

December 12, 2008

Bradley J. Field, Director
Attn. Scope Comments
Bureau of Oil & Gas Regulation
NYS DEC Division of Mineral Resources
625 Broadway, Third Floor
Albany, NY 12233-6500

Dear Director Field;

I am writing today on behalf of the Schuyler County Environmental Management Council to comment on the Draft Scope for the Draft Supplemental Environmental Impact Statement [DSGEIS] on the Oil, Gas and Solution Mining Regulatory Program, released on October 6, 2008.

While the Council recognizes that the Marcellus Shale has been identified as a potentially large source of natural gas, especially through utilization of the combined technologies of horizontal drilling and slick-water hydraulic fracturing, and that the leasing of land and the removal and sale of this natural gas could provide an economic stimulus to the region, and is supported in this respect, the Council has significant concerns regarding the overall long-term danger this mining development may pose to public and environmental health and safety, water quality, property values and quality of life. The Council's purpose, therefore, in writing to you is to not only comment on the Draft Scope, but to articulate these concerns which may, indeed do, extend beyond the range of the draft document.

Indeed, though the Council appreciates the consideration given in the Draft Scope to removal, use and contamination of large volumes of fresh water far in excess of amounts dealt with in the original 1992 GEIS, as well as the sensitivity given to areas that have seen little to no natural gas development to-date, it still feels the DEC is too reliant on the original 1992 GEIS. While the Council sympathizes with the Department's reluctance to revisit the whole GEIS, it feels the passage of nearly two decades, as well as the increase in sheer magnitude and scale of this proposed development, more than warrants a re-evaluation of the entire document. This leads to the Council's first overarching, broad comments:

1. Given the pace of technological innovation and improvements in the mining/drilling sector, coupled with the increased pressure to develop domestic sources of energy, the Council strongly advises that the Oil, Gas and Solution Regulatory Program be subject to regular periodic review, say every 5 years, with the understanding that additional re-evaluation can occur on an as-needed basis sooner than the mandate specifies.
2. Perhaps the whole concept of a Generic Environmental Impact Statement needs to be abandoned given the significant diversity in topography, geology, land use, watersheds, ecosystems, sensitive habitats, etc., in New York State. While this concept, designed to address broad issues, cumulative impacts, and to standardize industrial practices back in 1992, it is difficult to see how a mining play of this magnitude can be sufficiently regulated in this manner – the

environments themselves are not, by any stretch of the imagination, generic or standardized, so how can a GEIS offer them sufficient protection?

3. In light of the current economic situation in New York and the hiring freeze imposed on the DEC, the Council asks that permits be given only at a rate able to be effectively monitored by the current staff of inspectors. The more extensive the number of wells each mine inspector must cover, the less comprehensive and thorough will be the monitoring at each well site. Over-extending inspectors will only invite inadvertent carelessness and error.
4. Simply because of the scale of this project, the Council believes accidents, spills, malfunctions and such are unavoidable. Therefore it asks that the DEC require gas companies set aside monies – perhaps as a function of the size of each company’s geographic development – as a bond against any future damages requiring remediation. If, after a proscribed period of time, no problems ascribable to the individual company, those funds could be returned to the corporation. As an alternative, these funds could be used for reclamation of well sites and final capping of the actual well once the well has reached the end of its productive life.

The Council now wishes to comment on the **Draft Scope for the Draft Supplemental GEIS** section by section, beginning with Section 1.0.

COMMENTS

1.0 INTRODUCTION

1.4.2: SEQRA and Leasing of State Land for Oil and Gas Development

It is the Council’s opinion that, contrary to the DEC’s position, leasing of and oil and gas development on public lands could, indeed, result in significant adverse environmental impacts on thousands of acres of state owned lands comprising irreplaceable watersheds, rivers, streams, sensitive habitats, and public recreation areas. Among the potential risks posed by this large-scale development and associated infrastructure are pollution, wildlife habitat fragmentation and loss, and devaluation of the land’s recreational appeal.

