**ALASKA STATE LEGISLATURE**
**SENATE RESOURCES STANDING COMMITTEE**
February 14, 2012
3:34 p.m.

**MEMBERS PRESENT**

Senator Thomas Wagoner, Co-Chair
Senator Bill Wielechowski, Vice Chair
Senator Bert Stedman
Senator Hollis French
Senator Gary Stevens

**MEMBERS ABSENT**

Senator Joe Paskvan, Co-Chair
Senator Lesil McGuire

**OTHER LEGISLATORS PRESENT**

Senator Cathy Giessel

**COMMITTEE CALENDAR**

SENATE BILL NO. 192
"An Act relating to the oil and gas production tax; and providing for an effective date."

- HEARD & HELD

OVERVIEW: NORTH SLOPE PRODUCTION BY ALASKA OIL AND GAS CONSERVATION COMMISSION

- HEARD

**PREVIOUS COMMITTEE ACTION**

BILL: SB 192
SHORT TITLE: OIL AND GAS PRODUCTION TAX RATES
SPONSOR(s): RESOURCES

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| 02/08/12 | (S) | READ THE FIRST TIME - REFERRALS |
| 02/08/12 | (S) | RES, FIN |
| 02/10/12 | (S) | RES AT 3:30 PM BUTROVICH 205 |
| 02/10/12 | (S) | Heard & Held |
| 02/10/12 | (S) | MINUTE(RES) |
| 02/13/12 | (S) | RES AT 3:30 PM BUTROVICH 205 |

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| 02/13/12 | (S) | Heard & Held |
| 02/13/12 | (S) | MINUTE(RES) |
| 02/14/12 | (S) | RES AT 3:30 PM BUTROVICH 205 |

**WITNESS REGISTER**

DAN SEAMOUNT, Chair
Alaska Oil and Gas Conservation Commission (AOGCC)
Anchorage, AK
**POSITION STATEMENT**: Testified about current North Slope production and activity.

KATHY FOERSTER, Engineering Commissioner
Alaska Oil and Gas Conservation Commission (AOGCC)
**POSITION STATEMENT**: Testified about current North Slope production and activity.

**ACTION NARRATIVE**

3:34:11 PM
**CO-CHAIR TOM WAGONER** called the Senate Resources Standing Committee meeting to order at 3:34 p.m. Present at the call to order were Senators Wielechowski, Stedman, French, Stevens and Co-Chair Wagoner.

**SB 192-OIL AND GAS PRODUCTION TAX RATES**
**OVERVIEW: NORTH SLOPE PRODUCTION BY THE ALASKA OIL AND GAS CONSERVATION COMMISSION**

3:34:30 PM
CO-CHAIR WAGONER announced that the business before the committee was to hear an overview from the Alaska Oil and Gas Conservation in the context of SB 192.

3:35:13 PM
DAN SEAMOUNT, Chair, Alaska Oil and Gas Conservation Commission (AOGCC), said he was a geologist and the chair to the commission.

KATHY FOERSTER, Alaska Oil and Gas Conservation Commission (AOGCC), said she was the AOGCC engineering commissioner.

3:36:47 PM
MR. SEAMOUNT said they were asked to testify today about North Slope production and activity. He began by showing pictures of the North Slope facilities. He said the North Slope is about the

size of Wyoming and the production area is really small, about the size of Rhode Island; well penetration is not very complete.

SENATOR STEDMAN asked what he meant by not very complete. Is it held by another entity or just not available because of the technology at the time it was drilled? Or is it so spread out that it doesn't provide complete data?

MR. SEAMOUNT replied all of those were correct. The BLM holds most of the information; they were old wells with old ways of collecting information. The AOGCC has very minimal information, but they do know whether they encountered oil or gas.

SENATOR STEDMAN asked if there are still core samples from those drillings or are they lost.

MR. SEAMOUNT replied that they would probably be stored at the USGC in Denver or at the core facility, the Geological Material Center in Eagle River and he would check on that.

SENATOR STEVENS asked which years these wells were drilled.

