

**ALASKA STATE LEGISLATURE
HOUSE RESOURCES STANDING COMMITTEE**

March 13, 2006
10:05 a.m.

MEMBERS PRESENT

Representative Jay Ramras, Co-Chair
Representative Ralph Samuels, Co-Chair
Representative Carl Gatto
Representative Gabrielle LeDoux
Representative Kurt Olson
Representative Paul Seaton
Representative Harry Crawford
Representative Mary Kapsner

MEMBERS ABSENT

Representative Jim Elkins

COMMITTEE CALENDAR

HOUSE BILL NO. 488

"An Act repealing the oil production tax and gas production tax and providing for a production tax on the net value of oil and gas; relating to the relationship of the production tax to other taxes; relating to the dates tax payments and surcharges are due under AS 43.55; relating to interest on overpayments under AS 43.55; relating to the treatment of oil and gas production tax in a producer's settlement with the royalty owner; relating to flared gas, and to oil and gas used in the operation of a lease or property, under AS 43.55; relating to the prevailing value of oil or gas under AS 43.55; providing for tax credits against the tax due under AS 43.55 for certain expenditures, losses, and surcharges; relating to statements or other information required to be filed with or furnished to the Department of Revenue, and relating to the penalty for failure to file certain reports, under AS 43.55; relating to the powers of the Department of Revenue, and to the disclosure of certain information required to be furnished to the Department of Revenue, under AS 43.55; relating to criminal penalties for violating conditions governing access to and use of confidential information relating to the oil and gas production tax; relating to the deposit of money collected by the Department of Revenue under AS 43.55; relating to the calculation of the gross value at the point of production of oil or gas; relating to the determination of the net value of taxable oil and gas for purposes of a production

tax on the net value of oil and gas; relating to the definitions of 'gas,' 'oil,' and certain other terms for purposes of AS 43.55; making conforming amendments; and providing for an effective date."

- HEARD AND HELD

PREVIOUS COMMITTEE ACTION

BILL: HB 488

SHORT TITLE: OIL AND GAS PRODUCTION TAX

SPONSOR(S): RULES BY REQUEST OF THE GOVERNOR

02/21/06	(H)	READ THE FIRST TIME - REFERRALS
02/21/06	(H)	RES, FIN
02/22/06	(H)	RES AT 12:30 AM HOUSE FINANCE 519
02/22/06	(H)	Heard & Held
02/22/06	(H)	MINUTE(RES)
02/23/06	(H)	RES AT 12:30 AM HOUSE FINANCE 519
02/23/06	(H)	Heard & Held
02/23/06	(H)	MINUTE(RES)
02/24/06	(H)	RES AT 12:30 AM HOUSE FINANCE 519
02/24/06	(H)	Heard & Held
02/24/06	(H)	MINUTE(RES)
02/25/06	(H)	RES AT 10:00 AM SENATE FINANCE 532
02/25/06	(H)	Joint with Senate Resources
02/27/06	(H)	RES AT 12:30 AM CAPITOL 124
02/27/06	(H)	Heard & Held
02/27/06	(H)	MINUTE(RES)
02/28/06	(H)	RES AT 12:30 AM CAPITOL 124
02/28/06	(H)	Heard & Held
02/28/06	(H)	MINUTE(RES)
03/01/06	(H)	RES AT 12:30 AM CAPITOL 124
03/01/06	(H)	Heard & Held
03/01/06	(H)	MINUTE(RES)
03/02/06	(H)	RES AT 12:00 AM CAPITOL 124
03/02/06	(H)	Heard & Held
03/02/06	(H)	MINUTE(RES)
03/03/06	(H)	RES AT 12:30 AM CAPITOL 124
03/03/06	(H)	Heard & Held
03/03/06	(H)	MINUTE(RES)
03/04/06	(H)	RES AT 2:00 PM HOUSE FINANCE 519
03/04/06	(H)	Heard & Held
03/04/06	(H)	MINUTE(RES)
03/06/06	(H)	FIN AT 12:30 AM HOUSE FINANCE 519
03/06/06	(H)	Presentation by Legislative Consultant
03/06/06	(H)	RES AT 12:30 AM HOUSE FINANCE 519

03/06/06 (H) Testimony by legislative consultant
03/07/06 (H) RES AT 12:30 AM CAPITOL 124
03/07/06 (H) Heard & Held
03/07/06 (H) MINUTE(RES)
03/08/06 (H) RES AT 12:30 AM CAPITOL 106
03/08/06 (H) -- Meeting Canceled --
03/09/06 (H) RES AT 12:30 AM CAPITOL 106
03/09/06 (H) -- Meeting Canceled --
03/10/06 (H) RES AT 12:30 AM CAPITOL 106
03/10/06 (H) Heard & Held
03/10/06 (H) MINUTE(RES)
03/11/06 (H) RES AT 10:00 AM CAPITOL 106
03/11/06 (H) -- Meeting Canceled --
03/13/06 (H) RES AT 10:00 AM CAPITOL 124

WITNESS REGISTER

BARRY PULLIAM, Senior Economist
Econ One Research
Los Angeles, California
POSITION STATEMENT: Presented an analysis of HB 488.

TONY FINIZZA, Economist
AJF Consulting
Dana Point, California
POSITION STATEMENT: Presented an analysis of HB 488.

ACTION NARRATIVE

CO-CHAIR RALPH CO-CHAIR SAMUELS called the House Resources Standing Committee meeting to order at 10:05:27 AM. Representatives Gatto, Co-Chair Samuels, Seaton, Olson, LeDoux, Ramras, and Crawford were present at the call to order. Representative Kapsner arrived as the meeting was in progress. Representatives Berkowitz, Kerttula, Gara, Croft, and Wilson were also present.