In addition, oil and natural gas production on public land, along with any resulting spills and damage to natural systems, are largely hidden from and/or immune to public scrutiny. Very little information is available to the public, and no vehicle exists through which citizens can hold the oil and natural gas industry accountable for any damage done.

1.5: Pipeline Regulation

Though the Council recognizes that the Public Service Commission holds jurisdiction over the siting and construction of gas gathering and transmission lines, as well as the attendant compression stations, it finds it unacceptable that the potential environmental impacts for those infrastructure components are not considered when preparing this DSGEIS. The vast spider-webbing network of gathering and transmission lines cannot avoid fragmenting habitat, transmitting/conducting invasive species, and irreparably altering the rural character of the affected areas.

Were this DSGEIS being prepared in a vacuum, completely isolated from the current national energy milieu and push for natural gas development as one of many means to achieve energy independence, the Council might grant the validity of the DEC's argument that it cannot be certain of any development activity beyond the drill pad associated with each well. However, in the real world, the Council must insist that wells drilled without the necessary secondary infrastructure are beyond frivolous and pointless. Therefore the Council asks that the DEC include consideration of the impacts of this ancillary infrastructure, especially with regard to habitat fragmentation, disruption in wildlife migratory patterns, community character, quality of life, and property values, when preparing the DSGEIS.

2.0 DESCRIPTION OF PROPOSED ACTION

2.1.1: Horizontal Drilling

The Council sees many benefits associated with horizontal drilling technology, chief among them being the ability to branch out 360-degrees from one drill pad thereby reducing the surface footprint of the drilling operation and enabling larger spacing units between wells. Various sources indicate the ability to drill horizontally can be from 3,000 feet [Independent Gas & Oil Association of New York] to up to 8,000 feet.

However, given this ability to drill so far horizontally under the surface, the Council feels the DEC needs to revisit various spacing distances in its original GEIS. As an example, instead of considering drilling within 1,000 feet of a municipal water supply as "always significant," it may be prudent for the DEC to increase that to 4,000 feet. The Council would also like the DEC to mandate cooperation among companies to share gathering lines, transmission lines, even leases, in an effort to minimize surface impacts.

2.1.2: Hydraulic Fracturing

While the Council realizes that the EPA has published a report indicating that hydraulic fracturing "poses little or no threat to drinking water supplies," and that it was largely on the basis of this report that this mining technology was rendered exempt from regulation by the Clean Water Act, the Clean Air Act, and the Safe Drinking Water Act, the Council wishes to refer the DEC to a publication by the Union of Concerned Scientists that finds the EPA's findings regarding hydraulic fracturing "unsupportable" [Attachment A]. According to this article, both Weston Wilson, a veteran EPA scientist, and Geoffrey D. Thyne, professor at the Colorado School of Mines, conclude that the EPA study was incomplete and that exempting hydraulic fracturing from regulation "is premature, unwise and goes against the public interest." Therefore the Council asks the DEC to ensure that every effort is made to compensate for this lack of federal oversight and regulation.

As for the agency's assertion that it has no documentation of any instance of groundwater contamination caused by hydraulic fracturing despite over 50 years of use in New York State, the Council asks whether this lack of documented cases may be due to the difficulties involved in conclusively determining a clear causal relationship when dealing with environmental epidemiology. Indeed, without substantial and broad baseline data and studies, pursuing complaints of contamination would be problematic at best.

With this in mind, it is the recommendation of the Council that the DEC mandate pre-drilling baseline studies of all surface water sources, watersheds, and drinking water supplies [including individual dug wells] within the entire area encompassed by each proposed well [including its underground horizontal component] and extending out beyond the boundary of proposed development by at least 1,000 feet. These studies would be the responsibility of the gas companies and should include tests for the following: arsenic, barium, calcium, chlorides, iron, lead, magnesium, manganese, potassium, sodium, strontium, sulfate, total dissolved solids [TDS], methane/ethane, pH, and bacteria, as well as testing for other hydrocarbons, heavy metals, radiation, and any other chemicals contained within the fracking fluid mixture. With this information on record, any post-drilling assessment or reported contamination investigation should be far more efficient and conclusive.

