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COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

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IN RE: PROPOSED RULEMAKING WASTEWATER TREATMENT REQUIREMENTS 25 PA CODE CHAPTER 95

PUBLIC HEARING

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BEFORE: PATRICK HENDERSON, Chair

HEARING: Wednesday, December 16, 2009
5:00 p.m.

LOCATION: PA Department of Environmental Protection
Northcentral Regional Office
Goddard Conference Room
208 West Third Street, Suite 101
Williamsport, PA 17710-6448

Reporter: Sarah Wendorf

WITNESSES: Deborah Nardone, Alan Sever, Jim Weaver, Nathan Sooy, Jon Bogle, Anne Harris Katz, Harvey Katz, Ned Wehler, Tanya Dierolf, Barbara Jarmoska, Jerry Walls, Mark Hartle, William Gleason, John Tewksbury, Carl Undercofler, Ed Lawrence, Russ Cowles, Tami Mausteller, Ralph Kisberg, John Kesich, Arnold Vosk

I N D E X

E X H I B I T S

Number	Description	Page Offered
	NONE OFFERED	

P R O C E E D I N G S

CHAIRMAN PATRICK HENDERSON:

We're going to get started on our hearing this evening. I thank you all very much for coming out, taking some time from your personal schedules on this important issue. My name is Patrick Henderson. I am going to serve as the Chairman of this hearing tonight. I am an alternate for Senator Mary Jo White, who is a member of the Environmental Quality Board. The Environmental Quality Board is the entity that is holding tonight's hearing with the Department of Environmental Protection.

First, I have to start off by reading a statement for the record that will describe the rulemaking and the proceedings for tonight. After I conclude that, I will call upon the witnesses who have pre-registered for testimony. And then after we have concluded everyone who has pre-registered, we will call upon anyone else who's interested that would like to offer comments for the record. I will also ask, if you can, to speak directly into the microphone. Tonight's hearing is being recorded, and that will certainly help with that.

With that I will start with an opening

statement. As I stated, my name is Patrick Henderson. And I am representing Senator Mary Jo White, who is a member of the Environmental Quality Board, and I call this hearing to order at 5:00 p.m. The purpose of tonight's hearing is for the Environmental Quality Board, or EQB, to formally except testimony on the proposed regulations concerning wastewater treatment requirements.

In addition to this hearing, the EQB held similar hearings on this proposal in Cranberry Township this past Monday and in Ebensburg on Tuesday, December 15th. The EQB will also hold an additional hearing on the proposed rulemaking tomorrow, Thursday, December 17th in Allentown.

The proposed rulemaking, which was approved by the EQB on August 18th, 2009 establishes effluent limits for new or expanded sources of wastewaters containing high concentrations of total dissolved solids or TDSs. The proposed regulations apply to new wastewater discharges that did not exist on April 1st, 2009 and that contain TDS concentrations greater than 2,000 milligrams per liter or a TDS loading that exceeds 100,000 pounds per day. For purposes of this rulemaking, a new wastewater discharge includes an additional discharge, an

expanded discharge or an increased discharge from a facility in existence prior to April 1st, 2009. The proposed rulemaking also establishes monthly average discharge limits of 500 milligrams per liter of TDS, 250 milligrams per liter of total chlorides, and 250 milligrams per liter of total sulfates for all new discharges of wastewater with high TDS. Additionally, new discharges of wastewater resulting from fracturing, production, field exploration, drilling, or completion of oil and gas wells must also meet a monthly average discharge limit of ten milligrams per liter for barium and strontium.

The Department initiated extensive outreach in the development of this proposed rulemaking, including presenting the rulemaking for review and comment to the water resources advisory committee at several meetings in the summer of 2009.

In order to give everyone an equal opportunity to comment in this proposal, I would like to establish the following ground rules for tonight's hearing. First, I will call upon the witness who have pre-registered to testify at this hearing. After hearing from those witnesses, I will provide any other interested parties with the opportunity to testify as time allows. Testimony is limited to ten minutes for

each witness. Organizations are requested to designate one witness to present testimony on its behalf. Each witness is asked to submit three written comments of his or her testimony, if available, to aid in transcribing tonight's hearing. Please hand me your copies, if you have them, prior to presenting your testimony. Please state your name, address and affiliation, if any, for the record prior to presenting your testimony. We would appreciate your help in spelling any names or terms that may not be generally familiar, so that the transcript may be as accurate as possible.

Finally, because the purpose of this hearing is to receive comments on the proposal, the EQB and DEP staff may question witnesses, however the witness may not question the EQB or the DEP staff.

In addition to, or in place of oral testimony presented at today's hearing, interested persons may also submit written comments on this proposal. All comments must be received by the EQB on or before February 12th, 2010. Comments should be addressed to the Environmental Quality Board, P.O. Box 8477, Harrisburg, Pennsylvania, 17105. Comments may also be emailed to RegComments@state.pa.us. And I will repeat both of those later in tonight's hearing

so that you have that.

All comments received at this hearing, as well as written comments received by February 12th, 2010 will be considered by the EQB and be included in a common response document, which will be prepared by DEP and reviewed by the Environmental Quality Board prior to the Board taking its final action on this regulation. Anyone interested in receiving a copy of the transcript of today's hearing may contact the EQB for further information.

With that, I will call the first witness, and I will try and call the next three or four witnesses so that you can anticipate when your time is scheduled. We have 20 witnesses who have pre-registered tonight. Our first witness is Deborah Nardone with the Pennsylvania Trout Unlimited to be followed --- and I apologize if I mispronounce any names. Please feel free to correct me as you come up. But Alan Sever and Ned Wehler will be the following two, but first, Deborah Nardone. Thank you.

MS. NARDONE:

It's always fun to be the first. I guess I should have waited to call a little longer. Deborah Nardone, 450 Robinson Lane, Bellefonte, Pennsylvania, 16823. The Pennsylvania Counsel of Trout Unlimited is

the nation's leading cold water conservation organization and is dedicated to conserving, protecting and restoring Pennsylvania and North America's cold water fisheries and their watersheds. We have over 12,000 members in Pennsylvania working at the grassroots level, and we wish to present these comments on the proposed changes to Chapter 95.

Grassroots organizations and agencies have worked for decades to clean up waters of the Commonwealth. We have spent billions of dollars to do so and millions of man hours. Why would we allow these efforts to go to waste? Should we really max out the assimilative capacity of our streams now that we've finally cleaned them up? We don't think so.

Pennsylvania TU feels that an end of pipe discharge limit set by Pennsylvania DEP is a necessary tool, will aid in protecting water quality, will provide a more stringent way to protect the designated uses of a stream. The proposed Chapter 95 standards place an important tool in DEP's toolbox by requiring the burden of treatment and the requirement of water quality protection to that of the pollution discharger and not on the downstream users.

Pennsylvania TU is supportive of regulations and policies which better regulate

wastewater and are protective of water quality and their designated uses as codified in Chapter 95. We understand that the Pennsylvania DEP has set these protective criteria based on sound science and the best available technology. We understand that the technology is available to implement and effectively regulate end of pipe discharges that meet the proposal of 500 milligrams per liter for total dissolved solids and 250 milligrams per liter each for sulfates and chlorides.

These standards will go a long way in ensuring federal drinking water standards are met across the state. And it is critical that any TDS wastewater effluent standard be protective of both drinking water and aquatic life. The DEP should not weaken the proposed discharge standards for TDS, and regulation at the point of discharge will definitely be helpful in assuring for the protection of aquatic life. We believe the proposed regulation is a welcome and necessary means to prevent impairment and ensure that a TMDL process is not required.

In fact, in some cases a more stringent criteria might be necessary depending on the downstream dilution capacity and aquatic life and public health protection criteria that's established

in Chapter 93. We believe that in order to ensure protection of both drinking water and aquatic life standards, the TDS effluent standard should be stated as a daily maximum, not a monthly average, all large TDS sources should be covered by the standard, new sources and new discharges at existing wastewater facilities should be required to meet the TDS standards immediately. Existing sources of large TDS discharges should eventually be covered through the NPDES renewal process. How TDS will be measured and reported by discharges needs to be clarified by the Pennsylvania DEP.

We also need these regulations to be in place as soon as possible to protect both aquatic life and drinking water sources. We feel that DEP should stop issuing drilling permits which will increase the existing wastewater loads in Pennsylvania until both Chapter 93 and Chapter 95 revisions are in place. DEP must take measures to ensure that wastewater influent is adequately characterized and properly sampled to match those of its effluent sampling requirements. A minimum of at least a dozen prescreening events would ensure sampling averages that would provide realistic assessment of the composition of any influent. Adequate staff and funding should be in place to

ensure that wastewater effluent is meeting the Chapter 95 regulations.

We also feel that the current set of regulations and policies currently are not adequate to regulate groundwater and surface water impacts and that contamination is occurring from all aspects of drilling operations. Continued permitting of well pads, production wells and pipelines, particularly in our Exceptional Value and High Quality Watersheds, is without effective regulations and regulations that should require monitoring wells, design standards and surface in groundwater protection plans. And this is not fulfilling the Commonwealth's stewardship responsibilities as required by the Constitution.

We also feel that if and when proposed rule is redrafted, the Department should afford the public another opportunity for public comment prior to any adoption. Any redraft must effectively address the protection of groundwater resources from the pollutants found in gas development wastewater in a manner which focuses first and foremost on the receiving stream and adequately controls wastewater pollutants of concern. The Commonwealth has the duty and the authority to meet these much needed regulatory changes to protect aquatic life and human health.

