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30 July 2009

Ms. Deborah Rogers

RE: Potential Air Emissions Surrounding Your Farm

Dear Ms. Rogers;

I have examined the following sources of information concerning this issue. These are:

- 1. An Excel spreadsheet entitled. Rogers/HDLA/Deborah's Farmstead, Ambient Air Monitoring Results dated May 25, 2009.
- 2. An Excel spreadsheet entitled. Rogers/HDLA/Deborah's Farmstead, Ambient Air Monitoring Results dated June 27, 2009.
- 3. A series of reports from GD Air Testing, Inc, dated 02 Jun 09.
- 4. A series of reports from GD Air Testing, Inc, dated 02 Jul 09
- 5. A "Peer-Review Draft" of a report prepared by Al Armendariz, Department of Environmental and Civil Engineering, Southern Methodist University, entitled "Emissions from Natural Gas Production in the Barnett Shale Area and Opportunities for Cost Effective Improvements, for Ramon Alvarez of the Environmental Defense Fund, dated September 30, 2008
- 6. A copy of an article by Mike Lee, entitled "State officials back professor's pollution data," from the Fort Worth Star Telegram, dated 2009-06-04
- 7. Your cover letter to Dr. Murl Bailey, dated 23 Jul 2009, describing the facts of the situation and the conditions as they currently exist with the aforementioned documents.
- 8. Disease-Management Interactions: Goats, in The Merck Veterinary Manual, 8th ed., pp 1448-1452, 1998.

Based on the information provided to me, I have the following concerns about the likelihood of increased environmental contaminants/pollutants in and around your goat dairy operation. These concerns are as follows:

- The increased load of pollutants from both the flaring operations and the increased numbers of gasoline/diesel/natural gas engine powered compressors could make your goats, especially the young kids, more susceptible to disease, especially intestinal parasites and respiratory diseases. The individual pollutants, by themselves, might not be problematical, but in combination, there is no way to predict what might occur.
- 2. Some of the chemicals from exhaust fumes of the engines have the potential to interact with normal reproductive hormone receptors in the body causing an interference with the reproductive processes in your goats including lactation. This interference with the reproductive processes would reduce both the reproductive rate and milk production in your dairy operation.
- 3. I am also concerned that some of these added/increased environmental chemicals could appear in the milk and milk products made from your lactating does.

Based on these three concerns, alone, I would submit that if increased drilling of the gas wells and their continual operation is allowed, the process to prevent the increased release of the various pollutants should be required by the regulatory authorities. I am attaching my *curriculum vitae* for your information.

Sincerely yours,

E. Murl Bailey, Jr., D.V.M., Ph.D.

Veterinary Toxicologist