## Norman Starr

The Basin Compact states that, "The ground waters of the Basin shall not contain substances or properties attributable to the activities of man in concentrations or amounts sufficient to endanger or preclude the water uses to be protected. Within this requirement, the ground waters shall be free from substances or properties in concentrations or combinations which are toxic or harmful to human, animal, plant, or aquatic life, or that produce color, taste, or odor of the waters."

As fracking has increased nationwide, the negative health impacts of this practice are becoming apparent. Fracking uses large amounts of many toxic chemicals, including carcinogens, and these have impacted ground water and aquifers, and thus the health of residents. In order to protect the health of the residents of the Delaware River Basin, fracking must be banned.

In 2016, the Pennsylvania Medical Society unanimously called for a moratorium on fracking (see

https://www.damascuscitizensforsustainability.org/2016/10/pa-doctors-call-state-ban-drilling-fracking/), saying "growing evidence has shown its increasing deleterious effects outweighs any economic benefit." Protect Pennsylvania: Health Professionals for a Livable Future, an alliance of physicians and nurses organizations, supported the call for a moratorium, saying "in-state health studies have demonstrated worsening asthma, premature births, neurological and mental symptoms, and other adverse effects".

A 2016 study by the Yale School of Public Health, published in Science of the Total Environment, found numerous carcinogens used in fracking have the potential to contaminate the air and water of nearby communities and increase the risk of childhood leukemia (https://www.damascuscitizensforsustainability.org/wp-content/uploads/2016/10/Fracking-Risk-of-Childhood-Leukemia.pdf).

A 2016 study of Pavillion, WY, detected volatile organic compounds (VOCs), released from natural gas operations, in the bodies of nearby residents at levels that were as much as 10 times that of the national averages (see

https://www.damascuscitizensforsustainability.org/2016/07/high-levels-toxins-found-bodies-people-living-near-fracking-sites/). Some of these VOCs, such as benzene and toluene, are linked to chronic diseases like cancer and reproductive and developmental disorders. Others are associated with respiratory problems, headaches, nosebleeds, and skin rashes.

A 2015 study by Johns Hopkins Bloomberg School of Public Health concluded that expectant mothers who live near active natural gas wells operated by the fracking industry in Pennsylvania are at an increased risk of giving birth prematurely and for having high-risk pregnancies (see

https://www.jhsph.edu/news/news-releases/2015/study-fracking-industry-wells-associated-with-premature-birth.html).

There are many other studies of the negative health impacts of fracking. I urge the DRBC to enforce the Basin Compact and ban fracking in the Basin.