

1 ALASKA OIL AND GAS CONSERVATION COMMISSION  
2 Before Commissioners: Cathy Foerster, Chair  
3 Daniel T. Seamount  
4 John K. Norman  
5 In the Matter of the Amending of )  
6 Regulations Regarding Hydraulic )  
7 Fracturing Contained in 20 AAC 25.005, )  
8 20 AAC 25.280 and 20 AAC 25.990 and )  
9 the Proposed 20 AAC 25.283. )  
10 \_\_\_\_\_)

11 ALASKA OIL and GAS CONSERVATION COMMISSION  
12 Anchorage, Alaska  
13 April 4, 2013  
14 9:00 o'clock a.m.  
15 VOLUME I  
16 PUBLIC HEARING  
17 BEFORE: Cathy Foerster, Chair  
18 Daniel T. Seamount  
19 John K. Norman

1 TABLE OF CONTENTS

2 Opening remarks by Chair Foerster 03

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

P R O C E E D I N G S

(On record)

CHAIR FOERSTER: Good morning. I'll call this hearing to order. This is a public hearing to consider proposed regulations pertaining to hydraulic fracturing. This hearing is being held on the morning of April 4th, 2013 at 9:00 a.m. The location is the Anchorage Hilton Hotel, 500 West Third Avenue, Anchorage Alaska.

First I'll introduce the Commissioners. To my right is Commissioner John Norman, to my left is Commissioner Dan Seamount. I'm Cathy Foerster.

If there are people here who have a need for special accommodations in order to participate in these proceedings, if you can see our Special Assistant, Jody Colombie. She's doing the float wave right now, I think. Okay. She'll do her best to accommodate you.

Computer Matrix will be recording the proceedings. Upon completion and preparation of the transcript persons desiring a copy will be able to obtain them by contacting Computer Matrix. Before we go any further we'll have a safety briefing provided by the Hilton. Jason, are you here?

JASON: Good morning. Welcome to the Hilton. I'm just going to go over a few brief details this

1 morning. We do not have any fire testing scheduled  
2 from our engineering department so in the event of any  
3 emergency our audible fire system will announce verbal  
4 instructions to evacuate. In the event of an  
5 evacuation your closest two exits are through the rear  
6 left door and directly across the promenade. That exit  
7 will take you right out onto the street. The muster  
8 point for guests in our hotel is the Saturday Market,  
9 Third and E parking lot. Your also closest exit is  
10 through this door, down the promenade and to your left  
11 which will take you right out onto Third Street. Again  
12 we do not have any scheduled fire testing this morning.

13 Thank you.

14 CHAIR FOERSTER: Thank you, Jason. The Alaska  
15 Oil and Gas Conservation Commission or AOGCC proposed  
16 to adopt changes to its existing hydraulic fracturing  
17 regulations found in Title 20, Chapter 25 of the Alaska  
18 Administrative Code. The AOGCC proposes to amend 20  
19 AAC 25.005, 20 AAC 25.280 and 20 AAC 25.990 and add a  
20 new section, 20 AAC 25.283 in order to define more  
21 clearly hydraulic fracturing, require notice to nearby  
22 owners and operators prior to commencement of hydraulic  
23 fracturing, require water sampling and analysis,  
24 require disclosure of hydraulic fracturing fluids,  
25 increase wellbore integrity and assure containment of

1 hydraulic fracturing fluids.

2           The notice of this hearing was published in the  
3 Alaska Journal of Commerce on January 23rd, 2013 and  
4 the Anchorage Daily News on January 20th, 2013 and is  
5 also posted on the State of Alaska online notices  
6 website as well as the AOGCC's own website. This  
7 hearing is being held in accordance with AS 44.62 and  
8 20 AAC 25.540 of the Alaska Administrative Code.

9           A few housekeeping items before we begin. We  
10 received a few thousand pages of written comments from  
11 over 30 entities or individuals. These written  
12 comments will all be entered into the record and  
13 considered in our deliberations. If you have submitted  
14 written comments and want to make sure they were  
15 received, if you just want to see the list of written  
16 comments or if you would like to submit written  
17 comments today, please see Jody Colombie or Samantha  
18 Fisher. Ladies, do the float wave again. All right.  
19 Thanks.

20           Also copies of the comments can be made  
21 available to interested parties, but due to the volume  
22 of the comments there will be a charge for copies. And  
23 we also encourage that rather than taking hard copies,  
24 you take the electronic option, save a few trees and  
25 save a few muscles. Again see Ms. Colombie or Ms.

1 Fisher for details on getting copies of anything that's  
2 been submitted.

3           It is the intent of this hearing that all  
4 written comments and oral testimony relevant to the  
5 proposed regulations changes be heard. Given the high  
6 volume of written testimony and the possibility of a  
7 large volume of oral testimony, we will adhere closely  
8 to a few time management rules. Our expectation is  
9 that we can hear from all interested parties either  
10 today or tomorrow and can conclude the hearing tomorrow  
11 afternoon at the latest. We will start each day at  
12 9:00 a.m. and end as close as possible to 5:00 p.m. We  
13 will break each day for lunch. We will recess  
14 periodically so that Commissioners may confer with  
15 AOGCC staff and we will also take a short recess  
16 tomorrow afternoon so that I may call in and testify  
17 briefly before the Alaska Legislature at their request.  
18 There will be a time limit of 30 minutes for oral  
19 testimony for each participant. If you submitted  
20 written comments there is no need to reiterate your  
21 entire testimony, however you are certainly welcome to  
22 provide oral testimony to supplement your written  
23 comments. Oral testimony must have relevance to the  
24 topic of hydraulic fracturing and to the jurisdiction  
25 of the AOGCC. Just to clarify, the AOGCC jurisdiction

1 generally pertains to well operations and reservoir  
2 management.

3           There are two sign in sheets, one for all in  
4 attendance and a second for those wishing to testify.  
5 The second sign in sheet will be used to help format  
6 the hearing. If you have not gotten your name onto one  
7 or both if you plan to testify of these sheets please  
8 do so at the time. The float wave ladies can help you.  
9

10           We have several persons participating by phone.  
11 At this time I'd like to determine which, if any, of  
12 these persons wishes to testify. This may be a bit  
13 challenging so let's all be patient with one another.

14           Would each of you please, one at a time, just  
15 kind of pause and reflect, state your name and the  
16 entity you represent for the record. All indicate if  
17 you desire to provide oral testimony.

18           MS. BREASE: My name is Barbara Brease, I'm a  
19 homeowner and resident in Healy and I would like to  
20 provide oral testimony.

21           CHAIR FOERSTER: Okay. Thank you. Is there  
22 anyone else?

23           MR. ECONOMOU: Yes, this is Demetri Economou  
24 with Burleson, LLP in Houston, Texas. We provided  
25 written comments, but we do not desire to provide oral

1 testimony at this time.

2 CHAIR FOERSTER: Okay. Thank you. Is there  
3 anyone else on the line?

4 MR. ARMSTRONG: This is Matt Armstrong from  
5 Baker Hughes. We submitted written comments, but do  
6 not plan to testify.

7 CHAIR FOERSTER: Okay. Thank you. Anyone  
8 else?

9 (No comments)

10 CHAIR FOERSTER: Okay. Ms. Brease, you  
11 mentioned that your call was a toll call and that you  
12 would prefer to call back to make your testimony?

13 MS. BREASE: Yes.

14 CHAIR FOERSTER: Well, it's going to be  
15 difficult for us to give you a time for that, but what  
16 -- I'll talk with the other Commissioners. We're going  
17 to take a short recess to format the hearing, but it  
18 might be best if we just let you testify first.

19 MS. BREASE: Okay.

20 CHAIR FOERSTER: Okay. So we are going to --  
21 we have a few more things to take care of and then  
22 we're going to take a brief recess and when we come  
23 back unless our attorney or either of the other two  
24 Commissioners can explain why that idea is a stupid one  
25 then we'll let you testify first.

1 MS. BREASE: Thank you very much.

2 CHAIR FOERSTER: Okay. So let's see, where are  
3 we. Another thing that I wanted to mention is that  
4 when the Commission considers the factual, substantive  
5 and other relevant matter, we also pay special  
6 attention to the cost to private persons of proposed  
7 regulatory actions. So if that's a concern to you, we  
8 do take that into consideration.

9 All right. At this point we're going to take a  
10 short recess, we'll determine an appropriate order for  
11 testimony and since we've changed from our normal  
12 hearing venue a short recess will allow folks who went  
13 to the wrong place a few minutes to get here.

14 At this point we're going to go off the record.

15 (Off record)

16 (On record)

17 CHAIR FOERSTER: I'd like to remind people as  
18 they testify to be sure to speak into the microphone so  
19 that people in the rear of the room can hear you and so  
20 that the court reporter can get a clear recording.

21 And participants will be expected to identify  
22 themselves as an expert or as a lay witness. If you're  
23 testifying as an expert you must say so at the  
24 beginning of your testimony, identify the area of your  
25 expertise and list the credentials to justify your

1 expert status.

2           This is a public hearing, not a debate. When  
3 someone is testifying it is not appropriate for others  
4 to be competing for the attention of the Commissioners.  
5 Please be courteous to other speakers.

6           Only the Commissioners are allowed to ask  
7 questions of witnesses. If you have a question that  
8 you would like directed to someone testifying we ask  
9 that you provide your question in writing along with  
10 your name and that of the witness to Jody Colombie or  
11 Samantha Fisher, float wave one more time. Before the  
12 end of the hearing the Commission will review all the  
13 questions and determine whether to ask those questions.  
14 Only questions that the Commissioners believe will be  
15 helpful in eliciting relevant information will be  
16 asked.

17           And we agreed that Ms. Brease can testify  
18 first. And then after that we're going to take  
19 industry testimony starting with the operators and then  
20 with the service industry, then we will take the  
21 environmental entities and last individuals. So is  
22 that clear enough for everybody to get an idea of about  
23 where you fall in the schedule?

24           (No comments)

25           CHAIR FOERSTER: Okay. So, Ms. Brease, for the

1 record we'll just ask you to introduce yourself one  
2 more time and what your -- who you represent, I think  
3 it's yourself, but -- and then the microphone is yours.

4 (No comments)

5 CHAIR FOERSTER: All right. Well, if Ms.  
6 Brease comes back we will allow her to testify later.  
7 So we will go right into the rest of the schedule of  
8 testimony. And is there a representative of AOGA here?  
9 Are you prepared to testify now?

10 MS. MORIARTY: I am.

11 CHAIR FOERSTER: All right. Come on up and I  
12 think -- I think you know the drill, Ms. Moriarty.

13 MS. MORIARTY: Good morning. For the record my  
14 name is Kara Moriarty and I'm the executive director of  
15 the Alaska Oil and Gas Association, commonly referred  
16 to as AOGA.

17 On behalf of our 15 member companies in AOGA  
18 who account for the majority of oil and gas  
19 exploration, development, production, transportation  
20 and refining of oil and gas onshore and offshore in  
21 Alaska, we want to extend our appreciation for the  
22 opportunity to comment today on your proposed  
23 regulations of hydraulic fracturing and revisions to 20  
24 AAC 25.005 and 20 AAC 25.990 and the addition of  
25 proposed section 20 AAC 25.283. We also want to extend

1 our appreciation for the extension in time to prepare  
2 for the comments today and for the oral testimony from  
3 beyond the original deadline in February.

4 I just want to state out front that our members  
5 are very supportive of hydraulic fracturing chemical  
6 disclosure and increased transparency that it will  
7 provide to Alaska and all Alaska's residents.

8 We'd also like to take this opportunity to  
9 recognize the Commission's exemplary oversight of oil  
10 and gas and natural gas production activities in  
11 Alaska. Under your record hydraulic fracturing has  
12 been safely conducted to increase and enhance  
13 production of Alaska's oil and gas resources for  
14 decades without a single known incident of fresh water  
15 contamination. And as you reported just about two  
16 years ago almost to the day, in over 50 years of oil  
17 and gas production Alaska has yet to suffer a single  
18 documented instance of subsurface damage to an  
19 underground source of drinking water. I think that  
20 goes to the credit of the Commission for your oversight  
21 and the partnership that we continue to maintain with  
22 industry.

23 With current regulation our Cook Inlet and  
24 North Slope operators are already held to stringent  
25 well construction and mechanical integrity requirement

1 designed to prevent contamination of fresh water. In  
2 the past the Commission has recognized that these  
3 quote, mechanical integrity requirements are the  
4 primary means of protecting drinking water, unquote.  
5 And that current well construction standards properly  
6 protect fresh drinking waters in Alaska. Current  
7 regulations also allow the Commission to require cement  
8 bond logs to ensure sufficient cement surface casing.  
9 With over 1,000 wells hydraulically fractured in Alaska  
10 without incident it is evident that the Commission's  
11 current permitting regulations for the construction and  
12 design of all wells is and continues to be effective.

13           So let me reiterate that we do support the  
14 development and careful consideration of practical  
15 regulations that address public concerns while  
16 maintaining safe operations of Alaska's oil and gas  
17 industry that are used for the benefit of all Alaskans.  
18

19           As you know we have submitted detailed written  
20 comments and suggested redline revisions for your  
21 consideration that ensure public concerns are addressed  
22 with reasonable and effective regulation of hydraulic  
23 fracturing.

24           The Commission's proposed regulations are the  
25 latest in a progression of various states' efforts to

1 address public concerns regarding hydraulic fracturing  
2 within their state's borders. There are significant  
3 differences between the proposed regulations before us  
4 today and those of the states who have adopted or are  
5 currently proposing chemical disclosure regulations to  
6 date. By way of example and we just picked California  
7 because they're in the current process of -- the same  
8 process Alaska is in. They have -- California has  
9 recently released draft type hydraulic fracturing  
10 regulations. Both Alaska and California's proposed  
11 regulations contain well construction and mechanical  
12 integrity requirements, but Alaska's Commission  
13 proposed regulations are a little bit different than  
14 California and other states in four main categories.  
15 One, Alaska would require preapproval before conducting  
16 hydraulic fracturing activities; two, Alaska would  
17 require a more substantial preliminary investigation  
18 into other wells in the area and groundwater monitoring  
19 before and after hydraulic fracturing operations;  
20 Alaska would require direct notification to nearby  
21 landowners and well operators including certification  
22 that a full copy of the application has been provided  
23 to owners and operators within one quarter mile; and  
24 lastly, and I'm sure you'll hear a lot about this  
25 throughout the next two days, Alaska would provide no

1 trade secret protection for proprietary information.

2           And so in my testimony today, as in our written  
3 comments and suggested redline, I will highlight  
4 several of these differences and offer suggestions to  
5 make Alaska regulations consistent with many other  
6 states where my member companies operate.

7           And I just want to reiterate back on my member  
8 slide, we have a task group and you -- the Commission  
9 is aware of this, but for the public, we have a task  
10 group that is made up of our member companies and so we  
11 have met very diligently over the last three months and  
12 all of these comments have been approved by companies  
13 who operate on the North Slope and in Cook Inlet, big  
14 companies and small companies. So just wanted to  
15 reiterate that before we get into the meat of the  
16 presentation.

17           So the first thing is the application and  
18 preapproval process. As I mentioned previously we do  
19 support chemical disclosure and reasonable reporting  
20 requirements for hydraulic fracturing, but we believe  
21 the application for approval that is outlined in your  
22 proposed regulations will result in unnecessary delay,  
23 potentially strain AOGCC staff resources and in many  
24 instances require information that is either premature  
25 or duplicative and at an unnecessary level of detail in

1 the pre-fracking process. So for example, and this is  
2 where I get a little technical, in subsection (a)(14)  
3 of your proposed regulations the Commission requests  
4 operators submit values and concentrations of chemical  
5 ingredients and additives that may yet be undetermined  
6 prior to the start of a hydraulic fracturing operation  
7 and subject to change during the course of the  
8 operation. As the Commission has observed in its white  
9 paper on hydraulic fracturing two years ago, requiring  
10 this information in an application prior to hydraulic  
11 fracturing is premature and I quote, completion  
12 interval thickness, permeability and other  
13 characteristics that determine required fluid volumes  
14 generally are not known before the well is drilled,  
15 unquote. Successful and safe hydraulic fracturing  
16 operations often require the operator's ability to  
17 modify the hydraulic fracturing plan and to substitute  
18 fluids and agents once hydraulic fracturing begins. A  
19 post-fracturing report included in your current form  
20 10-404, details the actual characteristics of the job  
21 including fluid volumes generally not known before the  
22 well is drilled.

23 In addition the detailed casing and cementing  
24 information required in a couple of the proposed  
25 sections is already provided or available to the

1 Commission under current regulations in 20 AAC 25.030.

2

3           Every operator is also currently required to  
4 install pressure measurement devices on every well and  
5 monitor those devices daily, making the proposed  
6 requirement in subsection (a)(9) duplicative.

7           AOGA members are also concerned that the value  
8 of detailed applications required of the proposed  
9 regulations may overwhelm your staff, causing further  
10 delays to resource development projects critical to  
11 Alaska's economic and energy needs.

12           In addition to operations on the North Slope,  
13 hydraulic fracturing has been -- has also treated a  
14 variety of natural gas producing wells in the Cook  
15 Inlet Basin for years. As with other petroleum  
16 producing areas in Alaska, previous Cook Inlet  
17 operators have experienced great success using  
18 hydraulic fracturing operations safely. These  
19 operations have been used to increase production of  
20 natural gas in numerous wells supplying Southcentral  
21 natural gas utilities with no adverse impacts to  
22 groundwater.

23           Current plans for maintaining and increasing  
24 the natural gas supply to Southcentral Alaska involve  
25 operations in the Cook Inlet covered by these proposed

1 regulations. We feel it is imperative that the  
2 proposed rulemaking results in regulations that as the  
3 current administration continually stress, especially  
4 this session in Juneau, that regulations in Alaska are  
5 timely, efficient and provide certainty especially to  
6 the exploration and development of Southcentral  
7 Alaska's gas supply.

8           In our redline revisions submitted with our  
9 written comments we suggest that many of the provisions  
10 in subsection (a) could be codified as rules or  
11 reporting requirements rather than required in an  
12 application for Commission approval prior to the  
13 operation of hydraulic fracturing. We respectfully  
14 request the Commission consider only implementing  
15 regulations compatible with the high level of activity  
16 required to meet Cook Inlet natural gas supplies  
17 especially at a time when this production is very  
18 crucial.

19           We strongly urge the Commission to reconsider  
20 the additional application and preapproval process for  
21 hydraulic fracturing operations. If after your careful  
22 consideration the final promulgation of these  
23 regulations are adopted as currently drafted we do  
24 request an exception for hydraulic fracturing  
25 operations where there is no fresh water aquifer

1 present within one-quarter mile or 1,000 vertical feet  
2 of the proposed wellbore trajectory or as identified by  
3 the Commission as fresh water aquifer exemption and 20  
4 AAC 25.440.

5           An exception for these operations where there  
6 is no threat to drinking or fresh water would not  
7 defeat the Commission's purpose to provide disclosure  
8 in areas where contamination of fresh water might be a  
9 public concern. And as the Commission has previously  
10 stated, there is no fresh water or drinking water  
11 present especially on the North Slope where the  
12 majority of hydraulic fracturing operations occur and  
13 therefore as your report said fresh water is not a  
14 concern.

15           Moving on to the notice to well owners and well  
16 testing requirements. We support providing notice of  
17 operations to landowners and surface owners within one-  
18 quarter mile of proposed hydraulic fracturing  
19 operations. The notice of intended operations to the  
20 owners listed and a general description should however  
21 be sufficient to meet this requirement. Currently the  
22 application as proposed would be quite voluminous and  
23 technical in nature, likely including confidential  
24 geologic information. The public should be able to  
25 rely on the Commission's expertise to regulate wellbore

1 integrity and provide appropriate oversight to -- that  
2 operators should not be required to submit details to a  
3 surface owner. The complete application could be made  
4 available to an interested landowner or surface owner  
5 by the Commission upon request as long as the  
6 confidentiality provisions would be maintained.

7           And in addition we request that the Commission  
8 adopt language clarifying that the operator must make  
9 good faith efforts to identify any water wells or fresh  
10 water present in the defined project area, relaying --  
11 or relying on publicly available records and notice to  
12 neighboring surface owners. Currently Alaska does not  
13 have a data base accessible that easily identifies all  
14 fresh water aquifers.

15           We would respectfully request the removal of  
16 the requirements to sample water wells within one-  
17 quarter mile of a hydraulic fracturing operation.  
18 Sampling of private water wells can be impractical, it  
19 will pose unnecessary logistical, administrative and  
20 legal hurdles including seeking the consent and  
21 cooperation of the private well owner. Many states  
22 with new hydraulic fracturing regulations have decided  
23 not to require water sampling of personal drinking  
24 wells in regulation for these very reasons.

25           Each test can add an awkward logistics problem

1 in Alaska especially. For example at times it is  
2 difficult to fit and this is just a practical thing of  
3 being in Alaska, but it can be difficult to fit large  
4 coolers of multiple one liter bottles of acidified  
5 water in an air cargo on small planes and keep the  
6 samples from freezing. Several of the metals listed  
7 are complicated and expensive to test for and it is my  
8 understanding that some chemical components listed in  
9 the Commission's proposed regulations may not even be  
10 used in hydraulic fracturing operations.

