



# RAILROAD COMMISSION OF TEXAS

## EXECUTIVE OFFICE

October 1, 2014

Rob B. Jackson, Stanford University, Stanford, California  
Thomas H. Darrah, Ohio State University, Columbus, Ohio  
Avner Vengosh, Duke University, Durham, North Carolina  
Nathaniel R. Warner, Dartmouth College, Hanover, New Hampshire  
Robert J. Poreda, University of Rochester, Rochester, New York

Dear Sirs,

We appreciate your concern for the citizens of Texas. However, the issue of stray gas in Parker County water wells has been thoroughly examined on two accounts by the Railroad Commission—the state regulatory agency that oversees oil and gas exploration and production activities in Texas. In both exhaustive analyses, evidence presented and examined by the Commission has shown that area oil and gas wells under the Commission’s jurisdiction are not the likely source of gas in area water wells. Instead gas is most likely migrating into the aquifer and into area water wells due to water wells being drilled into the shallow, natural gas-bearing Strawn formation.

This issue was first examined in a Commission-called hearing held in January 2011. Evidence presented during the hearing used geochemical gas fingerprinting to determine that the sources of gas in area water wells are linked to the shallower Strawn gas field, located 200 to 400 feet below the surface. Further evidence indicated that sources of gas found in area water wells did not match gas produced from the deeper Barnett Shale field, located more than 5,000 feet below the surface.

The local gas wells’ operator at that time, Range Resources, presented information at the 2011 Commission hearing to demonstrate that the two Range gas wells were mechanically sound, without any leaks. In contrast, your study failed to look at the well records of these area gas wells but instead broadly states that gas is migrating through cement in wells without presenting any supporting facts or evidence.

The issue of natural gas found in Parker County water wells was again examined after property owners contacted the Commission in August and September 2013. The May 2014 Commission staff report examining these water well complaints outlines how Commission staff examined gas well records. Specifically, Commission staff looked at surface casing records. Because oil and gas wells may be drilled through aquifers, Commission rules require several layers of protective casing in the construction of all wells including surface casing which protects and isolates groundwater. Surface casing is a steel pipe that is encased in cement that reaches from the ground surface to below the base of the deepest usable quality groundwater level and is the first layer of protection in all oil and gas wells.

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Along with surface casing records, Commission staff examined cement bond logs and gas well mechanical integrity tests. Contribution of gas to the groundwater aquifer was not indicated by any of these physical data examined by Commission staff.

Along with not examining any area oil and gas well records, you failed to examine the historical documented occurrence of gas being found in this area's water wells, long before the Barnett Shale gas wells were drilled nearby. In contrast, both in the 2011 Commission hearing and in the May 2014 Commission staff report, evidence was presented that showed natural migration of gas from the shallow Strawn formation may have been enhanced by area water wells construction practices where some water wells have been drilled and penetrated "red beds" found between the groundwater aquifer and the shallow natural gas-bearing Strawn formation.

The Commission bases its regulation on science and facts. Based on your study, which provides no specific evidence or facts of poor cementing jobs and does not consider or examine the historical occurrence of gas found in area water wells prior to Barnett Shale gas drilling, Commission staff do not plan on re-opening its Parker County water well complaint investigation. Our staff however remains receptive to any new information that may become available from other ongoing studies in this area.

Sincerely,

A handwritten signature in blue ink that reads "Milton Rister".

Milton Rister  
Executive Director