RECEIVED
DEC 23 2013
Dept. of Natural Resources
OFFICE OF LEGAL COUNSEL

REPORT OF THE PROCEEDINGS of the Department of Natural Resources Public Hearing taken at Rend Lake College, 468 North Ken Gray Parkway, Ina, Illinois, on the 3rd day of December, 2013.

MR. WELCH: Okay. Hopefully everybody can hear me. No? How is that?

Good evening. My name is Bob Welch. I'm a hearing officer for the Department of Natural Resources and I'm going to be the moderator of our little hearing this evening. As you know, we are meeting tonight in regards to the proposed administrative rules relating to the Hydraulic Fracturing Regulatory Act. Before we get started,

I'm going to introduce you to the individuals who are up here. They are here to listen to your comments. On the left here is Mitch Cohen. He is the director of the Office of Oil and Gas Resources Management. To his left is Robert Mool. He's an attorney with the department's Office of Legal Counsel. Next to Mr. Mool is Nick SanDiego. He's also an attorney at IDNR's Office of Legal Counsel. To my immediate right here, my right-hand man is Brendan Dailey. He's IDNR legislative counsel. To the far right is Doug Shutt, who is a permit manager with the Office of Oil and Gas Resource Management. That's who we are.

Now, why are we here. As you're aware this summer the General Assembly passed and the Governor signed a new Hydraulic Fracturing Regulatory Act. This act applies to all wells where only high volume horizontal hydraulic fracturing operations will occur in this state.

The act gave to IDNR the primary authority to administer and enforce the provisions of this act. The act further requires that the department adopt rules, as necessary, to accomplish the purposes of the act.

Now, the rule making process or

procedure is designed to allow interested parties the opportunity to actively participate in the rule making process through public comments. This public hearing in which many, many diverse opinions will be heard are strongly supported by IDNR in the spirit of openness and transparency.

The purpose of this public hearing, and this is one of five we're doing throughout the state, is to allow members of the public to express their views and comments related to the proposed hydraulic fracturing administrative rules which have been drafted in response to the dictates of the act. So, in other words, the act told IDNR you draw up the rules and then we're going to have these hearings. So IDNR has proposed these rules. It's a draft. It's not the final copy and we're going to hear from people across the state and then they'll come up with a final draft.

Now, I know many of you are probably opposed to the idea of hydraulic fracturing and like at the last hearing you would like to express your opinions in regard to hydraulic fracturing, but actually this is not the place to do that. You're welcome to do that, if you want, but we're not here to discuss the merits or lack of

merits of hydraulic fracturing. That's something you probably should take up with your state senator, your state representative. We're here as far as the rules are concerned. So we're here to hear your comments and suggestions in regard to the proposed administrative rules. Your input will assist IDNR in adopting rules to insure that the process is done in a manner that is environmentally sound and consistent with the law.

Now, these gentlemen here are here to listen to your comments and make note of them. They are not here -- they are here because they are interested in hearing from you and due to the time limitations will not be responding to any of your comments. They'll take them into account in reviewing all the public comments for the proposed rules. As you know, also, there's a website where public comments can also be made.

Throughout the public comment period IDNR will accept and upon consideration make changes to proposed rules before filing for a second notice. IDNR fully anticipates and expects changes to be made as part of the process. So, remember, these are proposed rules and not the final draft that we're dealing with right now.

Now, as far as the format is concerned, hopefully this will work out, we've lost one microphone, I think, and hopefully we'll have it back, but, anyway, each of you filled out -- or most of you did, I guess, if not everybody, filled out cards with your names on it if you want to talk. And Brandon here has shuffled them and because -- we'll get to that, but I'm going to draw names and that's how we'll get you up here. Because of the number of people here and the fact that we want to give as many of you as possible the chance to speak, your comments are limited to four minutes. I'm asking you to be respectful of this time limit, because every extra second or minute that you use is taking that time from the next speaker or any speaker.

After making your statement, if you have a written statement, we would appreciate it if you would put it in that box right there.

The intention is, if we get that other microphone working, to have two people on each side. What we try to do is I call -- at the beginning I'll call out two names for each microphone, when we get the second microphone and so we'll always have somebody in the hole. So after somebody talks, I'll call another person and have

them lined up and there's no wait. That way we can get more speakers through here. So we'll always have -- always have, hopefully, four people up here at one time.

So when it's your turn to speak, please introduce yourself, spell your last name, because the court reporter is taking everything down here. We want to get your names right. Tell us what city you're from and, if you want, if you're from an organization, you can tell us that, too, if you wish to do so. If your comment relates to a specific rule or section of the proposed rules and you know the rule or section number, it would be helpful to the staff here to let them know what you're referring to. Otherwise, go ahead and make your comment. If you want to read your comment, your welcome to do so. We don't want to rush you, but we want to stick to the four minutes so everybody -- more people will get a chance.

Brandon's big job here is to hold up the one minute sign. He does that pretty well and he's getting good at it. And after that, another 30 seconds, I'll make some kind of a verbal or this or something to tell you that you're running out of time.

Two things now. At the very end, when we're done with everybody talking, giving their comments, if you're interested in staying a few minutes after the public comments are finished, the panel will -- they are going to review their notes and summaries and summarize the concerns of the public that we've received today. In other words, they are going to put together a little summary and then let you know what they've come up with as far as tonight in regard to the rules.

Now, please remember that the sole purpose of the hearing is to hear comments and suggestions from the public in regard to the proposed administrative regulations. It's not a question and answer session. And please address your statements or comments to the rules or proposed rules, actually.

Okay. Now, let's see who won the Lotto here. Rachel Tompkins. Ms. Tompkins. Okay. Karen Fiorino. Karen Fiorino. Where are you? If you're here and you're -- will you let us know you're here. Sam Stearns come on down. And Sam Schall.

Now, when you speak, don't get too close to the microphone. Now, Ms. Tompkins, right? You get to go first.

MS. TOMPKINS: Hi. My name is Dr.

Rachel Tompkins and I'm speaking as a citizen and reflecting the views of the League of Women Voters, of which I am a member.

My concerns are in relation to public health and water and air pollution. The Hydraulic Fracturing Regulatory Act passed into law in June of 2013, foresaw many of the multiple serious problems, such as water and air pollution which could result from fracking. It was written to protect the public from potential harm.

The recent published draft of administrative rules have so many loopholes and such weak and inadequate provisions for enforcement that these rules weaken or circumvent the protections provided by the law.

Specific loopholes or weak aspects include: Failure to include radioactive water and water tainted with many chemicals included in the Clean Water Act in the list of those prohibited from discharge into fresh water.

Weakening the presumption of liability to water pollution close to fracking operations.

Allowing flowback wastewater to sit in open pits for much longer than the law allows,

rather than requiring adequate sealed storage to be part of planning and limiting emergency use of open pits.

Permitting alterations in plans for fracking wells without public input with permission required only after alterations are made.

Allowing hydrocarbons produced to be emitted when capture is not considered to be cost effective. Not providing for independent monitoring of these emissions when lower emission are the -- may benefit the natural gas and fuel.

Allowing private landowners or industry representatives when they assert an inability to reach private landowners to waive setback requirements from streams, rivers and lakes and water testing requirements at their discretion when setback and water testing requirements are in the law to protect the water resources of a whole community, not one landowner. There are no provisions for independent monitoring of the water sampling either.

Requiring medical personnel treating emergencies to contact the IDNR or trade secret holder during business hours with no promise of immediate response to determine to which chemicals

a patient may have been exposed. Placing the trade secret concerns of industry above the health of citizens.

Exempting from regulation existing wells and those which utilize foams or gasses as part of their fluids.

Counting violations, once determined, for only two years. Limiting administrative fees, setting up a financial incentive to violate regulations.

It does not mandate revocation of permits for failure to follow guidelines.

Sets the fees for such violations as giving false information on an application at $50, giving a green light to those who would falsify applications.

Sets a fine of $200 for the operation of nonpermitted wells, begging the question of why any company would choose to comply with the costly permitting process and the regulations.

Sets a fine of $200 if environmental damage is shown to be the cause and only $1,000 if groundwater is fouled, when a polluted water table leads to a blighted community, as human life, agriculture and animal husbandry is profoundly

affected, providing further backward incentive, so that it makes economic sense for a company to ignore all regulations.

These rules need to be tightened up so that they reflect the intentions of the legislature when the regulatory act was passed. In addition, scientific studies have been published since then, documenting serious negative consequences of fracking to the environment and economic negative consequences in Pennsylvania and Texas. These rules should reflect the most recent scientific data available. Thank you.

MR. WELCH: Thank you, Doctor. If you want to leave that. Okay. Spell your last name.

MS. FIORINO: Sure. My name is Karen Fiorino. That's F-I-O-R-I-N-O. And I'm from Makanda, Illinois.

AUDIENCE MEMBER: The mic is not working.

MS. FIORINO: Okay. My comment pertains to monitoring water quality, specifically that water testing and monitoring should be required along all lengths of any horizontal well bores. This is relevant to section 245.600 Water Quality Monitoring in the proposed rules.

Section 245.600(b)(1) of the proposed rules provides for the testing and monitoring of water sources within 1,500 feet of the well site. Among the many problems with monitoring provisions, the proposed rules do not provide for testing along the horizontal leg of the well bore, which can extend for up to 2 miles from the well site. This is a reckless disregard of the known risk of the underground migration of toxic fluids from a horizontal well bore, especially when hydraulic fracturing involves the use of explosive charges and especially in areas known for the risk of higher magnitude earthquakes.

Testing should be done even beyond 2 miles from the well site for various reasons. Horizontally, fractures can extend up to a half mile from the well bore. Expert testimony in court cases shows that fluids have been found at least 3,000 feet from the well bore, plus research shows that fluids can migrate up to eight to ten kilometers away, 5 to 6 miles, from the injection site.

Once aquifer contamination happens, how far will it spread? What guarantee is there that an aquifer, once contaminated, will

contain itself to a radius of 1,500 feet from a well site? Certainly all residents affected by such an event need protection.

Baseline testing needs to cover all of Illinois residents at risk from aquifer contamination from fracking. Thank you, sir.

MR. WELCH: Thank you, ma'am. Sir, you're next.

MR. STEARNS: My name is Sam Stearns. I'm from McCormick, Illinois. Down in Pope County --

MR. WELCH: How do you spell your last name, sir?

MR. STEARNS: S-T-E-A-R-N-S. I'm with Friends of Bell Smith Springs, a grassroots environmental organization.

I'm thankful for the opportunity to comment here now. And one of the things I'm most concerned about about this -- about the proposed rules are the -- the lack of opportunity for public comment concerning specific well permits. This would be pursuant to subpart B of the Registration and Permitting Procedures, 245.200 through 245.270. Specifically section 245.260, public comment periods.

The -- the proposed rules allow for -- they would -- they would limit comments during

public hearings to individuals who are living within 1,500 feet of wells. But it's well established that the toxins associated with fracking can travel far beyond the 1,500 feet in the air and water. And so, therefore, any person, regardless of where they live, should be allowed to testify concerning specific proposed permits.

Another issue that I have with the proposed rules concerns -- on page three, paragraph six of the proposed Hydraulic Fracturing Regulatory Act, administrative rules states that -- there's a line there that says published study -- and I'm quoting now. "Published studies reports and sources of underlying data used to compose this rule making, none."

The state of Illinois cannot have sound regulation without good data. There needs to be a -- a public record established concerning this legislation and these rules that contain scientific data.

And to put my concern about this into some context, I worked on at least a dozen offshore drilling rigs in the Gulf of Mexico during the boom of the 1980's there. And I say that the oil and gas companies who influenced our legislators to

come up with this bill will say and do anything to initiate a fracking boom here in Southern Illinois, but after every boom there is a bust and there are people who influenced this legislation who think that there is such a thing as unlimited growth. But to quote the late Edward Abbey, "Unlimited growth is the ideology of the cancer cell."

Unlimited growth is not sustainable and with that sort of boom, as occurs that I was a part of back in the Gulf of Mexico in the early 80's and the kind of boom that some people are wishing for here in Southern Illinois regarding this fracking, there are always unintended consequences and collateral damage.

Every boom leads to a bust and citizens, like myself, in Southern Illinois don't want to be left holding the bag on this bust. So I -- I hold you to look at the sections that I've cited here and to make changes in these rules. But the fact is that there's -- there's going to be a good deal of resistance to any effort to frack here in Southern Illinois because people, like myself, who live in Southern Illinois, don't intend to be unintended consequences or collateral damage. And I can assure you you'll meet resistance at every step

of this proposed fracking. Thank you.

MR. WELCH: Did you want to leave your written statement up here?

MR. STEARNS: I'll be providing much more written comments before the public comment period deadline.

MR. WELCH: Okay. Let me call a couple more names. Dick Jones. Dick Jones. Dick Jones. Last chance for Mr. Jones. Georgia Delagarza. That's a neat name. And Willow Reynolds.

MS. REYNOLDS: I'm here.

MR. WELCH: You can talk after Ms. Delagarza. Okay. Mr. Schall.

MR. SCHALL: All right. S-C-H-A-L-L.

I have an issue about section 24.27, about -- relating to the hearings and the amount of them. I do not feel there's an adequate amount of hearings considering I'm a student and I -- as the people I engage trying to bring here tonight, many of them aren't able to make it because a lot of these are scheduled during the busiest time of the year for many people, since it's the holiday season and students have finals. I know like this one and the one in Effingham, I know many people can't make it and I believe also the -- the one on the 19th in

Carbondale is also when many people leave town to go visit family for the holidays, including professors and students alike.

As well as there are not enough hearings in the areas that are going to be directly affected by this fracturing. Specifically the southeastern region of the -- of Illinois. And many people have families, two jobs, live much farther away and they weren't able to make it.

There's also a big lack of knowledge about the hearings. Everyone I engaged almost didn't really know when or where they were or had no knowledge of what was going on as far as the amount of hearings or places they were being held. That is it.

MR. WELCH: All right. Thank you, Mr. Schall.

MS. DELZGARZA: Hello. My name is Georgia Delagarza. That's D-E-L-A-G-A-R-Z-A. I'm with Illinois South Resistance, an organization in Southern Illinois that's a group of people ranging in ages from 20 into the 70's. We're growing every day. We're here to resist HVHF.

We oppose the regulatory -- we oppose the regulatory bill. Why should we sit here

in Southern Illinois and trust you, any of you, and our lawmakers from Illinois. Our record is our lawmakers have been busy making license plates, not good laws. So why are you here asking us to entrust you with our sustainability of living, our soil, our air and our water. Thank you.

MR. WELCH: Thank you. I'm going to call a couple more names, if I can get this thing to work. Karen Genet, G-E-N-E-T, and Luke Schroeder. Okay. Mr. Reynolds, is it?

MR. REYNOLDS: Yes. Bill Reynolds.

First, thank you for coming here for -- to hold this hearing here.

AUDIENCE MEMBER: The mic is not working.

AUDIENCE MEMBER: Get this together.

MR. REYNOLDS: Should I just go without it?

MR. WELCH: I guess. Unless you want to take mine. DNR is not going to take the blame for the sound system.

MR. REYNOLDS: All right. It's on now. All right. Well, thanks for being here at the hearing.

I'm going to comment on several

sections including 310 on permit denial, section 1120 on the penalties and 240, 260 on public participation.

First, I would like to say that you are charged with an impossible task. You've been asked to make fracking safe and we all know there's no evidence that fracking can be made reliably safe. You truly have an impossible task because the best practice is to not frack at all.

We also know that fracking causes more frequent earthquakes, as several studies have shown. An earthquake doesn't care what regulations you pass. We don't know what happens when you frack in major seismic zones like the Wabash and New Madrid fault lines. That means Illinois is being subjected to a massive science experiment with hundreds of thousands of area residents being used as human subjects.

Now, many citizens have expressed outrage at the puny fines proposed in these rules. I have another reason of concern. The section on penalties frequently uses the word may. The director of DNR or his designee may revoke permits and may impose fines. The word shall or must are conspicuously absent from these regulations. This

means companies with multiple violations may face little or no penalty at all.

That would be not unusual for this agency, based on DNR's past cozy relationship with industry history of waiving penalties, there's not assurance that meaningful fines will be collected. Even when a fine is recommended, companies will have another chance to have it reduced or waived for a long list of easy excuses. What you're telling the public is that a multi-billon dollar industry that loses $1,000 in change between the seat cushions may not be punished at all.

Now, Section 240 says that notices of public hearings will be posted in newspapers near the hearing site. There are no requirement to post hearing notices online. So I want to remind the agency that, you know, Nirvana's first album was released 20 years -- more than 20 years ago. It's way past time to put everything on the internet. There should be requirements for public hearings to be listed online.

Section 260 states that the public comment period will only last 30 days, even though there's a 60-day window to approve a permit. After a public hearing, comments can only be given on

evidence presented at the hearing. That means people who find out about a proposed well after new coverage of a hearing, or after the 30-day time limit, will have no opportunity to present documents on new issues. Those restrictions make participation more difficult for the average citizen who doesn't spend every day watching for permit filings.

In order for a public process to be meaningful, there must be a reasonable chance that the public can change the outcome of a decision. I don't see that in the rules. I see a hamster wheel that keeps people running in place, going through the motions while getting nowhere.

Section 310 lists only four reasons to deny a permit. It does not list previous violations of Illinois regulation as a reason to deny a permit.

Some of us have seen how this game works before. When members of the public point out that a company applying for a mine permit has a long list of violations, we're told that old violations from other sites can't be considered during the permitting process. There's not accountability for past bad behavior when companies seek new permits.

The scenario we're facing is that at DNR's discretion, a company may rack up hundreds of environmental violations, pay zero penalties, and still receive new permits to do even more damage.

If these regulations are going to be meaningful, then DNR will have to put on your big boy pants, finally stand up to industry and say no to permits for bad actors.

MR. WELCH: Thank you, Mr. Reynolds. Ms. Jenet.

MS. JENET: Karen Jenet, J-E-N-E-T. My friends know me by a different name. I was told it would be helpful to cite specific sections of the proposed rules and to give recommendations of improvement. I could choose from seismicity, to water testing, from chemical disclosure issues to methane flaring. I can cite a study published in the Journal of Geophysical Research about single wastewater well triggering 167 earthquakes near Youngstown, Ohio. We are, after all, in one of the most dangerous seismic zones on our continent.

I could express my concerns of the massive amounts of water usage, water that once removed from the source will be permanently removed from our hydrological cycle.

I could stand here and talk about the projection of severe water shortages in Illinois with the projections for fracking that are being considered.

I could bring up issues of human health, like the recent study that links heart defects in infants born to mothers exposed to certain fracking chemicals. But I'm not going to do that.

You've heard it all and will continue to hear about it for the remainder of these public hearings. So instead of more of the same I'm going to tell you about where I come from and what I love.

I come from Hardin County. It's the very southern eastern tip of Illinois where the Ohio River defines our border with Kentucky. Perhaps you've heard of the natural beauty of our area. Places well known like Garden of the Gods or the historical Cave-In-Rock State Park. Beautiful places.

Hardin County relies on tourism for its livelihood, the people who come to see our many natural wonders.

The people who live where I live love the peace and quiet of the wild places. The

people who come to visit do so for the quaint charm of the small towns and the beauty of our forests. Hardin County is a respite from an overindustrialized world. It's a haven of calm and where nature and wildlife flourish. Bikers come to ride safely on our roads and hunters come to harvest deer and turkey. Tourists come to hike, camp, swim, fish and rock climb. And people, like myself, live in such a rural place to cultivate a particular kind of life. Our entire way of life is being threatened by the oil and gas industry and their drive to exploit inaccessible resources. How far will we allow extreme extraction to go?

Another question I guess is what will we people allow. My child and his children deserve a liveable future. Extreme methods of extraction and perpetuation of more fossil fuel usage does not lead to a sustainable future for our children, nor does it lead to a liveable planet for all species.

I've heard the propaganda about fracking being a bridge to fuel for the future and I'm pretty sure that that's a bridge to no where.

When the fracking boom goes bust, and it will, it will be too late to turn back the

clock. The industrialization of Southern Illinois will be a death blow to our way of life and it will be the squandering of one of the last wild places in the midwest for the sake of short-term, short-sighted fossil fuel gluttony. I urge you to shift your stance to one of a ban of high volume fracking in the state of Illinois.

Even if these weak rules were improved, it cannot go far enough to protect our homeland, our way of life and the interest of future generations. There are no acceptable human causes for earthquakes. Thank you for listening.

MR. WELCH: Thank you.

I'm going to call a couple of more names. Vito Mustrangelo and Richard Whitney.

Okay. This is Mr. Schroeder, right?

MR. SCHROEDER: My name is Luke Schroeder, S-C-H-R-O-E-D-E-R. Kind of hard to follow that, but here we go.

I'm a Carbondale, Illinois, resident and S.I.U. student. I just wanted to point something out that is lacking in the proposed rules. There are no regulations proposed by the IDNR that include safety measures for dealing with the

aftermath of a tornado strike at a fracking site. In the last 10 years, 674 tornadoes have hit Illinois. To quote Illinois state climatologist, Dr. Jim Angel, "Illinois has experienced some of the worst tornadoes in US history." Every single county has at some point been struck by tornadoes. What if a highly destructive tornado hit an area covered in fracking sites? What would happen if there were containers filled with frack fluid or produced water at the site? Or even contaminated water temporarily stored in an open pit? The safety of Illinois residents depends on a quick response for disaster relief in the event of a tornado, but there are no rules or regulations for dealing with harmful debris spread from fracking sites. Washington, Illinois, was hit by an EF4 tornado on November 17th, and debris was found over 150 miles away from there. I have to ask, is there anything in the proposed rules that outlines how to deal with harmful fracking waste spread all over Illinois?

Thank you.

MR. WELCH: Thank you.

MR. MUSTRANGELO: My name is Vito Mustrangelo. Spelled M-U-S-T-R-A-N-G-E-L-O.

MR. WELCH: How do you pronounce that?

MR. MUSTRANGELO: I'm sorry?

MR. WELCH: How do you pronounce that?

MR. MUSTRANGELO: Mustrangelo.

MR. WELCH: Okay. I won't count that against you. Go ahead, sir.

MR. MUSTRANGELO: Well, thank you for the opportunity to speak here today.

In Section 1-130 of the Legislature's Regulatory Statute, the legislature granted DNR authority to adopt rules to carry out legislature's purposes. There are at least two legislative purposes in the statute. While the legislature intended to create the statutory authority for horizontal fracking to occur in Illinois, it also explicitly conditioned its approval of the horizontal fracking and the safeguarding of public health and public safety and the protection of the environment. This purpose is set forth explicitly in two places in the regulatory statute. Section 1-75(a)2 and Section 1-53(a)4. DNR has acknowledged verbatim in its proposed Section 245.8. The legislature section 1-75(a)2, DNR's proposed Section 245 states as follows: All phases of hydraulic horizontal fracturing operations shall be conducted in a manner that shall not pose a

significant risk to public health, life, property, aquatic life or wildlife. The term significant risk is not defined and that will be problematic. But with respect to the legislature's purposes as stated in section 1-53(a)4, DNR has changed legislature's language in its proposed rules. And this change will result in lowering the standard explicitly created by the legislature.

The legislature stated as follows in Section 153(a)4. "The Department shall issue a high volume horizontal hydraulic fracturing permit with any conditions the department may find necessary only if the record of decision demonstrates that, subsection four, proposed hydraulic fracturing operation will be conducted in a manner that will protect the public health and safety and prevent pollution or diminution of any water source. But DNR's proposed section 243.3 permit decision changes legislative words will be conducted to as proposed or reasonably expected to be conducted. This is a lowering of the standard that is inconsistent with the legislative -- the legislature's stated purpose.

Many people are making comments about other specific omissions and inadequacies of the proposed rules.

Among them, proposed rules do not address locating fracking wells or disposal in high risk seismic zones.

The proposed rules do not address locating -- excuse me.

The proposed rules do not address radioactivity.

The proposed rules do not address the severe light and noise pollution created by high volume hydraulic fracturing.

The proposed rules do not address the use of depleted uranium and explosive charges used for hydraulic fracturing.

The proposed rules do not require the consent of all landowners under whose land the horizontal well bores will travel.

The proposed rules do not adequately protect quality or quantity of our water. There are many more.

All of the residents of Southern Illinois are depending on you, on DNR, to protect their health, their safety and the safety of their water, air and soil. Many of us believe that this first step falls woefully short. And this view is shed by many others around the state and around the

county.

The legislature has directed DNR to report to the legislature by February 1, 2014, with recommendations concerning the potential impact of horizontal hydraulic fracturing on public lands and other natural areas.

The availability of water for human consumption and general domestic use and the potential for increase in natural seismic activity.

We believe that if the DNR reviews all comments made here throughout the public comment period, any conscious -- conscientious report will lead to express grave concerns about the safety of horizontal fracking under current technology. Thank you.

MR. WELCH: Before you get started, I'm going to call a couple of names. I should have said at the beginning, if you have a written statement, and maybe I did, and you want to leave it, there's a box right here. Just a second, sir. I've got two more names to call. Carolyn Ferdinand and Renae Cook.

Okay. This is Mr. Whitney.

MR. WHITNEY: Yes. Rich Whitney, W-H-I-T-N-E-Y. I am a local attorney. Reside in

Carbondale. Also served as chair of the Illinois Green Party and I'm on the legal committee for SAID.

A lot of what I had to say has already been said by others, but I wanted to focus on what is missing from these regulations. Conspicuous by its absence in the proposed regulations are the words earthquake and with only three exceptions that I could find at least in part 245 the word radioactive and that only with respect to testing of groundwater and flowback water only and procedures for the companies to escape liability.

What about produced water? What about scale on pipes and tanks? What about monitoring workers exposure to radioactivity? I don't see anything in the regulations that provide adequate protection in these areas.

According to studies by the Illinois State Geological Survey in the 1950's and 70's Illinois shale, the source rock for oil and gas reserves, has above average levels of uranium for back shale. This uranium decays into radium and radon. Moreover, the US Geological Survey has found that oilfield brine or produced water in Southern Illinois to have radium levels that average more than 1,000 picocuries per liter, which is 67 times the

maximum contamination level allowed by the EPA.

The radioactive levels for produced water in shale gas operations are likely to be two to four times higher than oilfield brine. On average 2,000 to 4,000 picocuries to liter. Moreover, when produced water is removed, along with the hydrocarbons, excess radioactive salt in the water precipitates out and become scale on pipes or tanks or sludge in the bottom of tanks or pits.

The level of radioactivity can exceed 100,000 picocuries per gram and constitute a clear and present danger to workers or others who are exposed to recycled scrap metal from oil and gas operations. This level greatly exceeds uranium levels in uranium mine tailings, for example. That is why high levels of radioactivity elsewhere have been found in school playground equipment, in bleachers and school sports stadiums.

Do we really want untested oil and gas field scrap metal sold into Illinois markets?

These kinds of problems are why Illinois has a low level Radioactive Waste Management Act. It and OSHA are the applicable state and federal laws. These regulations, as far as I've been able to determine, don't take account of these

standards and they need to, if we are to protect ourselves.

With respect to the absence of the word earthquake in the regulations, granted I haven't read through part 240 yet, I am still working my way through that and will be submitting more comments, either online or another format, but I would point out from what I have read that the focus seems to be on whether or not the fracking operation may be causing the earthquakes and in that regard I would urge you to be looking at the standards established by the National Academy of Sciences. But what we're not taking into account is the flipside of this and that is what if there's an earthquake, whatever its cause, and the impact on injection wells and ongoing fracking operations.

