

February 8, 2016

United States Department of the Interior
BUREAU OF LAND MANAGEMENT

New Mexico State Office

301 Dinosaur Trail

P.O. Box 27115

Santa Fe, New Mexico 87502-0115

RE: Leasing 258.9 acres at Lewisville Lake, TX parcel

Dear BLM,

We are writing to strongly protest the inclusion of the Lewisville Lake, Texas parcel in the listings for the Competitive Oil and Gas Lease Sale on April 20, 2016. The Lewisville Lake parcel should not be leased for gas exploration, drilling, or production. We are local residents *extremely concerned* about contamination of our drinking water, which comes from Lewisville Lake. Drilling operations and the hydraulic fracturing process that is used to extract natural gas from the Barnett Shale underlying Lewisville Lake pose serious risks to the lake's many ecosystems, the local economies based on use of the lake, and thousands of residents who rely on the lake for their water supply. Here, we reference scientific research to support our fears about habitat destruction and surface water contamination from hydraulic fracturing. If this occurs at Lewisville Lake, it would be an economic, environmental, and health disaster, much like what is occurring in Flint, Michigan today.

There are several recent studies that show surface water contamination through spills of chemicals during transport to and from the fracturing site, the drilling and fracturing processes, improper treatment and disposal of wastewater, failure of well casings, and from structural failure in abandoned wells (Ingraffea et al. 2014; Kell 2011; Mauter et al. 2014; Rozell and Reaven 2012). Unfortunately, full knowledge about the types and magnitude of contamination to date are not possible due to many unknowns about the chemical components in fracturing fluids and limited release of information by drilling companies. For example, although the State of Texas mandates that companies disclose hydraulic fracturing chemicals to FracFocus, companies are still allowed to withhold specific chemicals by labeling them as proprietary. A recent study found that operators in Texas have invoked the exemption to shield the identities of more than 170,000 chemical ingredients since the law took effect in February 2012 (Carroll and Dempsey 2016). This prevents researchers in Texas (including Environmental Impact Assessments conducted by Federal Agencies) from understanding the full health and environmental risks associated with this activity. As well, cumulative measures of contamination are hard because the magnitude of spills and their impact on water quality is

underestimated (Soraghan 2014; Souther et al. 2014). An analysis in Pennsylvania, for example, found that oil and gas operators had not reported 41% of spills (Souther et al. 2014).

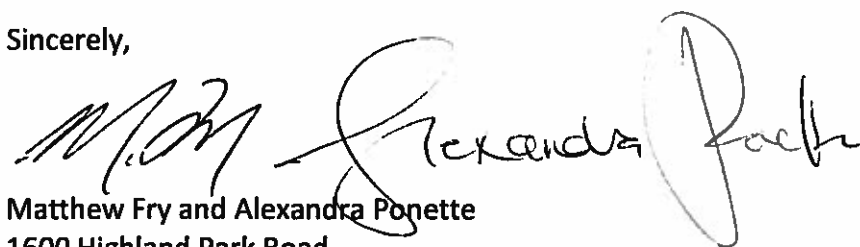
The lack of full disclosure of fracturing chemicals is also disconcerting given recent studies showing possible links between hydraulic fracturing and negative human health effects. For example, Hill (2013) found that exposure to shale gas drilling within a 1.5 mile radius increases the prevalence of low birth weight and McKenzie et al. (2014) found higher incidents of birth defects in areas with dense gas well concentrations. Kassotis et al. (2013) also detected elevated concentrations of endocrine disrupting chemicals in surface water samples collected in dense drilling areas. Thousands of Dallas and Denton County citizens rely on Lewisville Lake as their *only* water source. It is not worth risking even one citizen's health, let alone thousands, for a relatively small amount of natural gas.

There are also clear ecological impacts from hydraulic fracturing and drilling activity. Johnson et al (2015) find evidence that gas well activity likely alters local stream macroinvertebrate community structure due to increased turbidity and chlorophyll a concentrations. Brittingham et al. (2014) show how land clearing for drill sites negatively affects species and habitats, especially forest habitat and forest specialists, sagebrush habitat, vernal pond inhabitants and stream biota. These are precisely the environments at risk in the Lewisville Lake area. Moreover, Thompson et al. (2015) measured bird species responses to hydraulic fracturing wells and demonstrated that the potential ecological effects of an individual gas well are multiplied because of the clearance of roads and the pad site, in addition to the drilling activity.

