

**MINUTES OF THE MEETING
OF THE
ASSEMBLY COMMITTEE ON NATURAL RESOURCES, AGRICULTURE, AND
MINING**

**Seventy-Seventh Session
May 30, 2013**

The Committee on Natural Resources, Agriculture, and Mining was called to order by Chair Skip Daly at 2:06 p.m. on Thursday, May 30, 2013, in Room 3161 of the Legislative Building, 401 South Carson Street, Carson City, Nevada. The meeting was videoconferenced to Room 4401 of the Grant Sawyer State Office Building, 555 East Washington Avenue, Las Vegas, Nevada. Copies of the minutes, including the Agenda ([Exhibit A](#)), the Attendance Roster ([Exhibit B](#)), and other substantive exhibits, are available and on file in the Research Library of the Legislative Counsel Bureau and on the Nevada Legislature's website at nelis.leg.state.nv.us/77th2013. In addition, copies of the audio record may be purchased through the Legislative Counsel Bureau's Publications Office (email: publications@lcb.state.nv.us; telephone: 775-684-6835).

COMMITTEE MEMBERS PRESENT:

Assemblyman Skip Daly, Chair
Assemblyman Paul Aizley, Vice Chair
Assemblyman Paul Anderson
Assemblyman Richard Carrillo
Assemblywoman Lesley E. Cohen
Assemblyman John Ellison
Assemblyman Ira Hansen
Assemblyman James W. Healey
Assemblyman Pete Livermore
Assemblywoman Heidi Swank
Assemblyman Tyrone Thompson

COMMITTEE MEMBERS ABSENT:

Assemblyman Jim Wheeler (excused)

GUEST LEGISLATORS PRESENT:

Senator Tick Segerblom, Clark County Senatorial District No. 3

Minutes ID: 1335



STAFF MEMBERS PRESENT:

Amelie Welden, Committee Policy Analyst
Randy Stephenson, Committee Counsel
Cheryl Williams, Committee Secretary
Ashlynd Baker, Committee Assistant

OTHERS PRESENT:

Kyle Davis, representing Nevada Conservation League
Paul J. Enos, representing Noble Energy
Jerry Walker, representing Charter Post Exploration, LLC
Bill Ehni, Private Citizen, Carson City, Nevada
Alan R. Coyner, Administrator, Division of Minerals, Commission on
Mineral Resources
Colleen Cripps, Ph.D., Administrator, Division of Environmental
Protection, State Department of Conservation and Natural
Resources

Chair Daly:

[Roll was called.] We have one bill today, Senate Bill 390 (1st Reprint).

Senate Bill 390 (1st Reprint): Requires the development of a hydraulic fracturing program for the State of Nevada. (BDR 46-929)

Senator Tick Segerblom, Clark County Senatorial District No. 3:

This bill is very simple, but it starts the process to address what may become a problem. Hopefully, it will not become a problem. You have probably been approached by lobbyists during this session regarding the vast area south of Elko to explore for oil, particularly fracking for oil. Our number-one limited resource is water, and the concern arose that in letting these people come in to do fracking, we might be harming our water supply. This bill attempts to start the process of regulation so if fracking does come to Nevada, we will be on top of the situation and avoid a catastrophe.

We have two divisions in the state, the Division of Minerals and the Division of Environmental Protection, that will work collectively and collaboratively to develop the regulations. We have interests from the environment groups and the oil companies here who have agreed on the bill. At this point, it is basically just a start with everyone agreeing on where we need to go initially. As you know, that may change somewhere down the road, but at least for this session I think everyone is on the same page. I have the two gentlemen from the two interest groups here who can better explain what

the bill does and what it helps to accomplish. [Senator Segerblom also submitted a presentation ([Exhibit C](#)).]

Chair Daly:

Are there any questions from the Committee?

Assemblywoman Swank:

In section 1, subsection 1, paragraph (b) there is a disclosure of the chemicals used. It is nice to know, but would we be able to say they could not use certain chemicals or put some kind of restrictions on the chemicals?

Senator Segerblom:

That is something we would develop through the regulations. If you follow this around the country, many of the companies that do this have said their chemicals are proprietary, so they will not disclose them. That was one of the revolutionary things we at least got in the bill. We require them to disclose what they are putting in the ground. As this is developed all around the country and we begin to learn more about the chemicals, if there are bad chemicals, we would be able to prohibit them. However, that would be through the regulatory process, which this bill just starts.

Chair Daly:

Are there any further questions from the Committee? [There were none.] I have one question before we move forward, but it is probably one for Legal. [Chair Daly read sections 1 through 3 of the bill.] However, section 7 states, "Except as otherwise provided in section 1 of this act: 1. The Division has jurisdiction and authority over all persons and property" Why do we need an exception for developing regulations and things to assess?

Randy Stephenson, Committee Counsel:

Section 7 of the bill, *Nevada Revised Statutes* (NRS) 522.040, sets forth the authority of the Division of Minerals for the chapter and essentially gives the division exclusive jurisdiction to regulate under the chapter. Exception is needed in this case because in section 1 it states it is not just the Division of Minerals. It will be the Division of Minerals and the Division of Environmental Protection together. Section 7 is making it clear that there are no turf wars or overlap. It will be those two entities together.