In my view, the only possible way to protect public safety and health with respect to the earthquake danger is to not allow fracking in earthquake -- earthquake prone zones. Meaning where there's active earthquake faults like the two that we have down here in Southern Illinois.

Fracking should be banned in areas where that constitutes a danger, which would include near the -- near the two active earthquake

faults in this region. Thank you.

MR. WELCH: Thank you, Mr. Whitney. Okay. This is Ms. Ferdinand.

MS. FERDINAND: Good evening. I am Carolyn Ferdinand from Carbondale. F-E-R-D-I-N-A-N-D.

Could I clarify? Are you all from the Illinois Department of Natural Resources?

MR. WELCH: Yeah.

MS. FERDINAND: All six of you, seven?

MR. WELCH: I'm a hearing officer. I don't work for IDNR.

MS. FERDINAND: Thank you. I am a life-long environmentalist. That's 70 years. I would like the IDNR to lead the charge against fracking and -- thank you -- and I am amazed that you do not see that as your most sacred responsibility.

The Department of Natural Resources, that is the department of water, soil and air, we are poisoning every component. We get one serving of natural resources. Hey, no seconds.

MR. WELCH: Thank you, ma'am. Are you turning this on and off up there? Is that what you're doing?

MR. DAILEY: It's for the feedback.

MR. WELCH: I know, but every time I start to talk, it's turned off.

Sabrina Hardenburgh. Got to say here so we know you're here. Like taking role in school. Samuel Bearden?

MR. BEARDEN: Here.

MR. WELCH: All right. Okay. Ms. Cook.

MS. COOK: My name is Renae Cook and I'm here representing the web of life, which I feel is under attack in Southern Illinois and on the planet in general.

Also, I would like to know what is up with your comment website? I have been diligently responding to this thing and I keep getting notices back that there's a problem with it. I even on Thanksgiving afternoon, I went to my computer and I put in a comment. Came back again. You know, this is really suspicious, is all I'm going to say at this time. If you're really wanting comments, make sure that site is working.

I want to thank you for this comment period because I've learned so much. First time I heard of fracking my blood went cold and then I started looking more and more about it, but I'll

tell you what, the things that I have learned through this comment period are I believe criminal, the proposed lack of direction and protection for the people and this planet.

And, you know, there's been so much made about how Sierra Club and, oh, what's the other one, National Defense Council and your organization are working so hard to create the very best regulations in this country. I'm telling you what, if this is the best we can come up with, guys, we're in big, big trouble. And I have to tell you I feel like there's pirates coming in to rape and loot and take what they can. It's happening across this world. It's happening in every state in this union. I'm -- I, for one, am fed up with it.

People have a right to earn a living, but they do not have a right to impact my right to life. And that is what this is going to boil down to. This has been handwritten by the industry. We all know that. Oh, one thing I did want to ask, does anybody here on this panel, can you tell me what your mission statement is at the Department of Natural Resources?

MR. WELCH: We're here to get comments, ma'am.

MS. COOK: I didn't think so. Probably should remember what it is because part of it is to protect Illinois natural resources. Water, air, land. And it goes on to protect present and future generations as well. I don't think you're doing a very good job of that and these proposed -- this proposed bill is just -- it's shocking to me.

And I -- people have a right to earn a living, I said that, but I -- I just feel like the people that are going to work in this industry have been dooped. They feel like there's nothing there for them but to go to work for an industry like this. And I really urge you all to rethink this, because you have to live here, too. I hope you really pay attention to these suggestions that have been made tonight. These people are working phenomenal hours and putting their expertise in place to try and protect our planet and you just have to pay attention. Thank you.

MR. WELCH: Thank you, Ms. Cook. All right. Ms. Hardenbergh.

MS. HARDENBERGH: My name is Sabrina Hardenbergh, H-A-R-D-E-N-B-E-R-G-H. I am aligned with SAFE. I am aligned with Shawnee Group of the Sierra Club, to be distinguished separately from the

state-wide Sierra Club. I've also been a health and healthcare researcher much of my life and I've worked in the legal sector at personal injury, property liability, workers' compensation. So while I'm going to send you many comments this month and a half during the comment period, I'll focus on one pertaining to health in your rules. That is subpart G, chemical disclosure trade secrets 245.730 trade secret disclosure to health professional.

First, the trade secret disclosure to health professionals is encumbered by IDNR and other business work schedules for information to flow in a timely manner, especially in the case of poison control emergency. While the rule describes a procedure for information flow to occur, the first barrier is to catch IDNR during business hours. Not good if the affected patient presents at the end of a weekly business cycle and must wait until opening of next business week. Then they must wait two hours further for the trade secret holder to report the toxic substance before they must wait further for other medical diagnostics and treatment.

One, will there be a 24/7 crisis hotline at IDNR to relate this trade secret disclosure?

Two, why isn't there a 24/7 crisis hotline at the trade secret holders' location?

Three, will this be remedied before administrative rules are approved?

And, four, if not, what will IDNR, state of Illinois, do to remedy this and when?

Will all health professionals be able to obtain a list of the trade secret council in their client area prior to emergency presentation of an infected patient? As the rule is unclear about this in the nonemergency subsection.

Secondly, this disclosure of trade secrets to health professionals and affected patients and affected patient's family specifies that a confidentiality agreement will be signed creating a gag order. Consequently, health professionals and public health professionals will be gagged as to their education role and the Hippocratic oath to do no harm. The public will not be informed to take precautions against specific toxic substances and the recurrence of the same emergencies will replicate, creating further suffering in the local population, tax already limited time of health professionals and their office staff, as well as other injustices when it comes to appropriate workers' compensation,

personal injury and product liability cases for which the affected patient ought to be compensated for damages to life, livelihood, property, the family's consortium and all manner of related damages.

How will IDNR remedy this failure in disclosure to facilitate justice for the affected patient's family and community? Why is this health related section not longer and much more detailed with respect to OSHA and clinical guideline related protocols and what will be done to remedy this?

MR. WELCH: Thirty seconds, ma'am. Are you done? Thank you. I appreciate it. Alexander James and Mark Denzer. All right. Mr. Bearden. Right?

MR. BEARDEN: My name is Samuel Bearden. I'm an Eagle Scout from Boy Scott Troop 107 and also a student -- I'm also a student studying forestry and plant biology at Southern Illinois Carbondale.

What I would like to address is the water quality monitoring or the lack thereof. We all know that high volume hydraulic fracturing means that well bores can oftentimes extend for 2 miles from the natural well site. Given that toxic chemicals are present not only on the vertical

portion of the fracking wells, but also horizontal, water testing and monitoring must be done within 1,500 feet of any point along the full length of well bores in order to adequately mitigate these risks.

Furthermore, although the law mandates that fracking companies have the burden to demonstrate the proof, water pollution testing must come from a third party laboratory that has no stake in whether the results are negative or positive. And obviously --

Well, this next part will go against some of the most horrible agendas in the nation and ultimately the world. But the answer to our dwindling fossil fuel supply is much more simple than utilizing new and potentially dangerous technology to meet our energy needs. The answer is to curb our need for the energy in the first place by reducing consumption. Additionally, investing in local resource, such as solar panels and wind turbines, and, of course, the ultimate source of energy, geothermal technology.

These corporations will fight against us because they will lose the monopoly control over our power. The answer to our problem in reducing comsumption and our overreliance on

destructive, big energy companies.

MR. WELCH: Are you done? I was going to ask you to speak a little slower so that the reporter can get it.

MR. BEARDEN: I apologize. Thank you.

MR. WELCH: Thank you, Mr. Bearden.

MR. DENZER: Thank you for allowing me to speak. Can you hear me? Well, I stand here in solidarity --

MR. WELCH: Excuse me. Could you introduce yourself?

MR. DENZER: Yes. My names is Mark Denzer. D-E-N-Z-E-R. I stand here in solidarity with the McMac brothers in Canada who are fighting fracking. Not a lot of media coverage in that, you know. There aren't resistance up there. There's -- wars are going on up there.

Me, myself, I stand here as a small businessman. I stand here as a canoe guide. You know, I rent canoes on the Cache River. I -- I give tours, you know, from March to November.

And can you tell me in these -- this legislation, these regulations that you have, you know, can you -- can you -- is there any clause in there that, you know, if things go south, you

know, as we say, such as, you know, earthquakes and hydraulic fracking of fluids going down the stream, killing fish, such that -- such as how that has happened in Pennsylvania and Ohio and Arkansas and a lot of other places, can you tell me, is there a clause in there where you're going to reimburse the tourism industry? Are you going to reimburse this booming business that we have down in Southern Illinois that, you know, you know, I've worked very, very hard to establish a small business, you know, and there's not a lot of canoe outfitters down there. There's nobody but me. And can you honestly say -- are you going to reimburse all of those beautiful places such as the wineries and the places such as the Shawnee National Forest and all of these places that make their living off of tourism, you know? Is there any clause where you're going to reimburse them? And if they do sue you, are they going to be gagged, such as in other states?

This is what I understand to be true, you know, that when someone is sued in an industry, you know, that they are gagged. You know, you can no longer speak because of the money associated with the lawsuit. And that, to me, is perplexing.

As far as earthquakes go, you know, we're -- you know, the New Madrid earthquake zone hasn't been active for nearly -- since 1812, you know, since Diakoonta (ph), you know, stomped his foot on the ground, you know, and said, you know, if you don't ban together against these colonial Americans -- he's talking to his native brothers, and he was saying that if you don't ban together I'm going to stomp my foot down. And I want to stomp my foot down and if you don't stop this fracking, you know, that's what's going to happen. This earthquake is going to happen and going to wreck our homes.

That's going to be that. I'll say that much.

MR. WELCH: All right. Thank you, sir. Kyle Kingston and Mary Swanson. Mr. James.

MR. JAMES: Good evening. I'm Alexander James, J-A-M-E-S. I'm from Edwardsville, Illinois. I'm speaking tonight as a concerned citizen.

The Hydraulic Fracturing Act makes numerous provisions to protect public health and the integrity of the environment. The proposed rules, on the other hand, have so many clear loopholes and such negligeable fines that render

those provisions meaningless, in some cases, and I would like to focus on two examples. Both having to do with water quality.

The first is Subpart D, well site preparation, that's 245.400. The regulation prescribes a setback from wells, springs, lakes and springs and other sources of -- other things that might contaminate the groundwater.

The rules for implementing this regulation allow landowners to waive the requirements, essentially at their own discretion. So, in other words a private party, including a corporation, is given the authority to waive a setback that's meant to protect public groundwater. The next section that I would like to touch on is subpart F, water quality. That's 245.600. Monitoring is essential to determining whether pollution is occurring and what its source is. The regulatory act recognizes this. The rules, however, allow private entities to waive the requirement for water testing. Representatives of the fracking industry can also waive the requirement as long as they are willing to assert that they are unable to contact the landowner. Moreover, should that assertion prove false, they are liable to a $50 fine,

as I understand the rules.

The act enumerates a long list of toxic chemicals associated -- potentially associated with hydraulic fracturing. I think over a hundred. The rules limit the list to a much smaller set of so-called indicator chemicals. Why not monitor all of the known risks. Should an operator somehow fail to take advantage of all of these loopholes and identify this polluting a body of water, the fine, as I understand it, would be a thousand dollars, which is a very small cost of doing business in a profitable operation.

I urge the DNR to put together an independent task force to amend the rules and the task force should include representatives from all stake holders, but particularly public health and natural resources. Thank you.

MR. WELCH: Thank you.

MR. KINGSTON: My name is Kyle Kingston, K-I-N-G-S-T-O-N. And I come before you tonight to comment on behalf of myself and the expressed opinions are strictly my own.

I'm a third generation oil and gas industry working the Illinois basin and I can contest to the industry's ability to provide jobs to

the economy in Southern Illinois.

Growing up and residing in White County I have seen firsthand how the struggling small towns and villages rely on this industry and the jobs it supplies. I'm also a former state regulator to the oil and gas industry and I can attest to the majority of the industry's desire to operate in an environmentally responsible fashion.

I've also had the fortune to personally work on sites, not only in Illinois and Indiana, but also in Ohio, Pennsylvania, and Colorado and can attest that wells receiving this kind of stimulation we're discussing tonight do not belong to my grandfather's oilfield. The companies performing this type of completion often employ biologists, hydrologists, other environmental engineers and scientists, along with an array of regulatory compliance personnel. They bring with them best management practices and a general feeling of the responsibility to be a good corporate citizen.

That said, I would like to make a few brief comments directed to the specific sections of the rule, which I feel should be improved.

Section 245.270(a)1(A)v. The term environmental value and the term recreation are

very broad. I would request that these terms be defined and streamlined.

Section 245.270. The officer issues decision within seven days of a hearing and only has to take into consideration that the DNR has no more than 60 days to approve or deny the permit. I request that decision be rendered within seven days after the close of evidence, but within 60 days from the date DNR receives the permit application as to avoid last minute approval/denial windows to allow time for implementation of any conditions the department may find necessary.

Third, 245.310(d), the section pertains to conditions under which a permit can be denied. As we've heard here tonight, the phrase pose significant hazard to public health, aquatic life, wildlife and the environment is one of the conditions. Most of the groups that would be opposed to this type of permit will potentially claim any impact as a significant hazard to public health. These are the same groups who claim you cannot regulate hydraulic fracturing safely.

Fourth, section 245.410, I would like to define what constitutes a high wind day, is a gust the same, and what is the burden of proof in

that allegation.

245.600(a)7. NDA's have to be provided to DNR. I don't see anything in here that statutorily prevents DNR from releasing contents of NDA's via right-to-know or similar FOIA type laws. In a later section on trade secrets for additive use, there is a clause that states, "Information so disclosed to a health professional shall in no way be construed as publicly available.

Six, 245.855, spills and remediation section does not distinguish between spills on containment and off containment. Obviously a release which impacts soil is not the same as a release on containment which never reaches soil or water.

Seven, 245.1020, there is no leeway described that acknowledges the potential for delays or restrictions on restoration as defined in this section.

And, finally, 245.1120, is there a sunset provision to this or five years later can somebody come back and ask for -- basically what is the burden of proof in this?

I want you to or I want to take this opportunity to thank the DNR and everyone

involved in this process for your time and consideration.

MR. WELCH: Thank you, Mr. Kingston. Call a couple more names. Barbara McKasson and Marilyn S-M-E-R-K-E-N, I think. All right. Ms. Swanson.

MS. SWANSON: Hi. My name is Mary Swanson, S-W-A-N-S-O-N. I live in Carterville. I am a property owner in Union County and welcome all of you to beautiful Southern Illinois. I hope you've had some time to look around our area here.

I am affiliated with SAFE and with Illinois South Resistance.

I've lived in Southern Illinois for 30 years and I've come to call it home and my daughter's a native here. I love it here. Mostly because of our natural resources. The forest, wetlands, lakes and waterways, which are also, you know, what supports our tourism industries. Protecting our environment is extremely important to us and we do try to be responsible stewards of the environment.

I've reviewed most of the proposed administrative rules and I do not feel they serve the best interest of the land or the people of

Southern Illinois, but rather serve the oil and gas industry. I have yet to see the independent research on which these rules were based. Research conducted by impartial entities rather than the oil industry or the government that protects this industry and subsidizes it with my tax money.

I -- I don't have reference numbers to your rules, but I would like to specifically address two issues.

One, there is clear evidence that fracking operations contribute to increased earthquake activity, even to areas not prone to quakes.

We in Southern Illinois live atop the intersection of two fault zones, which two have a significant history of earthquakes. Including one so severe it caused the Mississippi River to flow backwards.

The fines proposed for earthquake related issues are less than a slap on the hand to companies with annual profits in the millions and billions. There is no deterrent here.

Furthermore, the land cannot be returned to its original condition following earthquakes. Currently earthquake insurance for

homeowner's is exorbitant. If fracking operations start, they will likely be unavailable. And we certainly cannot count on the industry for compensation. Not that one could be compensated for what is at risk.

And let's turn to some water issues.

First, we will not be informed of what chemicals will be injected into and stored in our land, though we do know it contains heavy metals as well as other known carcinogens. We do have clear evidence that aquifers, streams, rivers, wells, will be contaminated. Like quake damage, this contamination cannot be undone.

I have had a lifelong dream of retiring to a cabin in the woods and I was finally able to purchase this in beautiful Union County. I have a stream on my land and my water is well water, which will be poisoned by fracking operations. This will make my property not only uninhabitable for me or the wildlife, but also unsaleable and there is no compensation for this.

I strongly encourage the IDNR to reconsider these rules and have at least a temporary moratorium on fracking in Illinois until adequate

independent research on associated risk is completed. What damage is done in the rush to exploit the earth cannot be undone. The people of Illinois deserve and demand that this research be done to protect not only the public safety, but also the quality of life of all of its inhabitants. And I thank you for the opportunity to speak to you.

MR. WELCH: Thank you, Ms. Swanson. Let's see. Ms. McKasson, I think it is.

MS. McKASSON: My name is Barbara McKasson, M-C-K-A-S-S-O-N. And I am from Carbondale. And I thank you for extending the hearings from two to five hearings, but I would urge you to extend the comment period to at least the end of January because during the holidays people do not have the adequate time to wade through the legislation and the rules and to make really comprehensive comments, you know, unless you're paid full-time to do that. Most people aren't.

So I am a lifelong resident of Illinois and have lived in Southern Illinois for 27 years and I do not want to see any part of this beautiful natural area of Southern Illinois to be polluted by fracking waste.

I am very concerned that IDNR

does not have a good record of protecting our land, air and water from conventional fracking waste. Not to mention this high volume fracking waste.

In the 1970's the Illinois Environmental Protection Agency conducted thorough scientific studies of the environmental impact of conventional fracking. The EPA report called the Illinois Oilfield Brine Disposal Assessment found that thousands of acres of prime farmland had been made sterile from fracking -- fracking waste disposal over the 30 previous years and this was just in White County. 3,000 acres of farmland lost because of this by 1978.

Now IDNR has damaged its credibility even more by writing rules that create loopholes in the new hydraulic fracturing law. How can we trust IDNR to enforce a law that IDNR itself has attempted to weaken.

At the very minimum DNR must follow the law by fixing the proposed rules.

First, the existing high volume fracking wells should be regulated to the standards of the new rules.

Second, there should be an equivalency factor for nitrogen foam and other

fracking fluids that may be used in horizontal fracking, but that may use less water. Otherwise, these directional fracking methods will be excluded from the regulations under the new rules.

Third, the rules should require accurate calculations for tank size so that the operators do not have to constantly use open pits for flowback and produce brine.

Fourth, presumption of the source of chemicals found in an incidence of water pollution within 1,500 feet of a well should include the entire list of chemicals provided in the law.

Fifth, the law states that penalties will be issued to prevent noncompliance. As many people have said, these fines are ridiculously low. They should be increased.

Six, health workers should be able to contact a trade secret holder immediately in an emergency situation at any time.

Seventh, the proposed rules have been worded to exclude many significant permit modifications from public notice and review. All significant permit modifications should be included as required by the law.

MR. WELCH: You've got ten seconds,

ma'am.

MS. McKASSON: These are just some examples of how the proposed rules do not measure up to the letter and intent of the law. This must be rectified. Thank you.

MR. WELCH: Thank you, ma'am. Ms. Smerken.

MS. SMERKEN: My name is Marilyn Smerken, S-M-E-R-K-E-N. I am from Murphysboro, Illinois, and my comment is subpart H, Section 245.850, hydraulic fracturing fluid and hydraulic fracturing flowback storage disposal or recycling transportation and reporting requirements.

Subsection (d)1 of Section 245.850 provides for testing of fracking fluids only one time during the early flowback stage and only for "naturally occurring radioactive materials". Problem. The proposed rules include no follow-up requirements or standards if testing shows radioactivity levels in flowback to be high. In other words, these proposed rules treat flowback the same whether it is highly radioactive or not.

DNR knows that naturally occurring radioactive material occurs in Illinois soil and gas operations. See 62 Illinois

Administrative Code Section 240.860(e)3 and 240.861(k)1(c).

Revisions needed. The rules must specify how flowback and produced water will be treated if they test positive for radioactivity. The rules should also require that the requirements of the Illinois Low Level Radioactivity Waste Management Act be followed. Thank you.

MR. WELCH: Thank you, ma'am.

MR. CONNOLLY: I'm Dennis Connolly, C-O-N-N-O-L-L-Y. I belong to RACE, the Regional Association of Concerned Environmentalists, the Union of Concerned Scientists and SAFE.

And the areas I want to touch on are seismicity, water quality monitoring, risk of large scale environmental disasters and flowback radioactivity.

I contend there is gross negligence on behalf of the IDNR to not consider the real significant threat to our public health and our future generation with regard to this hydraulic fracturing.

Consider the -- consider the permanent chemical trade secrets contamination to our aquifers by fracking chemicals used. The release of

radon and methane into the drinking water.

As a member of the Union of Concerned Scientists I charge the DNR with gross negligence in regard to potent greenhouse gas methane release. I also charge the IDNR with criminal complicity by not outlawing the practice of hydrobolic bombing the seismic sensitive nature of our region between two major earthquake fault zones.

Your guidelines reveal complicity as far as earthquake allowances of up to 4.5 on the Richter scale. Where hydraulic fracturing has occurred, pattern of earthquakes follow. Most recently Texas. Also happened in Arkansas and Ohio. And I don't understand the state of Illinois, why they are not researching this and I'm calling for a two-year moratorium to research this further.

Why is IDNR not asking or considering these future scenario conditions? Considering a drought of just two years ago and the millions of gallons of water needed to frack each well, this is reason enough to halt the fracking. Now consider the chemical contaminants used and I contend you have failed to regulate or even think of the spill potential involving barges or truck accidents.

Your fines are wholly inadequate and show a degree of criminal complicity.

Now, please consider our political leaders and the oil and gas money involved. Is their decision to allow the exploitation been disproportionately influenced?

And, finally, I would like you to consider Fukushima and our government EPA. We're not even monitoring the radiation from Fukushima.

MR. WELCH: Okay. Thank you, sir. J. Nelson Wood and Curt Wilson.

MR. WOOD: Chairman, I'm declining to speak. This is J. Nelson Wood.

MR. WELCH: Okay. Thank you, sir. Then we call Janet Donoghue.

MS. GIBSON: My name is Tamika Gibson and I'm speaking today on behalf of a coalition of non-profit environmental organizations including Faith in Place, Environmental Law and Policy Center, Natural Resources Defense Council, and the Illinois Environmental Council.

As our coalition has said from day one, we do not welcome fracking coming to Illinois. The draft administrative regulations published on November 15, 2013, by the Illinois

Department of Natural Resources to implement the Illinois Hydraulic Fracturing Regulatory Act do not reflect a willingness to take the time necessary to get appropriate protections in place before fracting commences. In fact, DNR's draft regulations run afoul of the law in several significant ways and thereby fail to sufficiently protect residents from the known environmental and public health risks of fracking.

Moreover, DNR has stifled the public's ability to meaningfully participate in the ongoing comment period by scheduling hearings over the holiday season. For example, Chicago's November 26th hearing was two days before one of the most traveled holidays, and limiting these hearings to two hours notwithstanding the enormous public interest and concern about fracking across the state is wholly inadequate. Further, DNR has imposed an overly complicated system for citizens to submit their comments, which, whether intended or not, gives the impression that DNR is deliberately inhibiting public participation.

Many of the problems outlined today appear to be a result of a hasty deadline that DNR needlessly subjected itself to. In addition to

our substantive concerns with the rule, we asked DNR to immediately slow the process down and publicly commit to protect the environment and public health by providing adequate, meaningful opportunity for public comment and hearing on these critical regulations.

Key substantial concerns we have include:

Emergency response and disclosure. The law requires that trade-secret-protected information about chemicals be disclosed to help workers when necessary to treat a patient, in both emergency and non-emergency situations. In contrast, IDNR's draft regulations give discretion over when to share this information and direct health workers to contact either IDNR during normal business hours or trade secret holders, which it provides no means to identify or locate. This is unacceptable. Emergencies can happen any time of day or night, and emergency personnel must not be left to guess which private fracking entity to contact if the department is not available.

Water pollution. The law requires all wastewater to be stored in closed tanks, allowing the use of lined open pits only for one week

if unexpectedly huge volumes of wastewater come up the well. In contrast, IDNR's draft regulations allow wastewater to sit in open pits potentially for longer than a week, and do not require accurate calculations of tank size, leaving room for frackers to underestimate tank capacity and therefore use open pits more frequently.

Excludes wells. The law applies to all high-volume fracking wells, regardless of when they began operating or what process they use. In contrast, IDNR's draft regulations would exempt existing wells and potentially exclude types of fracking that use gas.

Liability. The law presumes that any water pollution found within 1,500 feet of a fracking operation was caused by that fracking, unless the fracking company can prove otherwise. In other words, the burden of proof lies with the frackers, not with the communities impacted by the pollution. In contrast, IDNR's draft regulations limit industry's burden of proof to a much smaller set of indicator chemicals, rather than the list of over 100 chemicals included in the law.

Public notice. The law requires that any significant modification to a permit undergo

public review processes, notice, comment and public hearings. In contrast, IDNR's draft regulations significantly narrow the types of modifications that require public processes, opening the door for fracking permit holders to avoid public scrutiny.

MR. WELCH: Ten seconds.

MS. GIBSON: The environmental coalition will be submitting extensive written comments on these and other concerns with DNR's draft regulations. We call on IDNR to act responsibly and promptly revise these regulations to ensure full compliance with the Illinois Hydraulic Fracturing Regulatory Act.

MR. WELCH: Mr. Wilson.

MR. WILSON: Hello. My name is Curt Wilson. That's Curt with a C. And I sincerely appreciate you gentlemen's time tonight.

I am a homeowner in Carbondale, Illinois. I work in the field of computer security. I'm also a musician. And I have some things to share about I75 Section (a)2. All phases of high volume horizontal hydraulic fracturing operation shall be conducted in a manner that shall not pose a significant risk to public health, life, property, aquatic life or wildlife. I think this is meritable.

However, I do believe there needs to be significant discussion on what significant means here.

Obviously we've seen the propaganda that says fracking equals jobs. I understand people want great livelihood. They deserve to earn a living from good employment. That's totally fair. However, if you take a look at some of the risks, the risks to public health and safety, you take a look at earthquakes. We're between two earthquakes zones as several other speakers have already communicated. This makes this region very dangerous and unstable for this operation. Therefore, I'm calling for a ban.

In addition, a local researcher has published in tonight's paper the mechanisms that connect the disposal of fracking wastewater into deep injection wells to a significant increase in mid-continent seismic activity. I believe that he did a great job with his paper. I would have loved to see this published by IDNR. If you already have this information, I'm sorry I have not seen it.

The poisoned land. The poisoned water, poisoned livestock, these are significant.

Fracking may equal jobs. Fracking may equal jobs, but we don't want those jobs

to be treating people for cancer. Sustainable energy can work in other countries. It can work here as well. It can provide economic benefit for people to support sustainable energy.

And I would like to end, since I'm a musician, with something from my artistic side. This is a poem.

The sun, it shines; yet eyes are turned down. Perceive not the king with sole of a crown. A moment's coming temps the eyes of the mother they do despise. The prick of force into her hide. Her plea for sanity sadly denied. Bombs above and bombs below, she screams in pain, her blood does flow. Short-term to short-term gain, but long-term lies. Human greed wears no disguise. Cast aside into the trash the land once pure for cold, dead cash. Thank you.

MR. WELCH: Thank you.

Okay. We need Matthew Borowicz. Matthew. And then Ed Upton. And this is Ms. Donoghue.