3:40:23 PM
MR. SEAMOUNT replied from the 40s through 80s; most were probably pre-70s. Slide 3 was a chart of the only oil production going on at that time on the North Slope. The next slide was a picture of the Alpine Oil Field that was discovered in 1994 and started regular production in 2002. The reason he showed it was as an example of the tremendous strides in technology that have enabled drilling from a very small footprint. They are drilling wells up to five miles out and draining 20,000 acres (31 sq. miles) from one 13-acre pad. The future looks even better as far as technology goes, he said. Things are being done now, like extended reach, that hadn't even been thought about 20 years ago. Another technological advance is that oil and gas are now being produced out of shale and that was not possible 10 years ago.

3:41:48 PM
He said the AOGCC mission is to keep charts and statistics for:
- Historical AOGCC and Gas permitting activity
- North Slope actual drilled wells and well work

3:43:29 PM
MR. SEAMOUNT explained that the AOGCC is a quasi-judicial state regulatory agency with oversight mainly for underground oil and gas reservoir operations on private, federal and public lands in

Alaska; it exercises the police power of the state. They regulate the drilling and development of oil and gas and geothermal resources as well as underground storage of natural gas (in Cook Inlet). One of the few things they do on the surface is insuring metering accuracy for custody transfers.

AOGCC mandates include conservation: preventing the waste of energy resources, promoting greater ultimate energy resource recovery, protecting underground fresh water from damage caused by oil, gas and geothermal operations, protecting human safety in oil field operations and protecting correlative rights of owners that have adjacent properties to production.

Slide 8 splits out the North Slope drilling permits since inception of the AOGCC in 1957 on a chart. He said that after 1970 the North Slope was by far the most active in the state. The first "hump" in the late 60s indicated the gas field development in Cook Inlet and the next hump in late 70s was the oil development in Cook Inlet and the big hump around 1980 was development drilling within, mainly, Prudhoe Bay and Kuparuk and after that a lot of satellite development.

MR. SEAMOUNT said the numbers of wells drilled on the North Slope varied from almost zero in the 1950s to the peak of 275 in 1982. There has been a "little downturn" in the last year and that trend in permits started around 2005 and is at a low now. In fact, the only time it was lower over the last almost 20 years was in 1999, the year after the extremely low oil prices. The green curve showed the numbers of active wells that the inspectors have to do some sort of observation on; that number has steadily grown through the years to now with an all-time high of 4,800 active wells. The magenta curve indicated the number of active oil reservoirs in the state and that number has continued to climb, and fairly fast from 2000 and 2005.

3:48:53 PM
Slide 9 illustrated the development timeline for North Slope oil fields. The average time to production from discovery (taking out five of the most delayed fields) was 11 years, but it took an average of 7 years for fields where the operator tried as hard as they could to get the field on production, such as Alpine and Oooguruk.

CO-CHAIR WAGONER asked how that timeline compares to the Bakken in North Dakota.

MR. SEAMOUNT replied that he didn't have specific numbers, but it's a very fast timeline in North Dakota.

CO-CHAIR WAGONER said it's an entirely different system there; they don't worry about pipelines because they truck it if they have to.

MS. FOERSTER added that part of the difference is in the Lower 48, exploratory wells typically become producers; whereas on the North Slope exploratory wells are typically just drilled for data, because the possibilities of successful production are low. At the end of drilling an exploratory well in the Lower 48 all they have to do is open the valve and on the North Slope they have to start over and wait for the next winter exploration season.

MR. SEAMOUNT said they could give 10 other reasons why the production timeline is much longer in Alaska.

3:52:19 PM
He said slide 10 shows Alaska's average daily oil and NGL productions from late the 1960s through 2011; it shows that in the late 60s through the 70s Cook Inlet was the top producer in the state producing 285,000 barrels of oil per day (bbl/d). Prudhoe Bay came on line in the 70s, then the Kuparuk Milne Point and then in the 80s everybody ran to the North Slope. Even though everybody ran to the North Slope he said it is still "way under-explored" as is Cook Inlet.

3:53:24 PM
SENATOR FRENCH referenced an article out of a 1992 Oil and Gas Journal in which a couple of Arco people said, "By any definition, Prudhoe Bay is declining and will continue to decline." He said to accountants the decline started in 1988 when the field was no longer able to make its maximum allowable rate of 1.5 mmbbl/d, and to engineers the decline began long before that. He asked Mr. Seamount to comment on the Prudhoe decline and what is possible to get out of that reservoir now.