Chair Daly:

That cleared it up for me. Thank you.

Senator Segerblom:

Currently, the surface waters are controlled by the Division of Environmental Protection. Underground water is controlled by the Division of Minerals. That will not change. I want to make it clear that this bill does not give jurisdiction for aboveground water to the Division of Minerals.

Assemblyman Carrillo:

Is hydraulic fracturing itself already a practice currently taking place in Nevada?

Senator Segerblom:

I do not believe it is for oil or gas. It may be happening for geothermal, but they have not started with oil or gas yet.

Assemblyman Carrillo:

If chemicals are being used, is it to create the environment for the fracturing to take place?

Senator Segerblom:

Yes. The material they inject underground to fracture contains not just water, but chemicals, which enhance the fracking. At the same time, when it comes in contact with the groundwater itself, it pollutes the groundwater.

Assemblyman Carrillo:

Are these chemicals already natural in our underground, or perhaps a chemical makeup of certain things that are already in existence underground?

Senator Segerblom:

They are chemicals, so probably. I think the problem is that many of them are not naturally there and they are toxic.

Chair Daly:

Are there any further questions from the Committee? [There were none.] I will open testimony in support of the bill.

Kyle Davis, representing Nevada Conservation League:

We are here today in support of Senate Bill 390 (1st Reprint) as amended. This has been a process and we have worked through this bill. It has changed significantly from the original form that was presented in the Senate Committee on Natural Resources. I do feel this is a good first step forward for our state in terms of dealing with issues that may arise from the practice of hydraulic fracturing.

Although there have been types of fracking that have occurred in our state and other states throughout history, with a lot of the new stuff that is going on now where they are finding new oil and gas, there are a lot of changes and different ways things are being done. We feel it is appropriate for our agencies to be out in front on this issue.

I think it is important to point out that what this bill does, specifically, is have the two agencies work together in developing these regulations, dealing with the water that is going into that well, and what impact that process has on the waters of the state. Any monitoring of ground and surface waters, as well as the regulation of flow-back water, remains under the jurisdiction of Environmental Protection. Nothing in the bill should be interpreted to change the existing authority that both the Division of Minerals and the Division of Environmental Protection currently have. This is just to try to deal with some of the new issues that are coming up as this process begins in our state.

We are supportive and think it is a good step forward in terms of dealing with this issue and making sure we are doing it in an environmentally responsible manner.

Chair Daly:

Are there any questions from the Committee? [There were none.]

Paul J. Enos, representing Noble Energy:

While I am CEO of the Nevada Trucking Association, today I am representing Noble Energy, which is a large independent oil exploration company based out of Houston, Texas. They have operations in Texas, Colorado, and Pennsylvania, and there are exploration areas they are looking at in Elko and Wells, Nevada.

Noble Energy is here today to support S.B. 390 (R1). We do believe it is a step in the right direction, having both the Division of Minerals and the Division of Environmental Protection work together to establish a program to make sure our groundwater is protected and to provide for chemical disclosure.

Noble Energy is already a full-disclosure company, even in places where they do not require chemical disclosure. They are a party to a group called FracFocus Chemical Disclosure Registry, which is a website owned by the Groundwater Protection Council, of which our Division of Environmental Protection is a member. They put the list of all the chemicals they use in the well during the fracking process on their website.

Assemblywoman Swank did have a question about the chemicals and how those are dealt with if they are proprietary. If it is a proprietary chemical, all the material safety data sheets are still kept. The material safety data sheets include what those chemicals are composed of, so you know how to deal with them, what their dangers are, and how to deal with them in a hazardous material situation. We are going to know what is going into the ground in the state of Nevada.

I do want to say, Noble Energy is still in the very early exploration process. They have not drilled any holes. We expect them to drill six to eight holes between now and the end of the year. Depending on what happens, they might find something worth fracking and they may not. What they are doing at this point is quite a gamble. They have currently invested \$40 million in the state of Nevada in seismic research and land acquisitions, in making sure when they do the exploration, it is done correctly, and they have reached out to all the stakeholders and landowners in the area. We are hopeful they will find something, but at this point, we do not know. We think having this program developed by both the Division of Environmental Protection and the Division of Minerals is a good first step, while having the Division of Minerals regulate the mineral-bearing formation. Mr. Davis is absolutely correct. This bill will do nothing to preclude any current authority that the Division of Environmental Protection already has on surface disturbance or air quality on any of the surface water or flow-back water.

Assemblywoman Swank:

I know we have talked about this before, Mr. Enos. I have a concern about what has been happening in Arkansas regarding fracking. About two years ago, there was what they call a swarm of earthquakes that suddenly stopped once the fracking stopped. Just last week, there was another swarm of earthquakes. We already have earthquakes in Nevada and I am concerned, should fracking start in Nevada, that we could end up with these swarms of earthquakes. Perhaps you could reassure me of how this would be different from what is happening in Arkansas.

Paul Enos:

There are people who are much more educated on this process, geologists and the regulators, who could answer that question much better than I can. However, I am told by the experts at Noble Energy, if you have drilling that occurs directly on a fault, yes, you can have earthquakes. I think they would say that is from a bad drill, from someone not doing it correctly. I would defer to the experts and the regulators in the room to answer that question more fully and properly.