The Council would add that these studies are especially important since, once a well is in place, there are no restrictions placed on the companies to prohibit gas exploration in other geologic formations off the same drill pad. However, the Council requests that the DEC require that gas companies declare any and all additional formations they may wish to explore via each individual well pad.

2.1.2.1: Fluid Handling at the Well Site

Because of the risk of leaks and spills posed by lined earthen pits utilized to hold returned fluids [spent fracking fluids and produced water], as well as the risk to wildlife [birds, small mammals, and amphibians] that might fall or fly into the pits, it is the Council's position that the only acceptable storage option for these fluids is steel tanks. This eliminates risks posed by floods, as well as droughts, which would exacerbate the rate of VOCs entering the atmosphere.

2.1.2.2: Fluid Removal from the Well Site and Ultimate Disposition of Returned Fluids

One of the more significant concerns surrounding the magnitude of this natural gas development and its method centers around responsible disposal of the spent fluids created. With estimates of between 1.5 and 4 million gallons of fresh water required per well with each fracturing, and the possibility of up to 16 additional fracturings over the productive life of each well, the potential volume of waste fluid to be generated is over 100 times that anticipated by the 1992 GEIS. Even though only 20% to 30% of fracking fluids are ever recovered, that still represents enormous amounts of liquid waste to dispose of or decontaminate.

Because of this, the Council's first request is that the DEC mandates a closed-loop recycling of spent fluids both to minimize the amount of fresh water removed from regional watersheds and aquifers and to likewise reduce the volume of waste fluids that must be removed and either disposed of or decontaminated.

As for disposal of these returned fluids, the Council finds many issues for concern. According to the drilling industry, used fracking mud and produced water [water reservoirs trapped in the shale that are released during drilling] can be safely processed at a waste water treatment plant. This is inaccurate if the additives believed to be portions of the fracking mud are present. According to waste water facility operators, any industrial waste received must undergo chemical tests and, if any of the additives are present, the waste must be taken to a hazardous waste processor instead.

And then there is the issue of radioactivity. The Marcellus Shale is considered to be, in comparison to other gas shales, highly radioactive, containing uranium, thorium, and their daughter products radium 228 and radium 226. In addition, the Marcellus Shale is a known source of radon, which will decay to lead 210, bismuth 210, polonium 210 and finally to stable lead 206. These decay products can coat the processing equipment, posing exposure risk for workers. Consequently, it can be argued that the presence of NORM [Normally Occurring Radioactive Minerals] in used fracking mud and produced water necessitates disposal in a low level radioactive waste facility.

The Marcellus Shale is also known to contain acid producing minerals pyrites and sulfides. The acids they produce when exposed to air and water, in turn dissolve toxic metals such as arsenic, cobalt, chromium, molybdenum, nickel, vanadium and zinc [all found in the Marcellus Shale] to contaminate the fracking muds and surrounding groundwater sources.

One proposed disposal method for these spent fluids is deep well injection regulated under both the DEC's SPEDES program and the federal Underground Injection Control Program. The Council is concerned about this method for two reasons. First, not enough information is available to adequately assess the integrity of the rock strata into which these materials are being released. Sub-surface fissures or faults could easily provide conduits for these materials to move into shallower rock layers and potentially contaminate drinking water aquifers. Second, at depths of 10,000 feet below the surface, temperatures are close to or slightly above the boiling point of water and pressures are at or above 450 atmospheres. Again, these parameters only diminish the likelihood that the injected fluids will cooperate, stay in place, and not migrate either as a liquid or as a gas. It is the Council's position that this disposal option only buys time before contamination issues surface.