HB 488-OIL AND GAS PRODUCTION TAX

CO-CHAIR SAMUELS announced that the only order of business would be HOUSE BILL NO. 488, "An Act repealing the oil production tax and gas production tax and providing for a production tax on the net value of oil and gas; relating to the relationship of the production tax to other taxes; relating to the dates tax payments and surcharges are due under AS 43.55; relating to interest on overpayments under AS 43.55; relating to the treatment of oil and gas production tax in a producer's

settlement with the royalty owner; relating to flared gas, and to oil and gas used in the operation of a lease or property, under AS 43.55; relating to the prevailing value of oil or gas under AS 43.55; providing for tax credits against the tax due under AS 43.55 for certain expenditures, losses, and surcharges; relating to statements or other information required to be filed with or furnished to the Department of Revenue, and relating to the penalty for failure to file certain reports, under AS 43.55; relating to the powers of the Department of Revenue, and to the disclosure of certain information required to be furnished to the Department of Revenue, under AS 43.55; relating to criminal penalties for violating conditions governing access to and use of confidential information relating to the oil and gas production tax; relating to the deposit of money collected by the Department of Revenue under AS 43.55; relating to the calculation of the gross value at the point of production of oil or gas; relating to the determination of the net value of taxable oil and gas for purposes of a production tax on the net value of oil and gas; relating to the definitions of 'gas,' 'oil,' and certain other terms for purposes of AS 43.55; making conforming amendments; and providing for an effective date."

[10:06:10 AM](#)

BARRY PULLIAM, Senior Consultant, Econ One Research, said he is present to help the legislature grapple with the proposed profit-based petroleum production tax (PPT) in HB 488. His firm provides economic consulting services to a variety of clients, and much of it involves the petroleum industry. He said the company has worked for the State of Alaska since the late 1980s in advising the Department of Natural Resources (DNR), Department of Revenue (DOR), and Department of Law. He said his firm has been advising the Legislative Budget and Audit Committee on gas issues. The firm has also worked for the federal government, foreign countries, and a number of petroleum and natural gas companies, including BP. He spoke of his experience, including co-authoring recent studies related to the Alaska natural gas markets and royalty valuation issues.

[10:11:59 AM](#)

MR. PULLIAM continued with a description of Dr. Anthony Finizza who is retired from ARCO and teaches modeling at the University of California, Irvine.

[10:14:04 AM](#)

TONY FINIZZA, Economist, AJF Consulting, said his job at Arco was "giving them new insight" as the chief economist. It is important to know the oil price forecasts that the industry is using, which is \$40 per barrel WTI [West Texas Index], with \$30 as a "stress price case." He said oil companies want to know that at \$30 their business was still "a going concern."

[10:17:37 AM](#)

CO-CHAIR RAMRAS asked about \$50 per barrel WTI.

[10:17:55 AM](#)

DR. FINIZZA said \$50 per barrel is not being used for planning, but is not out of bounds. It is the best estimate that other forecasters are using.

CO-CHAIR RAMRAS surmised that if \$30 is a stress price and \$40 is the planning base case, then \$50 might be the other boundary, whereby between \$30 and \$50 "you're capturing almost any economic project."

DR. FINIZZA said one might use a wider range, and an upside case might be higher than \$50, but such ranges are not symmetrical. There is most likely a higher upside than downside, he stated.

[10:19:02 AM](#)

DR. FINIZZA said the Department of Energy uses \$54 per barrel for its Annual Energy Outlook, but what matters are the prices the industry uses. Forecasts will continue to be humbled as they have in the past, but there are reasons to not expect either \$150 or \$20 per barrel. There are factors predicting high prices, including demand from Asia, he noted. This growing demand and lack of supply from OPEC will impact prices. There has to be an increase of oil from OPEC, which will increase prices. There are factors predicting lower prices, including alternative sources of energy, he said, and he made mention of tar sands and oil shale. He said the use of oil is predominantly for transportation, and alternative vehicles are coming into the market because of high oil prices. For every \$10 increase in oil price, it is like adding a tax to the consumer of \$73 billion, which will "start tanking the economy."

[10:22:09 AM](#)

DR. FINIZZA said he likes to poll experts and take the median value, as well as look at the market. That analysis supports the \$40-and-up prediction. The EIA publishes an Annual Energy Outlook, and P-20 means there is a 20 percent chance that prices will be below the line and an 80 percent chance of them being above the line. He said he created the graph himself.

[10:23:39 AM](#)

DR. FINIZZA said the base case is what EIA says is the expected price path, but there is a range of uncertainty, so the red line is the P-20 line, and there is a 20 percent probability that prices will remain below that line. The yellow line says there is a 20 percent chance that oil prices will be above it. There will be a 60 percent chance oil prices will be between \$30/barrel and \$80/barrel, he stated, and the P-50 is the median.

REPRESENTATIVE CRAWFORD said if the United States gets cold, China gets pneumonia. There is a tendency to bring China's economy way down. He asked what happens with a recession.

[10:25:39 AM](#)

DR. FINIZZA said none of the models expects a recession; it assumes an average growth rate of 2.5 percent per year. He said a recession would have a devastating impact on oil prices.

REPRESENTATIVE CRAWFORD noted that there is a nationwide tightening of credit and a slowing of the housing market, which has powered the economy for the past few years. He said if [Americans] are going to stop buying houses at recent rates, "we're in for some rocky times."

[10:26:44 AM](#)

DR. FINIZZA predicts a recession between now and 2030, which will create a series of deviations from his trend lines, but no one is expecting a permanent depression, he stated.

REPRESENTATIVE LEDOUX said the forecasts extend "quite a few years," and she asked if anyone anticipated "how lousy the oil prices would be just a few years ago?"

DR. FINIZZA said no; but everyone says they had a inkling of it. He said he will show how far off the mark economists were. Looking far into the future is almost embarrassing, he admitted.

[10:28:02 AM](#)

DR. FINIZZA showed a poll of 18 oil analysts on the price of oil in 2010. The median is \$40 per barrel. The International Energy Agency forecasts are about the same, he noted.

REPRESENTATIVE GARA asked about ANS [Alaska North Slope] price.

DR. FINIZZA said ANS is \$2 less than WTI.

CO-CHAIR SAMUELS asked if it is usually \$2 and not a percentage.