Every month, more peer-reviewed scientific studies demonstrate the short-term and likely long-term negative ecological and health impacts of surface drilling and hydraulic fracturing. It is imperative that a publicly-funded institution such as the BLM not become party to this high-risk activity, especially given the very serious concerns about contamination at Lewisville Lake. Like the high lead concentrations in the water supply of Flint, Michigan, a similar public disaster will occur if Lewisville Lake is contaminated as a result of the BLM's decision to lease the minerals below the Lake to shale gas operators.

For all of the reasons outlined above, we implore you to remove the Lewisville Lake parcels from the April Lease Sale.

Sincerely,

The image shows two handwritten signatures in black ink. The first signature on the left is 'M. Fry' and the second signature on the right is 'Alexandra Ponette'. Both signatures are fluid and cursive.

Matthew Fry and Alexandra Ponette
1600 Highland Park Road
Denton, Texas
76205

References

- Brittingham, M. C., Maloney, K. O., Farag, A. M., Harper, D. D., & Bowen, Z. H. (2014). Ecological risks of shale oil and gas development to wildlife, aquatic resources and their habitats. *Environmental science & technology*, 48(19), 11034-11047.
- Carroll, S and Dempsey, M. 2016. Fracking research hits roadblock with Texas law: Proprietary label keeps chemicals confidential. *Houston Chronicle*, February 6.
- Hill, E. L. 2013. Unconventional Natural Gas Development and Infant Health: Evidence from Pennsylvania. Charles H. Dyson School of Applied Economics and Management Working Paper 2012-12.
- Ingraffea AR, Wells MT, Santoro RL, Shonkoff SB. 2014. Assessment and risk analysis of casing and cement impairment in oil and gas wells in Pennsylvania, 2000-2012. *PNAS* 111:10955-10960.
- Johnson, E., Austin, B. J., Inlander, E., Gallipeau, C., Evans-White, M. A., & Entrekin, S. (2015). Stream macroinvertebrate communities across a gradient of natural gas development in the Fayetteville Shale. *Science of the Total Environment*, 530, 323-332.
- Kassotis, C.D., Tillitt, D.E., Davis, J.W., Hormann, A.M., and Nagel, S.C. 2013. Estrogen and Androgen Receptor Activities of Hydraulic Fracturing Chemicals and Surface and Ground Water in a Drilling-Dense Region. *Endocrinology*. doi:10.1210/en.2013-1697
- Kell S. 2011. State oil and gas agency groundwater investigations and their role in advancing regulatory reforms. (A Two-State Review: Ohio and Texas). Groundwater Protection Council. Available at: https://fracfocus.org/sites/default/files/publications/state_oil_gas_agency_groundwater_investigations_optimized.pdf
- Mauter MS, Alvarez PJ, Burton A, Cafaro DC, Chen W, Gregory KB, et al. 2014. Regional variation in water-related impacts of shale gas development and implications for emerging international plays. *Environmental Science & Technology* 45:8298-8306.
- McKenzie, L. M., Guo, R., Witter, R. Z., Savitz, D. A., Newman, L. S., & Adgate, J. L. 2014. "Birth outcomes and maternal residential proximity to natural gas development in rural Colorado." *Environmental Health Perspectives*. National Institute of Environmental Health Sciences. Retrieved from Environmental health perspectives website: <http://dx.doi.org/10.1289/ehp.1306722>
- Rozell DJ, Reaven SJ. 2012. Water pollution risk associated with natural gas extraction from the Marcellus Shale. *Risk Analysis* 32:1382-1393.
- Soraghan M. 2014. Oil and gas: Spills up 17 percent in U.S. in 2013. *Environment & Energy Publishing*. Available at: <http://www.eenews.net/stories/1059999364>
- Souther S, Tingley MW, Popescu VD, Hayman DT, Ryan ME, Graves TA, et al. 2014. Biotic impacts of energy development from shale: Research priorities and knowledge gaps. *Frontiers in Ecology and the Environment* 12:330-338.
- Thompson, S. J., Johnson, D. H., Niemuth, N. D., & Ribic, C. A. (2015). Avoidance of unconventional oil wells and roads exacerbates habitat loss for grassland birds in the North American great plains. *Biological Conservation*, 192, 82-90.