Commissioner Joseph Martens
NYS Department of Environmental Conservation
625 Broadway
Albany, NY 12210

RE: Final Supplemental Generic Environmental Impact Statement on the
Oil, Gas and Solution Mining Regulatory Program, May 13, 2015
(High Volume Hydraulic Fracturing and Horizontal Drilling)

Dear Commissioner Martens:

The following comments are limited to issues that have been overlooked or
misrepresented regarding the socioeconomic/public cost-benefit portions of the
Final SGEIS.

Those issues noted below should be evaluated and incorporated into the
Findings Statement. These comments are to supplement the many comments
submitted by Sierra Club representatives since the inception of this SEQRA
HVHF review process.

We welcome the outpouring of public comments concerning the 2011
Revised Draft SGEIS, and we sincerely appreciate the Department’s response to
those public comments, especially the request to the New York State
Department of Health to conduct a health impact assessment of HVHF.

We support those May 13, 2015 Final SGEIS responses by the Department that
took a deeper look and challenged some of the over optimistic "socioeconomic"
scenarios conjured in earlier drafts. We strongly support the addition of the New
York State Department of Health Public Health Review of HVHF which has
affirmed the palpable threat presented by fracking to all life within the HVHF
target zone and beyond. As a consequence, the final SGEIS has produced a
much more realistic, sober evaluation of environmental and financial costs, and
public health risks.

However, the revised Draft SGEIS, the lapsed draft rules and regulations, the
belated consultants "Economic Assessment Report," and related background
material, all accepted the notion that property values and net municipal and state revenue would be enhanced should HVHF and horizontal drilling be implemented in New York State. That notion is still erroneously embedded in the Final SGEIS.

Drilling interests and land owners who sold the gas leases still deny health risks and downplay associated public financial costs and environmental degradation costs, claiming that any losses are justified and would be offset by the HVHF promise of immediate economic enrichment and "game changing" regional and state prosperity.

You may recall from our successful efforts to preserve Sterling Forest that we are acutely aware of the promotional hype promising attractive but unattainable future benefits to municipalities and taxpayers if only the coveted permits for the development schemes were issued, on faith, today. We are also acutely aware of the municipal need for operating income that is dependent on property tax revenue, and of the temptation by the State to shift undetermined public costs to municipalities via unfunded mandates. That is why SEQRA requires that a "hard look" be applied to all such economic, social and environmental contingencies, obligations and consequences. The necessary "hard look" still must be applied to the following areas of concern.

**Department Priorities: protection of health and environmental resources versus promotion of gas industry financial interests**

The Department has been mandated to administer two contradictory, mutually exclusive policies as noted in Final SGEIS chapter 1.2 (Regulatory Jurisdiction): "the state of New York's official policy, enacted into law, is to serve, improve and protect its natural resources and environment. And it is the Department's responsibility to carry out this policy (ECL section 1-0101)...in addition to protecting the environment and public health and safety, the Department is also required by article 23-0301 to prevent waste of the State's oil and gas resources, to provide for greater ultimate recovery of the resources, and to protect correlative rights." (see ECL article 23-0301, included below, for the full text.)

The gas interest claim that ECL 23-0301 assures them that the Department's primary obligation is to promote the development of Marcellus Shale gas resources since any public health or environmental negative impacts would be mitigated separately at public expense by procedures yet to be developed.

Not only would such promised mitigation measures be a SEQRA segmentation violation, but the final SGEIS assessments in chapter 9, and the Response to the
Comments section have included a more balanced evaluation of HVHF that reveal unaffordable higher public costs than previously estimated and acknowledge mitigation limitations, and that some adverse impacts cannot be mitigated at all.

As a consequence, the Findings Statement must clearly stress that the dueling mandates to protect health and the environment, and also to promote the gas industry are not co-equal, parallel policies, but that the duty to protect health and the environment has primacy, and that subsidiary gas industry support can only be considered after public health and environmental protections are guaranteed.

Produced Water = flow back water = production brine = toxic frack waste fluid!!!

The 2015 final SGEIS borrows the descriptions of "flow back water" and "production brine" from earlier applications which do not accurately define the toxic nature of frack waste fluid generated by the HVHF process. The SGEIS supporting material assumes that existing pools of water are present in the Marcellus Shale strata variously dubbed as "native water," "historic pools," "trapped fluid," "pre-existing brine fluid," etc...

Hydrologists however assert that no pools of water exist in Marcellus Shale formations. They confirm that the only subterranean water/liquid within the shale strata is the engineered water/chemical fluids artificially injected into the well shafts as part of the HVHF stimulation process.

The hydrologists further explain that the construction of vertical and horizontal well shafts is essentially a dry drilling process. Drill cuttings are removed from the shafts by air pressure, and casings are installed. The fracking process commences with the perforation of the casing which also fractures the shale bed. High-pressure injection of high volumes of water, sand and chemical additives then enter, expand and create new shale fractures. Naturally-occurring salt is instantly leached out in the extremely hot underground environment which creates additional voids, fissures and pathways which, in turn, absorb more injection fluid, and force more fractures.