MS. DONOGHUE: My name is Janet Donoghue, D-O-N-O-G-H-U-E. I am from Carbondale, Illinois. I am a mother and have lived in Southern Illinois about 30 -- a little over 30 years. A long

time resident of Jackson County and before that Monroe County.

I went to your website and was looking for a study that was done in Illinois that can prove that our water would be safe and I did not find that study. Therefore, my comment is on section 245.610, water pollution investigation. A general comment about that.

Since the EPA announced that it will delay comprehensive study on water contamination until 2016, then I say that we should not frack Southern Illinois until that study is released.

There is evidence pointing to major problems with EPA study that is cited by proponents of fracking. EPA study of 2012 where two whistleblowers came forward that worked closely with that study and have said that evidence was covered up. And we need to not frack until we know without a doubt that our water is safe.

There's been no comprehensive study, none, and this really shocked me, in Illinois, concerning our water and its safety with fracking. I don't know how you can stand on the ground and say it's safe, if there hasn't been adequate test to prove so. This makes it more important than ever

that fracking is delayed.

The EPA study to be released in 2016 may be the only study done. We owe it to ourselves, our land and our family, our future to wait until we know conclusively that we're safe.

I've looked people in the eye and met them in person who have said that their water was contaminated by fracking. These people have no reason to lie, as far as I can tell.

I actually met a couple that now live in Anna, Illinois, in Union County, that relocated because their water on land that they owned, a natural spring, was contaminated from fracking in Texas. Now, why would we move forward so quickly when there's still uncertainty about basic safety of one of our most precious resources, water.

During the Chicago radio interview in September representatives from the Illinois Sierra Club and the National Resources Defense Counsel admitted on air that the rules in place as they are do not protect our water. It's not -- and also just to mention that, that both of those organizations that industry touts as saying they represent the environment, none of them represented Southern Illinois.

Then just to lastly, then, moving forward, knowing that we're putting toxic chemicals underground, doesn't the government owe it to us, some kind of a study, and Illinois, before proceeding in light of the recent drought and the knowledge knowing that water is going to increase in scarcity and value?

I ask that Illinois not endanger this precious resource and not endanger its citizens. When you say that we have the toughest regulations in the U.S., we don't. The toughest regulation would be a moratorium or a ban. We need a moratorium until we are certain about our water.

Thank you very much for the opportunity to speak. I don't know necessarily what the hiring or promotion policies of IDNR are, but it would be great to see a woman on the panel.

MR. WELCH: Thank you, Ms. Donoghue. Matthew.

MR. BOROWICZ: Yes. My name is Matthew Borowicz. That's B-O-R-O-W-I-C-Z. I would like to thank you for the opportunity to speak. Just like my fellow Eagle Scout and the Boy Scouts here I was raised with the moral and ethical duty to protect our environment.

I want to comment on specifically 245.600, water quality. Monitoring in the proposed rules. Section 245.600(b)1 of the proposed rules provides for the testing and monitoring of water sources within 1,500 feet of a well site. Among many of the problems with this monitoring provision proposed rules do not provide for testing along the horizontal legs of the well bore, which can extend for up to 2 miles from the well site. There are many problems with either considering the mitigation of toxic fluids from the horizontal well bore, with hydraulic fracturing, in using of explosive charges and it can create and mitigate the higher risk of magnitude of earthquakes.

I would like to also mention one other thing. We're talking about this document up here, but there's one document that is way more important than that and that is the Constitution of the United States.

Recently the Supreme Court said that a corporation is a citizen. They do not breathe air. They do not drink water. Now, I do know that landowners have a right to use their land and to make money from it, but when that right infringes on other citizens' right to have a healthy lifestyle and a

life, liberty and pursuit of happiness, gentlemen, that is breaking the Constitution.

I implore you to put a moratorium on fracking in the state of Illinois. Other countries, including France, have banned it. I don't understand why this country is hell bent on getting fossil fuels and energy from sources that we know will eventually run out. It's bad investment and simple as that. Thank you for your time.

MR. WELCH: Jonathon Hallberg and Gabriel Garcia I think it is. Jonathon, are you here?

MR. HALLBERG: Yeah, I'm here.

MR. WELCH: Gabriel? Come on down. Ed Upton, where are you? Supposed to be up here.

MR. UPTON: I don't have a written statement and I came to this meeting knowing that I was interested in horizontal drilling and fracturing and I do know that in the United States since the last 12 years we have gone from importing 70 percent of our oil to now about 40 percent. And I'm from Southern Illinois. I better give my name. Ed Upton. Between Woodlawn and Mt. Vernon. And I think Southern Illinois needs the economy. You know, we need a boost in the economy and this will do it. And

most of the things I've -- it seems to me like it's -- I'm not a cheerleader and, if I was, I don't have a booster club or anyone backing me, but I'm real positive. And the economy of the United States is the greatest and it's getting greater and it's because we have resources, natural resources. When I was a kid I swam in those salt pits and those are the ones that the state of Illinois made rules that you couldn't have salt pits. And that's where that radiation is now. And we have been improving our logs all along.

When you get this going, you need to be able to go quicker because North Dakota is now number two to Texas on oil production. And it takes them 12 days to get a permit to drilling. The -- let's see. And the other permits are the federal land in 2005 it took 154 days to get a permit to drill and 2012 it takes 307 days. In Texas it takes 14 days to get a permit. In Ohio 14 days. In Colorado 27. I'm just saying that we need to do this and we need to do it efficiently and quickly or the rest of the United States will pass us by.

And my understanding of hydro fracking is that 90 percent of it is water and that there's a small percentage that's sand when --

MR. WELCH: Wait a minute now. Wait a minute --

MR. UPTON: I don't have a fan club.

MR. WELCH: Just stop. Now, listen. When everybody has talked here against fracking everybody has been polite. One gentleman comes up and takes an opposite view and you start heckling him. Let the man talk. Okay. Go ahead, sir.

MR. UPTON: I understand that they go down and they go horizontal and they inject water and sand and they have a manmade -- like a crystal that's a little bit larger than sand and that holds the shale apart. When I was a kid, they would show me a core and they would say this is shale. We can't get anything out of it. Now, we have more than the whole world and we have just this year passed up Saudi Arabia on having the most oil. And there's a lot of gas here and the -- we're starting to have gas powered engines on railroads. And GE is doing this and we're going to be much better off and -- but we'll be left behind if we don't do it.

MR. WELCH: Twenty seconds, sir.

MR. UPTON: Thank you.

MR. WELCH: All right. Thank you, Mr. Upton.

MR. HALLBERG: I am Jonathon Hallberg, H-A-L-L-B-E-R-G. I am here representing the South Central Illinois Regional Planning and Development Commission, as well as the Greater Wabash Regional Planning Commission, Southeastern Illinois Regional Planning and Development Commission, Southwest Illinois Metropolitan Regional Planning Commission and White County Road Commission.

In the language about bidding for road repairs and in section 245.410 we find no place where the proposed administrative rules address upgrade, maintenance or repair of roadways needed to accommodate the many activities under the Illinois Hydraulic Fracturing Act. These activities will affect traffic flow during and after hydraulic fracturing and drilling activities. Not planning for or undertaking them will have an even greater effect. Traffic maintenance and management cannot occur without planning for these issues. A provision for the establishment of road upgrade and maintenance agreements within section 245.210, Subsection 15, in the Traffic Management Plan, of the proposed administrative rules would ensure these issues are addressed.

We also recommend striking the

term preferably in the initial paragraph of Subsection 15, which currently reads, "A traffic management plan that is developed by the applicant will preferably in coordination with the impacted highway authorities (county, township, road district system, and municipal street system) et cetera, et cetera. We recommend striking preferably from this.

The Illinois Hydraulic Fracturing Act makes allowances in Section 1-55(a) that, "Each permit issued by the department under this act shall require the committee to comply with all provisions of this act and all applicable local, state and federal laws, rules and regulations in effect at the time that the permit was issued." The language we propose does not hamper the permitting process, but rather supports the act, even making allowances for delays. It ensures communities can exercise their rights under various Illinois statutes including 605 ILCS 5/5 et seq., 605 ILCS 5/6 et seq., 605 ILCS 5/9-113, and 625 ILCS 5/15-316.

The proposed alterations to subsection 15, the traffic management plan, which is in part 2010, permit application requirements, would go in the subpart. It would be a fifth component to the traffic management plan, which we recommend

calling item C would be as follows.

An executed or proposed road upgrade and maintenance agreement established with affected county, township, road district system or municipal street system authorities, which includes provisions for needed upgrades and supplemental maintenance of affected routes to accommodate operator transport activities, arrangements for undertaking such upgrades or supplemental maintenance, provisions for timely repair of damages by the operator, arrangements for coverage of costs, such as bonds or surety, and consequences for failure to repair in a timely manner.

And then one subpart A. In the event that a proposed RUMA is submitted, the applicant will outline the current status of the negotiations, including whether a mediation/arbitration process is needed and what party will serve as a mediator/arbitrator. Thank you very much.

MR. WELCH: Thank you. I'm going to call a couple more names and I would like you to come on up and sit in these two front seats here, so we don't have to wait. Mr. Garcia, you're up. Gabriel Garcia? Okay. Beth Martell, you're up. Then Greg

Smothers and then Michael Hicks. Michael, are you here? Greg Smothers. All right. Right up here.

MS. MARTELL: I'm Beth Martell, M-A-R-T-E-L-L. And I come from Makanda, Illinois.

MR. WELCH: Just take a breath.

MS. MARTELL: Concrete crumbles, steel rusts. In the United States since the year 2001 six bridges have collapsed. The Federal National Bridge Inventory reports 85,000 U.S. bridges are in bad shape and need to be replaced. What are bridges made of? Steel and concrete. What does fracking use to keep these deadly chemicals out of our drinking water? Steel and concrete.

The fracking industry buries steel pipes thousands of feet underground, fills them with fracked water, effluents and sand, puts them under a tremendous amount of pressure, waits for 20% to 80% of the toxic and radioactive wastewater to come out, and seals the rest of the water inside the steel pipes with an inch of concrete. Then they tell you everything's going to be okay. You don't have to worry that fracked water is poisoned with more than 600 toxic and radioactive chemicals. The damage is done. Out of sight is out of mind. But the USGS says there's no way to keep all the water separate.

It can't be done. The poison is going to end up in your water because all steel rusts.

The question is this. Why are we betting against a natural process everyone understands and expecting everything to work out to our advantage All steel rusts. Doesn't that single fact unhinge all the fracking science?

When the industry talks to you about fracking, ask them who is going to check the steel pipes in a few generations when all the fracking money is gone and the pipes are still down there in the dark getting rustier and rustier and rustier.

Don't be fooled. They are going to hand this problem back to you and you're the one who will have to find the solution. Not them. They're in it for the money and if you'll sell your water cheap, they'll certainly take that to the bank.

MR. WELCH: Thank you, ma'am.

MR. SMOTHER: Good evening. My name is Greg Smothers. Last name S-M-O-T-H-E-R-S. I'm from Marion, Illinois. I am the Williamson County engineer and I'm also representing the Illinois Association of County Engineers as a vice president of that association.

I want to speak briefly about the present permit process as it pertains to the traffic management plan that is required by all applicants.

Current law does not adequately address the upgrade, maintenance or repair of roadways that will be required to accommodate activities under the Illinois Hydraulic Fracturing Act.

I also want to touch on the road upgrade and maintenance agreements, acronym RUMA, with all affected counties, townships, road districts, unit road districts and municipalities.

We strongly urge these rules to require the traffic management plans to be done in direct coordination with the affected impacted highway authorities. It should not be something that is done when it's convenient or when it's preferred or at anyone's discretion. It should be done in every instance if we're going to properly protect our infrastructure. We also urge these rules to require that an executed RUMA with all impacted highway authorities must be part of the Traffic Management Plan to be included in the applicant's permit, application for IDNR's consideration.

We strive as a -- as an

organization each and every day to maintain and provide transportation system to support growth through -- in our regions. There's a great deal at risk with our road systems and the infrastructure if we do not require those provisions. Rural Illinois government authorities do not have the tax basis or the wherewithal to maintain the road infrastructures placed under this type of distress. Thank you

MR. WELCH: Thank you, Mr. Smothers. Gerald Quindry. You can come on up here. Would you come on and have a seat up front, please? And Sherry Sullivan. Are you here? Okay. All right. Mr. Hicks, hello.

MR. HICKS: I'm Michael Hicks, H-I-C-K-S, from Texico, Illinois, and tonight I would like to comment on Section 245.720 of the Hydraulic Fracturing Regulatory Act. Under this act fracturing companies will be required to provide a master list of chemicals used in their operations. But this section doesn't require them to disclose all of the chemicals publicly if they feel they are a trade secret. A redacted version of this list will be given to the public, and we are supposed to trust that the people up top will be watching out for dangerous chemicals being used.

According to a report on hydraulic fracturing from the U.S. Energy and Commerce Committee chemicals used include extremely toxic substances such as the cancer-causing benzene, lead and methanol. In fact, methanol, which is a hazardous air pollutant, was the most used chemical from 2005 to 2009. Not all of the chemicals could be identified by gas service companies, suggesting the fracturing companies are injecting fluids containing chemicals that they themselves cannot identify. Luckily some of these proprietary chemicals were identified, and they included things such as instant coffee and walnut hulls all the way to chemicals linked to vision loss, birth defects, seizures, heart damage, brain damage and other health issues, according to the U.S. Environmental Protection Agency.

There have been over 1,000 documented cases of water contamination next to areas of gas drilling, as well as cases of negative effects on health and illness from the chemicals involved in hydraulic fracturing. Residents in Dish, Texas, who live next to a gas production site reported illness among community members after complaining of strange odors from drilling sites. Consulting groups were

called in to investigate and found elevated levels of benzene and other toxic chemicals in the air. In some cases, 384 times the legal limit deemed as safe. Another infamous case in Pennsylvania where locals were lighting their tap water on fire is also quite concerning.

Fracturing companies have responded to the high levels of flammable methane found in water supplies with rhetorical tricks, claiming methane is a naturally occurring chemical. That is true, but the actual fracturing process itself involves drilling into the methane layer of the earth, allowing the toxic gas to migrate into the water supply. This water contamination and contamination in other areas has been repeatedly traced back to hydraulic fracturing or its surrounding process by the Pennsylvania Department of Environmental Protection, studies by the Massachusetts Institute of Technology, studies by the Colorado School of Public Health, peer-reviewed studies by Duke University, as well as tests conducted by the EPA.

Many sections of this act imply a concern of contamination, and while there are protections to hold companies liable for this, I'd

like to ask, if there's even a small chance of contaminating the earth, why is it something we are considering? Many choices in life involve risk, but environmental damage is permanent. We only get one earth. The argument against all of this is an appeal to emotion, that we need this to create jobs. It's interesting to note that according to the New York Times, jobs in the oil and gas industry are seven times more likely to be fatal than the U.S. average. To be specific, the EPA considers the radioactive material in fracturing flowback to be a hazard to workers, raising their risk of lung cancer. Workers are also exposed to alpha and gamma radiation, that can penetrate the skin and raise the risk of skin cancer. Instead of asking workers to handle cancer-causing chemicals, I'd rather see jobs created to further our understanding and also lower feasibility of true energies of the future, such as geothermal, marine and solar. Most of these technologies are already in use around the world today, such as gemasolar thermosolar plant in Spain and geothermal plants in California. Marine power has the potential of providing a substantial amount of renewable energy around the world, and developments are being made on this in multiple

countries.

MR. WELCH: You have 30 seconds.

MR. HICKS: To conclude my comments, if fracturing companies are allowed the chance to contaminate our land, they should be required to disclose all chemicals involved with this process to the public, not just a redacted version as the act currently states. When it comes to public health and the environment, there should be total transparency, and the information I have provided tonight should be overwhelming proof that total transparency is desperately needed. Thank you.

MR. WELCH: Thank you.

MR. QUINDRY: Hello. My name is Gerald Quindry, Q-U-I-N-D-R-Y. I am a professional engineer registered in Illinois. I am a -- I live in Fairfield, Illinois, and I have opened up a consulting business there. Hopefully to service some of the needs of the oil companies. First, a backhanded comment to you gentlemen. I think you've done a very much better job of establishing water quality management programs for groundwater than you have for surface waters. I would like to talk to you about the surface water parts.

What -- I have a chart here --

I'll try to put it up here, if you can see it. It's included in my submitted document. That site shows a alkalinity in the Little Wabash River, Clay City. Now, the Little Wabash River is one of the major streams in the area. The variability of water quality parameters in that river will be much more attenuated than in the small creeks and small streams that you'll find throughout the area. But those small streams have to be baselined, as well as the groundwater situation -- groundwater sources under your regulations.

As shown from the alkalinity there, if you pick a month, any time during the time period you're really just bouncing all over the place. There's a tremendous amount of noise in the data. It's impossible there to come up with a baseline absent the long historical record. Another issue on that is your regulatory approach of that point. Instead of taking a sample at a single point in the stream and then six months, 12 months later, taking another point, another sample at that same point, what you should be doing is an upstream and a downstream sample at the same time before doing fracking and then six months, 12 months, 36, 30 months, whatever, after fracking, take another set.

Compare the differences between the two, not -- not just the single number.

So I think that would greatly improve the capability of baseline water quality data from moving sources.

One other issue there of alkalinity, though, your water statistical program that you've called for in 245.610(e) in the statistic -- I believe that's the correct section. You talk about statistically significantly higher for a measurement. Well, alkalinity goes down, if you spill fracking fluids. So you're going the wrong direction in terms of what -- maybe your pH would go down. Same thing. Each of the 27 baseline chemicals, you need to look at individually what's the likely direction of change for them.

Finally, the work plan for water quality monitoring and the data reports that are submitted to you, I truly do believe they need to be submitted to you under a PE or PG stamp. You don't want those things to be just mysteriously showing up with no signature, nobody personally responsible for them. Thank you very much.

MR. WELCH: Thank you.

Now, normally, since it's past

8:30, that would be the last person, but I'm going to call four names and that's going to be it because it's past 8:30. I want two to sit here and two to sit there with four minutes. Lucia Amorelli. Lucia are you here? Come on up and have a seat, please. Robert White. Kristy Hamison. Randall Questelle. Randall, are you here? All right. Come on up you four and have seats right up here. Ms. Sullivan, you're on.

MS. SULLIVAN: Yes. Can you hear me? My name is Dr. Sherry Sullivan. I am a lifelong resident of Southern Illinois. And I currently reside at the Lake of Egypt in Goreville township on the edge of the beautiful Shawnee forest. I have built my dream home there because I really, really enjoy the natural resources of Southern Illinois. There is no place like it in the rest of the state. And I'm going to read my statement about the rule that I chose to focus on tonight, but I want you to know that I am very passionate about keeping this part of the state the way it is, keeping our water pure, our air breathable and our soil usable. I am an organic farmer or gardener, I guess you could say. I have a small vineyard. I have an orchard. And I don't want this area ruined by toxicity.

All right. Now let me tell you what I have to say about your rules. I am distressed about the disregard for local use of government and the decision making power, section B of registration and permitting procedures. The realities of the geography of this area that are going to be fracked is that very little of this fracking is going to take place in towns and cities. It's going to take place in rural areas. Very rural areas. The south seven counties of the state.

So my questions are if you have to have prior notifications of intentional process of permitting for cities and towns, why are the proposed rules silent on the notification in regards to neighborhoods in rural areas where there are no towns or cities nearby? Shouldn't the citizen residing in rural counties of Illinois have the same input on fracking permits as those that live in towns and cities?

As the rules are currently written this -- doesn't this create a class of second-class citizens who have fewer rights to participate in determining the type of energy extraction that's allowed in their neighborhood, if you're only notifying people who live in towns and

cities? How is that legal under our state's constitution? Aren't we all guaranteed the same rights to a healthy environment in Illinois? I think I heard someone say that earlier. I think I heard someone quote that. Don't all people of the state of Illinois have the right to know when harmful substances are being injected and stored in their soil? Expelled into the air and transported across their dilapidated, crumbling rural roads? I believe they are. And I think that IDNR should consider asking for a moratorium or a ban on fracking.

MR. WELCH: Thank you. Ms. Amorelli.

MS. AMORELLI: A-M-O-R-E-L-L-I.

MR. WELCH: Your first name is Lucia?

MS. AMORELLI: L-U-C-I-A. I'm a Jackson County resident and landowner. I rely on well water and am only 10 miles away from Johnson County, which over half of it has been leased for fracking. My comment pertains to the need for more rules to protect our most precious resource in Southern Illinois, our natural areas and the Shawnee National Forest.

The only ruling that I am aware of which would offer any protection to these natural areas is in section 1-25(a)5, setbacks and

prohibitions which states that a well site cannot be within 750 feet of a nature preserve. Obviously 750 feet seems very inadequate. There are 12 nature preserves alone in Johnson County and many other natural areas in or nearby Johnson County, such as Ferne Clyffe State Park, Giant City State Park, Dixon Springs, Crab Orchard National Refuge, Bell Smith Springs National landmark, Millstone Bluff National register site, Burden Falls and Bay Creek wilderness areas and Lusk Creek Natural landmark. These are just a few surrounding -- immediately around Johnson County. Do we really want fracking allowed near all of these highly visited areas? Are oil and gas companies going to be allowed to drill underneath these areas since they can frack a mile or more horizontally? We need rules that clearly state that drilling in and under state parks, nature preserves, wilderness areas, etc., is prohibited.

We also need rules that help protect tourism in Southern Illinois, which is one of our largest sources of income. For example, tourism will not want to come to Southern Illinois if there are 200-foot high rigs right next to one of our beautiful vineyards or if when looking out from Garden of the Gods and you see hundreds, thousands of

rigs on the horizon. We need some kind of rule protecting our scenic views. The National Parks Conservation Association also lists the following issues that should be addressed when considering fracking near natural areas. The impact of new roads and other expanding infrastructure, water usage that could deplete key waterways, air, land and water pollution, and the disruption of sound scapes and night skies.

In closing, if our state gets fracked like Colorado or North Dakota where their landscapes have been scarred with drill pads and rigs, we will have ruined our most precious resource here in Southern Illinois. It is critical that IDNR take these matters into account when revising the rules, or better yet, declare to our Illinois legislators that there aren't enough rules possible to ensure the safety and integrity of our environment, our livelihoods and our homes here in Southern Illinois. Thank you for your time.

MR. WELCH: Thank you. This is?

MS. HAMISON: K-R-I-S-T-Y, H-A-M-I-S-O-N. I live in rural Brookport, Illinois. I live in very south Pope County and I drove 70 miles to get here. It was over an hour and a half.

My area will be impacted if fracking is allowed in Pope County and we really need you all to come down here and hear how the people down there feel about it and I can guarantee you they are opposed. They are terrified.

I -- many years ago I went to northeastern Michigan with a group of friends and we rented a house. It was a nice, kind of lodge-type place and beautiful hilly forest and there were houses around as well. Rural houses. And we were out on this really nice porch in the afternoon and all of a sudden this most horrible smell engulfed us. And we thought there was a huge gas leak in the house. We were going to blow up. We called the caretaker and he said, oh, it's natural gas drilling flares and when the air is just right and the wind is just right you get overcome with this smell.

I have also been to the Allegheny in Pennsylvania and I've seen what the oil and gas company has done to that beautiful environment and what the people have gone through there and are going through. They are not benefiting. They are having their lives turned upside down, destroyed, their homes. They can hardly live there. And other people, other countries are benefiting for this cheap

fuel.

When I get up in the morning -- I live in a really beautiful area adjacent to the Shawnee and it's forest and the air is clean. The water is clean. The earth is clean. And I go out and I smell the dew in the morning. If it's going to rain, you can smell the rain coming. In the fall, the leaves start composting and you have that fragrance. In the summer there's honeysuckle. If we get these wells and they flare, you're not going to have that anymore. You're not going to be able to sit on your porch. I sleep -- I have a screened in porch and I sleep on it in the summer. That's going to be gone. You know, my life that I have worked all of these years will not be the same. I will probably have to move. I've lived in Illinois my entire life. I've lived in southern Pope County for 30 plus years.

And as far as the rules are concerned, you can have all of the rules in the world, but who is going to enforce them? Who is going to be able to go underground 2 miles and really see what's going on? So I really hope that you will not allow this and that you will have a meeting down in Pope County, Metropolis, Golconda and hear from those people as well. Thank you.

MR. WELCH: Thank you.

MR. QUESTELLE: My name is Randall Questelle, Q-U-E-S-T-E-L-L-E. I live in Carmi, Illinois, right in the middle of the affected area. I listened to what has all gone on here today. You can say most of us are listening to the same radio station, WIIFM, what's in it for me. And everybody is worried about what's in it for me. I personally -- I was a coal miner for 30 years and I was a college instructor for 15, but what's in it for me, you know, you know, I'm a -- I'm for progress and the thing that I can see that we need is in my 30 years in coal mining, what made the coal mine industry safe in my 30 years from 1969 to '99, was inspections. I haven't heard a thing said about the inspections. Who is going to inspect? What's the workers going to be doing? That kind of thing. So, like I said, I'm for progress, but also I'm interested in what it's going to do to the roads in our areas, the housing. I hear that Carmi is going to triple in size, is one estimate, and the housing cost -- to rent a houses is going to go from 500 to $1,500 a month. And then also with any boom you have a -- a following that follows that. It's not exactly what you want to have. I'm talking about lifestyle

changes and crime. You also --

In closing, I want to think about the safety of the workers that's working in our cities that's going to have to put up more infrastructure and that. And last, but not least, is the safety of the oilfield workers. My father-in-law was an oilfield worker for several years and we have to safeguard the workers. Thank you for your time.

MR. WELCH: Thank you. Robert White never showed up? I guess we're done then.

Remember, if you want to stay around for a few minutes after -- or --

AUDIENCE MEMBER: I filled out a card to speak.

MR. WELCH: We had a few other cards, but we're out of time.

AUDIENCE MEMBER: Sir, I filled out a card to speak and you never called my name.

MR. WELCH: Well, what we did was we took all of the cards and we shuffled them up and then I called them in the order that they came out. Now, we usually stop at 8:30. Instead we went an extra 15 minutes to get a couple more speakers in here, but that's it. We're done.

AUDIENCE MEMBER: So what does that

mean?

MR. WELCH: If anybody has written comments and you want to leave it up here, you can put it in the box and if you want to hang around for a little bit they are going to summarize what we heard here today. Okay. Thank you again for coming.

(At which point in the proceedings a break was taken.)

MR. COHEN: Is it working? My name is Mitchell Cohen. I just want to give you a summary of what we heard as a group tonight up here on the panel. These are the comments that we heard most often from the group related to the hydraulic fracturing administrative rules. We did hear all of the comments. We will review all of the comments in toto with all of the comments we're receiving from the website and that are being mailed in. But for tonight the most common comments that we heard related to the water quality monitoring, the chemical disclosure and trade secrets by industry, the enforcement issue and the fines and seismicity. So those were the top four that the panel heard from the audience.

We thank everybody for their comments and we will be reviewing them all in the

future after the public comment period is over. So thank you very much. We appreciate all of the comments tonight. Thank you.

AUDIENCE MEMBER: Can you say that again?

MR. COHEN: Let me go over those again. Water quality monitoring, chemical disclosure as it is related to the trade secrets, the enforcement issue with regard to the fines being too small, and seismicity. Thank you.

