

**Reponses to Questions from LB&A asked on
December 9 and 10th, 2008**



David Wood
9th January 2009

Alaska: Fiscal Design Issues for Natural Gas

Impact of Natural Gas on Combined Oil & Gas Production Tax



Analysis has identified that three factors are relevant to the dilution effects under prevailing production tax paid by an existing oil- only case with the addition of gas production (and vice versa – i.e. oil added to a gas-only case). These factors are:

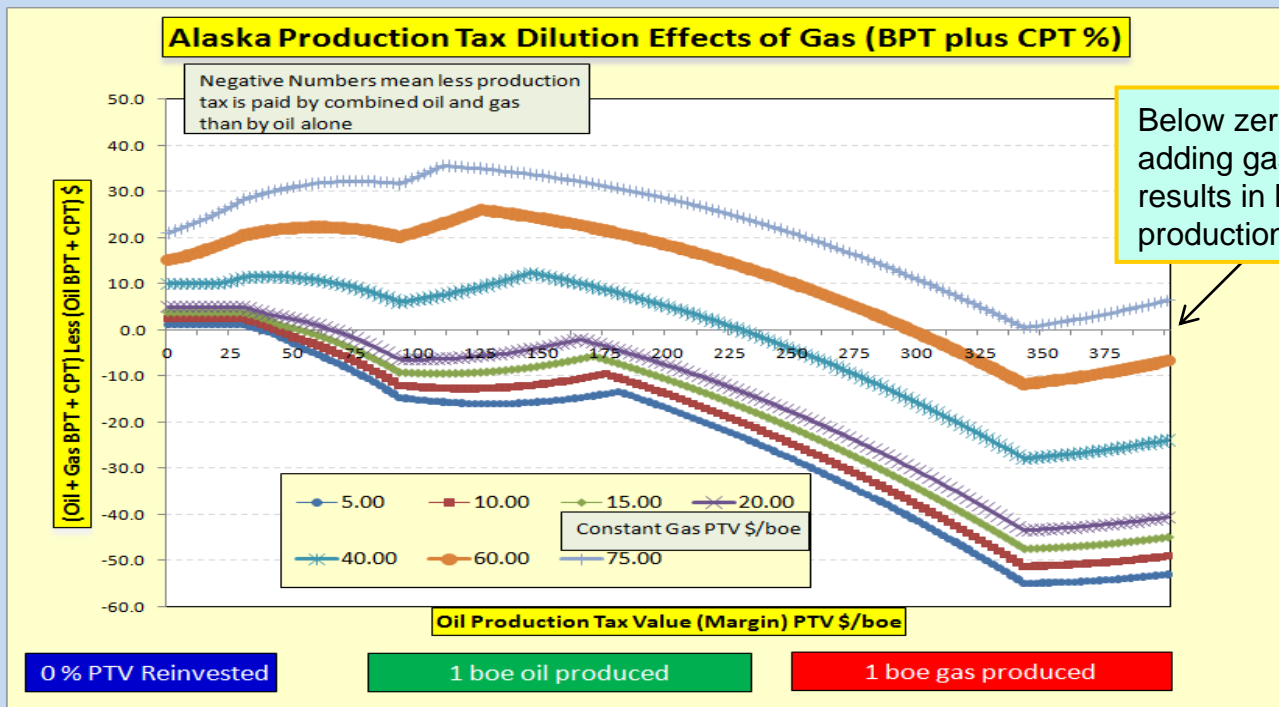
1. Magnitude of value differential between oil and gas streams (high oil value minus low gas value, or high gas value minus low oil value);
2. Relative volumes of oil and gas produced contributing to combined production tax boe stream.
3. Amount of PTV reinvested, which depending on the PTVs of each stream can have a significant impact

An Excel computer model has been developed to test these three factors.

Natural Gas Dilution Effects on Combined Oil & Gas Production Tax



The trends are non-linear with slope changes because of the changing gradients of the production tax progressivity mechanism (i.e. 0.4/boe to 0.1/boe) and the threshold values at which those changes occur.

