

Senator Huggins, Senator Stedman, Representative Samuels, members of the Alaska Legislature, citizens of the State of Alaska: Thank you for inviting me here to talk with you about the Point Thomson technical issues under the regulatory oversight of the Alaska Oil and Gas Conservation Commission, or AOGCC.

I will start with a brief description of the AOGCC's statutory responsibilities, just to put into perspective the small but important role we play in the State's quest to achieve North Slope gas sales. I'll then give you what I hope to be an easy-to-follow description of the issues concerning us at Pt Thomson. I'll end with a description of how we are working and will continue to work to ensure that Pt Thomson is developed and produced appropriately. After that I will be available for any questions you might have.

In understanding what the AOGCC does, it's important first to know how we are different from the DOG, from whom you've just heard. The DOG is responsible for maximizing the value to the State of Alaska of the oil and gas under State lands. The AOGCC regulates oil and gas operations throughout the State, not just on State lands, but also on Federal Native, and privately held lands. And the State, by law, has no greater standing in our adjudications than any other party.

The AOGCC has five primary responsibilities. We prevent waste of oil and gas, we encourage greater ultimate recovery of oil and gas, we protect sources of fresh ground water from harm by oil and gas operations, we protect human health and safety related to downhole oil and gas operations,

and we protect correlative rights. And, as I said, we do this throughout the State, regardless of land ownership.

In our day-to-day regulatory oversight we are called upon to exercise all of these responsibilities in a variety of ways, but the two responsibilities I want to focus your attention on today are preventing waste of oil and gas and encouraging greater ultimate recovery of oil and gas. I ask you to keep these in mind as we proceed with the rest of this discussion. And I also ask you to keep in mind that nowhere in our list of responsibilities will you find mention of making the most money, balancing the budget, or making any particular set of constituents happy. You guys have the tough job – all we deal with is science and engineering.

So let's talk a little science and engineering.

Although most people think of and refer to Pt Thomson as a gas reservoir, the gas is so rich with condensate – liquid hydrocarbons associated with the gas – that we actually classify Point Thomson as an oil reservoir. That point is important because, as a general petroleum engineering rule, if you produce the gas from an oil reservoir before producing all of the oil first, you stand to lose some of the oil.

In engineering vernacular Point Thomson is what we call a gas condensate reservoir or a retrograde condensate reservoir. In such a reservoir, the hydrocarbons are in the gas phase until the pressure drops below a certain point – called the dew point. When the pressure drops below the dew point, some of the hydrocarbons, the condensates, switch to the liquid phase and

drop out of the gas. When this happens, a substantial portion of those liquids can be trapped in the reservoir, and can never be recovered.

In many retrograde condensate reservoirs, cycling – that is reinjecting the produced gas over and over again to maintain high reservoir pressure until the liquid condensate has been recovered – is the way to prevent these losses. Looking simply at the reservoir mechanics issues – not getting into financial concerns or politics – cycling the gas until most of the liquids have been recovered is the way to achieve greater ultimate recovery and prevent waste from a gas condensate reservoir such as Pt Thomson.

Publicly available estimates of recoverable liquid hydrocarbons associated with the gas at Pt Thomson vary from 200 to 500 million barrels, depending on the source and the method of development. As I just said, if we produce Point Thomson as a gas reservoir without cycling first, a significant portion of those liquids are at risk. And don't let me underemphasize the value of this liquid resource; it's the size of another Alpine Field.

There is a second potential problem with not cycling first. If we don't recover those liquids first, then as the reservoir pressure drops they will drop out in the place where the pressure is lowest – adjacent to the wellbores. When liquids drop out there, they damage the producibility of the reservoir and, thus, decrease the ability of the wells to bring the gas up to the surface. The operator can undo some of this damage through well interventions, but these cost money, must be repeated as additional damage is done, and eventually may no longer be effective at fixing the problem.

This is important to the AOGCC because it will result not only in liquid losses, but also in gas losses. And it is important to the State for that reason AND because, under ACES, the State shares the cost of these interventions that will likely be done over and over to keep the gas wells producing. However, you should keep in mind that cycling will likely add significant capital costs, which the State would, again, share via ACES.

A third problem exists around producing the gas from Pt Thomson. Underlying this thick gas condensate reservoir is a relatively thin oil layer. If we produce the gas from Pt Thomson before producing the oil, much of that oil will be lost.

So what will the AOGCC do about our concerns?

Since we are charged with preventing waste of hydrocarbon resources in Alaska and since producing gas from an oil reservoir can cause waste, we determine when and how much gas can be produced from every oil reservoir throughout the State. And we do this with an eye to greater ultimate recovery of both the oil and the gas.

We do not typically dictate to an operator what he must do. Rather, the operator typically comes to us with a request for permission to do something and we allow it, disallow it, or allow some modification to the originally proposed plan. For instance, we do not tell an operator where or how deep to drill his wells. Rather, the operator requests to drill a particular well in a particular location to a particular depth using particular procedures. We approve the request, deny it, or approve it subject to some limitations or modifications.

The same will hold true for gas offtake from an oil field, such as Prudhoe Bay and Point Thomson. Before the operator can produce gas from Point Thomson, he must come to us and request a gas offtake allowable. As a very important part of that request, he must prove to us that waste will not occur. Without that proof we cannot grant the request.

Unfortunately not enough is currently known about the Thomson Sand, either the gas portion or the oil layer, to know what the right answer is – for the oil companies or the State. We don't know if there is adequate connectivity in the gas condensate part of the reservoir for cycling even to work. And if it doesn't work, then both the oil companies and the State will have wasted a lot of money. Also, we don't know enough about the characteristics of the oil in the oil layer to know whether it is technically recoverable. In other words, even if we all agreed to get that oil first, we don't even know if it can be done. The oil may or may not be too viscous to produce; the gas above and water below it may cone into the oil layer and drown out the oil production; the extremely expensive wells required to attempt to produce the oil may or may not be economical. We just don't know enough. And without a bit of drilling, producing, and cycling we never will.

This concludes my prepared testimony. I will be happy to answer any questions.

Cathy Foerster, AOGCC Commissioner

June 17, 2008