Most of the forced injection fluid is absorbed into the shale bed fractures. The balance, together with the first rush of harvested gas, quickly returns to the surface when the injection pressure pumps are turned off.

Thereafter, the volume of the toxic frack waste fluid is sharply reduced but the condensation and flow rate to the surface remains consistent with the flow rate.
of the gas product. All of the toxic frack waste fluids contain the injection chemical additives which are combined with the naturally occurring benzene, radon, heavy metals, newly created chemical compounds, and concentrated brine. The gas industry terms this waste fluid "produced water," which is accurate but which hides its toxic attributes.

The final SGEIS has disingenuously divided the same frack waste fluid into two distinct product categories, defining the higher volume, first surge of return waste fluid as "flowback water," and the subsequent, ongoing flow of reduced volume as "production brine," even though both are of identical origin and contain all of the same toxic/hazardous substances. By giving the same hazardous waste fluid two different, innocent sounding names, the final SGEIS has provided an alias that masks the true toxic threat that this waste poses to the public health.

Calling the toxic cocktail "production brine" is specially deceitful due to the past Department practice of disposing frack waste on public roads for dust and ice management, thus subjecting the public directly to toxic frack waste exposure.

To eliminate any confusion, the findings statement must eliminate the labels of "flowback water" and "production brine," and rename the toxic substance simply for what it is: "toxic frack waste fluid."

**Irreconcilable compulsory integration policy**

As referenced above, ECL 23-0301 established the Department policy to promote: "... Oil and gas in this state in such a manner as will prevent waste; to authorize and to provide for the operation and development of oil and gas properties in such a manner that a greater ultimate recovery of oil and gas may be had, and that the correlative rights of all owners and the rights of all persons including landowners and the general public may be fully protected.... That includes the right of all persons to good health free from pollution, and to the right of the peaceful use and enjoyment of their property."

Prior to 2008, the predominant, almost exclusive form of gas/oil extraction in New York State was by single shaft vertical drilling at relatively shallow depths within permeable strata.

Rules and definitions had been established that pertained to capturing free flowing oil and gas which migrated naturally below property lines and which drained of its own accord into underground reservoirs. Oil and gas reservoirs are defined in the final SGEIS glossary as: "a subsurface, porous, permeable or naturally fractured rock body in which oil or gas has accumulated." And,
"reservoir rock: a rock that may contain oil or gas in appreciable quantity and through which petroleum may migrate."

To facilitate the efficient collection of the dispersed subsurface oil/gas, "spacing unit" legislation was enacted decades ago that merged connecting properties into designated drilling areas. Included were willing owners who sold gas leases, and unwilling owners who were forced to participate through the Department policy of compulsory integration. The resulting administrative "spacing unit" managed the vertical well extraction of the uncontrolled, free-flowing gas/oil that originated beneath one property, migrated below adjoining properties, and was recovered eventually from the collection pools located under a third property. No drilling took place on or under the land of the unwilling spacing unit participant. This traditional form of single shaft, vertical drilling in permeable underground formations is referred to as "conventional drilling" and "conventional gas."

After 2008, a new radically different multi-shaft HVHF-horizontal drilling technology was developed which for the first time, was able to extract gas trapped within the pores of the impermeable Marcellus and Utica shale formations located 5,000 to more than 10,000 feet below the surface. The new HVHF extraction process drilled 5 to 10 horizontal well shafts below a single well pad, perforated the shaft casings, pressure-injected 5 to 8 million gallons of water, sand and chemical additives into each shaft which dissolved and further fractured the rock and salt formation. That frack process not only released the imprisoned gas but also produced an equivalent high volume of toxic frack waste fluid which contained naturally occurring benzene, radon, heavy metals, and concentrated salt in addition to the toxic injection chemicals. Part of that waste fluid was returned to the surface, but most is absorbed and retained permanently in the voids and fissures that were created underground.

As a consequence, HVHF now created a toxic waste disposal dump under the entire spacing unit, a condition that previously was not created by traditional extraction and conventional drilling. This new age HVHF-horizontal drilling process was distinguished as "unconventional drilling" and "unconventional gas."

The New York State Legislature passed a "surprise," end-of-session amendment to the spacing unit law to accommodate the advent of HVHF horizontal drilling. Governor Patterson signed those changes into law on July 23, 2008.

Because existing laws and Department procedures, including the findings of the 1992 GEIS, addressed only aspects of conventional drilling, and because no specific, adequate guidance existed to describe, evaluate, and regulate the new substantially different unconventional HVHF process, Governor Patterson also
directed the Department to conduct a supplemental SEQRA review of HVHF-horizontal drilling which became the genesis of the 2015 final SGEIS.

Currently, a spacing unit is designated by the Department when a drilling company controls gas leases on 60% or more of an area of 640 acres including private and public lands. Property owners who have sold gas leases have received signing bonuses of over $5,000 per acre and royalty contracts to pay 20% of the profits. Landowners located within the boundary of the spacing unit who elect not to sell their gas rights, however, have their property commandeered and are forced to relinquish their gas assets through the "compulsory integration" rules. The conscripted landowner is to receive a reduced, non-negotiated royalty compensation of 12 1/2%, but no signing bonus. In addition, all landowners in the spacing unit including state parks and forests, have their subsurface property permanently polluted, an especially reprehensible consequence for the involuntary landowner.