[10:30:33 AM](#)

DR. FINIZZA showed a graph of WTI prices taken at the end of January. He compared it with what the market was saying three years prior. It almost always reverts to a lower price, "so the market is always looking to kind of revert to a mean--head down to the average it's been over long periods of time. The current strip is keeping us in the \$60 range, so that's about the only evidence that's higher than the \$40-plus numbers we see in other sources." The industry will test their projects in the \$40 range, and perhaps lower, he surmised.

[10:32:39 AM](#)

REPRESENTATIVE GATTO asked if the blue line is what happened and the other lines represent past forecasts.

DR. FINIZZA said, "Yes; the blue line of the actual WTI spot prices in current dollars, and those are the NYMEX views of the future...at that point in time." The prices are derived from contracts--oil futures--actually traded.

CO-CHAIR RAMRAS said Alaska Airlines purchased a lot of strips at the lower price. "Using the green line, for instance, if Alaska Airlines were to have bought strips on that green line, then as oil went up to \$60 a barrel, they would have purchased it out into the future years at that lower price."

[10:34:05 AM](#)

DR. FINIZZA said oil can be purchased into the future to protect from an increase in prices.

DR. FINIZZA suggested learning from recent asset transfers and purchases of the oil industry [with regard to what oil prices they are predicting]. The recent acquisition of Gulf of Mexico assets would have been sensible at \$40/barrel. He showed a graph of forecasts from 1986 where at times it was very optimistic and in 2005 it was way under. The EIA forecast suffers similarly with others. He showed a graph of outlooks from an oil company that had a lot of optimism. For 1985, the long range plan showed a decline in price before the decline actually happened. It was a good short-term prediction, but it was "way off the mark" in the future.

[10:37:35 AM](#)

REPRESENTATIVE OLSON noted that the EIA is not using production in the Arctic National Wildlife Refuge in its forecast.

DR. FINIZZA said the EIA only uses policies in place.

REPRESENTATIVE OLSON said it uses future gas line production.

[10:38:14 AM](#)

REPRESENTATIVE CROFT suggested that people forecast low oil prices when prices are low, and errors occur by projecting the most recent experience out into the future.

DR. FINIZZA said yes; that is called anchoring. Operating a company with unreasonable optimism risks bankruptcy; they can't stray too much away from the pack, he said.

REPRESENTATIVE CROFT said actual prices have been pretty consistent in spite of wild forecasts. When oil gets too high other fuels are used and so it stays around nominal \$15 and \$25 prices. The price, in nominal dollars, has stayed within a tight range, he noted.

[10:40:47 AM](#)

DR. FINIZZA showed 105 years of oil prices with sharp deviations. He said he has made forecasting mistakes himself. He showed the Society of Petroleum Evaluation Engineers annual Delphi Poll, which severely understated oil prices. He said the \$40 range with a stress test of \$30 is likely the range that the industry is using.

[10:42:52 AM](#)

DR. FINIZZA explained how the PPT will impact exploration in net present value and internal rate of return—where cash flows equal zero. He said he is “looking at something in the 15 percent range with a look down to 12, so if the project doesn't substantially pass a 15 percent, I probably would think about passing on it.” Some people will use cash flows in an undiscounted way, and economists don't like to do that because the future value of money is not as much as the current value, “so I'm going to use everything in a discounted way.” He said he will present the economics of new fields based on a PPT. He noted that Arco was proud of having discovered Prudhoe Bay, “and 15 billion barrels later, we have a nice oil field.”

REPRESENTATIVE GARA asked him to include Mr. Johnson's recommendation of 25/20 and higher at higher prices in his analysis.

DR. FINIZZA said Mr. Pulliam will do that.

[10:47:25 AM](#)

REPRESENTATIVE GARA asked about internal rate of return. He noted that profit margins are easy to figure out—profits as a percentage of gross revenues. He asked if that is related to internal rate of return. “We know that profit margins on the North Slope, right now, are in the 40 percent range.”

DR. FINIZZA said if cash flow is discounted at 10 percent, “and you had a net present value that was in excess of that, that means you are getting profits beyond normal profits. So you could think of that net present value in the sense of a profit margin.” The internal rate of return is one at which that becomes zero—they just have normal profits. At low prices it appears the 25/20 ratio helps the explorer more than the 20/20. “It seems important that [exploration] incentives are required at low prices.” Both the 20/20 and 25/20 are preferred over the status quo, he stated. “It appears...that under either of the schemes being discussed, the remaining reserves will be economic...except for low prices.” Around \$30 per barrel, “things get questionable.”

[10:49:22 AM](#)

REPRESENTATIVE LEDOUX asked why a 25 percent tax helps explorers more at low prices.

DR. FINIZZA said some sheltering at higher tax rates could help. He gave a stylized lifecycle of a new field with exploration, development, production, and economic limit phases. It might take seven years before the first oil goes to market, he said.

CO-CHAIR SAMUELS said he has been told that it takes longer in Alaska because of the shorter operating season.

DR. FINIZZA said Alaska might be longer. He spoke of the technical capability of Alaska and showed an analysis of undiscovered technically-recoverable oil reserves. On the central North Slope, the mean expectation is 4 billion barrels. The Arctic National Wildlife Refuge will have over 10 billion barrels, he said. In the refuge, 22 percent of the fields are expected to have more than a billion barrels of oil. The central North Slope study predicts the amount of oil to be found in fields smaller than 64 million barrels to be 51 percent.

REPRESENTATIVE BERKOWITZ asked about legacy fields.

[10:53:35 AM](#)

DR. FINIZZA said he is only talking about new fields.

REPRESENTATIVE GARA said there is a discussion of not taxing fields with less than 5,000 barrels per day, and he asked for the number of fields in that category.

DR. FINIZZA said he thinks the 50 million-barrel fields might peak at 4 million per year, so at some point all of these fields would be more than 5,000 barrels per day.

REPRESENTATIVE WILSON asked how many reserves are economic.

DR. FINIZZA said he will get to that.

REPRESENTATIVE SEATON said 5,000 barrels per field is not exempted in the PPT, it is per company not per field.