This leaves out-of-state and in-state treatment facilities. The Council feels it is very important that the DEC require the drillers to report where produced water is going and, if it is not accepted at a regular wastewater treatment facility, which hazardous waste treatment facility it goes to. Also, wastewater quantities from each well should be reported. It appears that, at this point, all drilling waste is being transferred to Pennsylvania for treatment, a state that does not require out-of-state haulers to declare the point of origin of the transported waste. New York State DEC needs to mandate that all haulers of this mining waste declare the origin of the waste to the receiving treatment facility.

It is also the Council's position that it is imperative that there be seamless oversight and communication between DEC's Mining Division and Solid Waste Division, as well as NYS Department of Transportation, to ensure that each and every waste hauler has been issued a valid Part 364 Waste Transporter Permit, and that these are reviewed and inspected on a regular basis. The Council feels this is especially relevant given that road spreading of well-related fluids by a Part 364 Transporter with local government approval for dust control and de-icing was an acceptable option in the 1992 GEIS. The Council insists it be made unequivocally clear to all permitted haulers that this is not an allowed practice with spent fracking fluids.

2.1.2.3: Trade Secret or Confidential Commercial Status of Additive Formulas or Constituents

Allowing gas companies to maintain proprietary silence concerning the specific constituents in their additive formulas is wholly unacceptable to the Council. According to the oil and natural gas drilling industry reports, typical “slickwater” fracking mud contains various friction reducers, biocides, surfactants and scale inhibitors, but the exact chemical composition of these additives remains unknown, falling under the umbrella of “proprietary information.” This is unacceptable, given that in other areas of the country – namely Texas and Montana – these additives have been reported to include benzene, toluene, xylene, naphthalene, fluorenes, ethylene glycol, phenanthrenes, hydrochloric acid, etc. Prior to any further use of these additives in wells in New York State, the Council insists that the DEC mandate public disclosure of these formulations. Proprietary concerns can be dealt with through patents and are more than trumped by concerns regarding public and environmental health and safety.

3.0 GEOLOGY

The Marcellus is a Middle Devonian black, gas-producing shale ranging in depth in New York State from surface outcroppings to 8,000 feet underground. Rock layers above the Marcellus include limestones, siltstones, shales, conglomerates and sandstones – there is no hard rock cap layer between the Marcellus Shale and the surface as there is in Western gas fields. High pressure hydraulic fracturing is intended to generate vertical fractures in the shale formation – fractures that may extend into other rock formations above and below the Marcellus Shale. The Council is concerned that these formations likely possess natural fracture/fault systems through which contaminants could migrate toward the surface.

There is certainly anecdotal evidence of gaseous upward migration of methane and hydrogen sulfide into dug wells and aquifers to raise concerns, as well as research detailing natural migrations upward of hydrocarbons from formations as deep as the Marcellus [Attachment B]. New York State is crisscrossed with minor earthquake faults though at what depth is uncertain. Therefore the Council asks that the DEC require a thorough geologic survey be conducted by the gas companies – and that it be made public – prior to any drilling in order to assess the potential for establishing connectivity to existing faulting or fracture systems, as well as their proximity to local aquifers or any capped abandoned wells.

4.0 POTENTIAL ENVIRONMENTAL IMPACTS

4.1.1: Noise Impacts

The Council questions exactly what the definition of short-term is according to the proposed DSGEIS. It is clear that during the drilling and fracking process, noise increase will be considerable in the immediate proximity of the well. It is also obvious that the presence of networks of gathering lines and compressors will elevate the ambient noise level even after all active drilling ceases. Because of this, the Council asks that the DEC, perhaps in conjunction with the NYS Department of Health, conduct regular assessments noise levels and any related impacts on residents and wildlife in proximity to gas wells and compressor stations.