Assemblyman Hansen:

In a way, we are talking about something that is almost a miracle. I am of the same generation as Assemblyman Daly and when we look back, there was a time when we were told that we were running out of energy in the United States. For most of my adult life, we have been totally at the mercy of the Middle East oil people. Yet, now, because of this amazing technology developed by American scientists and engineers and put in place by the free enterprise system and our business community, we are not only going to be completely energy independent, we are going to be an exporter of energy.

To me, this is a miracle. The people who are younger do not realize how significant of a development this really is.

I just want to tell Noble Energy and all those people out there how thankful I am for this kind of brilliance and the ability to develop these kinds of technologies. While I agree there needs to be regulations, we should be praising you for what you have done. The American industry you represent has literally removed us from the oil cartels. I just wanted to throw that out there and say thank you very much for what you are doing. It is really an amazing change in my lifetime.

Paul Enos:

Just a few years ago, we were talking about peak oil, and people were questioning, have we hit peak oil and when are we going to run out of the resources. In the trucking business, that was somewhat frightening. Everyone was scrambling and wondering what we were going to do next. That peak oil talk has gone away because of exploration and new technologies. We are hopeful that Nevada will be a part of that. When you look at how we get gas and oil today in our country, 90 percent of all of the wells in our country are hydraulically stimulated or fractured. This is something that has been occurring. Mr. Terry Graves, one of my contract lobbyists for the Nevada Trucking Association and also a representative of Noble Energy, told me they were fracking before 1947 in Kansas, where the first fracking activity is said to have taken place. This is something they have been doing, perfecting, and getting better at. I think you see that with many industries. The mining industry has gotten better with technology, and its members are better stewards of the environment. Noble Energy is doing the same thing.

Assemblyman Hansen:

Three cheers for the American entrepreneurial spirit and the free market.

Assemblyman Ellison:

I have been on many oil rigs through our company. Fracking is cleaner and better for the environment than what they used to do on the old oil rigs. I am

glad to see the way this bill is written now after the amendments. I think we have come a long way. I think this is going to be good for the environment, good for the state, and good for my county. Can you talk about conventional oil wells versus fracking?

Paul Enos:

There has been progress made with both hydraulic fracturing and also horizontal drilling. One of the things that can be done with horizontal drilling, which is something that has really helped revolutionize the hydraulic fracturing process, is the land is not dotted with a number of oil wells. There is much less surface disturbance. Drilling out from one wellhead does not damage the ecosystem on the land above. That is one of the things they have been able to accomplish through the use of technology and through the use of horizontal drilling. As I stated before, there are others here who can speak to the progress that has been made in this field and how it has helped extract this resource economically while being environmentally friendly.

Assemblyman Livermore:

Mr. Enos, my question is regarding the statement you made about Noble Energy drilling six to eight holes. Section 2 states the Commission on Mineral Resources shall adopt regulations to implement the hydraulic fracturing program. I know you cannot answer for them, but are you going to drill before or after the regulations? I think timing is everything. I would hate to see your rigs parked somewhere while you are waiting for regulations.

Paul Enos:

Noble Energy already has permits to drill. They have worked hand in hand with both the Division of Minerals and the Division of Environmental Protection. Noble Energy is also getting a hydraulic study done and contracting with the Desert Research Institute. We believe the regulations and practices that will be adopted from both the Division of Minerals and the Division of Environmental Protection will be best industry practices. That is how they are moving forward.

You are correct, timing is everything, but we do not see this bill as damaging. In fact, the Division of Minerals has already adopted a resolution providing for chemical disclosure. Noble Energy, at this juncture, is comfortable that they will be able to move forward in the time frame I have described. August of this year is what they are looking at with this bill passing.

Assemblyman Aizley:

Before everyone gets too excited about fracking, it is nice that we have found more oil and gas, but we are still going to run out. We cannot stop looking for

and developing renewable energies. Eventually, it will have to be done that way.

Assemblywoman Cohen:

Fracking requires a lot of water, correct?

Paul Enos:

It depends on what the definition of "a lot" is. From what I anticipate, the amount of water they are going to use in the hydraulic fracturing process to extract the minerals from the ground is about the same as you would require if you were going to build five single-family homes. That water oftentimes is recycled and used over and over again in different wells. We are very cognizant of the amount of water and how important it is, especially in the high desert. They are working on a recycling program to make sure we are not using any more water than needed, and when possible, recycling the water that is used.

Assemblywoman Cohen:

When you say it takes the same amount of water as it does to build five homes, is that for a period of time or for a particular project?

Paul Enos:

I think there are some other people who can answer that question better than I can. From what I understand, I believe it is about two or two and a half acre-feet when they are hydraulically fracturing the rock. It is water mixed with sand. It is about 98 percent water and sand they use to do that.

Chair Daly:

Are there any further questions from the Committee? [There were none.]

Jerry Walker, representing Charter Post Exploration, LLC:

Charter Post Exploration, LLC is a Nevada corporation with oil and gas leases in eastern Nevada. I have been a petroleum geologist since 1975 and a petroleum and geothermal geologist the last five years.