Now as before, the spacing unit grants extraction rights to a single driller per unit.

Now as before, the actual ownership of the gas becomes established only after the gas lease owner completes drilling and takes physical possession of the gas product at the surface. Each property owner in the spacing unit is then variously compensated by the driller/producer, but only after the gas is pipe-lined to market and sold.

The unconventional HVHF process is required because Marcellus Shale rock is impermeable. The gas/oil contained therein is locked in place by a different geology. The imprisoned gas is controlled by the rock formation, is not naturally free-flowing and, thereby, is prevented from migrating below property lines or collecting in underground reservoirs as is the case with conventional gas. The only means to obtain the gas is by force and chemical leaching through the HVHF extraction process.

Horizontal drilling and fracking are now authorized within the subsurface property of all landowners, any place within the spacing unit including under state-owned property and under the conscripted property of the involuntary landowner.

The following are HVHF adverse impacts imposed on involuntary landowners:
1) Drilling down from the surface of state parks and forests and from involuntary properties is not authorized. However, the forced intrusion of subsurface horizontal drilling under the surface within the involuntary landowners property now is authorized;
2) the gas is a non-migrating assets belonging to the involuntary participant that is now forcibly removed from the property without the owners consent;
3) the involuntary participant is given less compensation for that gas assets then voluntary spacing unit participants;
4) without consent of the involuntary landowner the HVHF process creates a permanent underground toxic waste disposal site that previously did not exist within the property and which defies remediation. That pollution creates new health risks, liability risks, denies specific home insurance coverage, violates mortgage anti-degradation stipulations, reduces property valuations, and reduces re-sale or refinancing opportunities for all in the spacing unit;
5) should the mineral rights of the property have been previously sold, all of the adverse pollution consequences would be borne by the landowner without any royalty compensation. The royalty is received by the separate owner of the mineral rights instead.

Claims that the ECL exempts the willing or unwilling landowner who receives royalties from pollution liability damage or personal injury caused by conventional or by unconventional drilling are specious and untested at best.

Provisions for lost property values were never even considered in either the 1992 or the 2015 SEQRA evaluations. Forget not that GE claimed immunity regarding the Hudson River PCB pollution clean-up costs because the Department had issued permits authorizing that PCB dumping in the first place. Municipalities and the state authorizing drilling also do not escape liability for any resulting pollution from the miniature Love Canal-type toxic disposal sites that would be created within the subsurface of each spacing unit property. Pollution lawsuits may be initiated decades after the contamination occurs as is the current case involving the former International Nickel property located in Sterling Forest.

Because of the vastly dissimilar engineering, the gas industry makes a clear distinction between single shaft, vertical well, "conventional" gas drilling necessary for permeable formations, versus the multi-shaft HVHF "unconventional" horizontal drilling necessary for impermeable Marcellus Shale formations.

The final SGEIS however makes no such distinction when addressing compulsory integration contentions.

The many sections of the final SGEIS accurately note the elevated public health risks and the increased public financial costs associated with frack pollution.

Paradoxically, those same concerns have been dismissed from the response to comments section (RTC) which deceptively claims that compulsory integration does
not cause pollution and therefore has no responsibility for adverse impacts requiring SEQRA review. Compulsory integration, however, is the means by which frac pollution and related adverse impacts are egregiously imposed upon the involuntary landowner and the general public.

The objectionable passage of section RTC-329 states: "the 1992 GEIS found that pooling of mineral rights under a compulsory integration order, does not present any environmental impacts and is not a significant action under SEQRA. The SGEIS, which is a supplement dedicated to the subject of HVHF, does not raise any new issues with respect to compulsory integration. The need for a compulsory integration hearing is based solely on whether there are any unleased mineral rights in an established spacing unit and is unrelated to the method of drilling or completing a well or the formation targeted by the well operator. The compulsory integration process is the means by which the Department protects correlative rights."

Claiming that the 1992 GEIS determined that compulsory integration "... did not present any environmental impact..." may have been marginally correct regarding conventional drilling in 1992 but was deficient since no social and economic impacts were evaluated which also are required by SEQRA. And, the adverse social and economic impacts caused both by conventional drilling and by unconventional drilling discriminated against the involuntary landowner.

To claim that compulsory integration, "...is not a significant action under SEQRA..." misrepresents the essence of SEQRA, which is to evaluate the impacts of a project or policy in its entirety. Compulsory integration is a fundamental component implementing conventional drilling and is the subject of the 2008 law — the only legislation yet enacted — specifically to enable unconventional HVHF horizontal drilling.