Thank you.

CHAIR:

Thank you. Alan Sever, Sever Engineering.

MR. SEVER:

My name is Alan Sever. I'm a professional engineer. I live at 516 Sand Hill Road, Montoursville, Pennsylvania. I worked for DEP for 31 years before I retired, now I do consulting work in various wastewater treatment systems. And I wanted to comment on a proposed rulemaking whereby Chapter 95 would assign effluent limits on certain parameters for specific discharges of wastewater that would occur after April 1st, 2009.

First of all I would like to remind the Board that this matter was addressed by the Board in 2001, and the Environment Quality Board amended Chapter 96 on November 20th, 2001. The public notice for that amendment notes that the Board determined there was no reason to assign statewide effluent limits for total dissolved solids, chloride or sulfate.

Except for certain isolated incidents on specific streams, the Pennsylvania DEP has not shown that these parameters are causing any problems

statewide, and the Board's determination of November 20th, 2001 appears to be still valid.

If the Pennsylvania DEP is finding specific discharges that have caused problems on certain waterways or may cause problems, Pennsylvania DEP can address those problems by assigning site specific water quality based effluent limits. The waterways in the state of Pennsylvania are too diverse to attempt to place stringent effluent limits on all discharges without adversely economically affecting some facilities. A discharge into the Brackish water of the lower Delaware surely does not need a TDS limit that would be assigned on a wild trout stream in northern Pennsylvania. It is recommended that the Pennsylvania DEP continue to write effluent limits as they always have based on protection of the receiving waters and not by assigning arbitrary effluent limits that are not economically achievable.

Besides using water quality based effluent limits, it is also recommended that the Pennsylvania DEP use real-time water quality limits. That is assign higher discharge rates when the receiving waters are at high water stages, and assign lower or no discharge when the receiving stream is dry or almost dry. Pennsylvania DEP has written such

limits for specific cases such as Westfield Tanning in Westfield Borough in Tioga County for discharges to the Cowanesque River. There's high discharge rates when the stream is high, no discharge when it's low.

One other issue with the proposed regulations is the arbitrary assigning of a date, April 1st, 2009, after which all discharges are, quote, new sources, quote, and must meet more stringent limitations than existing discharges. The Pennsylvania DEP proposes to assign stringent effluent limits because the water quality of certain streams is being adversely affected. They then proposed to grandfather to facilities that are causing the existing problems and only assigned new stringent limits to facilities who did nothing to create the problem. If there's a problem, then all discharges should have to meet these limits. I find it particularly upsetting to note that Pennsylvania DEP purposely issued a new NPDES permit, PA 0101508 to Pennsylvania Brine several days prior to the April 1st, 2009 deadline in order to protect this company from having to meet new limits.

And I've discussed this matter with the staff of the northwest region, and they informed me that PA Brine will be grandfathered. Competitors of

PA Brine will have to meet a chloride limit of 250 parts per million while PA Brine has an effluent limit of 84,600 parts per million. The limit assigned to PA Brine is a water quality based effluent limit, and I think their competitors deserve to also have their effluent limits assigned by similar standards.

CHAIR:

Thank you. Our next witness is Ned Wehler to be followed by Jim Weaver and Nathan Sooy. Mr. Wehler? Is Jim Weaver available?

MR. WEAVER:

For the record, my name is Jim Weaver. I'm the Tioga County planner in Wellsboro, Pennsylvania. My address is 118 Main Street. The confusion that we have right now with the water quality in the state, and using Dunkard Creek as an example, I think that we all need to start paying attention closer, and these new standards that DEP is proposing are perfectly appropriate. Tioga County has a lot of exceptional value streams and some exceptional wild trout streams that we really think are important to protect. We've spent years dealing with the intergenerational tyranny of timber extraction, coal extraction, brine extraction and now natural gas and wind extraction. We can do our part

in this country to provide clean and very sweet natural gas with only one carbon atom, but we should not do it at the expense of our water quality or the quality of life. The current number of wells in Tioga County puts us at three for the state. We're number three. We've got a lot of wet-gas wells being drilled. We have a lot of impact from traffic. There's a lot of impact on our community and our landscapes definitely showing the impact of the drilling.

The specifics that I want to address tonight really concern the assimilative capacity of our major rivers and streams. And during the process of development of these standards, DEP kept the public pretty well informed about the concerns that they had with the assimilative capacity of the river. And we all learned in school that the solution to pollution is not dilution. The current method for dealing with total dissolved solids is not a solution for the problem. And we have not changed the way we do business with these industrial processes since the beginning of the clean water laws and before. It is time to look at our watersheds from a new paradigm, not as a source of raw materials, but as the foundation of our life support system.

We do support the proposed changes to Chapter 95 to set the effluent limits for total dissolved solids at 500 milligrams with 250 for sulfates and 250 for chlorides. The caveat to that is that we still don't know the lower limit of total dissolved solids for the synergistic effects of the golden algae community dynamics in our streams and the impact that that's caused at Dunkard Creek. To watch the expansion of another invasive species, probably brought here from Texas, based on this incomplete science, warrants invoking the precautionary principle.

There is danger in the flexibility of the proposed changes to Chapter 93 and individual water quality based effluent limits. These limits and standards must be implemented with clear guidance on improving those streams poorly adapted to or that already suffer from high total dissolved solids. This will require strict biological monitoring of the receiving waters to ensure continue improving ecosystem health and integrity. An example is the Tioga River in my county with severe acid mine drainage impacts and a dedicated citizen's organization in the beginnings of a massive cleanup. It would be a shame to lose the momentum with high

chlorides to add to the sulfates from the old mines.

Just this week, my office received an Act 14 notice from a company that proposes a frac water treatment facility on this river. A potentially devastating outcome can be envisioned. This is one of the many similar stories across the coal country of Appalachia, let's not create or allow another Dunkard Creek massacre. Thank you.

CHAIR:

Next we have Nathan Sooy, Clean Water Action, to be followed by Jon Bogle and Ann Harris Katz.

MR. SOOY:

My name is Nathan Sooy. That's spelled S-O-O-Y. I'm the Central Pennsylvania campaign coordinator for Clean Water Action. We're a statewide environmental organization with over 150,000 members. And this very night members of our organization are out knocking on doors throughout Pennsylvania, and folks are joining Clean Water Action this very night. Good evening. All across Pennsylvania, natural gas companies are rushing to drill new gas wells to extract gas deposits in the Marcellus Shale, which runs beneath most of our state one mile down. While energy companies are excited about this new revenue

stream, Pennsylvania streams and rivers are left with a huge problem, the highly toxic wastewater from the gas drilling process. Marcellus wastewater contains a mix of heavy metals, including arsenic and lead, toxic chemicals such as benzene that can cause cancer, and salts. This wastewater is generally three to six times saltier than seawater and has already changed freshwater streams in Pennsylvania into salt water environments.

Currently the Pennsylvania Department of Environmental Protection, DEP, has been allowing drillers to dump their wastewater with little treatment and sometimes with none at all. However, the DEP has proposed new standards for Marcellus wastewater, which would finally require real wastewater treatment prior to any discharges into our drinking water supply.

The oil and gas industry, the coal companies, big manufacturing in the Pennsylvania Chamber of Commerce have been working hard to maintain status quo. The status quo for oil and gas is this, frac water released to streams and rivers untreated. Believe it or not that is what industry representatives have been arguing for in Harrisburg.

Part of my work with Clean Water Action,

I've attended meetings in Harrisburg where industry representatives have lobbied John Hines, the top water official for DEP. They've been ganging up on John Hines and his boss, DEP Secretary John Hanger. At the last meeting I attended in Harrisburg, John Hines indicated that the final regulations crafted for wastewater may not be the strong ones the DEP started with.

DEP may be starting to crack, but we cannot let them crack. We have some absolute principles that need to be honored. Our rivers in our communities should not be held hostage to Marcellus Shale industry, greed and neglect. We need to take our stand for clean and safe water in rivers for our families. Special interest should not and must not carry the day. The leadership of the oil and gas work group of the statewide campaign for clean water, a coalition of over 140 groups, has put together the following principles that we think need to be followed by DEP and the environmental quality Board as they consider the regulations that will determine how frac wastewater and other examples of TDS are handled.

Our clean water agenda for action is, we need safe drinking water. DEP's proposal will go a long way towards ensuring that our drinking water

supplies will not have unsafe levels of total dissolved solids. DEP should not weaken their proposed discharge standards for TDS. Two, we need these regulations to be in place as soon as possible to protect our rivers and drinking water. DEP should stop giving out more drilling permits until wastewater rules are in place. DEP should also stop allowing existing or proposed wastewater plants to pollute our rivers unless they follow these new rules.

Number three, DEP should add discharge standards for these contaminate that are frequently found in Marcellus Shale gas drilling wastewater. These would include bromides, arsenic, benzene, radium, magnesium and possibly others. Many of these contaminates are very difficult for drinking water systems to remove

Number four, DEP needs to ensure that all aspects of the generation of Marcellus wastewater are regulated. Currently there are no requirements to track wastewater from drilling sites to treatment plants. And there's no oversight over the reuse of Marcellus wastewater. The campaign for clean water has filed technical comments with the EQB, but while we think that's important, we do not think that this battle will be won or lost on technical issues. This

is a fight over broad priorities. Will the oil and gas industry profits prevail, or will our rivers' water actually be valued, or are profits the ultimate value in Pennsylvania? Ultimately, the powers that be will assess how the political winds are blowing. Each of us attending and those testifying here today need to be talking about what is really at stake and at risk in Pennsylvania with Marcellus Shale. It is not a narrow set of issues about regulations, rather it is about what we as Pennsylvanians will ultimately value, our families and our rivers, or fleeting profits. Thank you very much.

