#### What's in the air?

#### Hydrogen Sulfide

Wells in the Dineh Bi Keyah field release dangerous levels of hydrogen sulfide (H2S), a naturally occurring gas found within natural gas. At low concentrations H2S smells like rotten eggs, but at high concentrations humans cannot smell it. H2S is considered a broadspectrum poison, because it can poison many systems in the human body. Exposure to high concentrations of H2S can be deadly. It can also cause eye, nose and throat problems, cause fluid to build up in the lungs, poison the nervous system, and cause respiratory and digestive problems, among other negative health effects.

## **Volatile Organic Compounds**

Volatile Organic Compounds (VOCs) are a category of gases emitted during oil and gas production, including helium production. The VOCs most typically associated with this activity include benzene, toluene, ethylbenzene, and xylene. Each of these chemicals can cause neurological harms, and benzene is also a known carcinogen. Breathing in these substances can irritate the nose, eyes, and throat, and cause nausea. When VOCs mix with sunlight and nitrogen oxide, a chemical released when fossil fuels are burned (for instance, from a car engine or a coal plant), they cause regional smog or ground-level ozone, which can cause or exacerbate respiratory problems like asthma.



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# Environmental and Health Impacts of Fracking



Understanding the risks of oil, gas, and helium extraction in Red Valley,
Navajo Nation

## What is fracking?

"Fracking" is a suite of practices used to extract oil and natural gas from the Earth. During fracking, operators inject large volumes of water, chemicals, and typically sand into the earth to break open rock layers and access oil or gas.



Helium is a component of natural gas. Natural gas found Red Valley is particularly rich in helium. Natural gas extracted from wells in Red Valley is sent to a helium processing plant on CR 41 South, where the helium is separated from the gas stream and refined. From there, it is sold to private buyers.

# There is no such thing as safe fracking.

A growing body of research shows that fracking is harmful to the environment, the global climate, human health, and social and economic wellbeing. These impacts are intertwined. Even with regulation, fracking cannot be done safely.



Airborne chemicals and gases emitted during fracking negatively impact local air quality and the climate.



Radioactive materials that often occur naturally in underground shale become components of fracking wastewater and solid waste. These radioactive substances threaten groundwater, surface water, and local communities near disposal sites.



Fracking threatens ground-water and can pollute drinking water sources.



Evidence from several U.S. states and other countries shows that fracking causes earthquakes, which can pose risks to communities, animals, infrastructures, and cultural resources.

Chemicals released into the environment during fracking can cause multiple health problems.

