

SENATE FINANCE COMMITTEE

April 25, 2017

9:03 a.m.

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CALL TO ORDER

Co-Chair MacKinnon called the Senate Finance Committee meeting to order at 9:03 a.m.

MEMBERS PRESENT

Senator Lyman Hoffman, Co-Chair
Senator Anna MacKinnon, Co-Chair
Senator Click Bishop, Vice-Chair
Senator Peter Micciche
Senator Donny Olson
Senator Natasha von Imhof

MEMBERS ABSENT

Senator Shelley Hughes

ALSO PRESENT

Paul Decker, Resource Evaluation Manager, Division of Oil and Gas, Department of Natural Resources; Senator Cathy Giessel; Representative Tammie Wilson; Representative Cathy Tilton; Senator Pete Kelly.

SUMMARY

^PRESENTATION: OIL and GAS FIELD DEVELOPMENT; DEPARTMENT OF NATURAL RESOURCES, DIVISION OF OIL and GAS

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PAUL DECKER, RESOURCE EVALUATION MANAGER, DIVISION OF OIL AND GAS, DEPARTMENT OF NATURAL RESOURCES, discussed the presentation, "North Slope Development Outlook; Senate Finance Committee; April 25, 2017" (copy on file).

Mr. Decker highlighted slide 2, "North Slope Oil and Gas Activity." He stated that the map was updated earlier in the month. He stated that the Pikka Unit was expanding to

add 17 leases to west and seven to the east. He shared that there were some interesting finds. He remarked that Armstrong Energy was working to delineate the wells, and had garnered production tests with encouraging flow rate at up to 4600 barrels per day. He stressed that the Horseshoe Well was recently drilled, and there was an extension in the Pikka Unit by more than 20 miles to the south. He looked at the Moose's Tooth Unit. He shared that ConocoPhillips had delineated a discovery of the Hunter A well. The two extra wells were called the Willow Discovery, and was a separate compartment in the formation. He looked at Smith Bay, with two wells drilled in the shallow water of the bay, barely offshore. The onshore at that location was considered the National Petroleum Reserve. He noted that further out in the water was considered the Outer Continental Shelf (OCS). He noted that the two wells showed some interesting sand developments, and had not yet achieved a flow test. It was known that the reservoir looked challenging to produce. There was a hope that a hydraulic fracture stimulation could overcome some of the reservoir quality challenges. He stressed that the distance of 100 miles was the greatest challenge to the reservoir.

Mr. Decker looked at the southeast portion of the map, and shared that Accumulate Energy Alaska planned to drill the Icewine 2 well next to the Icewine 1 well. The goal was to drill back into the source rock, hydraulically fracture it, and flow test it to potentially recover oil that was generated in the source rocks as residual saturation. He stated that it was the first time a source rock reservoir play concept had been deliberately tested on the North Slope. He looked at the shoreline above Kuparuk at the Nikaitchuq Unit. The Italian Major was looking at drilling from their production facility at Spy Island into federal leases north of the three-mile boundary in the OCS. He stated that they would build a long departure extended-reach rig operation later in the year with the potential for up to six total wells called Nikaitchuq North.

Mr. Decker shared that Senator Lisa Murkowski had been hoping to open the Alaska National Wildlife Refuge (ANWR) for development. He felt that it would be interesting to see how that might advance.

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Vice-Chair Bishop noted that there were sixteen legacy wells that were "cleaned up" in 2016 and an additional five in 2017. He queried the status of those legacy wells. Mr. Decker responded that the wells were in Bureau of Land Management (BLM) territory. The Division of Oil and Gas did not have oversight of that operation. The question is better directed at the Alaska Oil and Gas Conservation Commission (AOGCC). He agreed to provide further information.

Mr. Decker addressed slide 3, "North Slope Brookian Discoveries." He stated that there was excitement around the Nanushuk discoveries. The slide was from the U.S. Geological Survey. He pointed out that the Brookian potential was in two different formations: the Nanushuk and the Torok Formations. These formations were at different stages of development and delineation.

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Senator Micciche wondered whether the geology was similar to the area southeast of the restricted area. Mr. Decker replied in the affirmative. There was information about the subsurface that showed similarities, but not identical natures.

Mr. Decker looked at slide 4, "Brookian Play Fairways; Line A, State Lands." The slide outlined three different play fairways as they appeared in the seismic data, which were all Brookian play fairways. He remarked that the white oval encompassed the Nanushuk shelf-margin wedges and incised, back-stepping facies. The blue oval encompassed the Seabee and younger slope-apron fans and slope-incision facies. The green oval encompassed the Torok slope-apron and basin-floor fans.

Mr. Decker displayed slide 5, "Pikka Discovery - Nanushuk Fm." He stated that Qugruk 3 was announced as multi-horizon discovery in April 2013. He shared that the play type was characterized by stratigraphically trapped shelf margin/low stand wedge sandstones in lower Nanushuk and underlying sandy slope Torok Formation.

