

**CORTLAND COUNTY HEALTH DEPARTMENT  
DIVISION OF ENVIRONMENTAL HEALTH**

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18 December 2009

Jack K. Dahl, Director  
Attn: dSGEIS Comments  
Bureau of Oil & Gas Regulation  
NYSDEC Division of Mineral Resources  
625 Broadway, Third Floor  
Albany, NY 12233-6500  
Via Certified Mail #70071490000200043737

Dear Mr. Dahl:

The Cortland County Health Department has reviewed the Draft Supplemental Generic Impact Statement (dSGEIS) on the Oil, Gas, and Solution Mining Regulatory Program and would like to provide our comments to your Bureau for the SEQR process. The DEC has indicated that the dSGEIS is an analysis of negative environmental impacts and a statement of measures to mitigate such risks. We believe that the proposed mitigation measures do not completely address these risks to protect public health and the environment. As the Cortland County Health Department is responsible for promoting and protecting public health, the following comments address our concerns for the dSGEIS.

**Drinking Water Aquifer Protection**

The dSGEIS correctly points out that the quality of drinking water available to our Cortland County residents is regulated by this Department. To that end, we believe the dSGEIS provides too few safeguards for the protection of drinking water aquifers. Cortland County is unique in that nearly 100% of our residents obtain their drinking water from groundwater. Because of this, the Health Department not only regulates public drinking water supplies, but permits individual (private) water wells. We actively promote aquifer protection for our drinking water supplies, including the Cortland-Homer-Preble sole source aquifer and our DEC designated Primary and Principal Aquifers. In addition, the DEC has recognized the fragility of Cortland County's aquifers by delegation of the PBS code. Based on the need for aquifer protection, we believe the DEC should limit drilling pad sites to outside of recognized Cortland County aquifers as shown in the attached map. These aquifers coincide with the DEC designated principal and primary aquifers. To protect these wells, drilling should at a minimum occur outside of these aquifers.

With aquifer protection in mind, the dSGEIS indicates no minimum or required inspections or oversight of the gas well drilling, hydrofracturing process, or gas well site activities. There are no explicit provisions for the DEC to insure protective casings are correctly installed, and that the hydrofracturing process and associated on-site

hydrofracturing wastewater, including impoundments, do not impact groundwater or surface water. Surface water impacts must also be addressed, as Cortland County's unique aquifer systems are known to be susceptible to contamination from surface water pollution. In addition, the treatment of wastewater from these drill sites is not adequately addressed in the dSGEIS. The inability of DEC regulated, local wastewater treatment plants to accommodate this waste and the SPDES review and permitting for on-site treatment both need to be addressed.

### **Drinking Water Source Monitoring**

The dSGEIS plan to require monitoring of drinking water quality from residential wells within a 1,000/2,000 foot radius of the gas well pad cannot adequately monitor groundwater quality impairments. Groundwater flow is complex and potential impacts from the gas well drilling activities cannot be based solely on monitoring within arbitrary radii. The proposed water quality monitoring requirements must address the following;

- Monitoring locations need to be based on local hydrogeology, including the knowledge and input of local health departments and other involved agencies, such as soil and water conservation districts and the USGS. From this information, the locations for groundwater monitoring likely would be very different than a fixed radius.
- Groundwater and surface water quality monitoring locations beside those of existing drinking water wells are needed. Provisions must be made for installation and sampling of groundwater monitoring wells and surface water monitoring locations where existing drinking water wells cannot adequately monitor impacts from gas drilling. These additional monitoring locations need to be approved and sited with local health department input.
- It is implied that the gas drilling permittee will be responsible for the sampling. But this is not clear, nor is it clear if an independent, third party will be taking the samples and how the certified lab will be reporting the results independent of the permittee. These provisions are needed and must be made clear in the requirements.
- Provisions for protection of public wells are not sufficient. Public water supply well contribution areas in Cortland County can reach well beyond the 1,000/2,000 foot requirements for a Supplemental Environmental Impact Statement (SEIS). In addition, studies have documented that aquifers in Cortland County can be impacted by upland areas outside of the delineated primary/principal aquifer areas. Groundwater monitoring provisions are needed for gas wells proposed in these upland areas beyond the arbitrary 1,000/2,000 foot radii which can impact public water supply wells.
- The time frame of monitoring is insufficient, as there are cases where contamination may not be detected within 1 year of completion of drilling activities. Provisions need to be made for monitoring beyond 1 year, even if no contamination is found within 1 year.
- Monitoring parameters need to include specific hydrofracturing chemical additives (HFCs) drillers will be use at each site. There is much concern about the introduction of these HFCs into water resources, and monitoring should include analysis for these. Also, the monitoring parameters should include the following – Total Petroleum Hydrocarbon (TPH), Total Organic Carbon (TOC), and Ethane. These additional parameters reflect pre-drilling requirements in other states. Also, based on our

experience in Cortland County, radon is often present when Gross Alpha and Beta are not present. Thus, required monitoring should also include Rn-222 (Radon), and combined radium (Ra-226/228) which is also known to be in the drilling wastewater.