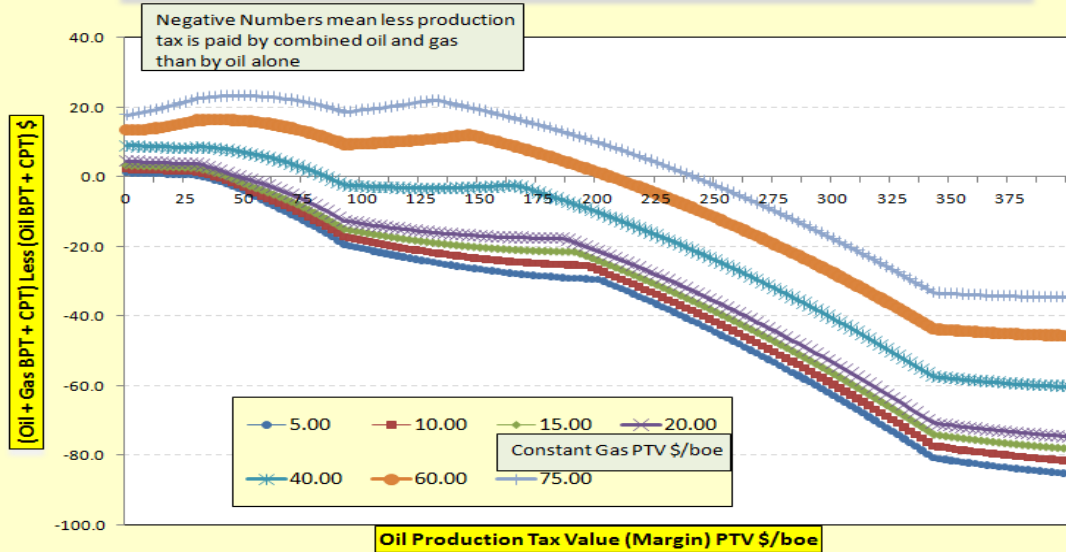


Natural Gas Production Tax Dilution Effects Impacted by Reinvestment



If some of the PTV is reinvested the reduction in production tax paid is significantly greater. This graph shows the impact of 10% reinvestment.

Alaska Production Tax Dilution Effects of Gas (BPT plus CPT %)



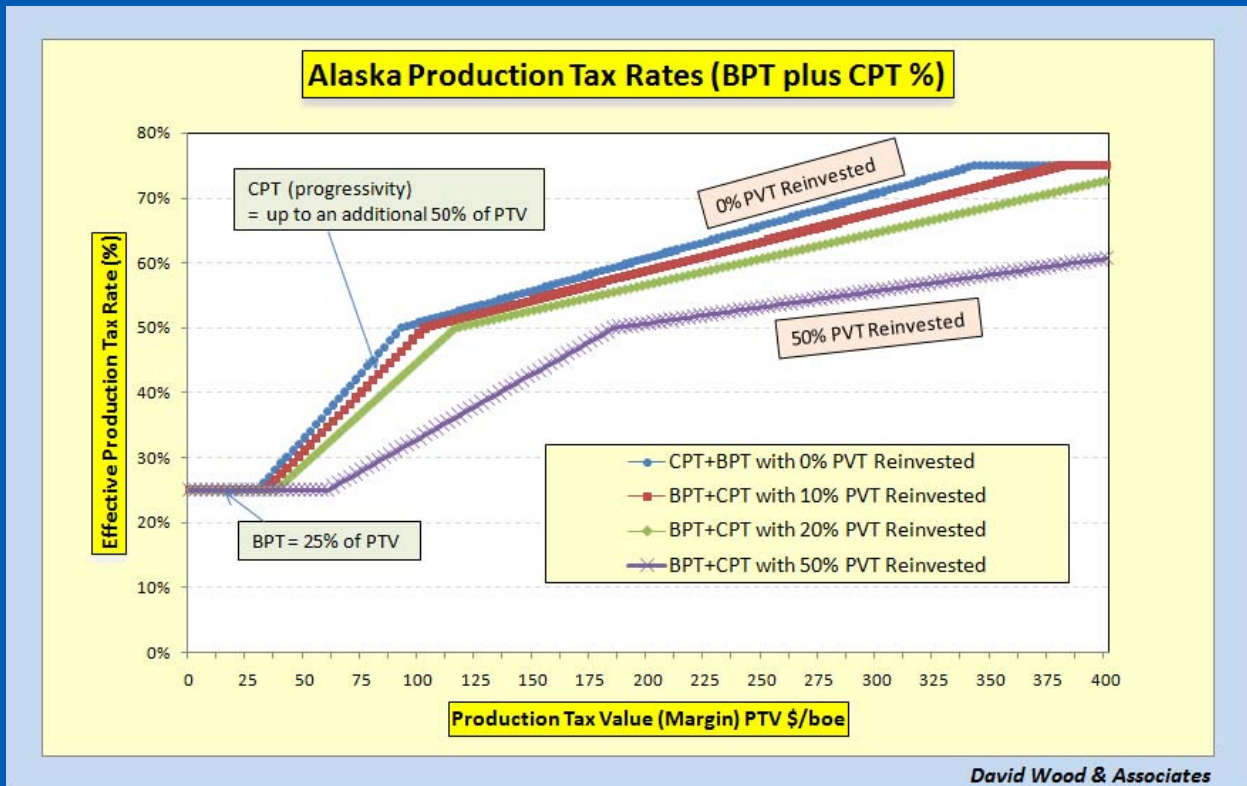
Below zero line adding gas results in lower production tax

10 % PTV Reinvested 1 boe oil produced 1 boe gas produced

Natural Gas Production Tax Dilution Different Reinvestment Scenarios



The impact of several reinvestment scenarios – 0% , 10%, 20% and 50% of PTV - on production tax rates are illustrated in this graphic.