11           While it may be costly, the problem with the  
12 well sampling requirements as written is really in the  
13 indefinite amount of time that a well's production  
14 could be delayed while obtaining permission from each  
15 landowner or well required in addition to the delay and  
16 turnaround and testing of the well samples. As  
17 indicated in one of your comments from Analytical  
18 Group, they estimate that the holding time for the  
19 tests required in the Commission's proposed regulations  
20 are in the seven day or longer category. Often water  
21 sampling laboratories are not nearby to Alaska oil  
22 wells and as Analytical Group indicated in its response  
23 to your inquiry, some tests would need to be shipped to  
24 a lab in Colorado or subcontracted to other approved  
25 laboratories likely causing additional delay. If the

1 water sampling requirement does remain we would suggest  
2 the Commission replace subsection (a) (5) with our  
3 suggested revised language that limits the number of  
4 water wells sampled in an area before and after  
5 treatment and includes a liability provision regarding  
6 the use of sampling results. In addition the suggested  
7 provision that we suggested to you would address and  
8 provide a waiver in a situation where access to test a  
9 private well is not granted by the well owner.

10 Now on to chemical disclosure and reporting  
11 requirements. The statute authorizing the Commission  
12 to regulate hydraulic fracturing prescribes that the  
13 Commission regulate hydraulic fracturing quote, to  
14 ensure protection of drinking water quality, unquote.  
15 Throughout the Commission's proposed regulations  
16 information is required to be reported by stage,  
17 interval or by well. If the overall objective of the  
18 Commission is, as we understand and support, public  
19 disclosure to alleviate any concerns relating to  
20 drinking water or fresh water contamination, the  
21 reporting by stage by stage could be very onerous espec  
22 -- or well by well and we do not believe this level of  
23 reporting will add anything to the Commission's  
24 objective and we do not find it necessary. So we  
25 suggest and respectfully request that reporting and

1 disclosure be instead required for each hydraulic  
2 fracturing treatment or for each pool which we believe  
3 would result in a more efficient and streamlined  
4 reporting process while maintaining the integrity of  
5 protecting drinking water qualify.

6           Through the Commission's efforts we will have  
7 the opportunity to provide Alaskans information  
8 regarding hydraulic fracturing operations that will  
9 help dispel any misconceptions or false impressions  
10 regarding the safety and chemical makeup of materials  
11 used in hydraulic fracturing. Many of our members have  
12 already and currently voluntarily supply this  
13 information on the chemical disclosure registry  
14 commonly referred to as FracFocus. And we support the  
15 disclosure and reporting of materials pumped during  
16 hydraulic fracturing operations on this registry.  
17 However to continue to foster technological advances in  
18 hydraulic fracturing as in any other industry  
19 innovators must have the protection for their trade  
20 secrets that they develop.

21           So just to use a well known example to give  
22 what we mean here, the Coca-Cola Company has famously  
23 and successfully kept its formula for the world's most  
24 popular soft drink a jealously guarded trade secret  
25 since its creation 125 years ago. Simply put, a trade

1 secret is defined as any valuable information, business  
2 information, that is not generally known and is subject  
3 to reasonable efforts to preserve confidentiality. In  
4 the soda case the Coca-Cola secret formula easily  
5 qualifies as valuable business information with the  
6 value being derived from the fact that it is secret.  
7 And as with any trade secret however, the formula can  
8 only be a trade secret for as long as it is actually a  
9 secret. So it is commonly known that Coca-Cola's  
10 formula is held in a high security vault in Atlanta and  
11 only two people at any given time are supposed to know  
12 the secret formula which may or may not include  
13 coriander, nutmeg, orange and lemon oils. You can  
14 search on the web and find the ingredients, but you're  
15 never going to find what proportion of nutmeg and  
16 coriander and lemon oils. And the revelation of this  
17 specific recipe worth many billions of dollars would be  
18 disastrous for Coca-Cola's company.

19           We understand that many in the public are  
20 concerned and will likely testify today and tomorrow  
21 regarding the health and safety of hydraulic fracturing  
22 chemicals. It is important to note that technological  
23 advancements in hydraulic fracturing have not only  
24 significantly increased and enhanced production, but  
25 have made it a more environmentally sound practice,

1 reducing water use as well as the use of biocides and  
2 chemicals. The technology that has made hydraulic  
3 fracturing more efficient and environmentally sound is  
4 the same technology these innovators are looking to  
5 protect. And just like Coca-Cola our member service  
6 providers must protect this technology in order to  
7 retain its value. These technologies are highly  
8 proprietary and the result of years of extensive  
9 research and development efforts. Waiving intellectual  
10 property rights to these technologies in the Alaskan  
11 market may jeopardize the value of the rights globally  
12 which means in some cases suppliers don't use the best  
13 practices here in Alaska.

14           AOGA members have substantiated concerns that  
15 any requirement to force disclosure of this proprietary  
16 information, including product formulations, will  
17 create a disincentive for the service providers  
18 development and the best use of the best technologies  
19 in our state. So for this reason our redline suggests  
20 that the required disclosure of concentrations and  
21 types of materials pumped be consistent with the  
22 disclosures routinely submitted on FracFocus and not  
23 require disclosure that would compromise proprietary  
24 information or otherwise expose trade secrets. Health,  
25 safety and environmental concerns can still be

1 addressed without jeopardizing this specific  
2 information just as Coca-Cola must disclose  
3 ingredients that may affect my health, including the  
4 nutritional information printed on the side of the can.  
5 Accordingly AOGA supports the full disclosure of trade  
6 secrets in the event of a health care emergency and as  
7 necessary for the Commission's proper investigation of  
8 waste or spills.

9           Currently federal law requires material safe  
10 data sheets commonly referred to as MSDS in the  
11 industry, to be available on location. These sheets  
12 list every chemical used in the hydraulic fracturing  
13 process and must be disclosed to the Commission if  
14 requested upon receipt of a written statement or of a  
15 medical need or in the event of a medical emergency to  
16 a health professional. We support the Commission's  
17 adoption of a similar provision as suggested in  
18 subsection (l) of your regulations.

19           The requirements and processes for claiming  
20 trade secret protection should be clear and provide  
21 procedural certainty. The language suggested in the  
22 enclosed subsection (l) and (m) require disclosure of  
23 such information to health care providers and emergency  
24 responders as needed in the event of a medical  
25 emergency. In addition we respectfully request the

1 adoption of subsections (n) and (o) providing for the  
2 disclosure of proprietary information to the Commission  
3 in order to investigate waste under AS 31.050.30 or a  
4 release under code 20 AAC 25.205 and as necessary to  
5 enable the Alaska Department of Environmental  
6 Conservation to respond to a release.

7           In addition we understand that unlike other  
8 state regulations regarding hydraulic fracturing the  
9 Commission intends to only put the operator on the hook  
10 for the disclosure and reporting of its hydraulic  
11 fracturing operations. And AOGA is supportive of this  
12 concept. However we do respectfully request the  
13 addition of a subsection (j) that we have suggested  
14 requiring service providers and vendors furnish  
15 operators with the information required to be submitted  
16 pursuant to 20 AAC 25.283, subsection (h)(2). And in  
17 addition we request subsection (k) identifying  
18 disclosures not required including chemicals not  
19 disclosed to the operator by the manufacturer, vendor  
20 or service provider.

21           So in summary I want to thank you again for the  
22 opportunity to testify today and because of the high  
23 level of public interest in these proposed regulations  
24 and their potential impact on stakeholders and the  
25 public we respectfully ask that as the Commission

1 proceeds with this rulemaking that the Commission allow  
2 for additional public notice and comment period on any  
3 proposed revisions that you may make during your  
4 deliberations.

5           So we look forward as we always do to  
6 continuing to work with you, the Commissioners and your  
7 staff, in developing final regulations that are  
8 reasonable and serve to assure any future public  
9 concern without imposing unnecessary or duplicative  
10 restrictions and we thank you again for this  
11 opportunity.

12           And I'm happy to address any questions you may  
13 have.

14           CHAIR FOERSTER: Thank you, Ms. Moriarty.  
15 Commissioner Norman and Seamount, would you like to ask  
16 questions now or would you like to take a brief recess  
17 to consult with staff before asking questions?

18           COMMISSIONER SEAMOUNT: It's up to you, Madame  
19 Chair.

20           CHAIR FOERSTER: All right. I'm going to look  
21 at a couple of critical staff people and ask if they  
22 need us to take a recess.

23           (No comments)

24           CHAIR FOERSTER: And seeing their head shake  
25 no. So,

1 Commissioner Seamount, do you have any questions?

2 COMMISSIONER SEAMOUNT: Yes, Ms. Moriarty, you  
3 mentioned California. Have you looked at -- has AOGA  
4 looked at other aspects of California's regulatory  
5 environment?

6 MS. MORIARTY: Commissioner, in what -- in what  
7 way?

8 COMMISSIONER SEAMOUNT: Like my question is has  
9 AOGA noticed whether California's regulatory  
10 environment is more stringent than Alaska's?

11 MS. MORIARTY: In a general sense that is  
12 usually true. For this case -- that California is  
13 usually more stringent in some areas than others, but  
14 for this exercise we just specifically looked at their  
15 proposed hydraulic fracturing regulations.

16 COMMISSIONER SEAMOUNT: So you're saying that  
17 Alaska's -- our proposed frack regulations will be more  
18 stringent than California's?

19 MS. MORIARTY: As currently drafted that is our  
20 belief, yes.

21 COMMISSIONER SEAMOUNT: Okay. Now when you're  
22 talking about our preapproval proposals, you're talking  
23 about unnecessary delays, but I don't really understand  
24 that since you're going to have to model a frack anyway  
25 before you run it. So I don't understand where --

1 where the delay's going to occur. I mean, you're going  
2 to have to model it and put together a program in the  
3 first place and then -- I mean, you're going to submit  
4 -- I mean, you're going to have that in hand anyway.  
5 So I'm -- where is this delay going to occur?

6 MS. MORIARTY: The way we read the regulations  
7 is that we would have to do all that, submit it to you,  
8 wait for that approval process before we could conduct  
9 the hydraulic fracturing operation. That's where we  
10 see the delay potentially occurring instead of putting  
11 the model together, conducting the fracking operation  
12 and then including what we did in the post-fracking  
13 report which would not -- we don't -- we believe would  
14 be more streamlined and more seamless, a more seamless  
15 process.

16 COMMISSIONER SEAMOUNT: Okay. We're going to  
17 have to mull that over. As far as water sampling, I  
18 would think having worked in industry for 27 years that  
19 it would be prudent for the operator to, just for their  
20 own protection, get some sort of baseline in the first  
21 place, I mean, just to protect yourself from  
22 litigation. But that's just a statement on my part and  
23 we would always do that on our own without being  
24 regulated into it. I -- would you have any comment on  
25 that other than, you know, what you've already said

1 that you -- you know, you have to go outside and it may  
2 cause delays?

3 MS. MORIARTY: I think having information  
4 during a sampling process is important, the question  
5 becomes do we have to wait for the sample every time  
6 you drill a well, that where we think may be the  
7 impractical nature of it. Not that we don't want to  
8 know, it's just that once you know if you have to have  
9 that water sample every single time is where the delay  
10 would come in.

11 COMMISSIONER SEAMOUNT: Okay. Now your members  
12 are reporting voluntarily to FracFocus, are they  
13 voluntarily reporting every stage of a frack at this  
14 time?

15 MS. MORIARTY: I will have to get back to you  
16 exactly what they report to FracFocus, if it's at every  
17 stage. I will get -- I will get back to you on the  
18 details, I don't want to assume.

19 COMMISSIONER SEAMOUNT: Okay. Thank you for  
20 your testimony, Ms. Moriarty. I've no further  
21 questions.

22 CHAIR FOERSTER: Thank you. Commissioner  
23 Norman, do you have any questions?

24 COMMISSIONER NORMAN: I have a question for  
25 you, Ms. Moriarty, and then I'll just frame it and

1 perhaps as other speakers in -- today and tomorrow come  
2 they can it in mind also. Insofar as disclosure is  
3 concerned, it's axiomatic that to have development of  
4 oil and gas resources there needs to be public  
5 acceptance of the activity at some level. If there's  
6 not public acceptance then sooner or later development  
7 of the resource is going to stop. And public  
8 acceptance can occur whenever there's public trust and  
9 public understanding of what's going on. And that  
10 public trust can be built by the public understanding  
11 it or the public having confidence that there are  
12 governmental agencies watching what's going on. So  
13 with reference to hydraulic fracturing which is a topic  
14 under discussion right here in this room today, but  
15 across the state, subject to what's going into the  
16 ground is under discussion by the public and whether  
17 it's well founded or not it's on the public's mind. As  
18 I understand your proposal you're attempting to address  
19 the tension between the legitimate concern of an  
20 innovator to protect their priority interest and the  
21 public by saying disclosure can occur after an event by  
22 making disclosure available to responders in an  
23 emergency or to the Commission after there has been a  
24 release into the environment. That -- that's what I  
25 have heard from you to suggest is a compromise. Have I

1 heard you right?

2 MS. MORIARTY: Actually let me be more clear  
3 because that's not exactly what we're saying. What  
4 we're saying is we're -- we are fine with the  
5 disclosure of the chemicals that are used in the  
6 hydraulic fracturing process and we don't need to wait  
7 for an event or for the Commission to request that  
8 information. What we're suggesting is that the  
9 information.....

10 MS. BREASE: Hello.

11 MS. MORIARTY: .....that is disclosed.....

12 CHAIR FOERSTER: Excuse me a minute. Ms.  
13 Brease?

14 MS. BREASE: Yes, I -- sorry, I was cutoff.

15 CHAIR FOERSTER: Oh, I apologize for that. We  
16 proceeded without you and we're listening to the  
17 testimony of someone else right now, but if you could  
18 hang on we will hear your testimony as soon as this is  
19 finished.

20 MS. BREASE: Okay.

21 CHAIR FOERSTER: Thank you. I'm sorry, Ms.  
22 Moriarty, proceed.

23 MS. MORIARTY: No, that's fine. I understand  
24 the difficulties with teleconference sometimes. But to  
25 continue to answer your question, Commissioner Norman,

1 we are supportive of disclosing the chemicals that are  
2 used in the hydraulic fracturing operations. What we  
3 are sensitive to is the exact formula that is used or  
4 as my layman's vernacular uses it, the cocktail, the  
5 exact components of every single chemical that is used  
6 in the hydraulic fracturing operation because that's  
7 what gets into the trade secret, that's what they hold  
8 proprietary, not the -- that you used so much of one  
9 chemical and a maximum amount of another chemical and a  
10 maximum amount of a third chemical, it's that exact  
11 formula that we don't believe needs to be disclosed.  
12 So in other states like Colorado or Texas, they require  
13 that the chemical up to a maximum amount is disclosed  
14 so that you know up to so many parts per million of a  
15 certain chemical may or may not have been used in that  
16 operation, but you don't know the exact amount that may  
17 have been used, but you would know up to a maximum  
18 amount to protect safety and to address public  
19 concerns.

20 Does that help clarify what our position is?

21 COMMISSIONER NORMAN: Yes, I understand. It's  
22 the quality, but not the quantity of the specific  
23 constituent chemical. I understand.

24 MS. MORIARTY: Thank you.

25 COMMISSIONER NORMAN: Thank you.

1           CHAIR FOERSTER: Ms. Moriarty, I just have a  
2 few questions. You said you looked at California's  
3 fracturing regulations, what other states did you look  
4 at?

5           MS. MORIARTY: We looked at -- well, our member  
6 companies operate in several states in the lower 48 so  
7 any state that they operate in we had knowledge of. So  
8 but primarily Texas, Colorado, Pennsylvania, those were  
9 the states that most of my member companies have the  
10 most direct experience in.

11          CHAIR FOERSTER: Okay. And in looking at those  
12 other states why did you choose California?

13          MS. MORIARTY: Just because -- oh, just -- for  
14 the example that we used?

15          CHAIR FOERSTER: Yes.

16          MS. MORIARTY: Just because they're also in the  
17 process, they're in the same process that Alaska in.  
18 They're in the development phase just like we're in the  
19 development phase instead of picking a state that may  
20 or may not have already solidified their regulations.

21          CHAIR FOERSTER: Okay. For any of the states  
22 that have solidified their regulations, what sort of  
23 comparison would you make between what they've landed  
24 on and what has been proposed?

25          MS. MORIARTY: A lot of the characteristics

1 that I listed on the slide and in our testimony are  
2 very consistent for both the differences in those other  
3 states, not just California. So, for example, the  
4 preapplication process, the no trade secret  
5 protections, those four main categories really  
6 summarize the differences between what Alaska is  
7 considering to propose and what has already been in  
8 regulation in those other states or what California is  
9 proposing to do.

10 CHAIR FOERSTER: Okay. Thank you. I want to  
11 go back a little bit to one of the questions that Mr.  
12 Seamount asked when you talk about adding time to the  
13 process of having to submit the hydraulic fracture  
14 design as -- for approval before pumping the job. On  
15 most wells in the state of Alaska if you're going to  
16 perform a hydraulic fracture a sundry well work  
17 approval is required so I think what would -- you need  
18 to tell me what other than a staple would add to the  
19 process for the operator of stapling the design to the  
20 sundry well work approval.

21 MS. MORIARTY: And I think -- and I think maybe  
22 the difference is is we read your proposed regulations  
23 as requiring something in addition to that sundry well  
24 -- sundry application. So we were reading it as an  
25 additional step beyond that sundry application. So we

1 may have been reading that wrong and it's something we  
2 can work offline.....

3 CHAIR FOERSTER: Okay.

4 MS. MORIARTY: .....but that's -- we saw it as  
5 an additional step in the process.

6 CHAIR FOERSTER: Okay. Well, I think the  
7 intention was that the sundry well work submittal  
8 needed to include the frack design and so when we hear  
9 you guys say oh, it'll add a whole lot of work, to me  
10 it adds a staple.

11 MS. MORIARTY: Okay. So again I think that's  
12 something we can maybe work through with you.....

13 CHAIR FOERSTER: Okay.

14 MS. MORIARTY: .....and your staff.

15 CHAIR FOERSTER: Okay. And I needed a little  
16 clarification from you. When you suggested that we  
17 provide an exemption for areas with no fresh water, an  
18 exemption from what?

19 MS. MORIARTY: Well, from the -- in the  
20 regulations I think that was in the -- I think it was  
21 in -- I'll have to double check just to make sure, but  
22 it's our understanding that you would have to get  
23 approval for those areas even if there's no fresh water  
24 present. And so.....

25 CHAIR FOERSTER: Approval of what?

1 MS. MORIARTY: Approval of the fracking  
2 operation.....

3 CHAIR FOERSTER: Okay.

4 MS. MORIARTY: .....itself.

5 CHAIR FOERSTER: Okay. I mean, it's clearly a  
6 no brainer that there would be an exemption from the  
7 water well testing for an area that has no fresh water,  
8 but I was just wanting to know if you wanted to be  
9 absolved of any of the reporting and I think that's  
10 what I'm hearing is that if there are no fresh waters.  
11 And I just want to remind people in the room that  
12 although protecting fresh waters is a very important  
13 part of what we do, there are other things that we do  
14 in preventing waste and encouraging greater hydrocarbon  
15 recovery, protecting correlative rights, all might have  
16 come to play when considering hydraulic fracturing. So  
17 just the absence of fresh ground waters in and of  
18 itself probably isn't all we're looking at. And then  
19 before my assistant attorney general tells me to quit  
20 testifying I'm going to shut up.

21 All right, Ms. Moriarty, we appreciate your  
22 testimony. Do -- Commissioner Seamount, do you have  
23 any other questions?

24 COMMISSIONER SEAMOUNT: No.

25 CHAIR FOERSTER: Commissioner Norman?

1 COMMISSIONER NORMAN: No.

2 CHAIR FOERSTER: All right. Thank you very  
3 much. And additional questions may arise so if you are  
4 able to stay we'd really appreciate that.

5 MS. MORIARTY: And if I -- I do have other  
6 things throughout the day, but Mickey Martin of our  
7 staff will be here for -- throughout the hearing today  
8 and tomorrow, but I will be here as late as I can  
9 today.

10 CHAIR FOERSTER: Okay. Thank you. Thank you,  
11 Ms. Moriarty.

12 All right. For Ms. Brease, I think she's  
13 waited long enough, I think we should at this time  
14 allow her to testify. Ms. Brease, are you still with  
15 us?

16 MS. BREASE: Yes, I am. And I'm sorry I was  
17 cutoff before and I thank you for hanging on.

18 CHAIR FOERSTER: Okay. So for the record we  
19 need your name and who you represent and then give us  
20 your testimony. And remember to restrict your  
21 testimony to subject matter that is relevant to the  
22 jurisdiction of the AOGCC and to hydraulic fracturing.

23 MS. BREASE: Of course.

24 CHAIR FOERSTER: Okay. Thank you.

25 MS. BREASE: My name is Barbara Brease and I'm

1 a resident homeowner in Healy, Alaska in one of the  
2 permit areas. And I'm also -- I'm member of the Denali  
3 Citizens Council as well. But I'm speaking myself  
4 today as a homeowner and resident mother in a permit  
5 area.