I want to tell you that I was adamantly opposed to the original bill. However, I do support the current amended version. I believe Senator Ford helped forge a compromise that protects both public safety and the environment, while allowing exploration for hydrocarbons to continue in Nevada. I have just a few points to make.

First, hydraulic fracturing is safe. There are no documented cases, to my knowledge, of contamination of shallow water aquifers from the hydraulic fracturing operation. The key to safety is good well construction. That means

a good casing program and a good cement bond. I think S.B. 390 (R1) will permit the policies to take into account the best practices in science in carrying out the hydraulic stimulation that has opened so many reserves of natural gas and oil to our country.

Second, hydraulic fracturing can revitalize the Nevada petroleum industry, providing great financial benefits to the citizens of Nevada and the Nevada school system, as revenue from the oil and gas leasing and royalty from public lands is split 50/50 between the federal government and the State of Nevada.

To finalize, I would like you to know, I believe the current amended version of this bill will protect both the public safety and the environment, while allowing exploration for hydrocarbons.

Assemblywoman Swank:

I was wondering what it was in the original bill that you were unhappy with.

Jerry Walker:

The short answer is almost everything. I can give you one example. There was a provision in the bill that said you could not use a known carcinogen in any operation on the well that involved hydraulic fracturing. It provided World Health Organization sites to determine what were known carcinogens. It turns out, if you go to the federal government's site, there are lubricating oils that are known carcinogens. All mechanical equipment, including electric cars and bicycles, to my knowledge, use lubricating oil. Therefore, if you read the language, there would not only be no hydraulic fracturing, there would be no drilling on any well for oil and gas. That is probably the most outrageous example I can come up with. I feel the original bill would have shut down oil and gas exploration in Nevada.

Assemblywoman Cohen:

Mr. Walker, can you answer my question about where the water is coming from and how much water is being used?

Jerry Walker:

I wish I could, but I am the geologist. I could get that information for you, but I do not have it off the top of my head. That is really a question for a petroleum engineer.

Chair Daly:

Are there any further questions from the Committee? [There were none.] I have one comment. I am willing to bet that somewhere in the history of this

technology, there was some government-funded research and development. It was not all just private enterprise and ingenuity.

We are still hearing testimony in support, so anyone else wishing to testify, please come forward.

Bill Ehni, Private Citizen, Carson City, Nevada:

I am a geologist, and I have been working in the petroleum industry in Nevada since 1985. The reason I am here is because there was a rumor that someone might provide testimony that would suggest they wanted to ban fracking in Nevada. I wanted to say for the record that I am totally in favor of fracking in Nevada. One thing I should point out, and other people have mentioned, is that there is no documented case where hydraulic stimulation or fracking has ever caused a problem anywhere in the United States. As a matter of fact, I think people from the Division of Minerals have been trying to research a case where hydraulic stimulation has caused a problem. Basically, there are none.

I sent some letters out this morning and Senator Settelmeyer actually wrote back, which was pretty nice of him. Senator Settelmeyer pointed out that a lot of the industry is currently in favor of the language in the bill now. As a staunch conservative, I am basically in favor of small government and do not see a need for this bill. However, the language, as it exists, I agree with.

Another point I would like to make is that I do not think there has ever been a catastrophe associated with hydraulic fracking. We heard the word "catastrophe" earlier. There could be accidents that happen, but accidents do happen.

It has been hinted in the conversations here that there has never been any fracking in Nevada. In reality, there have been fracking jobs in Nevada that have had no problems at all. There was also a question about fracking and earthquakes. Some people are concerned about hydraulic fracking or hydraulic stimulation of rock causing earthquakes. I am fairly familiar with what happened with the geysers in California. They tried to do some hydraulic stimulation similar to what we are talking about with fracking. They saw an increased activity in earthquake swarms. Nevada is a state with a lot of earthquakes. The question I have always had, and it has not been well documented, is did hydraulic stimulation in the geysers on geothermal wells actually limit the possibility of a huge, disastrous earthquake versus a series of smaller earthquakes. This happened to be right on the San Andreas Fault. The evidence does not suggest fracking would cause a massive earthquake that would be devastating to human activity.

In closing, one of the points that was made earlier is that fracking has freed us from the oil cartel. I think the only people who would benefit from Nevada causing any kind of legislation that would prevent hydraulic fracking would be the oil cartels, which is basically foreign oil. In reality, the way the language reads now is good and we should promote fracking in the state of Nevada. [Also provided a written statement ([Exhibit D](#)).]

Chair Daly:

Are there any questions from the Committee?

Assemblyman Aizley:

With extensive fracking, something must happen to the ground around it. If it is not a bad thing, such as an earthquake, what is going to happen to the ground when there is a lot of fracking done?

Bill Ehni:

Typically, the fracking process is in a very controlled environment. You do not want to perform a fracture that would communicate with any freshwater aquifers or any noncommercial reservoirs. When you are down at those depths, regarding the probability of even being able to monitor the type of fracking that goes on with a hydraulic stimulation process—since this is really sensitive equipment—the cumulative effect of possibly injecting into areas of increased seismicity might increase the slip rate and actually might be beneficial to our goals in not causing giant earthquakes.