4.1.2; 4.1.3 & 4.8: Visual Impacts; Air Quality Impacts & Community Character

It is impossible to separate visual impact and community character as far as the Council is concerned. Much of the appeal of the Southern Tier and Finger Lakes Region lies in its rolling hills, vineyards, scenic vistas, seemingly unspoiled open spaces, fresh air and pristine watersheds. Major natural gas development, as witnessed in other parts of the United States, would be ruinous to those factors that so enrich this region and render it an attractive place in which to live and to visit unless the DEC takes this regional impact into account in the DSGEIS. It is for this reason that the Council urges the DEC to expand the scope of its assessment to include the required secondary infrastructure demanded by successful large-scale natural gas development in order to minimize degradation of regional character and quality of life.

4.1.3.1: Greenhouse Gas Emissions

Given the DEC's current focus on Climate Change as a primary guide for actions, programs, and initiatives, it is unacceptable to the Council that no consideration is being given to these issues in the Draft Scope for the DSGEIS. That natural gas is a fossil fuel and a source of greenhouse gas emissions is irrefutable, as is the fact that large quantities of carbon dioxide and methane are liberated through the gas extraction process. The Council feels the DEC must require analysis of all sources of GHG emissions at all stages of natural gas extraction and then mandate implementation of the best available technologies and practices to reduce and minimize these emissions. Coupled with this mandate should be enacted appropriate fines for infractions. These monies could be seeding a fund for remediation of any gas-extraction-related spills or contamination.

4.2: Water Resources

The Council has many concerns concerning the impact of this natural gas development and associated technologies on New York State's freshwater resources many of which have been addressed earlier in these comments.

The horizontal drilling and hydraulic fracturing processes will demand large volumes of water, perhaps as much as 17 million gallons per well over its productive lifespan. This water is then partially recovered from the well [and the area] and taken somewhere else for disposal and/or decontamination. It is the Council's position that this could create significant impact to both surface and groundwater resources, as well as being a risky use of a resource that is rapidly becoming scarcer on a global scale. In addition, this diversion of fresh water seems to directly oppose the principals underlying the as yet un-ratified [though approved by New York State] Great Lakes Basin Compact.

It is the Council's position that prior to water withdrawals from streams, rivers, or wetlands, the DEC must mandate careful analysis to ensure that withdrawals pose no risk to the health of aquatic habitats and systems. Likewise, in the event of regional droughts or during seasonal low-flow periods, water withdrawal for drilling must be drastically reduced or curtailed.

Another issue to address is the spread of aquatic invasive species. It will be necessary to carefully monitor water transport to minimize the likelihood of inadvertently creating a conduit for these invasives to move from one water body to another. This would necessitate regulations governing the cleaning of tanker trucks when moving between water sources.

The Council insists that each drill site itself be subject to the DEC's Storm Water Regulations, just as is any other major development site. This would reduce the damage done by erosion and would minimize the possibility of industrial pollutants flowing off site into local wetlands, streams and watersheds.

On a similar note, the Council asks that the DEC re-examine and increase significantly the setbacks established in the 1992 GEIS, given the horizontal drilling range now possible. For example, instead of a setback of 100 feet to a house and private well, this should be expanded to 3,100 feet, and a setback of 50 feet from a stream should, perhaps, be increased to 3,050. An equivalent increase should be applied to all well setbacks.

4.3: Significant Habitats and Endangered, Rare or Threatened Species

While the Draft Scope implies that all issues pertaining to wildlife, rare and threatened species, and significant habitat are adequately addressed in the 1992 GEIS, the Council is not convinced this is the case. The Council feels the DEC must go beyond consulting existing databases – it must consult within its Divisions and with other agencies to compile a comprehensive mapped inventory of biodiversity, including critical and sensitive habitats, flyways, threatened and endangered species, and spawning and migratory routes throughout the region to be subject to natural gas development. And it must use this information to inform its permitting decisions in light of the larger cumulative environmental impact likely to result from the massive scale of this development.