#### **Unfunded Local Health Department Mandate**

The dSGEIS requires the Cortland County Health Department to respond to water quality complaints from drinking water wells. Although, we can agree that this Department is the most appropriate to respond to local complaints, this is an unfunded mandate. Fees collected for the permitting of these gas wells must be sufficient to provide for funding of local health department response, including staff time, and related expenses (vehicles, fuel, equipment, phone, etc.). It is anticipated that this work will require a 0.25 FTE staff for response in Cortland County. Also, the costs of complaint response/follow-up sampling must be included in this funding. The dSGEIS should require that an agreement between the DEC and each County Health Department be established for review of drilling sites and water quality response. These agreements need to be individualized depending on the hydrologic setting for each drill site and County needs.

#### **Associated Environmental Impacts**

The dSGEIS does not address other environmental impacts associated with the gas drilling operations. These include:

- Air – This Department expects to receive complaints for odor and air quality impairments. These impacts and complaint response need to be addressed.
- Noise - This Department expects to receive complaints for noise issues related to the drilling equipment operations. These impacts and complaint response need to be addressed.
- Drill Site Offices and “Camps”: The drill sites will have significant numbers of persons for at least day use, if not overnight. The provision of drinking water, on-site wastewater treatment, food, and temporary housing need to be identified and addressed.
- Gas Distribution Construction: Once these wells produce natural gas, distribution piping networks will be needed to convey the gas to existing natural gas pipelines. Although, this will likely be an unlisted action by entities other than the drilling companies, construction of this associated piping may have significant environmental impacts, which need to be addressed.

#### **Cortland County Experience Highlights Concerns**

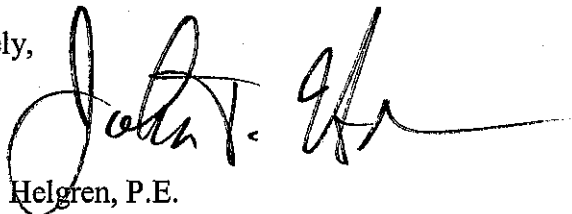
Cortland County has an experience which highlights concerns not addressed in the dSGEIS. In the 1970s, a salt brine lagoon associated with a DEC permitted gas well spilled into a local stream. The salt water spill impacted surface water, then groundwater, and then drinking water wells, over 3,000 feet away from the site. As a result, a public water supply system was constructed to supply 17 homes impacted by the spill. Although this is not a horizontal drilling site, the site setting is similar, and would not meet the dSGEIS criteria for required groundwater monitoring: the brine storage was outside of a principal/primary aquifer and there were no private wells within the 1,000/2,000 feet radius of the well pad. To this day, the brine contaminated groundwater persists and the Harford Water District remains in place. Recently, the water district

required a complete replacement of their water mains and storage facility, the costs of which were born by the community and tax payers, not the gas company.

This experience shows that the mitigation measures proposed in the dSGEIS need to be flexible enough to address local, hydrologic conditions. Monitoring of groundwater and surface water must be based on the local setting and not arbitrary distances. In addition, on-site inspections and monitoring of drilling construction, operations, treatment and impoundments are necessary, specifics of which are lacking in the dSGEIS. Finally, and importantly, the dSGEIS is silent on what happens when contamination is found in drinking water sources and supplies.

Thank you for the opportunity to comment on the dSGEIS. The Cortland County Health Department anticipates responding to potential impacts of the proposed horizontal gas drilling. From the above comments, the dSGEIS needs to be revised to allow for local input for aquifer protection and groundwater and surface water monitoring requirements. In addition, provision for funding of local health department response via permitting fees needs to be identified in the dSGEIS. An attempt was made to keep these comments brief, thus, please let me know if this Department can provide more specific input as your Bureau may have need.

Sincerely,

A handwritten signature in black ink, appearing to read "John T. Helgren", with a long horizontal flourish extending to the right.

John T. Helgren, P.E.  
Public Health Engineer

Cc: Cortland County Legislature