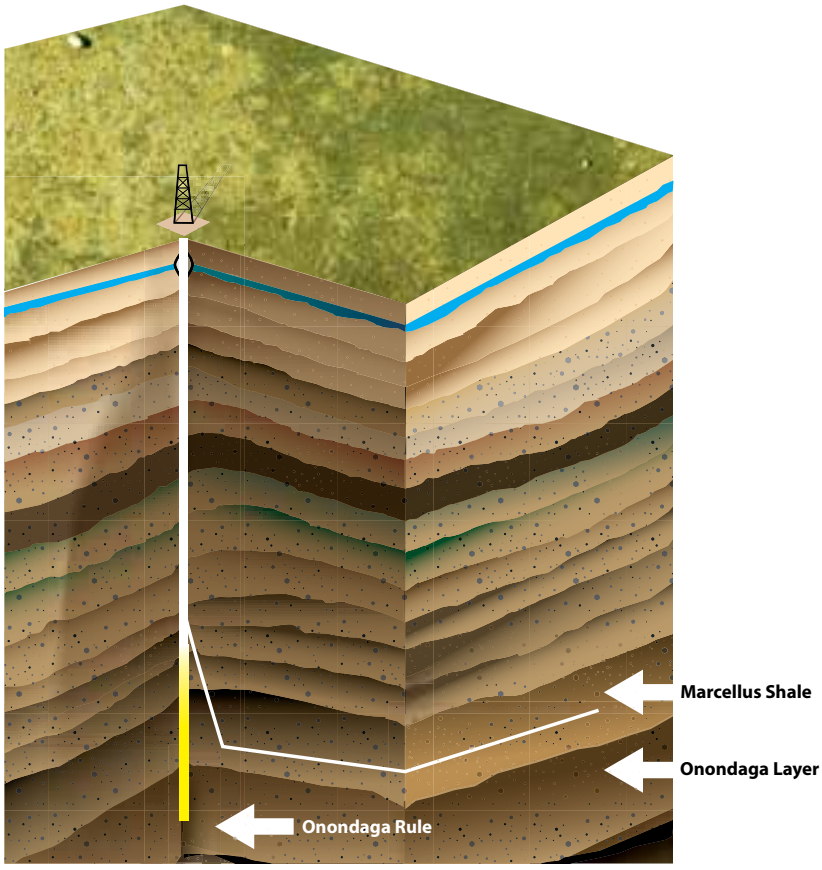
No natural gas to be found in the layer beneath the Marcellus – so why does the law say we have to drill to it anyway?

Imagine coming to the end of a long race only to find the rules dictate that, in order to win, you have to run an extra mile past the finish line, and then turn around and run an additional mile back. You'd probably consider it an inconvenience, for starters — and a waste of time, energy and resources as well.

Unfortunately, that's precisely what's happening in Pennsylvania today as efforts to tap natural gas from the Marcellus move forward. Thanks to an odd provision in the law, operators in some cases aren't permitted to produce from the Marcellus until they first drill through that formation and into the underlying Onondaga strata. Once the Onondaga is reached, the drill bit Is pulled back, and the last 600-800 feet of the hole is filled with cement before the horizontal section of the well can be drilled.

The only problem? The Onondaga rule adds a minimum of $200,000 to the cost of the well — resources that are essentially wasted in order to comply with an outdated law written before horizontal drilling technologies were created.

Journey to the Center of the Earth



Under existing state law, Marcellus producers must drill down into the Onondaga formation below the Marcellus in coal-bearing areas – adding significant costs to the operation without adding to the production of natural gas.

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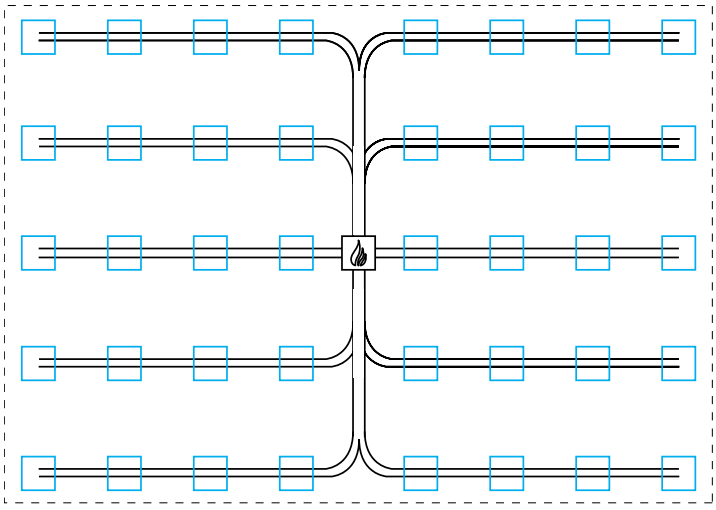
Where Did the Onondaga Rule Come From?

The history of the Onondaga rule can be traced back to the passage of Act 214 more than 25 years ago. The Act sought to strike a fair compromise between coal and natural gas producers, mandating that no gas well in a coal-bearing area could be drilled closer than 1,000 feet to another well. Back in the days of vertical well drilling, the rule made sense; it ensured that natural gas could be produced without interfering with the mining process.

Today, with the advent of horizontal drilling, it no longer does. That's because best practices for horizontal shale drilling dictate that wells be spaced in tight clusters — allowing for the development of 1,000 acres or more from a single drilling pad. The benefits of this approach are obvious: Fewer pads mean far less disturbance to land, and far less pipeline and access road infrastructure.

New Technologies Allow for Increased Production, Reduce Aboveground Disturbance



Wells that did not need to be drilled, thanks to horizontal technology.

In a 1,000-acre unit, a single well pad could replace 45 vertical pads and result in total surface disturbance of about 1% of the total area (see image above).

How Does the Rule Work?

It just so happens that "best practices" for horizontal shale well development don't quite align with the provision in Act 214 requiring wells be spaced a minimum of 1,000-feet apart.

That's where the Onondaga rule comes in. Under a specific exemption in the Act for "deep wells," the well-spacing limitations are waived so long as the well is drilled into the formation beneath the Marcellus.

The fact that no production takes place there is of no relevance — if producers want to drill multiple wells on a single pad to tap Marcellus gas in areas with mineable coal seams (primarily Southwest PA), Onondaga needs to be touched first.

Horizontal Drilling Changes the Game – the Law Should Change along with It

Thanks to advancements in horizontal and lateral drilling technology, producers today have the ability to access 10 times the energy resources by drilling barely one-tenth the number of wells. These innovations have not only helped dramatically scale back our environmental and land disturbance footprint, they've also helped us greatly reduce our interactions with coal seams.

More than 25 years removed from the passage of Act 214 — long before horizontal drilling technology had been invented — it's time for Act 214 to be updated in a way that acknowledges the technological realities of shale gas exploration today. The best way to do this is to waive the 1,000-foot spacing requirement for natural gas wells — assuming the coal owner consents to it.