

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF TOMPKINS

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ANSCHUTZ EXPLORATION CORPORATION,

Petitioner-Plaintiff,

-against-

For a Judgment Pursuant to Articles 78 and 3001 of the
Civil Practice Law and Rules,

TOWN OF DRYDEN and TOWN OF DRYDEN TOWN
BOARD,

Respondent-Defendants.

Index No. 2011-0902

RJI No. 2011-0499-M

Hon. Phillip R. Rumsey

VOLUME I

MINUTES of Special Town Board Meeting August 2, 2011

APPENDIX I – Scientific Papers, Studies and Reports on Exploration and
Extraction of Natural Gas

APPENDIX II – A – Public Hearing Comments

APPENDIX II – B – Written Comments at the Public Hearing

TOWN OF DRYDEN
SPECIAL TOWN BOARD MEETING
August 2, 2011

Present: Supervisor Mary Ann Sumner, Cl Stephen Stelick, Cl Joseph Solomon, Cl Jason Leifer, Cl David Makar

Elected Officials: Bambi L. Avery, Town Clerk
Jack Bush, Highway Superintendent

Other Town Staff: Mahlon R. Perkins, Town Attorney
Dan Kwasnowski, Director of Planning

Supv Sumner opened the board meeting at 7:05 p.m. and board members and guests participated in the pledge of allegiance.

Supv Sumner thanked everyone for coming and expressing an interest in this issue. She said they have elected to dispense with citizens privilege tonight. They have accepted email comments up until about 20 minutes ago. Partly in recognition of the nearly 300 email comments received in the last six weeks, they are dispensing with citizens privilege tonight. This is a town board working meeting and they will not be taking any comments. She said she would appreciate it if the public would refrain from expressions of pleasure or displeasure if possible.

The Clarity Connect co-location hearing was rescheduled for August 31 at 7:00 p.m. Atty Perkins said the applicant should comply with the procedure requirements in the local law and submit a request in writing for the fee waiver request. That hearing will be on the 31st also.

Supv Sumner asked the board to consider the resolution clarifying the town's prohibition of natural gas exploration and extraction. Cl Leifer moved the resolution; it was seconded by Cl Solomon. Atty Perkins said this resolution is essentially what was distributed in June. There are some changes and a track changes version has been emailed to the board. Some changes simply involved reorganizing the "whereas" paragraphs so that like concepts and topics were grouped together.

There is new language regarding the headwaters of Owasco and Cayuga Lakes, the Susquehanna River, Six Mile Creek and Fall Creek and the fact that they are all public drinking water sources. There is new language that talks about the Town's Stormwater Management, Erosion and Sediment Control Law and the local law to prohibit illicit discharges in connections to the MS4. There are other editorial changes and additions. There is another new paragraph regarding critical environmental areas. There are changes in the paragraph regarding scientific papers, reports and articles which are now in appendix 1. There are several new paragraphs. The paragraph regarding public comments is new and the comments are attached in appendix 2. There are no changes to the proposed text of the amendment, but some editorial changes were made to the Findings and Determination. In paragraph 8 of the Findings, the words "surface water" were added. SEQR review is necessary prior to adoption of the amendment.

Supv Sumner thanked Cl Stelick, Cl Leifer and Atty Perkins for coming in to help with this today.

Supv Sumner said Tompkins County Planning review noted no impacts, and noted this is a clarification of existing zoning.

Cl Leifer said this is a clarification of the existing law in the town. Prior to this the prohibition was based on the "catch all provision" that if it is not specifically permitted, it is prohibited. This will remove any doubt that the activities associated with exploration and extraction are prohibited under our zoning.

Supv Sumner said it is not permitted in any part of the Town under current zoning. The pages of the resolution give the reasons why, and aside from the enormous amount of research they have been reviewing, the reasons existed years ago. Cl Leifer said the reasons are in the Comprehensive Plan. Supv Sumner said they are in the 1968 General Plan as well.

Supv Sumner noted there are references in the Comprehensive Plan to protection of water.

Cl Leifer said that based on what we know about the gas industry and what is predominately proposed by the industry for the Southern Tier, it is heavy industry, not the old style of wells. They are talking about high volume, slickwater hydrofracking.

Supv Sumner said the sDGEIS now proposes that applicants be able to attest that their application complies with local regulations. That has not been true of gas well applications in the past, and that reaffirms that they will now be required to notify local municipalities and that was not the case in the past. Local authority will be respected.

Cl Leifer said when we are referencing the water resources it is based on the studies we have for the aquifers that we know of and the map that was prepared on how the streams in the town feed into the larger bodies of water. Aquifer protection has been talked about for a long time and we should be receiving information about the boundaries of the aquifer shortly.

The Conservation Board's recommendation for CEA's does not include the recharge areas, but that can be amended.

The board reviewed the full environmental assessment form. Part 1 is not applicable because it is not a change. Supv Sumner and Cl Makar read aloud the detail in Part 1(D) Informational Details.

Supv Sumner stated that part 2 of the SEQR contained all "no" answers.

RESOLUTION #125 (2011) – NEG SEQR DEC – ZONING ORDINANCE AMENDMENT

Cl Makar offered the following resolution and asked for its adoption:

WHEREAS,

A. The proposed action involves consideration of the adoption of an amendment to the Town of Dryden Zoning Ordinance.

B. The proposed action is an Unlisted Action for which the Town Board of the Town of Dryden is the lead agency for the purposes of uncoordinated environmental review in connection with approval by the Town.

C. The Town Board of the Town of Dryden, in performing the lead agency function for its independent and uncoordinated environmental review in accordance with Article 8 of the New York State Environmental Conservation Law – the State Environmental Quality Review Act “(SEQR), (i) thoroughly reviewed the Long Environmental Assessment Form (the “Long EAF”), Part I, and any and all other documents prepared and submitted with respect to this proposed action and its environmental review, (ii) thoroughly analyzed the potential relevant areas of environmental concern to determine if the proposed action may have a significant adverse impact on the environment, including the criteria identified in 6 NYCRR §617.7(c), and (iii) completed the Long EAF, Part II;

NOW, THEREFORE, BE IT RESOLVED AS FOLLOWS:

1. The Town Board of the Town of Dryden, based upon (i) its thorough review of the Long EAF, Part I, and any and all other documents prepared and submitted with respect to this proposed action and its environmental review, (ii) its thorough review of the potential relevant areas of environmental concern to determine if the proposed action may have a significant adverse impact on the environment, including the criteria identified in 6 NYCRR §617.7(c), and (iii) its completion of the Long EAF, Part II, including the findings noted thereon (which findings are incorporated herein as if set forth at length), hereby makes a negative determination of environmental significance (“Negative Declaration”) in accordance with SEQR for the above referenced proposed action, and determines that neither a full Environmental Assessment Form, nor an Environmental Impact Statement will be required, and

2. The Responsible Officer of the Town Board of the Town of Dryden is hereby authorized and directed to complete and sign as required the determination of significance, confirming the foregoing Negative Declaration, which fully completed and signed Long EAF and determination of significance shall be incorporated by reference in this Resolution.
2nd Cl Solomon

Roll Call Vote	Cl Stelick	Yes
	Cl Solomon	Yes
	Supv Sumner	Yes
	Cl Makar	Yes
	Cl Leifer	Yes

Supv Sumner said she received an email from Cl Solomon after leaving for the meeting on the 20th stating that he supported the ban (he was unable to attend that meeting).

Cl Leifer said the board is doing this to reaffirm the Comprehensive Plan of 2005 and 1968. The town has not ever contemplated heavy industry and the extraction and exploration of gas is unquestionably a heavy industry, with the amount of truck traffic, heavy equipment, the emissions from that equipment, the compressors, the amount of activity by people on the sites. It is something that had been considered in the prior adoption of the zoning. I think that a lot of the comments that have come in also go towards continuing the prohibition of heavy industry in the town and the zoning rewrite that’s going on now, because that is also put together in support of the 2005 Comprehensive Plan. In the rewrite we are making use decisions and not regulating an industry, per se. These are land use decisions that have been considered over time, and in fact about two years ago when the issue started popping up to the town board. Since that time more and more information has come forth to the board members at different intervals, both from groups that support drilling and against. We’ve had

opportunities through TCCOG to discuss different issues relative to the industry such as road use, water protection and the social impacts the industry has had in Bradford County, PA. The Town Attorney attended several gas drilling CLE meetings. Meetings have been held at the Association of Towns conferences. For the last three years they've been discussing the issue at various levels of intensity. And many attorneys have looked at it from all sides of the issue through the development of road protection ordinances and Delta has finally delivered a draft road protection ordinance and the board will be looking at that in the coming weeks. Other towns have been choosing to address the issue in different ways, such as Virgil. One of the motivations behind their aquifer protection law is the prospect of gas drilling. We've been talking about this for a long time. We've been considering the potential impacts this industry would have on the town for a long time. He said in his mind he has determined that it is not compatible with existing land uses nor with the contemplated land uses that appear in the comprehensive plan. Until we have a new comprehensive plan, he doesn't think that permitting the activity through our zoning code should be considered. The comments that have come in indicate that the public favors continuing this prohibition as well. He was elected to represent the public in town, and by voting for this that's what he feels he is doing.

Supv Sumner said the comments have been pretty overwhelming and she thanked board members for the amount of time spent reviewing them. Some were very thoughtful and informative. She agrees that she represents the entire town. Sometimes they are not able to do things that the majority wishes for, and this time they are. This isn't the end of it. They won't stop working on it. There are more steps and studies they need to do and review.

Cl Solomon read the email that he sent to Supv Sumer for the July 20 hearing. He said he is wholeheartedly behind what we are doing tonight. The reason is that this is part of his heritage. He is thinking about the next seven generations and what they would like for those next seven generations. Every decision made will have an impact and his decision is to try and keep everything the way it is clean air, clean water and everything that can be sustained and viable for our children's children.

Cl Stelick asked Cl Leifer if there was any advantage or disadvantage to passing this clarification of existing law tonight. Cl Leifer said it is clear that the clarification needs to be made and carried into the new zoning. The zoning rewrite is partially in response to the 2005 Comprehensive Plan. In a couple years we'll be working on a new Comprehensive Plan. These comments go toward future events as well. There is no disadvantage to this at all. It will make it abundantly clear what should have been clear in the first place. It is his opinion that the gas companies have created a hardship on themselves. They have expensive lawyers. They should know to check out a Town's zoning code first to see what is permitted and what's not. It's not like the catch all provision we have is a stranger to New York zoning. It's all across the state.

Supv Sumner said they didn't think that they had to. They thought they could continue with the DEC as they had in the past, ignoring local authority.

Cl Leifer said the DEC is recognizing they have no land use authority. They regulate how the industry works, they don't have land use authority. When it comes to gravel mining, the cases also bear that out. Statutory change was made in response to case law. Even if the DEC permits larger mines, they don't have land use authority.

Cl Stelick said the media has bantered the word ban and this isn't a ban, but is a clarification of what has been on the books. There is nothing new here.

Cl Leifer said it is new that the DEC will have to notify a municipality of a well permit.

Supv Sumner said one reason for clarifying it in this way at the moment is to make it clear that it's not that we just overlooked gas drilling. We knew then, as we do now, that it is

an industrial use that is not suitable for the Town of Dryden. We don't now permit space shuttle launching pads. The idea of if it's not permitted, it is prohibited is important because there are things we probably haven't thought of yet. We don't know what technologies will be developed.

Cl Leifer said it's so you can slow things down and make you think about whether you want to permit something and how this new use will affect the entire town. If there are concerns, you can decide how they might be mitigated.

Cl Stelick said, quoting Atty Perkins: "Forever is an awful long time". He said zoning isn't forever. It's subject to change on a regular basis for anybody that's been proactive about this. What goes in place now, in the future is always subject to change. A proactive board needs to look at it that way. On the question of taking our time, he said we have been living with this for two years. It's been there day in and day out and he went into it with a balanced approach. He's not jaded by money, by lobbyists, by anything other than what he was voted into, and that's to represent the people of the Town of Dryden, and he knows who that is. His mom would have told him to make a decision based on what is right, and his decision tonight is based on what's right. There is no jadedness; he went into this looking at every way possible to take care of everybody in the Town of Dryden. As we all know, somebody will always walk away from the table unhappy. He has used a common sense approach to this. He has listened, looked, and read endless topics about the subject.

The bottom line is: He has lived here his whole life. He owns two acres in the Town of Dryden and a burial plot. He will be here forever. He has listened to a lot of people he respects. He looks forward to being able to cast his vote because the Town of Dryden is not an acceptable casualty to New York State's financial woes. The need to plug financial faults at the state level doesn't preclude the Town of Dryden being protected just like NYC and Skaneateles are protected. He has a well. It's not filtered. Who will protect him? He wants this place to be as prosperous as possible. He put ten years of his time on this Town Board and looks forward to two more. He wants this place to be prosperous, but also wants to respect landowner rights on both sides of this. This isn't the end; it's only the beginning and he looks forward to as many opportunities as possible to listen to approaches that might be acceptable to the Town of Dryden. But at this point he is firmly behind the way he will vote tonight.

Supv Sumner said you have to know where you are now to figure out where you are going, and this is clarifying where we are now. She thanked board members for the time spent, and thanked residents who have expressed opinions on all sides and provided information, and for urging the board to move one way or the other. She said she thinks we will come to agree that this is the right decision tonight.

**RESOLUTION NO. 126 (2011) -RESOLUTION IN SUPPORT OF ADOPTING AMENDMENTS TO THE
TOWN OF DRYDEN ZONING ORDINANCE CLARIFYING
THE TOWN'S PROHIBITION OF
NATURAL GAS EXPLORATION AND EXTRACTION**

Cl Leifer offered the following resolution and asked for its adoption:

WHEREAS, the Town of Dryden Zoning Ordinance provides "No land or building shall hereafter be used or occupied and no building or part thereof shall hereafter be enlarged or its use altered unless such action is in

conformance with all the regulations specified for the zone in which said action occurs and any special regulations pertinent thereto”; and

WHEREAS, no Town of Dryden zoning district regulations permit, as an allowed use or use allowed by special permit, an outdoor factory or outdoor heavy industrial use such as are associated with natural gas exploration, extraction, treatment, storage, and the transportation of natural gas and natural gas exploration and production wastes; and

WHEREAS, it is the intent of the Town Board by this amendment to the Town of Dryden Zoning Ordinance to clarify that natural gas exploration and extraction and the associated uses of land for outdoor factories and the heavy industrial uses associated therewith, including treatment, storage and transportation of natural gas exploration and production wastes, have not been, and are not permitted uses of land under the Town of Dryden Zoning Ordinance; and

WHEREAS, it is the further intent of the Town Board by this amendment of the Zoning Ordinance to clarify for the public, landowners and town officials that the use of land in the Town of Dryden for outdoor factories and for the exploration and extraction of natural gas and the storage, transfer, treatment or disposal of natural gas exploration and production wastes is prohibited within the Town;

WHEREAS, in 2003 the Town of Dryden Conservation Advisory Council completed an Open Space Inventory and reported that “all but a few residents in the western part of the Town depend on groundwater as their primary water source, and the Village of Dryden uses groundwater for its municipal water supply”; and

WHEREAS, two hundred eighty-one (281) households in the western part of the Town rely on water from Cayuga Lake; and

WHEREAS, Virgil Creek, Fall Creek, Cascadilla Creek, Six Mile Creek and their tributaries are part of the Cayuga Lake watershed; and

WHEREAS, four drilled water wells are the Village of Dryden’s water source, which wells exist in the Virgil Creek confined aquifer and the overlying soils do not provide adequate protection from potential contamination as reported in the preliminary results of the USGS Virgil Creek Aquifer Study commissioned by the Town and Tompkins County; and

WHEREAS, the recharge area for the Virgil Creek aquifer is in the Town of Dryden; and

WHEREAS, the Town is in, or partially within, the headwaters of Owasco Lake, Cayuga Lake, Susquehanna River, Six Mile Creek and Fall Creek, all of which are public drinking water sources for various municipalities and Cornell University; and

WHEREAS, the New York State Department of Health completed a source water assessment of the Village of Dryden water system which assessment rated the susceptibility of the village water system for the potential for contamination and found, with respect to three of four wells, that the susceptibility of contamination was medium to high; and

WHEREAS, protection of the Village of Dryden water source from potential contamination is an important goal for not only the Village of Dryden but also the Town; and

WHEREAS, the Town has consistently been proactive in protecting its water resources and has adopted Local Law No. 4 of the year 2007 (the Town of Dryden Stormwater Management, Erosion and Sediment Control Law) and Local Law No. 1 of the year 2008 [a local law to prohibit illicit discharges and connections to the Municipal Separate Storm Sewer System (MS4)], both of which local laws exceed the requirements of the New York State Department of Environmental Conservation's regulations in SPDES General Permit No. GP-0-10-002; and

WHEREAS, the New York State Department of Environmental Conservation (NYSDEC) has mapped 35 Freshwater Wetlands either wholly or substantially situate in the Town; and

WHEREAS, such maps do not show all wetland areas and unmapped wetlands not subject to NYSDEC jurisdiction continue to be at risk; and

WHEREAS, there also are upwards of 3,727 acres of wetlands in the Town under the jurisdiction of the U.S. Army Corps of Engineers; and

WHEREAS, substantial areas along Fall Creek, Virgil Creek, Six Mile Creek, Cascadilla Creek and Owasco Inlet within the Town are located within 100-year floodplains containing hydric soils and wetlands under the jurisdiction of the Army Corps of Engineers; and

WHEREAS, there are substantial areas (approximately 13% of the land area) in the Town of Dryden where there are slopes greater than 15 percent; and

WHEREAS, in its 1990 inventory and 2000 revision of the same, the Tompkins County Environmental Management Council identified 57 areas in the Town that are designated Unique Natural Areas (UNA) that harbor

rare or endangered flora and fauna, unique geologic features or contain excellent examples of ecosystems or biotic communities; and

WHEREAS, the Town's 2005 Comprehensive Plan recognizes that mere designation of a UNA does not afford any tangible protections; and

WHEREAS, the regulations promulgated under the State Environmental Quality Review Act (SEQR) permit a town to designate specific geographic areas as a critical environmental area (CEA) if it is found that such area has "an exceptional or unique character covering one or more of the following:

- (i.) a benefit or threat to human health;
- (ii.) a natural setting (e.g., fish and wildlife habitat, forest and vegetation, open space and areas of important aesthetic or scenic quality);
- (iii.) agricultural, social, cultural, historic, archaeological, recreational, or educational values; or
- (iv.) an inherent ecological, geological or hydrological sensitivity to change that may be adversely affected by any change."; and

WHEREAS, in 2011 the Town of Dryden Conservation Board completed its review of all lands in the Town to determine those geographic areas having exceptional or unique environmental characteristics, and compiled an inventory of Critical Environmental Areas (CEA) pursuant to the criteria found in 6 NYCRR 617.14(g), which inventory included not only the UNAs and Freshwater Wetlands, but other lands meeting such criteria such that approximately 52% of the Town may be situate within a CEA; and

WHEREAS, thirty-five (35) potential CEAs have been identified, thirty-three (33) of which contain State or Federal wetlands; and

WHEREAS, the quality of life in the Town of Dryden depends on open space, conservation, UNAs, CEAs, town and community association parks and trails, and abundant and relatively good quality drinking water available from aquifers underlying the town including the Fall Creek aquifer and Virgil Creek aquifer; and

WHEREAS, a public hearing will be held on the CEA inventory prior to formal adoption by the Town Board; and

WHEREAS, there is a continuing open debate among experts concerning the environmental, health and economic effects of natural gas exploration and extraction and the Town Board has reviewed scientific papers, reports and articles discussing such effects, all as more fully detailed in Appendix I to this resolution; and

WHEREAS, it has not yet been conclusively determined that natural gas exploration and extraction is in the overall best interests of the residents of the Town of Dryden due to the presence of many UNAs, CEAs, Freshwater Wetlands (both mapped and unmapped), a significant number of slopes greater than 15 percent, and dependence on groundwater as a source of public and private drinking water; and

WHEREAS, impacts associated with natural gas exploration, extraction, treatment, storage and transportation include: concentrated traffic, extra-heavy truck traffic on town highways not designed for such traffic; disturbance of land for clearing, grading, surface preparation and well pads; erosion and sediment deposition in local waterways; noise, dust; potential spillage of flowback water from drilling processes; construction of new compressor stations, potential fragmentation of agricultural lands and forests; pollution of local surface waters and aquifers; and

WHEREAS, the New York Court of Appeals has held that a town “is not obligated to permit the exploitation of any and all natural resources within the town as a permitted use if limiting that use is a reasonable exercise of its police powers to prevent damage to the rights of others and to promote the interests of the community as a whole;” and

WHEREAS, the potential adverse impacts associated with natural gas exploration, extraction, treatment, storage, processing and transportation threaten the economic future of town residents and taxpayers and their quality of life; and

WHEREAS, after review of available scientific research from both opponents of natural gas extraction and natural gas extraction industry advocates, the Town Board now seeks to reaffirm the protection of the residents of Dryden from the dangers associated with natural gas exploration, and extraction; and the treatment, storage and transportation of natural gas exploration and production wastes; and

WHEREAS, to the extent that natural gas exploration has heretofore taken place in the Town of Dryden, the Town Board recognizes that due to the lack of sufficient notice of the issuance of permits and/or the lack of such notice and insufficient local administrative oversight and the misinterpretation of local zoning authority, natural gas exploration may have taken place, and notwithstanding such previous exploration activities, the Town Board recognizes that the legal concept of estoppel cannot be applied to the Town of Dryden and enforcement of its local laws and ordinances; and

WHEREAS, the NYSDEC Preliminary Revised Draft SGEIS 2011 (Section 8.1.1.5) proposes that applicants for well permits will be required to identify whether the well pad is located in an area where the affected community has adopted a comprehensive plan or other local land use plan and whether the issuance of a well permit is inconsistent with such plan(s); and

WHEREAS, the Town has adopted a Comprehensive Plan (2005) and a Zoning Ordinance (1969) and is the process of revising the zoning regulations of the Town, and deems it critical to clarify that under the Town's Comprehensive Plan, existing Zoning Ordinance and proposed Zoning Law that natural gas exploration and extraction are not permitted uses of any property in the Town; and

WHEREAS, under existing regulations NYSDEC would not provide notice to the Town of the issuance of a well permit (unless the proposed well pad was in an agricultural district), and well permits were thereby issued without an opportunity for the Town to timely object and after a Negative Declaration (Notice of Determination of Non-Significance) had been issued by NYSDEC; and

WHEREAS, the proposed amendments to the Zoning Ordinance will clarify for NYSDEC and potential applicants for well permits for property in the Town, that such activities are not a permitted use of property in the Town; and

WHEREAS, the Town Board has received and reviewed the public comments received before, during and following a public hearing on the proposed amendments held on July 20, 2011, including from those individuals commenting on the issues as more fully detailed in Appendix II to this resolution; and

WHEREAS, a vast majority of the comments received by the Town Board before, during and following the public hearing were in favor of the proposed amendments; and

NOW, THEREFORE, the Town Board of the Town of Dryden finds, declares, determines and ordains as follows:

1. the exploration for natural gas, the extraction of natural gas and the storage, transfer, treatment or disposal of natural gas exploration and and/or petroleum wastes production wastes and the accompanying use of land for an outdoor factory and heavy industrial use in the rural environment of Dryden poses a significant threat to its residents' health, safety, and general welfare;
2. widespread environmental and human health impacts have resulted from natural gas exploration and extraction in other areas;
3. natural gas exploration, and the extraction or the storage, transfer, treatment or disposal of natural gas exploration and production wastes within the Town, would endanger the health, safety and general welfare of the community through the deposit of toxins into the air, soil, water, environment, and in the bodies of residents;

4. the protection of residents, neighborhoods, and the natural environment through its power to regulate and restrict the use of land for trade, industry or other purposes constitutes the highest and best use of such land use powers that the Town possesses;
5. clean air and water are essential to most resources and activities in the Dryden area and the quality of the air and the water will be degraded by natural gas exploration and extraction activities and/or the storage, transfer, treatment or disposal of natural gas exploration and production wastes;
6. natural gas exploration and extraction activities and the storage, transfer, treatment or disposal of natural gas exploration and production wastes may cause irreparable harm to public and private water supplies, pollution of the surface and ground water, soil, and air, and may cause cancer, lung disease, and respiratory diseases;
7. air, soil, and water contamination may occur during the different stages of natural gas exploration and extraction operations and the storage, transfer, treatment or disposal of natural gas exploration and production wastes, and such contamination could have adverse human health impacts;
8. spills of liquid and solid wastes that originate from the exploration, drilling for and extraction of natural gas (whether onsite or during the transportation of these products to treatment and/or disposal facilities) is not uncommon, and such products may come into contact with and contaminate and pollute surface waters, groundwater and/or soil;
9. a large number of the chemicals used in natural gas exploration and extraction and many of the constituents of natural gas exploration and production wastes are likely causes of adverse human health impacts;
10. natural gas exploration and production waste products are hazardous wastes;
11. the Town of Dryden through its land use powers under Town Law §§ 261 and 262 has the power to prohibit the exploration and extraction of natural gas and the storage, treatment or disposal of natural gas exploration and production wastes within the Town;

12. this amendment to the Town of Dryden Zoning Ordinance clarifies that the Town of Dryden has, since the adoption of the original Zoning Ordinance, regulated and restricted the use of land for outdoor factories and heavy industrial uses such as are associated with the exploration and extraction of natural gas and the storage, treatment or disposal of natural gas exploration and/or petroleum production wastes;
13. this amendment further reinforces the Town of Dryden 2005 Comprehensive Plan, which Comprehensive Plan notes that:
 - (a) the Town of Dryden should continue and expand its efforts to protect and enhance environmental quality through direct actions, and steps to better protect the water resources of the Town, in order to protect them for future generations,
 - (b) the Town of Dryden comprises a large portion of the Cayuga Lake watershed and water quality therein is affected by discharges and runoff from a wide spectrum of local use activities in the Town,
 - (c) the Town of Dryden is an active participant in the Cayuga Lake Watershed Intermunicipal Organization which furthers watershed studies and protection activities,
14. the Town's 2005 Comprehensive Plan contemplates light industrial and warehousing enterprises, characterized by manufacturing processes that include fabrication, assembly, treatment, packaging and distribution of finished products or parts predominantly from previously processed or prepared materials with the absence of the processing of raw materials such as natural gas or natural gas exploration and production wastes.
15. the protection of the health, safety and general welfare of residents, neighborhoods, and the natural environment is also an appropriate use of the town's police powers.
16. this amendment supports the policies of the State of New York "to conserve, improve and protect its natural resources and environment and to prevent, abate, and control water, land and air pollution in order to enhance the health, safety and welfare of the people of the State and their overall economic and social well-being; and "to reduce or eliminate the use of hazardous substances and the generation of such substances,

pollution or waste at the source in order to conserve, improve and protect New York's environment and natural resources; enhance the health, safety and welfare of its citizens..."

17. the Zoning Ordinance is not directed at the regulatory scheme for the operation of natural gas wells under ECL Article 23, it addresses land use and nuisance concerns and the protection of the health, safety and general welfare of the people of the Town of Dryden and the enhancement of its physical environment.
18. this amendment is enacted to protect and promote the health, safety and general welfare of present and future residents of the Town, and is an exercise of the Town's power to adopt land use regulations to protect the health, safety and general welfare of the current and future residents of the Town from adverse effects and impacts that would result if the Zoning Ordinance were to be interpreted as permitting land in the Town to be used for natural gas exploration and extraction and/or the storage, transfer, treatment or disposal of natural gas exploration and production wastes, and its police power and power to prohibit public nuisances.
19. this amendment is enacted pursuant to the authority set forth in Town Law §§ 261, 262, 264 and 265.
20. the Town of Dryden Zoning Ordinance is hereby amended as follows:
 1. Appendix A (Definitions) is amended by adding new definitions to read as follows:

"Natural Gas" shall mean any gaseous substance, either combustible or noncombustible, which is produced in a natural state from the earth and which maintains a gaseous or rarified state at standard temperature and pressure conditions, and/or gaseous components or vapors occurring in or derived from petroleum or other hydrocarbons.