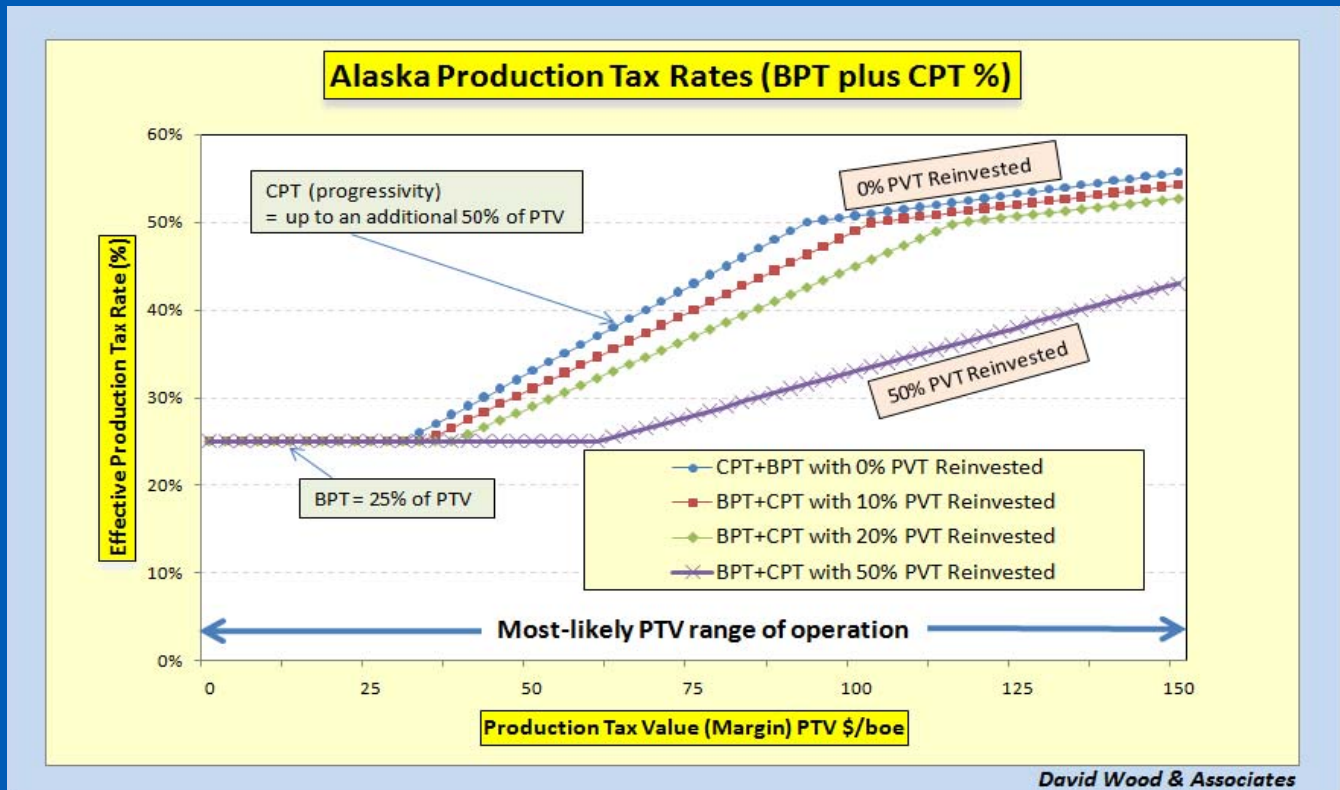


David Wood & Associates

Reinvestment Scenarios For PTV Range \$30/boe to \$150/boe



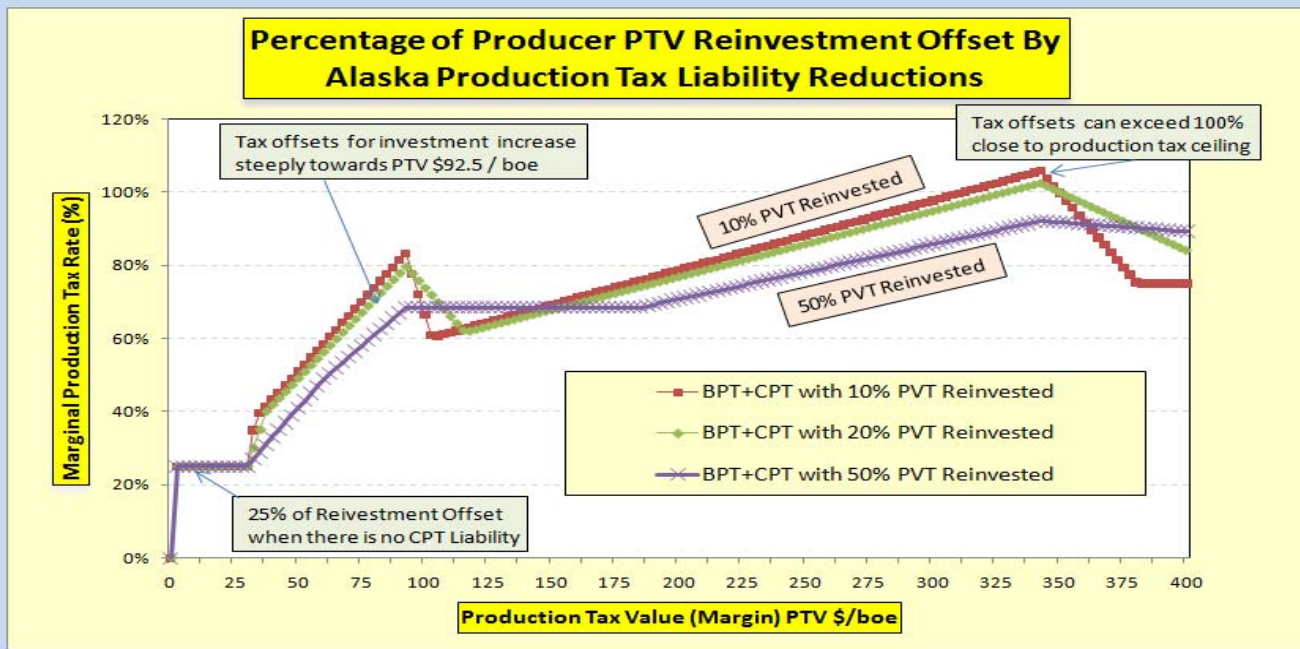
For example production tax rate can be reduced from 49% to 42% at PTV \$90/boe by reinvesting 20% of the PTV.



Marginal Production Tax Rates Seen by a Producer for Reinvestment Dollars



The vertical axis shows the percentage tax reduction associated with the incremental re-investment (or the marginal tax rate offset by the producer by its reinvestment). Note the peak around PTV\$90/boe and values above 100% at PTV \$350/boe plus multiple crossover points.



David Wood & Associates

Implications of Analysis



The analysis suggests that the prevailing production tax system has the following complications:

1. It is difficult to predict (from tax authority and producer perspectives) and relationships between oil and gas tax liabilities are non-linear;
2. The magnitude of combined production tax impact caused by adding a gas production stream varies with relative oil and gas PTVs, oil and gas volumes and percentage of PTV re-invested;
3. Without detailed analysis (and speculative forecasting of oil and gas prices) production tax outcomes can be counterintuitive.

Conclusions



These complications lead to the following general conclusions:

1. Under the current production tax rules (CPT) the impact of gas revenue on the magnitude of combined production taxes is difficult to predict making tax planning difficult (for both state and producers).
