

Internship on Organic Rice Production

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My Summer at the Organic Fields

At first glance, it would not seem possible that I, a petroleum engineering major from Texas A&M University, would benefit from spending my time during the summer doing research at organic rice fields. However, the research we conducted is surprisingly relatable to regulatory issues faced in the oil and gas industry. With the recent boom in natural gas production and the use of hydraulic fracturing to produce from shale formations, there have been concerns about groundwater contamination as well as methane emissions.

Groundwater samples must be taken to ensure that contamination by fracturing fluid has not occurred, and methane emissions have been measured by certain agencies to determine the impact that natural gas production has on the overall amount of greenhouse gases being emitted into the atmosphere. Similarly, in the organic rice fields we conducted research that involved water sampling to measure the amount of dissolved organic compounds as well as the pH of the sampled water. We also took gas samples as a part of a research project measuring the amount of greenhouse gases (Methane and Carbon Dioxide specifically) that are emitted by rice plants. By participating in these research projects and sampling processes I gained a lot of knowledge about how this type of sampling and analysis is done and its relevance in both industries. Overall, my summer at the organic rice fields was a really great experience and will definitely benefit me in the future.

Acknowledgements

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Sources

<http://theenergycollective.com/alextrembath/350836/methane-leakage-cows-higher-natural-gas-development>
<http://www.realscience.us/2012/01/20/sdf-what-the-frack/>