Assemblyman Aizley:

How about the possibility of sinkholes, like in Florida, from pumping out the water?

Bill Ehni:

Typically, the fracking process is not part of that. The fracking process puts in a measured volume of fluid. It really is not as big as people think. Many times, people think it is a large volume of fluid. I do not remember how many barrels it is, but once you remove that material, then you put some frack fluid in. One of the problems with the language in the original bill was we had to monitor the frack fluid all the time. You only do it once. You pump it in and then you bring it back out. You hope to recover all the frack fluid. The contamination possibilities of the frack fluid into some other reservoir are pretty limited.

The real question is, would this cause any sinkholes? That would be associated with overproduction of anything and has nothing to do with fracking. Typically, it is situations where you are producing out of shallow water aquifers. If you overproduce those zones, you end up with subsidence and possibly sinkholes.

As far as the process of hydraulic fracking, I do not think it would have any impact at all on sinkholes.

Assemblyman Healey:

Once the fracking has taken place and it is a productive well, and once that well has reached its volume and is not pumping anything more, what is the close-down procedure on the well? What is left behind and what does it do to the land? What is involved in closing and capping off a fracked well?

Bill Ehni:

The process of closing a fracked well and a conventional well are basically identical. There would be no real difference at all. Those regulations are already in place, which is one reason having another bill to regulate an existing process already being regulated by the Division of Minerals is redundant. I think many of the people who are in favor of this recognize that we need some sort of language in our regulations that addresses hydraulic stimulation.

To answer your question, the process is identical to conventional wells, and the fluid is already removed, except for maybe some sand that is left in formation. That is not a big component. There are a series of cement plugs that are put in the well and it is capped at the surface so there is no inner zone contamination even if the casing fails.

Assemblywoman Swank:

I have a question about the plugs. How are they monitored over the years, especially in an area like Nevada where there are earthquakes?

Bill Ehni:

The oil industry has been setting cement plugs in wells for a long time. The guidelines for how those plugs are set are in existing regulations that the Division of Minerals administers. I do not think we have time to talk about all the science that has gone into setting plugs. To be honest, things happen. The reason for some of setting plugs the way we do is to protect groundwater or to protect other oil-bearing zones from water from other zones that have been depleted. It really has nothing to do with the fracking process at all.

Assemblywoman Swank:

Is there a process for monitoring these over time? When you mine, you bond for a certain amount of money so that you can pay for reclamation, et cetera. I am wondering about the monitoring of these cement plugs. We have been doing it for a while, so there must be a process set up, correct?

Bill Ehni:

The plugs are designed to last a lifetime. As far as being able to monitor a plug like that from the surface without drilling them out, there is no way to monitor them.

Chair Daly:

Are there any further questions from the Committee? [There were none.] Is there any further testimony in support of the bill? [There was none.] Is there any testimony in opposition to the bill? [There was none.] Is there any testimony in neutral?

Alan R. Coyner, Administrator, Division of Minerals, Commission on Mineral Resources:

I have been the Administrator for the Division of Minerals for 15 years. With me today is Colleen Cripps, who is the Administrator of the Division of Environmental Protection. We decided to testify as neutral. Ms. Cripps is truly neutral, but I have to confess I am in support. In the Senate, I supported Senator Segerblom's bill. Quite literally, it just confirms some of the practices we are currently employing. To be clear, I have not had a vote of the Commission on Mineral Resources, which is my boss, because of the short time frame since it has been amended, but the division is in favor of S.B. 390 (R1) in concept. I am not sure that Ms. Cripps can declare that in quite the same way, but we wanted to be able to come up together to address some of the questions and some of the authorities we have heard. There were quite a few we may have to correct.

Chiefly, I am here to address the fiscal note that I have attached to the bill. I can probably dispose of that fairly quickly and then we can both answer some of the questions we have heard today.

Chair Daly:

We do not deal with the money in this Committee. You can give us a very short explanation. I know there was one fiscal note and the Division of Minerals submitted a letter ([Exhibit E](#)).

Alan Coyner:

The fiscal note is very small and involves three areas. First, there is a cost associated with the adoption of the regulations in terms of public hearings. That is a very small fiscal note. The second area involves legal costs. We may see some legal challenges to the permits the division would issue under oil and gas drilling permits that have hydraulic fracturing included. That is speculative and the cost is unknown, but we know from our work with the other regulatory agencies in the Interstate Oil and Gas Compact Commission that in some states

this has become quite controversial. I think it is more of an informational fiscal note. The third area involves inspection and enforcement. If, in fact, hydraulic fracturing takes off in Nevada, there will be the need for additional field-level supervision. There was a fiscal note for fiscal year 2015 to provide monies to the Division of Minerals for an additional field inspector.

All that said, we are a fee-funded agency. We do not have access to the State General Fund. There would be monies that would have to be derived from our fee structure to cover those costs. In the Senate Committee on Finance, I testified to the fact that we felt we are quite able to do that. If hydraulic fracturing is successful and oil production increases, we receive a fee based on production. That fee should generate additional revenues that would cover those additional costs.