CHAIR:

Jon Bogle?

MR. BOGLE:

My name is Jon Bogle. I live in downtown Williamsport. The issue under discussion is essentially an economic issue, not an environmental one. Should Pennsylvania give the gas industry an economic concession allowing it to save money by degrading the water quality in Pennsylvania's rivers? The environmental aspects of this question are already settled. Putting millions of pounds of salts and chemicals into Pennsylvania rivers every day has proven to be detrimental to river environments and bad

for human health. The amount of total dissolved solids, salts, in the Monongahela River has exceeded safe drinking water standards two years running. Bromides, a gas industry wastewater constituent, forms carcinogenic secondary chemicals, when mixed with disinfectants in water treatment plants. When the Monongahela was over its TDS limits, health alerts were issued to water users because of bromide concentrations.

The Susquehanna River Basin Commission has estimated that by 2011, the gas industry will generate 20 million gallons of wastewater a day. Each gallon contains more than a pound of TDS, primarily again salts. Without DEP stepping forward 20 million pounds of salt will go into PA rivers each day, much of it into the west branch which has 11 NPDES discharge permits pending. The west branch is already challenged with high levels TDS due to mine drainage.

In April, DEP issued a proposed strategy to greatly reduce TDS discharges at new facilities starting in January 2011. Gas drilling and mining and manufacturing industries are opposing these new standards because treating their own wastewater will cost them money and reduce their profits. For more than 100 years, mining wastewater has damaged

Pennsylvania rivers. The large volume of new high TDS wastewater from the gas exploration industry will likely be the tipping point in many rivers as it was in the Monongahela. One does not need to be an environmentalist to oppose normal gas industry practices.

A trip through the coal regions will show what pollution from an unregulated extractive industry can do to the economic future of a region. The gas exploration industry is not an additive industry, but will displace already vital aspects of the current economy. Tourism, Pennsylvania wilds, agriculture and property values will all be impacted. It is unclear at the end of the day if gas exploration will provide a net gain or a net loss. Let's remember that the coal industry ended up being a large net loss.

The size of Pennsylvania's industries that will be impacted is surprising. In regions where gas drilling is underway, the travel industry spends twice as much and employs three times the number of people as the gas industry. The gas industry spent $2.44 billion dollars just for the rights to drill in the Arctic Ocean off the north slope of Alaska. One of the most hostile and isolated environments on earth. The floating platforms they drill from are

leased $400,000 to $600,000 a day. Exploration in the Gulf of Mexico and the North Sea are both very expensive and under very strict environmental regulation. The Marcellus Shale has the lowest shale exploration cost in the country. It produces high quality gas, which fetches a premium for being near the major east coast markets. Despite successfully drilling in a very expensive and highly regulated environments, the industry now contends that they can't drill profitably in Pennsylvania if they are not allowed to pollute our rivers.

The DEP proposed strategy is a solid move in the right direction. The DEP needs to stick to its guns.

CHAIR:

Our next witness is Ann Harris Katz to be followed by Harvey Katz and Ned Wehler.

MS. HARRIS KATZ:

My name is Anne Harris Katz, and I live at 445 Shady Knoll Road, Montoursville. I'm a professional biologist retired from a career in academic science, and I'm testifying today not only from the perspective of a scientist, but also from that of a person who chose to live in this area of a country because of the natural beauty and the

combination of serenity and recreation this offers.

When my husband and I could afford to retire from paid work and devote our energies and expertise as to volunteering in our community, we realized that careers no longer governed where we would live. We spent several years searching for the area in the U.S. that best suited how we wanted to spend the next part of our lives. We chose Lycoming County, Pennsylvania, and for nearly 20 years we've been very satisfied with that choice.

Now, however, we are seriously questioning whether that was wise. The natural gas industry's operations could change the landscape, the pristine environments, the area's small town atmosphere and the confidence that residents' health and safety are adequately protected from the short and long-term hazards of gas drilling and extraction. Pennsylvania should follow New York's lead in being particularly careful before permitting drilling activities in key environmental areas and in places crucial to the economy of tourism. Degrading these areas is not cost effective for the taxpayers because the income generated by drilling will not outweigh that lost in environmental cleanup, lost real estate values, both personal and corporate, and in tourism no

longer viable due to pollution and desecration of landscapes and recreational areas.

Pennsylvania's DEP current proposal to regulate discharges of dissolved solids into streams, that's TDS, into streams rivers and lakes is long overdue, but industry and pro-development groups have labeled it ill-advised and too expensive. That is too expensive for their huge corporate bottom lines. Some in the industry have said that the proposal is not based on sound science and that the standards in place now will not damage the environment in any critical ways. This is a failure on the industry's part to understand or to acknowledge that the discharges in question constitute damaging pollutants.

The proposed new standards will decrease the amount of pollution and, in this instance less, is better. The industry argument is not true questioning of science, but rather a smoke screen to maintain the status quo, which has already been shown to be unacceptably high in some of Pennsylvania's waterways, particularly in the Pittsburgh area. And you've heard from several speakers about this. As a biologist trained in physiology, I do not question the validity of lowering the permitted amount of TDS discharges as a way to protect the environment health and safety.

That is sound science.

I'm also concerned that there has been little, if any, discussion about the human health index of high TDS discharges into waterways from which drinking water will be drawn. Salt comprises a major part of the Marcellus Shale drilling fluid and also ends up as a nature component of TDS discharges, as you all have heard by several speakers. Salt intake has been shown to be directly related to risk or stroke and cardiovascular disease. The latest of the many studies supporting this relationship was published in the November issue of the British Medical Journal.

I want to speak in support of others who have raised concerns about additional specific contaminates in Marcellus Shale gas drilling fluid. These include bromides, arsenic, benzene, radium, magnesium and more. They're not only dangerous environmentally and medically, but many of these contaminates are very difficult for drinking water systems to remove. We should not be putting people's health in jeopardy from drinking public water in exchange for the revenues that gas drilling may bring. It can be said that public drinking suppliers must ultimately be responsible for treating the water, but

the cost to the public for such treatment, may not be outweighed by the public economic benefit from gas extraction. Less is more. Is the newly proposed lesser amount for TDS discharges biologically and medically appropriate? That is, is it sufficient to be protective?

Finally, I have concerns that there appears to be a lack of coordination between DEP's discharge permitting and the Susquehanna River Basin Commission's oversight of water withdrawals. Environmentally and medically we cannot afford to increase the pollutions, including the solidity of our major waterways further by withdrawing unpolluted water only to replace its volume with fluid polluted with high TDS substances. If water withdraws continue at the current pace and increase at levels predicted by the gas industry, that process alone will degrade the quality of our waterways. And that's another reason to keep the TDS discharge standards as low as possible.

Here's my personal and professional bottom line. Less is best. The TDS standards currently in place must be changed to force less TDS discharge. DEP must not back down under the pressures from the oil and gas industry reps. DEP must not

waiver in its commitment to protect the health, safety and environment for all Pennsylvanians. Thank you.

CHAIR:

Harvey Katz.

MR. KATZ:

My name is Harvey Katz. I live at 445 Shady Knoll Road, Montoursville, Pennsylvania. Though I am currently retired, I spent my career as a fisheries biologist and worked initially as a marine biologist and later with large and small riverine freshwater systems. The planet we live on provides the basic resources of air, water and soil. These three contributions are what make our planet able to support life, which includes humans. The National Aeronautics and Space Administration recently announced that they were embarking on a long-term project to see if they can find a way to make the planet Mars, a dead and lifeless planet, into one that would sustain life. On this globe, we have a society and a business community that's trying its best to make our planet earth, that sustains life, into a dead and lifeless one.

This hearing is to gather comments from all parties concerning the discharge of water containing salt into the Commonwealth's waterways.

These salts are soluble in water and thus are referred to as total dissolved salts or TDS. A fundamental point is that these receiving waterways are freshwater rivers and streams. The living component or biota residing in our rivers is genetically programmed to live in freshwater. Now, the natural gas well drilling industry is requesting that they be allowed to change this freshwater system into a low saltwater or estuarine system. There are more than a hundred years of scientific research showing that freshwater organisms either die or do not function well in the presence of saltwater. The industry is requesting that they be allowed to discharge their salt laden wastewater with little thought to the damage that the salt will have on freshwater critters.

Now the Pennsylvania Department of Environmental Protection is suggesting that some salt be allowed to be discharged by natural gas industry. That is the DEP is considering allowing the natural gas industry to use our waterways as trash or waste receptacles. This is nothing more than catering to the industry by allowing them to externalize their cost. That is they avoid the cost of properly disposing of their waste and force other members of the public and business community to bear that cost.

That cost, for example, includes water supply companies having to pay additional dollars to clean up the drinking water that they send to their customers. If the water companies deliver to their customer's water with additional TDS, then the people who drink that water will likely experience physiological problems that they would normally not have. This in turn is expected to result in additional medical expenses for those drinking TDS laden water.