Gas Sampling



Gas sampling in the field



Installation of base chamber

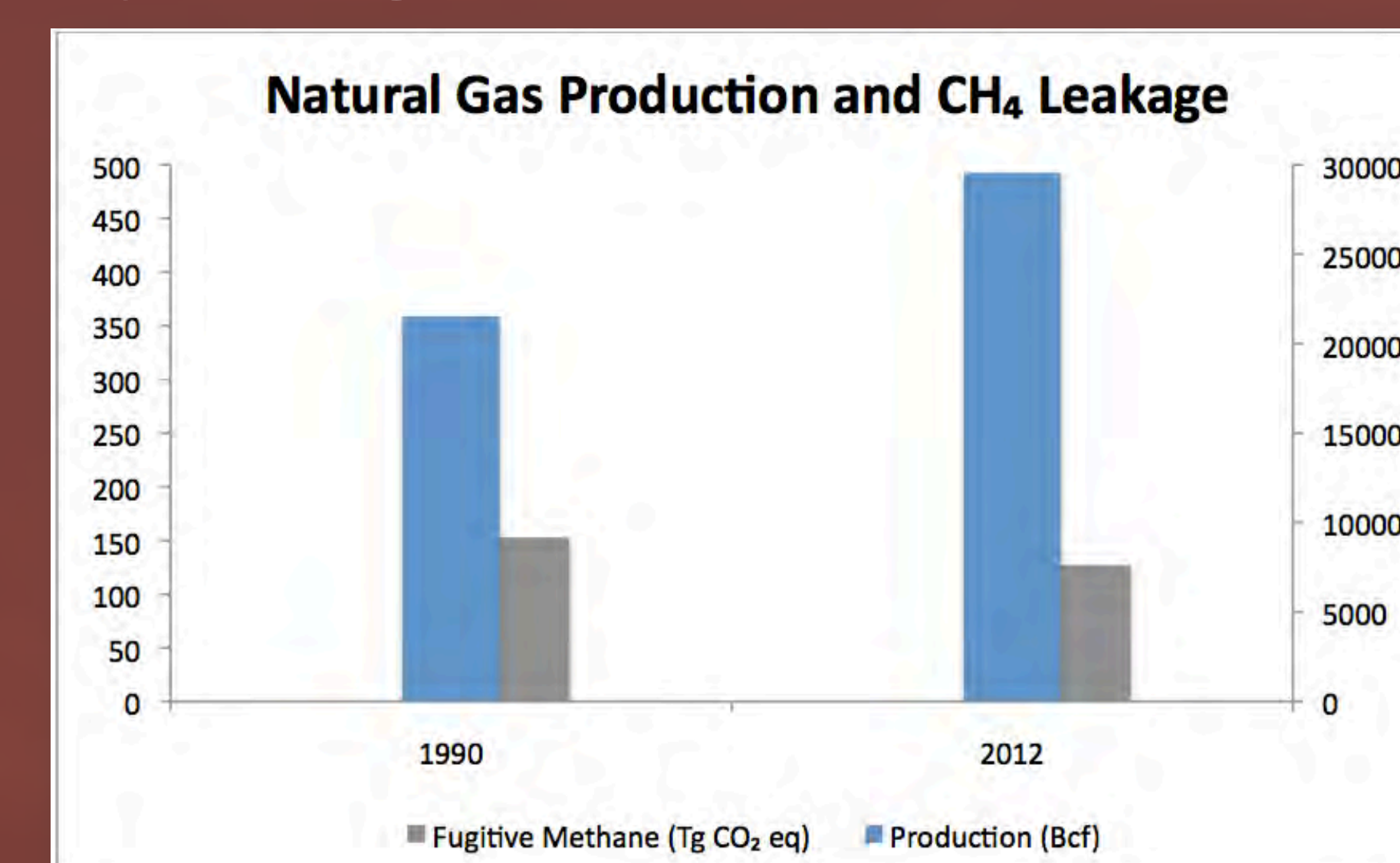


Figure 1- Shows a sample of the data obtained from methane emission sampling during natural gas production