The answer on the fiscal note is we think we have it well under control, and I do not think it is an issue for you to be concerned about. In any case, the citizens of the state of Nevada will not have to come up with that money. It will be fee-based money.

Colleen Cripps, Ph.D., Administrator, Division of Environmental Protection, State Department of Conservation and Natural Resources:

We are neutral on this bill, but I do want the Committee to know that we are committed to working with the Division of Minerals on the development of this program.

Chair Daly:

Are there any questions from the Committee?

Assemblyman Livermore:

These exploration companies bought federal government rights to explore and drill. Does any of that money come back to the state in any form? According to your fiscal note, there is a need for legal aid. Are there monies out there that could be tapped for you?

Alan Coyner:

The money derived from rents and royalties on oil and gas federal leases is, as mentioned, split back to the state. Fifty percent of that money comes back to the State of Nevada. At this point, that money is dedicated to the State Distributive School Account, so it does not enter the Division of Minerals' budget. As I stated, the monies we will need to handle hydraulic fracturing in the state, if the need arises, will have to be generated from fees on industry.

Assemblywoman Cohen:

I am just wondering if either of you can answer my water question? Where is the water going to come from that will be used for the fracking and how much water is going to be used? There was testimony about possible recycling and using the same amount of water that would be used to build five houses. I want to know if that same water is used over and over again on the same project or is it used for a certain amount of time?

Colleen Cripps:

It is my understanding that these companies do work with the Office of the State Engineer and the Division of Water Resources to ensure there is adequate water to do the fracking that is being proposed. I do know that Noble Energy, in particular, has been in discussions with the State Engineer's Office on that. They will not be doing fracking unless they have adequate water. They are recycling the water. What percentage that is and how often it is reused, I do not know.

Alan Coyner:

The drilling permit that I have issued has conditions within it mandating that we need to know where that water is coming from. The company would have to secure a source of water. With regard to Noble Energy specifically, that source has been ranch water and City of Wells water that they are looking at purchasing. The approximate use per well, and it is approximate because a fractured well may have multiple stages, is about 2 million gallons. Ms. Cripps was nice enough to figure out for me that 2 million gallons would fill about three Olympic-sized swimming pools. It is a one-time use only. Approximately 50 percent of that water comes back at the end of the fracturing process. Some, as you might expect, goes out into the rock formation with the other chemicals and sand that are used to do the fracturing. About 98 percent of the fracturing fluid is water and sand with a small percentage of chemicals that are used to facilitate the process. Fifty percent of that comes back. We have mandated in the permit that that water must be contained in BakerCorp tanks, which are essentially big containers that store the water. It has to be disposed of in an approved facility. The initial indication was it would be an approved disposal well in Utah that would accept the fluid. I can assure you, the fluid is not going to come from somewhere that we do not know and go somewhere that we do not know, such as a creek or something like that. We do not anticipate gross misconduct on the part of the company. We are controlling both the water source and where it ends up. I hope that answers your question.

Colleen Cripps:

The Division of Environmental Protection would regulate that as well. If there were a case where they decided to go into production but trucking the fluid to Utah was no longer feasible, they may decide to develop their own injection well, which is something we would regulate.

We also regulate all the flow-back water, storm water, runoff, and those kinds of things, in addition to air quality.

Assemblywoman Swank:

I just have a comment. No matter how much water conservation we do in the state of Nevada, we do not have enough water. I am questioning the prudence of using some of our very minimal water supplies for fracking.

Alan Coyner:

Minimal is a relative term. I know you heard a bill this year on pit lakes. Pit lakes have an awful lot of water in them. Again, it is a lot of water, but you have to place that into context. Our main concern is how that water is handled. In other words, quantity is an important aspect. However, what both Ms. Cripps and I are about is quality. We want to make sure that the water is properly handled and that we know where it comes from and where it goes. I appreciate your comment and we will certainly keep that in mind.

Assemblywoman Cohen:

As we were sitting here, I received an email from someone who sent a copy of an article from Propublica. Apparently, there is a town in Pennsylvania where the U.S. Environmental Protection Agency is supplying drinking water to homes because they had some issues with fracking. It just came to me and I wanted to mention it. I hope we all have an opportunity to review that. [The article was not provided.]

Alan Coyner:

With that comment and with regard to FracFocus, because that was mentioned earlier, I want to confirm that the Commission on Mineral Resources did pass a resolution requiring the division to require, as a condition of approval for their permit, participation in FracFocus. Briefly, FracFocus is a chemical disclosure site that is being used nationwide. It has become the go-to place for companies to use with regard to disclosure. Noble Energy has agreed to do that and does that in their operations in Colorado. It will be required in every permit. Not only will that list of chemicals be required up front, which is essentially at the time of issuance of the permit, but they will also have to revise that list before they fracture. In other words, we will have a very close approximation of what

exactly is being put into the ground. At posthydraulic fracturing, they will report the actual quantities as part of FracFocus.

In coordination with the Division of Environmental Protection, which is definitely involved with water quality, we think we have that pretty well handled. I certainly would be agreeable, and I believe Senator Segerblom is foreseeing this, that things like that might need to be codified in regulation rather than as a resolution passed by the Commission on Mineral Resources. That is something we will certainly look at as we go forward with S.B. 390 (R1).

