



EARTHWORKS

October 5, 2018

Richard L. Neville-Environmental Group Manager
Department of Environmental Protection, Northwest District
230 Chestnut Street
Meadville, PA 16335

Dear Mr. Neville:

Thank you again for your email of September 18 clarifying the regulations that apply to conventional oil and gas well operators in Pennsylvania. Earthworks greatly appreciates the prompt and thorough follow-up from you, Scott Motter, and Marshall Wurst regarding the two complaints that Earthworks filed on conventional wells in the Allegheny National Forest (ANF) and the actions taken by the Department of Environmental Protection (DEP) to address the pollution we identified.

I'm writing now regarding remaining concerns that Earthworks has about the wells that were the subject of our complaints, as well as how the DEP inspects and manages pollution from conventional operations. These concerns are detailed below.

To recap, on August 21, 2018, Pete Dronkers, an Infrared Training Center (ITC) certified optical gas imaging (OGI) thermographer employed by Earthworks, filmed emissions at two conventional well sites in the ANF. These were the Bull Run Energy, LLC Fogle well in Mead Township, Warren County (permit #123-44688) and the Snyder Brothers, Inc. Lot 3 48 well in Hamilton Township, McKean County (permit #083-51945).

On August 31, 2018, I submitted the OGI footage as formal complaints to the DEP (complaints #336675 and #336676), as well as to Mitch Dysinger, US Forest Service Oil & Gas Administrator for the region.

Unclear regulatory status of the wells

The status of the Fogle and the Lot 3 48 wells is unclear--thereby making it difficult to determine which regulatory actions are required in light of the pollution documented by Earthworks. The information we received from DEP appears contradictory information in this regard.

Your email of September 18 cited §78.74 and §78.102(2)(D) of 25 Pennsylvania Code (PA Code) on the venting of gas to the atmosphere by conventional wells. §78.74 applies only to wells in active production and sets no emission limits whatsoever; §78.102(2)(D) limits venting from wells with inactive status to 5,000 cubic feet per day and requires operators to report excessive releases to DEP for remedial action. In other words, operators face no emission limits if their wells are classified as active, but do if they are inactive.

In addition, §78.101 thru §78.105 requires DEP to determine inactive status and for operators of inactive wells to meet certain conditions, including annual monitoring and reporting.

Both wells in question are classified in the DEP Environment Facility Application Compliance Tracking System (eFACTS) database as "active," but the last listed permits are from December 2006 for the Fogle well and January 2007 for the Lot 3 48 well. We would appreciate an explanation from DEP as to the duration of conventional well permits in Pennsylvania and when, if ever, DEP has issued permit renewals for these wells.

On September 5, DEP Inspector Scott Motter called to inform me that he had conducted an inspection at the Snyder Brothers site, confirmed the leak filmed by Earthworks, and fixed it using a sledge hammer. He acknowledged that the amount of leaking gas shown in Earthworks' OGI video was significant, but that no violation would be issued because the current releases did not reach the "allowed limit." As noted above, emission limits exist only for wells in inactive status.

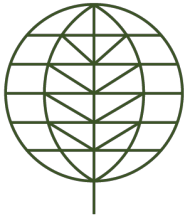
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At the same time, the DEP Production database does not include any data for these two wells during the reporting period of January 2013-December 2017. Such a long lack of production is a possible indication that they are in reality inactive, and should be classified as such.

It is possible that Bull Run Energy and Snyder Brothers are simply not reporting production for some of their wells to DEP, which may be a violation of reporting requirements under §78.121 of Chapter 25 of the PA Code. If the wells in fact are inactive, then according to §78.102(2)(D), the operators are subject to emissions limits and DEP would need to measure the emissions released and enforce the requirement for remedial action.

Furthermore, §78.103 requires operators of inactive wells to inspect them annually for mechanical integrity and report this to DEP, while §78.104 limits inactive status--and thus allowed emission releases--to five years (six with a formal request for extension).

We request that DEP clarify the actual status of the wells and inform Earthworks of the regulatory sections DEP intends to apply and any follow-up enforcement actions the agency takes regarding these wells.

Infrequent inspections pose risks

As noted in your September 18 email, §78.74 of the PA Code prohibits venting from active conventional wells only if it poses a risk to health and safety. Yet in a significant regulatory gap, the Oil and Gas Act does not set standards for how risk to health and safety is defined or identified, nor does it provide any guidance for DEP, the agency tasked with overseeing the industry, in making that determination.

This lack of regulatory guidance creates a situation in which the agency is making seemingly arbitrary determinations, as in the case of the Fogle and Lot 3 48 wells. At the same time, it creates an opportunity for DEP to interpret the definition of “health and safety” risk in §78.74 more broadly so that the air, water, and climate impacts of conventional wells are actually considered.

Leaking wells emit both methane that exacerbates climate change and toxic air pollutants that degrade air quality and harm health. Ample research indicates that air pollution from Marcellus shale development is not confined to the site of emissions and can travel hundreds of miles.¹ This pollution presents clear risks to “health and safety” that DEP should consider when interpreting and enforcing §78.74.

