http://www.americancleanenergyagenda.org/new-frac-sand-mining-report-details-health-environmental-and-economic-harms/

Links to all the resources can be found at this site including the map based links from EWG and references at MEA. Please take a look at these well documented resources. Look for the address for a buffering replay of the press conference held at noon on Sept. 25. It is noted on the above link.

Report coauthor Grant Smith, senior energy policy advisor, Civil Society Institute, said: **"The rapid expansion in the United States of oil and shale gas drilling, including hydraulic fracturing, has a hidden side filled with problems: the mining of the special sand that is essential to fracking a drilled well. As this report makes clear, it is essential that local and state governments assess and take action based on the impacts of the full cycle of shale oil and gas drilling, including frac sand mining. Health, water, and other economic concerns should be addressed comprehensively, rather than being ignored or dismissed. Protecting public health and safety is the first responsibility of government."**

EWG Executive Director Heather White said: **"None of the states at the center of the current frac sand mining boom have adopted air quality standards for silica that will adequately protect the tens of thousands of people living or working near the scores of recently opened or proposed mining sites. EWG's mapping research found frac sand sites in close proximity to schools, hospitals and clinics, where children and patients may be exposed to airborne silica. Chronic exposure can lead to emphysema and lung disease. We need strong state action to protect the public health from yet another troubling side effect of the unprecedented wave of shale gas development."**

MEA Executive Director Kimberlee Wright said: **"Citizens living near frac sand mining in Wisconsin are witnessing a massive destruction of their rural landscape. Elected officials and our states' natural resources protection agency have largely dismissed local citizens' concerns about their health, the health of their environment and their quality of life. Without a clearer view of the big picture of frac sand mining's impact, laws that protect our communities' air and water aren't being developed or enforced."**

Key concerns about frac sand mining outlined in the report include the following:

· ***Water issues.*** Individual mining operations withdraw between 420 thousand and 2 million gallons per day. The volume of water used is significant, and added chemicals to process the sand compound water related problems with sand mining. Polyacrylamide, a flocculent, that encourages clumping of particles to remove impurities from the sand is used at mining and processing operations. It contains traces of acrylamide and can break down into acrylamide, a neurotoxin and known carcinogen, and can enter groundwater or surface water from wastewater ponds at mining operations or from piles of processed sand ready to be transported. There is also increasing concern with acid mine runoff from operating and reclaimed frac sand mines.

· ***Health issues.*** Silica dust is of great concern to people living near frac sand operations. The smallest particles of dust (2.5 microns, a fraction of the width of a human hair) cause the greatest damage to the lungs. This is due to the fact that smaller particles can evade the body's natural defense mechanisms and penetrate deeper into the lungs, and even into the bloodstream. Crystalline silica dust, generally around 4 microns in diameter or less, is also especially harmful. Prolonged exposure to frac sand can lead to silicosis of the lungs and is thought to be a lung carcinogen. This is particularly troubling for people living in proximity to multiple frac sand mines as well as elderly people or families with young children as these populations may be more susceptible to disease. Additionally, people with silicosis are at high risk for developing tuberculosis. Crystalline silica exposure has been linked with other lung ailments as well, including emphysema and bronchitis. It has also been linked with a variety of autoimmune diseases, such as scleroderma, lupus, rheumatoid arthritis, autoimmune hemolytic anemia, chronic thyroiditis, hyperthyroidism, and to kidney-related diseases, such as chronic renal disease, and those with high exposure are more likely to die from renal disease.

· ***Financial issues.*** Economic harms are seen as a result of frac sand mining including potential loss of nearby real estate values of up to 25 percent and decreased lifespan for roads and other infrastructure, which carry a substantial replacement cost. Even though Minnesota state law allows counties to levy a 15-cent per ton aggregate extraction tax to help offset the costs of road repair, many counties choose not to. Additionally, the Minnesota Local Research Board found that 22 cents per ton-mile would be a more accurate amount to cover the costs.

Commenting on the health aspects of the report, Crispin Pierce, PhD, associate professor and program director, Environmental Public Health Program, University of Wisconsin-Eau Claire, said: **"Our research group has tested the air around frac sand plants over the last five years and found elevated levels of fine airborne particulates including silica in neighboring communities. We are concerned about potential increases in cardiovascular disease, premature death, and lung cancer. Our state regulator, the Wisconsin Department of Natural Resources, is requiring less than 10 percent of the 140 frac sand operations in the state to monitor their emissions, and even then not requiring monitoring of the particulates of most concern, including silica."**

Silica, or silicon dioxide, is a chemical compound that is most commonly found in nature as quartz. Crystalline silica is an ultrafine particle that occurs when silica is crushed, exploded, drilled or chipped, as occurs during silica mining. Crystalline silica can be ingested through breathing, allowing the particles to become lodged in the lungs. In addition to the danger posed to miners and pad workers, frac sand also carries a potential risk to residents near mining sites, along transport routes, and for the transport crews who move the cargo. Intense exposure to crystalline silica can cause silicosis within a year, but it usually takes at least 10-15 years of exposure before symptoms occur.

Among those concerned about the health impacts are Victoria Trinko, a family farmer from Bloomer, Wisconsin in Chippewa County less than a mile from a frac sand mining operation, said: "I **am a retired speech clinician raising beef cattle on the farm my father bought in 1936. I am also the clerk of the Town of Cooks Valley. I have lived on the family farm most of my life. The third sand company in the Town of Cooks Valley began construction and operation in the spring of 2011 and is located within one half mile northwest of my farm … In April of 2012 within 9 months of the construction of this silica sand mine, I developed an intermittent sore throat and raspy voice. In September of 2012, I visited my doctor who referred me to a**

pulmonary specialist. In October 2012, I was diagnosed with asthma due to my environment and use an inhalant and nasal spray twice a day to alleviate my breathing symptoms."

In outlining a wide variety of possible industry, state and local responses to the impacts of frac sand mining, the report notes: "Perhaps the best response to the rapid expansion of shale gas extraction is to take a step back and view the entire shale gas fuel cycle more holistically. The questions, if properly posed, can assist us in defining the issues, challenges, and consequences of the shale gas fuel cycle. They will also help answer whether or not the shale gas revolution is of benefit to all of us or just some of us, and determine the long-term viability of the shale-gas economy. In pursuing this exercise, the scope of questions should not remain at some national or geopolitical strategic level."

The report continues: "Rather, they should also address the consequences of the shale gas fuel cycle for people at the local level including the consequences for their property, their businesses, their cultural values and way of life, their health, their access to adequate supplies of clean water, the impact on local infrastructure, as well as the sustainability of their community's economy in the near- and long-term. Of course, such questions should have been posed long ago. Powerful economic forces are churning ahead without pause or consideration of the implications of shale gas extraction for our country and our citizens."