The claims that, "....The SGEIS, which is a supplement dedicated to the subject of HVHF, does not raise any new issues with respect to compulsory integration...." And, "...the need for a compulsory integration hearing is based solely on whether there are any unleased mineral rights in an established spacing unit and is unrelated to the method of drilling or completing a well or the formation targeted by the well operator....") just begs the question regarding the origin and requirements for compulsory integration which are based precisely on the "method of drilling, the well construction, and the migrating characteristics of permeable formations." Those circumstances are specific to conventional drilling and provide the underlying rationale of justifying compulsory integration. Those policies which were developed for conventional drilling over 20 years ago, however, never contemplated HVHF and do not correspond to the different characteristics presented by impermeable formations, horizontal drilling, or the mega volume of toxic consequences resulting from unconventional HVHF for which no practical remediation exists. The existing justification for compulsory integration policy is totally incongruent with the realities of fracking.
If HVHF is ever permitted, a new justification must be established to develop new spacing unit policies that specifically apply to HVHF.

Since fracking creates a permanent toxic waste disposal site that did not previously exist, creates new health risks and creates property value destruction, no new compulsory integration policy for fracking can be justified at all.

The RTC-329 comments conclude by stating, "... The compulsory integration process is the means by which the Department protects correlative rights." Protecting the rights of one party however, cannot be accomplished by violating the rights of another party. That abbreviated ECL 23-0301 comment reflects a serious self-dealing conflict-of-interest for the state, since the state sells gas leases to drillers, receive significant revenue from gas extracted from public lands, and at the same time establishes drilling rules, issues private drilling permits and regulates the gas drilling industry.

The state authorizes horizontal drilling below public lands, and creates the same HVHF toxic waste consequences which permanently pollute all affected public lands.

No reasonable rule or regulation or SEQRA mitigation effort can be designed to prevent HVHF pollution. But reason can prevail and can prevent compulsory integration from being the means that subjugate the involuntary landowner and the general public to the danger of frack pollution.

The 2015 final SGEIS finding statement must choose the no action alternative and must reaffirm the Department mission to ensure that "... the rights of all persons including landowners and the general public may be fully protected...," not just the correlative rights of gas lease owners as advocated by RTC-329.

**Destructive impacts of concentrated brine and toxic frack waste fluids on municipal sewage treatment plants (POTW) and municipal budgets**

SEQRA review requires a cumulative impact analysis of all aspects of a proposed action. For HVHF, that should include a review of the incredibly high volume of water consumed at the start of fracking, the source of that water, and the disposal of that same water which is converted into toxic waste fluid. The 2015 final SGEIS avoids taking a "hard look" at the water input-toxic waste disposal output consequences of fracking, and functionally segments and mollifies the impacts by sidestepping the issues.

The immense volume of water consumed by HVHF is difficult to conceptualize. Each well pad may have from 5 to 10 horizontal shafts with each shaft extending for up to 2 miles in distance. Each shaft may consume 5 to 8 million gallons of water. Each well pad may inject and then contaminate up to 80 million gallons of water. At buildout 70,000 well pads potentially could be constructed...
Hydrologists assert that the Marcellus Shale formation itself contains no pre-existing pools of water. The industry label of "produced water" is apt since the injection water and the chemical additives are the source of the waste fluid which, upon exit additionally contain an emulsion of benzene, new chemical compounds, naturally trapped heavy metals, concentrated salt and radon. A more accurate description would be "toxic frack waste fluid", rather than the benign terms of produced water or the Department-labeled "flow back water" and "production brine," all of which are composed of the same toxic chemical, radioactive and concentrated salt product.

Approximately 60% of the toxic waste fluid remains in the rock fractures below ground. However, 40% or up to 32 million gallons of frack waste fluid plus drill cuttings and drilling muds per well pad, are returned to the surface and demand attention and a safe disposal process.

Chemical engineers, however, are certain that no practical technology exists to safely remediate or discharge the millions of gallons of salt-saturated, radioactive toxic chemical waste that would be produced by HVHF in New York State.

Frack chemicals and radon are known cancer-causing agents and endocrine disruptors that individually are regulated and/or kept from human contact. Rather than realistically confront the enormity and peril of those hazardous substances, public officials have disguised that toxic threat and have invented legal fictions that shockingly allow the spread of drilling pollution.

The first fiction is making believe that toxic frack waste does not sound like the health risk that it is, and then by exempting all hazardous frack waste from regulation. The 2005 US Energy Policy Act promotes fracking at the expense of public health by exempting regulated toxic chemicals from federal Clean Water Act, Clean Air Act and other related laws if those chemicals are used by industry drillers for gas and oil production.

New York State has its own gas and oil industry toxic waste loopholes enshrined in ECL 27-0903/DEC 371.1(e)(2)(v) which exempts the same frack waste pollution from being regulated as "hazardous waste" even after proving to be "hazardous" and which, if produced by any other industry, would be subject to regulation.

Consider that legislators have recognized that toxic chemicals must be regulated to protect public health. Consider that legislators also recognize that no regulation could adequately protect the public from the dangers of HVHF. Therefore to justify drilling and HVHF gas production, legislators have flagrantly concealed the pollution danger and betrayed the public trust by exempting the hazardous frack waste from any regulation at all!