As freshwater biota become impacted by salt, the ecology of the rivers change. Fish that are dependent on a functioning healthy web of life may not be able to survive. This means that a multi-million dollar fishing industry may be put at risk. And for what purpose? So that the natural gas industry can avoid a legitimate expense. If the natural gas industry is allowed to avoid this cost, then the rest of the business community should be given the same opportunity. In this case, businesses can externalize the cost of properly disposing of their wastes and save substantial money by being allowed to dump their trash into our waterways.

The DEP is suggesting that the natural gas well industry be allowed to discharge TDS liquids as long as the waterway does not exceed 500 milligrams

per liter TDS. What we know from other studies is that this TDS level can easily increase to 1,000 milligrams per liter. A recent experience in the Monongahela River demonstrated how fast this can happen. In Dunkard Creek, a massive fish, mussel and other biota kill occurred. A recent analysis by the environmental protection agencies attributed the kill to a toxin produced by a flagellated phytoplankton that goes by the common name, golden algae. DEP had pointed out that TDS levels as low as 750 milligrams per liter were all that is needed to provide the proper conditions for this algae to flourish. The essential point here is that there is only a thin difference between the 500 milligrams per liter proposed by DEP and the 750 milligrams that allows the right conditions for the salt loving golden algae to grow. This is a razor thin difference that will essentially be unenforceable by DEP even with the proposed River Alert and Information Network water quality system that the regulators are planning to install. The bottom line here is that the industry should be held to account by not allowing them to avoid a cost that is properly theirs.

Pennsylvania residents are burdened with the cost of earlier business enterprises not paying

for their garbage. Today taxpayers are saddled with the cost of dealing with legacy settlements, acid mine drainage, acid rain, coal spoils, nutrient loads, topsoil runoff, oil and grease from vehicles, gasoline and diesel spills, home heating oil spills, loss of clean water by consumptive water users, pesticide, herbicide, fungicides from the farming and home garden users and the impact of flash floods due in part to hard-topping 14 percent of the state.

All of the above are in addition to the floodplain issues, the concentrated animal feedlot operation issues, the application of road salts, introductions of pharmaceuticals through our sewage treatment plants and the planned introduction of compounds such as Biomist 3 plus 15 and Pyrocide 7396. Add to all of the above, the illegal dumping into our waterways that the regulatory agencies are trying to control.

Over the past 22 years I've been observing Pennsylvania waterways. And I've seen the day-glow green streams and creeks in western Pennsylvania. I've walked the small runs near and in our cities and seen the rubber tires and shopping carts littering these systems. I've smelled the solvent typical of paint thinners that pervade small

runs. I've seen orange colored brooks. I've seen runs that disappear into pipes. I have seen coldwater streams become warm water systems because the riparian vegetation's been cut down or we're seeing thousands of small ponds built on what was once a free-flowing system.

I read scientific reports and talk to members of the scientific community about problems highlighted by bat white-nose syndrome with exotic invasive species such as Asian carp, now in the Mississippi, with Gypsy moth, Emerald ash borer, and Zebra mussels just to name a few. Today we have more than a thousand super-fund sites in the United States. In Pennsylvania burner barrels still burn trash, outdoor furnaces are an issue, and if you fly in an airplane or helicopter at about 3,000 feet, 500 feet above sea level, you can observe the ring around the sky. Most people are not aware of this pollutant phenomenon. And in the meantime we trash our skies with increasing concentrations of carbon dioxide. I could go on and on with documented instances of fish that become ulcerated, with gender change in Pennsylvania fish, with other fish kills, with amphibians missing limbs or having extra limbs, with the loss of clams and mussels that were once common,

with the loss of anadromous fish species that were once so common in our rivers they were considered undesirable species.

Forest fragmentation of 4.999 acres for each natural gas well drilling site placed in our forest occur at increasingly faster rates. Add to this, the clearing of forests for water basins and roads that piece by piece tear apart our environment. Pennsylvania's northern tier is the state's last remaining large forest system. This Pennsylvania's Wilds could have become a national park and a major recreational area for the urban/city dwellers looking for respite from the stresses of living in built-up areas. Instead we are about to give our grandchildren the dregs of a once magnificent natural resource. We do this by giving up the green of the natural environment for the green of the money. This is the same natural environment that currently is supplying us with the quality air, water and soil we need to survive. To kill off the natural environment like this is to kill off our golden goose.

Glimmers of sanity appear as regulatory agencies try to protect the public health dealing with past uses of lead, DDT, asbestos, hexavalent chromium, PCBs, dry cleaning solvents and gasoline additives.

The business community has left a large contamination legacy for their descendants, the children and grandchildren to bear the dollar cost in the effort to clean up.

It is time to require the business community to pay the cost of the waste and the trash they produced and tell them they cannot pass these cost to the general public, the grandchildren and the taxpayers. Many CEOs of the gas and oil industry are receiving multi-million dollar pay packages. This money could be used to pay for the proper cleaning up of the waste that the natural gas industry produces. In a sense these large pay packages are possible only because the industry externalizes its cost by transferring them to the public. Unless PADEP is looking to make our freshwater rivers into estuarine systems, no salt should be permitted to be discharged. Thank you.

CHAIR:

Our next witness is Ned Wehler to be followed by Lynn Weldon and Tanya Dierolf.

MR. WEHLER:

Thank you. My name is Ned Wehler. I'm the chief executive officer of Arm Group, Incorporated in Hershey, Pennsylvania. I am also the president of

a company named Keystone Clear Water Solutions, Incorporated. I have a few comments concerning the proposed Chapter 95 regulations concerning TDS standards.

In April of 2008, on behalf of my water treatment company, we met with representatives of the Pennsylvania in Harrisburg concerning a permit application to treat and discharge flow back water derived from the Shale gas industry. At that time, the department referred us to the oil and gas wastewater treatment manual and gave us specific directions as to how to prepare the permit application, what its contents should be, what information should be provided, et cetera. In particular, the Department pointed out the Chapter 93 standards for respecting streams throughout the state and pointed out that TDS may be subject to regulation in the respective watersheds as described and with respect to the procedure specifically described in the oil and gas wastewater treatment manual. The wastewater treatment manual specifically states that permits issued for the discharge of treated wastewater from the industry may be subject to north stringent limitations for other parameters such as TDS.

The Department explained that in

conjunction with the Chapter 93 standards and any special standards that may be established for TDS, a permit could be issued. When asked about the time frame for which a permit could be issued, the Department responded that a Part 1 review could be accomplished within 30 to 60 days.

At that time, we proceeded to submit two applications for treated wastewater --- treatment plants and discharge points. One located in Centre County and one in Clinton County. One application was submitted in May of 2008 and one application was submitted in July of 2008. Since then, those applications have not been acted on despite the existence of stringent Chapter 93 standards. Stringent provisions in those regulations and in the oil and gas wastewater treatment manual. And the explanations that have been provided by the Department have been the Department is interested in moving towards a more careful regulation of chlorides and total dissolved solids in particular.

The comments that I would offer today are as follows. The oil and gas industry is not new to the Commonwealth. The oil and gas industry has been here for a hundred years, has cooperated in a maximum way with the Department, has cooperated extensively

over the last 18 months in providing information to the Department and is interested in nothing more than preserving the health and wellbeing of water quality in streams in the Commonwealth, yet has no interest in expending moneys needlessly to meet standards that can otherwise be met by existing procedures.

The Department, in the implementation of its Part I and Part II permitting procedure has for many, many years relied upon an approach that allows for assimilation respective of Chapter 93 standards and respective of the low flows of the respective stream for which the discharge is proposed. The current proposal is basically a one size fits all approach prescribing water quality at the end of pipe. This is an unrealistic and unreasonable approach to regulating TDS in the Commonwealth and will result in the same approach for a small stream as would be involved with the Ohio River, the Allegheny River, the Susquehanna River, the Delaware River.

The Department's historical approach up to the present and over the last ten years, for example, has been to use water quality models such as SW load and PENTOXSD relative to the Q710 flow of the receiving stream, and with respect to water quality intakes that may exist downstream, and with respect to

existing uses of water in those streams in order to make permitting decisions.

Procedures that are in place in conjunction with Chapter 93 standards, and in conjunction with the recent standard established for chlorides in Chapter 93 of 250 milligrams per liter, serve as a reliable and safe and ecologically sound basis for making permitting decisions going forward. As such, the one size fits all approach of proposed Chapter 95 is not necessarily --- is unjustified and does not take into account, the permitting programs that have been in effect and have worked successfully for many years as described in various permitting manuals and documents established by the Department.

We would suggest that the Department reconsider the basis for the Chapter 95 regulations, and in particular water quality characteristics of receiving streams throughout the state and not relying simply upon water quality information obtained from certain parts of the Monongahela watershed. And moreover, that the Department take into account the recycling of flow-back water and wastewater generated by this industry occurring today, which is on the order of 80 percent recycling industry wide with some generators achieving 100 percent recycling of

flow-back water and take a hurried approach to rushing in a one size fits all Chapter 95 standard.

There's been lots of focus, of course, on the oil and gas industry, yet this standard will, in fact, affect other industries, including the chemical industry, the pharmaceutical industry, the coal industry, and the electrical utility industry in Pennsylvania. So it would be our comment to be very careful about the facts, make a decision based upon them which is factually justified, take into account the impact to other industries, and take into account a realistic appraisal of existing water quality and low flows of potential receiving streams. And then rely upon existing procedures that will safeguard the water quality of receiving streams throughout the Commonwealth. Thank you very much.

CHAIR:

Thank you. Lynn Weldon? Tanya Dierolf, PennFuture to be followed by Barbara Jarmoska and Jerry Walls.