STATE OF ILLINOIS)
) SS
COUNTY OF WILLIAMSON)

I, Valeri Bleyer, a Notary Public in and for the County of Williamson, State of Illinois, do hereby certify:

That the said proceedings was taken before me, as a Notary Public at the said time and place and was taken down in shorthand writing by me;

That I am a Certified Shorthand Reporter for the State of Illinois; that the said proceedings was thereafter under my direction transcribed into computer-aided transcription; that the foregoing transcript constitutes a full, true and correct report of the proceedings which then and there took place;

IN WITNESS WHEREOF, I have hereunto subscribed my hand and affixed my official seal this 18th day of December, 2013.

_____
VALERI BLEYER, CSR# 084-002678
Notary Public for Illinois

$
$1,000 [2] 10/23 20/11
$1,500 [1] 93/23
$200 [2] 10/17 10/21
$50 [2] 10/14 45/25

'
'99 [1] 93/14

0
002678 [1] 97/15
084-002678 [1] 97/15

1
1,000 [2] 31/25 80/18
1,500 [2] 41/3 62/15
1,500 feet [6] 12/3 13/1 14/2 14/4 55/11 69/5
1-130 [1] 27/8
1-25 [1] 88/25
1-53 [2] 27/20 28/5
1-55 [1] 74/9
1-75 [2] 27/20 27/22
10 [2] 26/2 88/17
100 [1] 62/23
100,000 [1] 32/11
107 [1] 40/16
1120 [1] 19/1
113 [1] 74/20
12 [5] 70/20 71/15 84/20 84/24 89/3
130 [1] 27/8
14 [2] 71/19 71/19
15 [6] 59/25 73/21 74/2 74/22 93/10 94/23
150 [1] 26/17
153 [1] 28/10
154 [1] 71/17
167 [1] 22/19
17th [1] 26/16
1812 [1] 44/3
18th [1] 97/11
1950's [1] 31/18
1969 [1] 93/14
1970's [1] 54/4
1978 [1] 54/13
1980's [1] 14/24
19th [1] 16/25

2
2 miles [5] 12/7 12/15 40/23 69/9 92/21
2,000 [1] 32/5
20 [4] 17/22 20/18 20/18 76/17
200-foot [1] 89/23
2001 [1] 76/7
2005 [2] 71/17 80/7
2009 [1] 80/7
2010 [1] 74/23
2012 [2] 66/15 71/18
2013 [4] 1/12 8/7 59/25 97/11
2014 [1] 30/3
2016 [2] 66/11 67/3
24.27 [1] 16/16
24/7 [2] 38/23 39/1
240 [3] 19/2 20/13 33/5
240.860 [1] 57/1
240.861 [1] 57/2
243.3 [1] 28/18
245 [2] 27/23 31/8
245.1020 [1] 49/16
245.1120 [1] 49/20
245.200 [1] 13/22
245.210 [1] 73/21
245.260 [1] 13/23
245.270 [3] 13/22 47/24 48/3
245.310 [1] 48/13
245.400 [1] 45/5
245.410 [2] 48/23 73/10
245.600 [6] 11/24 12/1 45/16 49/2 69/2 69/3
245.610 [2] 66/7 85/8
245.720 [1] 79/16
245.730 [1] 38/8
245.8 [1] 27/21
245.850 [2] 56/11 56/15
245.855 [1] 49/10
25 [1] 88/25
260 [2] 19/2 20/22
26th [1] 60/14
27 [3] 53/21 71/20 85/14

3
3,000 acres [1] 54/12
3,000 feet [1] 12/19
30 [12] 6/22 20/23 50/15 54/11 65/25 65/25 83/2 84/24 92/17 93/9 93/12 93/14
30-day [1] 21/3
307 [1] 71/18
310 [2] 19/1 21/14
316 [1] 74/20
36 [1] 84/24
384 [1] 81/3
3rd [1] 1/12

4
4,000 [1] 32/5
4.5 [1] 58/10
40 percent [1] 70/21
468 [1] 1/11

5
5/15-316 [1] 74/20
5/5 [1] 74/19
5/6 [1] 74/19
5/9-113 [1] 74/20
500 [1] 93/22
53 [2] 27/20 28/5
55 [1] 74/9

6
6 miles [1] 12/21
60 [2] 48/6 48/8
60-day [1] 20/24
600 [1] 76/23
605 [3] 74/18 74/19 74/19
62 [1] 56/25
625 [1] 74/20
67 [1] 31/25
674 [1] 26/2

7
70 [1] 34/14
70 miles [1] 90/24
70 percent [1] 70/20
70's [2] 17/22 31/19
75 [2] 27/20 27/22
750 [1] 89/2
750 feet [1] 89/3

8
80 [1] 76/18
80's [1] 15/11
85,000 [1] 76/9
8:30 [3] 86/1 86/3 94/22

9
90 percent [1] 71/24

A
A-M-O-R-E-L-L-I [1] 88/13
Abbey [1] 15/6
ability [2] 46/25 60/11
able [9] 16/20 17/9 32/25 39/8 52/17 55/18 71/13 92/11 92/21
above [3] 10/2 31/20 65/12
absence [2] 31/6 33/3
absent [2] 19/25 84/17
Academy [1] 33/12
accept [1] 4/20
acceptable [1] 25/11
accidents [1] 58/25
accommodate [3] 73/13 75/7 78/6
accomplish [1] 2/23
according [4] 31/17 80/1 80/16 82/7
account [4] 4/15 32/25 33/13 90/15
accountability [1] 21/24
accurate [2] 55/6 62/4
acknowledged [1] 27/21
acknowledges [1] 49/17
acres [2] 54/9 54/12
acronym [1] 78/10
across [4] 3/17 36/13 60/17 88/8
act [31] 1/25 2/17 2/17 2/20 2/22 2/22 2/24 3/13 3/13 8/6 8/19 11/6 14/11 32/23 44/21 45/19 46/2 57/7 60/2 63/10 63/13 73/14 74/9 74/10 74/12 74/16 78/8 79/17 79/17 81/23 83/7
active [3] 33/21 33/25 44/3
actively [1] 3/2
activities [5] 73/13 73/14 73/16 75/8 78/7
activity [3] 30/9 51/12 64/18
actors [1] 22/8
actual [1] 81/11
actually [3] 3/23 7/16 67/10
addition [3] 11/7 60/25 64/14
Additionally [1] 41/18
additive [1] 49/6
address [10] 7/15 29/2 29/4 29/6 29/8 29/11 40/20 51/9 73/11 78/5
addressed [2] 73/24 90/4
adequate [7] 9/1 16/17 31/16 52/25 53/15 61/4 66/24
adequately [3] 29/18 41/4 78/4
adjacent [1] 92/3
administer [1] 2/21
administrative [14] 1/24 3/11 4/6 7/14 8/12 10/9 14/11 39/4 50/24 57/1 59/24 73/11 73/23 95/14
admitted [1] 67/20

A

adopt [2] 2/23 27/10
adopting [1] 4/7
advantage [2] 46/8 77/6
affect [1] 73/15
affected [13] 11/1 13/2 17/6 38/17 39/13 39/14 40/2 40/6 75/4 75/7 78/11 78/15 93/4
affiliated [1] 50/12
affixed [1] 97/11
afoul [1] 60/6
aftermath [1] 26/1
afternoon [2] 35/17 91/11
against [9] 27/5 34/15 39/20 41/12 41/23 44/6 72/5 77/4 82/5
agency [4] 20/4 20/17 54/5 80/17
agendas [1] 41/12
ages [1] 17/22
ago [3] 20/19 58/19 91/6
agreement [2] 39/15 75/3
agreements [2] 73/21 78/10
agriculture [1] 10/25
ahead [3] 6/15 27/5 72/8
aided [1] 97/8
air [17] 8/5 8/8 14/4 18/6 29/23 34/20 37/4 54/2 67/20 69/22 80/6 81/2 86/22 88/8 90/7 91/16 92/4
album [1] 20/18
Alexander [2] 40/13 44/18
aligned [2] 37/23 37/24
alike [1] 17/3
alkalinity [4] 84/3 84/12 85/7 85/11
allegation [1] 49/1
Allegheny [1] 91/18
allow [12] 3/1 3/9 13/24 24/12 24/15 33/19 45/10 45/20 48/10 59/5 62/3 92/23
allowances [3] 58/10 74/9 74/16
allowed [7] 14/6 32/1 83/4 87/24 89/12 89/14 91/2
allowing [6] 8/24 9/7 9/12 42/7 61/25 81/13
allows [1] 8/25
almost [1] 17/12
alone [1] 89/4
along [7] 11/23 12/6 32/6 41/3 47/17 69/7 71/11
alpha [1] 82/13
already [5] 31/4 39/23 64/11 64/20 82/20
also [40] 2/7 4/17 4/18 16/25 17/1 17/10 19/10 27/15 31/1 35/13 38/1 40/17 40/17 41/1 45/22 47/5 47/9 47/11 50/18 52/21 53/5 57/6 58/5 58/13 63/20 67/22 69/15 73/25 77/23 78/9 78/20 81/5 82/13 82/17 89/19 90/3 91/18 93/18 93/23 94/1
alterations [3] 9/4 9/6 74/21
although [1] 41/5
always [4] 5/24 6/2 6/3 15/13
am [30] 8/3 30/25 33/5 34/4 34/13 34/16 36/15 37/23 37/24 50/8 50/12 53/11 53/20 53/25 56/9 63/18 65/23 65/24 73/1 73/2 77/22 83/15 83/16 86/11 86/20 86/22 87/2 88/17 88/23 97/7
amazed [1] 34/16
amend [1] 46/14
Americans [1] 44/7
among [4] 12/4 29/1 69/5 80/24
Amorelli [2] 86/4 88/12
amount [6] 16/17 16/18 17/14 76/17 82/23 84/15
amounts [1] 22/23
Angel [1] 26/3
animal [1] 10/25
Anna [1] 67/11
announced [1] 66/9
annual [1] 51/21
another [12] 5/25 6/22 14/8 19/21 20/8 24/14 33/7 81/4 84/17 84/21 84/21 84/25
answer [4] 7/15 41/13 41/16 41/24
anticipates [1] 4/22
anybody [2] 36/21 95/2
anymore [1] 92/11
anyone [1] 71/3
anyone's [1] 78/18
anything [5] 15/1 26/18 31/15 49/3 72/15
anyway [1] 5/4
apart [1] 72/13
apologize [1] 42/5
appeal [1] 82/5
appear [1] 60/24
applicable [2] 32/23 74/12
applicant [2] 74/3 75/16
applicant's [1] 78/23
applicants [1] 78/3
application [4] 10/14 48/9 74/23 78/24
applications [1] 10/16
applies [2] 2/17 62/8
applying [1] 21/20
appreciate [4] 5/17 40/12 63/17 96/2
approach [1] 84/18
appropriate [2] 39/25 60/4
approval [2] 27/15 48/10
approval/denial [1] 48/10
approve [2] 20/24 48/6
approved [1] 39/4
aquatic [3] 28/2 48/16 63/25
aquifer [3] 12/23 12/25 13/5
aquifers [2] 52/12 57/25
Arabia [1] 72/17
arbitration [1] 75/18
arbitrator [1] 75/19
area [13] 19/17 23/17 26/7 39/9 50/11 53/23 84/5 84/8 86/25 87/6 91/1 92/3 93/4
areas [21] 12/12 17/5 30/6 31/16 33/24 51/12 57/14 80/19 81/15 87/9 87/9 87/15 88/21 88/25 89/5 89/10 89/13 89/15 89/18 90/5 93/20
aren't [5] 16/20 42/16 53/19 88/2 90/17
argument [1] 82/5
Arkansas [2] 43/4 58/13
around [9] 29/25 29/25 50/11 82/20 82/24 89/11 91/10 94/12 95/4
arrangements [2] 75/8 75/11
array [1] 47/17
artistic [1] 65/6
aside [1] 65/15
ask [7] 26/17 36/21 42/3 49/22 68/8 77/9 82/1
asked [2] 19/6 61/1
asking [5] 5/12 18/4 58/17 82/15 88/11
aspects [1] 8/17
Assembly [1] 2/15
assert [2] 9/13 45/23
assertion [1] 45/25
Assessment [1] 54/8
assist [1] 4/6
associated [5] 14/3 43/24 46/3 46/3 53/1
association [4] 57/12 77/24 77/25 90/3
assurance [1] 20/6
assure [1] 15/25
atop [1] 51/14
attack [1] 35/11
attempted [1] 54/18
attention [2] 37/15 37/19
attenuated [1] 84/7
attest [2] 47/6 47/12
attorney [3] 2/5 2/7 30/25
audience [1] 95/23
authorities [5] 74/5 75/5 78/16 78/22 79/6
authority [4] 2/21 27/10 27/14 45/13
availability [1] 30/7
available [3] 11/12 49/9 61/22
average [5] 21/6 31/20 31/24 32/5 82/9
avoid [2] 48/10 63/5
aware [2] 2/15 88/23
away [4] 12/21 17/9 26/17 88/17

B

B-O-R-O-W-I-C-Z [1] 68/21
backhanded [1] 83/20
backing [1] 71/3
backward [1] 11/1
backwards [1] 51/18
bad [4] 21/24 22/8 70/8 76/9
bag [1] 15/17
ban [6] 25/6 44/6 44/8 64/13 68/12 88/11
bank [1] 77/18
banned [2] 33/23 70/5
Barbara [2] 50/4 53/10
barges [1] 58/24
barrier [1] 38/16
based [2] 20/4 51/3
baseline [4] 13/4 84/17 85/4 85/14
baselined [1] 84/9
basic [1] 67/15
basically [1] 49/22
basin [1] 46/24
basis [1] 79/6
Bay [1] 89/9
Bearden [4] 35/5 40/14 40/16 42/6
beautiful [10] 23/19 43/13 50/10 52/17 53/23 86/14

B

beautiful... [4] 89/24 91/9 91/20 92/3
beauty [2] 23/17 24/2
become [1] 32/8
began [1] 62/10
begging [1] 10/18
beginning [2] 5/22 30/18
behalf [3] 46/21 57/19 59/17
behavior [1] 21/24
behind [1] 72/21
being [12] 17/14 18/23 19/15 19/17 23/3 24/10 24/22 79/25 82/25 88/7 95/17 96/9
believe [9] 16/25 29/23 30/10 36/2 64/1 64/18 85/9 85/19 88/9
Bell [2] 13/14 89/7
belong [2] 47/13 57/11
below [1] 65/13
benefit [2] 9/11 65/3
benefiting [2] 91/22 91/25
bent [1] 70/6
benzene [2] 80/4 81/2
best [5] 19/8 36/9 36/10 47/18 50/25
Beth [2] 75/25 76/3
better [4] 70/22 72/20 83/21 90/16
betting [1] 77/4
between [6] 20/11 49/11 58/8 64/10 70/23 85/1
beyond [2] 12/15 14/4
bidding [1] 73/9
big [6] 6/20 17/10 22/6 36/11 36/11 42/1
Bikers [1] 24/5
bill [4] 15/1 17/25 18/11 37/7
billions [1] 51/22
billon [1] 20/10
biologists [1] 47/15
biology [1] 40/18
birth [1] 80/14
bit [2] 72/12 95/5
blame [1] 18/20
bleachers [1] 32/18
Bleyer [2] 97/4 97/15
blighted [1] 10/24
blood [2] 35/24 65/13
blow [2] 25/2 91/14
Bluff [1] 89/8
Bob [1] 1/19
body [1] 46/9
boil [1] 36/19
bombing [1] 58/7
bombs [2] 65/12 65/12
bonds [1] 75/12
boom [8] 14/24 15/2 15/3 15/9 15/11 15/15 24/24 93/23
booming [1] 43/8
boost [1] 70/25
booster [1] 71/3
border [1] 23/16
bore [6] 12/6 12/10 12/17 12/19 69/8 69/11
bores [4] 11/23 29/16 40/23 41/4
born [1] 23/7
Borowicz [2] 65/19 68/21
both [3] 45/2 61/13 67/22
bottom [1] 32/9
bouncing [1] 84/14
box [3] 5/18 30/20 95/4
boy [3] 22/7 40/16 68/23
brain [1] 80/15
Brandon [1] 5/7
Brandon's [1] 6/20
break [1] 95/8
breaking [1] 70/2
breath [1] 76/5
breathable [1] 86/22
breathe [1] 69/21
Brendan [1] 2/9
bridge [3] 24/22 24/23 76/8
bridges [3] 76/8 76/9 76/10
brief [1] 47/22
briefly [1] 78/1
brine [4] 31/23 32/4 54/8 55/8
bring [3] 16/19 23/5 47/18
broad [1] 48/1
Brookport [1] 90/23
brothers [2] 42/14 44/7
built [1] 86/15
burden [6] 41/6 48/25 49/23 62/18 62/21 89/9
buries [1] 76/14
busiest [1] 16/21
business [10] 9/24 38/12 38/16 38/18 38/19 43/8 43/10 46/11 61/17 83/18
businessman [1] 42/19
bust [4] 15/3 15/15 15/17 24/24
busy [1] 18/3

C

C-O-N-N-O-L-L-Y [1] 57/11
cabin [1] 52/16
Cache [1] 42/20
calculations [2] 55/6 62/5
California [1] 82/22
call [14] 5/21 5/22 5/25 16/7 18/8 25/14 30/17 30/21 50/4 50/15 59/15 63/10 75/22 86/2
called [7] 46/6 54/7 81/1 85/8 91/14 94/18 94/21
calling [3] 58/15 64/13 75/1
calm [1] 24/4
came [4] 35/18 66/16 70/17 94/21
camp [1] 24/7
Canada [1] 42/14
cancer [6] 15/7 65/1 80/4 82/12 82/15 82/16
cancer-causing [2] 80/4 82/16
cannot [10] 14/16 25/9 48/21 51/23 52/3 52/14 53/3 73/18 80/10 89/1
canoe [2] 42/19 43/11
canoes [1] 42/20
capability [1] 85/4
capacity [1] 62/6
capture [1] 9/8
Carbondale [8] 17/1 25/21 31/1 34/5 40/19 53/11 63/18 65/23
carcinogens [1] 52/11
card [2] 94/13 94/18
cards [3] 5/6 94/15 94/20
care [1] 19/12
caretaker [1] 91/15
Carmi [2] 93/3 93/20
Carolyn [2] 30/21 34/5
carry [1] 27/10
Carterville [1] 50/8
case [2] 38/14 81/4
cases [6] 12/18 40/1 45/1 80/19 80/20 81/3
cash [1] 65/16
Cast [1] 65/15
catch [1] 38/16
cause [2] 10/22 33/15
caused [2] 51/17 62/16
causes [2] 19/10 25/11
causing [3] 33/10 80/4 82/16
Cave [1] 23/19
Cave-In-Rock [1] 23/19
cell [1] 15/7
Center [1] 59/19
Central [1] 73/3
certain [2] 23/7 68/13
certainly [3] 13/2 52/3 77/18
Certified [1] 97/7
certify [1] 97/5
cetera [2] 74/6 74/7
chair [1] 31/1
Chairman [1] 59/12
chance [7] 5/11 6/19 16/9 20/8 21/9 82/1 83/4
change [4] 20/11 21/10 28/6 85/16
changed [1] 28/5
changes [5] 4/21 4/22 15/19 28/18 94/1
charge [3] 34/15 58/3 58/5
charged [1] 19/5
charges [3] 12/11 29/12 69/12
charm [1] 24/1
chart [1] 83/25
cheap [2] 77/18 91/25
check [1] 77/9
cheerleader [1] 71/2
chemical [8] 22/16 38/8 57/24 58/22 80/6 81/10 95/19 96/7
chemicals [29] 8/18 9/25 23/8 40/25 46/3 46/6 52/9 55/10 55/12 57/25 61/11 62/22 62/23 68/2 76/12 76/23 79/19 79/21 79/25 80/3 80/7 80/10 80/11 80/13 80/21 81/2 82/16 83/6 85/15
Chicago [1] 67/17
Chicago's [1] 60/13
child [1] 24/15
children [2] 24/15 24/19
choices [1] 82/3
choose [2] 10/19 22/15
chose [1] 86/19
circumvent [1] 8/14
cite [2] 22/13 22/17
cited [2] 15/19 66/14
cities [6] 87/8 87/13 87/16 87/19 88/1 94/4
citizen [6] 8/1 21/6 44/20 47/20 69/21 87/16
citizens [6] 10/3 15/16 19/19 60/19 68/9 87/22
citizens' [1] 69/25
city [3] 6/9 84/3 89/6
claim [2] 48/19 48/21
claiming [1] 81/10
clarify [1] 34/7

C

class [2] 87/21 87/22
clause [4] 42/24 43/6 43/17 49/7
Clay [1] 84/3
clean [4] 8/19 92/4 92/5 92/5
clear [4] 32/12 44/24 51/10 52/11
clearly [1] 89/16
client [1] 39/9
climatologist [1] 26/3
climb [1] 24/8
clinical [1] 40/9
clock [1] 25/1
close [3] 7/23 8/22 48/8
closed [1] 61/24
closely [1] 66/16
closing [2] 90/10 94/2
club [6] 36/6 37/25 38/1 67/19 71/3 72/3
Clyffe [1] 89/6
coal [3] 93/9 93/13 93/13
coalition [3] 59/17 59/22 63/8
Code [1] 57/1
coffee [1] 80/13
Cohen [2] 2/3 95/10
cold [2] 35/24 65/16
collapsed [1] 76/8
collateral [2] 15/14 15/24
collected [1] 20/7
college [2] 1/11 93/10
colonial [1] 44/6
Colorado [4] 47/11 71/20 81/20 90/11
comes [3] 39/25 72/6 83/8
coming [6] 18/12 36/12 59/23 65/10 92/7 95/6
commences [1] 60/5
comment [30] 4/19 6/11 6/15 6/16 11/20 13/17 13/20 13/23 16/5 18/25 20/23 30/12 35/14 35/18 35/23 36/2 38/6 46/21 53/14 56/10 60/12 61/5 63/1 66/6 66/8 69/1 79/16 83/20 88/19 96/1
comments [35] 2/2 3/3 3/10 4/4 4/11 4/15 4/16 4/18 5/11 7/3 7/4 7/12 7/16 13/25 16/5 20/25 28/23 30/11 33/7 35/21 36/25 38/5 47/22 53/17 60/20 63/9 83/3 95/3 95/12 95/15 95/15 95/16 95/18 95/25 96/3
Commerce [1] 80/3
Commission [5] 73/4 73/5 73/6 73/7 73/8
commit [1] 61/3
committee [3] 31/2 74/11 80/3
common [1] 95/18
communicated [1] 64/11
communities [2] 62/19 74/17
community [4] 9/19 10/24 40/7 80/24
companies [17] 14/25 20/1 20/8 21/24 31/11 41/6 42/1 47/14 51/21 79/18 80/8 80/9 81/7 81/25 83/4 83/19 89/14
company [6] 10/19 11/2 21/20 22/2 62/17 91/20
Compare [1] 85/1
compensated [2] 40/2 52/4
compensation [4] 38/4 39/25 52/4 52/22
complaining [1] 80/24
completed [1] 53/1
completion [1] 47/15
compliance [2] 47/18 63/12
complicated [1] 60/19
complicity [3] 58/6 58/9 59/2
comply [2] 10/19 74/11
component [2] 34/20 74/24
compose [1] 14/14
composting [1] 92/8
comprehensive [3] 53/17 66/10 66/20
computer [3] 35/18 63/19 97/8
computer-aided [1] 97/8
comsumption [1] 41/25
concern [4] 14/21 19/21 60/17 81/24
concerned [9] 4/4 5/2 13/18 44/19 53/25 57/12 57/13 58/3 92/19
concerning [6] 13/20 14/6 14/18 30/4 66/22 81/6
concerns [9] 7/6 8/4 10/2 14/9 22/22 30/13 61/1 61/7 63/9
conclude [1] 83/3
conclusively [1] 67/5
concrete [4] 76/6 76/11 76/13 76/20
condition [1] 51/24
conditioned [1] 27/15
conditions [5] 28/12 48/11 48/14 48/17 58/18
conducted [8] 27/25 28/15 28/19 28/20 51/3 54/5 63/23 81/22
confidentiality [1] 39/15
connect [1] 64/16
Connolly [1] 57/10
conscientious [1] 30/12
conscious [1] 30/12
consent [1] 29/15
consequences [5] 11/8 11/10 15/14 15/24 75/12
Consequently [1] 39/16
Conservation [1] 90/3
consider [7] 57/19 57/23 57/23 58/22 59/3 59/8 88/10
consideration [4] 4/20 48/5 50/2 78/24
considered [3] 9/8 21/22 23/4
considering [6] 16/18 58/18 58/19 69/10 82/3 90/4
considers [1] 82/10
consistent [1] 4/8
consortium [1] 40/4
Conspicuous [1] 31/5
conspicuously [1] 19/25
constantly [1] 55/7
constitute [1] 32/11
constitutes [3] 33/24 48/24 97/9
constitution [3] 69/18 70/2 88/2
construed [1] 49/9
consulting [2] 80/25 83/18
consumption [2] 30/8 41/18
contact [5] 9/23 45/24 55/18 61/16 61/22
contain [2] 13/1 14/19
containers [1] 26/8
containing [1] 80/9
containment [3] 49/12 49/12 49/14
contains [1] 52/10
contaminants [1] 58/22
contaminate [2] 45/8 83/5
contaminated [5] 12/25 26/10 52/13 67/8 67/13
contaminating [1] 82/2
contamination [10] 12/23 13/6 32/1 52/14 57/24 66/10 80/19 81/14 81/15 81/24
contend [2] 57/18 58/23
contents [1] 49/4
contest [1] 46/25
context [1] 14/22
continent [2] 22/21 64/18
continue [1] 23/10
contrast [5] 61/14 62/2 62/11 62/20 63/2
contribute [1] 51/11
control [2] 38/14 41/24
convenient [1] 78/17
conventional [2] 54/2 54/7
Cook [4] 30/22 35/8 35/9 37/20
coordination [2] 74/4 78/15
copy [1] 3/16
core [1] 72/14
corporate [1] 47/20
corporation [2] 45/13 69/21
corporations [1] 41/22
correct [2] 85/9 97/9
cost [3] 9/8 46/11 93/22
costly [1] 10/20
costs [1] 75/11
council [4] 36/7 39/8 59/20 59/21
counsel [4] 2/6 2/8 2/10 67/20
count [2] 27/4 52/3
counties [3] 78/11 87/10 87/17
Counting [1] 10/7
countries [4] 65/2 70/5 83/1 91/25
country [2] 36/9 70/6
county [29] 13/10 23/14 23/21 24/3 26/5 30/1 47/3 50/9 52/17 54/12 66/1 66/2 67/11 73/8 74/5 75/4 77/22 77/24 88/16 88/18 89/4 89/5 89/12 90/24 91/2 92/17 92/24 97/2 97/4
couple [8] 16/8 18/8 25/14 30/17 50/4 67/10 75/22 94/23
course [1] 41/20
court [3] 6/7 12/18 69/20
cover [1] 13/4
coverage [3] 21/2 42/15 75/11
covered [2] 26/7 66/17
cozy [1] 20/4
Crab [1] 89/7
create [6] 27/13 36/8 54/15 69/13 82/6 87/21
created [3] 28/7 29/9 82/16
creating [2] 39/15 39/22
credibility [1] 54/15
Creek [2] 89/9 89/10
creeks [1] 84/7

C

crime [1] 94/1
criminal [3] 36/2 58/5 59/2
crisis [2] 38/23 39/2
critical [2] 61/5 90/14
crown [1] 65/9
crumbles [1] 76/6
crumbling [1] 88/9
crystal [1] 72/11
CSR [1] 97/15
cultivate [1] 24/9
curb [1] 41/17
current [3] 30/14 75/16 78/4
currently [5] 51/25 74/2 83/8 86/12 87/20
Curt [3] 59/11 63/15 63/16
cushions [1] 20/12
cycle [2] 22/25 38/18