MS. FOERSTER explained that when they were saying the decline started sooner for the engineers they meant that a lot of engineering work went into maintaining the plateau as long as they did.

She said the Prudhoe Bay reservoir is "world class" and the largest reservoir in North America. When it was discovered in the 70s, the plan was to have a gas pipeline as well, and with

the technology then, the thought was they would water flood it and blow down a little gas along the way, and if that plan had followed through Prudhoe Bay would have been depleted with about 8 billion barrels of production. But it has produced over 11 billion barrels so far and there is still about 2 billion barrels remaining of technically recoverable oil. To put that in perspective, Thunder Horse was the biggest discovery in North America this millennium and it's less than 2 billion barrels. So the biggest discovery in North America at inception is smaller than what is left at Prudhoe Bay!

SENATOR STEVENS asked why Mr. Seamount said North Slope and Cook Inlet are underexplored.

3:56:49 PM
MR. SEAMOUNT answered because huge areas between wells haven't been explored and there are known structures on the North Slope that haven't been drilled. The Cook Inlet Basin is the same size as the San Juan Basin in New Mexico, which has 29,000 wells in it and discoveries are still being made there. Cook Inlet has 1,000 wells drilled and of those, less than 400 have been exploratory. There are plays that work throughout the world that they have never gone after in Cook Inlet and some not even on the North Slope.

SENATOR WIELECHOWSKI asked how challenged the remaining 2 billion barrels in Prudhoe Bay is.

MS. FOERSTER replied that oil is technically recoverable today and they expect the operator to produce it. The challenges that exist are oil price and how it will be transported should the total North Slope rate drop below that at which TAPS can operate and the mechanical integrity of the aging infrastructure.

SENATOR WIELECHOWSKI asked if she expects it to be produced under the current tax structure.

MS. FOERSTER replied that she had been in the state only 20 years and the tax structure had changed at least five times. To say that it will be developed under the current tax structure would be a bit naïve on her part. She hadn't seen fiscal stability, but that would be good.

SENATOR WIELECHOWSKI said that was why he was trying to get at costs and asked what the cost per barrel would be. Is it economically recoverable under the current tax structure?

3:59:35 PM
MS. FOERSTER replied that she hadn't looked enough at the economics to answer that question.

SENATOR FRENCH said he appreciated the hyperbole but the cameras are running and they take a lot of heat for these oil tax changes. He pinpointed the tax changes at ACES, PPT and ELF which actually happened in 1989, more than 20 years ago saying the most he could see is three and that's if you count when Governor Murkowski aggregated the fields at Prudhoe Bay.

CO-CHAIR WAGONER said the presenters of the Gleason court case in previous meetings said they felt with the proper investment the decline curve could be flattened out and even raised some, but he hadn't heard anyone say the decline could be stopped with just Prudhoe Bay. The only thing he has heard that would level the curve would be new discoveries and new production from new fields.

MS. FOERSTER responded that it would take an enormous investment at Prudhoe Bay to stop the decline in that field and agreed that new discoveries and spending money in existing fields are both needed.

4:02:18 PM
MR. SEAMOUNT agreed, too. He said slide 11 was a pie chart that showed the kinds of wells and how many of each were drilled throughout Alaska last year. At least 140 wells were drilled in 2011; 125 on the North Slope and 15 in Cook Inlet and 5 alternative energy wells (geothermal and underground coal gasification). The North Slope is the most important when it comes to activity, but Cook Inlet is ramping up with one jack up rig already there and one on the way, and different types of plays are being looked at.

New discoveries possible in NPRA, OCS and a big area of state leases are in a good spot for shale oil and gas; and then there's ANWR.

SENATOR FRENCH asked how far out AOGCC's jurisdiction goes into the water.

MR. SEAMOUNT replied three miles out and if they drill from shore, they will have jurisdiction from a safety standpoint not from a reservoir development standpoint.

SENATOR FRENCH asked whose jurisdiction picks that up afterwards.

MS. FOERSTER replied the Bureau of Ocean Energy Management (BOEM).

4:05:45 PM
MR. SEAMOUNT said slide 12 was Alaska production curve without Cook Inlet. He pointed out that in 1998 the president of Arco, Ken Thompson's motto was "No decline in 99" and he was right for a number of years up until about 2005.