Not only are those toxic waste chemicals not regulated they indefensibly are kept secret from the public.
The second fiction occurs when the regulatory agencies justify issuing permits that allow the drilling industry to withhold the identity and quantity of the toxic chemicals and the additives used at specific well sites due to industry claims of "confidentiality" and protection of proprietary "trade secrets." But disclosing the chemical content is not enough. Even if the identities of those additives are published, those chemicals remain just as toxic and are just as dangerous to the public if they are not also regulated.

The third fiction is the Department's ill-founded belief that HVHF toxic frac waste fluid can successfully be treated/remediated by municipal sewage treatment plants which have "pretreatment technology" and which follow necessary Department procedures.

Appendix 21 of the 2015 final S GIS lists 134 eligible publicly owned treatment works including the Harriman regional sewage treatment plant. Appendix 22, "POTW procedures for accepting high-volume hydraulic fracturing wastewater," details the Department policies which those municipal sewage treatment plants need to follow.

Appendix 22, page 1, also states the following: "please note that disposal option is limited to the extent that municipal POTW which utilize biological wastewater treatment are generally optimized for the removal of domestic wastewater and as such are not designed to treat several of the contaminants present in high-volume hydraulic fracturing wastewater. In addition to the above concerns, the additional monitoring and laboratory costs which will result from additional monitoring conditions must also be considered prior to deciding to accept this source of wastewater."

That mild disclaimer hints at significant HVHF STP treatment limitations which are left up to the many municipalities to negotiate and resolve on their own. The fact that the above policies are in place presumes that revenue-starved municipal sewage treatment plants can and will accept frac waste fluid and a frac-landfill leachate even if treatment engineering cannot be perfected.

Wastewater treatment engineers such as Dr. Radisav Vidic, Chairman of the University of Pittsburgh Department of Civil and Environmental Engineering, asserted that because municipal sewage treatment plants operate by an organic-biological process, none can successfully treat the chemicals contained in frac waste fluids, and most would also be unable to process the sheer volume of that waste fluid. Not only would the chemicals, concentrated salt, and radioactive material pass through the system virtually untreated and be discharged directly into the open environment, but that frac waste would interfere with the processing of municipal sewage that the plant was primarily designed to treat. A small example of such treatment interference is the operational disruption and discharge permit violations that occur at the Harriman STP caused by excess salt received from a Village of Kiryas Joel chicken processing plant. The impact of that STP salt impairment is minuscule when compared to the impact from frac waste.

Dr. Vidic, a gas industry consultant, stresses that only a specialized industrial-chemical waste treatment plant can process the toxic chemicals in the frac waste, but neither an
industrial nor a municipal STP can survive the corrosive effects of the concentrated brine in the frac waste.

Even if toxic chemicals are replaced by "green" additives as suggested in the final SGEIS "green action alternative," the greatest threat to the function and to the structure of municipal sewage treatment plants still would be the extremely high salt content in frac waste which has a concentration 10 times greater than ocean water. An object lesson is Super Storm Sandy which flooded New York City during October, 2012. The major damage to the subway system and to the Con Ed substations was not directly from the water, but rather from the salt in that ocean water.

The final SGEIS does not consider the adverse functional and financial impacts that toxic frac waste fluid in general, or salt content in particular, have on the daily processing ability and SPEDES permit compliance required for the STP to operate, nor does it evaluate the destructive impact that salt places on the physical integrity of the plant infrastructure.

A municipal STP is one of local governments’ most expensive budget costs and one of the most important public functions required to support civil living conditions and to protect public health. The corrosive impact of the salt in toxic frac waste fluid needlessly raises the municipal STP repair and replacement costs which are central to the social and economic concerns that demand SEQRA evaluations.

Dr. Vidic concedes that the only way a municipal STP could process toxic frac waste is first to remove the salt content from the fluid, and then to remove the toxic chemicals, procedures that are cost prohibitive if it all possible.

Dr. Vidic concludes that the least objectionable disposal method appears to be specialized deep well injection. However, related earthquakes have resulted, new pathways to the surface have emerged and long-term containment cannot be guaranteed. The biggest obstacle, however, is that deep well capacity is limited and would be unable to accept the volume of HVHF waste that is anticipated.

For all of the above reasons, toxic frac waste fluid must be regulated and must be prohibited from all municipal PTOW's/STP's, from all landfills, and from all road or other land spreading. Department "best use determination" (BUD) must not subvert and override the frac waste prohibitions on the physical integrity of the public infrastructure.

**Gas lease consequences on mortgage and property values**

The gas industry promoters of the Marcellus Shale HVHF claim that fracking will increase land values, will produce windfall profit for land owners who are able to sell gas leases, and will raise windfall tax collections for municipalities, school districts and special tax districts which are dependent on property values and property tax revenue.
Local governments are told to expect an enhanced revenue stream both from ad valorem taxes generated by the sale of the gas product, and from the promise of higher property taxes justified by higher property assessments made possible by higher land values resulting from the gas extraction infrastructure including below ground gas reserves, drilling equipment, well pads, and shafts. Ironically, the sales spin also includes feeder pipelines, road easements, gas storage facilities and toxic frack waste pits as "value-added" appurtenances, not as the actual polluting liabilities that they are. The final SGEIS never adequately evaluates these economic claims.