MS. DIEROLF:

Good evening. My name is Tanya Dierolf. I'm the central Pennsylvania outreach coordinator for Citizen's for Pennsylvania's Future, known as PennFuture. PennFuture is a statewide public interest

membership organization with five offices throughout the Commonwealth working from the promise that every environmental victory grows the economy. We understand that protection and restoration of our environment stimulates a flourishing economy. PennFuture's purposes include advocating and litigating to protect public health and environmental quality across the Commonwealth.

I am here today in support of the EQB's proposal to amend Chapter 95 to establish effluent standards for new sources of wastewaters containing high concentrations of TDS. We also urge the EQB to extend those proposed standards in two ways. First, by eliminating the applicability thresholds of 2,000 milligrams per liter or 100,000 pounds per day. And second, by making them applicable to existing sources through the addition of a transition scheme.

Pennsylvania's rivers and streams provide billions of dollars of direct and indirect economic benefit to the Commonwealth's families, farms and industries. Recent developments have shown such benefits to be more a threat now than perhaps at any time since clean water laws were strengthened in the late '60s in response to persistent industrial pollution. The new threat comes from wastewater from

manufacturing, abandoned and active mines and gas drilling operations that produce wastewater laden with TDS, which consists mainly of a variety of salts.

We've already heard tonight about the Monongahela, so I won't repeat that, but we do know that the Mon was already burdened with high TDS levels due to discharges. We also heard tonight about Dunkard Creed, so I won't repeat that. Over the next several years development of the natural gas-bearing shales in Pennsylvania threatens to exacerbate the problems experienced in the Mon and Dunkard Creek and to extend them to other rivers and streams throughout the Commonwealth. PennFuture agrees with the conclusion of the Pennsylvania Department of Environmental Protection that it cannot protect the quality of rivers and streams in this Commonwealth and still approve any significant portion of the pending proposals and applications for new sources of discharge of high TDS wastewater that includes sulfates and chlorides. We also agree that we cannot continue to allow pollution to be used to allow dilution to be used as a principle method of trading wastewaters containing TDS.

However, contrary to the Department's apparent belief that currently no treatment exists for

TDS sulfates and chlorides other than dilution, there are several currently available treatment technologies that can be used to meet the limitations in proposed Section 95.1. Much of the high TDS wastewater generated by sources other than Marcellus Shale gas extraction can be treated by reverse osmosis. Indeed, reverse osmosis is successfully used in thousands of facilities around the world to extract solids from seawater, which typically has TDS levels of approximately 35,000 milligrams per liter, so that it can be used for drinking and household purposes.

Although a reverse osmosis and other conventional treatment technologies will generally not be suitable to treat the extremely high TDS wastewater often produced by Marcellus Shale gas extraction, GE Water and Process Technologies and other companies are advertising brine concentration, crystallization, vapor-compression evaporation, and other distillation technologies that are claimed to be suitable for treating TDS wastewater shale gas extraction. Indeed, on just this past Saturday, one of our local newspapers reported that a joint venture formed by two companies based in Kittanning was able to perform onsite treatment of Marcellus Shale wastewater at a site in northern Butler County using a patented

treatment system at a cost of about $6 a barrel or $.14 per gallon, a cost that would seem to be economically feasible.

PennFuture believes that by limiting the TDS levels of discharges into Pennsylvania's rivers and streams from new sources, the proposed amendment to Chapter 95 will permit the Department to begin addressing the threat that TDS poses to Pennsylvania's rivers and streams. The proposed effluent standards will help ensure that the cost of protecting the state's streams and rivers from contamination by TDS will be borne by those who generate the contaminate rather than those who depend on clean water from rivers and streams for recreation, agriculture, industrial uses and drinking water.

The proposed amendments to Chapter 95 are a good starting point, but they must go farther if Pennsylvania's rivers and streams are to be truly protected to the degree guaranteed under Pennsylvania's Clean Streams Law and the Federal Clean Water Act. The proposed effluent standards for new discharges of high TDS wastewater should also be extended in two ways. First, the concept of high TDS wastewater and the related applicability threshold of a TDS concentration of 200 milligrams per liter or a

loading of 100,000 pounds per day should be eliminated. This change would be consistent with other technology-based treatment standards. It also would eliminate any inconsistency that the regulation will permit in its current formulation, facilities that discharge very low volumes of wastewater at concentrations above 200 milligrams per liter will be required to treat the discharge to 500 milligrams per liter even though the TDS load adding to receiving streams might be relatively insignificant, while facilities that discharge high volumes of wastewater at concentrations less than 200 milligrams per liter will not be required to treat even though the amount of dissolved solids are added to receiving streams might be significant due to the high volumes of their discharges.

Second, the proposed effluent standards should apply to existing sources when their NPDES permits are renewed or modified. Extending the effluent standards to existing sources will not only reduce the amount of dissolved solids discharged in the Commonwealth's rivers and streams, but will also level the regulatory and economic playing field between new sources and existing sources of TDS wastewater. Making all sources play by the same rules

would ensure that the cost of protecting the quality of Pennsylvania's rivers and streams is not borne disproportionately by new industries and operations such as the shale gas industry, which is expected to provide thousands of new skilled jobs in huge direct and indirect economic benefits in Pennsylvania in the coming years.

Further, by extending the effluent standards to both existing and new discharges of TDS wastewater we will strike then the demand for treatments, solutions and technologies. PennFuture is confident that the market will respond to suitable low cost treatments, which should position Pennsylvania to reap further job creation and economic benefits of being a leader in supplying new treatment technologies in both in the United States and around the world.

PennFuture will submit additional written comments on various details of the proposed rulemaking. In general, we believe the proposed changes and additions to Chapter 95 are a positive first step for Pennsylvania's citizens, farmers and industries, but instead of being limited to new sources of high TDS wastewater, the new effluent standards should apply to all sources of wastewater containing TDS. They should be applied immediately to

new sources of TDS wastewater without triggering thresholds. And they should be extended to existing source's of TDS wastewater upon renewal or modification of a source's NPDES permit. Thank you.

CHAIR:

Barbara Jarmoska?

MS. JARMOSKA:

My name is Barbara J. Jarmoska, and I live at 766 Butternut Grove in Montoursville. I appreciate the opportunity to be here this evening and to speak to you. On August 18th, the Environmental Quality Board proposed to amend 25 PA Code Chapter 95 relating to wastewater treatment requirements. I'm here tonight to ask that you accept that proposal and pass and enforce those new regulations.

As you are aware, the existing practice for high TDS wastewaters is to allow this water to be returned to our rivers untreated for TDS, sulfates, and chlorides. Treatment is merely dilution, and that is left unaided to the river. As documented by the rising levels of TDS in the waters of this Commonwealth, the rivers are already in peril and dilution can no longer be considered adequate treatment for high TDS wastewaters.

We are entering a new era in

Pennsylvania. The gas industry has painted a bull's eye on the Marcellus Shale, the geographical foundation that lies beneath the ground where we live and work and play and raise our families. We are in many ways ill prepared to deal with what is coming our way.

We are also poor learners when history offers to teach us. This Commonwealth has been ravaged in the past by the lumber barons and the coal industry. We are still paying that price. I can't take my granddaughter for a walk in the woods and show her a tree that takes four people, arms extended and fingers touching to encircle. I need not tell you of the environmental consequences we continue to cope with because of coal mining.

While recent history in Texas can offer us a glimpse of the air and water pollution challenges we are about to face. As Pennsylvania's forest and farm fields give up trees and soybeans to become home, instead, to gas wells. It is paradoxical to me that we claim to be spending trillions of dollars on a war for freedom, and yet here in America there is pervasive distrust of government, suspicion of the bureaucracy and cynicism regarding the entire political process. Money has become the ultimate

source of power, but is it the final measure of the quality of life? Can that which we treasure most ever be measured in dollars and cents? What is after all the value of a day spent hiking in an unbroken forest, bathing in a clean mountain stream or sleeping under a dark and starry sky? When money is the only measure of value, belief in true freedom is replaced by a sense of helplessness.

Through the internet I invited no less than 1,800 people to this meeting tonight. I see many of my family and friends here in this audience, and I honor each and every one of you for sacrificing your time, for being here and for your faith and belief in this democratic process. I've heard from many who could not be here tonight. For some, the busy holiday season held prior obligations, but for many others to attend this meeting felt to them like a waste of time. I've herd comments like, it's a done deal, it's not worth the effort, all of the politicians are bought and paid for. The corporations hold all of the power, and we can't really make a difference anymore.

Is it true that the one with the most toys always wins? At the very time the gas industry is massively migrating to Pennsylvania, bringing risks of new environmental challenges and disasters, why did

you, here at DEP lose over 25 percent of your budget this year? How much influence over tax budget decision did the nearly $2 million of gas industry lobby money have? Do you, as DEP employees, even have the freedom to keep your job and make the right decision? Has the money and control held by corporate giants finally reached the tipping point where commonsense is crucified once and for all?

Commonsense tells us this. Our streams and rivers are already in peril. The gas industry is moving here with warp speed. They are seeking, through the permitting process, to remove literally billions of gallons of water from our rivers and streams and aquifers. Once used, these once-fresh waters will contain high levels of contaminates, you've heard about the names of those from other speakers tonight. How can we possibly allow these TDS wastewaters to be dumped back into rivers whose water levels will, at the exact time when dilution is most needed, be missing billions and billions of gallons of water?

