

This is not your grandfather's gas well.

In its promotion of gas drilling in the Marcellus shale that underlies Central New York, the Department of Environmental Conservation (DEC) is painting a picture of a drilling process that is of short duration, involves minor land disturbance, and leaves behind only tiny, well-groomed well heads. It points to existing, completed wells as evidence that gas-drilling is a benign activity.

The DEC claims that the historical record shows gas drilling to be mostly risk-free, and the DEC to be an experienced regulator of an established technology. All these claims are untrue. Among New York State's gas bearing shale formations, the Marcellus Shale is distinct, and the technology developed to exploit it is significantly new and different. More than other types of wells currently being completed, horizontally-drilled/hydraulically-fractured (H/F) gas wells will have a huge impact on central New York.

Extent of Formation

Unlike other gas formations, the Marcellus is vast and continuous. Although it varies in depth and thickness, the Marcellus under lays the entire southern half of the state (and runs into PA, WV, and OH).

Hydraulic Fracturing (also known as hydro-f racking)

Unlike conventional gas reserves, the gas in the Marcellus is trapped and must be released. In each fracking, 2-9 million gallons of water mixed with sand and chemicals are forced into the well at high pressure to fracture, or crack, the shale. Roughly half the fracking fluid remains in the ground. The rest of it (1,000,000 to 4,000,000 gallons) comes back out of the well, along with "produced water" bearing heavy metals and unpurified petroleum products all industrial waste that must be disposed of. Each well may be fracked up to ten times during its productive life.

Water Usage

Fracking requires the use of large quantities of fresh, potable water. Fracking the Marcellus will require many billions of gallons of water over the next 15 years. This water will be withdrawn from lakes, rivers, streams, wetlands, ponds, and wells. Because the water becomes contaminated, it *should* never be returned to the watershed.

Fracking Fluids

Most of the recent advances in fluid technology for shale gas recovery are owned by Haliburton. Because the DEC regards the fracking fluids as proprietary, the public cannot know what is in them. However, samples from well blowouts and fluids pits in Colorado, Wyoming and New Mexico found fluids to contain diesel fuel, and over 200 different kinds of chemicals, over 95% of which have adverse effects including brain damage, birth defects and cancer.

Fluids Disposal

The returned water from hydro-fracked wells is toxic. In addition to the added chemicals, the water picks up hydrocarbons, heavy metals like arsenic, and radioactivity from the shale. Billions of gallons of waste water will be produced in our area alone and will need to be trucked to a final disposal site. The most common method of

disposal will be Deep Well Injection Disposal, where the waste is forced underground at high pressure in dry gas wells.

Well Life

Marcellus wells are long lived. They will remain active and subject to refracking for decades, up to 40 years. Land leases will last as long as the well is active.

Well Spacing

Vertically-drilled Marcellus wells can be spaced in 40 acre units or 16 wells per square mile. An average town could contain up to 1,500 wells.

Well Pad Size

When drilled horizontally, Marcellus wells on 640-acre units require large, industrial pad sites. Depending on how many well heads it contains, a pad will range from 5-15 acres.

Noise

The drilling and fracking of Marcellus wells will last about a month per well. Marcellus wells require large, diesel-fueled compressors boost pressure where feeder pipelines join transmission pipelines. These will have to run day and night for the life of the Marcellus play.

Traffic

All gas development creates traffic in rural areas. The scale of the Marcellus, and the fact that it must be fracked, multiplies this traffic. One well service company, Gas Field Specialists, uses 5,460 gallon tanker trucks. If one well requires 2 million gallons of water for one fracking, that's 366 of these tanker trucks hauling fresh water and 183 hauling waste. That is 549 tanker truck trips per well, per fracking. In Pennsylvania, the DEP estimates that one horizontal Marcellus well requires 1,000 truck trips during drilling and fracking.

Air Pollution

Each well site emits air pollution. In addition to pollution from diesel generators, drill rigs, truck and equipment, flaring and condensate tanks are significant sources of volatile organic compounds (VOCs) and nitrogen oxide, which in the presence of sunlight, are precursors of ozone. Proposed Marcellus shale drilling in New York will be high density. In high density drilling areas in Colorado and Wyoming, rural communities have ozone level higher than Los Angeles. Ozone can cause a range of respiratory health problems and lung disease.

An Industrial Landscape

The process of the horizontal-drilling and hydraulic fracturing (H/F) of the Marcellus Shale will create conditions, and leave a landscape, unlike any that has been experienced in central New York. Other states that experienced H/F since its widespread introduction ten years ago heard the same assurances from the industry and its government sponsors, that we are hearing now in New York. Hopefully, we can learn from their misfortunes.

ChenangoDelawareOtsegoGasGroup <http://www.un-naturalgas.org/>

Shaleshock(Ithaca) <http://www.shaleshock.org>

Oil and Gas Accountability Project <http://www.earthworksaction.org/pubs/Oilandgaspollution.pdf>