Further, the obligations placed on municipalities such as the costs to monitor and supervise compliance of drilling operations delegated to county health departments by the State, road maintenance expenses, the consequences of toxic frack disposal, and the realistic adverse impacts on competing local commerce and reduced property values also have not received the required "hard look."

The final SGEIS compiled a huge amount of general data from three region-wide areas where drilling had occurred. The vagaries of those aggregate numbers, however, are unable to provide an in-depth, cost-benefit analysis of fracking that a specific locality could utilize for comparison and planning.

Two drilling case studies were included. Both documented a significant reduction of property values as a direct consequence of gas drilling.

Suppression of property values is a major concern. A general observation has been that the industrialization of a landscape can only diminish land values and impair existing uses which are in place for residential, agricultural, tourism, "clean" commerce and natural watershed-wildlife habitat purposes. Property values are further harmed as is the local economy when pollution-adverse enterprises, such as B&Bs, close or relocate out of the affected area and reduces the local tax base.

Science confirms that fracking is an industrial process which can never prevent harm or cleanse the natural or man-made environment. HVHF uses one set of toxic substances to produce another set of toxic substances, all of which are injurious to human health and all life forms. Pollution is not just an occasional byproduct of fracking, it is integral to the drilling process.

**The only safe zoning solution for HVHF is a total ban**

The purpose of zoning is to keep incompatible land uses separate from one another if at all possible. The only safe zoning solution for HVHF is a total ban on fracking. The New York State Constitution has empowered town-village-city governments to designate the use of land through home rule zoning authority. While the New York State DEC has the authority to regulate how methane is produced, local government has the authority to determine where methane may or may not be produced. Unless a property already is zoned "commercial-industrial," and drilling is affirmatively permitted, the lease owner may be required to obtain a variance or special use permit from the municipal building
inspector or Planning Board or Zoning Board of Appeals. Any such decision may require SEQRA review and may provoke court litigation.

Those unique land-use powers and duties were reaffirmed by two recent New York State Supreme Court decisions in Tompkins County (Town of Dryden) on February 21, 2012, and in Otsego County (Town of Middlefield) on February 24, 2012. In both cases each town had legislated zoning that banned gas drilling within their respective jurisdictions. Each court upheld the zoning that banned fracking, and each ruled that while the State had authority to regulate gas drilling, that regulatory authority did not supersede the tandem, equally compelling local government zoning and land use authority that could ban gas drilling altogether.

Both decisions were subsequently upheld by the New York State Court of Appeals. Note that the courts did not create a new interpretation or change local home rule laws. The court just validated the long-standing laws that already were in place.

Several land-use and mortgage real estate actions by the driller and by the landowner must be satisfied prior to the signing of a gas lease and prior to applying for a Department permit to commence drilling. The land must be zoned to allow drilling and the land owner must comply with mortgage requirements or face default and foreclosure. Those outcomes affect neighboring properties and the tax base/budget of the entire community.

In addition to zoning legislation, contract law must also be honored where restrictive covenants exist. In the case of Weiden Lake Property Owners Association, Inc. v Cabot Oil and Gas Corporation, Cabot had purchased a gas lease on a property that had a deed restriction prohibiting commercial uses. On August 25, 2011, in Sullivan County Supreme Court, Justice Gilpatrick revoked the lease but allowed the land owner to keep the $99,255 signing bonus received from Cabot.

When a gas company purchases a gas lease, it markets the acquired gas reserve as an investment product to raise capital and to raise its own share price. The Securities and Exchange Commission requires the gas company to disclose reliable, independent estimates of the value of the gas reserves and the significant risks inherent in the gas drilling enterprise, such as the risk of industrial accidents and toxic leaks, to assist investors in making sound, informed decisions. Gas companies, however, are not required to provide the same disclosure and risk advisory to the landowners selling the lease, or to the public. The toxic chemical formula in frack fluid, for instance, is declared "proprietary" and is not disclosed at all. The first lease deception is the rosy scenario hyped to the landowner at the same time that a worst-case high risk scenario is provided to the stock market investor regarding the same gas drilling action.

The second assumption, by omission, is that the landowners are not informed that they may be in violation of existing mortgage rules.
No homeowner insurance coverage exists for fracking, and the landowner may become liable for pollution contamination, injury lawsuits and cleanup costs

The landowner retains ownership of the land above and below the surface after a lease is sold. The gas company effectively "rents" the subsurface land and controls the gas assets. However, the gas company also controls the use of the aboveground property related to gas production including but not limited to the construction of well pads, access roads, collection pipes, toxic frack fluid/sludge waste storage pits, gas compressors and processing facilities, road easements, and storage facilities for gas and frack waste produced on site or transported in from other gas drilling locations.

Even prior to drilling, a gas lease diminishes the value of the property for assessment and resale purposes due to the risk of pollution and due to the gas company gaining control of the surface use of the property.