If I could expand on that a little bit more, we have built several stopgap measures into the drilling permit. We do not just give them a drilling permit and ask them to get back to us. There are a number of stopgap measures in that permit, one of which you heard mentioned earlier, the cement bond log. Wellbore integrity is what it is all about with regard to hydraulic fracturing. It is all about the quality of the wellbore and how good that well is constructed. We have a condition that before the hydraulic fracturing process can start, the cement bond log, which is the evidence they provide us that they have a good, solid wellbore, has to be provided and approved before they can move forward with the hydraulic fracturing process. Again, we have already built in, through our permitting process, some of the same thoughts that Senator Segerblom has prudently brought forth in S.B. 390 (R1). We will be looking at those to determine which ones we should codify in regulations and which ones we should discontinue to use as a condition of approval.

I support S.B. 390 (R1) as it is because I see it as a prudent first step. We are not going to have 100 wells happening this year. This will develop over time, and this gives us a chance to deal with it firsthand in Nevada to see what is prudent and necessary.

Chair Daly:

Are there any other questions from the Committee? [There were none.]

The last items you just touched on are what I wanted to explore a little bit more. Fracking has been around for a long time and it is used more readily. We have all seen the films and heard the horror stories about issues that may or may not be a result of fracking. I see the bill as an important first step as well. As we look at it for Nevada, how much of the things that we need to regulate do we already have? Obviously, we have had drilling and well drilling in this state for a very long time. We have a lot of mineral exploration drilling, and I know that is different. Are we covered on some of those issues? The bill indicates you can adopt regulations in order to look at these matters, but you are really only supposed to assess the effects in the bill that fracturing might

have on the waters of the state. You have to disclose the chemicals, but you are really just looking at what effect it is going to have on the water. Are we going to try to strengthen various things, such as the well casing and the wellbore, and how solid that is? Do we already require concrete casing, or do we require metal casing? What things are in place for us now, and how is this bill going to help you improve that? No one wants to hear about gas leaking up into someone's stream or the third most seismically active state in the nation becoming number one or number two.

Alan Coyner:

Wellbore integrity is definitely in my ballpark. With regard to gas coming up through the ground, hydraulic fracturing takes place at depths somewhere around 7,000 to 10,000 feet. The oil- and gas-bearing formations have to be at that depth in order for the material to be available to the fracking process that they would want to recover. We are not going to see Jed Clampett-type wells by shooting a gun in the ground. That is just not the way it works. The engineering of the hydraulic fracturing process relies on containment of the frack. In other words, the fracking process does not want to go off into the upper formations that contain the precious groundwater. It needs to be contained at that depth in order to successfully frack all the rock that is down there to free up the oil and gas.

As an additional safety measure, the companies are being required to add an inert tracer to the frack fluid so the regulating agencies can analyze a person's well water. If it were not there, it would be difficult to explain or put the blame on the oil and gas drilling company.

A number of measures like that are being taken. I am confident, and we do have a lot of experience in groundwater because we do treat it so precious in this state, especially on the Division of Environmental Protection side, which makes an ideal combination for this particular process and in this bill.

I think Senator Segerblom is right on with combining the two agencies a little more closely. We already are. We deal with underground injection control permits and abandoned mines together. We work cooperatively. This will just be one more area.

To answer your question about new and expanded regulation, we will weigh in our practical experience, which we are going to gain from the actual drilling of the wells. The first two wells are going to be a vertical well and a specially drilled sinusoidal well about 1,000 feet away. The company can frack the first well and listen with the second well. All the data and science they are going to gather from the operation will be available to the agencies to look at and

evaluate. A lot of the collection of scientific information is going to be done for us. The Desert Research Institute study that was mentioned earlier, and which Noble Energy is entering into, will also give us a lot of reliable information from an independent, science-based third party so we do not have to get the emails from Pennsylvania about something happening. We want real facts. We are Nevadans. We believe in the truth and real facts and that is what we want to deal from. I am personally very happy with S.B. 390 (R1) and I think it will serve us well as we move through the next year and half before we next meet, when we will be able to recommend decisively to you where we are weak and where we are not weak.

Colleen Cripps:

I would like to add a couple of things to that. In addition to the tracers that are going to be added, one of the other things we have been talking quite a bit about is doing monitoring of existing groundwater wells in order to ensure that we have an adequate record of what the groundwater looks like prior to fracking. We would then monitor those same wells at intervals of time after the fracking occurs so we can watch for any case where there might be materials from that fracking that would enter drinking water in the area. That is an additional safety precaution we are looking at currently and discussing with Noble Energy.

We are also spending quite a bit of time looking at the regulatory processes that are occurring across the country. We are following very closely the work of the U.S. Department of Interior and the U.S. Environmental Protection Agency. I think all of that, in addition to the Desert Research Institute work that is going to be done, specifically in Elko County, will help to inform our program.