Commonsense says we need these new regulations. Scientists on the EQB say exactly the same thing. Outside the arena of politics and corporate power, commonsense and good science are in

agreement on this issue.

The Clean Streams Law gives DEP the authority to preserve and improve the purity of the waters of this Commonwealth at adopting rules and regulations as necessary to accomplish this task. I implore you to do exactly that, by both fully adopting and continuing to expand the recommendations of the EQB and pass these rigid new TDS standards. Thank you.

CHAIR:

Our next witness is Jerry Walls. Jerry Walls to be followed by Sheila Harris and Mark Hartle.

MR. WALLS:

Good evening. My name is Jerry Walls. My career in public sector community and county planning has spanned some 45 years working at the state government, city government and county government levels in Maryland, Michigan and Pennsylvania. I'm a professional planner certified by the American Institute of certified planners, holding Certification Number 2638. It is partly out of a sense of ethical professional responsibility of our Professional Planner Code of Ethics and a longstanding concern for the quality of our communities that I feel compelled to offer this testimony.

The process of establishing public policy for regulation of wastewater discharges is a politically supercharged task. It involves weighing private costs against public benefits with wide-ranging factual scenarios and sometimes elusive and imprecise criteria upon which to make those decisions. Ultimately, those decisions must be based upon a sense of public conscious. I am confident that most EQB Board members do understand that, but my point is that we in the general public need to respect that, including all industry and all forms of organizations. It is vitally important for Pennsylvania to have effective policy standards for the discharge of total dissolved solids.

However we need to rethink our approach to clean water regulatory law. Clean water is one of our fundamental assets for a healthy environment and a positive quality of life for our communities. Our groundwater, rivers and streams should not be viewed as easy, unlimited waste disposal systems.

The science and training behind my professional planning career do not qualify me to speak to the precise and numeric values of TDS standards. However much of my 45-year career has involved assisting in the mobilization of local

government infrastructure investments to address wastewater and water supply treatment. I am keenly aware that many public sewage authorities require industrial dischargers to pre-treat their wastewater before it can be accepted into the public treatment system. Therefore based upon professional recommendations from DEP staff, I do support the proposed TDS standards.

I serve on several Boards of Directors alongside astute successful business leaders. I hear their concerns that Pennsylvania appears to give preferential treatment to the oil and gas industry. From my direct involvement in the planning, design, development and operation of the Lycoming County Landfill leachate management liner, lagoon and leak detection monitoring system, I am aware that the PA DEP municipal waste facility design standards and --- I'm aware of those standards. The entire landfill was required to excavate all deposition area and compacted to a smooth surface with a system of perforated pipes under the double-lined 100 mill, HDPE liner draining to a system of sampling wells to enable monitoring of any leaks in the liner, and to enable the capture of any leaking leachate, draining it to a double-lined lagoon. Natural gas frac-flowback fluid impoundment

lagoons have no such standards. That equals preferential regulatory treatment for the natural gas industry.

When are we as a public, the Pennsylvania General Assembly, our Governor, and governmental leaders at all regional, county and municipal levels going to learn that the latent costs of pollution cleanup far exceed the costs of responsible environmental management and pretreatment at point of generation? When are we going to take a lesson from our own Pennsylvania resource extraction history in coal mining, that pollution cleanup becomes a public cost long after the private enterprise which gained the profits of resource extraction, have ceased to exist? And that it costs far more to do the cleanup later and downstream then at point of generation or discharge?

Some natural gas companies do appear to be changing mode of handling frac-flowback fluids to recycle and reuse them in further drilling. Whether they are motivated by the pending TDS standards or just the sound economics of recycling and reuse, it makes good sense to have TDS standards that incentivize that practice, which should also help reduce the cumulative long-term impact of these

different fluids and their residual elements on water quality.

I believe strongly in our American free enterprise system, but free enterprise does not mean a license to pollute. We do have plenty of socially responsible and environmentally responsible private companies, which pay their way as they go as help produce a healthy community. To members of the EQB, I ask, please establish appropriate scientifically defensible standards for TDS for all industries to protect the waters of our Commonwealth. Other private companies do depend on a system of regulatory fairness and depend on having uncontaminated water available to them. Public water supply systems, including both publicly owned and privately owned systems also depend upon pollution free groundwater and surface water. Otherwise, the cleanup needed to utilize those water resources for public consumption equals a cost transfer from polluters to public consumers. Thank you.

CHAIR:

Sheila Harris? Sheila Harris is not available. Mark Hartle? Is Mr. Hartle available?

MR. HARTLE:

My name is Mark Hartle. I am with the

Pennsylvania Fish and Boat Commission, 450 Robinson Lane, Bellefonte, PA. Good evening. My name is Mark Hartle, and I would like to offer testimony for the Pennsylvania Fish and Boat Commission regarding the proposed amendments to Pennsylvania Department of Environmental Protection, Chapter 95 wastewater treatment requirements.

First, we would like to support DEP's proposal to regulate total dissolved solids, chlorides, sulfates, barium and strontium at the point of this discharge. We believe that this is a responsible step toward ensuring stream health in the vicinity of discharges and controlling loading to prevent impairment of the stream and eventual imposition of total maximum daily load or TMDL.

The Department's own analysis has shown that a number of major waterways have limited capacity to assimilate additional TDS, chlorides and sulfates. The condition of high TDS concentrations in the Monongahela River is the extreme case of exceeding water quality standards that the Fish and Boat Commission and citizens of Pennsylvania want to avoid. Protection of water quality and Commonwealth waters, as proposed, is desirable since it places the burden of treatment on dischargers and not public water

supplies and downstream resource users. In many cases, public funds and user fees have been used to improve water quality and the improved assimilative capacity should be maintained to assure the health of the public and aquatic communities the streams support.

Proposed regulatory thresholds for discharges of wastewaters containing greater than 2,000 milligrams per liter or 100,000 pounds per day TDS represent a reasonable threshold for regulation of sources of TDS, sulfates and chlorides that could significantly reduce the receiving waters' ability to assimilate pollutants. We support the thresholds proposed in this regulation.

Prevention of discharge of wastewaters from oil and gas field exploration without authorization through an NPDES permit is a commonsense regulation made clear by proposed changes. Limiting strontium and barium in oil and gas discharges to ten milligrams per liter is another element in the regulation we support since these contaminates are highly toxic and are a signature of deep resource exploration. We also point out that more stringent criteria may be necessary to prevent degradation dependent on the stream's dilution capacity and the

aquatic life and public health protection criteria for these contaminates and other associated metals. We understand that the natural gas industry has greatly reduced its waste stream through reuse, but we believe more limited effluents will still have highly concentrated contaminants that should be regulated as proposed.

The implementation date of January 1st, 2011 is the latest date considered by our agency to be reasonable since any new treatment technologies and plants would have to be designed now in order to be ready for NPDES permit application under 25 Pennsylvania Code chapter 92. We note that DEP's interim TDS strategy does not reflect best available technologies and rapid phase-out of this strategy is desirable.

In addition to more stringent wastewater requirements under Chapter 95, our agency recommends that DEP also use its authority under 25 PA Code Chapter 93, which are the water quality standards regulations, to establish meaningful criteria for protection of aquatic life for TDS, chlorides in particular, and other anions and cations that are characteristic of high TDS waste streams that could compromise aquatic health. We note that the U.S.

Environmental Protection Agency, ambient water quality criteria for chloride have not been adopted by DEP. Development of such criteria under Chapter 93 would be an important step forward to not only prevent toxicity, but to prevent alteration of aquatic communities, particularly in sensitive waters. Additions to Chapter 93 criteria, to compliment proposed Chapter 95 regulations will translate into better aquatic life use protection for receiving waters.

Additionally, we suggest three areas for improvement of proposed regulations. One, effluent standards should be applied to existing discharges meeting proposed TDS chloride and sulfate thresholds when renewal of NPDES permits is required to level the playing field in terms of discharge quality. The Fish and Boat Commission recommends expansion of the proposed Chapter 95 regulations to existing discharges requiring permit renewals.

Number two, instantaneous TDS, chloride and sulfate standards at the point of discharge should be added to Section 95.10, to protect aquatic life in area of the discharge. The instantaneous maximum could be represented as an instream concentration that does not exceed 133 percent of background as found in

Delaware River Basin Commission regulations.

Thirdly, no clear regulation exists that requires cradle to grave monitoring system for wastewater generated by a Marcellus drilling operation. We recommend such a regulation. Characterization of high TDS waste should be improved to assure available treatment is adequate to reduce the variability of the effluent quality and to assist in determining the likelihood of transfer of contaminants to other media such as air or solid waste. Thank you for the opportunity to present this testimony. My agency would be happy to answer any questions the Board may have with regard to issues that I've discussed.

CHAIR:

Our next witness is Mr. George Solar to be followed by William Gleason and John Tewksbury. And for the information of the audience, we have six remaining pre-registered witnesses. So I will call on Mr. Solar. Is William Gleason available?

MR. GLEASON:

My name is William Rocky Gleason. I live 3030 North Third Street in Harrisburg, 17110. I am a professional biologist. I do surveys for rare endangered species around the sate. I've heard some

really excellent well-prepared eloquent comments today. I do not have one of those. I just wanted to say a couple of brief things. I didn't expect to see quite a great crowd here, and I'm really glad to see there is one, I just couldn't let the opportunity go by without having a seat.