D

D-E-L-A-G-A-R-Z-A [1] 17/19
D-E-N-Z-E-R [1] 42/13
D-O-N-O-G-H-U-E [1] 65/23
Dailey [1] 2/9
Dakota [2] 71/13 90/11
damage [10] 10/22 15/14 15/24 22/4 52/13 53/2 76/23 80/15 80/15 82/4
damaged [1] 54/14
damages [3] 40/3 40/4 75/10
danger [3] 32/12 33/19 33/24
dangerous [4] 22/21 41/15 64/12 79/25
dark [1] 77/12
data [7] 11/11 14/14 14/17 14/20 84/16 85/4 85/18
date [1] 48/9
daughter's [1] 50/16
day [10] 1/12 17/22 20/24 21/3 21/7 48/24 59/23 61/20 79/1 97/11
days [11] 20/23 48/4 48/6 48/7 48/8 60/14 71/15 71/17 71/18 71/19 71/19
dead [1] 65/16
deadline [2] 16/6 60/24
deadly [1] 76/12
deal [3] 15/21 26/19 79/3
dealing [3] 4/25 25/25 26/14
death [1] 25/2
debris [2] 26/14 26/16
decays [1] 31/21
December [2] 1/12 97/11
decision [7] 21/10 28/13 28/18 48/4 48/7 59/5 87/4
declare [1] 90/16
declining [1] 59/12
deemed [1] 81/3
deep [1] 64/16
deer [1] 24/6
defects [2] 23/7 80/14
Defense [3] 36/7 59/20 67/20
define [1] 48/24
defined [3] 28/3 48/2 49/18
defines [1] 23/16
degree [1] 59/2
Delagarza [3] 16/10 16/13 17/19
delay [1] 66/10
delayed [1] 67/1
delays [2] 49/18 74/17
deliberately [1] 60/21
demand [1] 53/4
demonstrate [1] 41/7
demonstrates [1] 28/13
denial [2] 19/1 48/10
denied [2] 48/14 65/12
Dennis [1] 57/10
deny [3] 21/15 21/16 48/6
Denzer [2] 40/13 42/13
department [14] 1/10 1/20 2/23 28/10 28/12 34/8 34/18 34/19 36/23 48/12 60/1 61/22 74/10 81/17
department's [1] 2/6
depending [1] 29/21
depends [1] 26/12
deplete [1] 90/7
depleted [1] 29/12
described [1] 49/17
describes [1] 38/15
deserve [3] 24/16 53/3 64/6
designed [1] 3/1
designee [1] 19/23
desire [1] 47/7
desperately [1] 83/12
despise [1] 65/11
destroyed [1] 91/23
destructive [2] 26/7 42/1
detailed [1] 40/8
determine [2] 9/25 32/25
determined [1] 10/8
determining [2] 45/17 87/23
deterrent [1] 51/22
developed [1] 74/3
Development [2] 73/3 73/6
developments [1] 82/25
dew [1] 92/6
diagnostics [1] 38/22
Diakoonta [1] 44/4
Dick [3] 16/8 16/8 16/8
dictates [1] 3/13
differences [1] 85/1
different [1] 22/12
difficult [1] 21/6
dilapidated [1] 88/9
diligently [1] 35/15
diminution [1] 28/17
direct [2] 61/16 78/15
directed [2] 30/2 47/22
direction [4] 36/3 85/13 85/16 97/8
directional [1] 55/3
directly [1] 17/5
director [2] 2/3 19/22
disaster [1] 26/12
disasters [1] 57/16
discharge [1] 8/20
disclose [2] 79/20 83/6
disclosed [2] 49/8 61/12
disclosure [10] 22/16 38/8 38/9 38/11 38/25 39/12 40/6 61/10 95/20 96/7
discretion [5] 9/16 22/2 45/11 61/15 78/18
discuss [1] 3/25
discussing [1] 47/13
discussion [1] 64/2
disguise [1] 65/15
Dish [1] 80/22
disposal [5] 29/2 54/8 54/10 56/12 64/16
disproportionately [1] 59/6
disregard [2] 12/8 87/3
disruption [1] 90/8
distinguish [1] 49/11
distinguished [1] 37/25
distress [1] 79/8
distressed [1] 87/2
district [2] 74/5 75/4
districts [2] 78/12 78/12
diverse [1] 3/4
Dixon [1] 89/6
DNR [23] 18/20 19/23 22/6 27/10 27/20 28/5 29/21 30/2 30/10 46/13 48/5 48/9 49/3 49/4 49/25 54/19 56/23 58/3 60/10 60/18 60/21 60/25 61/1
DNR's [6] 20/4 22/2 27/22 28/18 60/5 63/9
Doctor [1] 11/13
document [3] 69/16 69/17 84/2
documented [1] 80/19
documenting [1] 11/8
documents [1] 21/4
does [13] 6/21 10/11 21/15 24/18 24/19 36/21 49/11 54/1 65/13 74/15 76/11 78/4 94/25
doesn't [6] 19/12 21/6 68/3 77/6 79/20 87/21
doing [8] 3/8 34/24 37/6 46/11 72/19 84/22 84/23 93/17
dollar [1] 20/11
dollars [1] 46/10
domestic [1] 30/8
Donoghue [4] 59/15 65/21 65/23 68/18
dooped [1] 37/11
door [1] 63/4
doubt [1] 66/19
Doug [1] 2/11
down [22] 6/7 7/21 13/10 33/22 36/19 43/2 43/8 43/11 44/9 44/10 61/2 65/9 70/14 72/10 77/11 85/11 85/14 91/3 91/4 91/23 92/23 97/6
downstream [1] 84/23
dozen [1] 14/22
Dr [2] 7/25 26/3
Dr. [1] 86/11
Dr. Sherry [1] 86/11
draft [12] 3/16 3/18 4/24 8/11 59/24 60/5 61/14 62/2 62/11 62/20 63/2 63/9
drafted [1] 3/12
draw [2] 3/14 5/8
dream [2] 52/15 86/15
drill [3] 71/18 89/14 90/12
drilling [9] 14/23 70/18 71/15 73/16 80/20 80/25 81/12 89/17 91/15
drink [1] 69/22
drinking [2] 58/1 76/12
drive [1] 24/11
drought [2] 58/19 68/5
drove [1] 90/24
due [1] 4/13
Duke [1] 81/21
during [13] 9/24 13/25 14/23 16/21 21/23 38/6 38/16 53/15 56/16 61/17 67/17 73/15 84/13
duty [1] 68/24
dwindling [1] 41/14

E

each [7] 5/4 5/20 5/22 58/20 74/9 79/1 85/14
Eagle [2] 40/16 68/23
earlier [1] 88/4
early [2] 15/11 56/16
earn [3] 36/16 37/9 64/6
earth [5] 53/2 81/13 82/2 82/5 92/5
earthquake [16] 19/12 31/7 33/4 33/14 33/19 33/20 33/20 33/21 33/25 44/2 44/11 51/12 51/19 51/25 58/8 58/10
earthquakes [13] 12/13 19/11 22/19 25/12 33/10 43/1 44/1 51/16 51/25 58/12 64/9 64/10 69/14
eastern [1] 23/15
easy [1] 20/9
economic [3] 11/2 11/9 65/3
economy [4] 47/1 70/24 70/25 71/4
Ed [3] 65/20 70/15 70/22
edge [1] 86/14
education [1] 39/18
Edward [1] 15/6
Edwardsville [1] 44/18
EF4 [1] 26/16
effect [2] 73/17 74/13
effective [1] 9/9
effects [1] 80/20
efficiently [1] 71/21
Effingham [1] 16/24
effluents [1] 76/16
effort [1] 15/21
Egypt [1] 86/13
eight [1] 12/20
either [4] 9/21 33/7 61/16 69/10
elevated [1] 81/1
elsewhere [1] 32/16
emergencies [3] 9/23 39/21 61/19
emergency [8] 9/2 38/14 39/9 55/19 61/9 61/13 61/13 61/20
emission [1] 9/10
emissions [1] 9/10
emitted [1] 9/8
emotion [1] 82/6
employ [1] 47/15
employment [1] 64/6
encourage [1] 52/23
encumbered [1] 38/11
end [5] 7/1 38/18 53/14 65/5 77/1
endanger [2] 68/8 68/9
energies [1] 82/18
energy [10] 41/16 41/17 41/21 42/1 65/1 65/4 70/7 80/2 82/24 87/23
enforce [3] 2/21 54/17 92/20
enforcement [3] 8/13 95/21 96/9
engage [1] 16/19
engaged [1] 17/11
engineer [2] 77/23 83/16
engineers [2] 47/16 77/24
engines [1] 72/19
engulfed [1] 91/12
enjoy [1] 86/16
enormous [1] 60/16
enough [4] 17/4 25/9 58/21 90/17
ensure [3] 63/11 73/23 90/18
ensures [1] 74/17
entire [3] 24/10 55/11 92/16
entities [2] 45/20 51/4
entity [1] 61/21
entrust [1] 18/4
enumerates [1] 46/2
environment [13] 11/9 27/18 44/23 48/17 50/20 50/22 61/3 67/24 68/25 83/9 88/3 90/19 91/20
environmental [16] 10/22 13/15 22/3 47/16 47/25 54/5 54/6 57/16 59/18 59/19 59/21 60/8 63/7 80/16 81/18 82/4
environmentalist [1] 34/14
Environmentalists [1] 57/12
environmentally [2] 4/8 47/8
EPA [9] 32/1 54/7 59/8 66/9 66/14 66/15 67/2 81/22 82/10
equal [2] 64/24 64/25
equals [1] 64/4
equipment [1] 32/17
equivalency [1] 54/25
escape [1] 31/11
especially [3] 12/10 12/12 38/13
essential [1] 45/17
essentially [1] 45/11
establish [1] 43/10
established [4] 14/2 14/18 33/12 75/3
establishing [1] 83/21
establishment [1] 73/20
estimate [1] 93/21
et [4] 74/6 74/6 74/19 74/19
etc [1] 89/18
ethical [1] 68/24
even [14] 12/14 20/7 20/23 22/4 25/8 26/10 35/17 51/12 54/15 58/23 59/9 73/17 74/16 82/1
evening [5] 1/19 1/22 34/4 44/17 77/20
event [3] 13/3 26/13 75/15
eventually [1] 70/8
ever [1] 66/25
every [12] 5/13 15/3 15/15 15/25 17/22 21/7 26/5 34/20 35/1 36/14 78/19 79/1
everybody [8] 1/17 5/5 6/18 7/2 72/5 72/6 93/7 95/24
everyone [3] 17/11 49/25 77/4
everything [3] 6/7 20/19 77/5
everything's [1] 76/21
evidence [7] 19/7 21/1 48/8 51/10 52/12 66/13 66/17
exactly [1] 93/24
example [3] 32/15 60/13 89/21
examples [2] 45/2 56/3
exceed [1] 32/11
exceeds [1] 32/14
exceptions [1] 31/7
excess [1] 32/7
exclude [2] 55/21 62/12
excluded [1] 55/3
Excludes [1] 62/8
excuse [2] 29/5 42/10
excuses [1] 20/9
executed [2] 75/2 78/21
exempt [1] 62/11
Exempting [1] 10/4
exercise [1] 74/17
existing [3] 10/5 54/21 62/12
exorbitant [1] 52/1
expanding [1] 90/6
expected [1] 28/20
expecting [1] 77/5
expects [1] 4/22
Expelled [1] 88/8
experienced [1] 26/4
experiment [1] 19/16
Expert [1] 12/17
expertise [1] 37/17
explicitly [3] 27/15 27/19 28/7
exploit [2] 24/11 53/2
exploitation [1] 59/5
explosive [3] 12/11 29/12 69/12
exposed [4] 10/1 23/7 32/13 82/13
exposure [1] 31/14
express [4] 3/10 3/22 22/22 30/13
expressed [2] 19/19 46/22
extend [5] 12/7 12/16 40/23 53/13 69/8
extending [1] 53/12
extensive [1] 63/8
extra [2] 5/13 94/23
extraction [3] 24/12 24/17 87/24
extreme [2] 24/12 24/16
extremely [2] 50/20 80/3
eye [1] 67/6
eyes [2] 65/8 65/10

F

F-E-R-D-I-N-A-N-D [1] 34/6
F-I-O-R-I-N-O [1] 11/16
face [1] 20/1
facilitate [1] 40/6
facing [1] 22/1
fact [5] 5/10 15/20 60/5 77/7 80/5
factor [1] 54/25
fail [2] 46/7 60/7
failed [1] 58/23
failure [4] 8/17 10/12 40/5 75/12
fair [1] 64/7
Fairfield [1] 83/17
Faith [1] 59/19
fall [1] 92/7
falls [2] 29/24 89/9
false [2] 10/14 45/25
falsify [1] 10/15
families [1] 17/8
family [4] 17/2 39/14 40/7 67/4
family's [1] 40/3
fan [1] 72/3
far [14] 2/10 4/3 5/1 7/9 12/24 14/3 17/13 24/12 25/9 32/24 44/1 58/10 67/9 92/18
farmer [1] 86/23
farmland [2] 54/9 54/12
farther [1] 17/8
fashion [1] 47/8
fatal [1] 82/9
father [1] 94/6

F

father-in-law [1] 94/6
fault [3] 19/15 51/15 58/8
faults [2] 33/21 34/1
feasibility [1] 82/18
February [1] 30/3
February 1 [1] 30/3
fed [1] 36/15
federal [4] 32/24 71/16 74/13 76/8
feedback [1] 34/25
feel [9] 16/17 35/10 36/12 37/9 37/11 47/23 50/24 79/21 91/4
feeling [1] 47/19
fees [2] 10/9 10/13
feet [12] 12/3 12/19 13/1 14/2 14/4 41/3 55/11 62/15 69/5 76/15 89/2 89/3
fellow [1] 68/23
Ferdinand [3] 30/21 34/3 34/5
Ferne [1] 89/6
few [6] 7/3 47/22 77/10 89/11 94/12 94/15
fewer [1] 87/22
field [2] 32/20 63/19
fifth [2] 55/13 74/24
fight [1] 41/22
fighting [1] 42/14
filing [1] 4/21
filings [1] 21/7
filled [5] 5/4 5/5 26/9 94/13 94/17
fills [1] 76/15
final [3] 3/16 3/18 4/24
finally [5] 22/7 49/20 52/16 59/7 85/17
finals [1] 16/23
financial [1] 10/9
find [8] 21/2 28/12 31/8 48/12 66/6 73/10 77/16 84/8
fine [5] 10/17 10/21 20/7 45/25 46/9
fines [9] 19/20 19/24 20/6 44/25 51/19 55/15 59/1 95/21 96/9
finished [1] 7/4
Fiorino [3] 7/19 7/19 11/16
fire [1] 81/5
first [14] 7/24 18/12 19/4 20/18 29/24 35/23 38/10 38/16 41/17 45/4 52/8 54/21 83/19 88/14
firsthand [1] 47/3
fish [2] 24/7 43/3
five [3] 3/8 49/21 53/13
fixing [1] 54/20
flammable [1] 81/8
flare [1] 92/10
flares [1] 91/16
flaring [1] 22/17
flipside [1] 33/13
flourish [1] 24/5
flow [5] 38/13 38/15 51/17 65/13 73/15
flowback [10] 8/24 31/10 55/8 56/12 56/16 56/20 56/21 57/4 57/16 82/11
fluid [2] 26/9 56/11
fluids [10] 10/6 12/9 12/18 12/20 43/2 55/1 56/15 69/11 80/9 85/12
foam [1] 54/25
foams [1] 10/5
focus [5] 31/4 33/8 38/6 45/2 86/19
FOIA [1] 49/5
follow [5] 10/12 25/19 54/20 56/18 58/12
follow-up [1] 56/18
followed [1] 57/8
following [3] 51/24 90/3 93/24
follows [4] 27/23 28/9 75/1 93/24
fooled [1] 77/14
foot [4] 44/5 44/9 44/10 89/23
force [3] 46/14 46/15 65/11
foregoing [1] 97/8
foresaw [1] 8/7
forest [6] 43/15 50/17 86/14 88/22 91/9 92/4
forestry [1] 40/18
forests [1] 24/2
format [2] 5/1 33/7
former [1] 47/5
forth [1] 27/18
fortune [1] 47/9
forward [3] 66/16 67/14 68/2
fossil [4] 24/17 25/5 41/14 70/7
fouled [1] 10/23
found [9] 12/18 26/17 31/22 32/17 54/8 55/10 62/15 81/1 81/9
four [11] 5/12 6/3 6/18 21/14 28/14 32/4 39/5 86/2 86/4 86/8 95/22
Fourth [2] 48/23 55/9
frack [8] 15/21 19/9 19/13 26/9 58/20 66/11 66/18 89/15
fracked [4] 76/16 76/22 87/6 90/11
frackers [2] 62/5 62/19
fracking [91] 8/9 8/22 9/5 11/9 13/6 14/3 15/2 15/13 16/1 19/6 19/7 19/10 23/3 23/8 24/22 24/24 25/6 26/1 26/7 26/15 26/19 27/14 27/16 29/2 30/14 33/9 33/16 33/19 33/23 34/16 35/24 41/1 41/6 42/15 43/2 44/10 45/21 51/11 52/1 52/19 52/25 53/24 54/2 54/3 54/7 54/10 54/10 54/22 55/1 55/2 55/3 56/15 57/25 58/21 59/23 60/9 60/17 61/21 62/9 62/13 62/16 62/16 62/17 63/5 64/4 64/16 64/24 64/25 66/15 66/22 67/1 67/8 67/14 70/4 71/24 72/5 76/11 76/14 77/7 77/9 77/11 84/24 84/25 85/12 87/7 87/18 88/11 88/19 89/12 90/5 91/2
fracting [1] 60/4
fractures [1] 12/16
fracturing [46] 1/25 2/16 2/18 3/11 3/20 3/23 4/1 8/6 12/11 14/10 17/6 27/24 28/11 28/14 29/10 29/13 30/5 40/22 44/21 46/4 48/22 54/16 56/11 56/12 57/22 58/11 60/2 63/12 63/22 69/12 70/18 73/14 73/16 74/8 78/7 79/17 79/17 80/2 80/9 80/22 81/7 81/11 81/16 82/11 83/4 95/14
fragrance [1] 92/9
France [1] 70/5
frequent [1] 19/11
frequently [2] 19/22 62/7
fresh [1] 8/20
friends [3] 13/14 22/12 91/7
front [2] 75/23 79/11
fuel [6] 9/11 24/17 24/22 25/5 41/14 92/1
fuels [1] 70/7
Fukushima [2] 59/8 59/9
full [4] 41/3 53/18 63/11 97/9
full-time [1] 53/18
fully [1] 4/22
further [8] 2/22 11/1 38/20 38/22 39/22 58/16 60/18 82/17
Furthermore [2] 41/5 51/23
future [10] 24/16 24/18 24/22 25/10 37/5 57/21 58/18 67/4 82/18 96/1

G

G-E-N-E-T [1] 18/9
Gabriel [3] 70/11 70/14 75/24
gag [1] 39/16
gagged [3] 39/17 43/19 43/22
gain [1] 65/14
gallons [1] 58/20
game [1] 21/19
gamma [1] 82/13
Garcia [3] 70/11 75/24 75/25
Garden [2] 23/18 89/25
gardener [1] 86/23
gas [27] 2/4 2/12 9/11 14/25 24/11 31/19 32/3 32/13 32/20 46/24 47/6 51/1 56/25 58/4 59/4 62/13 72/18 72/18 80/8 80/20 80/23 81/13 82/8 89/13 91/13 91/15 91/19
gasses [1] 10/6
gave [1] 2/20
GE [1] 72/19
gemasolar [1] 82/21
general [5] 2/15 30/8 35/12 47/19 66/7
generation [2] 46/23 57/21
generations [3] 25/11 37/5 77/10
Genet [1] 18/9
gentleman [1] 72/6
gentlemen [3] 4/10 70/1 83/20
gentlemen's [1] 63/17
geography [1] 87/6
Geological [2] 31/18 31/22
Geophysical [1] 22/18
Georgia [2] 16/9 17/19
geothermal [3] 41/21 82/19 82/22
Gerald [2] 79/10 83/15
gets [1] 90/10
getting [6] 6/22 21/13 35/16 70/6 71/5 77/12
Giant [1] 89/6
Gibson [1] 59/16
given [4] 20/25 40/24 45/13 79/23
gives [1] 60/20

G

giving [3] 7/2 10/14 10/15
gluttony [1] 25/5
Gods [2] 23/18 89/25
Golconda [1] 92/24
gone [5] 70/20 77/11 91/21 92/14 93/5
good [13] 1/19 6/22 14/17 15/21 18/4 34/4 37/6 38/17 44/17 47/20 54/1 64/6 77/20
Goreville [1] 86/13
government [5] 51/5 59/8 68/3 79/6 87/3
Governor [1] 2/16
gram [1] 32/11
grandfather's [1] 47/14
granted [2] 27/10 33/4
grassroots [1] 13/14
grave [1] 30/13
Gray [1] 1/11
great [4] 64/5 64/19 68/17 79/3
greater [3] 71/5 73/4 73/17
greatest [1] 71/5
greatly [2] 32/14 85/3
greed [1] 65/15
green [2] 10/15 31/2
greenhouse [1] 58/4
Greg [3] 75/25 76/2 77/21
gross [2] 57/18 58/3
ground [2] 44/5 66/23
groundwater [7] 10/23 31/10 45/8 45/14 83/22 84/10 84/10
group [5] 17/21 37/24 91/7 95/11 95/13
groups [3] 48/18 48/21 80/25
growing [2] 17/22 47/2
growth [4] 15/5 15/6 15/8 79/2
guarantee [2] 12/24 91/4
guaranteed [1] 88/2
guess [6] 5/5 18/19 24/14 61/21 86/23 94/10
guide [1] 42/19
guideline [1] 40/9
guidelines [2] 10/12 58/9
Gulf [2] 14/23 15/10
gust [1] 48/25
guys [1] 36/10

H

H-A-L-L-B-E-R-G [1] 73/2
H-A-M-I-S-O-N [1] 90/23
H-A-R-D-E-N-B-E-R-G-H [1] 37/23
H-I-C-K-S [1] 79/15
half [4] 12/17 38/5 88/18 90/25
Hallberg [2] 70/10 73/1
halt [1] 58/21
Hamison [1] 86/6
hamper [1] 74/15
hamster [1] 21/11
hand [5] 2/9 44/24 51/20 77/15 97/11
handle [1] 82/15
handwritten [1] 36/19
hang [1] 95/4
happen [4] 26/8 44/11 44/12 61/19
happened [2] 43/4 58/13
happening [2] 36/13 36/14
happens [2] 12/24 19/13
happiness [1] 70/1
hard [3] 25/19 36/8 43/10
Hardenbergh [2] 37/21 37/23
Hardenburgh [1] 35/3
Hardin [3] 23/14 23/21 24/3
hardly [1] 91/24
harm [2] 8/10 39/19
harmful [3] 26/14 26/19 88/6
harvest [1] 24/6
hasn't [2] 44/3 66/24
hasty [1] 60/24
have [133]
haven [1] 24/4
haven't [2] 33/5 93/15
having [3] 45/2 72/17 91/22
hazard [3] 48/16 48/20 82/11
hazardous [1] 80/6
health [34] 8/5 10/2 23/6 27/17 28/1 28/16 29/22 33/18 38/1 38/7 38/9 38/11 39/7 39/13 39/16 39/17 39/23 40/7 44/22 46/16 48/16 48/20 49/8 55/17 57/20 60/8 61/3 61/16 63/24 64/8 80/15 80/21 81/20 83/8
healthcare [1] 38/2
healthy [2] 69/25 88/3
hear [11] 1/17 3/17 4/4 7/12 23/10 42/8 86/10 91/3 92/24 93/20 95/14
heard [14] 3/5 23/9 23/17 24/21 35/24 48/15 88/4 88/4 93/15 95/6 95/11 95/12 95/18 95/22
hearing [19] 1/10 1/20 1/22 3/4 3/8 3/21 4/13 7/12 18/13 18/24 20/15 20/16 20/25 21/1 21/3 34/11 48/4 60/14 61/5
hearings [15] 3/15 14/1 16/16 16/18 17/5 17/11 17/14 20/14 20/21 23/11 53/12 53/13 60/12 60/15 63/2
heart [2] 23/6 80/14
heavy [1] 52/10
heckling [1] 72/7
held [1] 17/14
hell [1] 70/6
hello [4] 17/18 63/15 79/13 83/14
help [2] 61/12 89/19
helpful [2] 6/13 22/13
hereby [1] 97/5
hereunto [1] 97/10
Hey [1] 34/21
Hi [2] 7/25 50/7
Hicks [3] 76/1 79/13 79/14
hide [1] 65/11
high [15] 2/17 25/6 28/11 29/2 29/9 32/16 40/22 48/24 54/3 54/21 56/20 62/9 63/21 81/8 89/23
high-volume [1] 62/9
higher [4] 12/12 32/4 69/13 85/10
highly [3] 26/6 56/22 89/13
highway [3] 74/5 78/16 78/21
hike [1] 24/7
hilly [1] 91/9
Hippocratic [1] 39/18
hiring [1] 68/16
historical [2] 23/19 84/17
history [3] 20/5 26/5 51/16
hit [3] 26/2 26/7 26/15
hold [4] 6/20 15/18 18/13 81/25
holder [3] 9/24 38/20 55/18
holders [3] 46/16 61/17 63/5
holders' [1] 39/2
holding [1] 15/17
holds [1] 72/12
hole [1] 5/24
holiday [2] 16/22 60/13
holidays [3] 17/2 53/15 60/15
home [2] 50/15 86/15
homeland [1] 25/10
homeowner [1] 63/18
homeowner's [1] 52/1
homes [3] 44/12 90/19 91/24
honestly [1] 43/12
honeysuckle [1] 92/9
hope [3] 37/14 50/10 92/22
hopefully [5] 1/17 5/2 5/3 6/3 83/18
horizon [1] 90/1
horizontal [18] 2/18 11/23 12/6 12/10 27/14 27/16 27/24 28/11 29/16 30/5 30/14 41/1 55/1 63/22 69/8 69/11 70/18 72/10
horizontally [2] 12/16 89/16
horrible [2] 41/12 91/12
hotline [2] 38/24 39/2
hour [1] 90/25
hours [6] 9/24 37/17 38/17 38/20 60/16 61/17
house [2] 91/8 91/14
houses [3] 91/10 91/10 93/22
housing [2] 93/20 93/21
however [3] 45/19 64/1 64/7
huge [2] 62/1 91/13
hulls [1] 80/13
human [6] 10/24 19/17 23/5 25/11 30/8 65/15
hundred [1] 46/4
hundreds [3] 19/16 22/2 89/25
hunters [1] 24/6
husbandry [1] 10/25
HVHF [1] 17/23
hydraulic [39] 1/24 2/16 2/18 3/11 3/20 3/22 4/1 8/6 12/10 14/10 27/24 28/11 28/14 29/10 29/13 30/5 40/22 43/2 44/21 46/4 48/21 54/16 56/11 56/11 57/21 58/11 60/2 63/12 63/22 69/12 73/14 73/15 74/8 78/7 79/16 80/2 80/22 81/16 95/13
hydro [1] 71/23
hydrobolic [1] 58/7
hydrocarbons [2] 9/7 32/7
hydrological [1] 22/25
hydrologists [1] 47/16