[10:55:53 AM](#)

DR. FINIZZA showed the central North Slope and likely field sizes. "They're saying that in the central North Slope, they expect an average of 21 fields that will be 50 million barrels ... total." There is a 20 percent chance there will be only 17 to 24 fields of that size. An Alpine-type field of 500 million has an expected value of one, and he noted that he is talking

about technically-recoverable oil. In the Arctic National Wildlife Refuge, there are larger potential fields, so developing it would change the dynamics. "What is the likely economic size of these at various prices?" At \$40 per barrel, there will be 1.9 billion barrels of economically commercially-recoverable reserves. At \$60 per barrel, it would be 3 billion barrels. Modeling at \$40 and assuming the Arctic National Wildlife Refuge isn't drilled, "you might expect 20 fields to be discovered in the North Slope from now on. [So,] 60 percent would be small--50 million barrels; 5 percent would be an Alpine-type field; [ten percent would be] 150 million barrels; and [25 percent would be] 100 million barrels." Those are his assumptions of what is "out there" and what an explorer would do under alternative prices with a PPT or the current system.

[11:00:17 AM](#)

DR. FINIZZA said he assumes that there is one out of six successful fields, which is based on past ratios.

REPRESENTATIVE BERKOWITZ suggested that new technology will increase that ratio.

DR. FINIZZA said he would be willing to raise it a little.

[11:01:14 AM](#)

DR. FINIZZA said there is an 83 percent chance of getting a dry hole, which would create a negative cash flow. The successes are lessened by taxes and costs but mitigated by tax shelters. For exploration there is a negative cash flow for the first four years, then after finding something expenditures continue. Drilling one well has an 83 percent chance of a bust, but partnering may lower the chance of failure, he stated. He said an explorer would assume the one successful field will be small. No one will drill only one well, but assuming someone did at \$20 million per well, it would be a negative cash flow of that amount. Under the PPT, the explorer would deduct capital and sell the credit. "So in actuality the explorer has less negative cash flow, and by this calculation, [is] marginally better off with the 25/20 than with the 20/20."

[11:05:09 AM](#)

REPRESENTATIVE BERKOWITZ asked if he analyzed different tax/credit ratios, like 30/20.

DR. FINIZZA said he didn't; these are the most likely PPTs contemplated. He said in the pattern of capital the crescendo comes near the end of the 4-year period. Capital expenditures can be deducted, and then there is a tax credit for those expenditures, which all alter the cash flow.

REPRESENTATIVE GARA asked if one could assume a better cash flow at a 30 percent tax rate.

[11:07:05 AM](#)

DR. FINIZZA said the state is allowing capital expenses to be deductible, so higher tax rates allow more sheltering of those expenditures. He said this pattern might not persist for the total program.

CO-CHAIR RAMRAS said he is struggling with more basic math from the DOR staff who stated that exploration plus development per year has been about \$1 billion over the last five years, "and we saw that exploration represented between about 7 and 10 percent of that \$1 billion, which would be \$70-\$100 million a year. That doesn't even get us to a six-well program per year, which seems precisely why we're all sitting here, which is to try and jumpstart our whole exploration program. Because if we're not even spending \$100 million a year, which means our odds of finding a 50-million-barrel field or [larger] are reduced by the fact that there isn't a satisfactory amount of exploration."

DR. FINIZZA said "This program would bring you roughly 100 million barrels a year, which is roughly the average for Alaska over the 10 years. I didn't choose this as the entire exploration program, I just said let's assume that this is the number. I'm really at a loss to say how much, really, people will spend on exploration. I have a feeling it's more, but I have no way of judging whether it's going to be more than \$100 million, \$120 million a year."

[11:09:46 AM](#)

REPRESENTATIVE LEDOUX said she is confused that a 25 percent tax rate is better for industry than a 20 percent rate.

[11:10:26 AM](#)

DR. FINIZZA said, "Let's suppose you like to go to los Vegas and you had a 1 in 6 chance of [winning]; you role one die, and if number six comes up, you win. You don't really like to do that

because you don't think that's a good deal, but what if someone in your neighborhood said, 'I will allow you to-whatever you do, I'm going to give you 25 percent of your losses back to you.' Would you be more encouraged to go on that bender in Los Vegas?"

[11:11:30 AM](#)

REPRESENTATIVE SEATON suggested that the explanation is that exploration is always a negative loss, and no one makes money on exploration. So to stimulate it, the more subsidy for exploration, "the more positive benefit there is." He noted that taxes aren't going to be paid until the development stage.

DR. FINIZZA said that is pretty accurate.

REPRESENTATIVE BERKOWITZ asked at what point are the diminishing returns.

DR. FINIZZA said that is the question. "We don't think that any of these ... programs would be onerous." But he said to err on the side of not being onerous. It will be clearer, he said, when he puts the whole program together, rather than only looking at the complete loss phase.

[11:13:17 AM](#)

REPRESENTATIVE BERKOWITZ said one needs to know where the diminishing return is before knowing if it is onerous.

DR. FINIZZA said it is the question, and no one can answer it.

REPRESENTATIVE BERKOWITZ suggested running a variety of tax rates based on this hypothetical.

DR. FINIZZA said if the state subsidizes too much exploration it might lose money. His gut feel is 25/20 is the right one.

[11:14:57 AM](#)

REPRESENTATIVE CRAWFORD asked about the efficacy of going to a profits-based tax, a system that is open to manipulating profits. He asked if the state should be adopting the profit-based tax rather than a severance tax based on production.

DR. FINIZZA said the ELF system is broken, and a fairer system might be one that allows the industry to cover their costs.

REPRESENTATIVE CRAWFORD said the ELF is broken, but there are a lot of production severance tax programs around the world that are working. So he asked him not to compare the PPT with the ELF, but to recommend the best system.

[11:16:36 AM](#)

DR. FINIZZA said that is stretching his expertise. He suggested something that allows for cost recovery. "The fact that there might be 150 different fiscal regimes in the world, some are good and some are bad. I think this is, generally, a reasonable approach."

REPRESENTATIVE CRAWFORD asked about gaming the system.

[11:17:25 AM](#)

DR. FINIZZA said there are safeguards, and that is a problem that can be avoided or mitigated.

REPRESENTATIVE KERTTULA asked about a ratio of 35/30 and of giving even more deductions and credits, which would make the higher tax rate acceptable.