6 CHAIR FOERSTER: You may proceed.

7 MS. BREASE: Okay. Thank you for the  
8 opportunity to offer my comments on the Alaska Oil and  
9 Gas Conservation Commission's proposed changes to its  
10 regulations concerning hydraulic fracturing.

11 I would like to remind the Commission that  
12 we're not -- that we're talking about -- I'm sorry. I  
13 would like to remind the Commission that we're -- we  
14 aren't talking about an already industrialized site.  
15 These regulations have to consider the safety of doing  
16 fracking around people's homes and over the water  
17 through the wells, you know, near where their children  
18 play and where our kids go to school. As a homeowner  
19 and resident in the Healy area I'm just -- I'm very  
20 concerned about the possibility of fracking in my  
21 community. And I hope you will implement strong  
22 regulations that will protect my family and this  
23 community, the environment, the value of my home. I  
24 hope that you will require the components of the  
25 fracking chemicals, the fluids that are used, to be

1 disclosed to the public prior to fracking operations.  
2 This is something that is so important to know. I'm  
3 concerned of the -- that the industry is more worried  
4 about trade secrets than our health. There is  
5 compelling evidence that this process has had terrible  
6 impacts on the health and environment, the health of  
7 people that live along these operations and the  
8 environment. And new research has concluded that  
9 faulty mineral rich fluids deep in these -- the  
10 Pennsylvania gasfields are seeping upwards thousands of  
11 feet into drinking water supplies. And that the  
12 industry is -- feels it's not necessary to do fresh  
13 water testing because it causes a delay. That concerns  
14 me because isn't it worth it for public health, I mean,  
15 if you're doing this in somebody's neighborhood. I  
16 hope the Commission will limit flaring and venting to  
17 the smallest amount needed if this operation happens  
18 and it's important that it be required that operators  
19 effectively control especially the venting during their  
20 operations. Note we live here in part because the air  
21 is clean and industrialized operations would be very  
22 harmful to our way of life and our health.

23           And I wanted to bring up that the Denali area  
24 is very active seismically. We just -- we had an 8.9  
25 earthquake here a few years ago. It's very important

1 that disposal or storage operations not increase  
2 seismic events above the background levels. I mean,  
3 this is something that needs a lot more investigation I  
4 believe.

5           So in closing I just want to say that I hope  
6 you will support measures that -- the strongest  
7 measures for the sake of the residents and the  
8 community and the environment here, the strongest level  
9 of protection for us.

10           Thank you.

11           CHAIR FOERSTER: Thank you, Ms. Brease.  
12 Commissioner Seamount, do you have any questions for  
13 Ms. Brease?

14           COMMISSIONER SEAMOUNT: Yeah, Ms. Brease, I'd  
15 like to thank you for your testimony today and we will  
16 be -- I notice that you have submitted some  
17 documentation and we will be looking it over carefully  
18 to see if there's any information that supports your  
19 contention that there has been damage due to hydraulic  
20 fracturing specifically in the Pennsylvania area and if  
21 you do find any other information that supports that --  
22 your statements to that affect I'd be interested in  
23 seeing that. And again thank you for your testimony  
24 today.

25           And I have no further statements or questions.

1 CHAIR FOERSTER: Thank you.

2 MS. BREASE: I'd be happy to do that and thank  
3 you very much for the opportunity to speak.

4 CHAIR FOERSTER: Okay. Commissioner Norman, do  
5 you have any questions for Ms. Brease?

6 COMMISSIONER NORMAN: I have none, but thank  
7 you for your participation, Ms. Brease.

8 CHAIR FOERSTER: Ms. Brease, I have no  
9 questions for you, but thank you for calling in and  
10 thank you for your patience and I apologize for the  
11 technical difficulties you experienced.

12 MS. BREASE: Oh, no, thank you so much for  
13 accommodating my testimony.

14 CHAIR FOERSTER: You're welcome. You're  
15 welcome.

16 The next entity that we would like to hear from  
17 is ConocoPhillips. If ConocoPhillips is available to  
18 testify come on up.

19 And I apologize, Ms. Moriarty, I didn't ask you  
20 if you wanted to be recognized as an expert witness,  
21 but I don't think you did.

22 MS. MORIARTY: (Indiscernible - away from  
23 microphone).....

24 CHAIR FOERSTER: All right. Okay. I apologize  
25 for that.

1           Mr. Robinson, when you start out, of course,  
2 you need to identify who you are and who you represent  
3 for the record and then you need to let us know if you  
4 want to be recognized as an expert and if you do you  
5 need to tell us what that area of expertise is and then  
6 what your qualifications are that make you an expert.

7           MR. ROBINSON: My name is Shon Robinson, I'm  
8 the wells manager for ConocoPhillips Alaska and I would  
9 like to be considered as an expert witness. I'll give  
10 you a little bit of back -- my background to  
11 substantiate that. Is that the.....

12          CHAIR FOERSTER: And what area of expertise?

13          MR. ROBINSON: Drilling and wells. So I'll  
14 give you a little bit of my background, is that the  
15 next step? All right.

16          CHAIR FOERSTER: And then we'll determine  
17 whether your qualifications justify the expert.....

18          MR. ROBINSON: Sounds good.

19          CHAIR FOERSTER: .....recognition.

20          MR. ROBINSON: Okay. So I graduated from  
21 Brigham Young University as a mechanical engineer, I  
22 also completed a master's degree in business  
23 administration from Saint Mary's University in Halifax,  
24 Nova Scotia. And I've worked in drilling and  
25 completion functions since 1997 in various locations

1 both domestically as well as overseas. My experience  
2 about -- is about equally divided between domestic  
3 operations as well as overseas and I've spent about  
4 one-third of my career working on offshore environment  
5 and two-thirds with land based drilling and wells  
6 operations. I've been involved in drilling  
7 completions, workovers, rigless intervention and  
8 fracture stimulation during my entire career.

9 CHAIR FOERSTER: Okay. Commissioner Seamount,  
10 do you have any questions:

11 COMMISSIONER SEAMOUNT: I have no questions.

12 CHAIR FOERSTER: Commission Norman.

13 COMMISSIONER NORMAN: No questions.

14 CHAIR FOERSTER: Commissioner Seamount, do you  
15 -- are you comfortable with recognizing Mr. Robinson as  
16 an expert in the area of drilling and wells?

17 COMMISSIONER SEAMOUNT: I have no objections.

18 COMMISSIONER NORMAN: No objections.

19 CHAIR FOERSTER: Nor do I. So the Commission's  
20 recognized you as an expert so you may proceed.

21 MR. ROBINSON: Okay. Thank you. I'm happy to  
22 be here and would like to thank the Commissioners for  
23 allowing ConocoPhillips to make some public comments  
24 regarding the AOGCC proposed hydraulic fracturing  
25 regulations. I'd also like to thank the public

1 interest groups and industry for participating in this  
2 important process. Together we all recognize that we  
3 make a better whole.

4           We've submitted written comments to the AOGCC,  
5 but also wanted to make sure we took the opportunity to  
6 discuss some of the background for those comments. I  
7 have about 10 slides and one short video which I think  
8 will be of interest for the public more so than the  
9 Commissioners necessary because it describes the  
10 hydraulic fracturing process and I think that's the  
11 important aspect of this hearing anyway is the  
12 education for public as well.

13           ConocoPhillips has been conducting work in  
14 Alaska for 50 years and looks forward to continued work  
15 in the state. Currently we're the largest oil producer  
16 as well as a major employer in the state.  
17 ConocoPhillips has key commitments that are part of its  
18 operations and decision making processes. The first  
19 commitment is to personnel safety. The safety of our  
20 employers [sic], contractors, the public are critical  
21 and if we can't do something safely we won't do it.  
22 Process safety is also a key commitment. To me put  
23 simply that means keeping the materials that we use in  
24 our processes or produce inside of containment whether  
25 it's a well or a surface facility or a pipeline or a

1 transport vehicle. Process safety events have the  
2 potential to escalate and impact more than a single  
3 individual so those are very important. We also  
4 equally value the environmental protection and  
5 recognize that the environment in which we live is  
6 something that we must protect and hand down to the  
7 next generation.

8           We also have operating principles.  
9 ConocoPhillips recognizes there are environmental  
10 impacts from oil and natural gas exploration,  
11 development and production and mitigates these risks  
12 through our operating principles. We abide by all  
13 regulations governing oil and natural gas operations,  
14 established standards and our own robust operating  
15 principles to mitigate any potential environmental  
16 impacts. ConocoPhillips has established operating  
17 principles that all of our exploration and production  
18 businesses adhere to without exception unless there's a  
19 documented and approved technical, safety or  
20 environmental rationale for doing otherwise. Sound  
21 well construction, well operations and surface  
22 practices as well as proper water management and  
23 emission reduction techniques are critical for  
24 protecting the water, air, land, wildlife and  
25 communities in which we operate. I'm quite proud

1 actually to be a member of the ConocoPhillips company  
2 and can testify that these key commitments and  
3 operating principles are a part of our every day life  
4 and part of all of the decisions we make.

5           ConocoPhillips recognizes the AOGCC is trying  
6 to act proactively in setting out hydraulic fracturing  
7 regulations. This is a wise step to ensure a sound  
8 regulatory environment exists as future development  
9 opportunities arise in Alaska. Currently  
10 ConocoPhillips operates conventional oil wells on the  
11 North Slope of Alaska as well as in the Cook Inlet.  
12 These conventional wells typically have the top of  
13 hydrocarbon at approximately 5,000 feet total vertical  
14 depth or greater which puts them significantly deeper  
15 than usable water aquifers near surface. The  
16 formations that lie between the shallow aquifers and  
17 the hydrocarbons is typically greater than 3,500 feet  
18 and contains many layers of impermeable rock that form  
19 barriers that fluids cannot flow through. The key to  
20 the well construction process used by ConocoPhillips is  
21 installing barriers that prevent contamination of the  
22 aquifer as well.

23           I'll talk a bit more about well construction  
24 practices later on in this presentation as it's a key  
25 contributor to not having any known cases of

1 contaminated groundwater or aquifers in any of  
2 ConocoPhillips' operations.

3           We conduct fracture stimulations in all of our  
4 operated fields so the Cook Inlet, Kuparuk and Alpine.  
5 To date we have conducted more than 1,000 hydraulic  
6 fracture operations across Alaska and it's a key  
7 technology in many wells being installed today.

8           One of the most important areas that warrants  
9 discussion is well integrity. Ultimately  
10 ConocoPhillips believes that the building of quality  
11 wellbores is the best way to prevent any issues.  
12 ConocoPhillips has well design standards that must be  
13 followed when designing wells as well as any time that  
14 a pumping operation is planned on a well. We also use  
15 API standards and recommended practice. In fact, with  
16 respect to hydraulic fracturing ConocoPhillips is  
17 currently participating in an API subcommittee that  
18 started in 2012 and was tasked with developing a  
19 hydraulic fracturing recommended practice. This  
20 document will take the three guidance documents  
21 currently published by the API on fracturing as well as  
22 a standard for well construction and a recommended  
23 practice for environmental protection and consolidate  
24 them into a recommended practice which I saw a draft of  
25 so I know it's in process. It's a very -- anyway it's

1 a really good process. The five documents are HF-1,  
2 Hydraulic Fracturing Operations, Well Construction and  
3 Integrity Guidelines, this was published first edition  
4 October of 2009. HF-2 which is Water Management  
5 Associated with Hydraulic Fracturing, first edition was  
6 published in June of 2010 also by the API. And HF-3,  
7 Practices for Mitigating Surface Impacts Associated  
8 with Hydraulic Fracturing, first edition was published  
9 in February of 2011. There's also a Standard 65 Part  
10 II which deals with isolating potential flow zones  
11 during well construction, the second edition was  
12 published in December of 2010. And the final one is a  
13 recommended practice 51R, Environmental Protection for  
14 Onshore Oil and Gas Productions and Leases, first  
15 edition published in July of 2009. So you can see that  
16 industry has also been reacting to the change in the  
17 importance of the fracture technology with  
18 unconventional resources and been actively moving along  
19 trying to create a recommended practice. We follow all  
20 regulatory requirements and conduct regulatory well  
21 monitoring to ensure wells maintain integrity.

22           The current AOGCC regulations require quite a  
23 few things which ConocoPhillips meets or exceeds. I'll  
24 just highlight a few, I don't want to go through all of  
25 them. But casing and cement is to be designed to

1 confine fluids to the well bore, prevent migration of  
2 fluids from one stratum to another, ensure control of  
3 well pressures that are encountered, protect against  
4 thaw, subsidence and freeze back affects within  
5 permafrost, prevent contamination of fresh water and  
6 protect significant hydrocarbon resources. Prior to  
7 drilling out any casing string the cement is required  
8 to have set up adequately and we're also required to  
9 get valid formation integrity tests. If the Commission  
10 believes that zonal isolation might not have been  
11 established the Commission has the right and will  
12 require a cement quality log or other method to  
13 demonstrate isolation of the zone. Surface casing must  
14 be set below the base of all strata known or reasonably  
15 expected to serve as a source of drinking water.  
16 Surface casing must be cemented from the base of the  
17 casing to surface and if suspect the operator shall  
18 notify the Commission before drilling ahead. And the  
19 Commission again can decide the next step.  
20 Intermediate and production casings must also be  
21 cemented from the base to 500 foot above all  
22 significant hydrocarbon or abnormal pressure zones. If  
23 indications again of improper cement occur whether it's  
24 lost returns or a poor formation integrity test,  
25 remedial action must be performed as per regulation.

1           Again I don't want to go through all the  
2 regulations, but the AOGCC has done a great job of  
3 setting a base regulation that promotes well integrity  
4 in the state of Alaska.

5           So with this slide I'm going to just talk about  
6 -- a little bit about well construction. The goal of a  
7 properly designed well is to ensure the environmentally  
8 sound, safe production of oil and natural gas by  
9 containing hydrocarbons inside of the wellbore. We all  
10 know that varying geologic, environmental and  
11 operational conditions are taken into consideration in  
12 the design of a well. You can't design the well the  
13 same in Texas as you can in Alaska on the North Slope  
14 or in the Cook Inlet. While there is some variability  
15 in how a well is constructed, the basic principles in  
16 constructing a reliable well are typically the same.  
17 Multiple barriers of industrial strength -- industrial  
18 grade steel casing and cement to create redundant  
19 safeguards that properly protect fresh water aquifers,  
20 high quality casing and cementing operations are always  
21 critical to well integrity and casing is cemented into  
22 the wellbore to provide zone isolation and maintain  
23 well integrity.

24           Well design and construction has four main  
25 components, you can see them on the slide, the first

1 being conductor casing which is intended to hold back  
2 shallow, unconsolidated surface materials and is either  
3 driven or drilled and cemented into place. Surface  
4 casing is installed and cemented in place at depths  
5 below aquifer levels according to state regulations.  
6 The primary purpose of this surface casing string is to  
7 isolate and protect fresh water aquifers from fluids in  
8 the wellbore. After surface casing some wells require  
9 intermediate casing which is also properly cemented  
10 into the wellbore. And finally the production casing  
11 is installed, extending to the bottom of the well to  
12 isolate the production zone from other formations.  
13 Wellbore components and pressure release systems are  
14 installed, tested and monitored before use, during  
15 hydraulic fracturing operations and throughout the  
16 producing life of the well. The entire well  
17 construction process may take between two and three  
18 months and the life cycle of the well may be 20 to 30  
19 years.

20 I'm going to use this slide to talk about two  
21 main principles. The first is to show the separation  
22 between groundwater and the producing zone that may be  
23 hydraulically fractured. So groundwater is protected  
24 through proper well construction and impermeable  
25 geologic barriers. Our wells are designed and

1 constructed with redundant barriers of industrial grade  
2 steel and cement to prevent fracturing fluids or  
3 produced hydrocarbons from contacting sources of  
4 groundwater, casing and cement and are pressure tested  
5 to confirm wellbore integrity. Beyond mechanical  
6 safeguards groundwater is protected by multiple layers  
7 of impermeable rock that separate the target  
8 hydrocarbon bearing formations from fresh water  
9 aquifers by thousands of feet. And you can see that in  
10 this diagram where the aquifer is this line here, very  
11 shallow, and the producing formation, this is a scale  
12 of 6,000 feet which is typical of most of our Alaska  
13 operations, the producing formation, and it's separated  
14 by numerous layers of impermeable barriers.

15           Let's see, the second point I want to make is  
16 about the fracturing process. I do have a movie that I  
17 hope will work, but I would like to -- that I'll show  
18 next, but I would like to describe briefly the  
19 fracturing process. The fracturing process is a simple  
20 concept. Sand or proppant laden fluids are pumped into  
21 a wellbore at pressure, the fluid exits at perforations  
22 in the casing in the reservoir. The pressure is used  
23 to fracture or open the rock up. As the rock opens the  
24 fluid under pressure flows into the newly created  
25 fracture carrying the proppant. When the pressure is

1 released the fracture closes and the proppant holds the  
2 rock open creating a pathway for the produced fluids to  
3 enter the wellbore and be conducted to surface. The  
4 fracture fluids are produced back to surface and  
5 disposed according to regulations. So in the diagram  
6 here you can see this is the drill site, the aquifer  
7 here, this is just to -- to emphasize the fact that the  
8 fresh water aquifer is contained behind casing and  
9 cement, the surface casing protects that aquifer. Four  
10 is just the wellbore path. Five is describing the  
11 hydraulic fracture process where we're fracturing down  
12 here again deep in the earth. And then this is just  
13 representative of -- number 6, of the fluids flowing  
14 from the fractures back into the wellbore being  
15 conducted back to surface.

16           Here goes nothing, I hope it works. To tie  
17 everything together I hope that the video works. It's  
18 about five minutes and it portrays a typical Eagle Ford  
19 shale well in Texas which is about 10 to 13,000 feet in  
20 vertical depth below ground. But the concepts and  
21 process is very similar and I think it has validity to  
22 satisfy the public on some of their concerns on just  
23 understanding what exactly as Commissioner Norman  
24 suggested exactly what's going on.

25           (Video played for audience)

1           MR. ROBINSON: Thanks for letting me show that.  
2 So we have provided detailed written comments for the  
3 Commission's consideration. There are areas of the  
4 proposed regulation that make sense and serve  
5 legitimate oversight purposes and we have no objection  
6 to some of those. Some examples of that include  
7 chemical disclosure to FracFocus and submittal of a  
8 fracturing plan. Some areas we oppose the proposed  
9 regulation or in 25.283(a), paragraphs (3) and (11),  
10 one example is aquifer identification. The only known  
11 source of information on water well locations is the  
12 Department of Natural Resources well log tracking  
13 system, but the information on this system appears to  
14 be incomplete and does not contain wells that are not  
15 registered unlike -- does not contain wells that are  
16 not registered. Unlike in other states where  
17 government agencies have mapped out fresh water  
18 aquifers, there's no known source of information on  
19 fresh water aquifer locations throughout Alaska. This  
20 would impose on operators a duty to collect and submit  
21 information that is not reasonably available. This  
22 information would also not serve any clear purpose as  
23 there is not a reason a well would be constructed  
24 differently. Wellbore integrity standards and fluid  
25 migration protections remain the same, including

1 surface casing setting requirements.

2 Another example is 25.283(g). ConocoPhillips  
3 is also opposed to reporting 500 psi pressure increases  
4 during fracture stimulation operations. The outer  
5 annulus of a well may occasionally build pressure due  
6 to thermal expansion, but a 500 psi pressure increase  
7 may not be cause for concern if the cause is understood  
8 and the pressure is within the design capability of the  
9 casing. API guidance document HF-1, section 10.4.2 is  
10 a good resource for guidance on pressure monitoring.  
11 We recognize the regulation should be specific and  
12 clear and we encourage the Commission to use a better  
13 measure, be it a design limitation of a barrier or a  
14 pressure increase of a certain pressure amount above an  
15 expected pressure.

16 There are a number of areas where clarification  
17 would be beneficial. The requirement to have an open  
18 valve on the surface casing, 25.283(f) needs  
19 clarification on the intent and could be contradictory  
20 to 25.283(g) where it says that all annuli must be  
21 monitored. Not every well is built the same way and so  
22 better description or language on what is required or  
23 intended needs to be incorporated into the regulation.

24 Section 25.283(a) (7) could be understood to  
25 require a cement bond log on all casing strings which

1 is not currently required by regulations. There are  
2 ways specifically with regard to surface casing to  
3 confirm cement isolation has occurred without  
4 conducting a bond log. Cement returns can be seen at  
5 surface, the surface casing is pressure tested and  
6 formation integrity test is conducted prior to drilling  
7 ahead. The intent of this section, confirmation that  
8 barriers exist, is good. We just seek clarification on  
9 what is acceptable and believe that a cement evaluation  
10 log is not required in every case to confirm adequate  
11 barriers are in place.