"Natural Gas and/or Petroleum Exploration" shall mean geologic or geophysical activities related to the search for natural gas, petroleum or other subsurface hydrocarbons including prospecting, geophysical and geologic seismic surveying and sampling techniques, which include but are not limited to core or rotary drilling or making an excavation in the search and evaluation of natural gas, petroleum, or other subsurface hydrocarbon deposits.

"Natural Gas and/or Petroleum Exploration and Production Materials" shall mean any solid, semi-solid, liquid, semi-liquid or gaseous material used in the exploration or extraction of natural gas.

"Natural Gas Exploration and/or Petroleum Production Wastes" shall mean any garbage, refuse, cuttings, sludge, flow-back fluids, produced waters or other discarded materials, including solid, liquid, semi-solid, or contained gaseous

material that results from or is associated with the exploration, drilling or extraction of natural gas and/or petroleum.

“Natural Gas and/or Petroleum Extraction” shall mean the digging or drilling of a well for the purposes of exploring for, developing or producing natural gas, petroleum or other subsurface hydrocarbons.

“Natural Gas and/or Petroleum Support Activities” shall mean the construction, use, or maintenance of a storage or staging yard, a water or fluid injection station, a water or fluid gathering station, a natural gas or petroleum storage facility, or a natural gas or petroleum gathering line, venting station, or compressor associated with the exploration or extraction of natural gas or petroleum.

2. Article XXI (Miscellaneous) is amended by adding a new Section 2104 to read as follows:

“Section 2104. Prohibited Uses.

- (1) Prohibition against the Exploration for or Extraction of Natural Gas and/or Petroleum.

No land in the Town shall be used: to conduct any exploration for natural gas and/or petroleum; to drill any well for natural gas and/or petroleum; to transfer, store, process or treat natural gas and/or petroleum; or to dispose of natural gas and/or petroleum exploration or production wastes; or to erect any derrick, building, or other structure; or to place any machinery or equipment for any such purposes.

- (2) Prohibition against the Storage, Treatment and Disposal of Natural Gas and/or Petroleum Exploration and Production Materials.

No land in the Town shall be used for: the storage, transfer, treatment and/or disposal of natural gas and/or petroleum exploration and production materials.

- (3) Prohibition against the Storage, Treatment and Disposal of Natural Gas and/or Petroleum Exploration and Production Wastes.

No land in the Town shall be used for: the storage, transfer, treatment and/or disposal of natural gas and/or petroleum exploration and production wastes.

- (4) Prohibition against Natural Gas and/or Petroleum Support Activities.

No land in the Town shall be used for natural gas and/or petroleum support activities.

- (5) Invalidity of Permits.

No permit issued by any local, state or federal agency, commission or board for a use which would violate the prohibitions of this section or of this Ordinance shall be deemed valid within the Town.”

3. The introductory paragraph of Subsection 1 of Section 806 (Quarries and Excavation, Topsoil Removal) of Article XIII (DISTRICT REGULATION: R-C ZONES) is amended to read as follows:

“1. The Town Board may authorize the issuance of a special permit for the excavation and sale of topsoil, sand, gravel, clay or other natural solid mineral or vegetable deposit, or the quarrying of any kind of rock formation in the R-C and R-D Zones only. No sand or gravel or other excavation operation, except a topsoil removal operation, shall be conducted on land of less than 20 acres in area. The Town Board must be guided by the public health, safety and general welfare, not only of the citizens of the Town of Dryden, but of any other municipality, and must give particular consideration to certain factors as follows:”

4. These amendments shall take effect upon adoption and publication as provided by law.
2nd Cl Solomon

Roll Call Vote	Cl Stelick	Yes
	Cl Solomon	Yes
	Supv Sumner	Yes
	Cl Makar	Yes
	Cl Leifer	Yes

Appendices referred to the above resolution are contained on the following pages.

Supv Sumner said she had been asked to perform a marriage ceremony for friends and asked the board to appoint her as a marriage officer for that occasion.

RESOLUTION #127 (2011) - APPOINT MARRIAGE OFFICER

Cl Makar offered the following resolution and asked for its adoption:

WHEREAS, New York Domestic Relations Law 11-c authorizes the town board to appoint a marriage officer who shall have the authority to solemnize a marriage performed in accordance with other provisions of law, and

WHEREAS, Joseph E. Laquatra, Jr. and Gregory Potter have requested that Mary Ann Sumner preside over their marriage ceremony, and

WHEREAS, Mary Ann Sumner is the town supervisor and by reason of such office is familiar with the requirements of the Domestic Relations Law as they pertain to the solemnization of marriages and is willing to preside over the marriage of Messrs. Laquatra and Potter, now, therefore,

BE IT RESOLVED AS FOLLOWS:

1. Mary Ann Sumner is hereby appointed a marriage officer of the Town of Dryden, Tompkins County, New York, for the single occasion of the marriage of Joseph E. Laquatra, Jr. and Gregory Potter.
2. The authority to solemnize a marriage shall apply only within the Town of Dryden.
3. The marriage officer shall receive no salary or wage for her services but may accept and keep up to seventy-five dollars (\$75.00) for such marriage, paid by or on behalf of the persons married.
4. This resolution shall take effect immediately.

2nd Cl Solomon

Roll Call Vote	Cl Stelick	Yes
	Cl Solomon	Yes
	Supv Sumner	Yes
	Cl Makar	Yes
	Cl Leifer	Yes

Supv Sumner recognized the death of Oers Kelemen who had served on the Town's Zoning Board of Appeals for several years.

The next meeting of the board will be August 10 at 7:30 p.m. There being no further business, on motion made, seconded and unanimously carried, the meeting was adjourned at 8:00 p.m.

Respectfully submitted,

Bambi L. Avery
Town Clerk

Appendix I

Scientific Papers, Studies and Reports on Exploration and Extraction of Natural Gas

Preliminary Virgil Creek Aquifer Study (USGS) Phases I, II & III

Howarth, Robert (Department of Ecology and Environmental Biology – Cornell University) and Ingraffea, Anthony (School of Civil and Environmental Engineering – Cornell University) and Santoro, Renee – *Methane and the Greenhouse Gas Footprint of Natural Gas from Shale Formations – A letter* (received 12 November 2010, accepted 13 March 2011) published at springerlink.com

Chemicals Used in Hydraulic Fracturing [prepared by U.S. House of Representatives Committee on Energy and Commerce (April, 2011)]

Rumbach, Andrew – *Natural Gas Drilling in the Marcellus Shale: Potential Impacts on the Tourism Economy of the Southern Tier*

Christopherson, Susan (Department of City and Regional Planning – Cornell University) – comments to Tompkins County Council of Governments June 23, 2011

Town of Middlefield – Land Use Analysis: Heavy Industry and Oil, Gas or Solution Mining and Drilling – prepared by Greenplan, Inc. May 10, 2011

Kay, David – *Working Paper Series – A Comprehensive Economic Impact Analysis of Natural Gas Exploration in the Marcellus Shale: The Economic Impact of Marcellus Shale Drilling. What have We Learned? What are the Limitations?* (Cornell University, Community and Regional Development Institute in the Department of Sociology) April, 2011

Riha, Susan and Rahm, Brian G. – *Working Paper Series – A Comprehensive Economic Impact Analysis of Natural Gas Exploration in the Marcellus Shale: Framework for Assessing Water Resource Impacts from Shale Gas Drilling* (New York State Water Resources Institute at Cornell University) December, 2011

Frac Focus Chemical Registry Disclosure Registry – What chemicals are used (site visited April 18, 2011)

Frac Focus Chemical Registry Disclosure Registry – Why chemicals are used (site visited April 18, 2011)

Energy Information Administration, Office of Oil and Gas – *Natural Gas Processing: The Crucial Link Between Natural Gas Production and Its Transportation to Market, January 2006*

Shogren, Elizabeth – National Public Radio – *Air Quality Concerns Threaten Natural Gas's Image* June 21, 2011

Zeller, Tom, Jr. – New York Times – *Studies Say Natural Gas Has Its Own Environmental Problems* April 11, 2011

APPENDIX I (continued)

Additional Statements, Studies, and Papers Relating to the Exploration and Extraction of Natural Gas

A. Chemicals, Air Quality, Public Health Concerns

(1) EPA, "Outdoor Air-Industry, Business, and Home: Oil and Natural Gas Production-Additional Information, http://www.epa.gov/oaqps001/community/details/oil-gas_addl_info.html

(2) "Chemicals in Natural Gas Operations," "Summary Statement," <http://www.endocrinedisruption.com/files/Multistatesummary1-27-11Final.pdf> .

(3) "Natural Gas Operations from a Public Health Perspective," September 2010, by Theo Colborn*, Carol Kwiatkowski, Kim Schultz, Mary Bachran, retrievable from http://www.endocrinedisruption.com/files/NaturalGasManuscriptPDF09_13_10.pdf .

(4) "Community Air Monitoring," a lecture and Power Point presentation at the People's Gas and Oil Summit, Pittsburgh, November 19 & 20, 2010. Talk and Slides retrievable from http://pennsylvania.sierraclub.org/moshannon/shalegas/PDFs/Panel1_WilmaSubra-HealthSurveys-from-TX-WY.pdf For a similar list focused on the health effects of emitted HAP's, VOCs, BTEX, and n-hexane, see EPA, "Outdoor Air-Industry, business, and Home: Oil and Natural Gas Production-Additional Information," <http://www.epa.gov/air/community/details/oil-gas>.

(5) Air pollutants released during oil and gas development <http://www.earthworksaction.org/oilgasairpollution.cfm>

(6) Dr. Colborn summary chemicals, health effects, and some precautions that can be taken at <http://www.endocrinedisruption.com/chemicals.multistate.php> .

(7) Wilma Subra "Community Air Monitoring," a lecture and Power Point presentation by at the People's Gas and Oil Summit, Pittsburgh, November 19 & 20, 2010, http://pennsylvania.sierraclub.org/moshannon/shalegas/PDFs/Panel1_WilmaSubra-HealthSurveys-from-TX-WY.pdf

(8) EPA, "About Air Toxics," <http://www.epa.gov/air/toxicair/newtoxics.html>. See also EPA, "Air Pollution Emissions Overview," <http://www.epa.gov/airquality/emissns.html>.

(9) EPA, "Air Emission Sources, Basic Information," <http://www.epa.gov/air/emissions/basic.htm#dataloc>.

(10) Natural Gas Operations from a Public Health Perspective , Theo Colborn, Carol Kwiatkowski, Kim Schultz, and Mary Bachran, TEDX, The Endocrine Disruption Exchange, Paonia, CO, USA--IN PRESS: Accepted for publication in the International Journal of Human and Ecological Risk Assessment, September 4, 2010.

(11) Expected publication: September-October 2011. "ABSTRACT: The technology to recover natural gas depends on undisclosed types and amounts of toxic chemicals. A list of 944 products containing 632 chemicals used during natural gas operations was compiled. Literature searches were conducted to determine potential health effects of the 353 chemicals identified by Chemical Abstract Service (CAS) numbers. More than 75% of the chemicals could affect the skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems. Approximately 40-50% could affect the brain/nervous system, immune and cardiovascular systems, and the kidneys; 37% could affect the endocrine system; and 25% could cause cancer and mutations. These results indicate that many chemicals used during the fracturing and drilling stages of gas operations may have long-term health effects that are not immediately expressed. In addition, an example was provided of waste evaporation pit residuals that contained numerous chemicals on the CERCLA and EPCRA lists of hazardous substances. The discussion highlights the difficulty of developing effective water quality monitoring programs. To protect public health we recommend full disclosure of the contents of all products, extensive air and water monitoring, coordinated environmental/human health studies, and regulation of fracturing under the U.S. Safe Drinking Water Act."

(12) Air Pollution from Fracking Harms Health: A Doctor's Review of the Research (9/27/10) Hydraulic Fracturing Study-Comments to the EPA. Eric London, MD. September 27, 2010.

(13) How Air Pollution Affects Health Near High-Traffic Areas (6/2003)

(14) "Public Health Implications for Marcellus Shale Development" Charles Christen, DrPH, Med, Center for Healthy Environments and Communities University of Pittsburgh Graduate School of Public Health, August 27, 2010
http://www.chec.pitt.edu/documents/Marcellus%20Shale/GSPH_8-27-10_MarcellusHealthOverview_Christen.pdf

(15) United States House of Representatives Committee on Energy and Commerce released a report in April 2011 titled *Chemicals Used in Hydraulic Fracturing* which states, "Yet questions about the safety of hydraulic fracturing persist, which are compounded by the secrecy surrounding the chemicals used in hydraulic fracturing fluids"
<http://democrats.energycommerce.house.gov/sites/default/files/documents/Hydraulic%20Fracturing%20Report%204.18.11.pdf>)

(16) State University of New York at Buffalo researchers led by Tracy Bank reported that the Marcellus shale is naturally enriched in uranium and has enhanced solubility and mobility due to water-rock interactions over millions of years and hence produced water secondary to the fracking process contains unacceptably high levels of radioactivity
http://gsa.confex.com/gsa/2010AM/finalprogram/abstract_181465.htm and
<http://www.buffalo.edu/news/11885>

(17) Fracking chemicals many of which are highly toxic can cause cancer
http://earthworksaction.org/oil_and_gas.cfm

http://www.huffingtonpost.com/2011/03/08/wyoming-air-pollution-gas-drilling_n_833027.html,

<http://www.circleofblue.org/waternews/2010/world/epa-announces-study-to-re-examine-the-health-risks-of-hydrofracking>)

(18) A. Resolution of the Medical Society of the State of New York:

“RESOLVED, That the Medical Society of the State of New York supports a moratorium on natural gas extraction using high volume hydraulic fracturing in New York State until valid information is available to evaluate the process for its potential effects on human health and the environment.”

Counties that passed their own calls for a moratorium include: Broome County Medical Society, Herkimer County Medical Society, Cayuga County Medical Society, Chemung County Medical Society, Chenango County Medical Society, Madison County Medical Society, Oneida County Medical Society, Onondaga County Medical Society, Oswego County Medical Society, Otsego County Medical Society, and Tompkins County Medical Society. The Delaware and Tioga Counties do not have separate Societies but fall under what is called the sixth District which also declared support for a moratorium.

<http://gdacc.wordpress.com/2010/12/10/new-york-state-medical-societies-call-for-moratorium/>

(19) The preliminary revised SDGEIS released on or about July 1, 2011, does not ban known carcinogens

B. Traffic, Noise, and other Environmental Effects

(1) Average of 890 -1340 truck trips per well site Susan Christopherson at Cornell University http://www.greenchoices.cornell.edu/downloads/development/marcellus/Marcellus_Prelim_Results.pdf

(2) Traffic Noise Increases Hypertension (12/11/2007)

“Hypertension and Exposure to Noise Near Airports: The HYENA Study.” Lars Jarup, Wolfgang Babisch, Danny Houthuijs, et al. *Environmental Health Perspectives*. 116: 329–333. Online December 11, 2007.

(3) Noise, Even During Sleep, Increases Stress and the Release of Stress Hormones (2003)

“Stress Hormones in the Research on Cardiovascular Effects of Noise.” W. Babisch. *Noise & Health: A Quarterly Inter-disciplinary International Journal*. 5(18):1–11. 2003.

(4) “The Costs of Chronic Noise Exposure for Terrestrial Organisms.” Jesse R. Barber, Kevin R. Crooks, and Kurt M. Fristrup. *Trends in Ecology & Evolution*. 25(3): 180–189. September 16, 2009.

(5) Compressor Station Noise Reduces Ovenbird Pairing Success (2007)

“Chronic Industrial Noise Affects Pairing Success and Age Structure of Ovenbirds *Seiurus aurocapilla*.” Lucas Habib, Erin M. Bayne, and Stan Boutin. *Journal of Applied Ecology*. 44: 176–184. 2007.

(6) Songbird Density is Lower Near Compressor Stations (2008) “Impacts of Chronic Anthropogenic Noise from Energy-Sector Activity on Abundance of Songbirds in the Boreal

Forest.” Erin M. Bayne, Lucas Habib, and Stan Boutin. *Conservation Biology*. 22: 1186–1193. 2008.

In a Canadian boreal forest, the authors investigated total songbird density and density of individual species near noisy compressor stations and nearby quiet well pads. They found that total songbird density was 33% lower at the noisy sites than at the quiet sites. Densities of three species were significantly lower at the compressor stations sites than at similar quiet sites, and five species were less likely to occur near compressor stations than at the quiet well pads.

(7) Noise Reduces Species Richness and Changes Species Interactions (2009)

“Noise Pollution Changes Avian Communities and Species Interactions.” C. D. Francis, C. P. Ortega, A. Cruz. *Current Biology*. 19: 1415–1419. 2009.

This study, conducted in pinyon-juniper woodlands in northwestern New Mexico, studied species composition and interactions at sites near active natural gas compressor stations and at similar but quiet well pads nearby. They found that “noise alone reduces nesting species richness and leads to different avian communities,” and suggest that “noise can have cascading consequences for communities through altered species interactions.”

(8) (10/12/10) “Philly Academy Study Finds Gas Drilling Threatens Streams.” Sandy Bauers. *Philadelphia Inquirer*. October 12, 2010. This article describes a preliminary study of Pennsylvania streams, which suggests that a high density of drilling in the Marcellus Shale may degrade nearby streams, even if there are no spills or other accidents. The study found that water conductivity, an indicator of salt contamination, was twice as high in streams near high-density drilling, and populations of salamanders and aquatic insects, two groups of animals sensitive to pollution, were 25 percent lower. [Note that many fish feed on aquatic insects.] Results of the preliminary study, conducted by the Academy of Natural Sciences, will be used to apply for funding for a larger, more comprehensive study. David Velinsky, VP of the Academy’s Patrick Center for Environmental Research, is quoted in the article as saying that he knew of no similar studies that had been completed. The article notes that, as of Oct. 1, 2010, the number of Marcellus wells drilled in Pennsylvania is 2,237, yet there have been no independent studies of their ecological consequences for streams; scientists are just now applying for funding for such studies.

(9) On Sept. 23, 2010, Velinsky testified before joint committees of the Philadelphia City Council on the effects of Marcellus shale drilling on aquatic and terrestrial ecosystems. His remarks included a discussion of the preliminary stream study. Velinsky’s testimony is archived at: http://www.ansp.org/about/news/pdf/David_Velinsky_CityCouncilTestimony_2010-09-23.pdf

C. Local Impacts, Non-Health Related

(1) Gas exploration and extraction in the Marcellus shale is already affecting Tompkins County. The State is not acting to mitigate these effects. *Lansing Star*, “Cornell Expert Says Hydrofacking Already Affecting New York,” Friday, June 24, 2011 00:00

<http://www.lansingstar.com/news-page/7420-cornell-expert-says-hydrofacking-already-affecting-new-york>

(2) Gas and Oil Leases Cause a Negative Impact on Residential Lending—Excerpt from statement made by Greg May, VP – Residential Mortgage Lending Tompkins Trust Company, March 24, 2011; <http://innovationtrail.org/post/gas-lease-fine-print-impacts-home-loans>. http://www.tompkins-co.org/tccog/Gas_Drilling/Focus_Groups/LandValues_Assessment.html; Ward: Gas company financing is preventing residents from getting mortgages, published 8/1/11, <http://thedailyreview.com/news/ward-gas-company-financing-is-preventing-residents-from-getting-mortgages-1.1182565>

(3) “Natural Gas Drilling in the Marcellus Shale: Potential Impacts on the Tourism Economy of the Southern Tier,” STC Regional Planning & Development Board, info@stcplanning.org

“[The cumulative effects of wide spread gas drilling] threaten to do serious damage to the tourism sector by degrading visitor experiences and creating an industrial landscape that far outlives the profitability of gas extraction.” p.10
<http://www.stcplanning.org/index.asp?pageId=195>

(4) Farmland is Damaged by Fracking; The League of Women Voters of Pennsylvania Marcellus Shale Natural Gas Extraction Study, 2009-2010, Study Guide II, Marcellus Shale Natural Gas: Environmental Impact, p. 8

“When heavy drilling and fracking equipment travels over farmland, soil compaction occurs. There are two types of soil compaction. First, topsoil compaction is caused by tire pressure, and this can severely reduce plant production in the short term. Second, subsoil compaction is caused by axle loads which reduce productivity for decades and cannot be alleviated over time by any natural means (Grafton County Conservation District, n.d.). It results in decreased soil percolation and increased soil run off. This, in turn, leads to less growth of vegetation and more soil erosion. One might compare topsoil compaction to a bicycle rider or car riding at a uniform speed across the a well-drained lawn and subsoil compaction to a fully loaded cement mixer driving across a lawn immediately after a heavy rainfall. The first creates tread marks while the second creates ruts that will not be alleviated by time alone.”

(5) “Effects of Ozone Air Pollution on Plants.” Agricultural Research Service, U.S. Department of Agriculture. Article last modified November 6, 2010.

(6) Randall, CJ. 2010. “Hammer Down: A Guide to Protecting Local Roads Impacted by Shale Gas Drilling.” Working Paper Series for A Comprehensive Economic Impact Analysis of Natural Gas Extraction in the Marcellus Shale, Cornell University Department of City and Regional Planning. Available at:
<http://greenchoices.cornell.edu/development/marcellus/policy.cfm>

(7) The League of Women Voters of Pennsylvania Marcellus Shale Natural Gas Extraction Study, 2009-2010, Study Guide II, Marcellus Shale Natural Gas: Environmental Impact. p. 10

Heavy trucks cause potholes and break pavement, especially along the edges. Heavy trucks on gravel roads raise enough dust to change air quality. [See also “Traffic Studies” below.]

(8) Gas Exploration and Extraction Effects on Local Housing

"Bradford County Placing Kids in Foster Care Due to Housing Shortage." James Lowenstein. The Daily Review (Towanda, PA). July 29, 2010; July 7, 2010
<http://www.sungazette.com/page/content.detail/id/545686.html?nav=5011>

(9) Effect of gas exploration and extraction industry on increases in crime and needs for more emergency services

Taft, P.B., (1981) Keeping the Peace in the New Wild West, Police Magazine Vol. 4(4) Dated: (July 1981) Pages: 8-15; Oil and Energy News, May 24, 2010, Harrisburg, PA, PRNewswire-USNewswire "The Economics of Extracting natural Gas from Shale Formations," "Costs to Local Communities," Gasmain.org,
<https://sites.google.com/site/outreachmaterials/economics>

(10) "How Should We Think About the Economic Consequences of Shale Gas Drilling?" May 2011, Susan Christopherson and Ned Rightor, gasleasing.cce.cornell.edu/

"The consistent theme is that local governments – counties, cities, townships, villages – are subjected to a wide range of demands for new services or increased levels of service, and that the administrative capacity, staffing levels, equipment, and outside expertise needed to meet those demands are beyond anything that has been budgeted."

(11) Susan Christopherson, Presentation to TCCOG, June 23, 2011

The existing tax systems and current proposal for a severance tax are completely inadequate to meet the needs of local governments to respond to Fracking.

(12) The best available research shows that between 5.7 and 6.3 percent of the adult population of Tompkins County owns all of the land under lease for gas exploration and extraction. Data gathered at the Tompkins County Clerk's Office by: (Counted only leases signed between 1/1/2005 and 9/30/2009) 2,332 different names appear as the principal name on a lease:

Note that this number includes organizations, such as churches, school districts, cemeteries, towns, and clubs, who have leased their land. There are only 68 of these, so they are only 2.9 % of the total. For this purpose, each organization was counted as 1 individual. In some cases this overcounts because the same individuals also have personal leases. In other cases it undercounts because more than one person may share the royalties (although the more people sharing royalties, the smaller they are, of course). 1.6 adults signed per lease (calculated from a sample of 140 leases): 3,731 lease holders: $3,731/59,498 = 6.3\%$ of non-college-student, adult population (local voters)

(13) The Estimated Income from Existing Industries Dwarfs What is Expected from Gas Exploration and Extraction.

"Drilling for Natural Gas in the New York State Marcellus Shale, What are the Potential gains and risks? What are the trade-offs?" Dr. John Schwartz, Ithaca College, June 2009,
<http://www.tcgasmap.org/media/Marcellus%20Royalties%20Compared%20to%20Other%20Income.pdf>

Estimated income from sources other than gas exploration and extraction over 20 years are: Farm Cash Receipts \$48 billion, Dairy Products, \$39 billion, Grapes and Wine: \$69 billion; Estimates of attractions that bring visitors: Tourism 173 billion, Hunting and Fishing, \$32 billion, Wildlife Watching, \$32 billion; Total other of non gas extraction: \$392 billion; Estimated Natural Gas Income for 20 Years will be \$22 Billion

(14) "Drilling Deeper into Job Claims, The Actual Contribution of Marcellus Shale to Pennsylvania Job Growth," Stephen Herzenberg, June 20, 2011, Keystone Research Center, http://keystoneresearch.org/sites/keystoneresearch.org/files/Drilling-Deeper-into-Jobs-Claims-6-20-2011_0.pdf

(15) "The Economic Impact of Shale Gas Extraction: A Review of Existing Studies." By Thomas Kinnaman, Bucknell University, Forthcoming in Ecological Economics, DOI: 10.1016/j.ecolecon.2011.02.005

<http://www.newscientist.com/article/mg21128193.400-economic-benefits-of-shalegas-extraction-unclear.html>

(16) "How Should We Think About the Economic Consequences of Shale Gas Drilling?," May 2011, Susan Christopherson and Ned Rightor, gasleasing.cce.cornell.edu/

(17) Marcellus Shale Natural Gas Extraction Study, 2009-2010, Study Guide III, Marcellus Shale Natural Gas: Its Economic Impact, League of Women Voters of Pennsylvania, p25, p27 -- "In most parts of Pennsylvania where drilling will occur, there is little if any existing industry and infrastructure. Therefore, at least initially, firms and employees from outside of Pennsylvania will conduct much of the economic activity. This will lessen the impact on existing local businesses." p. 25 "The higher paying jobs are in the drilling sector according Kelsey (Penn State Webinar presented in Indiana County, October 14, 2009). Kelsey estimated that three-quarters of the jobs require only a high school education, and local people are often hired as laborers and for security. Low paying jobs, such as those found in hospitality and local retail, are also created." p. 27

(18) "So far, gas jobs mainly in related fields," Scranton Times-Tribune, Elizabeth Skrapits, <http://thetimes-tribune.com/news/so-far-gas-jobs-mainly-in-related-fields-1.1060490#ixzz1RRl6GgK8>

(19) The Economic Impact of Marcellus Shale Gas Drilling What Have We Learned? What are the Limitations? David Kay, 1 April, 2011, Cornell Cooperative Extension, Working Paper Series, A Comprehensive Economic Impact Analysis Of Natural Gas Extraction In The Marcellus Shale, <http://cce.cornell.edu/energyclimatechange/naturalgasdev/Documents/pdfs/kayformattedmarcellus%20workingpaperrevised4-4-2011.pdf>

(20) "... smaller rural economies without much existing economic diversity, gas development might offer the possibility of a diversification strategy. However, in such places the potential for a hard boom bust cycle, and for the gas industry's competition with pre-existing economic anchors, may be the greatest. For some individuals and communities, the wave of big money would likely rise and fall with an abruptness that many would find deleterious even as for others, the wave would be more sustained and positive."