And what I would really like to say is that we can't go back to the era of coal extraction, which left us with denuded streams that were unable to support many forms of life. The regulations that are proposed should be accepted and extended to existing sources of pollution as well. One of my primary things is that we're always trying to recommend riparian buffers, force riparian buffers to slow and halt the flow of effluent into the streams to help prepare --- you know, preserve the water quality. That makes no sense if we allow discharge directly into streams of highly toxic and sediment-laden water. So beyond that, I have nothing to say, keep it short. Thank you very much.

CHAIR:

Our next witness is John Tewksbury to be followed by Carl Undercofler, Ed Lawrence and Russ Cowles. Mr. Tewksbury?

MR. TEWKSBURY:

My name is John Tewksbury, address 168 Yeagle Road, Muncy, PA. I'm a kindergarten teacher in Muncy School District, and my class asked me to speak on behalf of their generation. I gave my students a general overview of the proposed changes to the current code that regulates discharges in the PA waterways. I also discussed with them the DEP research findings regarding the impact of added total dissolved solids on freshwater aquatic life. I didn't put it in those terms. They expressed shock and concern when I told them that added TDS to river waters killed fish and other freshwater animal life in western Pennsylvania. They didn't think that was right, and they don't think it's right to continue that practice, so I told them I'd deliver the message to the DEP, who it is responsible for protecting the nature that we love and depend on so much.

Many of my students live within walking distance to the West Branch of the Susquehanna where they play, swim, explore and learn. I asked them why the DEP should protect our river, and this is what they told me. Fish are an important part of nature. Frogs are cute, they like how they jump. We need to have clean water to drink. I like to swim and fish in the river. Having clean water is more important than

having money. I like to watch the ducks on the river. My dogs like to swim and play in the river. These are the comments of five and six year olds.

The DEP is all too well aware of the burden past generations can place on future generations. Past generations are responsible for the environmental destruction that has been caused by acid mine drainage from abandoned coal mines, but our generation is the ones living with the waterways that do not meet the Federal Clean Water Act standards. And we are the ones that are paying the millions of tax dollars associated with remediating the issues associated with abandoned coal mines. Those owners and corporations are long gone and we're left holding the bag.

We cannot do this to the next generation. We cannot be focused on short-term benefits that the gas and oil industry will bring to our communities at the expense of the long-term environmental health of our land and water. After the gas and oil and money are long gone, the citizens of Pennsylvania will still need fresh water and a working ecological system to survive.

This has been an interesting lesson for my students. Of course, they're learning the

importance of reading and writing, of making an informed decision. And perhaps the most critical, they're learning that they must stand up and be heard to prevent others from taking advantage of them. I've told them that the DEP's mission is to protect Pennsylvania air, land and water from pollution.

On behalf of Pennsylvania's future generations who can't be here tonight, I am asking you to do your job. Do not buckle under the pressures to yield and compromise with industries that will improve our economy in the short term, but run a serious risk of wrecking the very environment and natural resources that you have been charged with protecting. Members of the DEP, my class' final message to you is simple. Do not fail us.

CHAIR:

Carl Undercofler?

MR. UNDERCOFLER:

I'm Carl Undercofler. I live at 81 Hudson Drive, Woodland, that's in Clearfield County. I came to speak for the West Branch of the Susquehanna. We have 105 miles of it in Clearfield County. We have 638 miles of tributaries to it that have been polluted with acid mine drainage. They're dead. I can remember the time as a kid when the river

in Clearfield was dead. There was very little aquatic life, no fish, a few hellgrammites. Through the efforts of a lot of volunteers, money from Growing Greener, remining process that was good, the river has come back. We can't afford another disaster. And we're seeing it --- excuse me, a little passionate here. We're seeing it almost on a daily basis where the growing companies are polluting the streams. I passed some pictures around here, I hope some other people see them.

The new regulations the DEP wants put in need to be put in as soon as possible and stronger if possible. And in the meantime drilling should be stopped, it needs to be taken care of. Thank you.

CHAIR:

We have two additional witnesses who have registered, so I will read the next four names and at that time we will then open it up to the audience. Our next witness is Mr. Ed Lawrence to be followed by Russ Cowles, Tami Mausteller and Ralph Kisberg. Mr. Lawrence?

MR. LAWRENCE:

I'm just going to make some general statements. Getting a notice that DEP is holding a public meeting is somewhat like getting a notice from

your doctor that you have to have a colonoscopy. And so the question is, do I have to go? And you have shown tonight that, indeed, we have to go. We have to go, we have to speak up.

The second thing I would like to mention is I'd like to thank Senator Mary Jo White for being one of the sponsors of this because I was always under the impression that her name was Mary Jo Whitewash, and that she --- so for me to hear that she actually has an interest in environmental issues in this state besides blocking them comes as a surprise. And so one thing I would like to suggest is that she resign from her position until she comes to a realization that she's working for the people of the state and not for the industries of the state. So that's a recommendation.

DEP is supposed to be a watchdog for the environment in the state. A watchdog should have teeth. Now, we all know that the politicians, like Mary Jo White, do their best to pull out as many teeth as they can, moneyed interest pull out a few more. And so what we have is basically, of course, the budget, which slashed DEP at the very time when more DEP people are needed. But no, since the industry --- since it seems like someone else was running the

budget this year besides the people of this state and money was slashed from DEP, without a severance tax being passed so that the gas companies could pay their fair share like every other state has. And it's really surprising because here, right at the beginning when the industry --- now, the industry has been in here for a long time. That is true, but as we all know there's a gold rush going on now. And as we all know, ExxonMobil just bought a company that has gas fields in this state. So this is not what has been happening in the past. This is new.

Getting back to teeth, what we expect from DEP with the few teeth that they have is that they do something other than bite their tongue. What we expect of DEP is that they stand up and speak for the people of Pennsylvania. That's another recommendation.

I agree completely with the second gentleman on one point that the arbitrary date that from here forward these industries will be regulated, and the industries that are not before that date will get grandfathered. That's nonsense, and let's just say that that's nonsense because it does penalize the company's going forward, and it allows the companies that are already doing it to continue doing it. So

let's do something about that date. A good suggestion was the phase in when these companies come up for renewal, let's get them on the same page as everyone else.

The drilling industry, as we know, is not just powerful in Pennsylvania. It's powerful on a national scale. We know that, in fact, frac water has been exempted from the Clean Water Act, and that was done during the Bush administration with the aptly named Haliburton Amendment. Now, what sense does it make to have a Clean Water Act and then exempt the very companies that are in violation of it? That doesn't make a lot of sense, but as we know a lot of things happened during the Bush years that didn't make a lot of sense. And we're hoping that the current administration can do better.

I live outside of Bloomsburg and Millville, which is a small community that has a dump outside of it, which is called Pine --- well, I forget what the name of it is --- White Pines. Thank you very much. And they got a permit to take radioactive sludge from the drilling. So you know when this --- the whole idea of drilling first came up, I, in fact, read in our local newspaper which I --- The Bloomsburg Press, which I can verify does not always tell the

truth. But however, they did have an article which said that a DEP spokesman said that what was --- the water that was being used was not toxic. Now, we know that that's not true at this point, but when the industry first came in, there was a lot of things that were said that weren't true.

Now, one thing that the industry says is that any type of regulation is going to be too expensive. And so this is why they want to weaken or actually do away with it, have no regulations at all, because regulation is expensive. And I want to agree with them on that point. And as an example of that, I want to use the auto industry, which said that seatbelts would bankrupt them and as we know, they're bankrupt, so there you have it. Thank you.

CHAIR:

Thank you for the comments. I am going to say for the record, as a member of the Environmental Quality Board for Senator Mary Jo White, clearly folks can have reasonable disagreements. I'm going to state for the record that I've worked for her for 13 years. I don't know anyone with more integrity than Senator White. I'm proud to work for her. She wanted to make sure I was here to listen to your concerns as well as DEP to listen to your concerns.

With that, we will continue. Russ Cowles, our next witness. Mr. Cowles?

MR. COWLES:

My name is Russ Cowles. I live at 2555 Riverside Drive, South Williamsport. The first thing I'd like to say is that I do support the proposal we're making by the EQB. A couple of other comments and things I'd like to note. Senator Mary Jo White is very important in this process. I agree with some things that other people said that the final decision on this, in fact, will not be based on science or technology, it's political. It's easy to find her address and phone number. Please call her or write her a letter. She's very important in this process. I think that politics will play a big part in this.

In the early part of this century, the Pennsylvania Supreme Court ruled that a coal company if found to cause harm could not be held liable because it wasn't reasonable to think that the state could have a coal extraction industry and clean air and the clean the water. It took over 50 years to reverse that decision. That was political. That was not scientific. It was found to not be legal, but it took 50 years for that to happen.

There's been a lot of statements made

about legacy or the legacy that we have from other extractive industries. I think everybody's pretty clear on that. My view of that is that the people who benefit from the use of the resource are the people who pay for the cost of its impact. What we have historically done is taken the cost of the impact from extractive industries and pushed that onto future generations. Unfortunately, they can't vote. I really appreciated the comments from our kindergartners. I think that that is very important.

And again, I would just really encourage you to contact your politicians, local, county, state and federal. And let them know that you were here at this meeting and what your feelings are. Thank you.

CHAIR:

The next witness, Tami Mausteller, to be followed by Ralph Kisberg.

MS. MAUSTELLER:

Hi. I'm Tami Mausteller. I support RDA ---

CHAIR:

Your address, for the record.

MS. MAUSTELLER:

Oh, I'm sorry.

CHAIR:

That's okay. Thank you.