SENATOR STEDMAN asked how elephant field production cycles play out normally.

MS. FOERSTER answered that Prudhoe Bay was developed by the best operators in the country and is a good "go-bye."

MR. SEAMOUNT added that the recovery rates at Prudhoe Bay are incredible.

SENATOR STEDMAN asked if they should expect a flattening out of production and a long tail for elephant fields.

MS. FOERSTER replied that is exactly what should be expected at Prudhoe Bay.

4:08:56 PM
MR. SEAMOUNT went to slide 14 that displayed the timing of prominent discoveries on the North Slope and the number of exploration wells drilled going back to 1950 (NPRA legacy wells not included). The number of exploration wells that were drilled varied from 2 per year to 32 per year. Typically 7 wells were drilled a year since 1980. Media has reported that there could be more than 35 wells this year, but the AOGCC has received permits for about 8 or 9 wells so far for this drilling this season on the North Slope. At this point even 15 would be a lot because it's getting late. They need to see permits before the ice goes out if someone really wants to drill.

SENATOR FRENCH asked him to talk about the cyclical nature of exploration.

MR. SEAMOUNT replied that is a difficult question to answer. When he was in the business he drilled more wells when the oil price was up and fewer when it was down. But now the oil price

is up and he would be happy to see 10 exploration wells especially after last year.

MS. FOERSTER agreed.

4:11:19 PM
SENATOR WIELECHOWSKI said Petroleum News reported in the week of February 12 issue that the total number of 2012 North Slope explorers is 6 and the total of oil exploration wells is 23 to 27. Where did that disparity come from?

MR. SEAMOUNT replied that he didn't know; all he knew was the numbers of permits AOGCC had received.

SENATOR FRENCH asked how long it takes the AOGCC to process a development well permit.

MR. SEAMOUNT answered the average development well takes about 7 working days and probably less than two weeks for an exploration well.

4:13:05 PM
MS. FOERSTER added the length of time it takes them to process an exploratory well permit depends on not just the complexity of the well but the completeness of the application, and as new operators come to the state, they spend a lot of time teaching them how to work within the process. She said the commission starts processing a permit only when it is complete, and it's conceivable that a new operator's permit could take months to complete.

SENATOR FRENCH said he heard that ConocoPhillips was announcing plans for an exploration well.

MR. SEAMOUNT went to slide 15 that showed the operators who have drilled the exploration wells since 1997, and ConocoPhillips and BP were by far the big guys up until 2002 when new operators came in. So far this year, they have received three permit applications from Repsol, two from Pioneer, one from Brooks Range and one from ConocoPhillips.

4:15:07 PM
Slide 16 showed development and service wells drilled from 1950 to 2011 (that was a slow year). There was a real slow down in 1999 when the price of oil took a nose dive and then 190 development wells were drilled up until 2005 and then it dropped off again. Other than a couple of years where the trend has been

broken it looks like there is a down trend in the number of development wells being drilled (to keep the oil field going).

SENATOR FRENCH said it looks like from 1999 to 2000 it goes from 250 wells drilled one year to just 100 in the next, a huge swing in a single year and he asked him to comment on that.

MR. SEAMOUNT responded that is when the price of oil tanked. He remarked that he was surprised to see there wasn't more activity now with the high price of oil. However, new operators showed on the North Slope in 2011 and he quipped the more the merrier.

4:17:51 PM
Slide 18 showed the same sorts of North Slope trends but divided into development, exploratory and service wells. He explained that the service and development wells are the ones that keep the production going.

SENATOR WIELECHOWSKI asked if the chart showed horizontal or vertical footage [as opposed to well count].

MR. SEAMOUNT answered both.

SENATOR FRENCH asked if this took into account multiple completions from a single well bore.

MR. SEAMOUNT answered yes.

MS. FOERSTER said one of the reasons they wanted to show activity this way was because it levels things out. Well count can be deceptive if the wells are complicated and it takes a number of days to drill them. A month could be spent on one well and a week on another. This averages the total footage drilled.

SENATOR FRENCH asked how many laterals you can get from a single bore generally and if multiple completions are the standard now.

MS. FOERSTER answered the most she has counted is around five in Alaska. And it's hard to generalize.