(21) Are Energy-focusing Counties Benefiting? September, 2008 - revised 07/11/0, Headwaters Economics, p. 22 \ from

<http://headwaterseconomics.org/results?cx=016795607439837894123%3Anfjymjoipti&cof=FO RID%3A9&ie=UTF-8&q=Fossil+Fuel+as+a+Development+Strategy&sa.x=11&> “ *** In counties that have pursued energy extraction as an economic development strategy—places we call energy-focusing (EF) in this report—the long-term indicators suggest that relying on fossil fuel extraction is not an effective economic development strategy for competing in today’s growing and more diverse western economy. P.22

(22) “Unanswered Questions About The Economic Impact of Gas Drilling, In the Marcellus Shale: Don’t Jump to Conclusions,” March 27, 2010, Jannette M. Barth, Ph.D.

http://www.dangerdrilling.com/?page_id=433

“The entire Marcellus Shale region in New York may be at risk both economically and environmentally. While the environmental risks have been a focus of concern, many stakeholders have assumed that a positive economic impact would result. In reality, the economic impact may very well be negative. And the likelihood is that gas drilling would adversely affect other economic activities such as tourism and sport fishing and hunting. *** “

(23) The actual productivity of Marcellus Shale gas wells in appears to have been exaggerated according to emails written by industry insiders. “Insiders Sound an Alarm Amid a Natural Gas Rush, Ian Urbina, June , 2011

http://www.nytimes.com/2011/06/26/us/26gas.html?pagewanted=1&_r=1

<http://www.nytimes.com/interactive/us/natural-gas-drilling-down-documents-4-intro.html?ref=us> and

(24) Shale Gas—Abundance or Mirage? Why The Marcellus Shale Will Disappoint Expectations, Arthur E. Berman Labyrinth Consulting Services, Inc., Washington, D.C. October 8, 2010; <http://www.theoil Drum.com/node/7076>, October 28, 2010

(25) “Shale Gas or Shell Game,” presentation at National People’s Gas and Oil Summit, November 19, 2010

<http://www.spectraenergywatch.com/wp-content/uploads/2011/02/deborahrogers-shalegasshellgame.pdf>

(26) TCCOG Tour to Bradford County

http://www.tompkins-co.org/tccog/Gas_Drilling/Resources/Community%20Impacts/Bradford%20County%20trip%2012-15-2010.pdf

D. Water Resources

(1) <http://pubs.usgs.gov/fs/2009/3032/>

(2) <http://www.nicholas.duke.edu/hydrofracking/methane-levels-17-times-higher-in-water-wells-near-hydrofracking-sites>

- (3) Osborn, G., Vengosh, A., Warner, N. & Jackson, R. B. (2011). Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing. Proceedings of the National Academy of Sciences. Doi: 10.1073/pnas.1100682108.
www.pnas.org/content/108/20/8172.abstract
- (4) <http://www.tcgasmap.org/media/Water%20Contamination%20Fact%20Sheet.pdf>
- (5) Searchable database of all DEP violations in Pennsylvania related to gas extraction
- a. <http://www.bizjournals.com/Pittsburgh/datacenter/search-all-marcellus-shale-violations.html?appSession=076121911856781>
 - b. Anya Litvak of the Pittsburgh Business Times has compiled important data about the enforcement by the Pennsylvania Department of Environmental Protection of gas drilling regulations that have been strengthened since 2008. Litvak reports the following:
 - i. 1. 5803 gas drilling rule violations issued from 2008 to May 2011;
 - ii. The rate of violations is declining, dropping from one violation per every 2 wells or one violation for every 4 inspections in 2010 to one violation for every six inspections or one violation for every three wells in 2011.
 - iii. 253 violations were issued in April and May 2011 and 313 in the first 3 months Of 2011.
 - iv. DEP more than doubled gas drilling enforcement staff, increasing employees from 88 to 202, by hiring in 2009 and twice in 2010.
- (6) <http://www.nicholas.duke.edu/cgc/HydraulicFracturingWhitepaper2011.pdf>
- (7) <http://www.npr.org/2011/08/02/138820966/worries-over-water-as-natural-gas-fracking-expands>

Appendix II - A

Public Hearing Comments – see attached minutes of July 20, 2011.

TOWN OF DRYDEN
TOWN BOARD MEETING
July 20, 2011

Present: Supervisor Mary Ann Sumner, Cl Stephen Stelick, Cl Jason Leifer, Cl David Makar

Excused: Cl Joseph Solomon

Elected Officials: Jack Bush, Highway Superintendent

Other Town Staff: Patricia C. Millard, Deputy Town Clerk
Kevin Ezell, Code Enforcement Officer
Jane Nicholson, Planner
Mahlon Perkins, Town Attorney

Supv Sumner opened the meeting at 7:01 p.m. and board members and guests participated in the pledge of allegiance.

PUBLIC HEARING
ZONING ORDINANCE AMENDMENT
PROTECTION FROM NATURAL GAS EXPLORATION AND
EXTRACTION ACTIVITIES LAW

Supv Sumner opened the public hearing at 7:07 p.m. and dispensed with reading the public notice that was published in The Ithaca Journal. Supv Sumner opened the floor to public comments.

Note: Unless otherwise noted, all speakers are Dryden Town residents and stated either their general or specific address when they began speaking.

Peter Davies – Dryden has many things going for it. We have pure water and clean air. Now we have the potential of having this pure water and clean air destroyed. I think by now we are all familiar with the problems in this industry in other parts of the country; water contamination, families on bottled water, dead cattle, people with methane in their water told to open their windows to take showers. Town Board of the Town of Dryden, we are gathered here today to ask you for one thing. Please protect us from this menace. Please pass this ordinance to ban fracking as we know it in the Town of Dryden.

Vicki Meyers Wallen – I am a scientist and a veterinarian and I study birth defects. I've lived here for more than 20 years and I've lived in many other places before, but it's clear to me that this place is really a unique place and what we have here is priceless. I second everything that Peter Davies said. I also say that we should not take what we have here for granted. Once we ruin our health and our environment, we cannot put it back together. Life is a one-way street. It's not only my health I'm concerned about: it's the children and grandchildren here. We don't know what the long-term consequences are, let alone the short-term consequences. I ask you, what are we willing to accept here? We have all these unknown factors. Is there any amount of money that would compensate the possibility of birth defects in our children or cancer in our spouse. I am not willing to accept those risks. Fracking is an uncontrolled experiment. It's an experiment that is going on in Pennsylvania. If we are wise, we will sit back on our assets and watch what happens there both short-term and long-term. I am for the town banning this activity in our area and I hope you have the courage to do that.

Jim Crawford – I call for a rejection of fear mongering and all kinds of emotional appeals. This year, the international energy agency more than doubled its recent 2008 estimate of worldwide natural gas reserves due to new extraction technologies. They said that natural gas is abundant, affordable and clean burning relative to other fuels. Articles have noted that the U.S. is now virtually self-sustaining in its natural gas needs. I think the Dryden Town Board needs to consider our energy future as you also consider the safety concerns. Last month, the New York Times ran an article called “Insider’s Sound an Alarm amid Natural a Gas Rush” and very soon came into a lot of criticism for that. Their own public editor Arthur Brisbane criticized the paper for running an article that was misleading and lacking objectivity. What’s going on when revered outlets like the New York Times find themselves climbing out on a limb and then needing to climb back? To date, too many groups and officials are playing to emotions rather than reason. The very name Shale Shock and those black and red NO FRACK signs with dripping letters seem obviously calculated to appeal to an emotional treatment of the issue. That’s extremely unfortunate. Regarding the local petition asking for a drilling ban, the number of signatures collected would be more meaningful if they also reported the number of Dryden residents declining to sign the petition. Last Friday, the Ithaca Journal reported on a Sienna College poll which reported rough parity in people’s regard for the recent DEC report, but they also had another figure which was a 55-33% spread in the degree of trust people had for their neighbors based upon their being for or against fracking. I would like to suggest that when Sienna College is sampling the very same people and they find parity on one question and such a split on others, we’re looking at a direct readout on the emotional nature of this debate. Please give your attention to rational discussion of how to balance our environmental concerns with concern for our energy future. We should be rejoicing in technology which moves us toward energy self-sufficiency and we should reject questioning our neighbors’ motives and integrity. The Town Board should be taking a cautious approach to the risks and the costs of drilling. Please don’t try to be heroes by getting ahead of state evaluations and fashionable pressure groups. Is the Town also considering mandatory energy conservation? Where should our energy future come from?

Dave Macknee – Has lived in the town 47 years. There were many good businesses in this area, Ithaca, Dryden included, there were a lot of good companies here, and that’s why I bought property here and have been paying taxes on it for 47 years. My taxes help pay salaries and support the schools in the area. I don’t think it’s right that you would not wait and allow people to see what happens. “You guys” started with the DEC and now nobody believes what they hear – they don’t even believe their own government. We’re not even finished with it yet. When we finish with it, then maybe we’d have a thing that says, do it or don’t do it, but until we do that, I don’t think we should close it off. The anointed one has closed two coal mines and he wants by 2015, two of the biggest electric companies to be clean, which is an impossibility. I hope when people run out of coal or the electric company triples your electric prices, that you realize it’s your own fault.

Art Berkey – Lives on 2-acre lot which is not large enough for a gas lease, so I have no direct financial stake in the fracking ban or not, however I request you vote against the institution of a ban for the following reasons: while I share the concern of maintaining safe water supply, I have been unable to find on the web documentation of pollution of an aquifer despite fracking being conducted for some 20+ years. I did find an instance of surface water spill in to a stream, however new technology using methane rather than toxic liquids would eliminate runoff and also the road damage from trucks transporting the liquid for disposal. No operation is ever 100% risk free, but the EPA regulations are designed for that purpose. There appears to be major legal jurisdictional questions that predictably will result in legal action by gas companies. Litigation costs to the Court of Appeals are estimated at \$100K. I do not wish that our tax dollars will be used for this purpose. The Town of Ithaca has already incurred this litigation liability for its residents. Finally, and of most importance, a ban would constitute confiscation of residents’ mineral rights without compensation. For example, yesterday at a

senior luncheon, a retired resident with 11 acres and a spouse disabled with ALS mentioned she was negotiating for a gas lease for about \$25,000 plus 20% royalties. A ban would unfairly eliminate this income. Gas production is the one asset with potential to provide the badly needed economic stimulus for upstate New York and should be pursued under strict regulations protecting the environment.

Henry Kramer – I speak to unjust confiscation of land owner's rights and the clouding of titles on Dryden land by a ban. I do not advocate unregulated development. Our environment must be protected with narrowly tailored regulation, preferably a uniform statewide, addressing of specific problems. Lease offers in Central New York of \$25 an acre with 12% royalties have already grown to \$3000 per acre and 20% royalties. A ban means for 100 acres, at least \$300,000 in wealth is simply wiped out. For 10 acres, \$30,000 vanishes from its owner's pocket. That's 100% tax rate. How's that for a local tax levy? Sound fair to you? If the board votes a ban at \$3000 value an acre, it votes to confiscate at least \$175 million of Dryden's wealth. That's taking the equivalent of the town's total current tax levy each year until 2074. A ban means turning our backs on \$17,500 per capita for every adult, \$80,000 per parcel of land over 2.5 acres. If each of these 2200 parcels has 2.5 people in the household, 5500 people directly benefit and that's 42% of Dryden's total population. Not a mere few and all of us will gain from the economic benefit. A ban clouds titles to 41% of land. The courts in equity will extend leases so the energy companies get the full lease period. With a ban, properties may carry liens forever; real trouble for those who try to sell their land or try to mortgage it. Energy development will help many hard working people who are land rich and cash poor or underemployed. It'll recapitalize our farms. For town government and educating our kids, safe development will raise new revenue. Given government's fiscal crisis and tax cap, we must cut services. Energy development could pay for schools and for roads. Careful, safe energy development is possible. Consider the facts; look at Dryden Safe Energy Coalition website at DrydenSAC.org. Nothing is risk free, but a total ban is a very bad idea indeed.

Jane Edwards – I think we can preserve the health and longevity of all who live in the Town of Dryden by preventing hydrofracking drilling. Such industrial action will destroy the tenor of what we have; potentially harm the safety of our water. I don't want to live with noise, with methane gas smells, with crowded roads or lower property values. I don't want our quality of life to be destroyed. Just for example, the Yellow Barn Water district is surrounded totally by gas leased land. I'm sure that the drilling will potentially affect our four (4) little wells that take care of 250+ people. It is just a couple of thousand feet away. This is just one example of what could happen, but truly, we are all connected and gas drilling is going to affect all of us, even those who will make the millions. They will still have a very poor quality of life.

Charles DeMotte – I want to speak in favor of the ordinance. There is sundry evidence to show that fracking is dangerous to communities. It can affect long term health. We don't know fully what the long term affects will be but there is evidence to show that there is a lot of pollution involved with that. Secondly, that once you let multi-national and/or large corporations in, you cannot rely on the fact that they will protect or look after environmental safety. Thirdly, opening the door to gas drilling will definitely affect the infrastructure of the community in terms of noise pollution, traffic, and things like this, far beyond what Dryden can handle successfully. Fourthly, the Town of Dryden is growing in terms of population, it will continue to grow, and this is incompatible when you look at the populated areas in the town – how this would be impacted by gas drilling. And finally, decisions as to the health and well being of the community should always trump potential revenues that could be gained as a consequence.

Caren Cooper – Questioned extra protection for New York City water supply. Calls for equal protection for our water here in the Town of Dryden. The value of water is not about the density of people; it's about the dignity of all people. Of course our water is as important to protect as New York City water and Syracuse water, and so are our natural resources and our economy and our quality of life. None of that should be sacrificed for this. Fracking is a change we don't

need and it's one we didn't ask for. We didn't ask for these people to come knocking on our doors trying to sell us these pipe dreams. It is not going to better our town. There is nothing broken here in Dryden that fracking is going to fix. I ask the Town Board to provide the protection that the state is failing to provide equally to all of its citizens. Look out for us here and please ban fracking in Dryden.

Deborah Cippola Dennis – The Board has heard several times from me on this issue, so I won't go on about my opinions on hydrofracking and the dangers of this evil industry. I'll simply say that I support this resolution and the amendment and I'm hopeful that you will move expeditiously to get it in place. I'd like to express my sincere gratitude for everything that you (the Town Board) have done with respect to this issue. You've come a tremendous distance in the past year. I feel that you've listened to the people, you've researched this matter, and you've taken bold action to protect your community. It's what we expect when we go to the polls in November. Even though we are often disappointed with respect to our state and federal representatives, you've shown us we can trust you to do the right thing here at the local level. I look forward to continuing to work with you to ensure that our town remains protected through the upcoming zoning changes.

Joanne Cippola Dennis – I want to thank all of you (the residents) for coming out tonight. I became a member of DRAC once I learned that our dream home we were building was surrounded by leased property. For more than two years, we have been studying the entire process of methane gas development throughout America. Having just returned from another trip out west, I was able to see several states affected by gas development. In Wyoming, where my brother lives, the water is delivered to water buffaloes because the energy corporations used clean water, contaminated it, and now the corporations control the water. The air is reported to be as toxic as L.A. This is happening in each state fracking shale takes place. It isn't if you get contamination, it's when and how bad. We learned that shale gas production can only be accomplished with widespread industrialization of an entire region. The tactics corporations use to convince governors to allow them to drill are well-practiced and successful in many states now overrun by drillers. Industry convinces a governor it's gonna be done safely here – needed jobs are abundant – and that it will end our dependency on foreign oil. For starters, we're talking about methane gas, not crude oil. The jobs will be plentiful, but not for New Yorkers; they'll be brought in from other states as they are trained in complex and dangerous activities of extracting methane gas. Young guys are the ones they recruit. They're young, they're healthy, and they never ask any questions of what they are exposed to. We have learned fracking shale gas is a cause and effect practice. Water contamination is probable. Air is laden with diesel fuel. Hundreds of thousands of heavy vehicles fill the air with benzene – a very dangerous, known carcinogen – is present at each site beginning immediately, and it doesn't dissipate. The ozone occurs at ground level which is extremely harmful to humans. Benzene is a killer that causes cancer and leukemia. My sister lives in North Dakota where drilling has overtaken them. She cares for a young 7-year-old boy who suffers from Leukemia, requires extensive and expensive health care not paid for by the industry that caused it. My neighbor is now partners with the industry that seeks to destroy my American dream, risk my health, safety and water, ruin my investment along with my plans. Since when is it American to allow a drilling company to use your property to steal from your neighbors, which is what hydraulic fracturing does.

Nancy Morgan – I have felt very proud of my town government over recent months as you listened to citizens and studied so carefully the issues surrounding the likely intrusion of the hydrofacking industry here. There was an earlier environmental threat to my neighborhood which was the siting of a new county landfill in the middle of a wetland in West Dryden, near to where there had already been a landfill before. In that case, once the decision was final, the County Government recognized its responsibility to protect property values in the area surrounding the landfill site. They created the landfill neighborhood protection program. If participating landowners could not get a fair price for their property when they wanted to sell

it, Tompkins County paid them the difference between what would have been fair market value if not for the landfill and the best offer received within a certain amount of time. The program compensated many West Dryden neighbors before the site was given up. Now there is a much greater threat to our environment; not just in West Dryden but in all of Dryden. Gas drilling operations will, if allowed, turn certain areas into noisy, obnoxious, industrial sites; water wells and streams near them will be at risk for contamination; neighbors will begin to have health problems like headaches and difficulty breathing and property values near these industrial sites will plunge accordingly. Will we be able to look to the energy companies for compensation? Definitely not. Their only responsibility will be to their shareholders far away. We are so fortunate, once again, to have a local government that recognizes its responsibility to protect the people who live here and which is working hard to live up to that responsibility in practical, proactive ways. The time has finally come to vote on a sensible amendment to our zoning law in order to keep out this type of heavy industrial use and I will thank you the rest of my life for taking this important and courageous action.

Ron Szymanski – As of June 15, one of the things you didn't have access to was the DEC report. Now this report is out and what we do know is that through exhaustive study and through the fact finding that they have spent with going to other states, answering all the questions that we've heard here today, and through what is considered now they are the experts in this particular issue of hydrofracking. They have found it to be safe to drill in Dryden. This is what we need to do to relieve the pressures. This is a very emotional issue, which I recognize, and everybody has a right to their opinion. We need to have more community outreach on this. MIT has also put out a report recently on natural gas – 187 page multi disciplinary report – that needs to be read by all of the residents here in Dryden. We have a very educated community that when we get together in a community outreach type of way like we did this past week with TCCOG, we can all learn a lot more. This issue needs to be resolved. The law that you're looking at right now is extreme. We need to have something that will bring Dryden together. We don't need a type of legal action that would tear the community apart. We need to have this Town Board come together and bring this community together. Much like Bruno Schickel said in the last meeting, there is a lot of middle ground here. I welcome getting together with my fellow residents to resolve this issue and come up with a way. We do know that the tax base will be increased. Our school districts need it desperately. We all need it. We need to look into this issue. I have some public comments in the same vein as the DEC – especially by anti-drilling people – made a very forceful point that we needed to have comments responded to before you make a vote on this amendment. I would like these public comments to be responded to.

Jack Bradbury – Several people have argued that you would be taking their property rights away and that it's unfair. That may be true if they are just having a party on their property, but when they drill on their property, and it goes under my land and ruins my water, which we came here from San Diego to get. That's not a single person issue, that's a general issue. In fact, it's a classical tragedy of the commons problem. That's what laws and regulations and democratic action are designed to do, which is to protect the majority of the people. We moved here to retire. We love it here. Water – we've traveled all over the world and water is one of the most important resources you can have. We've been in places that have crappy water and no water. One reason we came here from San Diego is it has water, and its great water. I've never had tea and coffee like this. There are accidents that occur – in Wyoming, Colorado, Texas, Pennsylvania – we know that casings crack; we know that storage ponds leak; and we know that truck drivers who have had too many beers at our local business can sometimes drive in the creek. If that happens, those of us on wells, have no recourse. You're not going to pipe water to us on the other side of Besemer Hill. We strongly urge you to pass the ordinance.

Clifford Norte – I've tried to make a living here and found it increasingly difficult. I could have benefited fairly substantially by leasing my property for gas. I chose not to. I didn't like some of the language in the contract. I like to think that I'm smart enough to make some of my

decisions on my own. Government has become all-intrusive. What we're forgetting here – a lot of the negatives with this gas exploration will be for a limited amount of time. There's not an energy source that doesn't have some risk. We need to study and plan and mitigate risk as much as we can but what I feel is happening here is the door is being slammed shut with no opportunity for the middle ground for discussion, for rational thought. I see this current issue as just one more instance where zoning and a vocal minority uses their sway to prevent anything from happening here. We aren't all in a position to live happily ever after with a pension. Some of us need to continue to have our land produce something besides taxes.

Buzz Lavine – We're looking for protection from the gas industry beast. With every new government report, it looks more certain that needed protection won't come from either the Federal or the State government. The gas industry plainly spends unmatched sums of money on lobbying, campaign funds, propaganda, so-called scientific studies and the like. They still assure us that gas drilling is perfectly safe, no problems. Then when the many problems keep occurring, they spend unmatched sums of money denying those problems and buying non-disclosure agreements. I've heard some guys call the gas industry "the dirtiest, slimiest, most arrogant and negligent that you can imagine." Not the kind of neighbors we want. In short, we don't want to live in a proverbial company town; certainly not one run by that beast of an industry. I thank you from the bottom of my heart for keeping Dryden from becoming that kind of company town and I've written a few words to muse on this issue.

If we frack the Marcellus formations and rush in with weak regulations, we'll wake tomorrow to disastrous implications. As it turns out, even New York's fracking will lower property valuations and limit chances on mortgage applications. We'll lose our property rights to condemnations and gain unexpected liabilities and obligations. Fracking will increase our hospitalizations and also our future litigations. It'll ruin our quality of life reputations and our clean water affectations. It'll also raise our property taxations and lose our kids to out libations. It'll require costly reparations and burden future generations, perhaps worst of all, it'll cause neighborhood transformations with massive unregulated industratizations. All these and many other degradations, these are all unneeded frustrations, unneeded trials and tribulations. Yes, gas leases are attractive temptations, but let's be smart and have some patience. Let's not join the league of company town nations; rather the league of community spirited town associations.

Jack Edmonds – I'm one of those that signs a lease before I knew what it was all about. I've since researched the issue and find that the threat to our water supply is unconscionable. I'm at the stage of life where legacy is important to me. I have cancer and I have periods in which it is no fun. I'm doing alright right now. The chemicals used are known carcinogens and known to the industry to be carcinogens. I've attended a presentation by the industry in which they explained the process and listed some of the chemicals that they use and the concentrations. The concentrations that they use are in orders of magnitude that are beyond safe levels. The industry also uses chemicals that they don't disclose under the guise of being proprietary. That's unacceptable. The notion posed earlier was that opposition is an emotional response and is anti-technology. As a well thought out technologist and researcher, I find that to be downright insulting. Legacy is important. What do we leave around for our friends, neighbors, family, the community? Do we poison our water supply for the enrichment of a few? Or do we consider the legacy that we leave others?

Ben Haith – Resident of Auburn. Geologist with the Palmerton Group, a consulting firm in Syracuse and am here on behalf of the Independent Oil & Gas Association of New York, though I assure you I am not being paid by them. I just wanted to share some numbers. In Cayuga County, where I live, there are 315 active, producing gas wells. Last year, they produced over one (1) billion cubic feet of gas, which is worth over \$4,000,000. It's enough to heat over 13,000 Northeast homes. It's not just big oil that owns these. The Auburn School District owns wells. The Union Springs School District owns wells. Dickman Farms – one of the best nurseries around – owns wells. Seventh Day Adventist Church owns wells. These are operators, not just

lease owners. Local residents own and operate these wells. I think it's unfair to compare what is going to happen in New York to other states. The DEC, the new sGEIS is over 1000 pages thick. It's the strictest regulations in the country. The DEC says it will not permit a well it cannot regulate. 5.2% is the unemployment rate in Bradford County, Pennsylvania. I think that's a pretty good indication jobs aren't going to out of states. Chemicals are being disclosed. Not only are hydrofracturing companies required to disclose them to the state, they are voluntarily posting them on their website; the entire list. Long-term consequences: we do know what the long-term consequences are – wells have been drilled in New York since 1821, they have been fractured since 1950. I'm pretty sure that when driving through Cayuga County, with their 315 producing wells, you won't even know they're there.

Joe Wilson – I went door to door with a petition to ban hydrofracking from the Town of Dryden. 85% of the 100 people that I found at home, when I was walking the petition around, signed it. A simple principle is always applied in this country with regard to the use of property. It is that you can do whatever you want on your property as long as it doesn't harm or devalue the property of someone else. The history of fracking in this country shows, and this also applies to mineral extraction of other sorts, that these industries create air, light, and noise pollution. They destroy local infrastructure, fields and forests. Fracking and other mineral extraction also raises local government costs by increasing the needs for emergency services, school services, jail and police services. It drives fixed income residents out and reduces the local residential property values. Also, multi-national corporations can take our minerals, make a big profit, and pay no taxes. Because fracking on a few people's property brings so much harm to so many of our residents across the country, and it will here as well, fracking must be banned.

Judy Pierpont – I want to thank the Board so much for all the thought and work you have put in to bringing this ordinance to us for a hearing. You have deeply understood the extraordinary threat to this town and our lives from this new gas drilling. There are many stories of people finding out too late what is really going to be done on their land and in their neighborhood. In most cases, the reality is far worse than any land leaser could have imagined, coming out of Pennsylvania as well as Colorado, Wyoming, Texas. On the positive side, we have the advantage of being forewarned by those in other states who were willing to speak out about their experience. We disregard to our peril the witness of people who have personally experienced the unexpected consequences of drilling in their lives; the grave harm done to them, their property and livelihoods, the livability of their homes and surroundings. I was going to read to you a bit from the witness of a Pennsylvania man who leased his 190 acre farm in good faith and now finds himself in a nightmare, but it's too long, so I'll just have to mention some of the things that he wasn't expecting which could easily happen. It did not come out as he imagined. The well for the barn and the original farm house was so contaminated with methane that the hydrologist thought it would explode so the well pump was disconnected for 6 months and water was trucked in by the gas company for the animals and spring water for the humans. Luckily he had certified baseline testing done beforehand. He says the gas companies have a very systematic play book. They have two sides: a friendly, neighborly, give \$35,000 to the fire company, and then a ruthless, no-holds barred side. Three times they threatened that in 24 hours they were going to stop trucking in water for the cows in our barn unless we agreed to things. These things include non-disclosure agreements, consent not to sue. There are things that we don't know because of the silence compelled in other people's lives. This man had the courage to speak out. There is so much risk, so much deception on the part of the industry that I do not believe this drilling can be done safely. It is rational to close the door on something that could be unacceptably damaging. I am determined that this plague will not come to Dryden.

Craig Schutt – I lived on and operated a dairy farm in the Town for over 40 years of my life, so my family and I have a strong connection to the land, water, and other resources in the town. The last thing we want to see is a degradation or destruction of any of these resources. That said, there are factors to consider before a law is enacted completely banning gas exploration in

the town. I'm the first to say this kind of development needs to be done carefully and with caution, making sure adequate protections are in place, but I do not agree with a wholesale ban on this activity for several reasons. We all recognize that much of this activity will take place on farm or forest lands. As a former farmer, I believe banning gas drilling altogether is an infringement of property rights of the very people who in many cases have been working this land and paying taxes on it for generations. I've heard accusations by some during the debate that farmers are greedy and don't care what happens to the water or land as long as their financial benefits are substantial. That couldn't be further from the truth. Clean water and healthy land is the life blood of agriculture. Dryden farmers are as concerned as anyone, if not more so, about protecting these resources. Without these, they have nothing. The proposed ban is extinguishing property rights on hard-working, tax-paying, land owners with no compensation. The town recently purchased development rights from a farm to preserve that land and keep it in agriculture. In essence, that transaction extinguishes the rights of the farmer to sell any of that land for development ever, but in this case, the farmer was paid a fair price by the Town for those rights, and I applaud the Town.

Supervisor Sumner – The rights were purchased by the State.

Craig Schutt – The Town jumped in and helped with that though to keep the project going.

Supervisor Sumner – Yes, but it was state funding.