12           There's also an opportunity to differentiate  
13 regulatory requirements for hydraulically fracturing  
14 wells via a depth cutoff which is what ConocoPhillips  
15 recommended at 2,500 feet or some other way, example,  
16 volume or proximity to a certain concern. Wells that  
17 are close to surface and that are deeper can both be  
18 constructed, fracture stimulated and operated safely.  
19 It does make sense however to focus on areas of higher  
20 risk though that risk still may be small and not impede  
21 areas with negligible risk.

22           For operators that are conducting exploratory  
23 operations the regulation needs to ensure that the  
24 ability to conduct fracture stimulation is maintained.  
25 When exploration is conducted by definition there is a

1 lack of information so it is important that the  
2 regulation not impede the ability to explore Alaska's  
3 vast resources by putting in place regulations that  
4 would be difficult to meet in an exploration scenario  
5 with limited information.

6           ConocoPhillips supports disclosure of chemical  
7 ingredients used in hydraulic fracturing fluids in a  
8 way that informs the public and protects proprietary  
9 industry information. In April of 2011 the Groundwater  
10 Protection Council in collaboration with Interstate Oil  
11 and Gas Compact Commission launched FRACFOCUS.ORG.  
12 This website is a national registry for companies to  
13 voluntarily disclose detailed information related to  
14 hydraulic fracturing operations on a well by well basis  
15 started in 2011. FracFocus provides the public with  
16 information regarding a specific well's operator,  
17 fracture date, vertical depth, longitude and latitude,  
18 chemical ingredients and water volumes and more. The  
19 site also provides educational information on hydraulic  
20 fracturing chemicals used, the purposes they serve, the  
21 means by which groundwater is protected and links to  
22 state regulatory websites. ConocoPhillips is currently  
23 uploading information to FRACFOCUS.ORG and has been in  
24 Alaska since 2011. In addition to voluntarily  
25 disclosing chemical additive information to the public

1 many states including Arkansas, Colorado, Texas and  
2 Wyoming now have statutes or regulations that require  
3 public disclosure of the chemicals used in hydraulic  
4 fracturing operations. California, Illinois, Indiana,  
5 Louisiana, Maryland, Massachusetts, New Mexico, New  
6 York, Ohio, Pennsylvania and Alaska all have pending  
7 rules or bills that would require public disclosure.

8           In conclusion ConocoPhillips has been active in  
9 the state of Alaska over the last 50 years. Hydraulic  
10 fracturing has been a part of our field activity in the  
11 Cook Inlet, Kuparuk and Alpine fields over that time.  
12 Through good well design, regulatory oversight, well  
13 construction and operating practices ConocoPhillips has  
14 conducted thousands of hydraulic fractures in the state  
15 of Alaska, significantly increasing the oil and gas  
16 produced without any known impacts to ground water.  
17 Well integrity is the foundation of water protection  
18 and the surface casing is the cornerstone. We  
19 recognize the future is changing with unconventional  
20 resources becoming a larger part of the energy supply  
21 for the United States as well as the world. Some  
22 additional regulations are appropriate, however we  
23 caution that the additional framework required not  
24 impede the success of the past by unduly impacting  
25 conventional oil and gas production areas. As always

1 clarify is key. Having regulations that are clear for  
2 the operators, public, interested parties and  
3 regulators prevents waste and issues trying to  
4 interpret areas that are not clear.

5 Finally ConocoPhillips Alaska recognizes there  
6 are significant interest in this area from many parties  
7 including operators, industry, public and interest  
8 groups and that this regulation will likely make many  
9 changes. ConocoPhillips respectfully asks that there  
10 be another opportunity for all to comment prior to the  
11 final issue of this regulation.

12 Thank you.

13 CHAIR FOERSTER: Thank you, Mr. Robinson. Does  
14 either one of the Commissioners need to take a break,  
15 consult with staff before we ask questions?

16 COMMISSIONER SEAMOUNT: I have a few questions.

17 CHAIR FOERSTER: Okay. Does anybody in staff  
18 need us to take a break?

19 (No comments)

20 CHAIR FOERSTER: People shaking their heads no.  
21 Okay. Commissioner Seamount, ask your questions.

22 COMMISSIONER SEAMOUNT: Yes. Mr. Robinson,  
23 could you tell us the biggest frack job that  
24 ConocoPhillips has done in Alaska?

25 MR. ROBINSON: I don't have that information, I

1 can tell you recent jobs, that might be helpful.

2 COMMISSIONER SEAMOUNT: How about recent jobs,  
3 what's a typical really big frack job?

4 MR. ROBINSON: I think the biggest -- so water  
5 volume or -- I can actually get the actual answer.....

6 COMMISSIONER SEAMOUNT: Pounds of proppant.

7 CHAIR FOERSTER: Yeah, pounds of proppant.

8 MR. ROBINSON: Pounds of proppant, about  
9 750,000 pounds.

10 COMMISSIONER SEAMOUNT: That's one of your big  
11 ones. Okay.

12 MR. ROBINSON: I believe so. Is that -- yeah,  
13 it's a good.....

14 COMMISSIONER SEAMOUNT: Okay. As opposed to  
15 like 3 million pounds down in the lower 48?

16 MR. ROBINSON: Correct.

17 COMMISSIONER SEAMOUNT: Okay. And what's the  
18 most number of stages that you've run in Alaska?

19 MR. ROBINSON: That I'm aware of, six.

20 COMMISSIONER SEAMOUNT: What's your shallowest  
21 frack job?

22 MR. ROBINSON: That's a really good question.  
23 I don't know off the top of my head.

24 COMMISSIONER SEAMOUNT: Okay. You report to  
25 FracFocus, do you -- when you report to FracFocus do

1 you report on a stage by stage basis or on a well  
2 basis?

3 MR. ROBINSON: I believe it's on a well basis.

4 COMMISSIONER SEAMOUNT: Not stage by stage?

5 MR. ROBINSON: That's correct. I can confirm  
6 that, I'm not 100 percent confident in that however.

7 COMMISSIONER SEAMOUNT: Okay. Now when you're  
8 concerned with aquifer identification you mentioned is  
9 it just wells that are not registered with the DNR?

10 MR. ROBINSON: That's a big complication for  
11 us, yes.

12 COMMISSIONER SEAMOUNT: Okay. From my  
13 experience wells that are not registered probably  
14 wouldn't be a concern because these guys have drilled  
15 these wells illegally and they don't want you to know  
16 about it anyway; is that correct?

17 MR. ROBINSON: I don't know.

18 COMMISSIONER SEAMOUNT: I mean, I got -- when I  
19 was in industry we had -- we did a baseline study up in  
20 the Mat-Su Valley and that contentious coalbed methane  
21 play and these guys they didn't want their wells tested  
22 at all because they didn't want their illegal wells  
23 identified. So, I mean, that's something that --  
24 something that could be worked out. But yeah, we'd  
25 certainly look at something like that.

1           That's the only questions I have, Madame Chair.

2 Thank you, Mr. Robinson.

3           MR. ROBINSON: You're welcome.

4           CHAIR FOERSTER: Commissioner Norman, do you  
5 have questions?

6           COMMISSIONER NORMAN: Yes. If these  
7 regulations targeted wells drilled at a depth shallower  
8 than 2,500 feet, 2,500 feet or less and were applicable  
9 only to that depth would that make them more acceptable  
10 to ConocoPhillips?

11          MR. ROBINSON: That's correct.

12          COMMISSIONER NORMAN: How much more acceptable?

13          MR. ROBINSON: Sorry, can you ask the question  
14 again, more acceptable or.....

15          COMMISSIONER NORMAN: Well, I'm trying to  
16 figure out would there still be a rub in the  
17 regulations if they focused on the shallow horizons,  
18 2,500 or 3,000, but at a shallow depth.

19          MR. ROBINSON: Right.

20          COMMISSIONER NORMAN: Are there still  
21 provisions in the regulations that give you concern?

22          MR. ROBINSON: There still are. There are some  
23 -- we highlighted in our specific comments, I think  
24 section -- I could be wrong, sections (1) through (5)  
25 and (11) were the ones we targeted as those are related

1 to shallow concerns. Sorry, I pulled out your  
2 regulation instead of my comments, (2) through (5) and  
3 (11) were the ones of concerns. So there are other  
4 concerns regardless of that clarification. But it does  
5 make sense to differentiate the risk potentially.

6 COMMISSIONER NORMAN: One of the slides you  
7 mention under -- let's see, I don't have a page number,  
8 but perhaps you recall it, it mentions sparse  
9 information for exploration wells that understandably  
10 you're going to have less information for exploration  
11 wells. Is there any concern about disclosing  
12 confidential information related to drilling of  
13 exploration wells?

14 MR. ROBINSON: Depending on the requirement for  
15 -- what is acceptable to the Commission, there could be  
16 concern. That is one of the concerns of ConocoPhillips  
17 is confidentiality of seismic type data or exploration  
18 type prospects.

19 COMMISSIONER NORMAN: Seismic data, did you  
20 say?

21 MR. ROBINSON: Yes.

22 COMMISSIONER NORMAN: Okay. Thank you.

23 CHAIR FOERSTER: Mr. Robinson, I have just a  
24 few questions. Tagging on to Commissioner Norman's  
25 question, how many reservoirs do you operate that are

1 shallower than 2,500 feet?

2 MR. ROBINSON: I don't know that -- the answer  
3 to that question. I can find out.

4 CHAIR FOERSTER: Okay. And then the follow-up  
5 question to that is how many of those are ones that you  
6 hydraulically fracture?

7 MR. ROBINSON: I don't believe we have any that  
8 would -- that are operated currently at that depth or  
9 that are fractured currently.

10 CHAIR FOERSTER: So if we limited our fracture  
11 regulations to reservoirs that you don't operate that  
12 would make you very happy? Okay. That was a  
13 rhetorical question, no response needed.

14 A little housekeeping question. Can we get a --  
15 an electronic copy of your video that can be included  
16 in the record?

17 MR. ROBINSON: Absolutely.

18 CHAIR FOERSTER: Okay. And I'll let you handle  
19 that with Ms. Colombie or Ms. Fisher.

20 MR. ROBINSON: Yes.

21 CHAIR FOERSTER: Okay. Thank you. Is Conoco  
22 an operator in the Eagle Ford or any other shale place?

23 MR. ROBINSON: We are.

24 CHAIR FOERSTER: Okay. So I have a question  
25 that maybe you'll have to get back to me on since your

1 operations have been up here lately, are there any --  
2 other than it's shale versus sand, are there any  
3 operational or geologic differences between a  
4 conventional fracture stimulation and a fracture  
5 stimulation of shale?

6 MR. ROBINSON: The -- as Commissioner Seamont  
7 inferred, the volume, the rock is less permeable and so  
8 it requires a different type of a fracture stimulation  
9 job in a shale play.

10 CHAIR FOERSTER: Different type, in -- larger?

11 MR. ROBINSON: That's correct.

12 CHAIR FOERSTER: Okay. Different types of  
13 fluids used?

14 MR. ROBINSON: Depending on the reservoir, yes.

15 CHAIR FOERSTER: Okay. That's all the  
16 questions I have for right now. Do you have any other  
17 questions?

18 COMMISSIONER SEAMOUNT: No.

19 CHAIR FOERSTER: Commissioner Norman, any other  
20 questions?

21 COMMISSIONER NORMAN: No.

22 CHAIR FOERSTER: Thank you, Mr. Robinson.  
23 There may be questions that come in from the public and  
24 so if you could stick around.

25 MR. ROBINSON: Yeah, happy to. Thank you.

1 CHAIR FOERSTER: We appreciate it. Thank you  
2 for your testimony.

3 A little bit of housekeeping. It's 20 minutes  
4 until 11:00. Our intention is to break for lunch at  
5 noon -- 11:30. Our intention is to break for lunch as  
6 close to 11:30 as possible and since that's less than  
7 one hour away and neither one of the Commissioners is  
8 bouncing from foot to foot I think we'll just proceed  
9 with the next entity and that would be Pioneer. And if  
10 Pioneer thinks they can conduct their testimony in 45  
11 minutes then let's proceed.

12 All right. Mr. Foley, for the record we want --  
13 need you to introduce yourself, your name and who you  
14 represent and then let us know if you want to be  
15 recognized as an expert, if so what area and then your  
16 qualifications.

17 MR. FOLEY: Good morning. For the record my  
18 name's Pat Foley. I work for Pioneer Natural Resources  
19 here in Alaska. I'm currently the manager of land and  
20 external affairs. Our current president, Todd Abbott,  
21 will be leaving the state in May and I have been asked  
22 to replace him as the president of our Alaska  
23 operations in May. I think I would like to qualify as  
24 an expert witness.

25 CHAIR FOERSTER: You think you do?

1 MR. FOLEY: I think I would like to.

2 CHAIR FOERSTER: Okay. In what area?

3 MR. FOLEY: And so we've had this conversation  
4 before, I've appeared before the Commission several  
5 times. My area of expertise is commercial and  
6 regulatory and land and planning. I'm not an engineer,  
7 I'm not a technical expert, I'm not an attorney, I'm  
8 not a legal expert.

9 CHAIR FOERSTER: Okay. So if we recognize you  
10 as an expert in those areas which we have in the past,  
11 any statements that you make that go outside of those  
12 areas, you know, into engineering or geology or  
13 chemistry or whatever, will not be considered as areas  
14 of your expertise.

15 MR. FOLEY: Yeah.

16 CHAIR FOERSTER: Okay.

17 MR. FOLEY: That's inferred.

18 CHAIR FOERSTER: So you're -- we've recognized  
19 Mr. Foley as an expert in those areas before. Do we  
20 need to hear his qualifications again for the record?

21 COMMISSIONER SEAMOUNT: Let's ask our attorney  
22 general.

23 CHAIR FOERSTER: For the record.

24 COMMISSIONER SEAMOUNT: I mean, in other states  
25 once you're an expert witness you're always an expert

1 witness, but apparently that's different in Alaska. So  
2 I guess for the record let's hear your qualifications.

3 MR. FOLEY: Yeah, very good. For the record so  
4 University of Colorado graduate in 1980. I've worked  
5 in the oil industry for about 33 years. I worked 20  
6 years for ARCO, about half of that time was here in  
7 Alaska. I worked two years for BP exclusively here in  
8 Alaska and I've worked for Pioneer Natural Resources  
9 since 2002. My activities have included land,  
10 planning, commercial and regulatory business.

11 CHAIR FOERSTER: Commissioner Seamount, do you  
12 have any questions?

13 COMMISSIONER SEAMOUNT: I have no questions. I  
14 have no objections to designating Mr. Foley as an  
15 expert witness in land and regulatory.

16 CHAIR FOERSTER: Commissioner Norman?

17 COMMISSIONER NORMAN: Accept the witness.

18 CHAIR FOERSTER: As do I. So you may proceed  
19 and we will recognize you as an expert in land,  
20 regulatory and commercial affairs.

21 MR. FOLEY: Yeah. Thank you so much. So I  
22 want to first start with thanking the Commission for  
23 the opportunity to speak before you today. We  
24 appreciate a role -- an active role in both the  
25 drafting and formalization of the regulations, but more

1 importantly once the regulation is promulgated it's not  
2 just the language and the paper that we're concerned  
3 about, we're concerned with how the Commission actually  
4 administers that application. Pioneer's always enjoyed  
5 a great relationship with the Commission, we hope that  
6 that will always continue. And I'm going to speak a  
7 little bit about some of our recent experiences on  
8 fracture regulation just to give you an idea of where  
9 we sit and mostly the public to give them an idea of  
10 what our operations are and where we sit.

11           So AOGA provided the first testimony, Pioneer  
12 is a member of AOGA. Pioneer was actively involved in  
13 helping them formulate their written comment and their  
14 testimony, I may be able to supplement some of the  
15 things Ms. Moriarty spoke to. And Pioneer endorses  
16 and adopts all of AOGA's comments as a member.

17           Having said that if I could go back a little  
18 bit and describe Pioneer's Alaskan operations as they  
19 apply to hydraulic fracturing. So at the very broad  
20 level Pioneer's about a \$19 billion enterprise company,  
21 we've been doing business here in the state of Alaska  
22 since 2002. We operate the Ooguruk unit, Ooguruk is  
23 an offshore unit, it's a single island, it's made about  
24 12 million barrels of oil. Current production is about  
25 6,000 barrels a day. We operate in three different

1 horizons, the Kuparuk, the Nuiqsut and the Torok and we  
2 have hydraulic fracture operations in the Nuiqsut and  
3 Torok, both last winter and this winter and hopefully  
4 for several winters to come. When I say in the winter  
5 because we are on the island, all of the fracturing we  
6 do is supported by equipment that is located on an ice  
7 pad immediately adjacent to our island. Our island is  
8 simply not large enough to accommodate the frack spread  
9 so we're limited to winter operations and just the way  
10 the nature of the business is up here, we begin our  
11 fracture as soon as we can so sometime in January and  
12 we work through April and that's our plan for the next  
13 several years.

14           To give you an idea of the well count, last  
15 year Pioneer fracture stimulated I believe three  
16 producers at Oooguruk, all of those wells were reported  
17 up through FracFocus and then this winter we have  
18 drilled or are planning to fracture five producers and  
19 then up to five injectors will be treated with a high  
20 pressure breakdown. By regulation they would qualify  
21 as a hydraulic fracture. The difference is high  
22 pressure breakdown may not have proppant placed into  
23 it.

24           Looking to the future, one of the questions was  
25 asked was about the administrative burden and the

1 volume of applications that might come in so I want to  
2 help give you an idea at least from Pioneer what our  
3 future plans might be. And simply what we did this  
4 winter would be very similar to what we hope to do for  
5 the next several winters to come. We would treat four  
6 or five producers again next winter and up to five high  
7 pressure breakdowns all at the island.

8           So we have another project that we hope to  
9 sanction in the third quarter of this year, it's called  
10 Nuna, it's an onshore development. It's today  
11 currently focused exclusively on Torok. When we look  
12 at the first phase of Torok development it would be  
13 about 30 wells, half of which are producers, half of  
14 which are injectors. And all of those wells would be  
15 fracture stimulated, even our injectors.

16           And I want to speak to a little bit on just the  
17 process that we've gone through. I think Commissioner  
18 Seamount had asked a question about the concern that  
19 was raised by Ms. Moriarty with regulatory delay. And  
20 when as an industry anytime we think of new regulation  
21 sort of the first thing that pops in our mind is the  
22 unknown and fear of the unknown and human nature we  
23 tend to make up things worse than they really are. So  
24 when we, you know, hear of a new regulation we fear  
25 delay. So I want to speak a little bit to the

1 experience that we had this winter. So we had five  
2 producer frack applications submitted, several high  
3 pressure breakdown sundry notices submitted, and we  
4 were concerned that the approval that would come from  
5 those might delay our operations. In reality, that  
6 wasn't the case at all. The interaction with the  
7 Commission was very, very favorable. We had two  
8 specific concerns for wells that were drilled  
9 immediately before they were fracked. So if you have a  
10 well that's drilled years back and you come back and  
11 want to do a treatment it's pretty easy to take the  
12 time to put together all of the required information  
13 for an application. The fear was for two wells  
14 specifically were our Nunan number 2 wells and I  
15 believe the ODS Nuiqsut 24 well. Both of these were  
16 drilled and intended to be fracture stimulated  
17 immediately thereafter. And we were fearful that by  
18 the time we had all the adequate information to submit  
19 a full application that there would be delay before the  
20 Commission would be able to approve it. That was not  
21 the experience at all, we submitted applications, there  
22 was a request for some additional information such as  
23 cement bond logs and integrity tests, we didn't have  
24 that information when the application was submitted  
25 because the well hadn't yet been drilled. As soon as

1 we had it we submitted it to the Commission and the  
2 approval was forthcoming shortly thereafter. So our  
3 experience is there has not been any delay and we're  
4 hopeful that as this project goes forward, as this  
5 regulation goes forward, it's administered in the same  
6 way.

7           So I want to speak a little bit to other states  
8 and just to be clear I'm -- I would consider myself an  
9 expert on Alaska business, I'm not an expert on the  
10 regulatory matters in Texas or in Colorado. Pioneer  
11 does have very extensive operations in Texas. We are  
12 very heavily involved in the Eagle Ford shale and we  
13 fracture stimulate literally hundreds of wells a year  
14 down in those basins. And I've spoken with the people  
15 that manage those operations and that do the regulatory  
16 work and I sort of characterize my next statements  
17 almost as hearsay or as anecdotal information. This is  
18 what they have said to me, but I'm not an expert on  
19 their regulations.

20           So in Texas the way the program is administered  
21 there is not a formal application submitted for  
22 approval. But instead relatively a small subset of all  
23 the wells do require full disclosure through FracFocus.  
24 Pioneer voluntarily discloses all of our wells in  
25 Alaska, all of our wells in Texas, we totally support

1 the FracFocus program. But I believe under Texas law  
2 the only wells that actually require our disclosure are  
3 a certain subset of wells and I'm not -- I can't tell  
4 you the exact criteria, but basically it's a well that  
5 has a drinking water aquifer closer than X horizontally  
6 and vertically. And so it's something like a quarter  
7 mile and it might be 2,500 feet. So I can answer a few  
8 questions that have already been posed to others and I  
9 might start down that list and if there are others we  
10 can come back to them.