Similar to the requirements for the subdivision of a property or the sale of an easement, a gas lease alters the ownership relationship and control of the land, and must be recorded and filed with the deed and mortgage documents in the office of the County Clerk.

The driller and lessee must comply with municipal zoning, building codes, and must prohibit the introduction of toxic or polluting substances that could degrade the property and water supply such as that threat posed by a gas lease.

Further, all banks/mortgage owners require the property to be fully insured. Home insurance is for residential use, not for commercial/industrial use, and does not cover the exigencies of gas drilling.

Should the property have a mortgage, the landowner must obtain approval from the owner of the mortgage prior to signing the gas lease. Mortgages routinely contain anti-degradation stipulations that are especially stringent for properties dependent on unfiltered well water. Conditions of the mortgage prohibit the property owner from reducing the value of the property which is the collateral guaranteeing the loan. The owner must comply with mortgages requirements for insurance.

Because of the high-risk, insurance carriers, like Nationwide, refuse to issue supplemental policies to cover fracking, based on the catastrophic consequences caused by gas/oil accidents. An example of similar pollution consequences caused by toxic chemical leaks is the tragedy currently being experienced by three families in the Town of Goshen. Their well water aquifer has been contaminated by MTBE and gasoline which leaked from an Orange County DPW fuel depot. The County takes no responsibility, the Town provides no assistance, and the DEC, which has documented the source and extent of the pollution, claims no enforcement or remediation authority and no ability to provide replacement water. The families have been without potable water for over four years. They cannot sell their homes as a result and they cannot
afford to live elsewhere. They are prisoners in their own homes under conditions that could be expected from toxic frack pollution.

**Banks in good faith cannot approve a gas lease for a property having an existing mortgage**

Banks are also declining to finance new purchases of homes that have existing gas leases and inadequate insurance coverage. Restrictions on the ability to finance the sale/purchase of real estate would have serious adverse impacts on the valuations of all affected properties within a municipality and on the regional economy.

The immediate, critical real estate ticking time bomb, however, is the fact that landowners with existing mortgages have sold gas leases without the knowledge and prior approval of the current mortgage owner of record. That owner could be the originating bank, a government agency operating a secondary market, or a hedge fund which owns portions of the mortgage in any number of blended derivative security packages. Without such gas lease approval and without specific insurance coverage, a mortgage default could be declared by the mortgage owner. Under such circumstances, either the gas lease would need to be rescinded/revoked (like the case of Weiden Lake v Cabot Oil and Gas), or a mortgage default could be declared which would trigger a demand for instant repayment or foreclosure.

Further, those gas leases are not uniformly being recorded with the County Clerk.

The final SGEIS misguidedness dismisses the role of the gas lease for being merely a "private" contract not subject to Department regulation. The gas lease is a private, voluntary contract but it is a precondition for drilling and is the starting point of the HVHF drilling permit process. Without the gas lease, this SEQRA review would not be taking place.

More importantly the gas lease itself has paramount implications for the entire state and national housing and financial markets beyond the Marcellus Shale region since 90% of mortgages are sold on the secondary market to investors and to government-sponsored home finance agencies and market makers such as Fannie Mae and the Federal Housing Administration. Those mortgages are guaranteed by the US Treasury, and those guarantees transfer the risk of equity devaluation and pollution liability directly to the public taxpayer. Those mortgage products, in turn, are sold to other public institutions such as municipalities and public pension funds like the New York State retirement system. Those mortgages are advertised as AAA rated "safe" investments when those mortgages with gas leases do not even meet the basic standards for resale into the secondary market and may possess little value at all.

The true value of real estate in general is predicated upon its ability to be financed, insured and sold at a fair market price unencumbered by liens or liabilities. The value of the existing mortgage is its liquidity and the ability to sell the collateral property to the next buyer in a timely manner. The value of a particular home is based on the value of
the entire deeded property including a well maintained structure, potable water resources, and septic system performance, which collectively protect the mortgage from a loss at the time of sale. The value of each home is also related to its location and to the conditions and value of all adjacent neighborhood properties as well as the public services and amenities in the community as a whole.

The worst-case scenario for a community is when a mortgage obligation goes into default and the property becomes illiquid because of a gas lease risk and/or active pollution. The property is foreclosed and abandoned, and the municipality collects no property tax revenue. Instead, the municipality inherits all of the liabilities just like those zombie properties that still exist caused by the mortgage melt down scandal that led to the 2008 banking system collapse. To make up for the revenue losses, all other properties have their taxes increased even as their property values decrease.

The prospect is very real that fracking will sacrifice established communities by destabilizing the real estate market in an already fragile regional economy. This dynamic must be considered in the Finding Statement.

**False assumptions and misrepresentations of the “ad valorem” tax, a gas production tax**

The *ad valorem* tax is the only direct means for local governments to collect revenue from gas production. The tax is a production tax on the gas, not a property tax on the land as the Department claims.