SENATOR WIELECHOWSKI asked if fracking is going on in these well bores.

MS. FOERSTER replied Alaska has been fracking since the 1960s. Approximately 25 percent of Alaska's wells have been hydraulically fractured.

SENATOR FRENCH asked if new technology, like 3-D and 4-D seismic and drill bit sensors, potentially reduce the number of wells you need to drill as well as the number of feet.

MR. SEAMOUNT answered that the new types of information they can acquire now makes it easier to find and stay in the reservoirs and helps the economics of a well because you don't make as many mistakes if you know where you are.

SENATOR FRENCH said as much as that is interesting it doesn't tell how much oil you hit; it just tells you how many feet you've drilled.

MS. FOERSTER replied that you get in contact with more of the reservoir from a variety of mechanisms of which fracturing is one and that is used for vertical extensions. Drilling ultra-extended reach horizontal wells is another technique that is used for lateral extension.

SENATOR FRENCH asked if new technology has reduced the number of wells needed.

MR. SEAMOUNT replied that it had made it easier to find and stay in the reservoir and reduces costs by providing more accuracy.

4:22:43 PM
MR. SEAMOUNT went on to slide 19, a plot of the active drilling and work over rigs for Alaska that didn't show much variability since 2006. Cook Inlet now has maybe gotten a little higher percentage of rigs than it has in the past. Slide 20 was just the number of drilling rigs (without the work over rigs) indicating a low in 2009, but an increase in activity in 2011. Slide 21 showed work over rigs. He turned the explanation of what the work over rigs actually do over to Ms. Foerster.

4:24:48 PM
MS. FOERSTER said slide 22 showed the work over activity in the area of maintenance and repair. Slide 23 showed another group used just for fixing things; it shows the number of work overs done to prepare casing, tubing or well heads just to keep mechanical integrity of the well bore. Another section showed the number of work overs done for pump maintenance or replacement for wells that use down-hole electric submersible pumps (ESP) to get their oil out. The ESPs are used at Milne Point, Schrader Bluff and heavy oil. She explained that most of the wells at Prudhoe Bay are gas lift. Another section showed

the number of work overs done for scale and corrosion control work (chemical treatments).

SENATOR FRENCH asked if a coil tubing unit would count as a work over rig in this example.

MS. FOERSTER replied yes; you could place chemicals with a coil tubing unit.

SENATOR FRENCH remarked that just putting tubing down the hole and injecting some acid or something doesn't require a rig or even a big derrick.

4:26:36 PM
MS. FOERSTER agreed and said another small strip at the top catches all other maintenance and repair work done - a little of this, a little of that.

Slide 23 showed all of the work over activity done for production enhancement. A red portion of each bar showed the work overs done to add perforations to open up a new section of the reservoir to flow into the well. The green portion showed the number of work overs done to stimulate with either acid jobs or hydraulic fractures. The blue part showed the number of work overs done to isolate gas or water to make more room for the oil. The purple part showed the number of work overs done to convert producers to injectors or vice versa as part of enhanced oil recovery. The tiny yellow sliver showed the number of work overs done to re-enter suspended wells and reestablish production in wells that have been shut in for a long period of time.

SENATOR FRENCH said this brings up an interesting distinction that has crept into the debate about oil taxes and that recently they have heard a lot about the difference between money spent on the North Slope to do maintenance and money that adds new production, and he asked her if this is maintenance sending.

MR. SEAMOUNT replied that this slide showed the work overs that are done to add new production; the previous slide [22] showed the work overs done for maintenance and repair of existing wells.

SENATOR FRENCH said it looked about 2:1 maintenance:production for the last couple of years.

MS. FOERSTER replied yes; and added in a field that has been around as long as Prudhoe Bay and Kuparuk, a whole lot of maintenance is to be expected.

SENATOR FRENCH asked what happens to the production out of a well if you don't do maintenance spending (going back to slide 22).

MS. FOERSTER replied eventually it would become shut in; it could be dangerous to operate or the well could quit working.

SENATOR FRENCH asked if you don't spend on maintenance could you lose production.

MS. FOERSTER replied if you have to shut the well in, you would definitely lose production.

