

Public Statement in Response to Gradient Report on Fort Cherry School Emissions as Commissioned by Range Resources

Report: “Public Health Evaluation of Ambient Air Near a Shale Gas Well Site and School Campus: Results from Long-term Air Monitoring at the Yonker Well Site Nearby the Fort Cherry School Campus in Washington County, PA”

The Southwest Pennsylvania Environmental Health Project (EHP) has reviewed the Gradient report commissioned by Range Resources regarding a public health evaluation of emissions near the Fort Cherry school. EHP has reached the following conclusions and identified nine critical issues with the report.

Conclusions:

The Southwest Pennsylvania Environmental Health Project has concluded that the Gradient Report as commissioned by Range Resources is highly flawed in its methodology, scope, and objectivity. The choice of which wells to study, the failure to consider other emission sources, the lack of appropriate monitoring, the failure to consider peak emissions and vulnerable populations, the reputation of Gradient as an industry ally, and the potential for Range Resources to skew the results are all critical red flags. We deem this report invalid.

Critical Issues:

EHP scientists and health professionals have identified the following critical issues that gravely question the validity of the study:

1. The study was performed by a company, Gradient, that has been frequently contracted by industries looking to escape legal consequences or relax government regulations. According to the [Center for Public Integrity](#), Gradient has published research that attempts to discredit the known link between health effects caused by asbestos, lead and arsenic. Gradient’s air emission science [has been refuted](#) by a number of health and government organizations. Gradient should never be considered an objective third-party researcher, especially when it comes to evaluating public health.

A valid study should be performed by an objective third-party research organization with a reputation for integrity and without direct ties to industry.

2. The Yonker well site is located 0.82 miles from the Fort Cherry School Campus. Two other Range Resources well sites, the Chiarelli and the Toward wells, are closer or roughly equidistant to the school at 0.58 and 0.86 miles respectively.

A valid study would have included all of the closest well sites.

3. Of all wells within 2 miles of the school, the Yonker well had lower volatile organic compound (VOC) emissions (11.8 tons) than the Chiarelli (14 tons) and Cowden 1H (24 tons) wells in 2017.¹ While the Yonker well did have higher emissions of small particulate matter (PM 2.5), that was because PM 2.5 is primarily emitted during the drilling and fracking process, which the Chiarelli and Cowden 1H wells had already undergone.

A valid study would have included well sites with the highest emissions in order to predict maximum exposure to toxins.

4. The Yonker well site is located to the south and slightly east of the school. Airborne toxins are typically carried along with the prevailing winds, usually from the west or southwest. Toxins from the Yonker well site would predictably have little effect on the school, since winds would rarely blow from the well site toward the school. It's clear that the study chose a well site with a low potential to show emission concerns. For example, the Toward well pad, directly west of the school, would be more likely to affect exposure at the school.

A valid study would have included well sites where the prevailing winds would blow towards (not away from) the school.

5. The Yonker well site is only one source of potential toxic air emissions relative to the school. Other well sites, with greater potential exposure impact, were not studied. The cumulative VOC emissions of wells within 2 miles of the school for 2017 was 76 tons. The Yonker well pad contributed only 11.8 tons, or around 15% of VOC emissions.

A valid study would have taken into consideration all sources of local emissions.

6. The monitoring devices were placed between the Yonker well site and the school, and not at the school itself. If the purpose of the study was to examine exposure at the school, then monitors should have been placed at the school and not at some point between a single source and the school. In fact, all the air monitoring locations in the study were located where you would expect low emissions to be reported.

A valid study would have placed monitoring devices on the school campus.

¹ Emissions data obtained from the PA DEP

7. The results of the air emissions study were presented as averages. Average emissions are not an accurate gauge of toxic exposure to people. Well sites and other shale gas facilities release toxins at inconsistent rates. This means that there are times when there are spikes or peaks in emissions. These spikes are most concerning, as they have the potential to produce the most harmful effects on the health of individuals living nearby.

A valid study would have also looked at peak emissions and spikes in emissions to determine risks of exposure.

8. The study did not take into consideration vulnerable populations (children, babies, pregnant mothers, people with pre-existing chronic diseases, the elderly) when determining levels of exposure. These vulnerable populations are more likely to suffer health effects of toxic pollutants that may not affect those who are less vulnerable. They are also more likely to suffer health effects at levels below ambient air standards.

A valid study would have taken into consideration the lower tolerances vulnerable populations have for dealing with toxic emissions.

9. Range Resources clearly has a financial stake in the outcome of this research. By hiring their own researcher to perform the study, they cannot avoid the appearance of bias in the results. Since Range Resources knew the study was ongoing, it could have easily influenced the results by controlling the environment around the Yonkers well site by temporarily reducing emissions and activity at the well site. This is not to say that Range Resources actually did this, but having the opportunity to do so creates a level of doubt in the study that cannot be ignored.

A valid study should be performed without input from the industry in question and without the industry knowing the particulars of the ongoing study.

Submitted by:

**Raina Rippel, Director
Southwest Pennsylvania Environmental Health Project**