11           So Pioneer operations are in three horizons,  
12 Torok is the shallowest of which and Torok lies at  
13 about 5,100 feet true vertical depth. So we have no  
14 fracture stimulation operations shallower than that.  
15 We operate in an area that has no drinking water, you  
16 know, aquifers.

17           Not being an expert on FracFocus I thought  
18 before I came here today I might actually look back and  
19 see how Pioneer at reported the last three wells we  
20 drilled last year in FracFocus and to answer some of  
21 your questions, no we do not report in FracFocus by  
22 stage and all of the reporting is sometimes by specific  
23 chemical names and sometimes it's by a trade name and  
24 many of those actual chemical constituents of a trade  
25 product are trade secret protected and we would very

1 strongly encourage you to maintain that trade secret  
2 protection. I think you'll probably hear from either  
3 Schlumberger or Halliburton or Baker Hughes to speak  
4 specifically on that.

5           When Pioneer -- probably when any of the  
6 operators think about this our biggest concern is that  
7 we don't get trapped in the middle. We have no issue  
8 with disclosing what we place in the ground, but most  
9 of these chemical products are supplied by one of those  
10 vendors and I think the Commission has made verbally  
11 clear and through your regulation, your draft  
12 regulation clear, that it's the -- the onus is going to  
13 fall on the operator to report and disclose, but we are  
14 totally reliant upon the vendor to help us with that.

15 So I guess what I'm asking is that you work  
16 collaboratively with the industry, with the vendors and  
17 give straight deference to the trade secret protection.

18           One other bit about FracFocus, as I looked back  
19 at this I was just trying to learn as much as I could.  
20 It appears as though we do report for the entire job  
21 and we report all the constituent components, but  
22 they're reported by mass, so as a percentage of mass.  
23 And as you know the overwhelming constituent of a frack  
24 is water, seconded by the proppant and then all of  
25 these other chemicals by mass are relatively tiny, tiny

1 volumes.

2 I can speak to another question about the size,  
3 the volume of fracks that Pioneer has pumped. So this  
4 year our targeted frack program is a 2 million pound  
5 proppant frack. We use carbolate and the fracks are  
6 designed in 10 stages. For the benefit of the public,  
7 not for the benefit of the Commission, if you -- if I  
8 could call back the video that ConocoPhillips showed,  
9 they had a video that showed two different fracture  
10 events and each of those would be considered a stage.  
11 So I think in their video they depicted a cartoon of  
12 two stages, the wells that we've designed, the fracture  
13 programs that we've conducted are up to 10 stages and  
14 no, we do not report by stage. Honestly -- so these  
15 are horizontal wells, it's a 6,000 ish vertical foot  
16 well that has 10 different fracture operations all in  
17 the same horizon. It might make sense to me if a stage  
18 was in a different zone in a vertical well, that there  
19 be separate reporting, but it doesn't make sense to me  
20 that it would be required stage by stage in a  
21 horizontal well.

22 And then maybe one of the last things I'd touch  
23 on, the way Pioneer submitted its sundries and the way  
24 they were approved, we relied very heavily upon kind of  
25 a generic application pool by pool. And so what we'd

1 ask is if there was a way in the regulation to make it  
2 specifically clear that that was allowed, in other  
3 words a master application. My example would be for  
4 the Oooguruk-Torok pool and if we had a application  
5 that provided all the necessary information contained a  
6 study and analysis to help the Commission make a  
7 determination if the frack would stay in zone, if we  
8 did one of those for each of our pools we would hope  
9 that the Commission could rely upon that submission for  
10 all of our future fracks in those same pools.

11           And I think that's probably everything that I  
12 was prepared to speak to. I'm happy to try and answer  
13 questions.

14           CHAIR FOERSTER: Thank you, Mr. Foley. Do you  
15 have any questions, Mr. Seamount?

16           COMMISSIONER SEAMOUNT: Yeah, I have one. I  
17 just -- I just want to say, Mr. Foley, that when I was  
18 asking Ms. Moriarty about the preapproval I was -- I  
19 was specifically thinking about your sundry on those  
20 wells. That's exactly what I was thinking about and  
21 that's what I -- sort of what I was envisioning for the  
22 -- for the preapproval administration of information.  
23 But, of course, I'm only one of three Commissioners so  
24 that -- you know, that may not be what it ends up  
25 being, but that's the sort of thing I was thinking,

1 that's why I was wondering about, you know, the fear  
2 that AOGA had.

3 I did have one question. You mentioned a high  
4 pressure breakdown. You're saying that fit the  
5 definition of a frack job and you said there's no  
6 proppant involved. On these high pressure breakdowns  
7 does that involve the same sorts of chemicals that a  
8 frack job with proppant would have, like it's not just  
9 water; is that correct?

10 MR. FOLEY: Commissioner Seamount, through the  
11 Chair. Again I am not a technical expert, I can tell  
12 you what I believe and what I know. High pressure  
13 breakdown may just involve water, it may also involve  
14 other chemicals. I know for example one of the high  
15 pressure breakdowns Pioneer conducted this winter also  
16 included a modest amount of proppant, maybe a pound and  
17 a half, pound per gallon, something like that, a pound  
18 per gallon. And it was almost a scour type of an  
19 operation.

20 COMMISSIONER SEAMOUNT: Okay. Okay. Thank  
21 you, Mr. Foley?

22 MR. FOLEY: Yeah. And if I may, you said one  
23 thing if I could comment on also, Commissioner. And  
24 when I look at the concerns that Pioneer had on the  
25 delay for a new well, one of the very first things that

1 came to my mind was an exploration well. So back in  
2 2003 during the winter Pioneer drilled a well called  
3 Ivik and we immediately fracked that well and conducted  
4 a production test on it. And it just seems relatively  
5 problematic if a exploration well was drilled in a  
6 brand new area to have all of the necessary information  
7 assembled to submit a sundry notice for a frack when  
8 literally a well was completed days before this  
9 operation's going to be conducted. It may be on ice,  
10 there may be very limited duration. So that's one  
11 thing I think you -- I'd ask you to give special  
12 thought to, how that approval process could take place.

13 COMMISSIONER SEAMOUNT: Noted.

14 CHAIR FOERSTER: Mr. Foley, we're not the  
15 Legislature, you don't have to talk through the Chair,  
16 you can talk directly to any one of us.

17 Commissioner Norman, do you have any questions?

18 COMMISSIONER NORMAN: Yes. Thank you, Mr.  
19 Foley, for your testimony. To the extent that you can  
20 comment publicly and if you can't why we'll leave it  
21 there, but as you know one of the Commission's charges  
22 is to ensure greater ultimate recovery from all of  
23 Alaska's oil reservoirs. And I think Pioneer provides  
24 an interesting study. If you could quantify just in  
25 very rough numbers or percentages with and without

1 hydraulic fracturing, can you make a comparison of if  
2 Pioneer had approached the properties, the assets that  
3 you have without hydraulic fracturing and then make a  
4 comparison with hydraulic fracturing that you have  
5 utilized, to what extent have you reached greater  
6 ultimate recovery utilizing hydraulic fracturing in  
7 Alaska?

8           MR. FOLEY: Commissioner Norman, so two  
9 different horizons, I'm going to answer that question  
10 in two different ways. So when I look at the Nuiqsut  
11 which is a difficult reservoir and we have drilled  
12 wells without any treatment at all, we've drilled  
13 multi-laterals, we've drilled a dynamic diversion frack  
14 and we've drilled wells and employed a mechanical  
15 frack. And what we've -- so there's been an evolution  
16 and what we found is the more energy you can get in the  
17 ground, the more proppant you can get in the ground,  
18 the more you can place it in the correct place by  
19 mechanical diversion, multi-stage fracks, the higher  
20 the production rates that we've seen from that well. I  
21 can't speak at all to ultimately recovery and whether  
22 or not that's rate acceleration or you'll need a  
23 technical expert to speak on that.

24           The second way I want to answer that question  
25 speaks to our Torok zone. Torok is a very thinly

1 laminated sandstone and shale zone and we need the  
2 vertical fracture for all of that zone to be able to  
3 flow to the wellbore. Simply Torok without being  
4 fracked would not be productive at our location.

5 COMMISSIONER NORMAN: Thank you.

6 CHAIR FOERSTER: Mr. Foley, your suggestion of  
7 a master application by pool is intriguing. What did  
8 you intend to be part of that -- part of that  
9 application. Did you intend not to have to get  
10 approval for each individual frack or did you intend  
11 for it to be for the water well, tell me what you had  
12 in mind with that, it's interesting?

13 MR. FOLEY: Yeah, Commissioner, so my exact  
14 thought is there's a -- so no, I'm not asking that we  
15 would not need to submit a sundry application for every  
16 well. But what we would like to be able to do is rely  
17 upon sort of that master package for all of the other  
18 fracture operations conducted in that zone. So  
19 honestly that's sort of how we did it this winter. I  
20 believe there were applications for four Nuiqsut wells  
21 and the justification, the technical submittal that we  
22 used to help gain confidence that the fracture would  
23 stay in zone was all identical. So we did that study  
24 one time and by copy we relied upon it each time. And  
25 simply if there's a way just to save on paper, we

1 didn't have to submit a 40 page application, instead we  
2 could just rely upon the -- you know, the master.

3 CHAIR FOERSTER: Okay. Thank you. Does either  
4 one of you have additional questions?

5 (No comments)

6 CHAIR FOERSTER: Well, thank you, Mr. Foley.  
7 And there may be questions from the public and we may  
8 have questions for you later so to the extent that your  
9 schedule allows we'd appreciate if you'd remain  
10 available.

11 MR. FOLEY: I will try and stay here and thank  
12 you for the opportunity to speak.

13 CHAIR FOERSTER: Okay. Are there any other  
14 operator representatives that wanted to testify before --  
15 the next thing we were going to do was see if there  
16 were service company -- move to them and I see that we  
17 have Halliburton. So what we were planning to do was  
18 have the industry representatives testify first because  
19 their testimony might answer some questions that the  
20 others have or it might raise some questions and that  
21 was our approach. So are there any other industry  
22 representatives that needed to testify?

23 (No comments)

24 CHAIR FOERSTER: Halliburton, do you anticipate  
25 your testimony taking more than half an hour?

1 MR. WATTS: (Indiscernible - away from  
2 microphone).....

3 CHAIR FOERSTER: And I know you've heard me say  
4 it before, but you need to -- when you start your  
5 testimony you need to give your name and who you  
6 represent. And then if you want to be recognized as an  
7 expert you need to declare that up front, what the area  
8 of your expertise is and then the qualifications so  
9 that we can judge whether or not to accept you as an  
10 expert witness.

11 MR. WATTS: I appreciate the opportunity to  
12 speak today. My name is Mike Watts and I'm with  
13 Halliburton Energy Services. I'm the director of  
14 fracture stimulation affairs and I am considered a lay  
15 person today.

16 We submitted comments today and I'm not going  
17 to go back through the comments, but what I would like  
18 to do today is talk a little bit about FracFocus and  
19 talk about technologies and kind of give you a broad  
20 brush feel of some of the things that we've been  
21 working on and then, of course, we can have questions  
22 at the end of that. So I won't go into that.

23 With FracFocus a little bit of history. The  
24 industry and agencies in the lower 48 started looking  
25 at disclosure regulations back in 2008. Colorado Rule

1 205 was put in place the latter part of 2008. It was  
2 really the first regulation that was put in place.  
3 Over the coming four or five years I think we've all  
4 learned a lot about disclosing to the public and we've  
5 had a lot of discussion across -- now in the lower 48  
6 there's like 16 states that have put regulations in  
7 place. And so whether you're on the industry side,  
8 whether you're an NGO or an agency type person, we've  
9 all learned a great deal about how to make this work as  
10 we go forward. And with the FracFocus piece, you know,  
11 the Groundwater Protection Council and IOGCC started  
12 thinking in earnest back in the middle of 2010, June  
13 specifically, to try to understand how they may be able  
14 to assist and facilitate something off of their RBBMS  
15 system that they've got for underground injection  
16 control. And hence FracFocus was born.

17           There was a team of individuals that were  
18 working on all sides of the arena trying to develop it,  
19 see what it would look like and it started as an MSDS  
20 level reporting. It went live in April of 2011. And  
21 today there's over 40,000 entries in it, there's over  
22 500 companies that are participating in the FracFocus  
23 effort as it's moving forward. So it is there to give  
24 information on a well by well basis. We thought about  
25 stages, whether we would do it that way or not and it

1 ended up being that because of the administrative  
2 burden and the timing and other things associated with  
3 shale wells in particular with horizontals, since it's  
4 going in the same formation as everything else that the  
5 reporting would be done on a well by well basis. And a  
6 lot of that is just to facilitate the administrative  
7 side.

8 CHAIR FOERSTER: Mr. Watts, could -- wait just  
9 a minute. I wanted.....

10 MR. WATTS: Yes, ma'am.

11 CHAIR FOERSTER: .....to check and make sure  
12 our phone people can hear you.

13 Are you having any difficulties hearing Mr.  
14 Watts, folks on the phone?

15 MR. WATTS: Am I speaking loud enough, do I  
16 need to speak louder?

17 CHAIR FOERSTER: I think it would probably be  
18 good, they may have fallen asleep.

19 MR. WATTS: Yeah, okay.

20 CHAIR FOERSTER: It may be good if you speak a  
21 little bit louder and a little bit slower. I mean, I  
22 understand your Texas or Oklahoma accent because I'm  
23 from there, but other people might be challenged by it.

24 MR. WATTS: I appreciate that. I have been  
25 charged before with that and coached to actually talk a

1 little clearer and louder. So I'll try to do that and  
2 I'll need some reminding as we go.

3 CHAIR FOERSTER: Thank you, Mr. Watts.

4 MR. WATTS: Yes, ma'am. The point is is that  
5 FracFocus has got a tremendous history. And I've got a  
6 form here, it's kind of an eye test, but what I wanted  
7 to say was is that, you know, when you look at the  
8 evolution in particular with Texas and then with  
9 Colorado afterwards, both of those states started  
10 requiring in Texas starting in February of 2011 any  
11 well permitted in the state had to use FracFocus. And  
12 then starting in Colorado in April of 2012 same  
13 situation in Colorado. And at the end of the day when  
14 we -- Dave Neslin (ph) with the COGCC pulled a group of  
15 folks together, there's about a dozen of us, that he  
16 wanted to represent the environmental footprint, the  
17 agency footprint and the industry footprint so when he  
18 went out with a public comment period on the  
19 regulations that he'd have the 90 percent solution. So  
20 we worked with the intent of saying how do we get the  
21 most information into the public's hands. And that's  
22 where version two is available today. One of the  
23 things that we heard was the ability to have  
24 searchability so version two has searchability.  
25 Although I haven't been directly in this I understand

1 that states now have the ability to go behind and  
2 aggregate the information and that sort of things. So  
3 those particular issues have been addressed in version  
4 two as we move forward and we hear that.

5           But one of the things that I would like to say  
6 here quickly is that in the chemical description  
7 category we have to provide information on every one of  
8 those, right, so there's a chemical description in  
9 every single one of the constituents that we use in a  
10 frack fluid. We also have to provide the maximum  
11 concentration. So if people want to do water well  
12 testing what I would ask people to do is to stop and  
13 take a real deep look at FracFocus understanding the  
14 history and really look at the information there  
15 instead of I've heard it kind of -- you know, because  
16 it's missing a piece here or there that people just  
17 discount it totally. And I would ask that the  
18 Commission look at it in detail because I believe you  
19 can do any kind of water sampling testing that you need  
20 to do from this listing that you have. If you need to  
21 do hazard assessments you can do those as well, if you  
22 need to risk assessments. So FracFocus I believe  
23 provides all the information that you need to do all of  
24 those pieces there. And I'm not a water testing  
25 expert, but I do know that API is working on

1 recommended practice 100-2 which is going to talk about  
2 water testing and the use of things like indicator  
3 compounds and that sort of thing. So that's a  
4 recommended practice that's under development that'll  
5 come out. But I think FracFocus, it not only is a  
6 great public awareness tool where people in the public  
7 can get information, but I think you can also use it as  
8 a diagnostic tool as well.

9           So with that in mind there's a lot of sources  
10 of information out there. Halliburton's got its own  
11 microsite, we've spent a lot of time and energy, we've  
12 got some hydraulic fracturing education on there, we've  
13 got detailed listing of the chemistries that we have,  
14 we've got MSDS sheet which the public has trouble  
15 getting access to. So our site provides a tremendous  
16 amount of information. But one of the other pieces  
17 that we've got there is all of our clean stim  
18 statistics and I would like to talk a little about  
19 those technologies that we have. And a lot of that  
20 information is based on our website.

21           When you look at fluid development we've always  
22 taken the approach that well construction is really the  
23 line of defense for protecting ground water, but we've  
24 also said that we are also going to look into how do we  
25 add another layer of safety to our fracturing fluids.

1 And we developed clean stim which is sourced entirely  
2 from the food industry. It's a novel approach to doing  
3 things and what's great about it is from a R&D  
4 perspective it's changed some of the ways we've looked  
5 at things because when you start looking at the  
6 environmental footprint of some of the fluids we use,  
7 this is a great step in the right direction. But we're  
8 also finding that we're having larger regain  
9 permeabilities and other things from these type fluids.  
10 And so we've got other fluids that'll come out, you  
11 hear about perm stim and some of these other fluids  
12 that we have, this is a whole other evolution in fluid  
13 development that we're on and this is not as good as it  
14 gets, there'll be other things coming forward. We also  
15 looked in addition to just the fluids themselves, we  
16 looked at other means that we could use to adjust  
17 chemistries. And we've got a clean screen unit that  
18 we've developed that use ultraviolet light to actually  
19 manage the bacteria that we have. And since it's  
20 inception over the last couple of years we've treated  
21 around 1.5 billion gallons of fluid with it, we've  
22 removed about 255,000 gallons of biosides completely  
23 out of the equation. So we are -- we're also going  
24 beyond just chemical aspects to look at the whole  
25 process to understand how else we may be able to change

1 our chemical footprint in the processes that we have.

2           We've also got the -- we've been looking  
3 strongly at the whole life cycle of water and trying to  
4 understand not only how it affects our fracturing  
5 operations, but also we can adjust the recycling  
6 aspects of the operations that we have. We have a  
7 process that's called electrocoagulation, it's a long  
8 word, but at the end of the day what we've done is  
9 taken an approach that said less is more. We treat the  
10 water just enough, not back to potable water standards,  
11 but we treat it enough to where we can actually frack  
12 with it and that minimizes the amount of chemistries we  
13 have to deploy during the process and it also minimizes  
14 any waste products that we have. So we're trying to  
15 look at that whole aspect.

16           Another aspect that we've recently had is to  
17 look at produced fluids. And in the past we've had  
18 trouble with anything that had high total dissolved  
19 solid contents in there with a fracturing fluid,  
20 especially when we try to cross link it and that sort  
21 of thing. It has been very difficult. Well, we've got  
22 innovations in fluids now to where we can actually  
23 start using waters that have up to say 300,000 parts  
24 per million which just a year ago was deemed  
25 impossible. And so the point that I want to make is

1 that we're looking at our fluid systems, not just  
2 across fracturing, but across the whole water life  
3 cycle piece. On the clean way bit we've treated in  
4 2012 around 31 million gallons so that's 31 million  
5 gallons that was recycled and not disposed of. That's  
6 31 million gallons of fresh water that we didn't have  
7 to pull from the environment. But from a community  
8 standpoint we also removed over 7,000 truckloads of  
9 water hauling out of the situation. So it's -- well,  
10 you get the importance of it, there's a lot that's  
11 going on here.

12           Beyond chemistry we have what we call frack of  
13 the future and we started looking at every aspect of  
14 surface delivery of the actual fracturing treatments  
15 and we call it frack of the future. But today we've  
16 actually got some great things that are going on,  
17 there's things like dual fuel use, we're using natural  
18 gas in combination with diesel. We've got other things  
19 that I don't have time to go into. But one of the  
20 things that's pretty interesting is we have sand castle  
21 units that we have and historically our mountain  
22 movers, the bins that haul sand for our fracturing  
23 locations, they use diesels and heavy conveyor belts  
24 and we had some of our young whippersnappers that said  
25 hey, why don't we stand this up and let gravity work

1 for us. So the big feat on this was just the  
2 engineering around getting a stable unit to work right.  
3 So what we've done is we've removed diesel engines off  
4 of the equation and we use solar panels and I'll talk a  
5 little bit about the stats, but we're even using it in  
6 the North Slope. And, of course, sometimes when you  
7 don't have daylight you got to adjust and do other  
8 things, but the fact is that this -- these type of  
9 technologies are being deployed here in Alaska as well.

10

11           So on that side in 2012 we removed 1.4 million  
12 gallons of diesel out of the equation, that equates to  
13 about 15,000 tons of CO2. And you could put similar  
14 numbers on the other things that's going on. So just  
15 by a simple innovation like this it's a step change in  
16 what we're doing, we're starting to change our entire  
17 footprint that's out there.

18           So there's the whole bit about micro-seismic  
19 that's out there and I'm bringing it up mainly for the  
20 public so people can go read and understand what's  
21 going on, but basically when we fracture a well we have  
22 these nano level sound waves that are generated and  
23 when they're generated we also have a corresponding  
24 well that we put a geophone, very sensitive listening  
25 device. So when we fracture stimulate a well these

1 geophones can listen to sound waves -- do you guys know  
2 where we are, I see everybody thumbing through?