I

I'd [2] 81/25 82/16
I'll [8] 5/22 5/25 6/23 16/4 35/25 38/6 44/13 84/1
I'm [65] 1/20 1/21 2/1 5/8 5/12 8/1 11/16 13/10 13/13 13/16 13/17 14/13 16/11 16/18 17/19 18/7 18/25 23/8 23/11 24/23 25/14 25/21 27/1

I

I'm... [42] 30/17 31/2 34/11 35/10 35/19 36/9 36/15 38/4 40/16 40/17 44/8 44/17 44/18 44/19 46/23 47/5 57/10 58/15 59/12 59/17 63/20 64/13 64/21 65/6 70/13 70/21 71/2 71/3 71/20 75/21 76/3 77/21 77/23 79/14 86/1 86/18 88/15 93/11 93/11 93/18 93/18 93/25
I've [17] 15/18 24/21 30/20 32/24 35/23 38/1 38/2 43/9 47/9 50/14 50/15 50/23 67/6 71/1 91/19 92/16 92/17
I75 [1] 63/21
idea [1] 3/20
identified [2] 80/8 80/12
identify [3] 46/9 61/18 80/10
ideology [1] 15/7
IDNR [31] 2/10 2/20 3/5 3/14 3/15 4/6 4/20 4/22 9/23 25/24 34/12 34/15 38/12 38/16 38/24 39/6 40/5 52/23 53/25 54/14 54/17 54/17 57/19 58/5 58/17 61/16 63/10 64/20 68/16 88/10 90/14
IDNR's [7] 2/8 61/14 62/2 62/11 62/20 63/2 78/24
ignore [1] 11/2
ILCS [4] 74/19 74/19 74/19 74/20
Illinois [116]
illness [2] 80/21 80/23
immediate [2] 2/8 9/25
immediately [3] 55/18 61/2 89/11
impact [6] 30/4 33/15 36/17 48/19 54/6 90/5
impacted [5] 62/19 74/4 78/15 78/21 91/1
impacts [1] 49/13
impartial [1] 51/4
implement [1] 60/1
implementation [1] 48/11
implementing [1] 45/9
implore [1] 70/3
imply [1] 81/23
important [3] 50/20 66/25 69/18
importing [1] 70/20
impose [1] 19/24
imposed [1] 60/18
impossible [3] 19/5 19/8 84/16
impression [1] 60/21
improve [1] 85/4
improved [2] 25/9 47/23
improvement [1] 22/15
improving [1] 71/10
Ina [1] 1/12
inability [1] 9/14
inaccessible [1] 24/11
inadequacies [1] 28/24
inadequate [4] 8/13 59/1 60/18 89/3
incentive [2] 10/9 11/1
inch [1] 76/20
incidence [1] 55/10
include [9] 8/17 8/17 25/25 33/25 46/15 55/11 56/18 61/8 80/3
included [6] 8/18 55/23 62/23 78/23 80/12 84/2
includes [1] 75/5
including [8] 17/2 19/1 45/12 51/16 59/18 70/5 74/18 75/17
income [1] 89/21
inconsistent [1] 28/21
increase [3] 30/9 64/17 68/6
increased [2] 51/11 55/16
independent [5] 9/9 9/20 46/14 51/2 53/1
Indiana [1] 47/11
indicator [2] 46/6 62/22
individually [1] 85/15
individuals [2] 2/1 14/1
industrialization [1] 25/1
industries [1] 50/19
industry [25] 9/13 10/2 20/5 20/11 22/7 24/11 36/20 37/10 37/12 43/7 43/22 45/22 46/24 47/4 47/6 51/2 51/4 51/5 52/3 67/23 76/14 77/8 82/8 93/14 95/20
industry's [3] 46/25 47/7 62/21
infamous [1] 81/4
infants [1] 23/7
infected [1] 39/10
influenced [3] 14/25 15/4 59/6
information [8] 10/14 38/13 38/15 49/7 61/11 61/15 64/21 83/10
informed [2] 39/19 52/8
infrastructure [4] 78/20 79/4 90/6 94/5
infrastructures [1] 79/7
infringes [1] 69/24
inhabitants [1] 53/6
inhibiting [1] 60/21
initial [1] 74/1
initiate [1] 15/2
inject [1] 72/10
injected [2] 52/9 88/7
injecting [1] 80/9
injection [3] 12/21 33/15 64/17
injury [2] 38/3 40/1
injustices [1] 39/24
input [3] 4/6 9/5 87/17
inside [1] 76/19
inspect [1] 93/16
inspections [2] 93/15 93/16
instance [1] 78/19
instant [1] 80/12
instead [4] 23/11 82/15 84/19 94/22
Institute [1] 81/19
instructor [1] 93/10
insurance [1] 51/25
insure [1] 4/7
integrity [2] 44/23 90/18
intend [1] 15/23
intended [2] 27/13 60/20
intent [1] 56/4
intention [1] 5/19
intentional [1] 87/12
intentions [1] 11/5
interest [3] 25/10 50/25 60/16
interested [5] 3/1 4/13 7/3 70/18 93/19
interesting [1] 82/7
internet [1] 20/20
intersection [1] 51/15
interview [1] 67/18
introduce [3] 2/1 6/6 42/11
Inventory [1] 76/9
investigate [1] 81/1
investigation [1] 66/7
investing [1] 41/18
investment [1] 70/8
involve [1] 82/3
involved [4] 50/1 59/4 80/21 83/6
involves [2] 12/11 81/12
involving [1] 58/24
is [230]
isn't [1] 39/1
issue [7] 14/8 16/15 28/10 84/18 85/6 95/21 96/9
issued [3] 55/14 74/10 74/14
issues [11] 21/5 22/16 23/5 48/3 51/9 51/20 52/7 73/19 73/23 80/15 90/4
it [99]
item [1] 75/1
its [13] 23/22 27/15 27/21 28/6 31/6 33/15 45/18 51/24 53/6 54/14 66/22 68/9 81/16
itself [4] 13/1 54/17 60/25 81/12

J

J-A-M-E-S [1] 44/18
J-E-N-E-T [1] 22/11
Jackson [2] 66/1 88/16
James [3] 40/13 44/16 44/18
Janet [2] 59/15 65/22
January [1] 53/14
Jenet [2] 22/10 22/11
Jim [1] 26/3
job [4] 6/20 37/6 64/19 83/21
jobs [10] 17/8 46/25 47/4 64/4 64/24 64/25 64/25 82/6 82/8 82/16
Johnson [4] 88/17 89/4 89/5 89/11
Jonathon [3] 70/10 70/11 73/1
Jones [4] 16/8 16/8 16/9 16/9
Journal [1] 22/18
June [1] 8/7
justice [1] 40/6

K

K-I-N-G-S-T-O-N [1] 46/20
K-R-I-S-T-Y [1] 90/22
Karen [5] 7/19 7/19 11/15 18/9 22/11
keep [3] 35/15 76/12 76/25
keeping [2] 86/20 86/21
keeps [1] 21/12
Ken [1] 1/11
Kentucky [1] 23/16
key [2] 61/7 90/7
kid [2] 71/7 72/13
killing [1] 43/3
kilometers [1] 12/21
kind [9] 6/23 15/11 24/9 25/19 47/12 68/4 90/1 91/8 93/17

K

kinds [1] 32/21
king [1] 65/9
Kingston [3] 44/16 46/20 50/3
knowing [3] 68/2 68/6 70/17
knowledge [3] 17/11 17/13 68/5
known [6] 12/8 12/12 23/18 46/7 52/11 60/8
knows [1] 56/23
Kristy [1] 86/6
Kyle [2] 44/16 46/19

L

L-U-C-I-A [1] 88/15
laboratory [1] 41/8
lack [5] 3/25 13/19 17/10 36/3 40/21
lacking [1] 25/23
Lake [2] 1/11 86/13
lakes [3] 9/15 45/6 50/18
land [15] 29/15 37/4 50/25 51/23 52/10 52/18 54/1 64/22 65/16 67/4 67/12 69/23 71/17 83/5 90/7
landmark [2] 89/8 89/10
landowner [3] 9/19 45/24 88/16
landowners [5] 9/12 9/14 29/15 45/10 69/23
lands [1] 30/5
landscapes [1] 90/12
language [3] 28/6 73/9 74/14
large [1] 57/16
larger [1] 72/12
largest [1] 89/21
last [13] 3/21 6/6 11/14 13/11 16/9 20/23 25/3 26/2 48/10 70/20 77/21 86/1 94/5
lastly [1] 68/1
late [2] 15/6 24/25
later [3] 49/6 49/21 84/20
law [23] 4/9 8/6 8/15 8/25 9/18 41/5 54/16 54/17 54/20 55/12 55/13 55/24 56/4 59/19 60/6 61/10 61/23 62/8 62/14 62/23 62/24 78/4 94/6
lawmakers [2] 18/2 18/3
laws [4] 18/4 32/24 49/5 74/13
lawsuit [1] 43/24
layer [1] 81/12
lead [5] 24/18 24/19 30/13 34/15 80/5
leaders [1] 59/4
leads [2] 10/24 15/15
League [1] 8/2
leak [1] 91/13
learned [2] 35/23 36/1
leased [1] 88/18
least [7] 12/19 14/22 27/11 31/8 52/24 53/14 94/5
leave [5] 11/14 16/2 17/1 30/19 95/3
leaves [1] 92/8
leaving [1] 62/5
leeway [1] 49/17
left [5] 2/3 2/5 15/17 61/21 72/21
leg [1] 12/6
legal [6] 2/6 2/8 31/2 38/3 81/3 88/1
legislation [4] 14/19 15/4 42/23 53/16
legislative [4] 2/10 27/12 28/19 28/22
legislators [2] 14/25 90/17
legislature [8] 11/6 27/9 27/13 27/22 28/8 28/9 30/2 30/3
legislature's [5] 27/9 27/11 28/4 28/5 28/22
legs [1] 69/8
length [1] 41/3
lengths [1] 11/23
less [2] 51/20 55/2
letter [1] 56/4
level [5] 32/1 32/10 32/14 32/22 57/7
levels [8] 31/20 31/24 32/2 32/15 32/16 56/20 81/1 81/8
liability [5] 8/22 31/11 38/4 40/1 62/14
liable [2] 45/25 81/25
liberty [1] 70/1
license [1] 18/3
lie [1] 67/9
lies [2] 62/18 65/14
life [20] 10/25 24/9 24/10 25/2 25/10 28/1 28/2 34/14 35/10 36/18 38/2 40/3 48/16 53/5 63/24 63/25 70/1 82/3 92/14 92/16
life-long [1] 34/14
lifelong [3] 52/15 53/20 86/11
lifestyle [2] 69/25 93/25
light [3] 10/15 29/9 68/5
lighting [1] 81/5
likely [4] 32/3 52/2 82/9 85/16
limit [6] 5/13 13/25 21/3 46/5 62/21 81/3
limitations [1] 4/14
limited [2] 5/12 39/23
limiting [3] 9/2 10/8 60/15
line [1] 14/12
lined [2] 6/1 61/25
lines [1] 19/15
linked [1] 80/14
links [1] 23/6
list [11] 8/19 20/9 21/15 21/21 39/8 46/2 46/5 55/12 62/22 79/18 79/22
listed [1] 20/21
listen [3] 2/2 4/11 72/4
listened [1] 93/5
listening [2] 25/12 93/6
lists [2] 21/14 90/3
liter [2] 31/25 32/5
little [10] 1/22 7/8 20/2 42/3 65/25 72/12 84/3 84/4 87/7 95/5
live [19] 14/5 15/23 17/8 23/24 23/24 24/8 37/14 50/8 51/14 67/11 80/23 83/16 87/18 87/25 90/23 90/24 91/24 92/3 93/3
liveable [2] 24/16 24/19
lived [5] 50/14 53/21 65/24 92/16 92/17
livelihood [3] 23/22 40/3 64/5
livelihoods [1] 90/19
lives [1] 91/23
livestock [1] 64/23
living [6] 14/1 18/5 36/17 37/9 43/16 64/6
local [6] 30/25 39/22 41/19 64/14 74/12 87/3
locals [1] 81/4
locate [1] 61/18
locating [2] 29/2 29/5
location [1] 39/2
lodge [1] 91/8
lodge-type [1] 91/8
logs [1] 71/11
long [8] 20/9 21/21 34/14 45/22 46/2 65/14 65/25 84/17
long-term [1] 65/14
longer [4] 8/25 40/8 43/23 62/4
looked [1] 67/6
looking [4] 33/11 35/25 66/4 89/24
loopholes [5] 8/12 8/16 44/25 46/8 54/16
loot [1] 36/12
lose [1] 41/23
loses [1] 20/11
loss [1] 80/14
lost [2] 5/2 54/12
lot [6] 16/20 31/3 42/15 43/5 43/11 72/17
Lotto [1] 7/18
love [3] 23/13 23/25 50/16
loved [1] 64/19
low [3] 32/22 55/16 57/7
lower [2] 9/10 82/17
lowering [2] 28/7 28/21
Lucia [3] 86/4 86/4 88/14
Luckily [1] 80/11
Luke [2] 18/9 25/18
lung [1] 82/12
Lusk [1] 89/10

M

M-A-R-T-E-L-L [1] 76/4
M-C-K-A-S-S-O-N [1] 53/11
M-U-S-T-R-A-N-G-E-L-O [1] 26/24
ma'am [8] 13/7 34/22 36/25 40/11 56/1 56/6 57/9 77/19
Madrid [2] 19/14 44/2
magnitude [2] 12/13 69/14
mailed [1] 95/17
maintain [2] 79/1 79/7
maintenance [8] 73/12 73/18 73/20 75/3 75/7 75/10 78/5 78/10
major [4] 19/14 58/8 66/14 84/4
majority [1] 47/7
Makanda [2] 11/17 76/4
makes [5] 11/2 44/22 64/11 66/25 74/9
making [8] 2/25 3/3 5/16 14/15 18/3 28/23 74/16 87/4
man [2] 2/9 72/8
management [14] 2/4 2/12 32/22 47/19 57/7 73/18 73/22 74/3 74/22 74/25 78/3 78/14 78/22 83/22
manager [1] 2/11
mandate [1] 10/11

M

mandates [1] 41/6
manmade [1] 72/11
manner [7] 4/8 27/25 28/15 38/13 40/4 63/23 75/13
many [31] 3/4 3/4 3/19 5/10 8/7 8/12 8/18 12/4 16/20 16/22 16/24 17/1 17/7 19/19 23/23 28/23 29/19 29/23 29/25 38/5 44/24 55/15 55/21 60/23 69/5 69/9 73/13 81/23 82/3 89/4 91/6
March [1] 42/21
Marilyn [2] 50/5 56/8
marine [2] 82/19 82/22
Marion [1] 77/22
Mark [2] 40/13 42/12
markets [1] 32/20
Martell [2] 75/25 76/3
Mary [2] 44/16 50/7
Massachusetts [1] 81/19
massive [2] 19/16 22/23
master [1] 79/18
material [2] 56/24 82/11
materials [1] 56/17
matters [1] 90/15
Matthew [4] 65/19 65/20 68/19 68/21
maximum [1] 32/1
may [16] 9/10 10/1 19/22 19/23 19/23 20/1 20/12 22/2 28/12 33/10 48/12 55/1 55/2 64/24 64/25 67/3
maybe [2] 30/19 85/13
McCormick [1] 13/10
McKasson [3] 50/4 53/9 53/11
McMac [1] 42/14
mean [1] 95/1
Meaning [1] 33/20
meaningful [4] 20/6 21/9 22/6 61/4
meaningfully [1] 60/11
meaningless [1] 45/1
means [6] 19/15 20/1 21/1 40/22 61/18 64/2
meant [1] 45/14
measure [1] 56/3
measurement [1] 85/11
measures [1] 25/25
mechanisms [1] 64/15
media [1] 42/15
mediation [1] 75/18
mediation/arbitration [1] 75/18
mediator [1] 75/19
mediator/arbitrator [1] 75/19
medical [2] 9/22 38/22
meet [2] 15/25 41/16
meeting [3] 1/23 70/17 92/23
member [2] 8/3 58/2
members [3] 3/9 21/19 80/24
mention [3] 54/3 67/22 69/15
meritable [1] 63/25
merits [2] 3/25 4/1
met [2] 67/7 67/10
metal [2] 32/13 32/20
metals [1] 52/10
methane [6] 22/17 58/1 58/4 81/8 81/10 81/12
methanol [2] 80/5 80/5
methods [2] 24/16 55/3
Metropolis [1] 92/24
Metropolitan [1] 73/7
Mexico [2] 14/23 15/10
mic [2] 11/18 18/14
Michael [3] 76/1 76/1 79/14
Michigan [1] 91/7
microphone [5] 5/3 5/20 5/23 5/23 7/23
mid [1] 64/18
mid-continent [1] 64/18
middle [1] 93/4
midwest [1] 25/4
might [1] 45/8
migrate [2] 12/20 81/13
migration [1] 12/9
mile [2] 12/17 89/15
miles [9] 12/7 12/15 12/21 26/17 40/23 69/9 88/17 90/24 92/21
millions [2] 51/21 58/20
Millstone [1] 89/8
mind [1] 76/24
mine [4] 18/20 21/20 32/15 93/13
miner [1] 93/9
minimum [1] 54/19
mining [1] 93/13
minute [5] 5/14 6/21 48/10 72/1 72/2
minutes [6] 5/12 6/18 7/4 86/4 94/12 94/23
missing [1] 31/5
mission [1] 36/22
Mississippi [1] 51/17
Mitch [1] 2/3
Mitchell [1] 95/10
mitigate [2] 41/4 69/13
mitigation [1] 69/10
moderator [1] 1/21
modification [1] 62/25
modifications [3] 55/22 55/23 63/3
moment's [1] 65/10
money [6] 43/23 51/6 59/4 69/24 77/11 77/17
monitor [1] 46/6
monitoring [19] 9/9 9/20 11/21 11/22 11/25 12/3 12/4 31/14 40/21 41/2 45/17 57/15 59/9 69/2 69/4 69/6 85/18 95/19 96/7
monopoly [1] 41/23
Monroe [1] 66/2
month [3] 38/5 84/13 93/23
months [5] 84/20 84/20 84/24 84/24 84/25
Mool [2] 2/5 2/7
moral [1] 68/24
moratorium [6] 52/25 58/16 68/12 68/12 70/3 88/11
Moreover [4] 31/22 32/6 45/24 60/10
morning [2] 92/2 92/6
most [22] 5/4 11/11 13/17 22/21 34/17 41/12 48/17 50/23 53/18 58/12 60/14 67/16 71/1 72/17 80/6 82/19 88/20 90/13 91/12 93/6 95/12 95/18
Mostly [1] 50/16
mother [2] 65/10 65/24
mothers [1] 23/7
motions [1] 21/13
move [2] 67/14 92/16
moving [2] 68/1 85/5
Mr [1] 22/9
Mr. [17] 2/7 16/9 16/13 17/17 18/10 25/16 30/23 34/2 40/14 42/6 44/16 50/3 63/14 72/25 75/24 79/9 79/13
Mr. Bearden [2] 40/14 42/6
Mr. Garcia [1] 75/24
Mr. Hicks [1] 79/13
Mr. James [1] 44/16
Mr. Jones [1] 16/9
Mr. Kingston [1] 50/3
Mr. Mool [1] 2/7
Mr. Reynolds [1] 18/10
Mr. Schall [2] 16/13 17/17
Mr. Schroeder [1] 25/16
Mr. Smothers [1] 79/9
Mr. Upton [1] 72/25
Mr. Whitney [2] 30/23 34/2
Mr. Wilson [1] 63/14
Ms [4] 22/10 37/20 53/9 88/12
Ms. [12] 7/18 7/23 16/13 34/3 35/8 37/21 50/6 53/8 56/7 65/21 68/18 86/8
Ms. Cook [1] 35/8
Ms. Delagarza [1] 16/13
Ms. Donoghue [2] 65/21 68/18
Ms. Ferdinand [1] 34/3
Ms. Hardenbergh [1] 37/21
Ms. Smerken [1] 56/7
Ms. Sullivan [1] 86/8
Ms. Swanson [2] 50/6 53/8
Ms. Tompkins [2] 7/18 7/23
Mt [1] 70/23
much [18] 8/25 16/4 17/8 35/23 36/6 38/2 40/8 41/14 44/14 46/5 62/21 68/14 72/20 75/20 83/21 84/6 85/23 96/2
multi [1] 20/10
multi-billon [1] 20/10
multiple [3] 8/7 20/1 82/25
municipal [2] 74/6 75/5
municipalities [1] 78/12
Murphysboro [1] 56/9
musician [2] 63/20 65/6
must [12] 19/24 21/9 38/18 38/19 38/21 41/2 41/7 54/19 56/4 57/3 61/20 78/22
Mustrangelo [3] 25/15 26/24 27/3
myself [5] 15/16 15/22 24/8 42/18 46/21
mysteriously [1] 85/21

N

name [32] 1/19 6/6 7/25 11/14 11/15 13/9 13/12 16/10 17/18 22/12 25/18 26/23 35/9 37/22 40/15 46/19 50/7 53/10 56/8 59/16 63/15 65/22 68/20 70/22 77/20 77/21 83/14 86/11 88/14 93/2 94/18 95/9
names [13] 5/6 5/8 5/22 6/8 16/8 18/8 25/15 30/17 30/21 42/12 50/4 75/22 86/2
narrow [1] 63/3
nation [1] 41/13
National [10] 33/12 36/7 43/15 67/19 76/8 88/22 89/7

N

National... [3] 89/8 89/8 90/2
native [2] 44/7 50/16
natural [28] 1/10 1/21 9/11 23/17 23/23 30/6 30/9 34/8 34/18 34/21 36/23 37/3 40/24 46/17 50/17 53/23 59/20 60/1 67/13 71/6 77/4 86/16 88/21 88/24 89/5 89/10 90/5 91/15
naturally [3] 56/17 56/23 81/10
nature [5] 24/4 58/7 89/2 89/3 89/17
NDA's [2] 49/2 49/5
near [6] 20/15 22/19 33/25 33/25 89/12 90/5
nearby [2] 87/16 89/5
nearly [1] 44/3
neat [1] 16/10
necessarily [1] 68/15
necessary [5] 2/23 28/12 48/12 60/3 61/12
need [21] 11/4 13/3 33/1 41/17 65/19 66/18 68/12 70/25 71/12 71/20 71/21 76/10 82/6 85/15 85/19 88/19 89/16 89/19 90/1 91/2 93/12
needed [6] 57/3 58/20 73/12 75/6 75/18 83/12
needlessly [1] 60/25
needs [6] 13/4 14/17 41/16 64/1 70/24 83/19
negative [4] 11/8 11/9 41/9 80/20
negligeable [1] 44/25
negligence [2] 57/19 58/4
negotiations [1] 75/17
neighborhood [1] 87/24
neighborhoods [1] 87/15
Nelson [2] 59/11 59/13
never [3] 49/14 94/10 94/18
new [13] 2/16 19/14 21/2 21/4 21/25 22/4 41/15 44/2 54/16 54/23 55/4 82/7 90/5
newspapers [1] 20/15
next [9] 2/6 5/15 13/8 38/19 41/11 45/15 80/19 80/23 89/23
nice [2] 91/8 91/11
Nick [1] 2/7
night [2] 61/20 90/9
Nirvana's [1] 20/17
nitrogen [1] 54/25
nobody [2] 43/12 85/22
noise [2] 29/9 84/15
non [2] 59/18 61/13
non-emergency [1] 61/13
non-profit [1] 59/18
noncompliance [1] 55/14
none [3] 14/15 66/21 67/24
nonemergency [1] 39/11
nonpermitted [1] 10/18
normal [1] 61/17
normally [1] 85/25
North [3] 1/11 71/13 90/11
northeastern [1] 91/7
not [112]
Notary [3] 97/4 97/6 97/16
note [2] 4/11 82/7
notes [1] 7/5
nothing [1] 37/11
notice [4] 4/22 55/22 62/24 63/1
notices [3] 20/14 20/16 35/16
notification [1] 87/14
notifications [1] 87/12
notifying [1] 87/25
notwithstanding [1] 60/16
November [4] 26/16 42/21 59/25 60/13
nowhere [1] 21/13
number [4] 5/9 6/13 71/14 85/2
numbers [1] 51/8
numerous [1] 44/22

O

oath [1] 39/18
obtain [1] 39/8
obviously [4] 41/10 49/12 64/3 89/2
occur [4] 2/19 27/14 38/15 73/18
occurred [1] 58/12
occurring [4] 45/18 56/17 56/24 81/10
occurs [2] 15/9 56/24
odors [1] 80/25
offer [1] 88/24
office [5] 2/4 2/6 2/8 2/11 39/24
officer [3] 1/20 34/11 48/3
official [1] 97/11
offshore [1] 14/23
often [2] 47/15 95/13
oftentimes [1] 40/23
oh [3] 36/6 36/20 91/15
Ohio [6] 22/20 23/16 43/4 47/11 58/13 71/19
oil [19] 2/4 2/12 14/24 24/10 31/19 32/13 32/19 46/23 47/6 51/1 51/4 59/4 70/21 71/14 72/17 82/8 83/19 89/13 91/19
oilfield [6] 31/23 32/4 47/14 54/8 94/6 94/7
old [1] 21/21
omissions [1] 28/24
once [5] 10/7 12/23 12/25 22/23 65/16
one [38] 3/8 5/3 6/4 6/21 9/19 13/17 16/23 16/24 16/25 22/20 25/3 25/6 34/20 36/7 36/15 36/20 38/6 38/23 48/17 51/10 51/16 52/4 56/16 59/23 60/14 61/25 67/16 69/15 69/17 72/6 75/14 77/15 82/4 84/4 85/6 89/20 89/23 93/21
ones [1] 71/8
ongoing [2] 33/16 60/12
online [3] 20/16 20/21 33/7
only [25] 2/17 9/6 10/8 10/23 20/23 20/25 21/14 28/13 31/7 31/9 31/10 33/17 40/25 47/10 48/4 52/20 53/4 56/15 56/16 61/25 67/3 82/4 87/25 88/17 88/23
open [7] 8/25 9/2 26/11 55/7 61/25 62/3 62/6
opened [1] 83/17
opening [2] 38/19 63/4
openness [1] 3/6
operate [1] 47/7
operating [1] 62/10
operation [7] 10/18 28/15 33/9 46/12 62/16 63/22 64/13
operations [11] 2/18 8/23 27/24 32/3 32/14 33/16 51/11 52/1 52/19 56/25 79/19
operator [3] 46/7 75/8 75/11
operators [1] 55/7
opinions [3] 3/4 3/22 46/22
opportunity [10] 3/2 13/16 13/19 21/4 27/7 49/25 53/7 61/4 68/15 68/22
oppose [2] 17/24 17/25
opposed [3] 3/20 48/18 91/5
opposite [1] 72/7
orchard [2] 86/24 89/7
order [4] 21/8 39/16 41/4 94/21
organic [1] 86/23
organization [5] 6/10 13/15 17/20 36/8 79/1
organizations [2] 59/18 67/23
original [1] 51/24
OSHA [2] 32/23 40/9
others [3] 29/25 31/4 32/12
otherwise [3] 6/15 55/2 62/17
ought [1] 40/2
our [80] 1/22 14/25 18/2 18/2 18/2 18/5 18/5 18/5 18/6 22/21 22/25 23/16 23/17 23/22 24/2 24/5 24/9 24/18 25/2 25/9 25/10 29/18 37/18 41/14 41/16 41/17 41/24 41/24 41/25 44/12 50/11 50/17 50/19 50/20 52/10 54/1 57/20 57/20 57/24 58/8 59/3 59/8 59/22 61/1 66/5 66/19 66/22 67/4 67/4 67/4 67/16 67/21 68/13 68/25 70/21 71/10 76/12 77/6 78/19 79/3 79/4 82/17 83/5 86/21 86/22 86/22 88/1 88/20 88/21 89/21 89/23 90/2 90/10 90/13 90/16 90/18 90/19 90/19 93/20 94/3
ourselves [2] 33/2 67/4
outcome [1] 21/10
outfitters [1] 43/11
outlawing [1] 58/6
outline [1] 75/16
outlined [1] 60/23
outlines [1] 26/18
outrage [1] 19/20
over [15] 26/17 26/20 41/24 46/4 54/11 60/12 61/15 62/23 65/25 80/18 84/14 88/18 90/25 96/1 96/6
overcome [1] 91/17
overindustrialized [1] 24/3
overly [1] 60/18
overreliance [1] 41/25
overwhelming [1] 83/11
owe [2] 67/3 68/3
own [2] 45/11 46/22
owned [1] 67/13
owner [1] 50/9