Craig Schutt – Yet, I've heard of no plan to compensate land owners for losing their gas rights, yet the town proposes to extinguish these land owner rights. How do you, the Board, reconcile that contradiction, because I personally think there is a contradiction? I ask the Board please to consider any action carefully and cautiously, listen to all residents, and please try to take the emotion out of the debate and proceed as informed as possible. Only then will you be in a position to take an informed and rational course of action. It's my hope that all sides of this debate are given mutual respect and that civility will reign.

Doug Barton – I'm from Barton Valley Farms. It's been worked by my family since 1838. We have a deep love for our little valley up there and for the Town of Dryden. I've been very involved with the Town of Dryden for many, many years. I trucked some of your children to school for 36 years. I'd like to say that I believe that a ban on gas drilling in this town would be a mistake in terms of the fact that it's closing the doors, as has been said tonight, on all the possibilities. There is a need for a growing income for the town, there is a need for a growing income for the school systems, the fire department, all of these things. My taxes go up every year as yours do too. My income is going down because I just retired. I look at this as a financial plus. I also have – I don't know how many of you have actually traveled to Pennsylvania and talked with some of the people down there. I have and the majority of the people down there will tell you that their biggest problem is how to manage their money. I don't want to make this an issue about money because I never wanted to be a rich man, I just wanted to pay my bills. I would like to say that I was reading a prescription bottle as I was coming in here tonight and on that prescription bottle, it lists as one of the side effects is death. But we take those drugs anyway because the benefits far outweigh the risks. I believe that we need to look at this cautiously but I don't think we want to close the door on it. I think the future of Dryden may in fact depend on the fact that we have a rich resource that the Lord has given us and we are to use it that way.

Simon St. Laurent – I'd like to thank the Board for hosting this conversation. There's been a lot of talk lately about confiscating property rights with a ban on gas drilling. That discussion seems to focus on one small sliver of property rights; the right to extract as much money as you can from a place at the expense of everything else. If hydrofracking is allowed in Dryden, there will be wholesale confiscation of property rights. Some of it will be formal through compulsory integration, in which the state can force citizens to hand over the mineral rights to

private interests. If you oppose Eminent Domain for private benefit, you really should take a look at Compulsory Integration. Spreading industrial worksites throughout the town and connecting them with barrages of heavy trucks is also going to confiscate a lot of property rights. Air pollution from those trucks and the rest of the equipment will make the countryside feel strangely urban. And those are just the problems that are 100% certain to come with hydrofracking. The environmental risks are real and demonstrated regularly. It's a gamble; one we all hope we win; but watching and waiting to see if your well water is going to remain drinkable isn't exactly a comfortable exercise of property rights. I ask the Board to pass the ban on gas drilling. It preserves far more property rights than it takes.

Ernie Balch – I'll be 100 in a little over two weeks. Money is one thing. We definitely need money. But also we need water. If, I'm not saying it can't be done, but if this deal of fracking destroys our water so we don't have it, well, we'll lose money.

Janet Shay – I care about this issue because there are serious implications for the world I live in. Even if the fracking process could proceed without any unexpected accidents and goes according to gas company expectations, I object to forcing a landscape, livelihood, and life-changing process on a large region of New York State. I object in the face of misleading contracts. I object in the face of numerous and continuing reports across the country of harm to people, animals, water, roads, costly impacts on individuals, assets, and on communities and their resources. I object in the face of our safety and well-being being dependent on the promises of strict regulation in an era of one failure after another by our state and federal governments. I object in the face of promised strict regulation at a time when we can no longer afford adequate supervision and when the government that is supposed to be there to protect us is highly subject to the powerful and moneyed interests of large corporations. I object in the face of a lack of long-term planning in the form of an energy policy and in the face of only beginning to scratch the surface of energy conservation. I object in the failure to recognize the concept of true costs and in the face of the worldwide, increasing demands for water, along with record breaking temperatures and drought in our own country. I object in the face of plans for exportation of the gas to foreign countries as opposed to its use for solving our energy needs. In the face of all of these things, I fervently urge the Town Board of Dryden to stand for protecting the people and precious resources of our town with a ban on hydrofracking.

Marie McRae – It seems to me that there are many more reasons to ban hydrofracking than I could possibly list in a minute and many of them have been talked about here tonight. I'd just like to say that I consider myself really fortunate to be able to be here and to be represented by you, the members of this board. I know that you come to this evening having made careful consideration of the issues and that you'll sift through all the comments that we make tonight before you cast your vote. Along with over 1600 of my petition-signing neighbors, I urge you to vote this zoning amendment in so that heavy industrial development continues to be held at bay in Dryden.

Robin Trapper-Herbel – Accompanied by her son Dante Herbel who is entering second grade at Cassavant Elementary School. This is difficult for us because I know he's hearing tonight some very frightening things, probably for the first time, (unintelligible). We uprooted ourselves from Kansas to move here to Dryden. We enjoy swimming in our pond, hiking on our land, pastures and forest. We moved here for the richness in the arts and cultural attributes of this area; the strength that follows between living a rural life and living the quality of life that we seek. Our property has a lease. We purchased it with a lease that was taken out by the previous owner one month before he put the property on the market. He made \$10,000 for his 100 acres in advance rental payments. I'm afraid for the investment we've made. I would not buy our beautiful, beautiful property right now until these issues are resolved given the risks of what we can lose. We have renovations that we have put on hold; renovations where we would have bought local materials, hired local contractors; we're putting those renovations on hold

until this issue is resolved. I urge you to move forward in placing this ban on hydrofracking to set the example for the rest of our county.

Martha Ferger – This morning, The Ithaca Journal said that the state and Governor Cuomo will soon launch an extensive marketing campaign as part of a regional approach to rebuilding the state's economy. I think the first thing the Governor should do is come out strongly in favor of a statewide ban on the kind of fracking we're talking about tonight. What sane business person would want to invest in an area fraught with all the dangers and environmental degradation that we see ahead of us if fracking is allowed, not to mention the higher taxes we will have to pay for expensive litigations that will be too little and too late. I thank all of you on the town board for the time and effort you've put in to bringing this proposal before us tonight. By voting to approve it, you will be the ones, not the governor, who will keep this area healthy for business while protecting us from all the dangers that have accompanied fracking in other parts of the country. Thank you.

The Town Board took a break from 8:02 – 8:06.

Nancy Miller – I'd like to talk in two directions and hopefully I can be really brief. I know I've said this before, but there are significant waterways that begin in Dryden. Six Mile Creek being one of them and runs right through my land. If there are significant spills, and there will be accidents, if fracking and gas drilling comes to Dryden, then some of the significant waterways that run through Dryden can affect many other communities besides ours. Six Mile Creek runs in to Ithaca and provides Ithaca with its water supply. Cascadilla runs in to Ithaca and in to Cayuga Lake. Fall Creek comes from Dryden and runs over Ithaca Falls and in to Cayuga Lake. If there are significant contaminations of these waterways, we're talking about Cayuga Lake, we're talking about the Erie Canal and beyond possibly. In another direction, I would also like to talk about my neighbor who has given her permission for me to speak, Terry Thomas. There's been talk about land values decreasing, about people fearing that they won't be able to get the value out of their homes if they want to sell. Terry works for Cornell and in two years, her job may end. She and her husband may want to relocate. At this point, a couple of weeks ago, they put their house on the market for fear that if hydrofracking came to Dryden, that they would not be able to sell their house. In two days, they sold their house for the price that they wanted and they still live here but are renting. She said they'll be watching whether the ban is enacted here in Dryden and whether it will be included in the new zoning laws when they are passed and that in two years, they may decide to stay in the area because they love it and rebuild, but at this point, they'll be watching this issue very carefully. She asked me to bring this message to the board.

Paula Peter – Is from Ithaca, lived in the Colorado Rockies when oil shale came. In 18 months, whole towns went up, roads went in, people moved in droves, the crime rate skyrocketed, and 6 months later, Exxon pulled out because they found out that they couldn't make it economically viable. What they did was they up and left. They left whole towns that were ghost towns. They left entire infrastructures to rot. All the people they hired went with them because none of them were local. What we saw was incredible devastation. We left the Rockies and came back to Tompkins County to raise our kids because we knew the quality of life here was so great. About 6 years ago, I built my dream house on 10 ½ acres in Dryden. We love it. A year after we built it, a nice young man came to our door and sold us a gas lease telling us what the process was – vertical wells, no problem, and all of your surrounding landowners have already signed a lease, so you might well. So we signed a lease. Luckily we refused surface rights. At the time that the economy tanked and we had a need to refinance, I went to my local financial institution where I had a 50 year relationship, and they were willing to refinance and all of a sudden balked because there was a gas lease on the house. In the end, they did because of the exceptions that I had written in to the lease, but it was a close call. At that moment, we knew that this house, which was supposed to be our retirement, was not that investment. That, in fact, if the land across the street from us is drilled, we will never sell this house, we will never get our money

out of it, even if the water is not contaminated and we are downhill from it. To those of you who say, let's go for middle ground, I would say, yes, I understand that. This is an emotional issue, but it's also rational. It's my economic reality, and the reality is that in New York State, we do not have the resources to enforce even the toughest regulations. The DEC has been decimated. Nobody is implementing what little we have in the way of regulations. Thank you, Dryden.

Tonya Engst – I've never been to a Dryden Town meeting before. I'm somewhere between anxious and terrified. I agree with speaker #1 and 2 who spoke very eloquently about environmental concerns. I'm not going to repeat them. I want to share my own personal concerns; the things that keep me up at night. 1. I'm a biker. I do a ride for life every summer at the end of the year – that's 100 miles around Cayuga Lake. I train a lot on the back roads of Dryden with a lot of other people. It's pretty clear that hydrofracking, with its many trucks, is completely incompatible with biking. That would be a real bummer for me. I work at home. A lot of people in Ellis Hollow work at home. They are our day care providers, massage people, people who sort of work somewhere else but mostly have offices at home. When I looked at the map that showed what land near my home had been leased, I was shocked, horrified, etc., and the noise. Oh, my God, the noise. How will I work? How will I sleep? This keeps me up at night even now. It is clear to me that if hydrofracking comes to my area, and I know I'm a worrier, I'm an anxious person, I'll have to sell my home, probably at a loss. Who would want to live there? This worries me greatly. Furthermore, I had planned to invest a significant amount of money with a local company to come and install solar hot water on my house, which is quite well positioned for that. I put off the entire renovation because I do not know whether my house will be worth nearly what I paid for it. For all those reasons, I am in favor of a ban, but I would like Dryden to consider in banning this, it is sort of turning up its nose at this form of energy extraction. I have to ask what can we all do here in Dryden, all of us, to make sure that we ourselves, our country, and our entire world, find a way to use more palatable forms of energy.

Linda Lavine – It's a very hot day out there tonight and I wanted to make it clear that we all are depending on our water supplies in this hot time and in this potential drought. As the bumper sticker says, water is indeed life. Last time I became an instant Biblical scholar at this meeting by discovering the meaning of Hosea through Google. I was surprised to discover that Hosea's words about reaping the whirlwind really spoke to me as if God was speaking through me. I've never quite had that feeling before. It was inspired by listening to Bruno Schickel who asked us to trust the gas companies just as Mr. Szymanski asked us tonight to trust the gas companies. Make a few rules, set some limits, on the Devil, and make him welcome in your house on good faith. But, if you reap the wind, you shall inherit the whirlwind. And I discovered that the next few lines were relevant. They say, "Your corn will wither, your crops will fail," just as we've said that fracking may undo our water and our soil and put our animals and our crops at risk. It continues that the crops if they go to a stranger, just as this gas is owned by people, our common friends like China, and indeed the gas may be liquefied and shipped to China, just as the prophesy suggested that the crops would go to a stranger if they grew. But mostly what Hosea warns us of is that we cannot make a deal with the Devil and expect to control the consequences. If we invite the wind, we will end up with the whirlwind. The Devil doesn't have to respect limits, even if he pretends to make a deal. And there is no doubt in my mind, and we should know this from watching the gas companies through the past several years, that the behemoth gas companies, owned by heartless corporations, are indeed our modern devil. An answer to mindless boards whose only god is money. Bruno Schickel and Henry Kramer have suggested that we can make a deal with this devil and we can hold him to it; set a few rules; expect to control the consequences; invite him into our house. We cannot. He will have all the power and money to control our land and our lives and he will cheat and lie. Mr. Cayuga County expert on gas totally misrepresented the nature of existing wells in Cayuga County to us here tonight. He suggested that those existing wells were the same level of risk as hydrofracking. This big lie technique is the very devil and the same ones they have used on many of us. I want to know, why would you lie? How could someone who is as informed as you must be, stand up here and suggest it is the same level of risk?

Peggy Walbridge – One of the reasons I love living in Dryden is that it is beautiful, it is rural, I have a well. Everyone that I know of in that area has wells. As we all know, Time Warner can't afford to send cable up a hill. There is no way we will get water up a hill or sewer. I find it really important that I have clean water and clean air. I've lived in urban areas. It's not fun at all. I speak to you because you are both the first and the last defenders for us. Washington let the oil companies out of restrictions by the clean air and the clean water act. Albany doesn't think this area is very important. New York City watershed is very important because they know all hell will break loose if they pollute it. We aren't, and I wanted you to stand up for us and have this ban. I also think what's very important is that we need to be stewards of our land. It is very important for the coming generations. Now is not the time. The technology is not ready in any way for us to be tapping this. Let's do this for the coming generations; grandchildren, great-grandchildren. Leave it in the ground and then in the future, maybe it can be tapped. But please vote for this ban.

Ron Applegate – I'm a local well owner in Ellis Hollow. I just want to emphasize a point that has come up in a number of the different speeches this evening. Often, the issue is framed as economics vs. the environment, so that the economics is simply benefits against the benefits that the environment provides. I want to bring out something that hasn't been brought out and that is the cost. This board working with other towns in Tompkins County is trying to do a cost benefit analysis. That is on the economic side. It's not just benefits, there are costs. It's obviously much easier to calculate the number on the benefits, but it's much more difficult to put a number on the cost. I applaud the effort to envision what fracking will look like in the county so that we see while some businesses will benefit, other businesses will lose. While some property owners will benefit, others will lose financially. The importance of weighing the cost is something that we need to keep in mind in looking at how to evaluate what the benefits would mean. I want to applaud the town board in working with the other towns in bringing this about. I think until it's clear that the benefits outweigh the cost, that there should be no going forward on a project like this, and I urge you to continue the work you're doing in trying to assess what those costs actually are.

Evan Carpenter – Dryden is changing. This is a Tompkins County soils survey map. This picture is the view I used to have across from my front yard; Hart Hill Road and what is now RMS Gravel Pit. There were nice strips of beautiful farm fields. It's not there anymore. It's now a gravel pit. It's an ugly pockmarked hole in the ground. I give George Junior Republic and RMS all the thanks in the world that they are there to have gravel for our roads, for our buildings, sand when I have a milk truck that's stuck in my driveway that I need to get out. I don't like looking at it, but they have every right to use their property the way they see fit. I am not about to tell them they can't do it. I don't like looking at it. I don't like the changing view that Dryden has, but it's what there is. It's what is out there. Those that have gas leases feel as those this is the winning lottery ticket for them. I don't think so, but it sure would be nice to have a little bit of money. Maybe if I had a little bit of money, Dryden Agway would appreciate me stopping in a little more often. NAPA would appreciate me getting my bill paid. Pete's Tire would stop calling me because I'm behind to them. Maybe I might even go buy a new pickup at the local car dealership. Wait a minute. Dryden doesn't have a local car dealership anymore. We have vacant lots and empty store fronts. This is not just about economics. This is about property rights, the changing face of Dryden, and what we want it to look like in the future. Do we want it to be open fields, viable farms that have the opportunity to sell something that is below ground that will really not change the surface as much as a gravel pit?

Dennis Mix – My brother and I and our wives own Mix Brothers Trucking and Excavation. I am as concerned as anyone that this all be done very safely. I don't want it done unless it's done safely. A couple points I want to make – being self-employed, my brother and I, this past year, in 2010, with our 13 employees, pretty much had no work in our business for 2 ½ months. There was no layoff in our business. We paid our health insurance premiums in full and we

pay ¾ of our employees' premiums that have it with us. What I want to emphasize to you, by doing this ban here, I don't think you have any idea the kind of consequences it can put on small businesses. Very few of the people here, I think, that are opposed to this, are self-employed. I'll take the discredit on that if I'm wrong. To the consequence of totally banning it, I think it is absolutely wrong. As Bruno Schickel has said, it needs to be an in between, a middle ground, that needs to be done. Our health insurance premiums are about \$12,000 a month. It only stands to get worse with this debacle that the Obama administration is trying to force down everyone's throat. That's what really needs to be considered partially in this ban. As far as the noise and so forth, I understand that, but for the most part, it's short term.

Eric Liner – I'd like to think that I believe in capitalism and the free market and I definitely believe in property rights. I do think that one of the most compelling reasons for allowing fracking is simply, you can't tell me what I can or can't do on my land. But I also believe as many have stated tonight that that comes with a big caveat. And that is, you can do what you want on your land as long as stays on your land and doesn't negatively impact or effect your neighbor's property, health, safety, quality of life, or finances. I'm getting no reassurances from the draft sGEIS or the well documented experiences of citizens living with fracking in other gas towns that my home and my family won't be subject to negative impacts as a result of drilling on lands adjacent to our property. I'll expand on my concerns a bit. #1 Health concerns: I've significant concerns that there is nothing to guarantee that a well fracked within 500 feet of my drinking supply won't risk contaminating my private well. Various types of well contamination have already been documented in other gas towns. I also have concerns about the negative health effects caused by air pollution associated with the drilling process. #2 Safety concerns: Aside from negatively impacting our quality of life, the anticipated explosion of truck traffic stands to turn our relatively safe and quiet road in to a place that I believe will be too dangerous for a child to walk or ride their bike. In addition, many of these trucks will be moving toxic chemicals and contaminated wastewater flow back that could be stored in close proximity to my home. #3 Quality of Life: Put simply, if you bring in lots of trucks, poison my water, pollute our air and/or compromise the safety of our environment with hazardous waste, you stand to have a negative on my quality of life. #4 Finances: Like many members of the middle class, my single greatest investment is my home. If my water is ruined or my air quality is ruined or my well dries up or we change our peaceful road and surroundings into a 24 hour hauling and drilling site, I'm threatened by losing my home's value and financial security. This would no doubt for me and many other Dryden residents be financial devastating. To the Town Board, I understand the desire to bring economic growth and opportunity to Dryden, but I don't think it should be achieved on the backs of many of us who have too little to gain and too much to lose. To allow hydrofracking in a region as densely populated as Dryden is, I believe, to gamble with the health, quality of life, and financial security of too many residents. Until the drilling companies can, without a doubt, demonstrate the ability to contain and limit the hydrofracking threats to those properties that choose to engage with them, I believe we should ban it. I don't believe we're the equivalent of sparsely populated or desolate gas town in Wyoming or Texas. This decision will impact the lives of many, if not all, residents. Having visited and worked in and spent time in gas times in Wyoming, the Gulf of Mexico and Alaska in the Anchorage basin on the North slope, I truly believe that once this monster is out of the bottle, there won't be any putting it back.

Charles Geisler – I live just down the road from the gas transfer station. I live across the road from the largest land owner in our neighborhood who has leased his land and it will affect all of us. I've read the proposed amendment rather carefully. I support the ban and I want to thank you for the considerable homework and thoughtfulness that has gone in to this, in particular the invalidity of permits in the town, point 5 under section 104, and I just quickly want to draw attention to it because it's extremely important that no permit that is issued by any local, state or federal agency will be recognized as valid in our town. I very much favor that. In fact, I would like to see us go farther, but I think your courage and foresight in protecting the town is outstanding.

Bruno Schickel – First of all, I would like to say, I do own a fair amount of land in the Town of Dryden and I do not have a lease. I also recently went down to Bradford County in the area just below Owego and spent about three (3) hours driving around down there. Contrary to what I've been hearing today about the industrialization, I actually drove 77 miles in Bradford County and I had a map. I knew where I was going. I was trying to locate the drill pads. I had a map showing where the drill pads were. I was looking for them and it was hard to find them. I located 8 different sites in 77 miles. Quite honestly, after the drilling was done – I saw a drill pad in operation, I saw some before they started, some after, and once they were done, there were two small little 10' diameter, 20' high white little silos, much smaller than a silo around here that are 60'-80' tall. Very, very low impact, I must say. I was surprised. I think this gas ban as proposed is too extreme and I do think that you need to find some middle ground. I would give you an example of why I think it's extreme. It bans all forms of gas drilling. Not just hydrofracking. The man talked about 300 wells up in Cayuga County and somebody says, they're not fracked wells. That's right, they're not fracked wells. But you're banning those type of wells in the Town of Dryden as well. You don't need to, but you're choosing to, and I think it's regrettable. I also think that you could take another alternative. You could say we're not going to allow gas drilling in certain zones. There are 120 parcels of land in this town that are over 100 acres in size. There is an enormous amount of land in big chunks and we are fortunate of that because farming is still in existence in the Town of Dryden. You could say you have to have 100 acres or you have to have 50 acres in order to put a drill pad in. These are reasonable things that could be put in place that is an alternative to where you're at right now. It's finding the middle ground that could be sought if you chose to and I would encourage you to choose to. I just offer one last sort of big picture thing and I think this goes to the Comprehensive Plan that we're dealing with now in the town and the zoning changes that we're dealing with on other things going forward – we all love the agricultural, farming landscape that farmers like Evan Carpenter have been supplying us with since the early 1800s; his family and Doug Barton's family. We love this country and we love the landscape that they are providing for us. I would ask you to think about this. For 40 years or more, agriculture has been declining. What is the result in the Town of Dryden? Fields are being abandoned, grown up in trees, back to forest. What does it mean? We're losing our views. Tremendous loss of viewshed is being lost due to the abandonment of fields. The other thing is, farming is declining, farms are falling down, all this beautiful architecture that we love, that signifies this area to us, we're losing. This has the opportunity that if the farmers were able to prosper a little bit, they would be able to keep their land. They would be able to pass it on to the next generation. They would be able to be good stewards of it the way they have been for a couple hundred years. I would strongly suggest that you consider adopting a more incremental approach. I would just say, farmers have had to sell off parcels of land to housing. That's the other area of the loss. They have to peel off a couple acres here and there to make ends meet and ultimately, we're losing this rural nature that we have. By allowing them to benefit from this, it would be good. Good for farmers will be good for Dryden.

Gideon Stone – Having listened to everybody speak tonight, I have a really hard time arguing with either side of the argument and the positions that everyone has taken. The thing that I would like to talk to you about is the one vein that kind of stretched through all of this, and that is the corporations that are involved in all of this. It's impossible to take them out of the equation. They're there, they own our government, and they are not going to leave and there is nothing you can do about that. That is a reality we have to face. The way that I look at this, whole situation is that everybody's afraid of losing something, whether it's the environment or your financial situation being harmed, but when it comes down to it, to me, the potential of environmental harm is going to far outweigh any economic gain that anybody will ever gain from this. Because of this, we need to take a stand and show the corporations that instead of looking for new ways to harvest gas, we need to show them that we want sustainable energy. That's what it comes down to. By casting this vote, and banning fracking, I think we're casting a vote that is speaking to the corporations in that sense.

Hilary Lambert – I have a well. I'm Executive Director of the Cayuga Lake Watershed Network, so I'm focused on what this means for protection of our water resources. I'm very much grateful to the board for moving this ordinance forward and am looking forward to your voting it in. I want to remind you that a lot of people are watching because this is going to be an example for other towns, for other watersheds. There are water protection organizations nationally who are interested in what you are doing here in Dryden and are asking for copies of the ordinance so that they can share them with other communities. There is an organization, the Fingerlakes Regional Watershed Alliance, that is made up of representatives from 9 of the fingerlakes. They are very excited about what is happening here, in Ithaca, in Ulysses and potentially in other towns around here. Thank you very much. A lot of people are watching and depending on you.

Peter Quinn-Jacobs – I'm 19 years old and I live on a farm. I've traveled a lot both in this country and in other countries. I know that when I settle down, I want to settle down here. What happens with this bill will affect the rest of my life. Like some other people have said, hydrofracking is an obvious bad idea. There have been plenty of studies done and everyone can see, if they've taken the time to look, that the negatives far outweigh the positives. In a cost benefit analysis, the costs are going to far outweigh the benefits. For me, for other people my age who are going to be inheriting this land that we're living on now, I want you to pass this bill banning hydrofracking.

Charles Hatfield – I think very highly of the Town of Dryden. To have a complete ban on this fracking, down the road I feel this fracking is going to change and there are going to be improvements. The Town could benefit by gas in the future. To completely ban it, I'm against it. You've heard all the pros and cons from everybody else, but I'd like to see you leave room in there in the future for possible gas drilling.

Russ Beck – I'm a dairy farmer. We own a lot of ground. We have zero leases on our ground. I'm not here to say we have to have money from gas leases to prosper and have a successful dairy business. I will be completely the opposite of that. Our dairy farm is third generation. We absolutely rely on clean water and treating the ground right. We cannot survive without that. I would not sign any lease that jeopardized our ground water. We have to have clean water. On the other hand, we work very closely with DEC through a KAFO?? Program permit and I can tell you that they are not an easy agency to deal with. Contrary to a lot of beliefs here that have no faith in our government whatsoever, I would disagree with that because I deal with them on a first hand basis and it's not always easy, but we do things right. The position the town is taking is not only banning hydrofracking, it is banning all gas exploration, which I don't understand for a moment. There's a lot of middle ground.

Supervisor Sumner – Can I take a minute to explain that, because it keeps coming up? The DEC does not allow local governments to regulate the industry. We're not allowed to say this technique is ok, that technique's no good, you can drill this deep but no deeper. Until we are invited to the table to have a say in some of those things, our only option is to regulate land use. Since we have not yet identified a place where we believe this might be safe, our only option is to ban it completely in the town.

Russ Beck – I still believe there is middle ground to be found and a lot of middle ground to be talked about and decided on. This type of decision, I think is an infringement on rights, and I understand all the water issues and I share those with you, but please be aware of what you're doing and the position you're putting a lot of land owners in that pay a lot of taxes, farms unfairly probably because our taxes are derived – it's not all about money – we have to have a good environment. I love the outside, I live the outside, but I do not agree with the position that you're taking.

Julie Van Erden – I am an environmental attorney and have extensive experience in the oil and gas industry. I'm from the Town of Fabius, a town much like Dryden; farming area, rural area, and I would just like to say that I gave the very same speech to that town meeting, so I feel the same way where it's my backyard and the house that I own and my well. I would like to point out that I've been to many seminars. I have talked to many scientists. I hope that you will look further and do the research in to the water quality and quantity issues. I have several articles here that I would like to give the board that speak to the depth of water wells and then the depth of gas wells, which are thousands of feet below the water table and why there is that impossibility of contaminating those water wells. Also, you hear scientists speak about any accidents that have happened in Pennsylvania or other states, and of course, accidents do happen. They will tell you those accidents are far less likely than a car accident on the way home. Further, those states don't have the environmental regulations that New York is looking at. New York State and the DEC are doing what they need to do to have uniform laws across the state, thereby protecting everyone equally, in a uniform manner. Also, those regulations, they look to reclamation as far as the land, the water, those things are addressed if you look at the DEC regulations that have been proposed. Of course, this is not without risk, but DEC is extremely strict. Anyone that has dealt with DEC on a regular basis knows that, and the regulations that they put in place. I wholeheartedly trust that they will take care of this. Furthermore, I have written materials for the board, if you will accept them, discussing the board's legal authority as opposed to the state's legal authority on these issues.

