

## TESTIMONY

Submitted by  
Barbara Sattler, RN, MPH, DrPH  
Professor, Masters in Public Health Program  
University of San Francisco  
[Bsattler@usfca.edu](mailto:Bsattler@usfca.edu)

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### **JOINT HEARING SENATE NATURAL RESOURCES AND WATER AND ASSEMBLY NATURAL RESOURCES**

Good morning. My name is Barbara Sattler, I am a Professor at the University of San Francisco School of Nursing and Health Professions. I am also a Registered Nurse.

Thank you for the opportunity to submit my remarks regarding the CCST report and the state of gas and oil drilling in California.

There has been some emphasis on the unique approaches to gas and oil extraction that are being applied in California. Some have said that the differences are significant enough that we need a set of comprehensive studies to develop a state-based risk assessment. Good, comprehensive studies take years to implement and are extremely costly. So implementing such a study would be fine as long as we have a moratorium on any new fracking while we await the results.

During a recent tour of the Bakersfield oil and gas fields, I really would **not** have needed a comprehensive study to tell me there are a great many things that are very wrong with the operations. Here are just a few that I observed.

- 1) Unlined holding ponds, also referred to as pits, where wastewater was being stored. When I have spoken with representatives from the gas and oil industry they have consistently assured me that they are engaged in “best practices” when it comes to their drilling operations. It is a “best practice” to line holding ponds; they are not performing this basic measure that would help to insure that the waste chemicals do not leach into the ground and further into the Central Valley aquifers.

While there is probably a risk of contaminating aquifers from the wells, the idea that we dig deep holes into the ground and use them as unlined holding ponds for toxic chemicals seems to be just asking for aquifer contamination.

- 2) Vapors escaping from the pits. It was fascinating to actually see the vapors as they came up in waves from the pits. But it was the searing stench from the volatile organic compounds that were rising from the pits that had us all choking. Last year, I met with someone from the Air Resources Board and talked with her about the need to have someone measure the VOCs being emitted from the pits. She thought it would be a good idea. As far as I know, we still do not have any measurements from these emissions.
- 3) Waste or produced water being used to irrigate grape vines and nut trees. This just seems so wrong. We followed the water along several canals and pits and holding ponds, where it was being pumped together with fresh river water, and then ultimately used for irrigation. A local water management staff confirmed our observation that the produced water was part of the irrigation water. We don't know all of the chemicals that are in the ponds and, in fact, we don't have the right to know, but we have some pretty

good ideas about some of the most common chemicals that are used in these operations, like benzene, toluene, ethyl benzene, and xylene. Together this quartet of chemicals can be harmful to our nervous system and our immune system. They are also associated with a host of other health effects including cancer, asthma, cardiovascular disease, and metabolic dysfunction. And they are associated with preterm births and low birth weight both of which create real health risks for newborns. These chemicals are but the tip the fracking iceberg. There are hundreds of additional chemicals that are used in these processes. And they are spraying them on our agricultural lands, contaminating our fruits and nuts, and further leaching into the ground. Watching this process was unnerving. Who would come up with such a notion - using carcinogens and neurotoxicants to water plants but not just any plants – our food plants?

- 4) Children's playing fields on the fence line of oil and gas fields. On our tour we came to a school where the playing field was right up to the oil and gas fields. This also seems so wrong. We have setback policies for any number of operations. Why should the gas and oil industry have a pass on just about every law that everyone else has to adhere to – laws that were created to give people the right to know and to provide a modicum of ecological and human safety.

The Central Valley already hosts the worst air pollution in the country and we have decided, by default, that it's all right to add to their air inferiority. The truth is we have decided that some populations are not worth protecting. To me, as a nurse and a citizen of California, that is a reprehensible notion. It is time for us to make sure that everyone is being protected, including and especially our most vulnerable populations

There are other observations that I could share given more time but, what I would really like is to invite you, as members of these two important committees, to come with me and repeat the tour that I did. I don't think you have to be a nurse to see how the current state of gas and oil extraction is out of control and that human and ecological health is at stake.