DR. FINIZZA asked if the state would be willing to run the risk of taking a big loss in a failed exploration program.

[11:18:56 AM](#)

REPRESENTATIVE GARA asked if Dr. Finizza suggested that the 25/20 ratio is the point of maximizing revenues.

DR. FINIZZA said he had a gut reaction at that level. He said he didn't think the state would need to go further than that to encourage [development] and take a greater risk.

[11:19:53 AM](#)

DR. FINIZZA showed a graph of oil production profiles. He gave an example of the economics of a six-well exploration program with success for finding a 15 million-barrel field. Looking at total cash flow that an explorer would get, discounted by 10 percent without the \$73 million allowance, at \$30 per barrel, there would be a negative cash flow of \$80 million for a small field. "With the PPT it would be somewhere in the mid 30s--negative." At \$40 per barrel they would start to make a profit and "do better under the 25/20." There is a crossover point, he

noted. He said adding the allowance would make the negative smaller at \$30 per barrel, but if putting it with larger fields, there might be a different story.

[11:23:01 AM](#)

DR. FINIZZA said under the status quo, it is already risky, and it doesn't pass muster at \$30 barrel with that field size distribution. With the PPT, at \$40, "it looks fairly decent—I'm getting above 15 percent IRR." At \$30 per barrel there is some profit. An explorer would feel more comfortable but still be on the edge. With the \$73 million allowance, an explorer would achieve the kind of financial return desired. The IRR at \$30 per barrel "is at the fringe of a hurdle." The \$73 million incentive or another formula is helpful and important in this price range. He said he spent his time looking at the \$30 to \$40 range, "because I think that's what people are going to making the go-no-go decisions. We've got to get them over that hump." The yellow line on his graph is the revenues to the state, discounted, with the allowance, and "under that system you would have collected more in the old severance and less in the future. Now if you go to a PPT of 20/20, you are giving up some of that at the low end, but making up for it...at higher prices." The crossover point is "as you see it there."

[11:26:27 AM](#)

REPRESENTATIVE BERKOWITZ asked if the current system is better for the state at prices under \$50 per barrel.

DR. FINIZZA said that is true for the example he used, but "no one in their right mind would go into exploration under those conditions, so there might not be exploration taking place."

[11:27:25 AM](#)

DR. FINIZZA said it is a notional line, but it would be a losing proposition for the explorer.

REPRESENTATIVE WILSON said that explains the recent lack of exploration.

DR. FINIZZA said that is true in a low oil price world. Without drilling the Arctic National Wildlife Refuge, the expectation of large oil discoveries is unlikely, and incentives are necessary. "I expect this program is going to get you more exploration. I

don't know how much more." At low prices, either system is preferred over the status quo, he stated.

[11:29:32 AM](#)

MR. PULLIAM said he will discuss reserves in place. He showed DOR projections for the ELF and historical averages, which are driving the change in taxation.

CO-CHAIR RAMRAS asked if there is an actual severance rate of 15 percent after credits, will taxes be several times higher than historic levels.

[11:31:35 AM](#)

MR. PULLIAM said that is true, and he will put taxes in context with different oil prices. The PPT changes the tax rate as prices change.

REPRESENTATIVE BERKOWITZ asked him to define effective tax rate.

MR. PULLIAM said, "They way I use it...is to look at the tax rate as if it is on the wellhead value of the oil. What's the effective rate that you get if you are calculating taxes as they currently are now, just on the wellhead value." So it is the nominal tax times the ELF weighted by the volumes, he stated. Under that approach, the PPT allows additional deductions from the wellhead value of operating and capital costs, and it provides credits as well. "Take the ultimate tax that you receive at whatever price you receive it, and figure out what that tax is as a percent of wellhead value—to put it on a apples/apples." He showed a graph of effective tax rate relative to wellhead values. On average, the wellhead value has been about \$15 per barrel in nominal terms, or \$24 per barrel adjusted for inflation. There has been an average tax rate of 12 percent. "At \$24 per barrel wellhead, today would translate into a WTI equivalent of about \$32, so in today's prices, first half of 2006, we're looking at probably \$62 WTI."

[11:35:28 AM](#)

MR. PULLIAM presented the Kuparuk and Alpine fields. The ELF will pull the line down over time, he said. He showed volumes from known fields that are under development or likely to be developed. He said there will be new forecasts on volumes. The 30,000-barrel-per-day reduction "is really a pushing back of

production, it's not that they're predicting there's less oil there, it's just that it's not going to come on as quickly."

[11:38:08 AM](#)

MR. PULLIAM said Prudhoe Bay and Kuparuk will be 50 percent of production over the next 24 years, and by adding Alpine and its satellites, it will constitute 70 percent of production. That will total 5.6 billion barrels, and at \$40 per barrel, those volumes will be produced, as well as another 1.3 billion barrels from new exploration. "The existing stuff--what we think is going to be produced from known reservoirs, is about 80 percent of what we're going to get, unless something unexpected happens--which it will." He said opening up the Arctic National Wildlife Refuge would change the equation "quite a bit." The existing volumes may be only half "of what you could get" in that case.

MR. PULLIAM said he reviewed the work of Pedro van Meurs and the DOR, and the projections are great but depend on assumptions. No two people will have the same assumptions. He has created other analyses. The numbers of DOR are reasonable but are based on a \$20-per-barrel price, he said, but \$40 per barrel is more likely, and Prudhoe Bay will be economic for much longer. But he stressed that the length of time forecasted is too long [to be accurate.] He showed the potential life of the oil pipeline without the gas line. Forecasting ten years is more accurate than 30 years, so he puts more emphasis in that.

[11:44:05 AM](#)

MR. PULLIAM said the chart projects the severance taxes under HB 488 as proposed in real terms, with 2.5 percent inflation, versus the status quo. It is not total state revenues, which would be different because of state income taxes. The increase in severance taxes will be reduced because they are deductible against income taxes, so Alaska's total revenue will be about 3.8 percent lower. His forecast doesn't include 300 million barrels from Pt. Thompson because it might not come on line without the gas line. He put in the Oooguruk development with 70 million barrels, so his presentation includes 70 million more barrels than the DOR presentation.