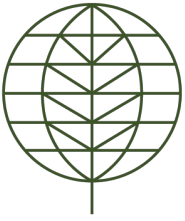
Your September 18 email also stated that, “district field staff routinely verify that venting gas that they encounter during inspections does not create a combustible atmosphere that could directly impact public health and safety. Our inspectors also routinely notify operators of gas leaks that they encounter during their inspections.”

Yet in an email on September 10, Marshall Wurst indicated that the leak Earthworks documented at the Fogle well was releasing gas to the atmosphere at 5% of the Lower Explosive Limit, which is not combustible--but also emphasized that if the condition had persisted, it could become combustible.

As we noted in our complaints, according to the eFACTS database, DEP last inspected the Fogle Well more than four years ago (in January 2014) and the Lot 3 48 well more than five years ago (in January 2013). It is therefore possible that the wells have been releasing gas into the atmosphere unabated for years.

Based on the records available in eFACTS, DEP staff have not been in the field to “routinely verify” conditions at these two wells for quite some time, and it is unclear if or when the operators have conducted inspections. Please inform Earthworks of the date of the most recent operator-conducted inspection of these wells for mechanical integrity, as required by §78.88 (for operating wells) and §78.103 (for inactive wells).

¹ Vinciguerra, T., et al., “Regional air quality impacts of hydraulic fracturing and shale natural gas activity” Atmospheric Environment, (2015) 144-150.



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It is only because Earthworks was in the area with an OGI camera and filed the complaint that DEP conducted an inspection and was able to address the leak; otherwise, the condition would have persisted indefinitely, posing an ever-greater risk of combustion. It is also only because of Earthworks' complaint that DEP identified a defective well casing at the Fogle well and is conducting a subsequent investigation.

Again, because of the vague language of §78.74, there is no discernable basis for DEP to make the assumption that these wells--and the many other old conventional oil and gas wells like them in the ANF--*do not* cause a risk to public health and safety.

Moreover, in the absence of any documented inspections by DEP--and perhaps also inspections and repairs by the operators--for several years, statements about the risks presented by these wells seem unsupported by any facts collected by DEP. Thus, there is a basis for DEP to assume that such wells *do* pose a risk to health and safety.

Infrequent inspections also mean more pollution

Leaks of hydrocarbons such as those documented by Earthworks represent uncontrolled emissions, which contribute to air quality concerns far beyond the well site. As noted above, on September 5, Mr. Motter informed me that the emissions from the Lot 3 48 well did not "come close" to allowable emission limits.

We would appreciate an explanation from DEP as to how Mt. Motter could determine that the leak was under the regulatory limit. From our conversation, my understanding is that he was using a portable analyzer, which measures the *concentration* of gases; however, regulatory emissions limits under §78.102(2)(D) are in *volume* (5,000 cubic feet per day).

In 2016, a peer-reviewed study on methane leaks from oil and gas operations in the Marcellus Shale region concluded that conventional wells have far higher leakage rates than unconventional ones due to a greater prevalence of equipment maintenance problems; researchers determined that the wells in the study had a median leakage rate of 11% (ranging from 0.35-91%).²

According to the DEP oil and gas production reporting database, conventional wells statewide produced over 112 million Mcf of gas in 2017. An 11% leakage rate would mean the release of more than 12 million Mcf of gas into the atmosphere. As a point of illustration, this would equal more than 5% of Pennsylvania's residential consumption of natural gas in 2017.³

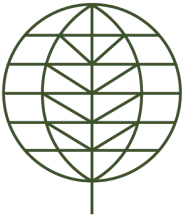
This finding underscores the importance of addressing the impacts of conventional oil and gas development--particularly in light of Governor Wolf's recent commitment to address methane emissions from existing oil and gas sources statewide. According to current science, methane is 86 times more potent a greenhouse gas than carbon dioxide over a 20-year timeframe.

On behalf of Earthworks, thank you in advance for DEP's response to the questions posed in this letter. I look forward to continued discussions with DEP regarding our shared goals of reducing pollution and protecting air, water, land, and health across the Commonwealth.

Sincerely,

² Omara, M., Sullivan MR, X Li et al., "Methane Emissions from Conventional and Unconventional Natural Gas Production Sites in the Marcellus Shale Basin." *Environmental Science and Technology*, February 2016.

³ US Energy Information Administration, Annual Natural Gas Consumption by state and end use, https://www.eia.gov/dnav/ng/ng_cons_sum_dcua_SPA_a.htm According to EIA, residential consumption reached nearly 219 million Mcf in 2017.



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Enclosure(s): Earthworks Complaint emails, August 2018.

CC: Mr. Mitch Dysinger, US Forest Service
Mr. Scott Motter, DEP
Mr. Marshall Wurst, DEP
Mr. Charles Zadakis, DEP
Mr. Bryon Richwine, DEP

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