

Understanding the Effect of Unconventional Gas Drilling on Air Quality Environmental Sampling with Passive Samplers Fact Sheet

What is the purpose of the study? We want to know if air quality is affected by unconventional natural gas drilling (UNGD), also referred to as hydraulic fracturing or fracking.

Who is conducting this study? Researchers at the University of Cincinnati College of Medicine and Oregon State University are working together on this study.

Who is sponsoring the study? The National Institute of Environmental Health Sciences (NIEHS), a part of the National Institutes of Health (NIH), a U.S. federal agency, has provided funding for this study. There is no cost to the landowner.

How can you help in this study? We want your permission to come onto your property to place air samplers in close proximity to the well pad. Ideally we would place 4 samplers around the well pad to sample the air in all directions. The samplers will stay for no more than 3 weeks and do not require any maintenance. They only need to be placed and then removed. The sampling box can be strapped to a pole, tree, fence, or building structure. All work will be handled by trained personnel who will respect any of your access requirements.

What kind of sampling devices will be used? We will use passive samplers. They are *passive* meaning that they absorb chemicals in the air and require no motor or maintenance for them to operate. The sampling material used to collect the chemicals in the air is placed inside a metal box to protect it from weather conditions and animals. The samplers pose no danger to humans, livestock, or crops. The sampling box is in the shape of a T, weighs 3 pounds and is 29 inches long by 12 inches wide at the T.

The pictures to the right show the sampling boxes used by our study team in other settings on the Gulf of Mexico and in Oregon.



What will be tested? These samplers can collect thousands of different chemicals, including volatile organic compounds which can impact human health. This includes PAHs (polycyclic aromatic hydrocarbons) and BTEX (benzene, toluene, ethyl benzene, and xylenes) which may be related to UNGD activities.

Will I receive the results of the sampling on my property? Yes. We will provide you the air sampling results for the sampler on your property. We will also share summary information about all sampling results. The air sampling results from this study may be published, but your name or address would not be included in the publication. Your results will remain anonymous.

How can I learn more or ask to participate? If you would like to learn more about the study or are interested in having an air sampler on your property, please call Dr. Erin Haynes with the University of Cincinnati by phone at 513-558-5427 or email her at erin.haynes@uc.edu.