3 CHAIR FOERSTER: I found it.

4 MR. WATTS: Okay. The point is is that we have  
5 these very sensitive geophones that can pick up the  
6 sound waves that come off of a frack and we can take  
7 those back into our computer centers, we have  
8 algorithms that generate images if you will of where  
9 the fracture treatments are occurring and we're  
10 actually starting to paint some pictures of that and  
11 I'll show you more slides of that in just a second.

12 But one of the areas that's been studied the  
13 most is the Barnett, it's kind of the father of shales  
14 where everything's been going on. There's over 17,000  
15 producing wells in that area around the Dallas Fort  
16 Worth area in particular. Kevin Fisher at the time was  
17 with Pinnacle, one of our sister companies and the  
18 American Oil and Gas Reporter for July of 2010 put an  
19 article out and this is a study of every micro-seismic  
20 job that was done in the Barnett, it encompasses 18  
21 counties, it goes to depths of somewhere around 10,000  
22 feet and the shallowest ones that they have are around  
23 5,000 feet in nature. If you look over to the right  
24 side of the chart what they did was they went and  
25 mapped the USGS deepest water aquifer according to each

1 one of the fracture treatments that was done. So over  
2 on the right the -- this is the -- you know, the  
3 farthest right is the shallowest fracture treatment  
4 that we had. So you have the deepest water aquifer  
5 here, you look at the top of the fractures here and at  
6 the end of the day we're taking an additional piece of  
7 science here to tell us what we've known all along.  
8 And so when you start hearing thousands of feet of  
9 separation and that sort of thing, we are actually  
10 bringing in another piece of science to help us  
11 understand more effectively. And I always say a  
12 picture's worth a thousand words and I apologize to the  
13 audience it's not that easy to see, but if you get the  
14 article it goes into more detail about it, right. So  
15 there's another bit of science that we have.

16           If you take this and look at it in a little  
17 more detail, I want to talk about some of the areas  
18 about what we're doing and then where we're going real  
19 quickly and then I'll be finished. But what we're  
20 doing is we're actually taking this information and,  
21 you know, beyond monitoring, you know, the depth and  
22 that sort of thing, we're actually starting to hone  
23 into the treatments themselves. Now this has got a lot  
24 of information on it, but it -- and I've actually got a  
25 3-D video of this thing I won't bore you with now, but

1 the idea is that as you do a fracture treatment on the  
2 bottom line, each of those different colors correspond  
3 to a stage on a fracture treatment. And we can -- as  
4 we're doing individual stages we can start mapping  
5 those in 3-D as we start moving forward and you start  
6 painting pictures of it as you go. And you can start  
7 taking this information on a field by field basis and  
8 start changing how you fracture well to well. So we're  
9 taking this information and pulling it in. So what  
10 that does for us is actually allow us to hone into a  
11 frack treatment and start really delving into not only  
12 just where it's going, but how do we optimize these  
13 fracture treatments. And in my mind, I'm a civil  
14 engineer, so I start thinking of things like finite  
15 element analysis. So you can really start honing into  
16 these pictures that are being painted and for each one  
17 of these cubes we can sit down and start asking the  
18 question how effectively are we touching that  
19 formation, how effectively for this gallon of water  
20 that we're using are we producing hydrocarbons back,  
21 right. And this is what I call rocket science and this  
22 is where we're going, we're going to be able to take  
23 this along with some very detailed and new -- I'm a  
24 shale -- we're in the shale conversation now so we're  
25 developing new shale models and that sort of thing so

1 there's a whole lot of collaboration that hasn't  
2 happened, we've got to have the micro-seismic, we've  
3 got to have the computing horsepower to do it and we've  
4 got to have the shale models that allow us to paint  
5 these. We're going to take this information and we're  
6 going to start using it on a real time basis whenever  
7 we're doing our fracture treatments so we can optimize  
8 them. And the intent there is to be able to take the  
9 least amount of water that we can and get the most  
10 amount of production from it, right. So that's kind of  
11 where we're going.

12           And I haven't had a chance today to go through  
13 all of the things, the things that I'm talking about,  
14 it's just been the tip of the iceberg. There's a  
15 tremendous amount of things that are going on in the  
16 industry. I know that we're looking at every aspect of  
17 hydraulic fracturing, whether it's on the surface,  
18 whether it's downhole, whether it's got to do with the  
19 chemistries that we're using, and we are -- we are  
20 constantly innovating with what we have. These have  
21 application to Alaska today and underneath it all what  
22 we would ask is that you consider putting regulations  
23 in place that want to draw these type of technologies  
24 so Alaska continue to be a leader in this arena.

25           And then ultimately I think for everybody

1 that's in this venue we need to understand that the  
2 decisions and discussions we're having are affecting  
3 our energy, right. I've got boys, I want their kids  
4 and I want everything else to have a future out here.  
5 So the decisions and the discussions that we have are  
6 -- will strongly support the definition of the energy  
7 future for our families. And so I would like to thank  
8 the Commission for stepping forward and actually  
9 bringing this to the public. And I would also like to  
10 thank the folks that have taken the time to submit the  
11 submissions that they've had, I've read through most of  
12 them and I understand where people are coming from.  
13 And what I like is at the end of the day people have a  
14 vehicle to voice and we need to have a platform for  
15 discussion and that's the way our future's going to go.  
16 So thanks to everybody that's been involved with this  
17 and thanks to the Commission for doing this.

18 CHAIR FOERSTER: Thank you, Mr. Watts.

19 Commissioner Seamount, do you have any questions?

20 COMMISSIONER SEAMOUNT: I don't, Mr. Watts.

21 Thank you, that was very interesting and informative.

22 MR. WATTS: Okay.

23 CHAIR FOERSTER: Commissioner Norman, do you  
24 have any questions?

25 COMMISSIONER NORMAN: Yes, I have one. Mr.

1 Watts, I believe that as a -- I think you commented  
2 upon the suggestion we have in the regulations for  
3 water sampling around a proposed fracturing operation.  
4 And you indicated that FracFocus provides all the  
5 information needed, in other words this would be a good  
6 substitute for prefracturing sampling. Have you been  
7 involved or Halliburton, have you been involved in  
8 dealing with any of the cases around the country, Wise  
9 County, Texas or Wyoming or some of the allegations in  
10 Pennsylvania where folks -- many of them shown to be  
11 without foundation, but there have been allegations of  
12 contamination of water supplies by citizens?

13 MR. WATTS: Right. Most of those particular  
14 cases we haven't been directly involved with, but I can  
15 tell you that we do keep track of everything that's  
16 going on, you know, from a standpoint of how maybe the  
17 EPAs doing their study in Wyoming and we keep our hands  
18 on the pulse of all the things that are going on. And  
19 like you said like endemic in Pennsylvania, somebody  
20 mentioned Pennsylvania and the water cases and  
21 everything, the DEP there in Pennsylvania studied that  
22 and came to their conclusions, the EPA came in there  
23 and studied it and at the end of the day their  
24 conclusions find what our science has always known, is  
25 that it's not related to hydraulic fracturing. And so

1 I would say that we haven't been directly involved in  
2 those cases, I mean, we help support with some of the  
3 studies and we're on like the hydraulic fracturing  
4 study group with the EPA and some of their teams, their  
5 peer groups and that sort of thing. So we indirectly  
6 participate in that, but we haven't been directly  
7 engaged in those.

8 COMMISSIONER NORMAN: Just a quick follow up  
9 question because it is an important point. If you're  
10 telling us that we really don't need to have water  
11 sampling that's what I'm taking your testimony to be?

12 MR. WATTS: Well, again my personal opinion. I  
13 think that from a pure physics and science standpoint  
14 about how we construct wells and what we do I don't  
15 think that you need that. If I were a landowner I  
16 might want to have that. And at the end of the day I  
17 can understand why they might need that. What I would  
18 say is that what we need to do with all of these issues  
19 is to look at it and understand what we're trying to  
20 solve and what my suggestion is is that we have ways to  
21 put the right information in the hands of the public  
22 that allows them to do that if they choose to do so.  
23 And we can do it through like the API RP100-2 when it  
24 comes out, we can do it through FracFocus, we have  
25 means that allow the public to do that if they choose

1 to do that.

2 COMMISSIONER NORMAN: What about looking at it  
3 from the standpoint of an operator or a service company  
4 that is suspected of contaminating a source of drinking  
5 water, would that be a useful bit of information to  
6 have if you had prefracturing sampling?

7 MR. WATTS: I think that it might help in the  
8 situation, it could.

9 COMMISSIONER NORMAN: Thank you.

10 MR. WATTS: Yes, sir.

11 CHAIR FOERSTER: Mr. Watts, in a former life I  
12 was a technogeek so I really enjoyed revisiting some of  
13 that kind of stuff.

14 You mentioned the dimic (ph), was there a cost  
15 identified that you know of?

16 MR. WATTS: I'm not sure when you say cost,  
17 what are you.....

18 CHAIR FOERSTER: Cause, C-A-U-S-E.

19 MR. WATTS: A cause. I think it's just  
20 natural. I don't know for sure, you'd have to go back  
21 and read it and it's been a while since I read it  
22 so.....

23 CHAIR FOERSTER: Okay.

24 MR. WATTS: .....yeah.

25 CHAIR FOERSTER: Okay. That's fine. And I

1 think Commissioner Norman asked my other serious  
2 question, but my last question was should we have a  
3 requirement that young whippersnappers be involved in  
4 all fracturing design?

5 MR. WATTS: I think that it's amazing, they see  
6 life a little differently than we do. They need a  
7 little constraint, but we need to let them go, yes.

8 CHAIR FOERSTER: God love them. Commissioner  
9 Seamount, do you have any other questions?

10 COMMISSIONER SEAMOUNT: No.

11 CHAIR FOERSTER: Okay. Commissioner Norman?

12 COMMISSIONER NORMAN: No more.

13 CHAIR FOERSTER: Thank you very much, Mr.  
14 Watts. Someone from the public may have a question for  
15 you later or we may have one and so if you're able to  
16 we'd request that you stick around.

17 MR. WATTS: We should be here through the day  
18 today, I've got a midnight flight tonight heading back  
19 to Houston. So.....

20 CHAIR FOERSTER: Okay.

21 MR. WATTS: .....I want to warm up.

22 CHAIR FOERSTER: Okay. Thank you very much.  
23 So anyone who was saving a question for Mr. Watts be  
24 sure to get it to Ms. Colombie or Ms. Fisher during the  
25 lunch break so that we can be sure to allow him the

1 opportunity to answer any questions before he heads  
2 home.

3           It's 11:28 by my clock. If it's okay with  
4 everybody we'll break now for lunch and we will  
5 reconvene at 1:00 o'clock, 12:30, what do you think?  
6 Let's reconvene at 12:30. It's -- there's a chance we  
7 could complete the hearing today if we -- if we're good  
8 with our time. So let's reconvene at 12:30 and we're --  
9 we stand adjourned.

10           (Off record)

11           (On record)

12           CHAIR FOERSTER: All right. We've given the  
13 five minute associate professor gap so I'll call this  
14 hearing back to order.

15           Before we start taking any additional testimony  
16 I wanted to do a little bit of housekeeping. We  
17 currently don't have anyone on the phone so if that  
18 changes I may stop and give them some instructions.  
19 Any documents that we receive today will be added to  
20 the record so if you request a copy of the record then  
21 you'll have all the written comments from Ms. Colombie  
22 and Ms. Fisher. Those -- anything we get today will be  
23 included in what you are receiving.

24           All right. We have four more entities signed  
25 up to testify. Five, five more entities signed up to

1 testify. And I thought we would go in this order.  
2 Mike Munger from Cook Inlet RCAC if he's here. I don't  
3 see him here so we'll get him later. Lois Epstein from  
4 the Wilderness Society, is Lois here? No. Okay.  
5 Charles Loeb, then you'll be up next. And we'll get  
6 the other ones back in as they show up. And then  
7 Rebecca Noblin from the Center for Biologic Diversity.  
8 Okay. And last Jerry McCutchin if he is here. Okay.  
9 So that's the order we'll go in and it's possible that  
10 we could be finished today. And if we're not finished  
11 today we will reconvene here tomorrow morning at 9:00.

12

13           And I just -- for those of you may have come in  
14 later, I just want to reiterate a few of the ground  
15 rules. We will be limiting oral testimony to 30  
16 minutes for each participant. If you've submitted  
17 written comments there's no need to reiterate your  
18 testimony, however you're certainly welcome to provide  
19 oral testimony to supplement your written comments.  
20 Oral testimony must have relevance to the topic of  
21 hydraulic fracturing and to the jurisdiction of the  
22 AOGCC. The AOGCC acknowledges that parties may have  
23 concerns about issues outside of our jurisdiction  
24 however we won't be talking about those. Just to  
25 clarify the AOGCC jurisdiction is limited to --

1 generally to well specific operations, well and  
2 reservoir operations. I'd like to remind people as  
3 they testify to speak into the microphones so that  
4 persons in rear of the room can hear, so the court  
5 reporter can take -- get a clear recording and if we  
6 get people back on the phone I'll remind you to use  
7 your outside voices. We'll ask you to identify  
8 yourself as an expert or a lay witness and if you wish  
9 to be recognized as an expert you need to identify the  
10 area of your expertise and then give the qualifications  
11 for that expertise. A reminder that this is a public  
12 hearing and not a debate and only the person speaking  
13 should be vying for attention. And if you have any  
14 questions that you'd like directed to someone give them  
15 to either Ms. Colombie or Ms. Fisher. And before the  
16 end of the hearing the Commission will review the  
17 questions and ask any that it believes will be helpful  
18 in eliciting relevant information.

19           Let's go with our first -- Mr. Loeb. Give your  
20 name, who you represent and expert or lay and all of  
21 that.

22           MR. LOEB: My name is Charlie Loeb and I'm  
23 president of the board of Denali Citizens Council which  
24 is a local conservation organization that is active  
25 particularly in the Denali Borough and areas

1 surrounding Denali National Park and Preserve. Our  
2 organization has about -- has over 300 members and --  
3 oh, let me finish my own personal qualifications. So  
4 I'm president of Denali Citizens Council, it's a  
5 501(c)(3), non-profit conservation organization.

6 CHAIR FOERSTER: What was your degree?

7 MR. LOEB: 501(c)(3). It's just an IRS  
8 designation for non-profit organizations. We're active  
9 in land use issues in the Denali Borough, around Denali  
10 National Park. We have over 300 members most of whom  
11 are local residents, property owners and such in the  
12 Denali Borough area. The context in which we are  
13 interested in hydraulic fracturing and the reason I'm  
14 here and the reason you heard from another of our board  
15 members, Barb Brease, on the phone earlier, is that in  
16 2010 the Department of Natural Resources approved a gas  
17 only exploration license encompassing over 200,000  
18 acres in the Denali area around the area of Healy,  
19 Bingini Creek, Ferry, these are quite small communities  
20 though I'm sure you all know where Healy is and other  
21 residential areas as well as very important -- the gas  
22 exploration license incorporates some areas that are  
23 very important to wildlife habitat and are important  
24 for local and statewide recreational purposes.

25 So this is called our attention to the -- to

1 hydraulic fracturing because within the best interest  
2 finding for this exploration license there is specific  
3 mention of hydraulic fracturing as a tool that could be  
4 used to enhance gas production should commercial  
5 quantities of gas be found and produced in the Denali  
6 area.

7           We have through our attorney submitted some  
8 detailed written comments on these regulations. We  
9 also joined a group comment that you have from the  
10 Wilderness Society and several other organizations.  
11 And I certainly refer you to those documents for some  
12 very specific details on our concerns, but I'd like to  
13 use my time here today just to provide something of a  
14 more personal perspective as someone who owns property  
15 in an area where gas exploration could be taking place  
16 and along with it hydraulic fracturing that would be  
17 subject to the regulations that you're considering here  
18 today.

19           Since gas exploration was first proposed for  
20 the Denali area in 2003 we've been extremely concerned  
21 about its consequences for local residents and  
22 wildlife. Even 10 years ago there were a lot of horror  
23 stories in the media particularly from the western  
24 states about gas development gone wrong with methane  
25 seeps and residential houses and wells, toxic chemical

1 spills, dead cattle and other livestock and so forth.  
2 In the ensuing decade as you know the anecdotal  
3 evidence has been subject to various amounts of  
4 rigorous and not so rigorous scrutiny. In some cases,  
5 you know, the anecdotes perhaps did not point the blame  
6 to the gas drilling industry, but in other cases there  
7 is evidence being accumulated that there are some  
8 reasons for concern and I think that's the reason we're  
9 seeing regulatory effort taking place here and in other  
10 states now to address those kind of concerns. But as  
11 someone who, you know, actually owns property there and  
12 for many of our members who live there, have private  
13 water wells, this is a very personal concern to them  
14 because, you know, we read the stories and it's  
15 horrifying what can take place. Even under a base case  
16 scenario if natural gas development takes off in the  
17 Denali area like it has in some other places where --  
18 in Pennsylvania and Wyoming and Colorado and New  
19 Mexico, it will have incredibly significant impact on  
20 the quality of our lives in that area. Many DCC  
21 members have livelihoods connected to tourism and to  
22 Denali National Park, both of which are very much  
23 closely linked to the abundant wildlife and beautiful  
24 scenery of the area. Most of us own property and live  
25 in the area around the park and have chosen to do so

1 because we love the beauty of the place, the wildlife  
2 that shares our neighborhoods and the ready access to  
3 recreation out of the back doors.

4           Natural gas development threatens both  
5 livelihood and way of life and not only are our  
6 recreation areas threatened with industrial development  
7 it's potentially incompatible with the reason we live  
8 where we do, but to split a state into that same  
9 development can actually come right on to our own  
10 private property.

11           While there are many impacts of natural gas  
12 development that aren't a subject of concern for you,  
13 the regulation of hydraulic fracturing does still have  
14 some very important pieces for us and I'd like to  
15 emphasize just a couple of points that are detailed in  
16 our comments and that have been referred to earlier  
17 today by other presenters. You know, first of all  
18 related to providing full disclosure of the components  
19 and concentrations of fluids and substances used in  
20 hydraulic fracturing, you know, as -- again for our  
21 members people who live in a place where these  
22 substances if not managed correctly could end upon our  
23 land, could end up in places that we're walking our  
24 dogs, where our children play, or if things go poorly  
25 end up in our well water. We want to know what those

1 substances could be and we want to know before the  
2 industry's starting to use them. That's why you'll see  
3 in our comments that we would like to see full  
4 disclosure of what's being used before it's utilized  
5 rather than after. There's already -- I got from the  
6 industry representatives today that they're already  
7 aware of the need certainly for local health care  
8 workers and first responders to be aware of what  
9 chemicals are in use so that they know how to respond  
10 to them if there is a health problem. But, you know, I  
11 think for all of us who might just have -- come into  
12 contact at some point with a leak or a spill, it's  
13 really important. I think our members would really  
14 like to know what's being used, how much and what it's  
15 being used for.

16           A second major point, we strongly support  
17 measures that ensure the integrity of wells and  
18 containment of chemicals used in the drilling process.  
19 You know, I think many of the problems that have been  
20 associated with hydraulic fracturing in the lower 48  
21 are known to be caused by folks not doing good work,  
22 you know, presenter after presenter emphasized the  
23 importance of well integrity as the first step to  
24 ensuring that bad things don't happen with hydraulic  
25 fracturing. And I certainly that that -- I would agree

1 that that's true. And it extends beyond just good care  
2 of the wells to good care of what happens with the  
3 chemicals when they're stored onsite, what happens with  
4 the waste products that come back up out of the well.  
5 In a lot of places they just build surface impoundments  
6 and fill them up and let them evaporate off for a while  
7 before figuring out what to do with the fluids.  
8 Certainly we read about that being the case and  
9 particularly in some western states. And for that  
10 reason in our comments I really would like to call your  
11 attention to those things -- to those items that  
12 emphasize keeping those chemicals really well  
13 contained, secondary containment for storage containers  
14 is really important to us. Not allowing surface  
15 impoundments of potentially toxic fluids. Those kind  
16 of things are really critical to us, I mean, again we  
17 have kids playing out on this land, we walk our dogs on  
18 this land, you know, we see a lot of potential for  
19 things to go wrong if regulations aren't strong and if  
20 regulations aren't enforced. And we certainly support --  
21 we're very supportive of AOGCC taking the time and  
22 energy to promulgate these regulations and we certainly  
23 hope that you are able to have the enforcement staff  
24 that's necessary to make sure that they're followed.  
25 Finally there were questions raised by some of

1 the earlier presenters about how necessary it is to  
2 conduct water sampling. And I found it refreshing the  
3 gentleman from Halliburton to say that, you know, as an  
4 engineer he doesn't see the need for it, but as a  
5 landowner he'd kind of like to have that level of  
6 security. And I appreciate your obvious interest in  
7 asking the question of well, doesn't this -- doesn't  
8 water sampling of private water wells or any water  
9 wells that are in an area provide some level of  
10 security or ability to resolve conflicts so that if a  
11 landowner does -- their water goes bad after hydraulic  
12 fracturing has taken place and they come and say this  
13 was caused by the fracturing operation, there's some  
14 level of ability to check and say well, here's what  
15 your water looked like beforehand, here's what it  
16 looked like afterward, here are the chemicals that were  
17 used in the hydraulic fracturing operation. Yes, no,  
18 maybe so that this was responsible. If the operators  
19 are correct and that there is no way hydraulic  
20 fracturing could contaminate underground water supplies  
21 in properly cased wells then having this information  
22 protects them too. And speaking for the members of  
23 Denali Citizens Council, everyone who has -- uses water  
24 for drinking or bathing in the Denali area is getting  
25 that water from a well and many of these wells have

1 been drilled at great expense, the water is often  
2 fairly deep underground. There is no easy replacement  
3 for our well water if it does get contaminated. And  
4 for that reason those testing requirements are really  
5 important for us, we really want to know and so I  
6 encourage the Commission to move forward with adopting  
7 regulations that do indeed require testing of wells  
8 beforehand, testing of wells after -- both before and  
9 after hydraulic fracturing takes place. This is really  
10 important to us and really important to those of us who  
11 rely on drinking water that comes from these  
12 underground wells.