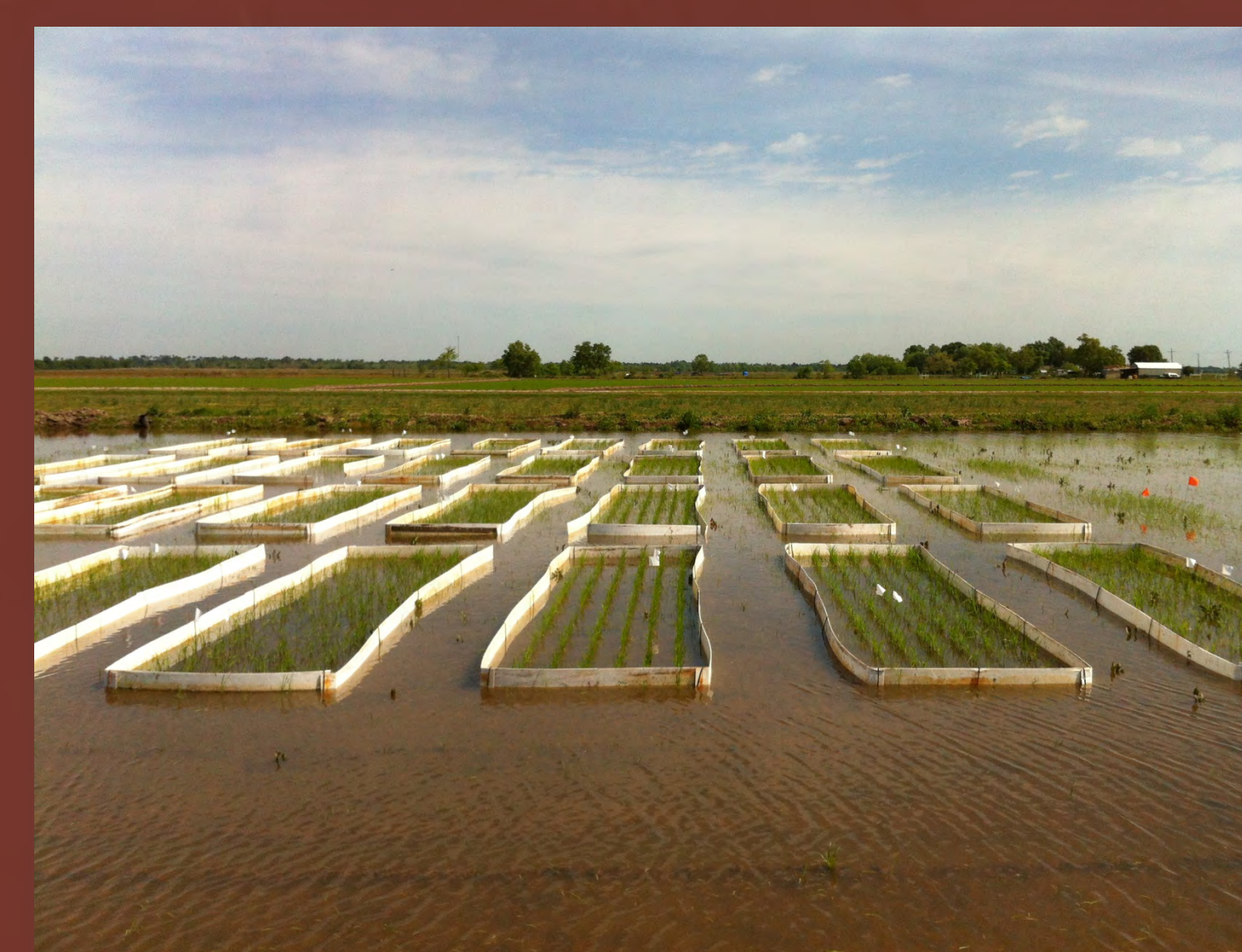


Learning how the gas sampling equipment works

Water Sampling



Analyzing water samples in the lab



Water sampling location

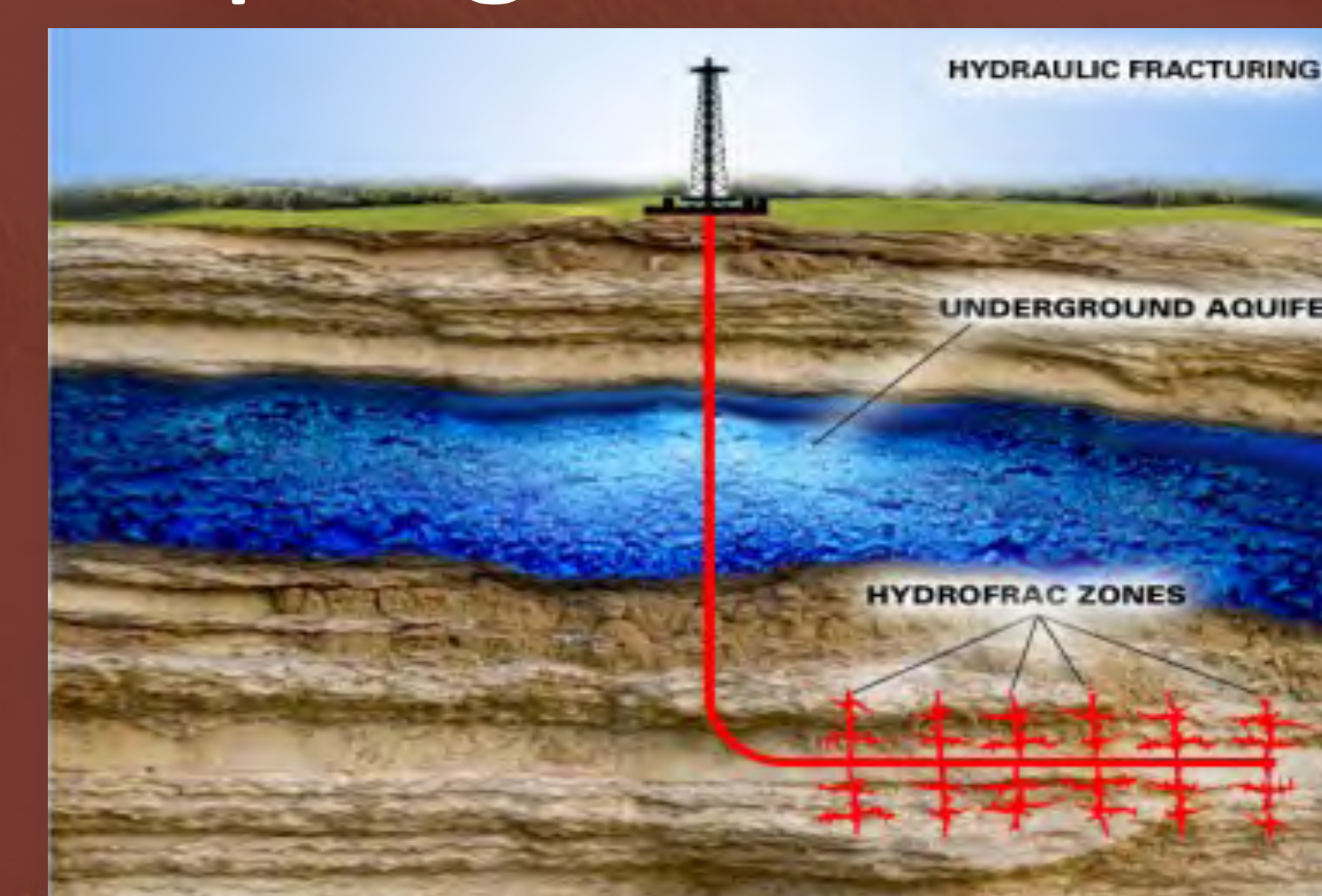


Figure 2- Shows how hydraulic fracturing has the potential to contaminate groundwater



Learning how dissolved organic compounds are measured in the lab