[11:47:13 AM](#)

MR. PULLIAM said he is focusing on known volumes. For the next ten years, if prices do as forecasted--average about \$54.70 per barrel--the state could expect \$15.27 billion in severance tax

revenues with a 20/20 PPT, which would be an increase of \$7.47 billion. The effective tax rate would be 12.4 percent under the PPT, and it would be about 6.3 percent under the ELF. He noted that the PPT effective tax rate of 12.4 percent is just slightly above the historical average of about 12 percent. The first half of 2006 would have \$476 million in additional severance tax at the projected EIA price. The graph dips and comes back up because the EIA is forecasting a fall in prices before coming back up, but the transition credit makes the line dip more.

The committee took an at-ease from [11:51:43 AM](#) to [12:18:09 PM](#).

MR. PULLIAM said the analysis began with the DOR analysis without the gas line or enhanced volumes--no exploration. That analysis assumed "that you'd spend \$100 million a year and under one scenario, the no-enhanced volumes, you wouldn't get anything for it. So it's sort of a worst-case world." He believes that if \$100 million were spent without finding anything, the expenditures would halt, so the DOR view is overly pessimistic. Looking at known fields means there are no exploration dollars and a lot of development dollars, he stated, so he changed the DOR assumptions. "We have a little bit different number than they do...We show the effect of the PPT being a little bit less over the next ten years but then greater in the outer years."

[12:20:15 PM](#)

MR. PULLIAM showed a comparison at different price levels: base (from prior charts), low (P20), high (P80), and at \$40 per barrel. He looked at the break-even price for HB 488 and the status quo, which would be \$28.50 ANS, West Coast.

REPRESENTATIVE SEATON noted that the break even price is the crossover point for the ELF versus HB 488.

MR. PULLIAM said yes; it is the point at which the state would get the same revenue in 2006 real numbers.

[12:22:30 PM](#)

MR. PULLIAM said, "If you look down that column, you'll see, as you get to the fourth row there, it's entitled PPT effective tax rate, and you'll see that at 6.3 percent, and then right below it you see status quo effective tax rate. It's also 6.3 percent. So that's what I'm trying to match." The next column projects through 2030 where the break-even price is lower because status quo taxes are lower over time. The effective tax

rate under the PPT over the next ten years is about 10.3 percent at \$35-\$40 real WTI, he said. Historically, the effective tax rate was 12 percent at \$32 WTI. "So at that same price level, the PPT, as proposed, would have a little bit lower effective tax rate than what we've had historically." At higher prices, the tax rate would be a little bit higher, he stated.

REPRESENTATIVE SEATON asked if he is analyzing HB 488 with all its provisions.

MR. PULLIAM said yes.

[12:24:52 PM](#)

REPRESENTATIVE GARA asked about the break-even point for the 20/20 tax/credit proposal just for this year.

MR. PULLIAM said he will find out. He said he looked at the forecast with regard to costs of developing and operating fields. He looked at a downside sensitivity—"What if we're wrong on costs and they are much higher. I've used 20 percent here, which seemed to be a reasonable bound on how far off we might be." If his costs forecast is off by 20 percent, the PPT will collect less, and the break-even prices rise by \$4 per barrel, relative to the status quo.

[12:27:10 PM](#)

MR. PULLIAM said Pedro van Meurs suggested a 25/20 tax/credit ratio. With the same EIA forecast, the effective tax rate becomes 16 percent versus the status quo of 6.3 percent. The first half of 2006 will bring in \$782 million, he said. At low prices, the effective tax rate is about 13.6 percent with the 25/20. At low prices, the 25/20 ratio will be a little bit above the historical average. The breakeven price comes down.

REPRESENTATIVE SEATON asked why the break even price goes down under the 25/20 scenario.

MR. PULLIAM said taxes will be higher, so Alaska will get more revenues sooner as prices start to rise. The break-even point is about \$1.50 a barrel lower under the 25/20 than the 20/20. He showed the difference in projected taxes. The effective tax rate at 25/20 will be about 16 percent at \$54 per barrel and will add \$450 million per year to the state. For the first half of 2006, revenues will be \$305 million higher.

[12:31:49 PM](#)

MR. PULLIAM said with taxes at 25/20 "you're straddling the historical average at about the same kind of price level." He showed a chart of the government-take for the status quo, 20/20, and 25/20 at different price levels. Under the ELF the tax is regressive and with a PPT "the regressivity pretty much goes away." Under the PPT, the Alaska-take will go up as prices go up, "but it's going up just enough to sort of offset the overall regressivity of the system, which comes in, really, through royalties and through property taxes." He showed different tax rates at different price levels over the years.

CO-CHAIR RAMRAS said the chart suggests that as the rate goes up "you're not participating in a decline in production that's driven by tax rate increases."

MR. PULLIAM said it is holding the production constant.

[12:35:13 PM](#)

CO-CHAIR RAMRAS suggested that the tax-rate impacts on production would be "anybody's guess."

MR. PULLIAM said these tax rates are not onerous or discouraging at most price levels, "maybe a little around the edges with some marginal stuff," but not a big drop off. The increment is fixed, so at \$40 the increment is \$58 million per year, he said.

CO-CHAIR RAMRAS said his question referred to percentage points.

MR. PULLIAM said, "Per percentage point increase, that's right." He said it is stated in millions of dollars per year, "so the difference between a 20/20 and a 21/20, if the price stayed at \$40 and the production stayed the same, I would get, for one year, \$58 million more." He said that amount will stay constant as the tax rate changes. If price changes, the amount will change. He said he used WTI price levels.

[12:37:12 PM](#)

CO-CHAIR RAMRAS reported that Anadarko said that a \$10 swing in price of oil was much more significant than any taxation. He noted that Mr. Pulliam's chart shows that.