It is also the Council's position that the DEC must include consideration of invasive species – flora and fauna, terrestrial and aquatic – and the threat they pose to biodiversity in the region. Tire tracks are superb vectors for spreading seeds, and water tankers are equally well suited to transport eggs and plant slips. The large tracts of disturbed soil created by temporary roads and staging areas are prime real estate for opportunistic invasives to take root. Gas companies and contractors must be given cleaning protocols and checklists, and be subject to routine inspection by DEC personnel to minimize the possible spread of invasive species through the gas extraction industry.

4.6: Road Use

Development of a single horizontal gas well in Texas required 5 million gallons of water, with over 100 water haulers servicing the well during the process. It then produced more than 700 truckloads of used fracking mud and waste that had to be hauled away. These vehicles all traveled on public roads over a short period of time, damaging road surfaces and disrupting local traffic. There is no reason to believe experiences in New York State will be substantially different.

The Council believes that the gas companies should be mandated to cover the cost for road repairs, with the DEC, DOT, Townships and Municipalities holding bonds to ensure that all needed repairs are completed. It is also the Council's position that these repairs should be performed as needed while drilling is in process instead of allowing the gas companies to wait until their drilling operations are complete – it is a matter of public health and safety, since all manner of emergency vehicles must be able to utilize these routes, and school busses travel them throughout the week during the school year.

4.7: Cumulative Impacts

As stated previously, the Council insists that the DEC consider this gas production play in the larger national and global context. This is not a small, isolated development being proposed – it is a massive, multi-state, regional development designed, according to its supporters, to help wean the United States from its dependence on foreign oil and to serve as a transition source of energy until large-scale renewable sources come on-line. One need only look to similar-scale developments in other parts of the country – Colorado, Wyoming, the Dakotas, and Texas – to realize how significant the cumulative impacts of this gas play could be. Therefore the Council must insist, in accordance with ECL §617.9(b)(5)(iii)(a), that the DEC include consideration of short-term, long-term, and cumulative environmental impacts in its DSEIS on the Oil, Gas and Solution Mining Regulatory Program.

5.0 PERMIT PROCESS AND REGULATORY COORDINATION

Because of the potential magnitude of this development and its geographic expanse – crossing state boundaries, multiple watersheds and the jurisdictions of multiple agencies – the Council feels the DEC must include close, multiple-agency – as well as intra-agency – coordination as an integral component in the DSGEIS. On a New York State level, that would require coordination within the DEC Divisions, and among DEC, DOH, DOT, and NYSOPRHP. It would also necessitate communication vertically within state, notifying and involving town, municipal and county governments in the permitting, regulating and inspecting aspects of natural gas development.

On a regional level, this coordination would involve bringing to the table the Susquehanna and Delaware River Basin Commissions, the Public Service Commission, the National Park Service, the U.S. Forest Service [Finger Lakes National Forest], and the New York City Department of Environmental Protection. Ideally this process would also include coordination between states to ensure maximum protection for public and environmental health and conservation in the region.

In the current economic climate, it seems obvious to the Council that the only way to achieve adequate policing and regulation of the gas industry and extraction development is by working together through open and transparent communication for the good of the whole region. As has been made painfully clear with past environmental concerns, natural systems are not bound by political or jurisdictional boundaries, nor do property lines or state borders effectively contain pollutants. If this development is to go forward, it must be managed through the cooperative effort of all involved and affected parties.

CONCLUSION

In conclusion, the Council hopes you will thoroughly consider these comments and suggestions them in the spirit in which they are offered – that of striving to ensure the greatest degree of diligence be given to development of the Marcellus Shale to minimize negative impacts on New York State waters, forests, wildlife and citizens – on its quality of life. Though the Council is not unaware of or insensitive to the economic ramifications posed by natural gas development, its charge is to offer advice and counsel on environmental impacts and concerns. The Council thanks you for your time and attention.