Chair Daly:

On the horizontal drilling, I am sure we already have experience with that in this state as well. I would hope you already have the necessary protocols and safety procedures in place. My experience with this is not extensive. In my regular day job, we have counterparts from the East who do have experience with this and work with many companies. Believe it or not, parts of the industry want to be regulated to make sure this is done right so they can increase their reputation and the confidence of the public in the process. I think having regulations in place that give that confidence to the public in the process is important. I think we should continue along those lines. Would you comment on the horizontal drilling aspect? I think we need to go forward and develop the practices, protocols, and regulations regarding the minimums and set them at a standard that is commiserate with the rest of the industry.

Alan Coyner:

I want you to be well informed. There has not been any horizontal drilling, to my knowledge, for oil and gas in Nevada. Nevada's geology is quite tricky, so horizontal drilling would be a challenge for these companies. There may have been some experimental drilling done on the Nevada Test Site, but not as a regular practice. Horizontal drilling is one of the keys to the success of hydraulic fracturing because it opens so much more of the formation from a single drill hole, as was mentioned previously.

The regulations do not change just because you drill horizontally. All of that has to be disclosed to the division as part of the drilling plan, including monitoring where the drill hole is going. Whether it is plugging and abandoning the drill hole or the actual hydraulic fracturing operation, it is all covered as part of the permit as well. Horizontal drilling alone does not change anything with regard to the way we would regulate it.

There were 45,000 wells drilled and fracked in the United States last year. It is a huge number and there is a lot of data and science out there. There are a lot of state regulators and other groups that are generating science. There are many movies and you can pick whatever flavor you want, from the right or the left, and believe what you want with regard to hydraulic fracturing. Members of our agency and members of the Division of Environmental Protection traveled to the state of Colorado recently to view hydraulic fracturing on the ground at Wattenberg Gas Field. We got a firsthand, up-close look at what this beast really looks like. I think we are well prepared, in my mind, for when it eventually arrives here.

Chair Daly:

Aside from the study, looking at the effects of hydraulic fracking on waters in the state of Nevada, do you feel you have the ability to adopt any other regulation if something were to come up surrounding fracking in Nevada? Do you think your laws already cover that? Could you implement regulations if the need came up, or do you need other legislative authority?

Colleen Cripps:

The short answer to your question is yes, I do feel we have adequate statutory authority.

Chair Daly:

Are there any other questions from the Committee?

Assemblyman Hansen:

Every penny that the government gives in research and development came from some private-sector person who produced the well that generated the income. Thank you for letting me get that on the record.

Chair Daly:

An investment that a private company would not make, so they relied on the government. You know I was going to get the last word.

Are there any other questions from the Committee?

Assemblyman Aizley:

The last word should be, what about the cleanup after the fracking is over? I have seen ugly remains in Arizona and I have seen good remains up around the Carlin Trend, where they did a good job of replacing the slag piles that are there. There is not much in the bill, but it is a good start at regulations, so I would be in favor of the bill, but I would like to see more about cleanup afterwards.

Alan Coyner:

First of all, we need to recognize that most of these wells will be drilled on federally managed land. I will caution this Committee, as I always do, you never say federally owned land because they do not own anything. The public owns it. Obviously, they have skin in the game and we will, too. The Division of Minerals writes permits on all wells in Nevada, whether they are on public or private land. It just happens that the first two wells that Noble Energy is permitting will be on private land, just because of timing. Those were able to move forward more quickly than the federal land. They have reclamation requirements on both sides with regard to the well pad. If they are unsuccessful, essentially everything has to disappear; the well pad has to be leveled, and it has to be scarified, or scraped, so that vegetation can be replanted with native seeds in order to bring it back as near as we can to high desert.

There are definitely reclamation regulations in place for both the surface expression of the wellbore and the downhole portion of the wellbore. This speaks to the plugging abandonment that was talked about earlier. That is an approved process that has to come through the Division of Minerals, for the wellbore anyway, on what to put in the well in terms of plugs and so forth to prevent contamination. I think you can rest assured that is pretty well handled.

Chair Daly:

Are there any further questions from the Committee? [There were none.]
Is there any further testimony in neutral? [There was none.] I will invite the sponsor back up to the table for final comments.

Senator Segerblom:

As you can see, this is a good start. Hopefully, the members of this Committee will monitor this and in two years come back and make it better.

Chair Daly:

Are there any questions for Senator Segerblom from the Committee? [There were none.] I will close the hearing on S.B. 390 (R1). I will open the microphones for public comment. [There was none.]

This meeting of the Assembly Committee on Natural Resources, Agriculture, and Mining is adjourned [at 3:19 p.m.].

RESPECTFULLY SUBMITTED:

RESPECTFULLY SUBMITTED:

Cheryl Williams
Recording Secretary

Lori McCleary
Transcribing Secretary

APPROVED BY:

Assemblyman Skip Daly, Chair

DATE: _____

EXHIBITS

Committee Name: Committee on Natural Resources, Agriculture, and Mining

Date: May 30, 2013

Time of Meeting: 2:06 p.m.

Bill	Exhibit	Witness / Agency	Description
	A		Agenda
	B		Attendance Roster
S.B. 390 (R1)	C	Senator Segerblom	Presentation
S.B. 390 (R1)	D	Bill Ehni, Private Citizen	Written testimony
S.B. 390 (R1)	E	Alan Coyner, Division of Minerals	Memorandum in support