MR. PULLIAM said that is correct. Column 9 represents the change in the credit rate, and every percent increase in credit

would reduce revenues, on average, by \$13.6 million at assumed investments levels. If investments are higher, that number goes up. A change per dollar increase in oil prices increases taxes by \$52.1 million at a 20 percent tax rate. He referred to the graph of historical and projected tax rates from the status quo. He said he drew the historical rate as a function of prices, and under the current system the rate doesn't change with prices, creating a line going straight across at 12 percent. That won't happen under the PPT, he stated. Under the 20/20 PPT, there is progressivity built in. There is a crossover over the ELF at about \$30.50 WTI per barrel. The kink in the graph--where the tax rate drops--is the transition credit, which is 100 percent for five years. If that credit is lower, the line will be flatter. "To recover that in the four-year period, it takes about a \$4.00 increase in price."

[12:41:43 PM](#)

MR. PULLIAM showed a chart for 25/20 with a greater dip because the tax credit would be greater, and where \$35 is the crossover point from historic rates. He asked if the PPT is progressive enough, and presented a hybrid rate that has the base of 20/20 PPT with a sliding scale additional severance tax. He presented an option of a percentage increase per dollar over a base threshold level. "Assume we had a tax that was equal to a quarter percent per dollar...anytime the price of WTI was over \$45. Let's also assume that the price of WTI is \$55 at whatever month we're looking at. Based on current costs, that would net back to the wellhead at about \$47. And let's also assume we've got a base tax of PPT of 20/20. With the sliding scale tax, it would be in addition to the PPT, but since it would be consistent with the way the PPT is structured, it would be deductible against the PPT. It would be like a royalty or a property tax... If WTI is less than or equal to that threshold price, there would be no additional tax, so it would just be the curve that you just saw. If WTI is greater than the threshold price, the additional tax would be 0.25 percent per dollar over the threshold, times the gross wellhead value." At that price, there would be \$0.94 more per barrel in taxes, he said.

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REPRESENTATIVE GARA noted that ANS is \$2 less than WTI per barrel, but the graph showed \$55 WTI as being \$47 ANS.

MR. PULLIAM explained that WTI is sold at Cushing, Oklahoma, but at the West Coast it is \$8 higher.

REPRESENTATIVE GARA asked, "You're doing a projection on: the additional tax kicks in at \$45 per barrel ANS wellhead?"

MR. PULLIAM said it would kick in anytime WTI is over \$45 in his example, but one could structure it based on ANS wellhead.

[12:47:07 PM](#)

MR. PULLIAM said the additional tax will change the slope of the line at higher prices. At \$55 per barrel, for example, under the 20/20, the effective tax would be 12.5 percent. With the sliding scale feature, the tax would go up to 14.5 percent, so it would be 80 percent of the 2.5 percent increase. It is only 80 percent because that tax is deductible under the PPT. The 25/20 line would cross under \$65 WTI, "so as prices are up there...near their historical highs that we have today, you'd be crossing the 25/20 line." There could be a different slope for a different tax rate, for example, like 0.35 percent per dollar. The additional tax could kick in at \$40 per barrel, and he showed that example rising to a higher tax at higher prices.

REPRESENTATIVE CRAWFORD said he would like to correlate these ideas to total government take.

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MR. PULLIAM showed a table of different WTI price levels from \$30 to \$80 per barrel in 2006 prices using a sliding scale. He told the committee to look at each example and where the numbers cross and how they relate to the 20/20 and 25/20 tax schemes.

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MR. PULLIAM compared the progressive option against a 25/20 tax system and the proposed 20/20. The higher increment levels will increase the slope, and he said a 0.2 percent increment per dollar is a 2 percent increment per ten dollars.

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CO-CHAIR RAMRAS said Mr. Pulliam is saying that between 20/20 or 25/20 the state will not discourage oil investment in Alaska. But once the decision to invest in Alaska has been made, the progressivity lets the state share in the windfall profits.

MR. PULLIAM said any tax system will be evaluated with that in mind. The example he is showing is a system that the industry would know that at lower levels the rate would not increase.

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CO-CHAIR RAMRAS compared the system to an IRA, whereby young people can invest with higher risk. "The whole point of the PPT is to incentivize exploration and more investment dollars coming to Alaska to keep the pipe full; where along that spectrum are we safe? \$30 is a stress price. \$40 is a base price. Some of your models went as high as \$45. What's the safe number where we're behaving like a 60-year-old, protecting the nest egg?"

MR. PULLIAM said he sat down with Pedro van Meurs and considered those questions. "In our view, certainly the 20/20 was very safe—very safe; the 25/20 we even thought was safe."

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CO-CHAIR RAMRAS said he was talking about the price of oil, "where we're inside of all the board room projections."

MR. PULLIAM said that would be \$35 to \$40 per barrel, but that is a long-term average with variation. The sliding scale allows sharing when the prices are high or low. He said that as part of that analysis, industry expects the upside. One must balance the desires for the upside between the state and the industry. "If you make it too steep, investors will plug that into their formulas." If the state takes everything when the tax rate increases, it will not look good to investors, but it will be OK to take a little more when prices rise, he said. "We certainly thought that the 25/20 would not result in rates...that would be discouraging at price levels that you might see." He said the state is not taking too much at the upside. Having a higher increment is not going to be discouraging at very high prices. He warned that he's an economist, not a fiscal system planner.

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MR. PULLIAM said the goal is to maximize the value of the resource to the state, and that rate needs to be high enough but not so high that the industry loses interest. He said losing "a little interest" might not be bad. As an economist, he said the state doesn't want to be in the position of taking every last penny of what's available. The state needs to be attractive for investors, and the 25/20 doesn't go beyond that at all, and with

a sliding scale increment, "we think it still stays real attractive." A sliding scale would have a lower increment if it kicks in at a lower price, and a higher increment if it begins at a higher price, he stated.

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REPRESENTATIVE GATTO asked if his chart stops the increments at \$80 per barrel.

MR. PULLIAM said the charts stop but the calculations can go beyond that. There could be a cap at some point. He noted that some forecasts are for over \$100 per barrel.

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REPRESENTATIVE SEATON asked if any of these scenarios are detrimental for investment in Alaska.

MR. PULLIAM said there are none presented. He said he tried to put everything into a historical context. At \$40 prices, the tax rate is only 11.4 percent, and that is a lower percentage than the historical average. There might be some things around the margin that might lose interest, but not for the majority of projects. "You might have a more cautious approach."