13           So on behalf of the membership of Denali  
14 Citizens Council I do hope that you will implement  
15 stringent regulations that will protect children,  
16 families, communities and Alaska's clean, natural  
17 environment.

18           Thank you. And I'd be happy to answer any  
19 questions.

20           CHAIR FOERSTER: Thank you, Mr. Loeb.  
21 Commissioner Seamount, do you have any questions?

22           COMMISSIONER SEAMOUNT: Mr. Loeb, I'd like to  
23 thank you for taking your time and energy to come down  
24 here and testify today. As you properly -- as you  
25 correctly noted this agency does not have the authority

1 to determine if industry comes to your beautiful  
2 country up there, but as you also correctly noted that  
3 this hearing is to help us to better ensure that  
4 whatever happens underground is going to protect more  
5 the safety of the things that -- you know, the things  
6 that we oversee. So thanks for coming.

7 That's all I have to say.

8 CHAIR FOERSTER: Commissioner Norman.

9 COMMISSIONER NORMAN: I have just a general  
10 question, Mr. Loeb, on the depth of water wells up in  
11 the area that you were speaking for, your members live  
12 in. Do you have some information on that that you  
13 could share with us?

14 MR. LOEB: You know, I have to confess to being  
15 a little rusty, but in some places the water is quite  
16 close to -- like in downtown Healy I think the water  
17 levels or water wells do tend to strike water fairly  
18 shallowly. Near where my property is out in Bingini  
19 Creek Subdivision, you can go 300 feet to get water.

20 COMMISSIONER NORMAN: Thank you.

21 CHAIR FOERSTER: Mr. Loeb, I don't have any  
22 questions for you, but I do appreciate your energy in  
23 coming all the way down from Healy to testify. I'm  
24 sure the members of your council appreciate you  
25 representing them here today.

1           MR. LOEB: Sure. And to clarify I am president  
2 of Denali Citizens Council. I -- personally I have  
3 property in the license area, I actually live in  
4 Talkeetna just so you know that. But Barbara Brease  
5 who testified earlier and almost all of our other board  
6 members do live in the Health area and I'm here at  
7 their behest because it's hard for working folks to  
8 take a day off work to come down to Anchorage, but I  
9 was able to scramble down from Talkeetna a little more  
10 easily.

11           CHAIR FOERSTER: So a Talkeetna resident is  
12 considered local?

13           MR. LOEB: Well, by virtue of long association  
14 and having lived up there in the past and we are a  
15 regional organization that includes the entire Denali  
16 area.

17           I also should say I am concerned for the Mat-Su  
18 too. As you know the whole controversy over natural  
19 gas development in residential areas got kick off in  
20 the Mat-Su some years ago. It sounds like you were  
21 involved in that. And there is -- there are gas  
22 drilling licenses also have been awarded in the Mat-Su  
23 and I know there's something west of Trapper Creek that  
24 I'm not as familiar with as I am with what's happening  
25 in the Denali Borough.

1           COMMISSIONER SEAMOUNT: Do a lot of the members  
2 work in the -- work in coal up there still?

3           MR. LOEB: You know, I -- it's a very heavily --  
4 the community has a remarkably diverse economy  
5 considering its size. So if you're in Healy proper I  
6 would say that there's -- the majority of folks have  
7 some association with the coal mine, but as you spread  
8 out from there the national park and the tourism  
9 industry is enormously important as an employer. The  
10 borough government is funded -- tourism to the borough  
11 government is like oil to the state, you know, 90  
12 percent some odd of the borough's revenue comes from  
13 accommodation taxes on the big hotels that serve the  
14 tourists up there. As you move northwards you get into  
15 employment at the Clear Air Force Base and such. So  
16 it's a huge variety, but certainly for DCC members, you  
17 know, tourism and the national park are really bread  
18 and butter for a lot of our folks.

19           CHAIR FOERSTER: Thank you again, Mr. Loeb.

20           MR. LOEB: Sure. Thank you.

21           CHAIR FOERSTER: Well, going down our list if  
22 you weren't here when we called you first we'll get  
23 back to you, but we're just going to keep moving down  
24 the list. So the next on the list was Rebecca Noblin.  
25 If Rebecca is here she can come up and testify.

1 (No comments)

2 CHAIR FOERSTER: No. Okay. We'll go back to --  
3 circle back. Well, Jerry McCutchin. Is Jerry here?

4 (No comments)

5 CHAIR FOERSTER: No. Mike Munger. No.

6 COMMISSIONER SEAMOUNT: Yes.

7 CHAIR FOERSTER: Oh, how did I miss you. Okay.

8 Mr. Munger, we need you to give your name and your  
9 affiliation for the record, if you'd like to be  
10 recognized as an expert witness your area of expertise  
11 and the qualifications that justify that representation  
12 and then you may proceed. Green means on.

13 MR. MUNGER: Good afternoon. No, I don't want  
14 to be recognized as an expert. Anyway I'm Mike Munger,  
15 I'm the executive director of the Cook Inlet Regional  
16 Citizens Advisory Council. The mission of the council  
17 is represent the citizens of Cook Inlet, promoting  
18 environmentally safe marine transportation in oil  
19 facility operations in Cook Inlet. We have  
20 representation from the municipalities and coastal  
21 communities from Anchorage to Kodiak and also special  
22 interest groups on our board.

23 Thank you for the opportunity to provide  
24 comments on the proposed -- proposal by the Alaska Oil  
25 and Gas Conservation Commission to revise state

1 regulations that govern hydraulic fracturing  
2 applications, operations and reporting.

3 Cook Inlet RCAC is submitting a formal set of  
4 written comments today which I already have. I'll use  
5 my remarks to highlight a few of the issues we have  
6 raised in our comment letter.

7 Cook Inlet RCAC reviewed the proposed  
8 regulations against standards that are in place through  
9 national standard organizations like the Interstate Oil  
10 and Gas Compact Commission and the Groundwater  
11 Protection Council. We also looked at recent trends in  
12 state oversight of fracking in other U.S. states. We  
13 found that overall these proposed new AOGCC regulations  
14 will improve the oversight of hydraulic fracturing  
15 operations and provide additional transparency to the  
16 public.

17 I currently serve as chairman on the Interstate  
18 Oil and Gas Compact Commission's environmental and  
19 safety committee and have the perspective of  
20 interaction with other state regulatory officials on  
21 their specific regulations pertaining to fracking. I'm  
22 encouraged by the -- that the -- our Commission, the  
23 AOGCC, is reviewing our current regulations and making  
24 efforts to improve and enhance Alaska's regulations. I  
25 also encourage why I'm here to for industry's

1 participation in Alaska at the IOGCC FracFocus program  
2 that we've heard quite a bit about today.

3           There are several aspects of the proposed  
4 regulations that Cook Inlet RCAC believes will enhance  
5 the environmental safety of hydraulic fracturing. The  
6 regulations create some new requirements for hydraulic  
7 fracturing drilling applications that specifically  
8 address many of the public concerns that have been  
9 raised -- excuse me, that specifically address many of  
10 the public concerns that have been raised about  
11 fracking. These include notification to nearby  
12 landowners and identification of potentially impacted  
13 wells and aquifers. The new regulations set out pre  
14 and post fracture water sampling requirements and  
15 specify testing parameters and analytical methods to  
16 make sure sampling results are consistent across  
17 operators.

18           The proposed regulations establish requirements  
19 for cementing and casing that include isolating all  
20 hydrocarbon zones penetrated by the well. We believe  
21 that cementing and casing operations along with  
22 pressure monitoring are critical to safe hydraulic  
23 fracturing and preventing unintended releases and we  
24 encourage AOGCC to actively oversee and enforce these  
25 provisions.

1           The proposed regulations include requirement  
2 for disclosure on the types and amounts of fluid  
3 including chemical additives to be used in hydraulic  
4 fracturing and plans for cleanup and recovery of all  
5 fluids. Operators submitting hydraulic fracturing  
6 plans would also be required to register their sites  
7 with the Interstate Oil and Gas Compact Commission and  
8 Groundwater Protection Council hydraulic fracturing  
9 website at [FRACFOCUS.ORG](http://FRACFOCUS.ORG). We believe these to be  
10 important provisions because they provide a level of  
11 transparency that will help local citizens and  
12 stakeholders to understand the types and amounts of  
13 chemicals being used in this process.

14           We do have one recommendation for AOGCC to  
15 consider as you finalize these regulations. We noted  
16 that the landowner notification requirement includes  
17 landowners, operators and surface users within one-  
18 quarter mile of the wellbore trajectory. We suggest  
19 that you consider expanding this to a minimum of a one  
20 mile radius to err on the side of safety of over  
21 notifying landowners and operators.

22           Very brief comments today, I didn't have a  
23 Power Point presentation nor did I have a video, but I  
24 just had these comments today and I certainly  
25 appreciate the opportunity and I'd be happy to answer

1 any questions you might have of me.

2 Thank you.

3 CHAIR FOERSTER: Thank you, Mr. Munger.

4 Commissioner Seamount, do you have questions?

5 COMMISSIONER SEAMOUNT: No. Thank you, Mr.

6 Munger, for taking your time to come up here.

7 MR. MUNGER: Thank you.

8 CHAIR FOERSTER: Commissioner Norman, do you

9 have any questions?

10 COMMISSIONER NORMAN: The expanded area to one

11 mile is the area for.....

12 MR. MUNGER: For notification of and sampling

13 of the wells within that area, sir.

14 COMMISSIONER NORMAN: Notification and sampling

15 would be a one mile area within the trajectory.

16 MR. MUNGER: And we're just trying to err on

17 the side of safety rather than ignore it.

18 COMMISSIONER NORMAN: Okay. Thank you, Mr.

19 Munger.

20 CHAIR FOERSTER: Thank you very much, Mr.

21 Munger.

22 MR. MUNGER: Thank you for the opportunity

23 again.

24 CHAIR FOERSTER: You're welcome. All right.

25 As people come back into the room we're rolling down

1 our list and coming back and getting people who we  
2 might have called earlier. Lois Epstein. And, Ms.  
3 Epstein, just a reminder, enter your name and who you  
4 represent for the record and if you want to be  
5 recognized as an expert what that area is and what the  
6 qualifications for the expertise are. And you weren't  
7 here when I reminded everybody, comments keep them to  
8 30 minutes, keep them to topics relevant to hydraulic  
9 fracturing in the areas of the jurisdiction of the  
10 AOGCC. And make sure your mic is on, green means on  
11 and put it close to your mouth so the people in the  
12 back of the room can hear you. And I think those are  
13 all of the rules of the game.

14 (Pause)

15 MS. EPSTEIN: I think we're good now. Sorry  
16 again, everybody, for the delay.

17 CHAIR FOERSTER: Please proceed.

18 MS. EPSTEIN: Good afternoon, everybody. My  
19 name is Lois Epstein, I am an engineer, I'm also Arctic  
20 program director for the Wilderness Society which is a  
21 national organization. We have an office with about  
22 eight staff in Anchorage. I'm located here. I'm a --  
23 a little bit of background. I'm a licensed engineer in  
24 the state of Alaska and Maryland. I work on oil and  
25 gas technical and policy issues. I've done that for

1 over 20 years in both Washington, DC, I've been in  
2 Alaska since 2001. I've worked both as a consultant  
3 and also for several different non-profit  
4 organizations. I recently served on a federal advisory  
5 committee on offshore drilling that was established by  
6 the Department of Interior after the BP Gulf spill in  
7 2010 and my work generally focuses on improving  
8 existing oil and gas operations. I do some national  
9 work on pipeline safety issues and certainly offshore  
10 drilling as I just mentioned.

11 Our organization works on protecting sensitive  
12 public lands from degradation in different ways and my  
13 background in oil and gas is helpful in making sure  
14 that when those operations occur there they cause the  
15 least amount of problems.

16 I'm speaking today for the Wilderness Society,  
17 but the comments we submitted to the Alaska Oil and Gas  
18 Conservation Commission consist of signatories from 15  
19 different organizations national and the state of  
20 Alaska and I'll show you some slides of who those --  
21 which organizations.

22 We submitted a very detailed set of comments,  
23 they're about 30 pages long and then we also submitted  
24 a much shorter set of comments where some of the groups  
25 around the state that were more capable of digesting

1 some of the less technical points felt that -- more  
2 comfortable signing onto. And I should add that  
3 our comments were signed -- were reviewed by an Arctic  
4 drilling expert who served as a consultant.

5 So the lead organizations developing the  
6 comments were the Wilderness Society, we had several  
7 staff involved, Earth Justice which are environmental  
8 attorneys, they have offices -- several offices  
9 throughout the country, but there is an office in  
10 Anchorage. The Natural Resources Defense Council,  
11 again a national organization headquartered out of  
12 Washington, DC. Clean Air Task Force which is a pretty  
13 sophisticated technical organization, works nationwide.  
14 They're out of Boston, Massachusetts.

15 The organizations that signed onto the comments  
16 were more diverse, ranging from national groups located  
17 in various places to smaller organizations that also  
18 include some tribal organizations throughout the state.

19 This is a list of the topics that we covered in  
20 our comments. The ones that are underlined I will go  
21 into fuller detail on some additional slides, but just  
22 to run through the list, number 1 for most of the  
23 organizations was disclosure issues. We also refer to  
24 that as right to know on fracturing chemicals and  
25 concentrations. I think most of you know that that's

1 been an important issue of concern for the public  
2 throughout the country.

3           Number 2 is the notification of landowners,  
4 residents and local and tribal governments. We  
5 supported that that notification go out to entities  
6 within a half mile of well trajectory.

7           Testing of water within 90 days before and  
8 after fracturing. The importance of that is that we'd  
9 like to be able to have a baseline measurement before  
10 the fracturing occurs and then also after to see  
11 whether there's been an impact.

12           And some of these comments I'll do my best if  
13 you have specific questions, but I might have to refer  
14 you to the document because it was put together by a  
15 number of different experts.

16           Number 4 is required use of non-toxic drilling  
17 fluids and muds. The industry itself is moving in that  
18 direction so we think that would be a good thing to  
19 actually require.

20           Number 5 is strengthening some of the  
21 regulations that AOGCC has. We recognize that the --  
22 the Commission does a very good job in general, but  
23 there could be some tweaks. A lot of that information  
24 came from our drilling expert that has worked with the  
25 regulations over the years.

1           Number 6 is an issue that I don't think we've  
2 heard very much about today. And it's quite important  
3 to a number of folks, especially those throughout the  
4 country that are working on greenhouse gas issues which  
5 is to minimize flaring and venting, is certainly within  
6 the responsibility of the AOGCC and something that is  
7 potentially an impact from unconventional oil  
8 development in a much more significant way than  
9 conventional oil and gas operations in the state. So  
10 I'll go into that in some detail.

11           Seven is hoping that from an interagency  
12 perspective the Commission will be working the DEC and  
13 DNR on some of the other issues that are their  
14 responsibilities, but to get those proactively  
15 upgraded, their regulations and requirements and  
16 mitigation measure in a way that puts together a  
17 package of measures that effectively oversee and  
18 provide confidence to the public that the state is  
19 doing a good job with hydraulic fracturing -- fracturing  
20 operation oversight.

21           And last I think it's important to mention that  
22 we see potentially should some of the plans of  
23 operations work out the way Great Bear and others have  
24 been talking about that, there might need to be a  
25 significant expansion of AOGCC staff and I recognize

1 that some have commented today saying that rather than  
2 increase the staff burden that certain things should  
3 not be required, what we see is you adjust the numbers  
4 of staff and require additional staff to oversee the  
5 amount of operations that are out there and not  
6 restrict what you're asking of industry because you  
7 don't have the staff to review it.

8           So on the topic of right to know I was happy to  
9 hear some earlier testimony that it sounds like the  
10 industry is interested in working with the public and  
11 the regulating agencies to come up with something that  
12 really does disclose the information that the public  
13 would like to see. We think it's important that these  
14 disclosures occur before operations begin. If  
15 individuals want to do some baseline well testing they  
16 need to know what to test for so it is -- and since we  
17 are talking about hydraulic fracturing that could occur  
18 statewide, not just in permafrost areas and these rules  
19 would apply statewide, it's important that the  
20 disclosure be comprehensive and be available to the  
21 public.

22           As we've heard from others it would help  
23 protect nearby residents, emergency responders, workers  
24 and certainly would increase public confidence in  
25 fracturing operations. When they -- you know, when

1 people hear that they're not going to be given  
2 information whether for trade secret reasons or  
3 otherwise, it does increase concern quite a bit that  
4 something is being done that they don't want to tell  
5 folks about and does increase the level of worry.

6           We're also interested in seeing the AOGCC  
7 require disclosure of the base fluid source, it's a  
8 plotter or groundwater of some sort, briny water,  
9 produced water, we want to make sure that the base  
10 fluid in addition to the additives is disclosed. That  
11 is a means of ensuring that the fresh water resources  
12 of the state, whether they come from areas in the  
13 Brooks Range where fisheries resources might be very  
14 important, it's a means of having -- keeping track of  
15 the large amount of water that would be used and making  
16 sure that the environmental issues associated with that  
17 are addressed.

18           A couple of comments about FracFocus. And I  
19 have gone into FracFocus to look at what it does and  
20 doesn't do and heard from others, I'm no expert on the  
21 system that's for sure, but it's my understanding that  
22 there's a number of concerns from the public about  
23 FracFocus now and I heard today that there is a version  
24 two that's going to be made available, but of course at  
25 this point we don't know what's going to be in that and

1 how applicable it is going to be to what the Commission  
2 wants to do.

3 CHAIR FOERSTER: Ms. Epstein, I just learned  
4 that there was some operator on the telephone that we  
5 need to get fixed right now.

6 MS. EPSTEIN: Sure.

7 CHAIR FOERSTER: So can -- if you'll just wait  
8 a second, it's going to make noise and we do it quietly  
9 if we could, but we can't. So I apologize.

10 (Pause)

11 CHAIR FOERSTER: Okay. You can continue until  
12 the next person comes up here and starts tampering with  
13 things.

14 MS. EPSTEIN: Okay. Thank you. So back to  
15 some of the concerns about FracFocus. There -- the  
16 known problems with that are that there could be a  
17 request for additional information that is not  
18 included. For example, the base fluid and where it's  
19 coming from including the geographic information system  
20 coordinates, GPS coordinates.

21 There is a problem with aggregating data  
22 through FracFocus. We heard earlier today that  
23 potentially some states could do that, but the issue  
24 with that is that people would like to be able to  
25 aggregate data themselves whether it would be at the

1 borough level or a much smaller geographic area. It's  
2 the ability to self aggregate using FracFocus is  
3 important and you can't do that at this point, you can  
4 only go well by well.

5           There are some provisions in using FracFocus  
6 that limit republication of the data. That's a problem  
7 if we want to make information public it should be  
8 available for reuse and republication. And then the  
9 data that are included are all post fracturing right  
10 now. And perhaps the Commission could work with those  
11 who are developing FracFocus to get those things  
12 improved, but our recommendation is not generally to  
13 rely on that nationwide system alone for disclosure,  
14 but the Commission's been good in the past developing  
15 its own data based and making them available to the  
16 public and this might be another instance of that need  
17 existing and hoping that you all can consider moving  
18 forward in that way.

19           And on the flaring issue, just a little  
20 background on why that's a concern. There's the  
21 emission of CO<sub>2</sub>, carbon monoxide, balt (ph) or organic  
22 compounds, some methane, nitrogen oxides and  
23 particulates under certain conditions. And  
24 additionally BC which is a particularly -- I'm  
25 forgetting, black carbon, that's what it stands for,

1 black carbon is particularly damaging to the climate  
2 when it's admitted in cold areas with snow cover. What  
3 happens is that the black carbon which are unburned  
4 particulates, they do -- there is deposition of them  
5 onto the snow and, of course, they serve to melt the  
6 snow because they will trap heat.