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Vice-Chair Bishop queried a walkthrough of the API and MDT, and its significance. He requested a comparison of the

quality of the oil. Mr. Decker replied the 30 degrees API was a measurement of the density of the recovered oil; and the MDT was the modular dynamic testing tool. The MDT was shaped like a pencil with a probe to press into the edge of the formation on the edge of the well, and draws in the fluid to the probe. This was done until a continual stream of fluid was achieved.

Mr. Decker highlighted slide 6, "Basal Nanushuk Seismic Anomalies; Line B, Northeast NPRA." He noted that the seismic line went through three wells. The Inigok 1 well tagged the edge of one of the seismic anomalies. The yellow portions represented interpretive extents of possible reservoir quality sands. He remarked that the Inigok 1 well had "punched" the edge of one of the anomalies indicated that the yellow portion might be reservoir quality sand. He remarked that the various shingles of yellow sands represented potential stratigraphically trapped prospects were different ages from one another. He remarked that the slide could conceptually be Pikka on the right and Willow on the left, when it comes to age.

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Mr. Decker addressed slide 7, "First Oil Estimated in 2018-2021; Projects in Blue have Been Postponed." He shared that the right-hand column was estimates of Peak Rate for the various projects and developments in barrels of oil per day. He stressed that the estimates were provided by public sources such as press releases and whatever form the operator made available to the public.

Mr. Decker looked at line 1: Add'l CD5 wells, Colville River Unit. He remarked that ConocoPhillips was currently drilling the CD 5 drill site. He stated that ConocoPhillips had already drilled several wells into the Alpine and Kuparuk formations with good results. It was expected that the development would produce over 15,000 barrels a day.

Mr. Decker looked at lines 2 and 3: Greater Mooses Tooth 1 and 2. He stated that the reservoirs were in BLM territory. He remarked that the Alpine Sands Spark-Rendezvous may have some evidence for some compartmentalization between the two reservoirs.

Mr. Decker looked at lines 4 through 7: Nuna Project, Oooguruk Unit; Nuiqsut Expansion, Oooguruk Unit; Mustang

Project, S Miluveach Unit; and Add'l wells, Nikaitchug Unit. The projects were listed in blue, which meant that they were postponed, deferred, or delayed.

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Mr. Decker addressed line 8, Moose Pad, Milne Point Unit.

Mr. Decker looked at line 9, Moraine Project, Kuparuk Unit.

Mr. Decker highlighted line 10, "1H NEWS, Kuparuk Unit.

Mr. Decker looked at slide 8, "First Oil Potentially 2022 or Later, Some Projects May Not Occur."

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Senator Micciche remarked that the projects in the presentation had a relatively high probability from 2018 to 2021 of 105,000 to 115,000 barrels a day of additional production. He also noted the discussion of post-2022 production of 290,000 to 350,000 barrels a day, not including Smith Bay. He wondered whether the department evaluated transporting and processing oil west of current development, and how the state could expedite some of the production. Mr. Decker replied that the department could potentially leverage or provide insight.

Senator Micciche felt that the state was greatly benefitting from even flat production. He felt that there was a potential for an increase with a high probability. Mr. Decker stressed that there was a difference between peak and plateau. He agreed that there was "a lot to be optimistic about."

Senator Olson wondered whether there was input from the local people about fracking and its effect on wildlife. Mr. Decker replied that he was not aware of any specific objections. He shared that hydraulic fracturing had been conducted for decades on the North Slope, and had not created a significant concern.

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Senator von Imhof looked at slide 7. She recalled that 475,000 was a more realistic estimate for 2018. She noted that a 5 percent decline would be 23,000 barrels per day.

She felt that the forecast could hold steady or increase with the estimates on slide 7. She hoped that the information may provide a more robust production schedule in the upcoming revenue forecast. Mr. Decker shared that the considerations would be in the forecast.

Vice-Chair Bishop wondered whether Mr. Decker was a biologist. Mr. Decker replied in the affirmative.

Vice-Chair Bishop felt that the frost would help with the fracking operation. Mr. Decker replied that the permafrost may help contain the fluids. He stated that, realistically, all the production was at deep enough depths that interaction with the stimulation zones would not penetrate the permafrost.

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Co-Chair MacKinnon queried the anticipated 2017 well drilling permits. Mr. Decker replied that AOGCC issued the drilling permits.

Co-Chair MacKinnon wanted to know the number of proposed wells for 2017.

Senator Micciche shared that there was an update expected on the 12 percent production decline. He queried the involvement in that update. Mr. Decker responded that he was aware of other people working on that update.

Vice-Chair Bishop wondered if the 44 wells at Moose Pad was permitted for the 2017/2018 winter work. Mr. Decker replied in the negative. He did not believe that all the wells were permitted. He stated that the Moose Pad permit was only for the pad.

Co-Chair MacKinnon remarked that it was important for Alaska to be attractive for explorers to the state.

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ADJOURNMENT

[10:01:18 AM](#)

The meeting was adjourned at 10:01 a.m.