

**New York State Department of Environmental Conservation**

**Division of Mineral Resources**

**Bureau of Oil & Gas Regulation, 3<sup>rd</sup> Floor**

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Alexander B. Grannis  
Commissioner

July 6, 2009

Mr. William Boria  
Chautauqua County Dept. of Health  
Hall R. Clothier Bldg.  
7 North Erie Street  
Mayville, NY 14757

Dear Mr. Boria:

I am responding to your letter of June 1, 2009 to Christopher Miller, our Region 9 Minerals Manager, concerning a water well complaint from Mr. Ferrugia of 2641 Donelson Road in Jamestown. Mineral Resources staff has investigated the complaint and have obtained additional information that was not included in Chautauqua County Department of Health's (CCDOH) analysis of the complaint. I believe it will be helpful to review the sequence of events, water test analyses, well inspections performed by regional Mineral Resources staff and my interviews with the Ferrugias and their neighbors

**Sequence of events**

The Ferrugia's contracted Caster Water Well Drilling (Caster) to drill their water well in 2001. The well was drilled through 7 feet of soil and till into shale and stayed in shale to a total depth of 85 feet. The driller noted flows of water in the well at 25 and 30 feet. Based on topographic information, the surface of the Ferrugia's leach field (approximately 273 feet away from the water well) is approximately 15 feet lower than the surface elevation of the water well. However, the noted water zones are stratigraphically 10 to 15 feet lower than the leach field. See attached elevation diagram (Attachment 1).

Caster hydraulically fractured Ferrugia's water well to increase the flow of water from the shale (2 gpm pre-frack to 15 gpm post-frack). Caster informed DEC regional Mineral Resources staff in June 2009 that the frack performed on the water well could extend as far as 200 feet from the well. Perhaps this explains the presence of coliform and the note in the 2005 report that the well was bacterially unsafe as sampled in the 2005 test. The rock units in this part of the state dip to the south in the Kiatone area and could create a pathway for the flow of fluids within the shale from north to south. Any leach field fluids entering the shale may very well flow south toward the Ferrugia's water well.