Respectfully,

Kate Bartholomew

Kate Bartholomew, Chairperson
Schuylter County Environmental Management Council

Cc. Governor David Paterson
N.Y.S.D.E.C. Commissioner Pete Grannis
N.Y.S. Senator George H. Winner, Jr.
N.Y.S. Legislator Thomas F. O'Mara
U.S. Congressman Eric Massa
U.S. Senator Hillary R. Clinton
U.S. Senator Charles E. Schumer

ATTACHMENT A

EPA Findings on Hydraulic Fracturing Deemed “Unsupportable”

When an EPA study concluding that hydraulic fracturing "poses little or no threat" to drinking water supplies was published in 2004,¹ several EPA scientists challenged the study's methodology and questioned the impartiality of the expert panel that reviewed its findings. The Bush administration has strongly supported hydraulic fracturing, an oil extraction technique developed by Halliburton Co., but environmental groups as well as scientists within the EPA have warned that the practice may contaminate drinking water and needs to be regulated. Hydraulic fracturing is a technique used to help increase the amount of oil that can be extracted from an oil well. It involves literally pumping water or another fluid into rock under such high pressure that it creates new cracks around an oil reservoir. As described in a Department of Energy fact sheet, fracturing is used "to create additional passageways in the oil reservoir that can facilitate the flow of oil to a producing well."² The fracturing fluid contains sand or some other 'propping agent' to help the cracks stay open, and can also include toxic chemicals such as diesel oil.³

When oil reservoirs lie close to aquifers there is a possibility that a fracture could open up between the two, contaminating the water. Critics of fracturing contend that because toxic fluids pumped into the ground during fracturing may seep into nearby ground water supplies, hydraulic fracturing should be regulated. Residents of Alabama, Colorado, New Mexico, Virginia, West Virginia and Wyoming have charged that their water quality or quantity has changed following fracturing operations of gas wells near their homes.⁴ The oil industry has steadily maintained that the practice is safe, and that efforts to regulate hydraulic fracturing would be a bad idea because they "could have significant adverse effects" on the domestic energy extraction business.⁵ The EPA study was undertaken in response to a 1994 petition to the EPA from residents of the state of Alabama claiming their drinking water had been contaminated by the process. In 1997 the 11th Circuit Court of Appeals ruled that hydraulic fracturing should be regulated under

federal law.⁶ The Bush administration weighed in early on the issue of hydraulic fracturing. The *Los Angeles Times* reported that Vice President Cheney's 2001 energy task force report touted the benefits of hydraulic fracturing while ignoring its potential consequences, in spite of repeated requests by EPA scientists to include mention of environmental concerns. Cheney's office was "involved in discussions about how fracturing should be portrayed in the report," the *Times* reported, even though the Vice President served as chief executive of Halliburton, Co., which earns a large chunk of its energy revenues, about \$1.5 billion annually, from the practice.⁷ In 2004, the EPA's study was released, concluding that hydraulic fracturing did not threaten water supplies and that no further study of the practice was needed.⁸ Soon afterwards, Weston Wilson, a scientist and 31-year veteran of the EPA, spoke out. In an 18-page letter to the EPA Inspector General and to congressional leaders, Wilson, who sought protection under the federal Whistleblower Protection Act wrote:

EPA's conclusions are unsupportable. EPA has conducted limited research reaching the unsupported conclusion that this industry practice needs no further study at this time. EPA decisions were supported by a Peer Review Panel; however five of the seven members of this panel appear to have conflicts-of-interest and may benefit from EPA's decision not to conduct further investigation or impose regulatory conditions.⁹

"I think the agency's acted egregiously," said Wilson in an interview a few months after sending his letter to Congress. "It's not fulfilling its responsibility to protect public health."¹⁰ Wilson's concern was supported by other scientists both inside and outside of EPA. Geoffrey D. Thyne, a professor at the Colorado School of Mines who is generally supportive of hydraulic fracturing, argued that exempting the practice from regulation "is premature, unwise and goes against the public interest."¹¹ Wilson is correct when he says, "EPA should finish its study and obtain field information to see if this does represent a risk to ground water."¹²