Kevin Mayer – I'm an artist, landscape painter, and part-time art teacher. I make my living from the land as much as any farmer. You might have seen me along the road sometime painting. The landscape and light and air is important to me. When I first heard about the fracking issue about four years ago, I started educating myself. One of the people I learned a lot from was Dr. Theo Coburn who runs an organization out in Colorado called The Endocrine Disruptor Exchange. He's a biochemist and he's documented a lot about the problems with the fracking industry, chemicals and so forth. I've heard some great things here tonight. I want to say thanks to the board and thanks to everyone who is here in support of the ban. I'm appalled at the prospect of fracking in Dryden. I'm prepared to put my whole life savings down here to buy some land and a home to spend the rest of my life. I don't want to see it go down the drain. I've thought about moving to other places, but there's nowhere to run. We need to take a stand here. We need to be stewards. We need to protect this land that we love. As far as trusting the government goes, Dr. Coburn points out that the fracking industry is exempt from The Clean Water Act, The Clean Air Act, The National Environmental Policy Act, pretty much any Federal regulation you can think of, and that's not by accident. I am leaving a copy for you of this CD – everything you need to know about natural gas drilling by Dr. Theo Coburn.

Marty Hatch – I've raised my family here, I've been a farmer. (Unintelligible – asked to speak in to the mic) We live in perilous times. Our institutions of government have been severely compromised by large scale corporations and very rich people. We know from The Daily News that people aren't paying their just due, whether it be corporations or rich people, and this has been getting extremely worse as time has passed since the time I first came to Dryden 40 years ago, to the present. These battles are being fought out in national circles and not successfully. Others have mentioned the large, out of state companies who control the activities of drilling and really set the pace. They're the ones who have all the money. They have lots of money. Someone recently said in the national political scene that folks like us, and I mean all of us, even those who are in favor of not having a ban, have no lobbyists paying millions to national and state government officials to have their opportunities to live in the way that they wish. Our town board is our immediate line of protection to our local environment and I commend the board for taking this matter as seriously as it has. I think we're not ready to chart a middle course because the forces that are allied against us are quite strong and a middle course will just be an opportunity to take away what it is that we value so much. I recommend that we pass this ban and that we continue to learn from all sources about the risks and the benefits.

Until those risks and benefits are thoroughly assessed and it comes out that the benefits outweigh the risks, we keep it going as strongly as we can.

John Burger – I appreciate how much time people have been putting in to this. I keep shuffling my notes because as time goes by, there are so many things that have already been said. One thing I would like to point out is how when we sit here talking about how we want to use our land, we only want to use a rational approach and things like this, what's left out of that is looking in to the context and the history of gas, oil, coal, etc., exploitation, not only in our country but around the world. It's really appalling and shocking how companies have used any method at all to cast just enough doubt to say, we didn't do that. One example that occurred out in Wyoming – the EPA came and they were examining a pit and they were finding chemicals that were in the pit, that were 10' outside the pit, and they said to the towns people, yes, the chemicals in the pit are the same as the chemicals outside the pit, and they're 15' away, but we caution you in saying that they came from the pit. They didn't say they didn't come from the pit. They only said, we caution you, don't get emotional about this, there's no proof it came from the pit. That's one example. Now going to Pennsylvania, a little closer to home, a company released over 200 gallons of pure hydrofluoric acid. It ran for a couple of days. The DEP down there fined them \$15,000, which is probably about a 10th of a percent of what they (Lamberg?) would make in a typical day. The DEP Commissioner said we don't really know what they use this chemical for; basically it kills everything in the ground. They don't like to let us know. Now we're talking about New York. We don't do things like that in New York. We have a DEC that's really on our side. I've been looking a little bit at this document. It's 1000 pages, a very deep document and it contains a lot of nice words, but when you start getting in to what they say they're going to actually do, it's not all that impressive anymore. One of the things they say they're gonna do is increase the vent pipes and have them go 30' in to the air instead of 20'. Chemicals will go up a little bit higher and come down a little farther away. That's not a great thing. Finishing up, I heard a gentleman speaking on a radio program from a landowner's coalition saying New York State is not ready. He said there were other ways that maybe in the future we could get at this gas, but this is not the way now. Even people who are well informed landowners who want to see the best practices are saying that we're not ready for this. I hope we'll support and pass this ban.

Lance Salisbury – Most people know me as an attorney but I also spent 4 ½ years in the drilling and gas production field. I thought my experiences might be useful to hear. Many people have done research and read about what they think is going to happen. Production of gas carries a lot of negative externalities with it. In terms of regulation, they are looking at putting a lot of regulations in place, but the reality is, in 4 ½ years, I never saw a regulator at a drill site on a drill floor. You have regulations in place and when there's an accident they will show up and they try to mitigate and they try to apportion blame, but when you're actually drilling and producing, costs run by the hour and the imperative is what you can get down the hole. Get your drill string down the hole, get the well in place. Start producing or seal it off. Those are the costs. You get your bonuses and your raises based on your ability to bring things in under cost and when you're on the floor, they don't care how that's done. That's important to keep in mind when you talk about regulations, because when you're there in the field, they (companies) mean well, but when it comes down to cut bait or fish, it's important to get things done. Most of the people I know who are farmers mean well. They look at that money as an extra source. Many are small farmers who are trying to keep their farm productive and stable. My other half's family lost their farm. I know what that means to families to lose those farms. The reality is for a town like Dryden, these are the communities that suffer most of the negative externalities. It's not just the water and the drilling issues, but there are a lot of negative costs that come with drilling. There are a couple of different ways drilling can happen. You get the camps where people come in, they're here two or three weeks on their shifts and then they're back home in Oklahoma or Texas, and you need to understand in terms of jobs, most of those jobs come from out of state, particularly the good jobs. Drillers, tool pushers, those are highly technical jobs. They're not hiring someone's 19-year-old kid to become a driller. You gain that

through 15-20 years experience. There may be, over time, a few jobs generated. And there may be some benefits to some businesses locally, but there are a lot of negative costs that come with the community in terms of increased needs for police, schools, etc. You need to look at all of those factors. Based on my experience, the more cautious and prudent approach is to put the ban in place. Once you start, you can't have a little drilling and try to stop, but you can go back and revisit it. I think you're taking the more prudent and conservative approach in the direction you're going.

Jennifer Savran Kelly – I want to start by saying I agree most with the gentleman who spoke about sustainable energy. Just to give the context of where I'm coming from, I'm not rich, I pay a lot of taxes, I struggle with my family to pay my bills and raise my 3-year-old son. I would not lease my land for hydrofracking. I understand that one of the arguments against the anti-fracking argument is that it's highly emotional and what I would say is that tonight, in this room, I'm seeing emotion on both sides. I understand and fully endorse that stand. It is an emotional issue. There are people who have a lot to lose on both sides. I look at my son and I want him breathing clean air and drinking clean water. I had prepared some scientific information about the dangers of fracking, but all of that has been mentioned, so I won't repeat it. I want us to use all of this energy to work together to find a way to fix all of the problems, and I think hydrofracking will contribute to them, not fix them. We need to look at alternative, sustainable solutions for boosting this economy. I think by placing this ban, we're not closing any doors, we are potentially opening many more that we haven't even considered.

Diane Kimmick – I'm on a dairy farm split by Route 38. No one can tell me about traffic. No one can tell me about noise pollution. I'm going to be in the barn past midnight because I'm here so late. The cows are probably crossing their legs. I do believe my land, my right. I don't think anyone in this country should be able to take it away mainly because you have such a great population against what I would like to do with it.

Rick Ryan – I plan on becoming an organic farmer here in this town one day. I wanted to thank you for this opportunity to speak, for considering this ban, for reviving my Democratic spirit to stand up for what I believe is right. For giving my unborn children, my grandchildren, the opportunity to stand right here in this same room and say that they are proud lifelong residents of the Town of Dryden. They want to thank you for keeping them safe. For being courageous enough to stand up to these large corporations and say no, you are not welcome here. We value the beauty and the quality of life way too much to allow drilling in our town. We want to live a more sustainable life that does not align with the values of gas companies. Dryden has been around here for hundreds of years and it will continue to thrive for hundreds more. With that being said, the responsibility will move from the Board to us residents; a responsibility to put our money where our mouth is, to buy local, to live a more sustainable life, to live and invest in this beautiful town that we call home. The responsibility is on us.

Lea Elleseff – I'm a local landowner. I moved here three years ago with my husband and five friends. We bought land. We pooled our limited resources – we're just out of college – we don't have much, and we bought 16 acres of land together to start an educational homestead for ourselves and the rural community. We're called The DACHA Project. One of the things we believe is that sustainability education is for all. Not just for urban areas with a lot of money like Ithaca, but in the rural communities as well. That's what our focus is on – sustainability: economic, environmental, and emotional. I've heard a lot of people here talk today about keeping emotions out of this. I think they're wrong. I think this is an emotional issue. Emotions are super important in this case. One of the things we want to do here is help strengthen our community through workshops that are free and education and just having a community space for people to come out and play. The other thing we want to do and have already started doing is starting businesses helping out the local economy and participating in various projects people already have. Lastly, we want to raise families. I worry that if this happens here, I won't get to do that. That my family and I will effectively become environmental refugees. I don't want

to that to happen because like somebody spoke before, there's nowhere to run. I want to take a stand here and protect our water, which is more important and more valuable than any money anybody's going to get. The other caveat I want to make is that people talk about how our economy needs it. This isn't a sustainable industry. This is a hit and run industry. It's going to leave us more devastated. Do we want new, creative ideas and new technologies or do we want to retreat back in to a hit and run industry? I don't want to live in an area like that and I won't be able to afford to live in an area like this if the water and the air is polluted. Thank you. I know what you're doing is really hard and we're here to support you as much as we can and I'm grateful for this opportunity.

Mike Lane – I'm a county official but I'm only talking today on my personal opinion about things. I'm an attorney in Dryden. I've practiced for 35 years. I don't have any gas leases. I don't own any large tracts of land. In my practice, I have recommended to my clients over and over again not to sign gas leases and I continue to recommend that to people who ask me. When I was in Village government a number of years ago, there was a big controversy going about where we were going to build a Tompkins County landfill. The focus quickly became the Town of Dryden, to the exclusion of the rest of the Towns in Tompkins County. I remember being in Village Government at that time and being very angry to hear a comment from an important planning official in Tompkins County who said, West Dryden is made for landfills. Well, it wasn't. When I heard about the draft SGEIS from the state saying that we couldn't hydrofrack around Skaneateles Lake or in the Hudson Valley because that might damage those watersheds, I said what are we, chopped liver? My well water comes from the Village commercial wells and all my neighbors and the people in the Village of Freeville who have private wells, the people around us have private wells, they're just as important to be protected. I don't think the state is doing that. I think the last line of defense is this town. I think it's necessary that we protect our residents. Thank you.

Martha Robertson – As some people have said, this is what democracy looks like. I'm also a county legislator and talking from my own personal experience but also as a county official. We worried about the cost to local government. The great projections of how this industry was going to be so good for local taxes and local economies is not true when those reports from Broome County and University of Penn State only looked at the benefits and didn't look at the costs. Local counties in Pennsylvania are seeing their local costs related to drilling double every year for assessment, for law enforcement, for social services, for housing because people are forced out of their houses. The promises of jobs, they're not local jobs for the most part. In fact, in Pennsylvania, the industry – when they talk about jobs, what they really mean is hires. Every time somebody is hired, that's called a job, even if it's a day, a week, or a month. So if somebody is hired for a week and that's it and then they're hired next month for a week, that's called two jobs according to the industry. I want to thank you all for your courage and I want to tell you you're not alone. I saw a map today of towns across New York State where they are in the process of considering or have already passed a ban and you are absolutely not alone. There are towns all across NYS doing exactly what you're doing. I will say that NYS legislature has some possible legislative remedies in the works, in particular Barbara Lifton's legislation, It's possible if legislation comes through that really codifies and strengthens town's authority, a local ban might be modified later, but there is no such legislation now. As other people have said, you folks are the best protection that we have. I feel very strongly about farmers who are here. We need all of you. Thanks to Evan and Russ and the woman who left to milk her cows, what we need to do is fix the Milk Price Policy in Upstate New York, not sacrifice the land. What we need to do is invest in bio-fuels. There are many ways to make our land more productive in a sustainable way. When folks have talked about property rights, if what you're doing only affects you, that's great, and I respect and would fight for your right if it only affects you, but when every fracking event requires 1200 truck trips, then it affects everybody. You can't have a little bit of drilling. Even if it's as safe as possible, as somebody said, there are going to be accidents. A car crash is not the same as a frackwater truck crashing and spilling in to a stream. Finally, for the young people who are here, this is so serious. Our future is at risk,

your future is at risk. This energy source is not even the cleaner fuel that the industry wants you to think it is. All you have to do is google Bob Howarth at Cornell. He has done the study to show that Shale Gas is not only more polluting in terms of global warming than conventional gas, it's more polluting than coal and diesel fuel because you have to look at the methane that's released in the fracking process, which is 100 times more warming than carbon dioxide. So this is guaranteed to warm up the earth. This is not the answer. There is no way to make it safe. There's no way to make it right. The only thing to do is ban it and I hope you do that. Thank you.

Bernie Cornelius – I own a lot of land here and I do have my land signed up only because somebody's gotta pay the taxes on it. I work closely with all of the gas drilling in Pennsylvania. I'm involved daily with the erosion control and there are inspectors. There might be an inspector for every 5 employees and I'm only on the top of the ground, I don't know about the bottom of the ground. I applaud you fellows for your time and your thoughts. There's been a lot of good points brought out here tonight that we need to consider. I'm not for it, I'm not against it, but I will tell you I employ 30-35 men, plus I buy a lot of commodities from local people to keep our business going, which is thriving right now. I sometimes wonder how many of you people have been down there so that you know what you're talking about. I wonder whether we can afford to or can we afford not to. It makes a big difference.

Bob Beck – I grew up on a local dairy farm. It's now run by my nephew Russ. I have some feeling about the economics of land use and farming and owning land. I don't own much land myself and of course I haven't leased my land. I feel strongly about the future of our town. I think that the hydrofracking issue is serious enough, the threats are serious enough, to say, for now, no. There are too many unknowns, too many dangers, too much threat to feel comfortable that it's a good thing for our community, for our land, for the people. Perhaps some time in the future, with new technology, it might be a good thing. For now, I applaud the board for looking at this seriously and moving forward with this ban because I think it's the right thing for the time. We need to think long term and think of our descendants who would like to live here in this beautiful community and we want to keep it beautiful as it is. I believe as many people have said before, there are other ways to make money to keep our community economically thriving and healthy. The short-term gain, if it is a gain at all, of hydrofracking is not the way to think for the long term benefit for all of us and our descendants.

Will Parker – I'm against this whole fracking. I'd like to see a ban. I'm very excited about the possibility of a ban for economic as well as environmental reasons. For one thing, we're dealing with multi-national companies. We're going to have a much bigger learning curve than they are. Their lawyers are going to be very well experienced and very well armed to take on anything we have. If it comes in to a court decision, it's going to be hard to find lawyers that can help us in dealing with it, because these people have experience with this. They've been all over the world. Our economy here is an agricultural economy. For us to survive, we have to be stewards of the land. We have to know how to live with the environment. If we break the laws, mother nature's laws take precedence. That right there is the thing. For us to survive economically, we have to be friends with it. We have to work with nature. This type of industry doesn't do that. It's not going to be feasible and compatible with existing economies. No one will want to buy Fingerlakes wines if they're aged with trade secrets. A brand new thing has come up – we're starting to get bear sightings around here. Friends of mine in Auburn have been told they have bears now because of hydrofracking going on – they're coming up from Pennsylvania. If anything, a bear is going to know what's a good environment.

Supervisor Sumner – I want to try and clarify one thing. I've heard a lot of people make comments about the Syracuse and New York City watersheds. I'm not going to defend this decision in any way, but I can explain it. The reason they are exempted from the process is because they have Federal permits for filtration avoidance. They have gone to great lengths over a long, long time to demonstrate that their water is so clean that they don't have to filter it.

They do not have the infrastructure in place to filter it should anything contaminate their water. It's a Federal determination. DEC may not be any crazier about it than we are for all I know, but they simply don't have the ability to treat the water if it's contaminated. I'm sure there will be further studies on this topic.

Jack Ruckheim – I'm a town resident and a manager at Bolton Point. BP gets their water from Cayuga Lake, which receives its flow from 3 tributaries that were mentioned earlier that flow through the Town of Dryden. BP serves some 30,000 people. I don't think it's a good idea to be putting those 3 tributaries in the lake at risk. The Town of Dryden also has residents who are Bolton Point customers. I think these are all things to consider when you are considering this legislation.

Jean Cotterill – I do have a gas lease on my property. I would probably do a gas lease if they didn't pay me a penny. I firmly believe that as a nation we need to be more self-sufficient instead of relying on other countries for our gas and oils. I do have natural gas coming in to my house. It's a nice, clean energy. I think a total ban on drilling is the wrong thing to do. There are gas wells spread throughout your town that you could go and you wouldn't even know that they were there. The cleanup at these sites is excellent. I will say that I worked at Environmental Conservation for 38 years in the Division of Environmental Permits. I did not work in the oil and gas industry. Those permits are not issued out of the Cortland office, but I did reviews for wetlands and streams. I know many of the employees that work in the air, water, oil and gas. They are very conscientious. I'd like to believe that I was a very conscientious employee. The people that I worked with are professionals. They are there for the same purposes that you are. They're there to save our environment, to not pollute the streams. They're going to do everything to the best of their ability to prevent that from happening. I don't know about fracking. I'm a little mixed on that. I'd like to believe we can do it responsibly. I know there are no guarantees. There are no guarantees that your fuel oil truck's not going to drive down the road and spill in to the stream. Accidents can happen. I don't know if the risks are worth that, but I do believe in the DEC. I spent my life there. I think a total ban in the town is the wrong thing to do.

Janelle King – It doesn't make sense to me to risk water. Water is life. Without that, we won't be here. No money is worth that to me. You can't take money with you when you're not here anymore. I really believe that we need to take a stand against that here and now and ban it.

Joe Osmeloski – I have a small 6-acre farm where I have standard bred racehorses. I'm for the ban. The bottom line with me is that I've been approached about selling my land. Each time, I asked if they could guarantee that my stream and my well won't be contaminated. He said, it's never happened, no problem. That's not a guarantee. Would I like the money? Of course I'd like the money. It's tough for me to get up here. I'm against drilling. The bottom line is, if anything ever happened to my water, I'm done.

Mary Warfield – I've listened very carefully and want to thank you for considering this entire situation. I went to a meeting a couple weeks ago where there was an earthquake specialist who spoke about the number of seismic situations in Pennsylvania. They had over 1880 earthquakes on a magnitude of 5, 6 or better. People who live miles away from wells and drill pads still had homes that had significant damage from seismic activity. He was bringing up some issues regarding Lansing and the Cargill tunnels and the salt mines and things. That could still be a problem in our area. The second thing that I'm concerned about is the oversight ability of the DEC. We all read in the paper over the last year about the layoffs at the DEC. There were 300-400 people that were laid off that worked for the DEC. With the layoffs and the budget cuts, I'm wondering how they're going to regulate and keep control of any kind of drilling that's taking place in Dryden, Tompkins County, or New York (State) for that reason. The other thing is, as Martha mentioned, there are going to be 1200 truck trips per well. This organization that did an overlay several weeks ago pointed out that there are scheduled to be

over 400 wells drilled in Groton and over 400 drilled in Dryden. Can you imagine the truck traffic if you multiply over 800 wells times 1200 truck trips? I don't think our infrastructure can handle this. As that 100 year old, dear, sweet individual said, money is one thing, water's another, what happens when we lose our water?

Jason Dickinson – I wanted to say that environmental concerns develop slowly over time. I have a house that's painted with lead paint over asbestos siding. For years and years, we did tons of construction with these things that cause lung cancer. My children are not poisoned. There are some very serious health concerns, however, that developed over a long period of time. In 1960, the Soviet Union was looking at their nuclear material and they decided to throw it deep in the ocean. It's miles underwater, it's 32 degrees, miles of darkness, nobody will ever live down there. They decided against it, and not because the Soviets were great stewards. They decided that once it was down there, it could never come up and if you put this poison, and hydrofracking is a poison too, but if you put it down 1000 feet, it'll be down there and it won't be able to come up.

Deborah McMillan – I'm against it. My husband grew up in an oil town in Pennsylvania. We went back for a funeral. That's a place with no overhead. Those oil refineries have been there for a long time. When they come in with hydrofracking, they got a lot of overhead they have to clear before anybody sees any profit. We could drive through Pennsylvania and see those oil wells are pumping in those farmers' fields and they've been there a long time. There is no overhead. It's pure profit. There aren't any rich farmers there. None. All the people our age, 60, are dying. They're all dying. This isn't the gas that you breathe, this is stuff that goes right through the pipes. There is a refinery there. When you go back, it gives you the chills, because not only do they hydrofrack, but they build the things that clean it in factories. One of those, I understand, is slated for Central New York. No expertise, that's just the way it is. Drive through Warren, you can see it.

Ken Schlather – One thing I haven't heard tonight, but I came in a little bit late, so it may have been brought up at the beginning, but there's been some argument in favor of hydrofracking and gas drilling saying basically that we're consumers of energy and therefore why shouldn't we be producing some as well. I don't know if anybody's brought up the fact that we have the ability here to produce about 35% of our energy on an annual basis year in and year out, it's inexhaustible. It's called energy efficiency and energy conservation. In Tompkins County alone, it could produce about 320 jobs a year over the next 10 years if we went and worked on broad scale energy efficiency here in the county. Every person who pays utility bills would save 35% on the utility bills. It's something that's democratic, it's far reaching, everybody benefits from it, it's got long-term job growth, and in terms of the savings to the entire region, we're looking at \$35 million a year. Rotated around back in the county produces another 350 jobs a year. So 760 jobs a year for the rest of our lives. It doesn't require water, it doesn't require huge amounts of truck traffic and it's relatively easy to do.

Barbara Apella – There are so many reasons I'm against fracking that I don't have time to list them all. I'll just mention how it would affect me and my husband. I have an environmental illness and we had to move to Dryden. It took us 6 years for me to find a house I could live in without getting severely sick. Just the thought of that sanctuary that we've finally found getting threatened is just too overwhelming. The idea of having to sell the house and find another one is more than I can even consider dealing with. That's just one reason.

Jan Burger – I have nothing to resay because it's all been said, but I'm starting to wonder if while people were talking you've been tallying up who is for the ban and who is against the ban, and I just wanted to be counted. I am for the ban.

Tom Rishel – I have two homes. I think that causes me to have a unique perspective on this. One home is in Ellis Hollow and the other home is in the nation of Qatar, which is the largest

producer of natural gas in the world. In fact, I would suspect that in the wintertime here, a fair portion of your natural gas comes from the nation of Qatar. It comes on ships. It's frozen and brought over. Over in Qatar, there is no such thing as a DEC, so there are no environmental regulations. The companies that go over there essentially have free reign to do what they want. I don't get a lot of the smell that some people get. The nation's about the size of the state of Connecticut and there are two main areas – one about 40 miles North of me and another about 10 miles South of me – where the natural gas is pumped out. Those places work continuously and, of course, the local people do not work except in the highest positions. The people who do the work there are usually people from Sri Lanka or Pakistan, or they might be an American engineer. What is going on over there essentially is a gigantic experiment. An experiment that's being played out on these people who come in from these countries where they cannot find jobs. They send all their money back home. Eventually they get sent back home. The people have no say over what the government is doing in terms of how the gas is extracted. You might say there is a similar experiment going on in Pennsylvania right now and in Wyoming, North Dakota, etc. What I would hate to see – I don't know what the situation is where the water is concerned – I don't know what the situation is as far as the air is concerned – I don't know what the various chemicals are that are being used. Yes, benzene is being used. I've written a paper on the question of the lead poisoning. I do not know whether lead is being used. I do not know which chemicals are being used. But I would hate to see an experiment used here in The United States, in particular, in this area right here in New York State. We have something that Pennsylvania does not have. We have the opportunity to say no to the fracking and I think we should do that, because we can get the kind of natural gas we need elsewhere and we can use other sources of energy. Over there, the situation as far as water is concerned, is not a major consideration. What they do is they take the natural gas, and with that, they use condensation to make distilled water, and they sell everyone distilled water.

Imari Meader – In the mid 80s, I was living in Etna when the county was attempting to site a landfill. At that point in time, Dryden was clearly the target. We had something on the order of 4 or 5 sites in our community. Several of us banded together in defense of our community even though we are perhaps not quite as elite as many of the surrounding communities, but we felt we had a way of life here to protect and we were concerned with the attitudes and the economics and the landfill in general. My experience in that process of three years of going to weekly meetings and DEC meetings and an SGEIS and continually trying to work the process in a cogent and intelligent manner was a very instructive one and very inspiring as well. I would like to say that the fact that our county decided after 3 or 4 years of this exploration not to have a landfill in Dryden, that it was in part because of the grassroots effort that we all did. I think it was more for the reason that we stalled the process. In that time, the economics of a landfill in this community changed completely. As a result of that, we don't have a landfill in our community. And what we have instead is a superior level of recycling and reuse and programs that are continuing to expand. I would bet that there's not a legislator that was involved in that process, regardless of the side that they were on, that they are not relieved that we don't have that landfill in our community now because I think it would have been an economic disaster. If not a disaster, at least a real burden on our community. There isn't the garbage that there used to be and we would have had to import garbage. I think it's of critical importance that we take our time and I appreciate so much the fact that our community is considering taking critical time, not just to assess the pros and cons currently, but to wait to see what unfolds in the future.

Danielle Lemaire – I am a Chemist. When I first heard that there was a possibility of gas drilling around here, I was concerned about what was happening just around my house, and then I discovered a few days ago that 4 or 5 years ago they started drilling about 4 or 5 miles away from our house and the well of the house where I live and the well next door were contaminated. I don't know the details because my neighbor is in the process of moving away and he couldn't provide much information about it, but what I want people to know is that you're not going to know that your well is contaminated until you suffer from the consequences

of it, and most of the time it's gotten to be too late. The other thing that I want to correct what you said about the experiment, you are not going to know about the results of the experiment, because these people don't stay there. They are going to go back to Sri Lanka, Pakistan, or wherever they came from and they are going to ignore what happened to these people. Are we to allow fracking? You hear about the health consequences of people who live on the land. What happened with the people who work in that field? I was told that they have special contracts, special doctors, and they are basically not allowed to say anything. Because they don't live in that community, they don't have relatives who could speak about their health problems and people eventually just leave the region and the people living in that region never know about the health problem that the workers in that field experience. The other thing that you have to know – when people tell you we need a source of energy, the gas that is extracted by this process is too expensive. They're not going to sell it here. When you say that the gas that we use here is coming from Qatar and we know that the gas that is going to be extracted here is going to be compressed and sold abroad, it's really proof that it's just a matter of money. My point is, you have to be objective about it and you have to realize that their primary interest is in making money. Their primary interest now is in getting a foot on your property. The moment they can get access to your property, they have access to your property for eternity.

Graham Dobson – I would like to say I'm for the ban. I don't like that we have to do this. I would like if there was a more balanced approach, but unfortunately, with the gas company, we are unprotected under the clean air, the water act, and things like that. I have a well and are they going to come and test it beforehand and test it while they're doing drilling? I don't think so. Is the Board then prepared to put in a water district for Etna, then Freeville, and so on? We talk about these costs being insurmountable for these communities. If these drillers want to come in, I would suggest that they put up a huge amount of money that if they contaminate anything, we could then afford to build that infrastructure.

Supervisor Sumner – We all need to learn a lot. There is so much information. We have several good sustainability programs going on in Dryden. I wish we didn't have to spend quite so much time on this. I wish we could finish with the gas drilling so we could talk more about sustainability.

Supervisor Sumner closed the public hearing at 10:05 p.m. There is a meeting scheduled for August 2nd. at 7 p.m. on another matter. There might be enough time between then and now to review these comments and vote on it that night. The Board has 60 days from the time the public hearing is closed to vote on the matter.

The Board recessed at 10:08 p.m. and resumed at 10:23 p.m.