4:30:42 PM
MS. FOERSTER reminded them to keep in mind that statistics can show anything. She next went to some of Senator Paskvan's questions and talked about the health and potential of North Slope reservoirs keeping in mind, she said, that the only thing you can guarantee about a prediction is that it will be wrong. In considering the health of the North Slope reservoirs, the bad news is also the good news. The health of all the fields on the North Slope depends to some degree on the health of Prudhoe Bay. It is the central and circulatory system of the North Slope; the rest of them are along for the ride, and it will continue that way for a long time.

This is not a bad thing. With current technology, there are still about 2 billion barrels left, another 15 years of production at the current rate with no decline. With current decline, as long as the price is sufficient to offset costs and there is a pipeline, there will continue to be production.

4:32:51 PM
SENATOR STEDMAN asked her to help cross reference earlier testimony dealing with the expectations that there are 7 to 8 billion barrels of proven reserves on the North Slope and yet we are looking at 2 billion in Prudhoe Bay and a billion in others, about half of what has been discussed in other testimony.

MS. FOERSTER asked who gave that testimony.

SENATOR STEDMAN replied it came out of the Gleason decision dealing with TAPS.

MS. FOERSTER replied that the AOGCC uses the existing DNR estimates for their numbers, and according to their estimates Prudhoe Bay has 2 billion barrels left and all the other reservoirs combined have another 2 billion.

SENATOR WIELECHOWSKI asked if it is realistic to get another 1 million barrels of oil going down the pipeline per day in the foreseeable future.

MS. FOERSTER replied it's conceivable, but it would take a lot of investment, a lot of new discoveries, a lot of technological advances and a lot of luck.

MR. SEAMOUNT said opening ANWR and the OCS to development could get us there.

4:34:48 PM
MS. FOERSTER said that would take some luck.

SENATOR WIELECHOWSKI asked if that is even possible without new discoveries and technology.

MS. FOERSTER replied she didn't think 1 million barrels a day more was possible; that is why she said they need new discoveries and new technology. One place new production could come from is the 20 billion barrels of known resource in the heavy and viscous oils that aren't being produced right now, but that would take new investments and lots of technology.

CO-CHAIR WAGONER said he was confused about the estimates and asked whose estimate the 20 billion barrels was.

MS. FOERSTER replied that there is more than 20 billion barrels potential in the heavy and viscous oil. It has a wide range of viscosity and they will crack little bitty nuts and in doing so they may discover another 2 or 3 billion. For this conversation she didn't think the full level was necessary, but she could respond with their "big number" later in the week.

CO-CHAIR WAGONER said he wanted the total number remarking that it would all be technology driven.

SENATOR WIELECHOWSKI asked what the total booked reserves was on the North Slope.

MS. FOERSTER replied the operators are only booking as proven reserves what they can get with current technology from Kuparuk, West Sak, Milne Point and Nikaitchuq.

SENATOR STEDMAN asked if she thought the State of Alaska as resource owner should have an accurate account of what is booked and filed with the Security Exchange Commission (SEC).

MS. FOERSTER answered that she thought those figures were publically available.

SENATOR STEDMAN said she didn't answer the question; there seems to be some confusion as to what those numerics are and he wondered why there would be any misunderstanding or difference of opinion on the reserve numbers. They should be nailed down.

MS. FOERSTER replied that reserves are depending upon what you assume as a minimum rate at which it is no longer economic to produce, what the price forecast is and at what level you consider yourself to go negative. There is a bit of an art to decline curve analysis. Until 2005, both the AOGCC and the DNR did annual reserve estimates and because of all the assumptions and the little bit of art that is involved their numbers were never exactly the same. So they quit doing them. It's a forecast; it's not in the bank.

4:41:13 PM
SENATOR STEDMAN said that would be a question for DNR as they drill into it and that he thought the State of Alaska, as co-owners of the asset, should have that number even as it changes. But sometimes the numbers aren't even close in some of the documents and conversations.

SENATOR FRENCH asked if she had reviewed the Gleason decision.

MS. FOERSTER replied no.

SENATOR WIELECHOWSKI said the former director of the Alaska Division of Oil and Gas testified before the U.S. Senate in May that with the exception of development of heavy oil resources, the natural field declines cannot be replaced without access to production from federal lands in the OCS. He quoted, "There are no known conventional resources or Native lands that are likely sufficient to replace the decline in existing production rates." Do you agree?