MS. MAUSTELLER:

1303 State Home Road, Montgomery, Pennsylvania. I live between Muncy and Montgomery, rural area. It has a lot of woodland around my area. In fact, I own some woodland. I'm also an LPN for 29 years, and I'm going to relate how I feel about the gas industry to my LPN experience. Human bodies can only tolerate a certain range of salts, chloride, potassium, sodium sulfates. If the body exceeds that range the heart and kidneys and other internal organs begin to overcompensate and then fail. The river is like the human body in this respect, too. Too much chloride, salts, potassium and others --- and all other solid waste that we have no --- currently no treatment exists of TDS, sulfates and chlorides other than dilution. The river also will try to overcompensate. When the body overcompensates and the river overcompensates, we get some adverse affects, algae blooms, failure of the freshwater fish. In the body we begin to shut down.

Now, also the human body is also like the river in this respect. The gas industry takes billions --- or millions of gallons of water out. That already dilutes the gas --- or the water. It

makes all of the pollution and all of the wastewaters much more concentrated. So you already have a problem to begin with and end up with all of this --- with no current practices other than dilution available. Then we have no way of trying to reverse the failure of the freshwater fish. The river itself, the frogs --- and again I also appreciate the comments of the kindergartners.

Pennsylvania likes to brag about their --- with good reason, about its fishing and hunting resources. What is it going to be like when the rivers fail, when the river is dead? Where is the millions and billions of dollars of tourism money going to come from?

I'm not a good speaker, but these are some of my thoughts. Pennsylvania also has good --- or depends on its water for drinking water. It's not good to have all of these salts in drinking water. And this is only what we know that's going in from the frac water. They have a law saying that they don't have to tell us exactly what is going in the drinking water in the river. I think this is wrong. I think DEP should do its job to protect us. When it was called DR we'd like to say, don't depend --- or don't expect results. I'm hoping to expect good results this time. Please, do your job. Do what I think you

started out in this agency to do, protect our environment. Thank you.

CHAIR:

Thank you. Ralph Kisberg?

MR. KISBERG:

My name is Ralph Kisberg. I live at 1736 Almond Street in Williamsport. It's about a mile from where the proposed frac water treatment plants. I also happen to be currently working a few hundred feet from one of these proposed plants. In addition, I spend a lot of time on the water and some inadvertent time in the water, and like a lot of us here the river is a big, you know, part of our quality of life. So Mr. Gleason brought up a good point that I wrote down about the gentleman from the treatment plant talking about how gas has been around for 100 years. We all know, as he eloquently put it, how things have changed. But this is part of the problem, we don't get total honesty from the gas industry, of course, that's not their job. They don't usually lie I think, but they lie by omission, and that's a form of lying. And it's really hard for us to get a grasp of what's going on here. I mean we have so many things to deal with.

Here's a very simple point that maybe you

can take home with you that I've picked up at a couple of public meetings and there are other people here that were there that could corroborate this. And if I'm wrong I need to hear it, but I heard it twice from different gas industry people from different companies. When the question was asked, what is the effectiveness of a frac? This is talking about the horizontal board that goes out 5,000 feet. You go down in the shale and you go out; right? So the frac effectiveness is the depth of the shale formation around 300 feet in this area, maybe less, and then horizontally. About a year ago if you asked that question you got an answer of 1,000 feet. Now, if you asked it in the spring, you got an answer of 500 feet. If you asked it this summer, as it was asked at two different meetings in August and September, it was down to a few hundred feet. This is a very dense shale, more dense apparently than what is in Texas.

So what does this mean? I'm not a mathematician, but this is two and a half times the water, two and a half times the trucking, two and a half times the chemicals. I mean, everything is shrinking in size and growing in impact. So we're just asking for some basic standards there. I don't know what an ion is really. You know, total dissolved

solids. What is it? Who knows? If you're not a scientist, it's a positively charged atom. But what do we know about that?

But we do know that we don't have a comprehensive look at what's going on here. We've got the River Basin Commission dealing with the withdrawals, we've got DEP water quality dealing with wastewater, we've got DEP air quality dealing with air quality issues. How are we going to get a grasp of a whole look at this thing, because I think if we had it, they might be a little surprised about what's going on here and what's going to happen. This is our time. We're the stewards here. The kids, the future, they can't speak, but what are we going to be left with in 50 years around here. So let's start by putting some standards in, maybe they're not exactly perfect. They can be adjusted, but for now the gas industry's going to do what's cheapest. That's their job. Thank you.

CHAIR:

Thank you. We've concluded the list of preregistered witnesses. By a show of hands is there anyone who would like to come forward and offer testimony? Okay. So gentlemen, back here. And I think if you'd be happy to come forward and state your

name and your address for the record. I'd appreciate it.

MR. KESICH:

My name is John Kesich, and I live 628 Bailey Creek Road, Millerton, PA.

CHAIR:

Can you spell you last name, please, for the record?

MR. KESICH:

It's K-E-S-I-C-H. I'd just like to read one snippet of the statement that I had prepared since there's been so much good testimony before me. And for me the ideal result of these hearings would be for DEP to tell industry, we're terribly sorry, but the people of Pennsylvania will not continence (sic) any avoidable pollution of their waterways. They do not deem the cost savings and convenience you would enjoy from dumping your wastes as justifying the pollution.

I'd also like to briefly describe a conversation I had yesterday which raises the important and troubling question, if we can't trust DEP to keep TDS out of our faucets, how can we trust them to keep it out of our rivers? The person I spoke to, as you might have guessed, was impacted by a gas well which polluted his well, his water well. He

found a bunch of light blue, very fine sediment in his hot water heater one day. So he went and he called the operator who was drilling the well. And this just happened coincidently to be the day after they had fracced that well. So anyway, they responded quickly. They gave him bottled water, and they installed a three-stage filtration system on his water supply. Now, he still had some issues. For example, the holding tank for his well is on the wrong side of that supply, so things had to be adjusted.

But my point here is this gentleman did not feel comfortable going to DEP for help. Now, to me it seems that when there's a problem with the environment, who are you going to call, DEP. But I fully understand his reluctance because as he put it, he's at the mercy of the gas company and he doesn't want to piss them off. So if DEP cannot be counted on to keep the TDS out of their kitchen faucets, what makes us think they're going to keep it out of the river? Thank you.

CHAIR:

Is there anyone else who would like to offer testimony? Yes, sir.

MR. VOSK:

Hi. I'm Arnold Vosk. My last name is

spelled V, like in Victor, O-S-K. I live at 463 Pleasant Hill Lane in Williamsport. I wasn't planning to talk today, so if I sound inarticulate, you'll know why. There have been many people who have testified today who are environmental experts and who know more, a great deal more, about this than I do. I'm a retired ER doctor, and part of my job was --- involved helping local companies deal with prevention of industrial accidents and dealing with possible accidents as they might happen.

One of the things that every company in, well almost every, company in the state of Pennsylvania is required to do is if they're dealing with chemicals they're required to have what are called MSDS sheets on every single chemical that they are using. And if you go to local companies, you will see they have loose-leaf notebooks with sometimes hundreds of sheets because even if they use something only one day in the year they have to have the MSDS sheet on it. That names what the chemical is. It names what the hazards of it are, it lists what to do in case a spill and a whole bunch of other information about it. You also see this kind of public information on trucks that are normally transporting hazardous material. So if you look on the back of

tank trucks lots of times or even other trucks that are transporting hazardous stuff, you will see a diamond shaped plaque with a number on it. That number refers to a book which all emergency responding agencies have and that tells them what the stuff that is being transported is.

Now, this kind of transparency is a requirement for most of the industries that function in our Commonwealth. It's not a requirement for the gas industry. What's infracting fluid is a proprietary secret. Some of the ingredients are known, but some of them aren't known. So I support DEP's effort to regulate dissolved solids, but there are a lot of other things, and I think this is only the beginning. Because there are a lot of other chemicals that are in fracing fluid, and we don't know what a lot of them are. Some of them are pretty harmless like detergents, others are organic chemicals like benzene, which has a known carcinogenic potential. And there are other things we don't even know what they are. The thing about contaminants is that generally you don't find them unless you test for them. So you usually have to know something about what you're looking for even to test for it.

So I think that this should only be the

beginning of DEP's effort in this direction that the other contaminants that are present in fracing fluid that find their way into drinking water and into stream water and into the environment generally have to be regulated, just like other hazardous chemicals have to be disposed to the public, and have to be made normal public information, just as part of DEP's responsibility to protect the people in this Commonwealth.

And I hope that DEP will continue in this direction and will require drilling companies to basically hue to the same standards that all other companies in the state are required to. Thanks a lot.

CHAIR:

I want to enter a quick reminder. The public comment period on this regulation will continue until February 12th. And comments may be submitted in writing to the Environmental Quality Board, P.O. Box 8477, Harrisburg, Pennsylvania, 17105. They may also be e-mailed to RegComments@state.pa.us. I want to recognize anyone else who would like to come forward and offer testimony. Is there anyone else present who would like to offer testimony?

Seeing none, I will adjourn this hearing, and I appreciate very much your time coming out this

evening. Thank you, and have a good evening.

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HEARING CONCLUDED AT 7:08 P.M.

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CERTIFICATE

I hereby certify that the foregoing proceedings, hearing held before Chairman Henderson, was reported by me on 12/16/2009 and that I Sarah Wendorf read this transcript and that I attest that this transcript is a true and accurate record of the proceeding.