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REPRESENTATIVE CRAWFORD said he may be a pessimist because he thinks oil will be \$20-\$30 per barrel, but all scenarios are at much higher prices. What would the tax rate do at that range?

MR. PULLIAM said at ANS West Coast the state would lose when prices are \$20 per barrel, and he doesn't know how much. It will be a loss relative to the current ELF system. "This system, at \$20 per barrel, is more beneficial to the producers than the status quo system is." He said historically, for a real \$30 West Coast price, the state has had a 12 percent tax.

REPRESENTATIVE CRAWFORD said that is a scary scenario.

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CO-CHAIR RAMRAS said this is about the future of 660,000 Alaskans. "As you throw out these numbers and you play with the future of a sales tax [and] the most valuable resource we have...how sure are you?"

DR. FINIZZA said at \$20 per barrel of oil, you have a high chance of losing, and that is a credible price, but he believes it is a low probability, but he isn't certain.

[1:10:07 PM](#)

MR. PULLIAM suggested anticipating the future and tailoring the system accordingly, and it can be--and should be--altered it if it is not working. If the tax rate cannot be changed, that should enter the calculation. If taxes can't be raised, it is better to be more aggressive knowing they can be lowered. It is harder to raise taxes than lower them, he said.

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REPRESENTATIVE BERKOWITZ said oil economists conclude that oil production is quite inelastic with respect to changes in state severance taxes. He said he doesn't expect absolute certainty, but he asked if severance taxes and oil don't really have much impact on one another.

MR. PULLIAM said, in general, a state severance tax is a smaller bite and not a big impact. "Movements in that tax rate don't have a big impact." Activities are relatively insensitive to taxes, but "as you get to a point, you may get into more sensitivities, but yes, in general, a change within a certain range, I think would be just as [you] described." He said to look at [total] government take for any scenario. He spoke of column six on his slide "with the lowest threshold and highest increment that we've put on there, you'll see as you get to \$50 a barrel you've got a government take of just under 60 percent; at \$80 per barrel you've got a government take of 64.5 percent. As I've heard and understand Dr. van Meurs and Mr. Johnson, in their view those kinds of takes are not something that would make you less competitive than opportunities elsewhere."

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REPRESENTATIVE GATTO said so much depends on the price of oil, and the presenters know the 20-year projected world population growth and the increase in cars in China, which won't be hybrids. He mentioned oil production in other countries. "You take all this data, and you can pretty much take an educated guess of what a barrel of oil is going to be worth in 10 years." He asked if they brought enough variables into the equation to conclude that a \$20 per barrel oil price is a pipedream. He

said he can't think of a potential circumstance that would provide more oil "compared to a devastating accident or terrorist incident that would literally demolish the world supply of oil."

DR. FINIZZA said he does not forecast crude oil prices because of the fear of being wrong and embarrassed, but there is a wide range of uncertainty. The best guess from others is a 60 percent chance that oil prices will be between \$30 and \$80 per barrel, but he said he thinks the range is wider. He said he would not personally bet that oil will be \$20 or less for a long period, but there is a high chance that price will exist for a short while. He said he wouldn't bet his money on \$100 per barrel oil. [Industry] is not making decisions based on \$60 per barrel, nor \$50 per barrel. "You shouldn't bet on \$50 either."

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MR. PULLIAM said a [tax] system that is flexible over a wide price range and doesn't cause inordinate pain to either side, will be a fair system and more likely to last. He said Alaska is taking on more risk by the PPT, but that is not necessarily a bad thing.

REPRESENTATIVE GARA asked them to recommend a tax structure to maximize revenue for Alaska in the long term, including the tax/credit ratio and a sliding scale.

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MR. PULLIAM said, "We don't have a single rate; we are not designers of fiscal systems." He said he can look at fiscal systems and try to anticipate the outcome. He suggested being conservative and see how it is working, as long as the structure can be revisited, but if it is hard to raise taxes, "I think that pushes you a little bit the other way--to start on the higher end knowing that you can't [raise taxes easily]." He said a producer will always say any tax is a bad tax, but taxes are a fact of life. He added that the industry will tell the legislature that oil taxes "are causing pain" no matter what, so the state should look at industry behavior. He recommended not using "that lowest threshold" [for the sliding scale]. He said he would start at \$40-\$45 "with a mid-level increment rate." But, he said, that decision is a "personal feeling."

MR. PULLIAM said that it is likely that such a recommendation will take Alaska to the end of the last century, "and it doesn't

put [Alaska] where everyone is today." The change is good, but there will be some challenges, he noted. Cost issues will need to be monitored by good people in DOR and DNR. He said Section 20 is a challenge. It is wise to be able to revisit the tax.

[1:24:25 PM](#)

DR. FINIZZA recommended starting "with the lower combination and then have some kind of this sliding scale because you can, in fact, simulate at high prices the higher rate." It may be the best of both worlds at higher prices, and the pain on the industry won't be too great. That would help the industry at lower prices and protect the state "in a busted lower-price scenario" from giving away too many tax credits.

REPRESENTATIVE CRAWFORD said Mr. Johnson told the committee that for Alaska oil, discounted for transportation and quality, a 65 percent total government take would keep Alaska in the world-wide average. He surmised that the state would want to construct a tax that starts at 65 percent government take "and take it backwards from there...to reach that." He said the 56 to 59 percent government take leaves a lot of money on the table compared to the worldwide average.

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MR. PULLIAM said, "If your objective is to get to be the worldwide average on government take, then you would go about this in a different way." He said the average is interesting to look at to see if Alaska will potentially drive folks away if taxes are too high, but there is nothing magical about being at the average, and the state might want to be below or above the average. He noted that the average has some extremes. The Gulf of Mexico is very low and there are places that are very high and have "a lot of oil to go after." He said there is a limited amount of places to find oil any more, and many of those places have very high takes, "and a lot of them are much higher than anything you're talking about here."

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[HB 488 was held over]

ADJOURNMENT

There being no further business before the committee, the House Resources Standing Committee meeting was adjourned at [1:28 PM](#).