P

pads [1] 90/12
page [1] 14/9
paid [1] 53/18
pain [1] 65/13

P

panel [5] 7/5 36/21 68/17 95/12 95/22
panels [1] 41/19
pants [1] 22/7
paper [2] 64/15 64/19
paragraph [2] 14/10 74/1
parameters [1] 84/6
Park [3] 23/19 89/6 89/6
parks [2] 89/17 90/2
Parkway [1] 1/11
part [12] 4/23 9/2 10/6 15/10 31/8 33/5 37/2 41/11 53/22 74/23 78/22 86/21
participate [3] 3/2 60/11 87/23
participation [3] 19/3 21/5 60/22
particular [1] 24/9
particularly [1] 46/16
parties [1] 3/1
parts [1] 83/24
party [4] 31/2 41/8 45/12 75/19
pass [2] 19/13 71/22
passed [4] 2/15 8/6 11/6 72/16
passionate [1] 86/20
past [5] 20/4 20/19 21/24 85/25 86/3
patient [5] 10/1 38/17 39/10 40/2 61/13
patient's [2] 39/14 40/7
patients [1] 39/14
pattern [1] 58/12
pay [3] 22/3 37/15 37/19
PE [1] 85/20
peace [1] 23/25
peer [1] 81/20
peer-reviewed [1] 81/20
penalties [5] 19/2 19/22 20/5 22/3 55/14
penalty [1] 20/2
penetrate [1] 82/14
Pennsylvania [6] 11/10 43/4 47/11 81/4 81/17 91/19
people [44] 3/17 5/10 5/20 6/3 6/18 15/4 15/11 15/22 16/19 16/22 16/24 17/1 17/8 17/21 21/1 21/12 23/22 23/24 24/1 24/8 24/15 28/23 36/4 36/16 37/8 37/10 37/16 50/25 53/3 53/15 53/18 55/15 64/5 65/1 65/3 67/6 67/8 79/24 87/25 88/5 91/3 91/21 91/25 92/25
per [2] 31/25 32/11
Perceive [1] 65/9
percent [3] 70/20 70/21 71/24
percentage [1] 71/25
performing [1] 47/14
Perhaps [1] 23/16
period [11] 4/20 16/6 20/23 30/12 35/23 36/2 38/6 53/14 60/12 84/14 96/1
periods [1] 13/23
permanent [2] 57/24 82/4
permanently [1] 22/24
permission [1] 9/6
permit [25] 2/11 19/1 20/24 21/7 21/15 21/17 21/20 28/11 28/18 48/6 48/9 48/14 48/19 55/21 55/23 62/25 63/5 71/15 71/17 71/19 74/10 74/14 74/23 78/2 78/23
permits [9] 10/12 13/20 14/7 19/23 21/25 22/4 22/8 71/16 87/18
permitting [7] 9/4 10/20 13/22 21/23 74/15 87/5 87/13
perpetuation [1] 24/17
perplexing [1] 43/25
person [4] 5/25 14/5 67/7 86/1
personal [2] 38/3 40/1
personally [3] 47/10 85/22 93/9
personnel [3] 9/22 47/18 61/20
pertaining [1] 38/7
pertains [4] 11/21 48/13 78/2 88/19
PG [1] 85/20
pH [2] 44/4 85/13
phases [2] 27/23 63/21
phenomenal [1] 37/17
phrase [1] 48/15
pick [1] 84/13
picocuries [3] 31/25 32/5 32/11
pipes [6] 31/13 32/8 76/15 76/20 77/10 77/11
pirates [1] 36/12
pit [1] 26/11
pits [9] 8/25 9/3 32/9 55/7 61/25 62/3 62/7 71/7 71/9
place [16] 3/23 21/12 24/9 37/17 41/17 59/19 60/4 67/21 73/10 84/15 86/17 87/8 87/8 91/9 97/6 97/10
placed [1] 79/8
places [10] 17/14 23/18 23/20 23/25 25/3 27/19 43/5 43/14 43/14 43/15
Placing [1] 10/1
plan [7] 73/22 74/3 74/22 74/25 78/3 78/23 85/17
planet [4] 24/19 35/12 36/4 37/18
planning [7] 9/2 73/3 73/5 73/6 73/7 73/16 73/19
plans [2] 9/4 78/14
plant [2] 40/18 82/21
plants [1] 82/22
plates [1] 18/3
playground [1] 32/17
plea [1] 65/11
please [6] 6/6 7/11 7/15 59/3 79/11 86/5
plus [2] 12/19 92/17
poem [1] 65/7
point [10] 21/19 25/22 26/6 33/8 41/3 84/19 84/19 84/21 84/22 95/7
pointing [1] 66/13
poison [2] 38/14 77/1
poisoned [5] 52/19 64/22 64/22 64/23 76/22
poisoning [1] 34/20
policies [1] 68/16
Policy [1] 59/19
polite [1] 72/6
political [1] 59/4
pollutant [1] 80/6
polluted [2] 10/23 53/24
polluting [1] 46/9
pollution [13] 8/5 8/8 8/22 28/17 29/9 41/7 45/18 55/10 61/23 62/15 62/20 66/7 90/8
Pope [5] 13/10 90/24 91/2 92/17 92/24
population [1] 39/22
porch [3] 91/11 92/12 92/13
portion [1] 41/1
pose [3] 27/25 48/15 63/23
positive [3] 41/9 57/5 71/4
possible [3] 5/11 33/17 90/17
post [1] 20/16
posted [1] 20/14
potent [1] 58/4
potential [6] 8/10 30/4 30/9 49/17 58/24 82/23
potentially [5] 41/15 46/3 48/19 62/3 62/12
power [3] 41/24 82/22 87/4
powered [1] 72/19
practice [2] 19/9 58/6
practices [1] 47/19
precautions [1] 39/20
precious [4] 67/16 68/9 88/20 90/13
precipitates [1] 32/8
preferably [3] 74/1 74/4 74/7
preferred [1] 78/17
preparation [1] 45/5
prescribes [1] 45/6
present [5] 21/4 32/12 37/4 40/25 78/2
presentation [1] 39/9
presented [1] 21/1
presents [1] 38/17
preserve [1] 89/2
preserves [2] 89/4 89/17
president [1] 77/24
pressure [1] 76/17
presumes [1] 62/14
presumption [2] 8/21 55/9
pretty [2] 6/21 24/23
prevent [2] 28/16 55/14
prevents [1] 49/4
previous [2] 21/15 54/11
prick [1] 65/11
primary [1] 2/20
prime [1] 54/9
prior [2] 39/9 87/12
private [5] 9/12 9/14 45/12 45/20 61/21
probably [4] 3/20 4/2 37/2 92/15
problem [4] 35/16 41/24 56/18 77/15
problematic [1] 28/3
problems [7] 8/8 12/4 32/21 60/23 66/14 69/6 69/10
procedure [2] 3/1 38/15
procedures [3] 13/22 31/10 87/5
proceeding [1] 68/4
proceedings [5] 1/9 95/7 97/5 97/7 97/9
process [18] 2/25 3/3 4/7 4/23 10/20 21/8 21/23 50/1 61/2 62/10 74/15 75/18 77/4 78/2 81/11 81/17 83/6 87/12
processes [2] 63/1 63/4

P

produce [1] 55/8
produced [7] 9/7 26/9 31/12 31/23 32/3 32/6 57/4
product [1] 40/1
production [2] 71/14 80/23
professional [3] 38/9 49/8 83/15
professionals [6] 38/11 39/7 39/13 39/16 39/17 39/23
professors [1] 17/2
profit [1] 59/18
profitable [1] 46/12
profits [1] 51/21
profoundly [1] 10/25
program [1] 85/7
programs [1] 83/22
progress [2] 93/11 93/18
prohibited [2] 8/20 89/18
prohibitions [1] 89/1
projection [1] 23/2
projections [1] 23/3
promise [1] 9/24
promotion [1] 68/16
promptly [1] 63/11
prone [2] 33/20 51/12
pronounce [2] 26/25 27/2
proof [6] 41/7 48/25 49/23 62/18 62/21 83/11
propaganda [2] 24/21 64/4
properly [1] 78/19
property [6] 28/1 38/3 40/3 50/9 52/20 63/24
proponents [1] 66/15
propose [1] 74/15
proposed [60] 1/23 3/11 3/15 4/5 4/16 4/21 4/24 6/12 7/13 7/16 11/25 12/2 12/5 13/18 13/24 14/7 14/9 14/10 16/1 19/20 21/2 22/14 25/23 25/24 26/18 27/21 27/22 28/6 28/14 28/18 28/19 28/25 29/1 29/4 29/6 29/8 29/11 29/14 29/17 31/6 36/3 37/6 37/7 44/23 50/24 51/19 54/20 55/20 56/3 56/18 56/21 69/2 69/3 69/7 73/11 73/22 74/21 75/2 75/15 87/13
proprietary [1] 80/11
protect [21] 8/9 9/18 25/9 28/16 29/18 29/21 33/1 33/18 37/3 37/4 37/18 44/22 45/14 53/4 60/7 61/3 67/21 68/24 78/19 88/20 89/20
protected [1] 61/11
protecting [3] 50/20 54/1 90/2
protection [8] 13/3 27/17 31/16 36/3 54/5 80/16 81/18 88/24
protections [3] 8/14 60/4 81/25
protects [1] 51/5
protocols [1] 40/10
prove [4] 45/25 62/17 66/5 66/25
provide [7] 12/5 31/15 46/25 65/3 69/7 79/2 79/18
provided [4] 8/15 49/3 55/12 83/10
provides [4] 12/2 56/15 61/18 69/4
providing [5] 9/9 11/1 16/4 61/4 82/23
provision [3] 49/21 69/6 73/19
provisions [10] 2/21 8/13 9/20 12/5 44/22 45/1 74/11 75/6 75/10 79/5
public [66] 1/10 3/3 3/3 3/7 3/10 4/16 4/18 4/19 7/4 7/7 7/13 8/5 8/10 9/5 13/19 13/23 14/1 14/18 16/5 19/2 20/10 20/14 20/21 20/23 20/25 21/8 21/10 21/19 23/11 27/17 27/17 28/1 28/16 30/5 30/11 33/18 39/17 39/19 44/22 45/14 46/16 48/16 48/20 53/5 55/22 57/20 60/8 60/16 60/21 61/3 61/5 62/24 63/1 63/1 63/4 63/5 63/24 64/8 79/23 81/20 83/7 83/8 96/1 97/4 97/6 97/16
public's [1] 60/11
publicly [3] 49/9 61/2 79/21
published [8] 8/11 11/7 14/12 14/13 22/17 59/25 64/15 64/20
punished [1] 20/12
puny [1] 19/20
purchase [1] 52/17
pure [2] 65/16 86/22
purpose [4] 3/7 7/12 27/18 28/22
purposes [4] 2/24 27/11 27/12 28/4
pursuant [1] 13/21
pursuit [1] 70/1
put [11] 5/18 7/8 14/21 20/19 22/6 35/18 46/13 70/3 84/1 94/4 95/4
puts [1] 76/16
putting [2] 37/17 68/2

Q

Q-U-E-S-T-E-L-L-E [1] 93/3
Q-U-I-N-D-R-Y [1] 83/15
quaint [1] 24/1
quake [1] 52/13
quakes [1] 51/13
quality [15] 11/21 11/24 29/18 40/21 45/3 45/16 53/5 57/15 69/2 83/22 84/6 85/4 85/18 95/19 96/7
quantity [1] 29/18
Questelle [2] 86/6 93/3
question [4] 7/14 10/18 24/14 77/3
questions [1] 87/11
quick [1] 26/12
quicker [1] 71/13
quickly [2] 67/15 71/21
quiet [1] 23/25
Quindry [2] 79/10 83/15
quite [1] 81/5
quote [3] 15/6 26/3 88/5
quoting [1] 14/13

R

RACE [1] 57/11
Rachel [2] 7/18 8/1
rack [1] 22/2
radiation [3] 59/9 71/10 82/13
radio [2] 67/17 93/6
radioactive [11] 8/17 31/9 32/2 32/7 32/22 56/17 56/22 56/24 76/18 76/23 82/10
radioactivity [8] 29/7 31/14 32/10 32/16 56/20 57/5 57/7 57/17
radium [2] 31/21 31/24
radius [1] 13/1
radon [2] 31/22 58/1
railroads [1] 72/19
rain [2] 92/7 92/7
raise [1] 82/14
raised [1] 68/24
raising [1] 82/12
Randall [3] 86/6 86/7 93/2
ranging [1] 17/21
rape [1] 36/12
rather [6] 9/1 51/1 51/4 62/22 74/16 82/16
reach [1] 9/14
reaches [1] 49/14
read [4] 6/16 33/5 33/8 86/18
reads [1] 74/2
real [2] 57/20 71/4
realities [1] 87/5
really [17] 17/12 32/19 35/19 35/20 37/13 37/15 53/17 66/21 84/14 86/15 86/15 89/12 91/2 91/11 92/3 92/21 92/22
reason [4] 19/21 21/16 58/21 67/9
reasonable [1] 21/9
reasonably [1] 28/20
reasons [2] 12/16 21/15
receive [1] 22/4
received [1] 7/7
receives [1] 48/9
receiving [2] 47/12 95/16
recent [4] 8/11 11/11 23/6 68/5
recently [2] 58/13 69/20
reckless [1] 12/8
recognizes [1] 45/19
recommend [3] 73/25 74/7 74/25
recommendations [2] 22/14 30/4
recommended [1] 20/7
reconsider [1] 52/24
record [5] 14/18 18/2 28/13 54/1 84/17
recreation [1] 47/25
rectified [1] 56/5
recurrence [1] 39/21
recycled [1] 32/13
recycling [1] 56/12
redacted [2] 79/22 83/7
reduced [1] 20/8
reducing [2] 41/18 41/25
reference [1] 51/7
referring [1] 6/14
reflect [3] 11/5 11/11 60/3
reflecting [1] 8/2
Refuge [1] 89/7
regard [8] 3/22 4/5 7/10 7/13 33/10 57/21 58/4 96/9
regarding [1] 15/12
regardless [2] 14/5 62/9

R

regards [2] 1/23 87/14
region [4] 17/7 34/1 58/8 64/12
Regional [5] 57/11 73/3 73/4 73/5 73/7
regions [1] 79/3
register [1] 89/9
registered [1] 83/16
registration [2] 13/21 87/4
regulate [2] 48/21 58/23
regulated [1] 54/22
regulation [6] 10/4 14/17 21/16 45/5 45/10 68/11
regulations [30] 7/14 10/10 10/20 11/3 19/12 19/25 22/5 25/24 26/14 31/5 31/6 31/15 32/24 33/4 36/9 42/23 55/4 59/24 60/5 61/6 61/14 62/2 62/11 62/20 63/2 63/10 63/11 68/10 74/13 84/11
regulator [1] 47/5
regulatory [15] 1/25 2/16 8/6 11/6 14/11 17/24 17/25 27/9 27/19 45/19 47/17 60/2 63/13 79/17 84/18
regulatory -- we [1] 17/24
reimburse [4] 43/6 43/7 43/13 43/17
relate [1] 38/24
related [8] 3/10 40/4 40/8 40/9 51/20 95/13 95/19 96/8
relates [1] 6/11
relating [2] 1/24 16/16
relation [1] 8/4
relationship [1] 20/4
release [4] 49/13 49/14 57/25 58/5
released [3] 20/18 66/12 67/2
releasing [1] 49/4
relevant [1] 11/24
reliably [1] 19/7
relief [1] 26/12
relies [1] 23/21
relocated [1] 67/12
rely [2] 47/4 88/16
remainder [1] 23/10
remediation [1] 49/11
remedied [1] 39/3
remedy [3] 39/6 40/5 40/10
remember [4] 4/23 7/11 37/2 94/11
remind [1] 20/17
removed [3] 22/24 22/24 32/6
Renae [2] 30/22 35/9
Rend [1] 1/11
render [1] 44/25
rendered [1] 48/7
renewable [1] 82/24
rent [2] 42/20 93/22
rented [1] 91/8
repair [4] 73/12 75/10 75/13 78/5
repairs [1] 73/10
repeatedly [1] 81/15
replaced [1] 76/10
replicate [1] 39/21
report [7] 1/9 30/3 30/12 38/21 54/7 80/1 97/9
reported [1] 80/23
reporter [3] 6/7 42/4 97/7
reporting [1] 56/13
reports [3] 14/13 76/9 85/18
represent [1] 67/24
representative [1] 4/3
representatives [4] 9/13 45/21 46/15 67/18
represented [1] 67/25
representing [3] 35/10 73/2 77/23
request [2] 48/1 48/7
require [10] 29/14 55/5 57/6 62/4 63/4 74/11 78/14 78/20 79/5 79/20
required [7] 9/6 11/22 55/24 78/3 78/6 79/18 83/5
requirement [3] 20/16 45/20 45/22
requirements [9] 9/15 9/16 9/17 20/20 45/11 56/13 56/19 57/6 74/23
requires [4] 2/22 61/10 61/24 62/24
requiring [2] 9/1 9/22
research [7] 12/19 22/18 51/2 51/3 53/1 53/4 58/16
researcher [2] 38/2 64/14
researching [1] 58/15
reserves [1] 31/20
reside [2] 30/25 86/13
resident [5] 25/22 53/20 66/1 86/12 88/16
residents [7] 13/2 13/5 19/17 26/11 29/20 60/7 80/22
residing [2] 47/2 87/16
resist [1] 17/23
resistance [5] 15/21 15/25 17/20 42/16 50/13
resource [5] 2/12 41/19 68/9 88/20 90/13
resources [19] 1/10 1/21 2/4 9/18 24/12 34/8 34/19 34/21 36/23 37/3 46/17 50/17 59/20 60/1 67/16 67/19 71/6 71/6 86/16
respect [5] 28/4 31/9 33/3 33/18 40/9
respectful [1] 5/13
respite [1] 24/3
responded [1] 81/8
responding [2] 4/14 35/15
response [4] 3/12 9/25 26/12 61/9
responsibility [2] 34/17 47/20
responsible [3] 47/8 50/21 85/22
responsibly [1] 63/10
rest [3] 71/22 76/19 86/17
restoration [1] 49/18
restrictions [2] 21/5 49/18
result [3] 8/9 28/7 60/24
results [1] 41/9
rethink [1] 37/13
retiring [1] 52/16
returned [1] 51/24
reveal [1] 58/9
review [4] 7/5 55/22 63/1 95/15
reviewed [2] 50/23 81/20
reviewing [2] 4/16 95/25
reviews [1] 30/11
revise [1] 63/11
revising [1] 90/15
Revisions [1] 57/3
revocation [1] 10/11
revoke [1] 19/23
Reynolds [4] 16/10 18/10 18/11 22/9
rhetorical [1] 81/9
Rich [1] 30/24
Richard [1] 25/15
Richter [1] 58/11
ride [1] 24/5
ridiculously [1] 55/16
right [39] 2/9 2/9 2/10 4/25 5/18 6/8 7/24 16/14 17/16 18/22 18/23 25/17 30/20 35/7 36/16 36/17 36/18 37/8 37/21 40/13 40/14 44/15 49/5 50/5 69/23 69/24 69/25 72/24 76/2 76/2 79/12 86/7 86/8 87/1 88/6 89/23 91/16 91/17 93/4
right-hand [1] 2/9
right-to-know [1] 49/5
rights [3] 74/18 87/22 88/3
rigs [4] 14/23 89/23 90/1 90/13
risk [15] 12/8 12/12 13/5 28/1 28/2 29/3 52/5 53/1 57/15 63/24 69/13 79/4 82/3 82/12 82/14
risks [5] 41/4 46/7 60/8 64/8 64/8
river [6] 23/16 42/20 51/17 84/3 84/4 84/6
rivers [2] 9/15 52/12
road [11] 73/8 73/10 73/20 74/5 75/2 75/4 78/9 78/11 78/12 79/4 79/7
roads [4] 24/6 88/9 90/5 93/19
roadways [2] 73/12 78/6
Robert [3] 2/5 86/6 94/9
rock [3] 23/19 24/7 31/19
role [2] 35/4 39/18
room [1] 62/5
routes [1] 75/7
ruined [2] 86/25 90/13
rule [11] 2/25 3/2 6/11 6/13 14/14 38/14 39/10 47/23 61/1 86/18 90/1
rules [90] 1/24 2/23 3/12 3/14 3/16 4/3 4/6 4/7 4/17 4/21 4/24 6/12 7/10 7/16 7/16 8/12 8/14 11/4 11/10 11/25 12/2 12/5 13/19 13/24 14/9 14/11 14/19 15/19 19/20 21/11 22/14 25/8 25/23 26/13 26/18 27/10 28/6 28/25 29/1 29/4 29/6 29/8 29/11 29/14 29/17 38/7 39/4 44/24 45/9 45/19 46/1 46/5 46/14 50/24 51/3 51/8 52/24 53/16 54/15 54/20 54/23 55/4 55/5 55/20 56/3 56/18 56/21 57/3 57/5 67/20 69/3 69/3 69/7 71/8 73/11 73/23 74/13 78/13 78/20 87/2 87/14 87/20 88/20 89/16 89/19 90/16 90/17 92/18 92/19 95/14
ruling [1] 88/23
RUMA [3] 75/15 78/10 78/21
run [2] 60/5 70/8
running [2] 6/24 21/12

R

rural [9] 24/8 79/5 87/9 87/9 87/9 87/15 87/17 88/9 90/23 91/10
rush [2] 6/17 53/2
rustier [3] 77/12 77/12 77/13
rusts [3] 76/7 77/2 77/6

S

S-C-H-A-L-L [1] 16/14
S-C-H-R-O-E-D-E-R [1] 25/19
S-M-E-R-K-E-N [2] 50/5 56/9
S-M-O-T-H-E-R-S [1] 77/21
S-T-E-A-R-N-S [1] 13/13
S-W-A-N-S-O-N [1] 50/8
S.I.U [1] 25/22
Sabrina [2] 35/3 37/22
sacred [1] 34/17
sadly [1] 65/12
safe [11] 19/6 19/7 37/24 50/12 57/13 66/5 66/19 66/24 67/5 81/3 93/14
safeguard [1] 94/8
safeguarding [1] 27/16
safely [2] 24/5 48/22
safety [15] 25/25 26/11 27/17 28/16 29/22 29/22 30/13 33/18 53/5 64/9 66/22 67/16 90/18 94/3 94/6
said [17] 30/18 31/2 31/4 37/9 44/5 47/21 55/15 59/22 66/17 67/7 69/20 91/15 93/15 93/18 97/5 97/6 97/7
sake [1] 25/4
salt [3] 32/7 71/7 71/9
Sam [3] 7/21 7/21 13/9
same [13] 23/11 39/21 48/21 48/25 49/13 56/22 84/21 84/23 85/14 87/17 88/2 92/15 93/6
sample [3] 84/19 84/21 84/23
sampling [1] 9/21
Samuel [2] 35/5 40/15
sand [4] 71/25 72/11 72/12 76/16
SanDiego [1] 2/7
sanity [1] 65/12
Saudi [1] 72/16
saying [3] 44/8 67/23 71/20
scale [4] 31/13 32/8 57/16 58/11
scapes [1] 90/8
scarcity [1] 68/6
scarred [1] 90/12
scenario [2] 22/1 58/18
scenic [1] 90/2
Schall [3] 7/21 16/13 17/17
scheduled [1] 16/21
schedules [1] 38/12
scheduling [1] 60/12
school [4] 32/17 32/18 35/5 81/20
Schroeder [3] 18/9 25/16 25/19
science [2] 19/16 77/7
Sciences [1] 33/12
scientific [4] 11/7 11/11 14/19 54/6
scientists [3] 47/17 57/13 58/3
Scott [1] 40/16
Scout [2] 40/16 68/23
Scouts [1] 68/23
scrap [2] 32/13 32/20
screams [1] 65/13
screened [1] 92/12
scrutiny [1] 63/5
seal [1] 97/11
sealed [1] 9/1
seals [1] 76/19
season [2] 16/22 60/13
seat [3] 20/12 79/11 86/5
seats [2] 75/23 86/8
second [6] 4/21 5/14 5/23 30/20 54/24 87/22
second-class [1] 87/22
Secondly [1] 39/12
seconds [7] 6/23 34/21 40/11 55/25 63/6 72/22 83/2
secret [12] 9/24 10/2 38/9 38/10 38/20 38/24 39/2 39/8 55/18 61/11 61/17 79/22
secrets [6] 38/8 39/13 49/6 57/24 95/20 96/8
section [43] 6/12 6/13 11/24 12/1 13/23 16/15 19/1 19/21 20/13 20/22 21/14 27/8 27/20 27/20 27/21 27/22 27/23 28/5 28/10 28/18 40/8 45/15 47/24 48/3 48/13 48/23 49/6 49/11 49/19 56/10 56/14 57/1 63/21 66/6 69/3 73/10 73/21 74/9 79/16 79/20 85/9 87/4 88/25
sections [5] 15/18 19/1 22/13 47/22 81/23
sector [1] 38/3
security [1] 63/19
seek [1] 21/25
seems [3] 33/9 71/1 89/3
seen [5] 21/18 47/3 64/3 64/21 91/19
seismic [6] 19/14 22/21 29/3 30/9 58/7 64/18
seismicity [4] 22/15 57/15 95/21 96/10
seizures [1] 80/14
sell [1] 77/17
senator [1] 4/2
send [1] 38/5
sense [1] 11/2
sensitive [1] 58/7
separate [1] 76/25
separately [1] 37/25
September [1] 67/18
seq [2] 74/19 74/19
serious [2] 8/7 11/8
serve [3] 50/25 51/1 75/19
served [1] 31/1
service [2] 80/8 83/18
serving [1] 34/21
session [1] 7/15
set [4] 27/18 46/5 62/22 84/25
setback [4] 9/15 9/17 45/6 45/14
setbacks [1] 88/25
Sets [3] 10/13 10/17 10/21
setting [1] 10/9
seven [6] 34/10 48/4 48/7 49/16 82/8 87/9
Seventh [1] 55/20
several [5] 18/25 19/11 60/6 64/10 94/7
severe [3] 23/2 29/9 51/17
shale [5] 31/19 31/21 32/3 72/13 72/14
shall [8] 19/24 27/24 27/25 28/10 49/8 63/22 63/23 74/10
shape [1] 76/10
share [2] 61/15 63/20
Shawnee [5] 37/24 43/15 86/14 88/21 92/4
shed [1] 29/25
Sherry [2] 79/11 86/11
shift [1] 25/5
shines [1] 65/8
shocked [1] 66/21
shocking [1] 37/7
short [5] 25/4 25/4 29/24 65/14 65/14
short-sighted [1] 25/4
short-term [3] 25/4 65/14 65/14
shortages [1] 23/2
shorthand [2] 97/6 97/7
should [32] 4/2 11/11 11/22 12/14 14/6 17/25 18/17 20/20 30/17 33/23 37/2 45/24 46/7 46/15 47/23 54/22 54/24 55/5 55/11 55/16 55/17 55/23 57/6 66/11 78/16 78/18 83/5 83/9 83/10 84/22 88/10 90/4
Shouldn't [1] 87/16
show [2] 59/2 72/13
showed [1] 94/10
showing [1] 85/21
shown [3] 10/22 19/12 84/12
shows [4] 12/18 12/20 56/19 84/2
shuffled [2] 5/7 94/20
Shutt [1] 2/11
side [2] 5/21 65/6
Sierra [4] 36/6 37/25 38/1 67/19
sight [1] 76/24
sighted [1] 25/4
sign [1] 6/21
signature [1] 85/22
signed [2] 2/16 39/15
significant [15] 28/1 28/2 48/15 48/20 51/16 55/21 55/23 57/20 60/6 62/25 63/24 64/1 64/2 64/17 64/23
significantly [2] 63/3 85/10
silent [1] 87/14
similar [1] 49/5
simple [2] 41/14 70/9
since [10] 11/8 16/22 44/3 44/4 65/5 66/9 70/19 76/7 85/25 89/15
sincerely [1] 63/16
single [5] 22/18 26/5 77/6 84/19 85/2
sir [11] 13/6 13/7 13/12 27/5 30/20 44/16 59/10 59/14 72/8 72/22 94/17
sit [7] 8/25 17/25 62/3 75/23 86/3 86/4 92/12
site [17] 12/4 12/8 12/15 12/22 13/2 20/15 26/1 26/10 35/21 40/24 45/4 69/5 69/9 80/23 84/2 89/1 89/9
sites [5] 21/22 26/8 26/15 47/10 80/25
situation [2] 55/19 84/10