MS. FOERSTER answered yes; she thought OCS needed to be opened in order to stop the decline. The technical advances can't be made rapidly enough in viscous and heavy oil to stem the decline. Having 10 exploratory wells and a 10 percent success rate for them won't make it happen onshore. She wanted ANWR and the NPRA opened as well.

MR. SEAMOUNT said the key word is "no known" onshore. "Oops I caught an elephant. I didn't know it was there."

4:43:23 PM
MS. FOERSTER said she hoped they drew the same conclusions that she had about increased activity on the North Slope now and in the future. New and existing operators are drilling exploratory wells, field expanding and doing in-fill development wells everywhere from Oooguruk to Prudhoe Bay. Existing operators are performing remedial well work on existing wells - everything from repair work to production enhancement work. Nothing indicates to them that things will change dramatically in the next few years, and they don't see a cliff or a mountain in the future. Two things could change that picture: if one of the exploratory wells is a success or there is a technology breakthrough that increases recovery from an existing field or unlocks the door to some of the 20 billion barrels of heavy and viscous oil potential. The only other thing that could make a dramatic change in activity level would be a dive in oil price or some other catastrophic event that would curtail the operator's ability to spend.

4:45:23 PM
She said she was asked to talk about the decline curve analysis of the ANS reservoirs and responded that the AOGCC used to do full field decline curve analyses of all the Alaska reservoirs as part of its annual reserves determination. And every year the DNR would do the same and then they would get a million questions about why their numbers weren't identical, so they quit doing them. The AOGCC still does decline curve analyses for individual wells or small portions of fields to evaluate projects that the operators are proposing to do and check on their performance, but for full field decline analysis they rely on DNR, because DNR engineers and geologists are as capable as theirs.

Another of Senator Paskvan's questions was what the AOGCC sees as the role of new technology in the future of ANS production. The answer was that technology advances have already played a huge role in North Slope production moving Prudhoe Bay from an 8

billion barrel field to a 13 billion barrel field, making the viscous plays at West Sak, Schrader Bluff and Nikaitchuq commercial and soon enabling BP to move forward with its Liberty project. There is no reason to think it won't continue and it will be a key component of assuring a long and healthy future for North Slope production.

4:47:28 PM
MS. FOERSTER said operators have two incentives to push for those new technologies. First, the infrastructure is already here and why not just continue to cultivate it? The other incentive is when they are done they have to clean it up. That will be an enormous expenditure and they won't get any oil for it. So the longer into the future they can delay dismantlement, plugging and abandonment and mediation the healthier their bottom line is going to look. Those are huge incentives to keep the North Slope healthy.

4:48:23 PM
SENATOR STEVENS said he remembered talk about a fund being there to dismantle the line and asked if that is true.

MS. FOERSTER said she didn't know what the companies have set up, but if they did have one it would be somewhere drawing interest.

She went to Senator Paskvan's last question about the transition to the future and the influx of new operators and the transition from just a few big companies on the North Slope to lots of smaller companies. She explained that it's just a natural part of the maturation of any basin; it happens everywhere. When she grew up in Corpus Christi, Texas, every major had an office there and now they are gone and little companies are there. She said transitions are a lot easier in places where the costs of doing business are a lot less than those in Alaska with its harsh environment, but it is happening here.

MS. FOERSTER said the North Slope is kind of like the African Savannah and Prudhoe Bay is a zebra, and the big companies are lions. The lions kill a zebra and chow down and as they are getting full, the vultures and hyenas come in. That's the way companies are starting to come in and it's a good thing. Unfortunately the maggots move in, too, but we don't want to let those in.

Another interesting phenomenon that is happening in the Lower 48 is that little companies are proving to the big companies that

the shales can happen. So the majors are coming back into those areas.

4:52:27 PM
Another future is possible for the North Slope. Ms. Foerster said 20 years ago she predicted the majors would throw the keys to someone like ASRC and leave them to operate the North Slope fields. That is possible but now it's further in the future. Thanks to technology advances and oil prices, the majors will keep those keys for a while longer.

CO-CHAIR WAGONER thanked the presenters and held SB 192 in committee.

4:53:29 PM
CO-CHAIR WAGONER adjourned the Senate Resources Standing Committee meeting at 4:53 p.m.