RESOLUTION #121 (2011) – APPROVE MINUTES

Supv Sumner offered the following resolution and asked for its adoption:

RESOLVED, that this Town Board hereby approves the meeting minutes of June 8, and June 15, 2011.
2nd Cl Makar

Roll Call Vote	Cl Stelick	Yes
	Supv Sumner	Yes
	Cl Makar	Yes
	Cl Leifer	Yes

Highway Superintendent Jack Bush reported that there was a bid opening for the Sunset West and Sunset West Circle Culvert Replacement projects. A Sciarabba sent an email to Supv Sumner to bring the Board up to date. This was a structure we looked at back in 1997. We have gone out to bid to replace this structure. We put in the bid spec a possibility of an alternate which would be Sunset West Circle and Sunset West Road. They are both dead end streets. We can't do them both due to the cost involved. My recommendation to the board is that we just do the one structure this year. That would require the Board approving the Supervisor to sign the Notice of Award. This has been prepared by TG Miller. Chicago Construction from Endicott was the low bidder at \$98,300. There were 2 other bids. The other bids were for \$174K and \$243K. A Sciarabba spoke to Economy Paving, the next bidder, to ask about the discrepancy in the bids. They were taking in to account that they would have to drill vs. pound these posts that are going to be required to shore the bank in order to keep one lane open throughout the project since they're dead end streets.

The budget requested was \$120,000 with the idea that Town employees would be doing the job. That isn't possible now. The two employees with the knowledge to run this type of project aren't going to be available since one of them is now retiring and the other is going to be on vacation.

J Bush and Attorney Perkins noted that there was a slight irregularity in the bid opening. The bids require a bond or certified check in the amount of 5% of the base of the bid to be submitted with the bid. Chicago Construction did not include their bid bond, although it was noted in the bid packet that they had obtained one. The other two bids did include their bid bond. It was requested and was delivered later that day. It was dated prior to the day of the bid opening, so they did have it – it was simply not included in the packet. M Perkins advised that while the board should be aware of this, it should not affect the awarding of the bids.

RESOLUTION #122 (2011) – AWARD BID FOR CULVERT REPLACEMENT

Cl Stelick offered the following resolution and asked for its adoption:

RESOLVED, that this Town Board hereby awards the Sunset West culvert replacement contract to Chicago Construction, Inc., in the amount of \$98,300.

2nd Cl Makar

Roll Call Vote	Cl Stelick	Yes
	Supv Sumner	Yes
	Cl Makar	Yes
	Cl Leifer	Yes

RESOLUTION #123 (2011) – DRYDEN LAKE FESTIVAL PAYMENTS

Supv Sumner offered the following resolution and asked for its adoption:

WHEREAS The Dryden Lake Festival Committee was granted \$1,500 by the Tompkins County Tourism Board and;

WHEREAS The Town of Dryden is the RECIPIENT of the grant as defined in the **AGREEMENT** made by and between the COUNTY OF TOMPKINS, a municipal corporation in the State of New York with offices at 125 East Court Street, Ithaca, NY 14850 and TOWN OF DRYDEN and;

WHEREAS the Town of Dryden has already received the \$1,500 from the COUNTY for the purposes of executing the Dryden Lake Festival and;

WHEREAS the Dryden Lake Festival requires these funds released prior to the August 6, 2011 for the purposes of payments to critical event services providers therefore;

BE IT RESOLVED, that the Town of Dryden approves the pre-payment of vendors critical to the Dryden Lake Festival, not to exceed \$1,500
Stelick 2nd

Roll Call Vote	Cl Stelick	Yes
	Supv Sumner	Yes
	Cl Makar	Yes
	Cl Leifer	Yes

RESOLUTION #124 (2011) – APPOINT GIS TECHNICIAN

Supv Sumner offered the following resolution and asked for its adoption:

WHEREAS, the Josh Bogdan is currently filling the position of GIS Technician on a conditional basis and;

WHEREAS, he has taken the Civil Service test for this position and scored the top score during the exam; now, therefore, be it

RESOLVED, that this Town Board appoints Josh Bogdan as GIS Technician on a permanent basis.
Stelick 2nd

Roll Call Vote	Cl Stelick	Yes
	Supv Sumner	Yes
	Cl Makar	Yes
	Cl Leifer	Yes

COUNTY BRIEFING – Martha Robertson

Ellis Hollow Road is getting done! Tompkins County staff is working on the budget. Many of them are finalizing their requests. Joe Mareana has started having meetings with them.

There has been a lot of public discussion about the Cha Survey Home Health Agency and Office for the Aging. We're talking about moving them and moving the Justice Center out of the old library. The Office for the Aging is in the basement of the court house right now. It's taken a very long time to find a decent, affordable space. The Carpet Bizarre building has been purchased. On June 9th, the committee was asked for the final approval for the architects could finish the plans. We were asked to look one more time for a new location. There is a Brown Road location that opened up and could house Office for the Aging. The Justice center (Day Reporting, Family Treatment Court and Probation Drug Court) could all fit in the Carpet Bizarre building which is very close to the Social Services building which is where Probation is which would be excellent for that program. We could get out of the old library altogether, which we've also been trying to do for years. It could be used for something else or we could sell it. I'm supporting the move, we would save money by doing this.

There is a public meeting on July 25th, Monday night, doors open at 6:30, panel starts at 7:00, to help people evaluate the new dGEIS at the Women's Community Building.

COUNTY BRIEFING – Mike Lane

Pat Pryor's broadband committee has new meetings scheduled – next July 25 @ 5:30 – Dr. Brown from ICSD will be talking about the educational value of having internet access for all students and other initiatives like that.

The latest rendition of the Road Preservation Law will be at Government Operations Committee tomorrow. If it goes through committee, which I think it will, there will be a public hearing scheduled for the new local law. Some of the parameters have been changed so that projects with less than 1000 truckloads weighing less than 30K pounds won't be affected. There will still be a permit required, but the law would specify whether or not a bond is needed by the project owner in case there is damage to the roads.

CLARITY CONNECT TOWER PROJECT UPDATE

Beam Hill and Bone Plain got permits signed – Midline had a foundation issue but on their way. A 2nd hearing for Mt. Pleasant needs to be scheduled – that's a co-location.

FINGER LAKES LAND TRUST CONTRACT FOR IRISH SETTLEMENT ROAD PROJECT

Atty Perkins sent a agreement to Cl Makar. He had some questions. Are there any promised improvements with respect to public access? This is a typical item and if there are any, they should be incorporated in to the agreement. Supv Sumner remembered a discussion regarding a parking area being provided instead of cash, but that seems to have dropped out of the discussion.

Also, the 2011 budget doesn't have this included. The Board would have to do a public hearing and appropriate the money if we approve this in 2011. The Board asked Cl Makar to pursue the matter.

CONFIDENTIAL SECRETARY POSITION FILLED

R Brown has been hired to fill the Confidential Secretary position.

RECREATION DEPARTMENT ANNOUNCEMENT

The first Movie in the Park at Montgomery Park is this Friday – Despicable Me will be shown.

TOWN ATTORNEY – M Perkins

Atty Perkins handed out Article 9 in its complete form. The changes discussed last week were made to 902A and 902B16, 902H1 & 2 and 909B. Questions are in regards to 903 Signs. The section has been reorganized to read more easily. Under Commercial (Light Industrial) the wording is "Signs may be freestanding or placed on the exterior surface of the building." In the table, it refers to the façade. Façade is the front – was it intended to be the exterior of the building OR the façade. The Board said this should be the exterior of the building.

The following items Supv Sumner is going to follow up with the D Kwasnowski and get more information on what the Planning Board was thinking and bring that information back to the Town Board:

Signs on windows are not permitted?

f. Gasoline stations – Remarks – In addition, two advertising signs not to exceed 10 sq ft are allowed. Need to check if this is a total of 10' or 10' each.

5. For sale/lease signs - and/or OR and – go with and

7. c. Billboards - need to follow up on this one – this could be a constitutional issue

D.2. Signs cannot be illuminated from within. Why would you want to restrict that? This had to do with down lighting and light pollution.

D.1. Intermittent, rotating lighting ... Is this a restriction you want to keep as is or should it be modified or eliminated?

Supv Sumner would like to discuss the possibility of an administrative variance but on a smaller scale than proposed at the last meeting.

Still have Article X – PUD to discuss. Attorney Perkins and Planner Nicholson discussed the process and came up with a more streamlined process. The final draft of the definitions and Article X will be sent to D Kwasnowski for review and then sent to the Board.

There being no further business, on motion made, seconded and unanimously carried, the meeting was adjourned at 11:10 p.m.

Respectfully Submitted,

Patricia Millard
Deputy Town Clerk

Appendix II – B

Written comments received at the public hearing from:

Szymanski, Ron
Ferber, Martha
Lavine, Buzz
Kramer, Henry S.
Berkey, Arthur
Cipolla-Dennis, Deborah
Norte, Clifford E.
Cipolla-Dennis, Joanne
VanErden, Julie
Solomon, Joseph

From
7/20/11
Public Hearing

R. Szymanski

Date: July 20, 2011

List of Public Comments to the Dryden Town Board:

1. At the beginning of the process in 2010 to change the Town of Dryden Zoning Laws to meet the Comprehensive Plan objectives, the Town Board repeatedly stated that there was no deadline and all public comments and concerns would be addressed before new zoning laws would be established. Why is the zoning ordinance amendment to Article XXI (Miscellaneous) being considered separately for a vote tonight before all concerns by the public are addressed? Please explain the timing of the vote and urgency to the residents of Dryden.
2. Have all town board members read and studied the most recent DEC draft report released to the public on July 8, 2011 regarding high volume hydro fracking (HVHF)? Do you believe the information contained in this report is necessary to know before making a vote on the zoning amendment to prohibit drilling in the Town of Dryden? If not, why not?
3. The current report by the DEC finds high volume hydro fracking within the recommended regulations to be safe? Does the Dryden Town Board agree with this finding? If not, why not and please be specific and reference each point you dispute in the report?
4. When Governor Patterson was asked by the anti-drilling advocates in July 2008 to stop the DEC from issuing new natural gas drilling permits until a new study was completed, it took three years to release the current findings? Since little of this information is know by the Town Board and the town residents, would it be prudent and wise to avoid a vote on a new zoning law that has the potential of hurting our schools, businesses, farmers, landowners, local government and taxpayers?

5. The resolution of the zoning amendment prohibiting drilling in the Town of Dryden was first introduced and passed at a meeting on April 20, 2011. You are now considering a vote to adopt this law on July 20, 2011. Have you surveyed the farmers, schools, landowners, businesses, DEC, New York natural gas industry, and other interested parties on this law for their opinions before voting? Please share this information with the public or get it from your constituents before you vote. It is your duty as a representative body to fully consider all points of view.
6. Can you explain the Right of Capture to the residents of Dryden and how the zoning amendment to prohibit drilling is legally consistent with this law?
7. If you take the ability of the landowner in the Town of Dryden to drill for natural gas, how will the town compensate the landowner for the loss of their property?
8. If a property owner feels that the Town of Dryden through this zoning law has taken their property rights, do you recommend an Article 78 procedure to challenge the law? Or asked in another way, should the Dryden Town Board have an adversarial relationship with residents on this issue or find a less hostile approach to fairly resolve this matter?
9. What has the Dryden Town Board done in the way of community outreach to educate the residents of Dryden before taking a zoning amendment vote to prohibit natural gas drilling?

10. At the June 15, 2011 Dryden Town Board meeting to discuss the zoning amendment to prohibit natural gas drilling in the Town of Dryden, anti-drilling speakers during the public comment period spoke in support of this law. No one from the schools in Dryden, businesses, farmers, or other local government officials spoke to support this action. What has the board done to bring consensus on this matter in the community before passing this very controversial law?
11. MIT recently released a multi disciplinary report of 178 pages presenting the importance of natural gas to the United States. Has anyone on the Dryden Town Board read this report? Does the Town of Dryden have a responsibility to understand the importance of the natural gas resource to our state, region and country?
12. If there is a legal challenge to the zoning amendment to prohibit natural gas drilling in the Town of Dryden, how much will it cost the taxpayers?
13. Will you explain the potential tax base loss to the taxpayers of the Town of Dryden if the zoning law prohibiting natural gas drilling is passed?
14. It has been estimated that one natural gas well represents 10 new teachers to the school district in increased school tax revenue. We recently learned at the TCCOG presentation at the VFW on July 12, 2011 that 44 wells are possible. Will the prohibition of natural gas drilling hurt the education of our children in the Dryden School District? Please explain how limiting the substantial tax base increase to the school district is desired.

- 15. Is the use of hydro fracked natural gas allowed in the Town of Dryden?
Does the prohibition of natural gas drilling in the Town of Dryden create a conflict with the use of natural gas in the town? What do you recommend to replace natural gas?**
- 16. Is the Pre-emption Doctrine in New York State giving the regulation of natural gas drilling to the DEC the current law in New York State?**
- 17. Will the Dryden Town Board support the prohibition of natural gas drilling in New York State? If yes, what are the consequences to the residents of the town and the fourth largest user of natural gas in the US?**
- 18. Is the Town of Dryden confiscating the mineral rights of the landowners in the Town of Dryden with the zoning law amendment prohibiting natural gas drilling? If not, please explain how a landowner or coalition of landowners could capture and market their natural gas product.**

Remarks by Martha Ferger. POB 8, Dryden
7/20/2011

This morning the Ithaca Journal said that the state (i.e. Governor Cuomo) will soon launch an "extensive marketing campaign" as part of a regional approach to rebuilding the state's economy. I think the first thing the Governor should do is come out strongly in favor of a state-wide ban on the kind of fracking we are talking about tonight.

What sane business person would want to invest in an area fraught with all the dangers and environmental degradation we see ahead of us here if fracking is allowed, not to mention the higher taxes we will have to pay for expensive mitigations that will be too little and too late?

I thank all of you on the Town Board for the time and effort you have put into bringing this proposal before us tonight. By voting to approve it YOU are the ones, not the governor, who will keep this area healthy for business while protecting us from all the dangers that have accompanied fracking in other areas of our country.

Statement to Dryden Town Board, 7/20/11

Buzz Lavine buzz@baka.com

I'm Buzz Lavine. As you've heard from me before, we're looking for protection from the Gas Industry Beast. And with every new government report, it looks more certain that the needed protection won't come from either the federal or state government. The gas industry plainly spends unmatched sums of money on lobbying, campaign funds, propaganda, so-called scientific studies, and the like. They still assure us that gas drilling is perfectly safe, no problems! Then when the many problems keep occurring, they spend unmatched sums of money denying those problems and buying non-disclosure agreements. I've heard some call the gas industry "the dirtiest, slimiest, most arrogant, and negligent that you can imagine." Not the kind of neighbors we want. In short, we don't want to live in a proverbial company town, certainly not one run by that beast of an industry.

I thank you from the bottom of my heart for keeping Dryden from becoming that kind of company town.

I've written a few words to muse on this issue.

Fracking and Patience - What's the Rush?

By Buzz Lavine

**If we frack marcellus formations
and rush in with weak regulations,
we'll wake tomorrow
to disastrous implications.**

**As it turns out,
Even New York's fracking will:**

**Lower property valuations
and limit chances on mortgage applications**

**We'll lose our property rights to condemnations
and gain unexpected liabilities and obligations**

**Fracking will increase our hospitalizations
and also our future litigations**

**It'll ruin our quality-of-life reputations
and our clean-water accreditations**

**It'll also raise our property taxations
and lose our kids to out-migrations**

**It'll require costly reparations
and burden future generations**

**Perhaps worst of all,
it'll cause neighborhood transformations
with massive unregulated industrializations**

All these, and many other other degradations!

**These all are unneeded frustrations,
unneeded trials and tribulations.**

**Yes gas leases are attractive temptations,
but let's be smart and have some patience.
Let's not join the league of "Company-Town Nations"
Rather, the league of "Community-Spirited Town Associations."**

**Henry S. Kramer
1524 Ellis Hollow Road
Ithaca, NY 14850
(607) 275-3653
ConsultKramer@twcny.rr.com**

Statement to the Dryden Town Board, July 20, 2011:

I speak to unjust confiscation of landowner's rights and clouding of titles on Dryden land by a ban.

I do NOT, repeat do NOT, advocate unregulated development. Our environment must be protected, with narrowly tailored regulation, preferably uniform state wide, addressing specific problems.

The census for Dryden shows 10,000 adults. 5700 parcels of land have listed acreage. About 40% of these have leasable 2.5+ acres. 41% of all land is already leased. Most residents either own homes or land or are part of a family that does.

Lease offers in Central NY once \$25 an acre and 12% royalties have grown to \$3,000 per acre and 20% royalties. Already leased land shares in higher value. Leases end and may be renegotiated at higher levels. A ban means for 100 acres, at least \$300,000 in wealth is wiped out. For 10 acres, \$30,000 vanishes from its owner's pocket. A 100% tax rate. How's that for a *local tax levy?* Sound fair?

If the Board votes a ban, at \$3,000 value an acre, it votes to confiscate at least \$175M dollars of Dryden's wealth. That's taking the equivalent of the Town's total current tax levy until 2074.

A ban means turning our back on \$ 17,500 per capita for every adult, \$ 80,000 per parcel of land of 2.5 acres+. If each of these 2200 parcels has a 2.5 person household, 5500 people directly benefit, 42 % of Dryden's total population, not a mere few. All of us will gain from money in our economy.

A ban clouds titles of 41% of land. The courts in equity will extend leases so energy companies get the full lease period. With a ban, properties may carry liens forever --- real trouble for homeowners selling or mortgaging.

Compulsory integration is misunderstood. You don't get the lease fees but share in royalties and are never forced to allow drilling on your land.

Energy development will help many hard working people who are land rich and cash poor or underemployed. It will recapitalize our farms.

For Town government and educating our kids, safe development will raise new revenue. Given government's fiscal crisis and tax cap, we must cut government services. Energy development could pay for schools and roads.

Careful, safe energy development is possible. Consider all the facts. Look at the Dryden Safe Energy Coalition website at Drydensec.org. Nothing is risk free, but the problems must be weighed together with the rewards and a middle course adopted. A total ban is a very bad idea indeed.

(PRESENTATION BY ARTHUR BERKEY TO DRYDEN TOWN BOARD ON
BAN JULY 20, 2011 PUBLIC HEARING ON FRACKING BAN)

GOOD EVENING. MY NAME IS ARTHUR BERKEY. I LIVE ON A TWO ACRE
LOT AT 1205 ELLIS HOLLOW ROAD - - TOO SMALL FOR A GAS LEASE SO I
HAVE NO DIRECT FINANCIAL STAKE IN A FRACKING BAN.

I REQUEST YOU VOTE AGAINST INSTITUTION OF A BAN FOR THE
THE FOLLOWING REASONS:

1. WHILE I SHARE THE CONCERN OF MAINTAINING A SAFE WATER
SUPPLY , I HAVE BEEN UNABLE TO FIND ON THE WEB DOCUMENTATION
OF POLLUTION OF AN ACQUIFER DESPITE FRACKING BEING CONDUCTED
FOR SOME 20 PLUS YEARS. I DID FIND AN INCIDENCE OF A SURFACE
WATER SPILL INTO A STREAM. HOWEVER, NEW TECHNOLOGY OF
USING METHANE RATHER THAN TOXIC LIQUIDS WOULD ELIMINATE RUN
OFF AND ALSO ROAD DAMAGE FROM TRUCKS TRANSPORTING
THE LIQUID FOR DISPOSAL

NO OPERATION IS EVER 100 % RISK FREE AND THE EPA
REGULATIONS ARE DESIGNED FOR RISK MANAGEMENT.

2. THERE APPEAR TO BE MAJOR LEGAL JURISDICTIONAL
QUESTIONS THAT PREDICTABLY WILL RESULT IN LEGAL ACTION
BY GAS COMPANIES . LITIGATION COSTS TO THE COURT OF APPEALS
ARE ESTIMATED AT \$100,000 AND I DO NOT WISH TAX MONEY TO BE

USED FOR THIS PURPOSE. THE TOWN OF ITHACA HAS ALREADY INCURRED THIS LITIGATION LIABILITY FOR RESIDENTS.

3. FINALLY, AND OF MOST IMPORTANCE,

A BAN WOULD CONSTITUTE CONFISCATION OF RESIDENT'S MINERAL RIGHTS WITHOUT COMPENSATION. FOR EXAMPLE, YESTERDAY AT A SENIOR LUNCHEON A RETIRED RESIDENT WITH 11 ACRES AND A SPOUSE DISABLED WITH ALS MENTIONED NEGOTIATING FOR A GAS LEASE FOR AROUND \$25,000 PLUS 20 % ROYALTIES. A BAN WOULD UNFAIRLY ELIMINATE THIS INCOME.

THE TC ASSESSOR'S OFFICE ESTIMATES 41% OF ACREAGE IN THE TOWN OF DRYDEN IS UNDER LEASE. A BAN WOULD FREEZE LEASE AND ANY ROYALTY PAYMENTS TOTALING MILLIONS OF DOLLARS IN OUR TOWN ALONE NOT TO MENTION THE LOSS OF JOBS AND TAX REVENUE THAT WOULD BE GENERATED FROM SUCH INCOME.

GAS PRODUCTION IS THE ONE ASSET WITH POTENTIAL TO PROVIDE THE BADLY NEEDED ECONOMIC STIMULUS FOR UPSTATE NEW YORK STATE AND SHOULD BE PURSUED UNDER STRICT REGULATIONS PROTECTING THE ENVIRONMENT.

THANK YOU FOR THE OPPORTUNITY TO SPEAK TO YOU THIS EVENING..

20 July 2011

Town of Dryden Public Hearing on Banning Hydrofracking

Deborah Cipolla-Dennis

964 West Dryden Road

Freeville, NY 13068

You all have heard from me several times on this issue so I do not believe I need to go on about my opinions on hydrofracking or the dangers of this evil industry.

I will simply say that I support this resolution and amendment and I am hopeful that you will move expeditiously to get it in place.

In the remaining couple of moments that I have, I would like to express my sincere gratitude for everything that you have done with respect to this issue. You have come a tremendous distance in the past year. I feel that you have listened to the people, you have researched this complicated matter, and you have taken bold action to protect your community.

It is what we expect when we go to the polls in November. Even though we are often disappointed, with respect to our state and federal representatives, you have shown that we can trust you to do the right thing at the local level.

I look forward to continuing to work with you to ensure that our town remains protected through the upcoming zoning changes.

Thank you again for all your efforts.

Cleff Note

To the Town of Dryden and its residents:

I am addressing the proposed zoning/land use changes. It is my understanding that these proposals are being justified, at least in part, by a survey that was sent to town residents some time ago. On this survey some people indicated a wish to preserve open spaces. We live in a beautiful area and most of us do appreciate the rural nature of the town. However a survey does not get everyone's opinion and the results can be influenced by how the questions are asked. If the question had been worded for example, "what price are you willing to preserve open space"? The answers may have been very different. I also believe that many respondents who indicated they were in favor of preserving open space, don't own any. It is easy to tell someone else what to do with his or her property.

Landowners in this area continue to be saddled with ever increasing regulations and expenses. This makes it difficult for individuals to keep land that is not producing income, or to produce income with the land that they own. If you want to keep collecting some of the highest property taxes in the Nation, you need to allow landowners to derive some income from their property. We already have large amounts of land in the Town of Dryden owned by individuals or organizations that plan to keep the land undeveloped. I am not opposed to that. I believe the landowner has a right to decide how their land is used. The problem is, the owners of a great deal of this set aside land pay no property tax. This in turn increases the burden on the other landowners.

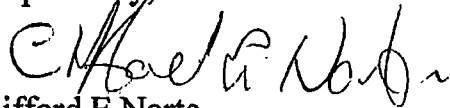
The proposed land use map shows a large portion of the town being classified as Conservation District. I believe this will further erode the tax base and stifle development.

I realize some town residents are opposed to any new development of any kind, but some one at some time built the house where they now live. When the gas gauge on their vehicle reads empty they want a gas station handy, when they hit a deer they want to find a body shop to repair the damage, when they need their drive way repaired they want products from a gravel mine. When winter comes they want energy products to heat their home, when they go to the store they want to find products on the shelf that were brought in by trucks. These same people are often the ones that want no new houses, gas stations, or body shops. They want to close existing operations that don't meet their strict "vision" for the town. They want to regulate and tax energy development and transportation out of the area.

The proposed zoning takes away landowner's rights to use their property and offers no compensation. To take without compensation, is defined as stealing.

I have a long history as responsible landowner and taxpayer. If the town or its residents do not trust me to continue to manage my property in the Town of Dryden, or believe that their "vision" for my land is better than my use of my own land, then it is time for them to buy it, not take it, from me.

Respectfully,

A handwritten signature in cursive script, appearing to read "Clifford E Norte".

Clifford E Norte

Most good and worthy endeavors are accomplished in spite of, not because of, government.

7-20
TD Mtg

20 July 2011

Joanne Cipolla-Dennis

964 West Dryden Road

Freeville, NY 13068

I became a member of DRAC once I learned that the dream home we were building was surrounded by leased land. For more than 2 years we have been studying the entire process of methane gas development throughout America. Having just returned from another trip out west I was able to see several states affected by gas development. In Wyoming where my brother lives, the water is delivered to water buffalos because the energy corp's used clean water, contaminated it and now the corp's control the water. The air is reported to be as toxic as L. A. This is happening in each state fracking shale gas takes place. It isn't if you get contamination, it's when and how bad. We learned that shale gas production can only be accomplished with wide spread industrialization of entire regions. The tactics corporations use to convince a governor to allow drilling are well practiced and successful in many states now overrun by drillers. Industry convinces a governor "It's going to be done safely here", "needed jobs will be abundant and that we need that gas to end dependency on foreign oil. For starters we are talking about methane gas, not crude oil, the jobs will not be plentiful for New Yorkers but for people brought in from other states trained in the complex and dangerous activity of extracting methane gas. The jobs available for New Yorkers are for young men who are physically fit, need money, and are too young to know that these corporations use people up. Young guys don't ask questions about the chemicals they are exposed to.

We have learned Fracking shale gas is a cause and effect practice. Water contamination is probable, air is laden with Diesel fuel and hundreds of thousands of heavy vehicles fill the air with Benzene, a very dangerous known carcinogen is present at each site beginning immediately and it doesn't dissipate. This causes Ozone that occurs at ground level which is extremely harmful to humans and animals. Benzene is a killer, causing lung cancer and leukemia. It is like smoking cigs with each and every breathe 24 hours a day. My sister lives in N Dakota where drilling has overtaken them, She cares for a young 7 year old boy who suffers from Lukemia, requires very extensive and expensive health care not paid for by the industry that created the Benzene he was exposed to. Her water is not drinkable. The locals have been forced out of their homes and rents have tripled to accommodate influxes of rough necks.

While visiting Dimock, Pa in March of 2008 I got out of my car to take pictures. I was immediately subjected to toxic diesel fuel from a well site 500 yards away. A clear blue sky, a spring morning, and no one was walking their dog, riding a bike, or enjoying the spring break because every breath was as if I was smoking cigs. On that day I realized for sure, I wouldn't be able to finish our dream home we had started building as it became evident we will not be able to breathe the air or enjoy the peace and quiet we moved here 5 years to experience in our retirement. Our half finished home on 33 acres will be a total loss if drilling is not banned. These are also the reasons why banks aren't lending for mortgages on or near leased property...it's a bad investment. So you have some property you want to build on...good

luck getting a mortgage...want to sell your home...the new owners will need cash to buy...that is if you can sell a home near leased land...word is out, just the possibility of gas production here has already affected sales.

We came to the board on many occasions, asking you to learn, to go and see for yourselves, what is like to take a peaceful rural, safe, clean environment and turn it into a gas development zone, so that you are able to make sound decisions about our community's future. I asked you to view the EPA hearing last May where the people of W. Va. Ohio and Pa. spoke. Those 4 1/2 hours of testimony which 1200 attended, became a visceral experience and the faces of worry, fear, animated in anger while they slammed the EPA for abandoning them. That experience is not one I would like to ever repeat and it remains present with me today. Some of those statements were "my cows are having blind and terrible disfigured calves, some are still born, I can't farm my land", Another man says, "This is the worst decision I ever made," Another stands at the mic, barely able to speak from his grief, "My 5 goats have all died, I am alone, they were my children" Another man tries to hold his tears back says, I was friends with my neighbor for over 50 years, I have ruined his life by signing a gas lease, we aren't friends anymore". When one realizes the enormity, vast wealth and power the industry uses to exploit people and shale gas, it is truly frightening.