Promoters of fracking assert that earnings and *ad valorem* tax income from gas drilling will increase municipal revenue, which will benefit all residents and will outweigh any adverse environmental or administrative costs.

Detailing how increased revenue expectations could be achieved has always been a mystery since accurate municipal costs were never calculated, and meaningful cost-benefit studies are not available.

The real estate and insurance industries understand that the financial costs and the unacceptable risks from pollution were high enough not to favor fracking. The medical professionals and scientists know that the lethality of the chemicals involved was high enough to reject fracking completely.

The Department acknowledges that the cost of HVHF cannot readily be determined because the many variables are unknown. Likewise, the revenue from HVHF cannot readily be determined because the many variables are also unknown. Rather than obtain the missing information, the Department has falsely rebranded the tax as the "*ad valorem property* tax" which thereby can magically produce revenue without the need first to determine the drilling costs.
That misrepresentation would allow the local assessor to add the estimated worth of all
gas drilling activity into the assessed value of the primary land/home property contrary
to existing law. The Department asserts that the assessment could then be manipulated
upward whenever more revenue is required to pay for HVHF expenses as they become
known no matter how high those expenses will be. The higher assessments, which are
individually calculated, will result in higher property tax bills without having to raise the
tax rates across the board, and without attracting public scrutiny regarding the impact of
such a tax increase.

Since the drilling infrastructure from well shafts to feeder pipelines to toxic frack waste
storage facilities are designated as "real property," they are considered by the assessor
as "enhancements" that add value to the primary property. By designating a toxic waste
pit as an attribute, as though it were a new swimming pool addition rather than as a
pollution burden that depresses property values, the assessor cleverly could hide the
toxic liability and ratchet up the assessment even more.

The stealth "value-added" assessment increase would apply to all area properties of
similar use and is hailed by the Department for increasing the entire municipal tax base,
which in turn favorably increases the bonding limits and a borrowing capacity of the
local government.

The claim could then always be made that government income from fracking would
exceed the costs even though that income would result from raising property taxes, not
from receiving gas earnings, the sole reason for promoting fracking in the first place.
Under this sham property tax supposition, the final SGEIS makes no evaluation of the
adverse impact that higher property taxes will have on the regional cost-of-living, and
municipal financial viability. Such taxes generally stimulate an out-migration and deter
new economic investment.

The final SGEIS has fashioned a property tax shell game that would shift HVHF
expenses from the state and from the gas industry to local government. What the
Department is recommending is contrary to sound municipal finance, but is consistent
with its mission statement to promote oil and gas development, even at the expense of
the public which it also is mandated to protect.

The fundamental deception by the Department and their consultants is the continuing
misrepresentation of the ad valorem tax as a "property tax," and then ascribing functions
that do not exist through a perpetual public relations echo chamber of wrong
information. The tax actually is a "production tax" charge to the driller/well operator
when the operator takes physical possession of the gas product at the wellhead.

The ad valorem tax is based on a convoluted formula. All property associated with the
spacing unit and the drilling operation including the physical well equipment, associated
structures, and the gas assets is deemed "real property" by the New York State
Department of Taxation and Finance which has jurisdiction over the ad valorem tax.
Municipal assessors provide the State with values for the various relevant real property
assets within their respective jurisdictions. The State combines that assessment information with gas production volume and cost information from the well operator, determines an economic unit of production, applies state equalization rates, from which a formula for the *ad valorem* tax is developed and applied to gas actually produced on an annual basis. The taxes are collected by the state and disbursed in the years following production to the eligible municipalities, school districts and special tax districts.

Although the assessment of real property is involved, that assessment is a component of the formula to tax the gas, not to tax the primary real estate that we are familiar with like our homes or commercial buildings.

The state taxation and finance laws distinguish oil and gas production from all other uses of the property and affirm that oil and gas producing aspects of real property are to be assessed separately from all other interest in that property.

The actual differences and practice are instructional:

1) The *ad valorem* tax on gas is determined by the New York State Department of Taxation and Finance, not by the municipal assessor or by any other local official.

2) The *ad valorem* tax on gas is collected from the driller/well operator by the New York State Department of taxation and finance, not by the municipal or school district tax collector who receives their shares from the state.

3) The driller/well operator pays the *ad valorem* tax on gas, not the landowner.

4) The *ad valorem* tax is placed on the gas that is produced, not on the value of the land from where it is produced.

The *ad valorem* tax on gas, like a sales tax, has no influence on raising traditional property values, assessments, and property tax revenue, or on bonding and the borrowing capacity of the local government unit. However, as we have outlined, pollution and restricted land-use caused by gas activity can reduce the value, assessment, and property tax collections from affected properties.

It is perplexing that the Department could have misidentified and misrepresented the *ad valorem* tax function to the degree that it has. It is astonishing that the Department and the final SGEIS persists in that deception. The finding statement must correct the false representation of the *ad valorem* tax including its purpose and functions.

The above comments are meant to fill in the gaps and to supplement the socioeconomic information presented in the final SGEIS.

All comments support a no action alternative and justify a finding statement recommendation for a total ban on fracking in New York State.
Respectfully submitted,

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