S

situations [1] 61/14
six [7] 14/10 34/10 49/10 55/17 76/7 84/20 84/24
size [3] 55/6 62/5 93/21
skies [1] 90/9
skin [2] 82/14 82/14
slap [1] 51/20
sleep [2] 92/12 92/13
slow [1] 61/2
slower [1] 42/3
sludge [1] 32/9
small [12] 24/2 42/19 43/10 46/11 47/3 71/25 82/1 84/7 84/7 84/9 86/24 96/10
smaller [2] 46/5 62/21
smell [4] 91/12 91/17 92/6 92/7
Smerken [2] 56/7 56/9
Smith [2] 13/14 89/7
Smothers [4] 76/1 76/2 77/21 79/9
so-called [1] 46/6
soil [8] 18/5 29/23 34/19 49/13 49/14 56/25 86/22 88/8
solar [2] 41/19 82/19
sold [1] 32/20
sole [2] 7/12 65/9
solidarity [2] 42/9 42/13
solution [1] 77/16
some [18] 6/23 14/22 15/11 21/18 26/4 26/5 41/12 45/1 50/11 52/6 56/2 63/20 64/8 68/4 80/11 81/3 83/18 90/1
somebody [3] 5/24 5/25 49/22
somehow [1] 46/7
someone [3] 43/21 88/4 88/5
something [6] 4/1 6/24 25/23 65/6 78/16 82/2
sorry [2] 27/1 64/21
sort [1] 15/9
sound [4] 4/8 14/17 18/21 90/8
source [6] 22/24 28/17 31/19 41/20 45/18 55/9
sources [8] 12/3 14/14 45/7 69/5 70/7 84/10 85/5 89/21
south [6] 17/20 42/25 50/13 73/2 87/9 90/24
southeastern [2] 17/7 73/5
southern [35] 15/2 15/12 15/16 15/22 15/23 17/21 18/1 23/15 25/1 29/20 31/23 33/22 35/11 40/18 43/8 47/1 50/10 50/14 51/1 51/14 53/21 53/23 65/24 66/12 67/25 70/22 70/24 86/12 86/16 88/21 89/20 89/22 90/14 90/20 92/17
Southwest [1] 73/6
Spain [1] 82/21
speak [14] 5/11 6/5 7/22 27/7 42/3 42/8 43/23 53/7 59/13 68/15 68/22 78/1 94/14 94/18
speaker [2] 5/15 5/15
speakers [3] 6/2 64/11 94/23
speaking [3] 8/1 44/19 59/17
species [1] 24/20
specific [9] 6/11 8/16 13/20 14/6 22/13 28/24 39/20 47/22 82/10
specifically [5] 11/21 13/23 17/6 51/9 69/1
specifies [1] 39/14
specify [1] 57/3
spell [3] 6/6 11/14 13/11
Spelled [1] 26/24
spend [1] 21/6
spill [2] 58/24 85/12
spills [2] 49/10 49/12
spirit [1] 3/5
sports [1] 32/18
spread [3] 12/24 26/14 26/19
spring [1] 67/13
springs [5] 13/14 45/6 45/7 89/7 89/8
squandering [1] 25/3
SS [1] 97/1
stadiums [1] 32/18
staff [2] 6/14 39/24
stage [1] 56/16
stake [2] 41/8 46/16
stamp [1] 85/20
stance [1] 25/6
stand [7] 22/7 23/1 42/8 42/13 42/18 42/19 66/23
standard [2] 28/7 28/21
standards [4] 33/1 33/11 54/22 56/19
start [4] 35/2 52/2 72/7 92/8
started [3] 1/25 30/16 35/25
starting [1] 72/18
state [33] 2/19 3/9 3/17 4/2 4/3 14/16 23/19 25/7 26/3 29/25 31/18 32/23 36/14 38/1 39/6 47/5 58/14 60/17 70/4 71/8 74/12 86/17 86/21 87/10 88/5 89/6 89/6 89/16 89/17 90/10 97/1 97/4 97/7
state's [1] 88/1
state-wide [1] 38/1
stated [3] 28/4 28/9 28/22
statement [7] 5/16 5/17 16/3 30/19 36/22 70/17 86/18
statements [1] 7/15
states [13] 14/11 20/22 27/23 43/19 49/7 55/13 69/19 70/19 71/4 71/22 76/7 83/8 89/1
station [1] 93/7
statistic [1] 85/9
statistical [1] 85/7
statistically [1] 85/10
status [1] 75/16
statute [3] 27/9 27/12 27/19
statutes [1] 74/18
statutorily [1] 49/4
statutory [1] 27/13
stay [1] 94/11
staying [1] 7/3
Stearns [2] 7/21 13/9
steel [8] 76/6 76/11 76/13 76/15 76/20 77/2 77/6 77/10
step [2] 15/25 29/24
sterile [1] 54/10
stewards [1] 50/21
stick [1] 6/17
stifled [1] 60/10
still [4] 22/4 33/5 67/15 77/11
stimulation [1] 47/13
stomp [2] 44/9 44/9
stomped [1] 44/4
stop [3] 44/10 72/4 94/22
storage [2] 9/1 56/12
stored [4] 26/10 52/9 61/24 88/7
strange [1] 80/24
stream [3] 43/2 52/18 84/20
streamlined [1] 48/2
streams [5] 9/15 52/12 84/5 84/7 84/9
street [2] 74/6 75/5
strictly [1] 46/22
strike [1] 26/1
striking [2] 73/25 74/7
strive [1] 78/25
strongly [3] 3/5 52/23 78/13
struck [1] 26/6
struggling [1] 47/3
student [4] 16/18 25/22 40/17 40/17
students [2] 16/23 17/3
studies [8] 11/7 14/13 19/11 31/17 54/6 81/18 81/19 81/21
study [14] 14/12 22/17 23/6 66/4 66/6 66/10 66/12 66/14 66/15 66/17 66/21 67/2 67/3 68/4
studying [1] 40/17
subjected [2] 19/15 60/25
subjects [1] 19/18
submit [1] 60/19
submitted [4] 75/15 84/2 85/19 85/20
submitting [2] 33/6 63/8
subpart [7] 13/21 38/7 45/4 45/16 56/10 74/24 75/14
subscribed [1] 97/11
subsection [6] 28/14 39/11 56/14 73/21 74/2 74/22
subsidizes [1] 51/6
substance [1] 38/21
substances [3] 39/20 80/4 88/7
substantial [2] 61/7 82/23
substantive [1] 61/1
such [21] 8/8 8/12 10/13 13/2 15/5 24/8 41/19 43/1 43/3 43/3 43/14 43/14 43/19 44/25 75/9 75/12 80/4 80/12 82/18 82/21 89/5
sudden [1] 91/12
sue [1] 43/18
sued [1] 43/21
suffering [1] 39/22
sufficiently [1] 60/7
suggesting [1] 80/8
suggestions [3] 4/5 7/13 37/15
Sullivan [3] 79/12 86/8 86/11
summaries [1] 7/6
summarize [2] 7/6 95/5
summary [2] 7/8 95/10
summer [3] 2/15 92/9 92/13
sun [1] 65/8
sunset [1] 49/21
supplemental [2] 75/6 75/9
supplies [2] 47/5 81/9
supply [2] 41/14 81/14
support [2] 65/4 79/2
supported [1] 3/5
supports [2] 50/19 74/16
supposed [2] 70/15 79/23

S

Supreme [1] 69/20
sure [3] 11/15 24/23 35/21
surety [1] 75/12
surface [2] 83/23 83/24
surrounding [2] 81/17 89/11
Survey [2] 31/18 31/22
suspicious [1] 35/19
sustainability [1] 18/5
sustainable [4] 15/9 24/18 65/1 65/4
swam [1] 71/7
Swanson [4] 44/16 50/6 50/8 53/8
swim [1] 24/7
system [7] 18/21 60/19 74/6 74/6 75/4 75/5 79/2
systems [1] 79/4

T

table [1] 10/24
tailings [1] 32/15
tainted [1] 8/18
taken [4] 1/10 95/8 97/5 97/6
takes [4] 71/14 71/18 71/18 72/7
taking [6] 5/14 6/7 33/13 35/4 84/19 84/21
talk [7] 5/6 16/12 23/1 35/2 72/8 83/23 85/10
talked [1] 72/5
talking [4] 7/2 44/7 69/16 93/25
talks [2] 5/25 77/8
Tamika [1] 59/16
tank [3] 55/6 62/5 62/6
tanks [4] 31/13 32/9 32/9 61/24
tap [1] 81/5
task [4] 19/5 19/8 46/14 46/15
tax [3] 39/23 51/6 79/6
technologies [1] 82/20
technology [4] 30/14 41/16 41/21 81/19
tell [12] 6/8 6/10 6/24 23/12 36/1 36/11 36/22 42/22 43/5 67/9 76/20 87/1
telling [2] 20/10 36/9
temporarily [1] 26/10
temporary [1] 52/24
temps [1] 65/10
ten [3] 12/20 55/25 63/6
term [8] 25/4 28/2 47/25 47/25 65/14 65/14 65/14 74/1
terms [2] 48/1 85/13
terrified [1] 91/5
test [2] 57/5 66/24
testify [1] 14/6
testimony [1] 12/17
testing [16] 9/16 9/17 11/22 12/2 12/6 12/14 13/4 22/16 31/9 41/2 41/7 45/21 56/15 56/19 69/4 69/7
tests [1] 81/21
Texas [6] 11/10 58/13 67/14 71/14 71/18 80/22
Texico [1] 79/15
thank [71] 11/12 11/13 13/6 13/7 16/1 17/16 18/6 18/7 18/12 22/9 25/12 25/13 26/21 26/22 27/6 30/15 34/1 34/2 34/13 34/16 34/22 35/22 37/19 37/20 40/12 42/5 42/6 42/7 44/15 46/17 46/18 49/25 50/3 53/6 53/8 53/12 56/5 56/6 57/8 57/9 59/10 59/14 65/16 65/18 68/14 68/18 68/22 70/9 72/23 72/24 75/19 75/21 77/19 79/8 79/9 83/12 83/13 85/23 85/24 88/12 90/20 90/21 92/25 93/1 94/8 94/9 95/6 95/24 96/2 96/3 96/10
thankful [1] 13/16
thanks [1] 18/23
Thanksgiving [1] 35/17
that [287]
The availability [1] 30/7
their [31] 3/10 7/2 7/5 9/16 10/6 24/11 29/22 29/22 29/22 37/17 39/9 39/18 39/24 43/16 45/11 59/5 60/19 67/7 67/12 69/23 74/17 79/19 81/5 82/12 87/24 88/7 88/9 90/11 91/23 91/23 95/24
themselves [1] 80/10
there's [31] 4/17 6/1 14/12 15/20 15/20 16/17 17/10 19/6 20/5 20/24 21/23 30/20 33/14 33/21 35/16 36/5 36/12 37/11 42/16 43/11 43/12 66/20 67/15 69/17 71/25 72/17 76/25 79/3 82/1 84/15 92/9
thereafter [1] 97/8
thereby [1] 60/7
therefore [4] 14/5 62/6 64/13 66/6
thereof [1] 40/21
thermosolar [1] 82/21
they'll [3] 3/18 4/15 77/18
They're [1] 77/17
they've [1] 7/9
thing [9] 15/5 18/8 35/15 36/20 69/16 85/14 93/12 93/15 93/17
things [9] 7/1 13/17 36/1 42/25 45/7 63/20 71/1 80/12 85/21
think [17] 5/3 15/4 37/1 37/5 46/4 50/5 53/9 58/23 63/25 70/11 70/23 83/20 85/3 88/3 88/4 88/10 94/2
third [4] 41/8 46/23 48/13 55/5
Thirty [1] 40/11
thorough [1] 54/5
though [3] 20/24 52/10 85/7
thought [1] 91/13
thousand [1] 46/10
thousands [4] 19/17 54/9 76/15 89/25
threat [1] 57/20
threatened [1] 24/10
three [3] 14/9 31/7 39/3
through [11] 3/3 6/2 13/22 21/12 33/5 33/6 36/1 53/16 79/3 91/21 91/22
throughout [4] 3/9 4/19 30/11 84/8
tightened [1] 11/4
time [32] 4/14 5/13 5/14 6/4 6/25 16/21 20/19 21/3 35/1 35/20 35/24 39/23 48/11 50/1 50/11 53/16 53/18 55/19 56/16 60/3 61/20 63/17 66/1 70/9 74/14 84/13 84/13 84/23 90/20 94/8 94/16 97/6
timely [3] 38/13 75/10 75/13
times [5] 31/25 32/4 81/3 82/8 82/9
tip [1] 23/15
today [7] 7/7 27/7 59/17 60/24 82/21 93/5 95/6
together [5] 7/8 18/16 44/6 44/8 46/13
told [3] 3/14 21/21 22/12
Tompkins [4] 7/18 7/18 7/23 8/1
tonight [15] 1/23 7/10 16/19 37/16 44/19 46/21 47/13 48/15 63/17 79/15 83/10 86/19 95/11 95/18 96/3
tonight's [1] 64/15
too [5] 6/10 7/23 24/25 37/14 96/9
took [3] 71/17 94/20 97/9
top [2] 79/24 95/22
tornado [4] 26/1 26/7 26/13 26/16
tornadoes [3] 26/2 26/4 26/6
total [2] 83/9 83/11
totally [1] 64/7
toto [1] 95/16
touch [3] 45/15 57/14 78/9
toughest [2] 68/10 68/11
tourism [6] 23/21 43/7 43/16 50/19 89/20 89/21
Tourists [1] 24/7
tours [1] 42/21
touts [1] 67/23
town [1] 17/1
towns [7] 24/2 47/4 87/8 87/13 87/15 87/18 87/25
township [3] 74/5 75/4 86/13
townships [1] 78/11
toxic [12] 12/9 38/21 39/20 40/24 46/2 68/2 69/11 76/18 76/23 80/4 81/2 81/13
toxicity [1] 86/25
toxins [1] 14/3
traced [1] 81/16
trade [18] 9/23 10/1 38/8 38/8 38/10 38/20 38/24 39/2 39/8 39/13 49/6 55/18 57/24 61/11 61/17 79/21 95/20 96/8
trade-secret-protected [1] 61/11
traffic [9] 73/15 73/18 73/22 74/2 74/22 74/25 78/2 78/14 78/22
transcribed [1] 97/8
transcript [1] 97/9
transcription [1] 97/8
transparency [3] 3/6 83/9 83/11
transport [1] 75/8
transportation [2] 56/13 79/2
transported [1] 88/8
trash [1] 65/16
travel [2] 14/3 29/16
traveled [1] 60/15
treat [2] 56/21 61/12
treated [1] 57/4

T

treating [2] 9/23 65/1
treatment [1] 38/22
tremendous [2] 76/17 84/15
tricks [1] 81/9
triggering [1] 22/19
triple [1] 93/21
Troop [1] 40/16
trouble [1] 36/11
truck [1] 58/24
true [4] 43/21 81/11 82/18 97/9
truly [2] 19/8 85/19
trust [3] 18/1 54/17 79/23
try [4] 5/21 37/18 50/21 84/1
trying [1] 16/19
turbines [1] 41/20
turkey [1] 24/6
turn [3] 6/5 24/25 52/6
turned [3] 35/2 65/8 91/23
turning [1] 34/23
Twenty [1] 72/22
two [30] 5/20 5/22 7/1 10/8 17/8 27/11 27/19 30/21 32/4 33/21 33/25 38/20 39/1 45/2 51/9 51/15 51/15 53/12 58/8 58/16 58/19 60/14 60/15 64/10 66/15 71/14 75/23 85/1 86/3 86/3
two-year [1] 58/16
type [6] 47/15 48/18 49/5 79/8 87/23 91/8
types [2] 62/12 63/3

U

U.S [5] 68/11 76/9 80/2 80/16 82/9
ultimate [1] 41/20
ultimately [1] 41/13
unable [1] 45/23
unacceptable [1] 61/19
unavailable [1] 52/2
uncertainty [1] 67/15
unclear [1] 39/10
under [17] 29/15 30/14 35/11 48/14 55/4 73/13 74/10 74/18 76/17 78/7 79/8 79/17 84/10 85/20 88/1 89/17 97/8
underestimate [1] 62/6
undergo [1] 62/25
underground [4] 12/9 68/3 76/15 92/21
underlying [1] 14/14
underneath [1] 89/14
understand [7] 43/20 46/1 46/10 58/14 64/5 70/6 72/9
understanding [2] 71/23 82/17
understands [1] 77/5
undertaking [2] 73/17 75/9
undone [2] 52/14 53/3
unexpectedly [1] 62/1
unhinge [1] 77/7
uninhabitable [1] 52/20
unintended [2] 15/13 15/24
union [6] 36/14 50/9 52/17 57/12 58/2 67/11
unit [1] 78/12
United [5] 69/19 70/19 71/4 71/22 76/7
University [1] 81/21
unless [3] 18/19 53/18 62/17
unlimited [3] 15/5 15/6 15/8
unsaleable [1] 52/21
unstable [1] 64/12
untested [1] 32/19
until [7] 38/19 52/25 66/11 66/12 66/18 67/5 68/12
unusual [1] 20/3
up [58] 2/2 3/14 3/18 4/2 5/9 6/1 6/3 6/21 7/9 10/9 11/5 12/7 12/16 12/20 15/1 16/3 22/2 22/7 23/5 34/23 35/14 36/10 36/15 42/16 42/17 47/2 56/3 56/18 58/10 62/1 66/18 69/9 69/16 70/15 72/6 72/16 75/23 75/24 75/25 76/2 77/1 79/10 79/11 79/24 83/17 84/1 84/16 85/21 86/5 86/7 86/8 91/14 92/2 94/4 94/10 94/20 95/3 95/11
upgrade [5] 73/12 73/20 75/3 78/5 78/10
upgrades [2] 75/6 75/9
upon [1] 4/20
upside [1] 91/23
upstream [1] 84/22
Upton [4] 65/20 70/15 70/22 72/25
uranium [5] 29/12 31/20 31/21 32/14 32/15
urge [7] 25/5 33/11 37/13 46/13 53/13 78/13 78/20
us [14] 6/8 6/10 7/20 18/4 21/18 26/5 29/23 31/22 41/23 50/21 68/3 71/22 91/12 93/6
usable [1] 86/22
usage [3] 22/23 24/17 90/6
use [16] 5/14 9/2 12/11 29/12 30/8 49/6 55/2 55/7 61/25 62/6 62/10 62/13 69/23 76/11 82/20 87/3
used [10] 14/14 19/17 29/13 55/1 57/25 58/22 79/19 79/25 80/3 80/6
uses [1] 19/22
USGS [1] 76/24
using [1] 69/12
usually [1] 94/22
utilize [1] 10/5
utilizing [1] 41/15

V

Valeri [2] 97/4 97/15
value [2] 47/25 68/7
variability [1] 84/5
various [2] 12/15 74/18
verbal [1] 6/23
verbatim [1] 27/21
Vernon [1] 70/23
version [2] 79/22 83/7
vertical [1] 40/25
very [21] 7/1 23/15 36/8 37/6 43/9 43/10 46/11 48/1 53/25 54/19 64/12 68/14 75/20 83/21 85/23 86/20 87/7 87/9 89/3 90/24 96/2
via [1] 49/5
vice [1] 77/24
view [3] 29/24 33/17 72/7
views [3] 3/10 8/2 90/2
villages [1] 47/4
vineyard [1] 86/24
vineyards [1] 89/24
violate [1] 10/10
violations [7] 10/7 10/13 20/1 21/16 21/21 21/22 22/3
vision [1] 80/14
visit [2] 17/2 24/1
visited [1] 89/13
Vito [2] 25/15 26/23
volume [9] 2/18 25/6 28/11 29/10 40/22 54/3 54/21 62/9 63/21
volumes [1] 62/1
Voters [1] 8/2

W

W-H-I-T-N-E-Y [1] 30/25
Wabash [4] 19/14 73/4 84/3 84/4
wade [1] 53/16
wait [8] 6/1 38/18 38/20 38/21 67/5 72/1 72/1 75/24
waits [1] 76/17
waive [5] 9/14 45/10 45/13 45/20 45/22
waived [1] 20/9
waiving [1] 20/5
walnut [1] 80/13
want [39] 3/24 5/6 5/10 6/8 6/9 6/16 6/17 6/17 11/14 15/17 16/2 18/19 20/17 30/19 32/19 35/22 36/21 44/9 49/24 49/24 53/22 57/14 64/5 64/25 69/1 78/1 78/9 85/21 86/3 86/19 86/25 89/12 89/22 93/25 94/2 94/11 95/3 95/4 95/10
wanted [2] 25/22 31/4
wanting [1] 35/20
wars [1] 42/17
was [38] 8/9 11/6 15/10 17/13 20/18 22/12 26/15 26/16 42/2 44/8 52/16 54/11 60/14 62/16 66/3 66/4 66/17 67/7 67/13 68/24 70/18 71/2 71/7 72/13 74/14 80/6 90/25 91/8 91/13 93/9 93/10 93/14 94/7 94/19 95/8 97/5 97/6 97/8
Washington [1] 26/15
waste [7] 26/19 32/22 53/24 54/2 54/3 54/10 57/7
wastewater [7] 8/24 22/19 61/24 62/1 62/3 64/16 76/18
watching [2] 21/7 79/24
water [98]
waters [1] 83/23
waterways [2] 50/18 90/7
way [12] 6/1 20/19 24/10 25/2 25/10 33/6 33/17 49/8 69/17 76/25 80/13 86/21
ways [1] 60/6
we've [4] 5/2 7/7 48/15 64/3
weak [3] 8/13 8/16 25/8
weaken [2] 8/14 54/18
Weakening [1] 8/21
wears [1] 65/15
web [1] 35/10
website [4] 4/17 35/14 66/3 95/17
week [3] 38/19 61/25 62/4
weekly [1] 38/18
Welch [1] 1/20

W

welcome [4] 3/24 6/16 50/9 59/23
wells [17] 2/17 9/5 10/5 10/18 14/2 29/2 33/15 41/1 45/6 47/12 52/12 54/22 62/8 62/9 62/12 64/17 92/10
went [5] 35/17 35/24 66/3 91/6 94/22
weren't [1] 17/9
wetlands [1] 50/18
whatever [2] 33/15 84/25
wheel [1] 21/11
WHEREOF [1] 97/10
wherewithal [1] 79/7
whether [6] 33/9 41/9 45/17 56/22 60/20 75/17
whistleblowers [1] 66/16
White [5] 47/2 54/11 73/8 86/6 94/9
Whitney [4] 25/15 30/23 30/24 34/2
whole [2] 9/18 72/15
wholly [2] 59/1 60/17
whose [1] 29/15
why [16] 2/14 10/19 17/25 18/4 32/16 32/21 39/1 40/7 46/6 58/14 58/17 67/14 70/6 77/3 82/2 87/13
wide [1] 38/1
WIIFM [1] 93/7
wild [2] 23/25 25/3
wilderness [2] 89/9 89/18
wildlife [5] 24/5 28/2 48/16 52/21 63/25
Williamson [3] 77/22 97/2 97/4
willing [1] 45/23
willingness [1] 60/3
Willow [1] 16/10
Wilson [3] 59/11 63/14 63/16
wind [3] 41/19 48/24 91/16
window [1] 20/24
windows [1] 48/10
wineries [1] 43/14
wish [1] 6/10
wishing [1] 15/12
within [11] 12/3 14/1 41/2 48/4 48/7 48/8 55/11 62/15 69/5 73/21 89/2
without [5] 9/5 14/17 18/18 66/18 73/19
WITNESS [1] 97/10
woefully [1] 29/24
woman [1] 68/17
Women [1] 8/2
won [1] 7/17
won't [1] 27/4
wonders [1] 23/23
Wood [2] 59/11 59/13
Woodlawn [1] 70/23
woods [1] 52/16
word [4] 19/22 19/24 31/8 33/4
worded [1] 55/21
words [7] 3/13 7/7 28/19 31/7 45/12 56/21 62/18
work [12] 5/2 18/9 34/12 37/10 37/12 38/12 47/10 63/19 65/2 65/2 77/5 85/17
worked [5] 14/22 38/2 43/9 66/16 92/14
worker [1] 94/7
workers [12] 31/14 32/12 55/17 61/12 61/16 82/12 82/12 82/15 93/17 94/3 94/6 94/8
workers' [2] 38/4 39/25
working [10] 5/20 11/19 18/15 33/5 35/21 36/8 37/16 46/24 94/3 95/9
works [1] 21/19
world [7] 24/4 36/14 41/13 72/16 82/20 82/24 92/20
worried [1] 93/8
worry [1] 76/22
worst [1] 26/4
wreck [1] 44/12
writing [2] 54/15 97/6
written [9] 5/17 8/9 16/3 16/5 30/18 63/8 70/16 87/21 95/2
wrong [1] 85/12

Y

Yeah [2] 34/9 70/13
year [4] 16/22 58/16 72/16 76/7
years [19] 10/8 20/18 20/19 26/2 34/14 49/21 50/15 53/22 54/11 58/19 65/25 70/20 91/6 92/15 92/17 93/9 93/13 93/14 94/7
Yes [5] 18/11 30/24 42/12 68/20 86/10
yet [4] 33/5 51/2 65/8 90/16
York [1] 82/7
you [256]
you'll [3] 15/25 77/17 84/8
Youngstown [1] 22/20
yourself [2] 6/6 42/11

Z

zero [1] 22/3
zone [1] 44/3
zones [7] 19/14 22/21 29/3 33/20 51/15 58/8 64/10