Tonight it is my hope that you will unanimously vote to ban high impact, heavy industrial development like shale gas production and protect our Constitutional Rights, our water air and health, As the law stands a land owner who leases their land signs away their constitutional rights to life, liberty and the pursuit of happiness, unknowingly also sign away mine, the plan for property is irrelevant if my neighbor holds a lease, most people have no idea that this is true.. Horizontal fracking is the ability to take another's gas, even if they don't want to sell it. It gives the industry the right legally to explode shale under my land, take my gas, against my will, pay me a pittance for which I have no say, contaminate my land, water and air and make it impossible to live on the property. My land, through Compulsory Integration allows the industry to make me participate in the scheme I want no part of, that is Un American.

My neighbor is now partners with the industry that seeks to destroy my American Dream, risk my health, safety and water, ruin my investment along with my plans. When voting to ban this industry you preserve our constitutional rights to life, liberty and the pursuit of happiness afforded all Americans. Landowners will soon realize you have saved them from themselves and from a notorious industry, that practices the same deception over and over from state to state for nearly 200 years. A landowner who leased now becomes the primary victim, taking on all the costs from losses by their neighbors. One would have to make several million dollars to cover the expenses of lawsuits brought by neighbors suffering from losses. It is the land owner who immediately begins losing, bears the brunt of land contamination, clean up costs, loss of water, health, home and property values. It's the landowners who is often sought in litigation rather than the industry. Landowners must be prepared to learn deciding to allow drilling will cost them more than money. I have seen people and animals die, get sick and be quarantined, entire herds of cattle dying, Last Oct. I watched my little Beagle of 14 years die from cancer, We all say the same thing when a loved one has cancer,,why? The process of extracting gas causes cancer, we can stop it from killing more innocent people and animals by not allowing it. A vote to

ban this activity is the only way to keep these experiences from being our realities of the future, We have the best minds at Cornell saying it's not safe, and not clean energy as it's touted but more damaging than coal production. If landowners don't listen to evidence, science and experience continually repeated to the public by Tony Ingraffea, Bob Howarth, Bill and Sandy Padulka or Sandra Steingraber(??spelling) what will they listen to? Those who say the industry can be regulated, policed and held accountable, do not know the history, practices and deception committed by the industry across this country. They don't know that the EPA cannot protect us. They don't understand that this industry is looking at NYS like a rapist looks at little girls. Landsman, CEO's and industry associated public speakers are the pedophiles of industry, grooming New Yorkers, saying anything to get us to trust them, all the while knowing we will all suffer the consequences of methane development that will destroy our lives and steal our innocent dreams. They stoop to the lowest, have no feeling, are cold, calculating and relentless. They are well practiced in executing plays in the diabolical plan.

For 3 years Pa residents have suffered numerous failures, explosions, deaths. Colossal catastrophes, like exposing 800,000 residents of Pittsburgh to fracking fluids containing high amounts of carcinogens, heavy metals and salt in their drinking water. The industry's solution to pollution is delusion into rivers and streams. That is why we seek protection in zoning out this industry's practices.

The forfeiting of a neighbors Constitutional Rights, subjecting the innocent to cancer by polluting the air with Benzene, clean water with chromium, radium and methane and depositing toxic fluids into the ground forever compromising a clean water wells. Landowners have yet to understand that if their land isn't suitable for drilling, it's suitable for compressor stations, methane storage, chemical and radioactive storage, refinement, deposits of hundreds of thousands of gallons of toxic and radioactive waste and ALL of these uses are NOT royalty based and no additional funds will be made for using leased land in any way the industry needs. It is also the landowner and partner with the corporations are also susceptible to lawsuits for any and all failures, contamination, explosions, loss of life, property and livelihoods of their neighbors. If the wells don't produce enough money to cover these expenses the landowner losses again. Being for gas development is like saying it's fine to give ones wife cancer, children asthma, elderly parent breathing related illnesses. Signing a lease knowing the cause and effects of gas development is like saying it's ok to that your grandchildren will be born severely deformed, have learning disabilities, leukemia or any number of serious health issues, is it worth the money to watch your pets die before your eyes? Some folks call themselves Christians yet they conveniently forget do unto others as you would have them do unto you and treat thy neighbor as thyself. If the damages could be kept solely on the property developed, was in compliance with local code, didn't risk our water, air and health and investments in other strong economies do we honestly think we would be here right now.?

If there are any vets in the room this is your call to action, the country is being destroyed by foreign corp fracking shale gas. Billionaires that care not for any of us or America will continue to reap billions each year by trapping landowners, lying to governors untouchable by rules, regulations and Laws. America is at war... right here at home, The terrorist are the energy corp who seek the gas by destroying the land, air and water, creating a vine of millions of highly explosive gas lines and storage facilities that are looked at as targets to topple America, All of these facts can be easily verified. The last point I want to

make is that despite the sickening propaganda that we need the gas. The truth is The dept. of Energy states that America's storage of natural gas is at full capacity, the market price has fallen by more than half, and Americans are using less gas than in previous years. That is why this gas will be exported to countries vested in Chesapeake Energy, BP, Norse Energy and Talisman. Fracking gas we don't need makes no sense, a volatile fossil fuel should not be looked at as a viable resource for revenue when it costs Americans unfathomable damages. America will fall if shale gas development continues.. In New York we ask questions and say no.

Despite the Governor Cuomo's decision to save only certain New Yorkers, you have the power to protect us. New York is THE state all the country is watching. We give hope to citizens across the country that the people can rule. The people of Ithaca have decided. The people of Pulteney came together to tell Chesapeake energy Hell No to dumping toxic gas development waste there, they gave me hope and inspiration and displayed a renewal of the American Spirit that birthed our nation .. I come here tonight to ask you to vote your conscience, base your decision on fact, evidence and science It is painful to learn the truth, to know and understand the industry's practices so disturbing and unbelievable people think it can't possibly be true.. it's shocking to know the truth and terrifying to think we are next. Once you know you can't not know.

our nation is but 235 years old and we should be ashamed that we have allowed the corporations to rule at the expense of Americans. We all must come together learn the industry practices and make no mistake here, they come, they rule we suffer we leave.. and the corporations win again, America slips further away.

It takes great courage, leadership and patience to deliver for the good of all of us. Each of you display these qualities. Taking on the people's business is an act of selfless service which I am grateful to each of you and you all have earned my respect and my vote no matter your party.

Act with swift action and unanimously vote to ban high impact, heavy industrial activity into our local zoning ordinance, effective immediately to ensure the health, safety and welfare of all of us. The duty you have sworn to uphold above all else.

RIEHLMAN SHAFER AND SHAFER

ATTORNEYS & COUNSELORS AT LAW*

ROBERT M. SHAFER
AMANDA C. SHAW
MATTHEW R. NEUMAN
LOUISE M. THURLOW
JANE G. KUPPERMANN
JOEL I. ROSS
JULIE A. VAN ERDEN
KELLY M. COLASURDO*

397 Route 281, P O Box 430, Tully, NY 13159-0430
(315) 696-8918 FAX (315) 696-6851
e-mail – jvanerden@richlmanshafer.com

39 Church Street, Cortland, NY 13045
(607) 756-4006 FAX (607) 753-0182
e-mail – rsslaw@richlmanshafer.com

TIMOTHY G. RIEHLMAN
CHARLES E. SHAFER
OF COUNSEL

MARY ANNE McCLOSKEY
Legal Assistant

*Also licensed to practice in Ohio
**Please reply to Tully Office

July 20, 2011

Dryden Town Board
93 East Main Street
Dryden, NY 13053-9636

Re: Proposed Amendments to Zoning Ordinances and Regulations to Ban Heavy Industry

Dear Town Board Members:

My office represents Beck Farms, LLC (“Beck Farms”). Russell Beck, member of Beck Farms, asked me to attend the public hearing on the above referenced matter, in order to express his position in favor of landowners’ rights to use their land as they see fit. As a citizen of the Town of Dryden, Mr. Beck’s position is that if the Town enacts the proposed zoning ordinance and/or ban on heavy industry, his constitutional rights will be violated, the exclusionary zoning laws will be violated and the Town will have affected a taking of his land. Please accept this letter as written comment to the above referenced matters.

First, please note that according to Syracuse University Professor, Donald Seigel, who specializes in studies relating to oil and gas exploration and its effect on water, there is nothing to fear as far as water quality or quantity if oil and gas drilling comes to this area in full force. Please see Mr. Seigel’s Curriculum Vitae, attached hereto. The gas wells are drilled far below the water table, eliminating the possibility that the hydrofracking materials will travel to the water table. Please see the articles attached here which address the arguments of environmental impacts of oil and gas exploration. You will see from each of these articles that many of the horror stories told about oil and gas exploration are simply untrue and unverified.

There are numerous benefits to oil and gas exploration. First and foremost is the tax revenue that will come to the State of New York. This tax revenue is likely to result in additional benefits to the citizens of the state, including decreased taxes and better public programs. Further, the local economy will be strengthened by the need for truck drivers and the increase in business for local hotels, landlords and store owners.

It is the intent of New York State ("NY") and the Department of Environmental Conservation ("DEC") that the laws regulating oil and gas exploration be uniform across NY. The Town does not have the authority to invalidate state law through a local ordinance. The Town cannot utilize a zoning ordinance to restrict legally permissible activities.

New York State Environmental Conservation Law, §23-0303(2), states that "The provisions of this article shall supercede all local laws or ordinances relating to the regulation of the oil, gas and solution mining industries..." Therefore, the Town does not have the authority to enact either of the proposed ordinances which will restrict oil and gas drilling in the Town of Dryden.

In *Envirogas, Inc. v. Kiantone*, 447 NYS2d 221 (4th Dept 1982), the court stated that "the actions of town officials in passing and enforcing a local ordinance that provided that no oil or gas well should be constructed in the town without prior payment of a \$2,500 compliance bond and a \$25 permit fee were arbitrary, capricious and contrary to law, since ECL Article 23 supercedes and precludes the enforcement of all local ordinances in the area of oil and gas regulation." The proposed ordinance in the Town of Dryden is very similar to this ordinance which was struck down by the Fourth Department. The case law is clear that the Town does not have the authority to enact the proposed ordinances.

Under New York State Law, a Town can limit land use only if it is a reasonable exercise of police power to prevent damage to the rights of others and to promote the interests of the community as a whole. First, this is an unreasonable use of police power by the Town because the Town has no proof of any damage that would be caused to the rights of others. Even the State, after extensive investigation, has not provided conclusions of damage to peoples' rights based on the rules and regulations put in place by DEC.

Secondly, this proposed limitation of land use does not promote the interests of the community as a whole. Clearly, a limitation on a landowners' use of his own land is not in the landowners best interests. A landowner has the right to use his land as he sees fit. This is clear constitutional law. Additionally, Town citizens will benefit from oil and gas exploration based on the economic benefits discussed above, including, but not limited to, tax revenue, the increase in jobs that will be created and the additional revenue for many local business owners. Therefore, it is clear that limited land use in this manner does not promote the interests of the community as a whole.

It is well settled in New York that where regulatory actions restrict the ability of a landowner to enjoy his property, it will be an unconstitutional taking requiring compensation. *In the Matter of Stanley Friedenborg, et al v. New York State Department of Environmental Conservation*, 3 A.D. 3d 86 (2d Dept. 2003); *de St. Aubin v. Flacke*, 68 N.Y.2d 66 (2d Dept. 1986). New York State landowners have always had the right to use their land for oil and gas exploration. If the Town enacts this zoning ordinance, that right will be taken away from local land owners, resulting in a taking of the land.

addressee name
July 20, 2011
Page 3

RIEHLMAN, SHAFER & SHAFER

If the Town Board decides to enact this local ordinance, there will likely be litigation against the Town. Please see the attached article in which Joseph Martens, Commissioner of DEC is quoted, stating that a Judge will have to decide whether an outright ban on hydrofracking is a permissible Town action.

Given the information provided here, which is contrary to the information in your previous presentations, I would urge you to take the time to research this matter further prior to voting on this matter.

Thank you, in advance, for taking the time to carefully consider the arguments on both sides of this issue prior to making a decision.

Very truly yours,

A handwritten signature in cursive script that reads "Julie A. Van Erden".

Julie A. Van Erden

JAV
Encl.

DONALD I. SIEGEL

Department of Earth Sciences
204 Heroy Geology Laboratory
Syracuse University
Syracuse, NY 13244-1070 USA

Office: 314 Heroy Geology Laboratory
Phone: 315.443.3607
Department: 315.443.2672
Fax: 315.443.3363
Email: disiegel@syr.edu

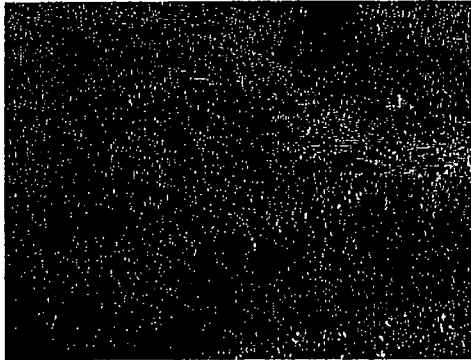
EDUCATION

University of Minnesota Hydrogeology 1974 1981 Ph.D.
Penn State University Geology 1969-1971 M.S.
University of Rhode Island Geology 1965 1969 B.S.

PROFESSIONAL RECOGNITION

Lifetime Associate Member, The National Research Council Science, 2008
The O.E. Meinzer Award, Hydrogeology Division, Geological Society of America, 2005
Wasserstrom Graduate Mentoring Prize, Syracuse University, 2003
Councilor of the Geological Society of America, 2002-2005
Distinguished Service Award, Hydrogeologic Division, Geologic Society of America, 2001
Fellow, Geological Society of America, elected 1995
Birdsall Distinguished Lectureship in Hydrogeology, Geological Society America, 1992-1993
Professor of Earth Sciences, Syracuse Univ. 1982-present;
USGS Hydrologist, 1976-1982;
Chairman, Hydrogeological Division, Geological Society of America (GSA), 1994-1995;
GSA Fellow, 1995;
GSA Birdsall Distinguished Lecturer, 1992;
GSA Distinguished Service Award, 2001;
GSA Councilor 2002-2005;
GSA Meinzer Award, 2005;
Life Time Associate Member of the National Research Council of the National Academy of Sciences and Engineering, 2008;
GSA Book Editor, 2007-2012;
Syracuse University Wasserstrom Award for Graduate Teaching and Mentorship, 2003;
Research interest in contaminant hydrogeology, paleohydrogeology, and wetland hydrology.

CURRENT RESEARCH INTERESTS




- * Development of lump-parameter and new modeling approaches to characterize non-point contamination and solute transport in watersheds in the United States and China
- * Wetland geochemistry and hydrogeology
- * Isotopic geochemistry of water and solutes to characterize solute sources and groundwater resources
- * The intersection of law and hydrology



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THE WALL STREET JOURNAL

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REVIEW & OUTLOOK | JUNE 25, 2011

The Facts About Fracking

The real risks of the shale gas revolution, and how to manage them.

The U.S. is in the midst of an energy revolution, and we don't mean solar panels or wind turbines. A new gusher of natural gas from shale has the potential to transform U.S. energy production—that is, unless politicians, greens and the industry mess it up.

Only a decade ago Texas oil engineers hit upon the idea of combining two established technologies to release natural gas trapped in shale formations. Horizontal drilling—in which wells turn sideways after a certain depth—opens up big new production areas. Producers then use a 60-year-old technique called hydraulic fracturing—in which water, sand and chemicals are injected into the well at high pressure—to loosen the shale and release gas (and increasingly, oil).

The resulting boom is transforming America's energy landscape. As recently as 2000, shale gas was 1% of America's gas supplies; today it is 25%. Prior to the shale breakthrough, U.S. natural gas reserves were in decline, prices exceeded \$15 per million British thermal units, and investors were building ports to import liquid natural gas. Today, proven reserves are the highest since 1971, prices have fallen close to \$4 and ports are being retrofitted for LNG exports.

The shale boom is also reviving economically suffering parts of the country, while offering a new incentive for manufacturers to stay in the U.S. Pennsylvania's Department of Labor and Industry estimates fracking in the Marcellus shale formation, which stretches from upstate New York through West Virginia, has created 72,000 jobs in the Keystone State between the fourth quarter of 2009 and the first quarter of 2011.

The Bakken formation, along the Montana-North Dakota border, is thought to hold four billion barrels of oil (the biggest proven estimate outside Alaska), and the drilling boom helps explain North Dakota's unemployment rate of 3.2%, the nation's lowest.

All of this growth has inevitably attracted critics, notably environmentalists and their allies. They've launched a media and political assault on hydraulic fracturing, and their claims are raising public anxiety. So it's a useful moment to separate truth from fiction in the main allegations against the shale revolution.

- *Fracking contaminates drinking water.* One claim is that fracking creates cracks in rock formations that allow chemicals to leach into sources of fresh water. The problem with this argument is that the average shale formation is thousands of feet underground, while the average drinking well or aquifer is a few hundred feet deep. Separating the two is solid rock. This geological reality explains why EPA administrator Lisa Jackson, a determined enemy of fossil fuels, recently told Congress that there have been no "proven cases where the fracking process itself has affected water."

• A second charge, based on a Duke University study, claims that



Getty Images

A drilling team from Minard Run Oil Company pull out steel pipe during a fracking operation at a 2100 foot natural gas well in Pleasant Valley, Pennsylvania in 2008.

fracking has polluted drinking water with methane gas. Methane is naturally occurring and isn't by itself harmful in drinking water, though it can explode at high concentrations. Duke authors Rob Jackson and Avner Vengosh have written that their research shows "the average methane concentration to be 17 times higher in water wells located within a kilometer of active drilling sites."

They failed to note that researchers sampled a mere 68 wells across Pennsylvania and New York—where more than 20,000 water wells are drilled annually. They had no baseline data and thus no way of knowing if methane concentrations were high prior to drilling. They also acknowledged that methane was detected in 85% of the wells they tested, regardless of drilling operations, and that they'd found no trace of fracking fluids in

any wells.

The Duke study did spotlight a long-known and more legitimate concern: the possibility of leaky well casings at the top of a drilling site, from which methane might migrate to water supplies. As the BP Gulf of Mexico spill attests, proper well construction and maintenance are major issues in any type of drilling, and they ought to be the focus of industry standards and attention. But the risks are not unique to fracking, which has provided no unusual evidence of contamination.

- *Fracking releases toxic or radioactive chemicals.* The reality is that 99.5% of the fluid injected into fracture rock is water and sand. The chemicals range from the benign, such as citric acid (found in soda pop), to benzene. States like Wyoming and Pennsylvania require companies to publicly disclose their chemicals, Texas recently passed a similar law, and other states will follow.

Drillers must dispose of fracking fluids, and environmentalists charge that disposal sites also endanger drinking water, or that drillers deliberately discharge radioactive wastewater into streams. The latter accusation inspired the EPA to require that Pennsylvania test for radioactivity. States already have strict rules designed to keep waste water from groundwater, including liners in waste pits, and drillers are subject to stiff penalties for violations. Pennsylvania's tests showed radioactivity at or below normal levels.

- *Fracking causes cancer.* In Dish, Texas, Mayor Calvin Tillman caused a furor this year by announcing that he was quitting to move his sons away from "toxic" gases—such as cancer-causing benzene—from the town's 60 gas wells. State health officials investigated and determined that toxin levels in the majority of Dish residents were "similar to those measured in the general U.S. population." Residents with higher levels of benzene in their blood were smokers. (Cigarette smoke contains benzene.)

- *Fracking causes earthquakes.* It is possible that the deep underground injection of fracking fluids might cause seismic activity. But the same can be said of geothermal energy exploration, or projects to sequester carbon dioxide underground. Given the ubiquity of fracking without seismic impact, the risks would seem to be remote.

- *Pollution from trucks.* Drillers use trucks to haul sand, cement and fluids, and those certainly increase traffic congestion and pollution. We think the trade-off between these effects and economic development are for states and localities to judge, keeping in mind that externalities decrease as drillers become more efficient.

- *Shale exploration is unregulated.* Environmentalists claim fracking was "exempted" in 2005 from the federal Safe Water Drinking Act, thanks to industry lobbying. In truth, all U.S. companies must abide by federal water laws, and what the greens are really saying is that fracking should be singled out for special and unprecedented EPA oversight.

Most drilling operations—including fracking—have long been regulated by the states. Operators need permits to

drill and are subject to inspections and reporting requirements. Many resource-rich states like Texas have detailed fracking rules, while states newer to drilling are developing these regulations.

As a regulatory model, consider Pennsylvania. Recently departed Governor Ed Rendell is a Democrat, and as the shale boom progressed he worked with industry and regulators to develop a flexible regulatory environment that could keep pace with a rapidly growing industry. As questions arose about well casings, for instance, Pennsylvania imposed new casing and performance requirements. The state has also increased fees for processing shale permits, which has allowed it to hire more inspectors and permitting staff.

New York, by contrast, has missed the shale play by imposing a moratorium on fracking. The new state Attorney General, Eric Schneiderman, recently sued the federal government to require an extensive environmental review of the entire Delaware River Basin. Meanwhile, the EPA is elbowing its way into the fracking debate, studying the impact on drinking water, animals and "environmental justice."

Amid this political scrutiny, the industry will have to take great drilling care while better making its public case. In this age of saturation media, a single serious example of water contamination could lead to a political panic that would jeopardize tens of billions of dollars of investment. The industry needs to establish best practices and blow the whistle on drillers that dodge the rules.

The question for the rest of us is whether we are serious about domestic energy production. All forms of energy have risks and environmental costs, not least wind (noise and dead birds and bats) and solar (vast expanses of land). Yet renewables are nowhere close to supplying enough energy, even with large subsidies, to maintain America's standard of living. The shale gas and oil boom is the result of U.S. business innovation and risk-taking. If we let the fear of undocumented pollution kill this boom, we will deserve our fate as a second-class industrial power.

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224 Stolp Avenue
Syracuse
New York 13207

March 24, 2010

Skaneateles Journal
PO BOX 550
Skaneateles, NY 13152

To the Editor:

I drink Skaneateles Lake water and want it protected as much as anyone. However, I need to respond to Holland Gregg's negative essay on hydrofracking.

The amount of hydrofracking water sounds large, but is tiny compared to any plausible water resource, include Skaneateles Lake. Hydrofracking does *not* force water or gas thousands of feet deep upward through rock to the water table--even with horizontal drilling. Diesel fuel will not conceivably be allowed by NYDEC as a hydrofrack fluid additive.

Hydrofracking has caused no life-altering illness, imagined or real. And, it is easy to chemically fingerprint methane gas and other substances found in water wells to see if they originate from nearby gas well problems. Out of the hundreds of thousands of gas and *water* wells that have been hydrofracked, only a few have failed. Is *any* industry held to *zero* risk; boating, farming, wine growing, bridge building, or tourism? The only issue of substance with hydrofracking *may* be the addition of salty water to the watershed from flow-back frack water. To put this into context, the amount of salt per well would be, at a maximum, about the same as the amount of salt spread as deicer on one lane mile of watershed road during a single winter.

I *do* agree with Mr. Gregg that citizens use "common sense". I think it is common sense to ask for non-biased information from knowledgeable sources to make decisions, be it on hydrofracking, medical advice, or financial investments. Common sense also says decisions should be made on the preponderance of verifiable evidence, not rare accidents, or non-verifiable assertions, beliefs and fears--even if passionately held.

Sincerely yours,

Donald I. Siegel

Donald I. Siegel is a Laura J. and L. Douglas Meredith Professor of Earth Sciences at

Syracuse University.

Marcellus shale gas, hydrogeology, and the truth

Arthur J. Pyron

Pyron Consulting
Pottstown, Pa.

The issue of hydraulic fracturing as a development method for shale gas reservoirs such as the Marcellus has gone from an intraindustry discussion to a politically motivated issue de jour in the media and in nongovernmental organizations.

These latter groups have formulated the opinion that fracturing destroys overlying freshwater aquifers by the introduction of "poisons" into the aquifer. In no area has this "discussion" been more overly promoted by the media and overscrutinized by politicians than in the Appalachian basin, and specifically, in the development of the Marcellus shale in Pennsylvania and New York.

Introduction

The discussion of the development of the Marcellus shale has gone from industry-based economics to citations of legal precedents and legislative initiatives. As all of this information has accrued what has been lost is the science associated with the Marcellus, and more importantly, the interrelationship between Marcellus development and groundwater hydrology. In this article, the author will present some basic concepts.

When Europeans settled the northeastern US, they found a land that was similar to the countries from which they came. They also noted that abundant surface water supplies were available, and that this was consistent with what they previously knew.

As a result, these new settlers developed their new homes in areas where abundant fresh water was available at the surface (i.e., rivers, streams, lakes, and springs).

The native peoples of this land also developed their communities in areas of surface freshwater availability. These settlements grew into larger communities and cities primarily because fresh water was easily obtained.

Communities without available surface water supplies had to rely on drilling water wells for their freshwater supply. The process of drilling water wells is an art unto itself. In northeastern and north central Pennsylvania and in adjacent New York, these wells are drilled in glacial sediments.

Hard rock aquifers are also present in the region and are locally significant but not widespread. The size of these communities is often restricted because the availability of fresh water is limited.

Glacial aquifers

Glacial sediment covers most of New York and northern Pennsylvania; this sediment was deposited during the Wis-

consinan glacial period (70,000 to 7,000 years ago). These sediments have a thickness ranging from 100 to 300 ft. Typically, the glacial deposits consist of interbedded silt and clay and occasionally a medium to fine sand.

Wells drilled in the sand can yield water flows in excess of 200 gpm. Wells drilled in the silt or clay often yield less than 2 gpm.

Glacial aquifer wells are recharged by infiltration of rainwater and snowmelt. Soils in the area have an abundance of humus and organic debris, and the percolating water has ample amounts of dissolved solids and naturally occurring organic compounds.

High concentrations of iron, manganese, and nitrates are often found in the water; nitrates usually come from the breakdown of agricultural fertilizers and have historically been associated with chronic and short-term disease. The quality of the water is often poor, requiring filtration. In addition, seasonal changes in the quality of the water often occur.

Simplified Marcellus geology

The Marcellus shale is the lower member of the Hamilton Group, an interbedded shale and siltstone of Middle Devonian age. The Tully formation, an impermeable limestone also of Middle Devonian age, lies conformably above the Hamilton. The Cherry Valley, a limestone and shale(?), lies below the Marcellus. The Upper Devonian, interbedded siltstone and shale, lies unconformably above the Hamilton Group. The Lower Devonian lies unconformably below the Cherry Valley and consists of limestone, dolomite, and sandstone.

The Lower Devonian probably represents a marginal carbonate ramp environment; localized patch reefs or mounds are found in the Onondaga member of the Lower Devonian. The Middle and Upper Devonian represent a prograding delta environment, thicker nearer the Adirondacks and thinning farther west.

Mississippian and Pennsylvanian rocks covered the Devonian rocks. Erosional processes and glaciation removed both the Mississippian and Pennsylvanian in most of northern Pennsylvania and New York; the only exception to this extreme is northwestern Pennsylvania and adjacent New York and areas south of the maximum extent of the Wisconsinan glaciation.

In the areas of Pennsylvania and New York in which the Hamilton-Marcellus exists, it is accurate to say that the top of the formation is found between 1,000 and 5,000 ft beneath the surface topography. The top of the Marcellus member can be found at a depth of 2,000 and 6,000 ft below the surface. The nominal 1000 ft plus of rock and sediment includes the Tully lime, the Upper Devonian, and younger

stratigraphic section, and glacial sediments and alluvium.

The Tully lime forms a mostly impermeable "seal" above the Hamilton Group. There is little evidence of large-scale seepage of natural gas from the Hamilton Group, although there is some microseepage (and this can be a tool useful in exploration). There is no evidence of infiltration of surface waters into the Hamilton Group, nor is there much coproduced formation water from the Hamilton Group, as the resource is a thermogenic or dry gas.