7           So in terms of flaring and historically it's my  
8 understanding that the AOGCC has been very good at  
9 clamping down on unnecessary venting and flaring of  
10 gas, should the amount of the gas associated with the  
11 oil and hydraulically fractured shales dramatically  
12 increase there's going to be a need to look at what  
13 will have to be done with that gas. So potentially  
14 there's a need for much specific regulations by AOGCC.  
15 Just to give you a number to get a sense of what's  
16 going on in the Bakken and North Dakota in general, the  
17 information I've seen shows that about -- and we've  
18 documented the sources for this in our comments, about  
19 a third of the natural gas in North Dakota is now  
20 flared. It's an enormous amount, I'm sure it's partly  
21 based on limited pipeline capacity in the area and some  
22 of that will get reduced over time, but, you know, as  
23 we all know up north there is not a pipeline  
24 infrastructure to bring the gas somewhere at this point  
25 so we might have an issue of quite a bit of gas that

1 people are going to have to figure out what to do with.

2

3           Our desire is to see flaring and venting left  
4 to the smallest amount needed for safety. Certainly if  
5 the gas can be utilized that would be great. Injected,  
6 that's another option. It's more possible in some  
7 places than other places, but, you know, maybe a need  
8 for some short pipelines to send it to the places where  
9 it can be injected. Separating out condensable liquids  
10 and putting that in with the oil line would be another  
11 good option.

12           And then in general we just wanted to be sure  
13 that the Commission thinks about flaring limitations,  
14 whether it's by well, by -- whatever it takes. I don't  
15 have -- certainly don't have all the answers to make  
16 sure that there's a sense that the amount that is  
17 flared is limited as much as possible. Carefully  
18 controlled flaring is preferred over venting certainly  
19 because you have less emissions in that way. And so  
20 there may be some -- a need for new regulations that  
21 specifically address when you can vent and when you  
22 can't. I know there are some in place right now, some  
23 limitations, but those need to be looked at to see if  
24 they need to be more specific and precise.

25           Appreciate the opportunity to be able to layout

1 these concerns for your work. And thank you very much  
2 for holding this hearing today and look forward to  
3 participating in future efforts on overseeing hydraulic  
4 fracturing.

5 CHAIR FOERSTER: Thank you, Ms. Epstein.  
6 Commissioner Seamount, do you have any questions?

7 COMMISSIONER SEAMOUNT: Yes. Ms. Epstein,  
8 would you -- do you have a definition of toxic drilling  
9 muds and fluids, what would be your idea of what's  
10 toxic and what's not toxic?

11 MS. EPSTEIN: Yeah, we talk about the use of  
12 water based drilling muds versus -- being preferable to  
13 oil base drilling muds and.....

14 COMMISSIONER SEAMOUNT: Okay.

15 MS. EPSTEIN: .....synthetic drilling muds as  
16 well. Synthetic being better than oil base, but not  
17 as good as water base.

18 COMMISSIONER SEAMOUNT: So oil's toxic,  
19 synthetic's not toxic?

20 MS. EPSTEIN: If it's possible to use water  
21 base we would suggest that that should be done.

22 COMMISSIONER SEAMOUNT: Okay. Now do you have  
23 a -- expanding AOGCC staff, it -- I mean, that's sort  
24 of a general idea, you don't have any specific numbers;  
25 is that correct?

1 MS. EPSTEIN: Well, what we did suggest is that  
2 the ratio of staff to number of wells that are being  
3 drilled now, you know, right now you guys have a good  
4 sense of what is needed and whether your staffing  
5 requirements are about right, but we don't want to see  
6 a dramatically different ratio in the future where  
7 there are a lot more wells going in and there's still,  
8 you know, maybe roughly the same staff or a little bit  
9 of increase because we all know how technical your work  
10 is in looking at the well design and making sure there  
11 are no problems. And, you know, if there's  
12 significantly increased number of wells being drilled  
13 in the state you'd expect there would be a significant  
14 increase in the staff as well.

15 COMMISSIONER SEAMOUNT: Okay. Now you've had  
16 some recommendations on -- well, it sounds like you're  
17 not completely happy with the information that goes in  
18 and comes out of FracFocus. Have you considered making  
19 recommendations to FracFocus yourself, to IOGCC and  
20 GWPC?

21 MS. EPSTEIN: Yeah, our organization hasn't  
22 been as involved in FracFocus as some of the other  
23 signatory organizations and I believe they have been  
24 working on that, but that's a good question and I can  
25 take that back to them.

1           COMMISSIONER SEAMOUNT: And we do a lot of work  
2 with them themselves and I will pass on, you know, what  
3 you've said. I'm not even sure how -- I would think  
4 that they would be receptive to input from you guys  
5 too. I don't see why they wouldn't.

6           CHAIR FOERSTER: And, you know, it's one thing  
7 for us to pass it on, but it's probably more meaningful  
8 for you to carry it to them in -- with detailed  
9 recommendations.

10          MS. EPSTEIN: Yeah, my sense is that the  
11 aggregation question has been something they've looked  
12 at and there's been some push back about doing that.  
13 And that's -- but, you know, as I said it hasn't been  
14 me raising that with them so I don't know exactly what  
15 all the discussions have been.

16          COMMISSIONER SEAMOUNT: Okay. Well, thank you  
17 very much for your testimony, Ms. Epstein.

18          MS. EPSTEIN: Thank you.

19          CHAIR FOERSTER: Commissioner Norman.

20          COMMISSIONER NORMAN: Yes, thank you. Good to  
21 see you, Ms. Epstein.

22          MS. EPSTEIN: You as well.

23          COMMISSIONER NORMAN: What would you consider  
24 to be adequate disclosure as to time of disclosure and  
25 content of the disclosure?

1           MS. EPSTEIN: We thought hard about that. We  
2 wanted to be sure that there was enough time between  
3 the time that the information was made public and when  
4 the actual operations would begin for a landowner or  
5 someone with a well to actually do some testing. So  
6 that was the key criteria we used and that's why we  
7 were suggesting 90 days. If it's 10 days it's  
8 certainly too short, if it's 30 days that's getting  
9 closer. Ninety days, maybe that's on the high end, but  
10 it certainly would provide a fair amount of time for  
11 someone who wanted to test for particulate chemicals in  
12 their water. And again thinking about this as a  
13 statewide rule is -- you know, and I heard some  
14 suggestions today that are worth looking at that maybe  
15 in permafrost areas you might treat it differently than  
16 in areas where -- non-permafrost, the Cook Inlet area,  
17 for example, where, you know, there is more people  
18 nearby, more wells that are relied on, et cetera.

19           Does that answer your question?

20           COMMISSIONER NORMAN: It did, uh-huh. And so  
21 you see that by the time information's posted on  
22 FracFocus that opportunity for testing is lost, is that  
23 -- was that.....

24           MS. EPSTEIN: Well, FracFocus as I understand  
25 it is after.

1           COMMISSIONER NORMAN:  Yes.  Yeah, and that was  
2 your point, uh-huh.

3           MS. EPSTEIN:  So that would be too late.

4           COMMISSIONER NORMAN:  So you see -- you see  
5 some landowners then taking the information, looking at  
6 the constituents going into a fracturing fluid and then  
7 trying to compare it with the components in their own  
8 forum?

9           MS. EPSTEIN:  Well, they would want to have  
10 their well water, for example, tested before so that  
11 they know what the baseline water quality is there and  
12 they might want to test for particular components.  You  
13 know, talking to the water chemists and others who are  
14 familiar with the list of constituents and that would  
15 be used and you'd probably want to pick out some  
16 indicators.

17          COMMISSIONER NORMAN:  And where would that  
18 lead.  They will have that baseline information under  
19 the regulations as proposed now, they would have that  
20 baseline information.  And if they have the disclosure  
21 where in the interim would they -- this match up, what  
22 would that additional information -- what would be  
23 the.....

24          MS. EPSTEIN:  Well, the -- you know, what  
25 happens then is when the hydraulic treatment occurs and

1 there's say some sort of suspicion that there's a  
2 problem, they would then be able to compare a new set  
3 of testing with what had gone on before to see if it's  
4 different. And they could confirm or not whether  
5 they've had any sort of damage to their water.

6 COMMISSIONER NORMAN: Okay. It seems to me  
7 they could do that anyway, but.....

8 MS. EPSTEIN: Well, except you don't know what  
9 you're testing for unless you have that information  
10 disclosed before.

11 COMMISSIONER NORMAN: Okay. Thank you.

12 CHAIR FOERSTER: Thank you, Ms. Epstein. It's  
13 always good to see you. In your suggestions for  
14 improving FracFocus, you mentioned needing GPS and I  
15 didn't catch, were you talking about for the location  
16 of the well or for the location of the source fluid?

17 MS. EPSTEIN: The source fluid.

18 CHAIR FOERSTER: Okay. Okay. All right. And  
19 you suggest having 90 days notification prior to  
20 performing the hydraulic fracture. How would you see  
21 making that work with a winter exploration season?

22 MS. EPSTEIN: I'm not exactly sure how to.....

23 CHAIR FOERSTER: Okay. What I'm asking is, you  
24 know, an operator drills an exploratory well and during  
25 the post drilling evaluation of the well they determine

1 that in order to get a feel for whether they want to  
2 continue in the area they need more data and the best  
3 way to get that data is through a hydraulic fracture.  
4 And it's February 15th and 90 days later it would be  
5 May 15th. How does that 90 days.....

6 MS. EPSTEIN: We're saying there's certain  
7 situations where they may have to do something quickly.  
8 And well, I guess, you know, ideally one would hope  
9 that in the exploration plan there would be that  
10 possibility incorporated and it wouldn't surprise  
11 anyone that they needed to do that. So it would be a  
12 contingent plan.

13 CHAIR FOERSTER: You've obviously never drilled  
14 an exploratory well.

15 MS. EPSTEIN: Well, it is a good idea. I am an  
16 engineer, I know that part. So I don't know, I mean, I  
17 think we'd have to consider what actually happened in  
18 the field all the time regularly and whether  
19 that's.....

20 CHAIR FOERSTER: Okay. My only other question,  
21 it may be more of a rhetorical question or maybe you  
22 can help me. I don't -- you know, I don't drink well  
23 water, I live here in Anchorage and I drink city water,  
24 but I'm puzzled as to why well owners wouldn't do  
25 initial testing of their wells to see what they're

1 drinking?

2 MS. EPSTEIN: Well, sometimes it's just cost,  
3 but it -- also they have -- you know, been -- they had  
4 no reason to suspect that there was a problem. But as  
5 I was suggesting with Commissioner Norman if they would  
6 want to do a test you have to know what you're going to  
7 test for. I mean, there are some standard testing  
8 protocols, but you're basically doing something in the  
9 area using chemicals that would not normally be seen in  
10 your well. So a standard testing lab might not look at  
11 that unless you request that that be done.

12 CHAIR FOERSTER: That makes sense. Okay.  
13 Thank you. Commissioner Seamount, do you have any  
14 other questions?

15 COMMISSIONER SEAMOUNT: No.

16 CHAIR FOERSTER: Commissioner Norman.

17 COMMISSIONER NORMAN: No.

18 CHAIR FOERSTER: All right. Thank you, Ms.  
19 Epstein.

20 MS. EPSTEIN: Thank you all.

21 CHAIR FOERSTER: All right.

22 MS. EPSTEIN: Happy to, you know, continue to  
23 dialogue with you and answer questions later.

24 CHAIR FOERSTER: You're always welcome in our  
25 building.

1 All right. According to my list the only other  
2 parties that have signed up to testify are Jerry  
3 McCutchin and Rebecca Noblin. Is either of those  
4 parties present?

5 (No comments)

6 CHAIR FOERSTER: Is there anyone else in the --  
7 oh, Rebecca, come on up. And while you were out I  
8 reminded people of the protocol. Limit your testimony  
9 to 30 minutes, limit it to topics relevant to hydraulic  
10 fracturing and the AOGCC's jurisdiction. And introduce  
11 yourself, your name and who you represent, let us know  
12 if you want to be recognized as an expert witness, if  
13 so what area of expertise and what are your  
14 qualifications.

15 MS. NOBLIN: Thank you.

16 THE COURT: Oh, and make sure your microphone  
17 is turned on and you're speaking into it.

18 MS. NOBLIN: Okay.

19 CHAIR FOERSTER: It's not on.

20 MS. NOBLIN: My name is Rebecca Noblin, I'm the  
21 Alaska director for the Center for Biological  
22 Diversity. I do not wish to be recognized as an expert  
23 unless doing so would actually make me an expert, but I  
24 don't think it would.

25 My organization has submitted detailed written

1 comments with specific recommendations and today I just  
2 want to hit on some of the key points. So I'm sort of  
3 just going to speak in more general terms about our  
4 recommendations. And our comments were developed in  
5 coordination with some of -- with my colleagues who are  
6 much more emersed in these issues than I am. So I  
7 welcome your questions, I might have to go back to my  
8 colleagues to get the answers.

9           So our position is that the Commission has the  
10 authority to ban fracking in Alaska and that it should  
11 do so. Fracking is like conventional oil and gas on  
12 steroids. It's so risky that there are currently no  
13 regulations that could fully protect Alaska. As you  
14 know it will require dense and intensive development in  
15 what are currently many -- many areas are relatively  
16 pristine. Alaska as we all know is a very special  
17 place and I think we should think long and hard before  
18 we trade our unparalleled wilderness for a quick fossil  
19 fuel fix.

20           Fracking is inherently dangerous, it poisons  
21 water and air, it causes earthquakes, it harms  
22 wildlife. The process would open vast areas of  
23 Alaska's wilderness to new oil and gas development.  
24 The development in these new areas as I said is dense  
25 and intensive and as you know the process works by

1 increasing the permeability of shale, but it does this  
2 only for relatively small areas meaning that the  
3 stimulation of production is short lived and the  
4 fracking process must be repeated over and over and in  
5 different locations. So the oil and gas wells and  
6 their support facilities could blanket large areas.

7           Moreover one of our major concerns here is  
8 climate change. We spend a lot of time thinking about  
9 how we can prevent the climate from going off on a  
10 trajectory that -- where we can't return to some sort  
11 of stable normalcy. Fracking is going to open up  
12 fossil fuel deposits that quite honestly need to be  
13 kept in the ground if we have any chance of preventing  
14 harmful climate change. Science tells us that  
15 preventing warming from exceeding manageable levels  
16 requires that we keep the vast majority of current oil  
17 and gas in the ground. Fracking would run directly  
18 counter to this.

19           In addition to the fossil fuel that fracking  
20 makes available also the process itself has a big  
21 greenhouse footprint especially in the area of the  
22 release of methane. The emission of methane gas into  
23 the atmosphere, it's a very potent greenhouse gas, it's  
24 33 times more powerful than carbon dioxide at warming  
25 the atmosphere over 100 year time period. It's 105

1 times more powerful over a 20 year time period. So  
2 we're looking at a place like Alaska where we're  
3 already feeling the impacts of climate change, you  
4 know, perhaps more than we are in other parts of the  
5 world. We really need to be careful about putting even  
6 more potent greenhouse gas emissions into the  
7 atmosphere.

8           So for all of these reasons we do recommend a  
9 ban on fracking. However if the Commission does move  
10 forward with the rulemaking we do have a number of  
11 suggestions for how to strengthen the draft  
12 regulations. One of those is to adopt the  
13 recommendations of the U.S. Secretary of Energy  
14 Advisory Board Shale Gas Production Subcommittee,  
15 including recommendations pertaining to the protection  
16 of air quality and the climate. And certainly these  
17 regulations do adopt many of those recommendations and  
18 we commend for you that, but we sort of see these --  
19 the shale gas production subcommittee's recommendations  
20 as no brainers, they're things that everybody agrees  
21 upon as ways to make fracking safer. And so we would  
22 recommend adopting all of those recommendations.

23           Regarding disclosure, as Commissioner Norman  
24 mentioned earlier you really need public -- you need  
25 public disclosure and you need public understanding to

1 get any sort of buy in on these things. And it's  
2 absolutely great that the regulations currently require  
3 the disclosure of fracking chemicals without protection  
4 for trade secrets. To me it's obvious that the public  
5 interest outweighs any sort of company's interest in  
6 protecting their trade secrets. However there are ways  
7 that these disclosure rules could be strengthened.

8           We've seen in the lower 48 that there have been  
9 numerous public health and environmental issues related  
10 to fracking and that problem is really compounded by  
11 the lack of information. There's been this ongoing  
12 problem of companies not disclosing what chemicals  
13 they're using and then when people have -- you know,  
14 when medical problems come up or, you know, cattle dies  
15 or whatever, people don't -- they suspect that it's  
16 coming from the these -- this unconventional  
17 development, but they don't really know, they don't  
18 know what's going on. I'll tell a story in example.  
19 There's the family in Colorado, Lora and Larry Amos  
20 whose well exploded in 2001 from a fracking related  
21 accident and they were told by state regulators that it  
22 was just methane and it was harmless. So they didn't  
23 test for benzene or further fracking chemicals because  
24 they didn't know what to test for and this goes to what  
25 Lois mentioned about you don't test for what you don't

1 know you're looking for. So they didn't test for  
2 certain chemicals. They continued using their well  
3 water and after three years Lora was diagnosed with an  
4 adrenal tumor. It turns out that it was caused by a  
5 particular fracking chemical that was later found to be  
6 in their well and they settled for an undisclosed large  
7 amount of money.

8           We don't want this kind of thing happening in  
9 Alaska and we can prevent it by requiring full  
10 disclosure of the chemicals in the beginning so that  
11 people can get, just like Lois is saying, get their  
12 wells tested before they even -- before the company  
13 even starts fracking. And that protects the companies  
14 too for that matter.

15           Other ways the disclosure could be strengthened  
16 is again disclosure in advance. Lois advocated for 90  
17 days in advance, we in our letter advocated for at  
18 least 30 days in advance. Some sort of public notice  
19 and opportunity to comment.

20           And as Lois said we think FracFocus has a lot  
21 of problems and I won't go back through those. We name  
22 a lot of the same issues that the Wilderness Society  
23 and those groups mention in their letter. But the  
24 inability to aggregate information is a big problem and  
25 it -- many of the problems she mentioned. So we would

1 advocate for finding a different system or an  
2 additional system that's more user friendly.

3           Regarding monitoring we believe the Commission  
4 should require sufficient monitoring to ensure that if  
5 something goes wrong with fracking the problem will be  
6 identified quickly enough to prevent harm to Alaska's  
7 wilderness or subsistence practice. In particular your  
8 pollution emissions from fracking operations are poorly  
9 characterized and it's important that the Commission  
10 require testing of background air quality and the  
11 impacts of operations on air pollution levels. And  
12 again we advocate for requiring more baseline data on  
13 the waters before fracking.

14           Finally regarding air quality, I mentioned that  
15 fracking there's often big methane emission releases,  
16 there are also, you know, all sorts of other air  
17 pollution problems from fracking and there are  
18 practices and technologies available to control air  
19 emissions. In particular there are a number of reports  
20 that describe many ways to significantly and cost  
21 effectively cut methane emissions. The loss of this  
22 gas is not only bad for the environment, but it's  
23 unnecessarily wasteful.

24           The draft regulations currently don't require  
25 any use of these best practices and technologies and we

1 believe that it's better for everyone, it's better for  
2 public health, it's better for the companies, if we do  
3 require these cost effective technologies for cutting  
4 methane emissions.

5 And I think I'll leave it at that. Thanks.

6 CHAIR FOERSTER: Thank you, Ms. Noblin.

7 Commissioner Seamount, do you have any questions?

8 COMMISSIONER SEAMOUNT: Thank you, Ms. Noblin.

9 I have no questions.

10 CHAIR FOERSTER: Commissioner Norman, do you  
11 have any questions?

12 COMMISSIONER NORMAN: No, just thank you for  
13 your participation and testimony.

14 CHAIR FOERSTER: I don't have any questions for  
15 you either, Ms. Noblin. Thank you very much.

16 MS. NOBLIN: Okay. Thank you. And I have a CD  
17 of the references that we cited in our comment letter.

18

19 CHAIR FOERSTER: Would you like that entered  
20 into the record?

21 MS. NOBLIN: Yes.

22 CHAIR FOERSTER: Okay. Then just give it to  
23 Ms. Colombie or Ms. Fisher.

24 All right. Is there anyone else present  
25 wishing to testify?

1 (No comments)

2 CHAIR FOERSTER: All right. Before we adjourn  
3 there have been a few inquiries into whether or not we  
4 would leave the record open and we want to welcome all  
5 the comments that could possibly come in so, of course,  
6 we will leave the record open for an additional 10  
7 business days. And so if you have additional comments  
8 or you know of anyone who wants to provide comments  
9 they have 10 additional business days to do so.

10 And I think at this point it's appropriate to  
11 adjourn.

12 (Hearing adjourned)

13 (END OF PROCEEDINGS)

1

TRANSCRIBER'S CERTIFICATE

2

3

4

5

6

7

8

9

10

11 Date

12

I, Salena A. Hile, hereby certify that the foregoing pages numbered 02 through 151 are a true, accurate, and complete transcript of proceedings of public hearing of April 4, 2013 public hearing, transcribed under my direction from a copy of an electronic sound recording to the best of our knowledge and ability.

\_\_\_\_\_

\_\_\_\_\_

Salena A. Hile, Transcriber