Marcellus horizontal drilling

The Hamilton (Marcellus) is a three-dimensional horizon that lies at depths in excess of 1,000 ft below the surface. The aquifer horizon is isolated from the Marcellus by layers of mostly impervious rock. The gas from the Hamilton Group is thermogenic and contains little to no coproduced water.

Many operators choose to drill horizontal wells to produce the Hamilton Marcellus resource. This means that the horizontal component of the well is drilled within the reservoir rock at some predetermined depth beneath the surface essentially parallel to the surface trend.

After drilling and logging the well, many operators choose to use hydraulic fracturing techniques to enhance production of the well. This includes the introduction of a water solution and sand under pressure to enhance the fracturing of the reservoir rock.

To the best of the author's knowledge, no company offering hydraulic fracturing services claims that its fractures propagate more than 100 ft from the wellbore.

Wells in which the Hamilton Marcellus is found at depths of 1,000 to 3,000 ft are usually drilled vertically. The economics of drilling horizontal wells at this depth often isn't viable.

Environmental considerations

The geometry of a horizontal well drilled into the Hamilton (Marcellus) involves drilling the horizontal leg at a depth of 4,000 to 6,000 ft beneath the surface. Presuming optimum fracturing of 100 ft, the depth to the upper fractures is 3,900 to 5,900 ft beneath the surface and 3,600 to 5,600 ft beneath the glacial freshwater aquifers.

Even if one presumes that microfractures and other fractures are present in the overlying rock, the impermeable nature of the Tully limestone acts as a "seal" and prevents most vertical migration of natural gas from the Hamilton Marcellus. Geologically, it is highly unlikely that these gases could intermingle with shallow groundwater.

The process of drilling a well, like almost every other human activity, involves an interaction between the environment and humans.

The states of New York and Pennsylvania have environmental regulations, including waste water discharge, that preclude the discharge of produced water and frac fluids.

Fines, loss of permits, and legal processes are the response of government to violations of these regulations. Sometimes, if discharge of drilling water to surface water is suspected, governments will issue fines under clean water regulations.

Industry heavily regulated

An existing infrastructure of permitting, site inspection, and environmental compliance is in place to protect the environmental. Violations of these regulations are discussed in the permitting process and during site inspections. Violators of the regulations are dealt with by state and federal agencies.

The recent expansion of Marcellus drilling in Pennsylvania and New York has brought an increase of claims of environmental damage to aquifers from releases of produced water and drilling fluids.

The author has shown that the subsurface geometry in the Hamilton (Marcellus) precludes the upward movement (seepage) of natural gas or produced water from the reservoir to the overlying aquifer(s). The only possible exception to this statement are operational problems, such as split casing or bad cement jobs; since both of these are harmful to operation of the well, the operator usually addresses them immediately.

Surface water discharge should be prevented by enforcement of the existing state and federal regulations. If damage occurs to shallow groundwater aquifers, it is likely that it is caused by infiltration of naturally occurring compounds or the makeup of the aquifer itself. As permeability of the glacial sediments decreases, infiltration of new water slows and water remaining in the aquifer has a tendency to get "stale."

To blame deterioration of fresh water in aquifers on the drilling of Marcellus wells is not scientifically valid. It is a violation of scientific reality, which involves the interpretation of data using the scientific method. It is not an exercise in consensus building or political correctness, and it is not a tool to advance political goals. The geologic facts are the truth, if we care to interpret them. **OGJ**

The author

Arthur J. Pyron (pyronconsulting@yahoo.com) is sole proprietor of Pyron Consulting, Pottstown, Pa. Pyron has worked for Fortune 500 companies, small business, municipalities, and private individuals in a variety of projects. Pyron Consulting is dedicated to providing short-term, project related technical and management support for clients with unique project needs. With 32 years of professional experience, Pyron Consulting has developed both geological and business expertise and has project management experience ranging from site reviews to million-dollar drilling programs. Pyron has an MS in geology from the University of Texas at El Paso and has completed more than 15 hr of postgraduate short course work in advanced geological and economic topics.



April 15, 2011

About My Support for Natural Gas

By JOE NOCERA

Oh, puh-leeze!

Some readers of The New York Times are unimpressed with the idea of substituting natural gas for imported oil, even though such a move would help wean the country from its dependence on OPEC. Or so it appears after I made that argument in my column on Tuesday, noting that natural gas is a fossil fuel we have in abundance and is cleaner than oil to boot.

After that column was published, I was buried under an avalanche of angry e-mails and comments, most of them complaining that I had ignored the environmental dangers of drilling for gas, particularly the use of hydraulic fracturing, or fracking, a technique that involves shooting water and chemicals into shale formations deep underground.

"No mention of the disastrous consequences of fracking?" read one e-mail. Many readers pointed to a study by a Cornell scientist — reported in The Times the same day my column appeared — claiming that methane gas emissions posed a bigger threat to the environment than dirty coal. Another reader called my column "a disgrace."

Really? Let's take a closer look. To begin with, fracking is hardly new. In Texas and Oklahoma, it has been used for decades, with nobody complaining much about environmental degradation. It must be a coincidence that these worries surfaced when a natural gas field called the Marcellus Shale was discovered in the Northeast, primarily under Pennsylvania and New York. Surely, East Coast residents wouldn't object to having the country use more natural gas just because it's going to be drilled in their own backyard instead of, say, downtown Fort Worth. Would they?

As for the actual environmental questions, there are three main ones. First, fracking supposedly allows gas and dangerous chemicals to seep into the water supply. This is pretty implausible. Water tables are 1,000 feet or less from the surface; fracking usually takes place well under 7,000 feet. In Dimock, Pa., where methane appears to have leaked into the

water supply, state environmental officials say that the problem was not fracking but rather sloppy gas producers who didn't take proper care in cementing their wells.

The second problem is the disposal of the chemical waste. In the Southwest, producers bury the waste in sealed containers deep underground. The geology of the Marcellus Shale, however, makes that much more difficult. Some of that waste is being sent to existing underground waste dumps, leading to the possibility of spills. Other waste is being buried in shallower ground, which creates a fear of contamination. Ultimately, producers in the Marcellus Shale will have to do a better job getting rid of the waste.

Finally, there is the concern raised by Robert Howarth, the Cornell scientist, who says that natural gas is dirtier than coal. His main contention is that so much methane is escaping from gas wells that it is creating an enormous footprint of greenhouse gases. His study, however, is not exactly iron-clad. Industry officials have mocked it, but even less-biased experts have poked holes in it. The Environmental Defense Fund, for instance, has estimates of methane gas emissions that are 75 percent lower than Howarth's.

Nor is Howarth what you'd call an unbiased observer. Although he told me that he had "a strong reputation, which I value, for objectivity," he also acknowledged that he has testified about the hazards of fracking and sometimes wears a "no fracking" pin. (He does so, he said, "because I'm a citizen of the world.")

The truth is, every problem associated with drilling for natural gas is solvable. The technology exists to prevent most methane from escaping, for instance. Strong state regulation will help ensure environmentally safe wells. And so on. Somewhat to my surprise, this view was seconded by Abrahm Lustgarten, a reporter for ProPublica who has probably written more stories about the dangers of fracking than anyone. In a comment posted online to my Tuesday column, he wrote that while the environmental issues were real, they "can be readily addressed by the employment of best drilling practices, technological investment, and rigorous regulatory oversight."

The country has been handed an incredible gift with the Marcellus Shale. With an estimated 500 trillion cubic feet of reserves, it is widely believed to be the second-largest natural gas field ever discovered. Which means that those of you who live near this tremendous resource have two choices. You can play the Not-In-My-Backyard card, employing environmental scare tactics to fight attempts to drill for that gas.

Or you can embrace the idea that America needs the Marcellus Shale, accept the

inconvenience that the drilling will bring, but insist that it be done properly. If you choose this latter path, you will be helping to move the country to a fuel that is — yes — cleaner than oil, while diminishing the strategic importance of the Middle East, where American soldiers continue to die.

It's your call.

On the Plausibility that Development of Shale Gas Methane May Compromise the Quality of New York's Drinking Water

Presented to New York State Assembly Committee on Environmental Conservation, May 26, 2011

D. I. Siegel¹

Chairman Sweeney and Members of the Committee, thank you for allowing me the opportunity to present at this hearing.

Let me briefly introduce myself. I have done research on and taught water hydrology and water chemistry for almost 30 years at Syracuse University. Prior to this, I served as a hydrologist and geochemist for the United States Geological Survey. I have also served as editor for many professional journals on water science and on numerous National Research Council (NRC) panels dealing with water quality and quantity issues. During my career, I have published widely on many topics related directly or indirectly to the Marcellus Shale gas issues. These include how the salty waters in the deep rocks of New York came to be, how to forensically identify different sources of methane and dissolved substances in water, the fate of hydrocarbon contamination in ground water, and how natural cements filled ancient fractures in the Marcellus Shale many millions of years ago. I attach a brief cv with my statement.

¹* Department of Earth Sciences, Syracuse University, Syracuse, New York 13244; disiegel@syr.edu

I fully understand that human error and past regulatory practice in Pennsylvania have resulted in local discharges of hydraulic fracturing fluids and salty flowback water from Marcellus drilling operations, and that improperly cemented or constructed gas wells can lead to a release of natural gas to potable groundwater. Yet, despite these issues, even simple back-of-the envelope calculations show that New York's potable water cannot be seriously compromised by Marcellus shale gas development.

To start, the small energies released during hydrofracking cannot plausibly lead to fractures and deep fluids moving upwards through thousands of feet of alternating dry and wet rock to shallow aquifers. The laws of physics preclude this from happening. What to do with flowback water remains the major issue we have to deal with.

A benchmark needs to be agreed upon to assess harm. Maximum contaminant levels (MCLs) established by the NYDEC and EPA seem appropriate since our environmental regulatory process has been keyed to them for decades, and MCLs have been well vetted. hydrofracking argument. The chemicals in flowback water raising the most regulatory concern so far are; total dissolved solids, barium, strontium, radioactivity, bromide, and some organic compounds related to hydrocarbons (such as benzene), and those used in fracking (such as glycol). Measured concentrations of these substances from Marcellus flowback indeed are often higher than drinking water standards.

At this hearing, you also heard of other chemicals at far lower concentrations, that might also constitute harm--but no information on how much exposure would plausibly cause harm, or the fate and transport of these chemicals in the environment once released. I have no issue with adding additional chemicals associated with hydrofracking to State MCL lists--so long a plausible harm can be demonstrated, even by analogy. It serves no purpose to invoke the precautionary principle without some demonstration of scientific plausibility of harm. Invoking "anything is possible" as rationale for decisions only serves to obstruct the discussion or sow unnecessary fear. And, suggestions that some chemicals are so toxic that even concentrations too tiny to measure or identify constitutes harm should be rejected out of hand. This is not science, but agenda.

So, what should the State do with the large volumes of flowback water exceeding drinking water standards once Marcellus gas production begins? New York should consider following Pennsylvania's lead. Flowback water in Pennsylvania now must be stripped of solutes to achieve drinking water standards before being released, shipped offsite for deep well disposal, or be re-used during drilling and in subsequent hydraulic fracturing events. Except for minor spills, flowback water issues in Pennsylvania no longer are an issue. Flowback disposal should and can be a moot issue in New York too.

What about local spills of flowback water that might contaminate shallow aquifers and surface waters? Many of the substances of concern in flowback waters

naturally occur in the Marcellus Shale and other rocks of Appalachia. Some flowback substances also come from other contaminant sources such as road salt, leaking underground storage tanks, deicing operations, and septic systems. The State needs to come up with a scientifically defensible suite of forensic geochemical tools to properly identify and distinguish among the different types of water contamination contributing identical constituents. These tools need to be part of the regulatory process.

The State needs to distinguish between systemic environmental harm to waters and local harm caused by spills. They are different. Once flowback water no longer needs to be disposed of, systemic problems cannot occur--only rare local problems. I urge the legislature, governor, and NYDEC all to recognize there are no human endeavors with zero risk for local and rare human errors. But we can minimize risk and human errors, and with proper regulations, this can be done with the gas industry too.

The fugitive gas that has occasionally contaminated shallow ground water moves through failed cement. The methane itself does not pose a health hazard except when concentrations become flammable. New York needs to work with industry to ensure a protocol that minimizes fugitive gas release more. Perhaps a longer time is needed for cement to harden before fracking begins. Perhaps additional geophysical tools need to be used to be sure no gaps in cement have occurred. This rare problem is a fixable problem—engineering.

In conclusion, I understand that there are social and philosophical concerns involved in Marcellus gas exploitation and, that these concerns run deep. But, based on fundamental principles of chemistry, physics, and hydrology, our citizens need not also be concerned that their drinking water will contain harmful contaminants related to hydraulic fracturing--unless the State were completely derelict in its duty to establish a proper regulatory framework for the industry. I can't imagine this will happen.

I attach a short appendix showing the results of a calculation I did showing what would happen if an implausible bad spill of flowback occurred to streams in New York.

Also, I urge everyone to carefully consider the merits of peer-reviewed publications related to the Marcellus. Sometimes, the devil is in the details, as they say. In the case of the Osborne et al. (2011) paper on fugitive case, published by the PNAS, it appears from my reading that the authors incorporated numerous samples from where gas release from wells was already known. This kind of sampling design seriously flawed the research conclusions. As I said orally, this design was akin to using a smoke detector to determine if a building showing flames coming out of the window, was actually on fire. However, to be fair, the authors have not posted their data set or made it available for other researchers to look at to be able to properly critique it.

I thank you for your patience and allowing me to speak at this hearing. Feel free to contact me further for any elaboration or documentation you would like to see regarding my brief statement.

Appendix I

I have done some simple mixing calculations to see whether MCLs would be exceeded if flowback waters spilled into streams in southern New York. For this exercise I considered the case for flowback spillage during typical low streamflow conditions measured at USGS gauges in the New York parts of the Susquehanna and Delaware River basins. Then, the river water that mixes with the flowback spillage would dilute the flowback the least. For my calculations, I assumed an *implausible* scenario -- 10 gallons per minute of flowback spills *continuously* into each stream considered. This spillage would be equivalent to emptying a 15,000-gallon tanker truck per day. For convenience, I assumed that the river waters consisted of pure water, but my using measured background values would not change my conclusions. Full mixing of flowback spillage with the stream water would occur within a half-mile or so downstream.

Figure 1 shows the results of my calculations. Were my implausible scenario to occur, MCLs would be exceeded in only the very smallest creeks during low flow conditions. Elsewhere, mixing of flowback with stream water drops concentrations below MCL values, and the stream water remains acceptable for drinking and human health. A recent concern over flowback radioactivity serves as a case in point.

Flowback discharge from treatment facilities prompted the Pennsylvania Department of Environmental Protection last month to sample river waters for radioactivity. Not unexpected, the PADEP found no radioactivity in the river waters because of mixing and dilution. Simple calculations show this would have been the case. Even bromide concentrations in major streams and rivers at low flow would be below those producing trihalomethane issues in water treatment plants.

My calculations were done as *proof of concept*, not as guidelines for regulations. If releases of flowback water *were* to be permitted to New York waters (I do not recommend this!), the State needs to decide stream flow below which discharge should not be allowed. This decision should be based from hydrologic drought indicators, such as the 7-day 10-year low flow value, or perhaps some ecological threshold, coupled to site specific mixing calculations of the kind I have done. During normal hydrologic conditions, MCLs would not be exceeded unless huge amounts of untreated flowback were permitted to be discharged at large rates.

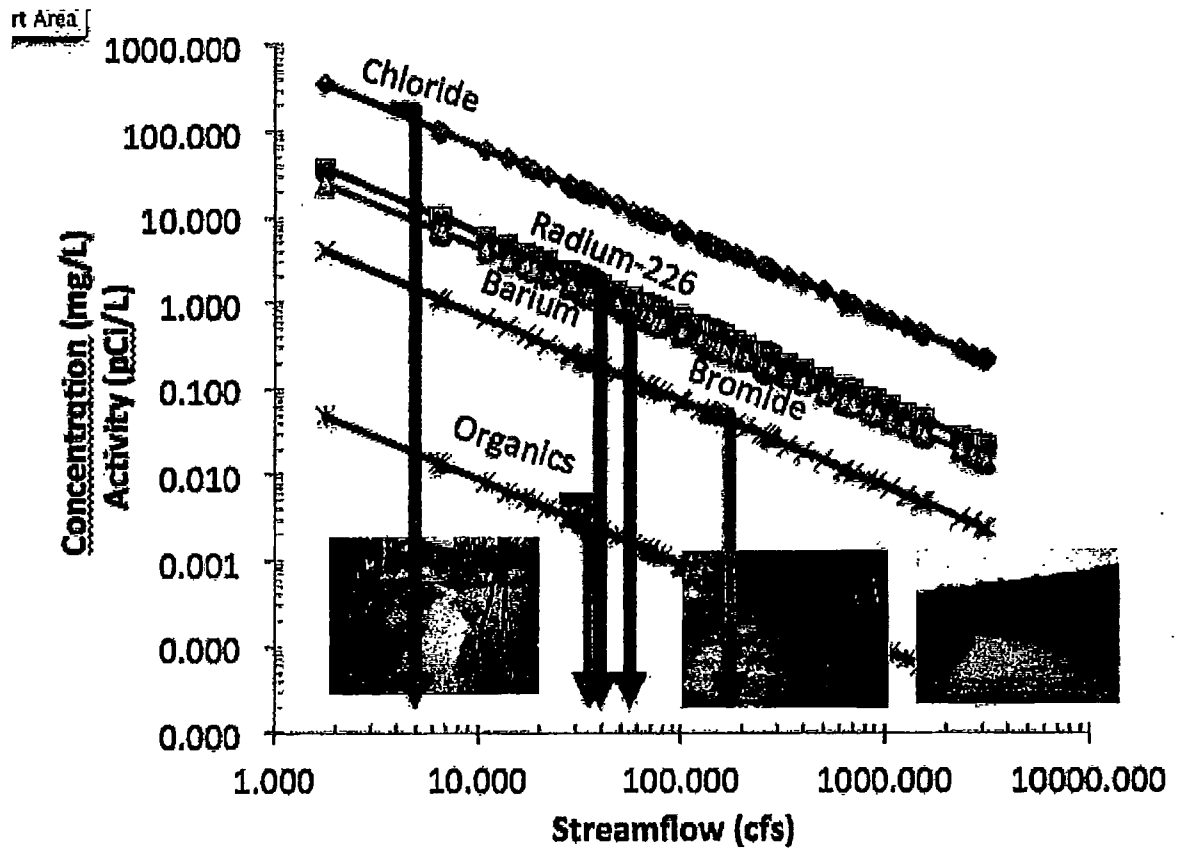


Figure 1. Results of mixing calculations assuming continuous discharge of raw flowback fluid at 10 gal/min (about 15,000 gal/d) into streams. Flowback concentrations are rounded averages from four flowback analyses reported by the PADEP in Tioga and Susquehanna Counties. Flowback chemistry changes deeper further south. Baseflow obtained on October 30, 2010 from <http://waterdata.usgs.gov/nwis/rt>. Arrows point to the streamflow above which concentrations would exceed MCLs under this implausible worst case scenario. Note that rivers logically used for drinking water, those flowing more than 50 cfs, have concentrations of all contaminants of interest below drinking water standards except for bromide. Photos of streams flowing at order-of-magnitude rates shown for reference.

DONALD I. SIEGEL

Professor of Earth Sciences

Department of Earth Sciences

317 Heroy Geology Laboratory

Syracuse University, Syracuse, New York 13244

Telephone: (315) 443-3607

A. PROFESSIONAL PREPARATION

University of Minnesota	Hydrogeology	1974-1981	Ph.D.
Penn State University	Geology	1969-1971	M.S.
University of Rhode Island	Geology	1965-1969	B.S.

B. PUBLICATIONS (>125 peer reviewed)

My academic research includes most aspects of groundwater geochemistry of dilute waters to brine, groundwater modeling and solute transport and wetland-groundwater interaction.

C. TEACHING

1. Syracuse University: (Graduate level) Hydrogeology, Groundwater and Solute Transport Modeling, Contaminant Hydrogeology, Aqueous Geochemistry, Wetland Hydrology

2. Professional Short Courses: Wetland Hydrogeology and Geochemistry, 1995; Effective Teaching of Hydrogeology: How to Make the Best Use of Scant "Real World Data," Geol. Society of America

1996,1999; Applied Groundwater Geochemistry, Geol. Society of America, National Meeting 2000, 2002; MA and NY Dept. Natural Resources and Environmental Conservation, 1990-1994; Licensed Site Professionals Association of Mass (1999); Environmental Professionals of Connecticut, 2001; Central New York Association of Professional Geologists (1997). Geological Society of America National Meeting, 2002.

Visual Modflow Groundwater Modeling for Managers, City of New York Dept. Environmental Protection, 1999

Pesticide Transport and Fate, Montana Department Environmental Quality, 2000

Succeeding in Academia (2001), Association of Women Geologists and Geol. Soc. American, 2001

Tracer Methods in Hydrogeology Licensed Site Professionals Association of Mass (2006); Environmental Professionals of Connecticut (2007).

D. SYNERGISTIC ACTIVITIES

1. Chair, National Research Council Water Science and Technology Board, (2010-present), Elected Member of the Water Science and Technology Board (2007-present); Member National Research Council Committees on; Techniques for Assessing Ground Water Contamination, (1991-1993); Committee on Techniques for Wetland Delineation, (1993-1994); Committee on U.S. Geological Survey Water Resources Division Research (1999-2001); Committee on Investigating Groundwater Systems at Regional and National Scales, Committee on U.S. Geological Survey Water Resources Division Research (2001-present), Committee on Estimating Water Use in the United States; Committee on U.S. Geological Survey Water Resources Division for the Future (2006-2010); Committee on National Stream Information System; Committee on Groundwater Fluxes (2001-2002); Chair, Committee on River Science (2005-2007); Committee on Environmental Effects of Coal Bed Methane Development; Chair, Committee on NAWQA, 2009-present.

2. Book Editor, Geological Society of America; Associate Editor; Journal Hydrology (2008-present); Water Resources Research (1993-1996; 2008-present); Wetlands (1995-1998); Ground Water, (1997-2002); Geosphere (2005-2008); Hydrogeology Journal (2004-2008).

3. Mentored ~60 MS and PhD students to successful completions of their graduate degrees at Syracuse University, SUNY-ESF, UCLA, and Cornell University

4. Member of Geological Society of America, American Geophysical Union, Wetlands Society, National Groundwater Association

F. HONORS

Laura J. and L. Douglas Meredith Teaching Professorship, 2009, Syracuse University

Meinzer Award in Hydrogeology, Hydrogeology Division, Geological Society of America; 2005

Wassertrom Prize for Graduate Mentoring, Syracuse University, 2003

Geological Society of America Councilor; 2002-2006

Fellow, Geological Society of America, 1998

Chairman, Hydrogeology Division, Geological Society of America, 1998

Distinguished Service Award, Hydrogeology Division, Geological Society of America, 2001

Birdsall-Dreiss Distinguished Lectureship in Hydrogeology, Geological Society of America, 1992-1993

stargazette.com

DEC: Local hydrofracking bans could end up in court



Written by

Jon Campbell

6:16 PM, Jul. 6, 2011 |

BINGHAMTON -- While the state would try to make sure new natural gas wells in the Marcellus Shale adhere to local laws and zoning ordinances, disputes between municipalities and gas companies would likely be resolved by a court, the state's top environmental regulator predicted Wednesday.

In a editorial board meeting Wednesday, Department of Environmental Conservation commissioner Joseph Martens touted his office's latest review of high-volume hydraulic fracturing for natural gas. The report was released last week and is the latest step toward allowing the gas-drilling technique in New York.

In its report, the DEC requires natural gas companies to show that any proposed sites for new gas wells are in accordance with municipal laws and ordinances. If it clearly isn't, the DEC could refuse to grant a

permit.

If a dispute arises, however, it could get dicey.

"If we can't decide on our own, then it may become an issue just between the applicant and the local government," Martens said. "It may be that the courts will have to decide if something is consistent or not consistent (with local ordinances)."

The issue could have major implications for some local governments who have moved to alter their zoning ordinances, or pass a law, in an effort to ban hydrofracking altogether.

The City of Buffalo has already passed a law banning the practice, while the towns of Ithaca, Dryden and Ulysses in Tompkins County are all looking to tweak their zoning laws to keep gas companies out.

High-volume hydrofracking involves the injection of chemical-laced water to break up underground shale formations, including

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the Marcellus Shale beneath the Southern Tier and parts of the Hudson Valley, and unlock gas. The practice has been on hold since 2008 and will stay that way until the DEC finalizes its review, which could come as early as next year, Martens said.

Herb Engman, supervisor for the Town of Ithaca, said his municipal attorney believes the town's zoning laws already prohibit gas drilling because it's not expressly permitted in the language. But, he added, it likely will end in a court battle.

"We're sort of expecting that," Engman said. "I don't imagine the gas companies would give up without a fight, and that's one of the reasons why a number of towns in Tompkins are doing the same thing, so we can jointly defend."

A total ban of hydrofracking could be a different legal issue. The state's environmental conservation law gives authority to oversee the drilling industry expressly to the DEC, but Martens said a judge will likely have to interpret the law to see if an outright local ban is permissible.

"I think it can be banned in places (within a town)," Martens said. "Whether or not a town can say no everywhere, that's ultimately something I think a court is going to have to decide."

At least a dozen local governments in New York are considering, or have considered, some type of ban.

Martens met with local government leaders Wednesday in Binghamton, including

Broome County Executive Patrick Brennan and Binghamton Mayor Matthew T. Ryan. In his meeting with the newspaper's editorial board, Martens repeated his claim that with proper safeguards in place, high-volume hydrofracking is safe.

"We've deliberated, we've considered the comments, we have looked at what's gone on in other states," Martens said. "And at the end of this stage of the deliberations, we've concluded that high-volume hydrofracking can be undertaken safely, along with strong and aggressive regulations."

Critics of the technique, however, disagree with Martens' assessment. About a dozen protesters waited outside the Binghamton Press & Sun-Bulletin newspaper's office to greet the commissioner as he left, and about a dozen groups will gather in Albany on Thursday to protest.

"There's a real sense of concern about what's happening with the DEC's guidelines," said Claire Sandberg, executive

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director of Frack Action, a group helping to organize the Thursday event. "We're not sure what type of turnout we'll get, but this is kind of a rapid response to announce the support of a statewide ban."

Jon Campbell is a staff writer for Gannett's Albany Bureau.



Martens

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Mary Ann Sumner

From: Joseph Solomon
Sent: Wednesday, July 20, 2011 7:04 PM
To: Mary Ann Sumner; David Makar
Subject: Personal statement - gas drilling ban

My sincere apologies for my absence from tonight's board meeting but family health issues are a priority this evening.

It is my belief the processes involved with natural gas exploration and extraction via slick water hydrofracking are an imminent and irreparable threat to the present and future citizens of the Town of Dryden as well as the Town's and adjacent communities' environment, natural resources and way of life.

If I were in attendance this evening I would have wholeheartedly voted to ban natural gas exploration and extraction within the Town of Dryden.

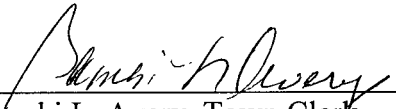
Again my apologies to the Board and all in attendance for my absence this evening.

Joseph D. Solomon
Town of Dryden Councilperson

Joseph D. Solomon, PE
Town of Dryden Board
93 East Main St.
Dryden, NY 13053

STATE OF NEW YORK)
COUNTY OF TOMPKINS) SS:

BAMBI L. AVERY, the Town Clerk of the Town of Dryden, a respondent in the above captioned matter, hereby certifies that the foregoing is a true and complete transcript of the record of the proceedings held before the Town Board on August 2, 2011.



Bambi L. Avery, Town Clerk