2. This is likely to render the production tax structure unstable in the long term and to require future adjustments by the legislature to progressivity rates and thresholds according to prevailing conditions.
3. Such adjustments would have significant impacts on investors and risk undermining fiscal stability and credibility over the long term.
4. By separating CPT into GPT and OPT these problems are removed and incentives can be structured in a transparent way. Under separate oil and gas taxation streams the combined production taxes become more predictable, stable and flexible.

Useful Analysis to Aid Natural Gas Fiscal Design Yet to be Conducted



The dilution effect of production tax is one of several issues that suggest that the natural gas fiscal design requires some adjustment. A first step is to establish a strategy for what a revised fiscal design should achieve. In order to help this process the following analysis could be conducted.

1. Establish and compare multi-year cash flow models for Prudhoe Bay and Point Thomson fields to evaluate from a natural gas perspective the taxation outcomes a range of scenarios: 1) gasoline alternatives; 2) LNG plant at Valdez; GTL plant on the slope; and others.
2. Use the information from 1. together with the ten hypothetical yet-to-find fields (presented in December Report) to test alternative gas fiscal designs.
3. Evaluate the fiscal designs and specific fiscal instruments applied in the main oil and gas producing states of the Lower 48. Alaska may be competing for investment with large-scale unconventional gas projects (e.g. shale gas). It is important to understand the incentives being offered by such projects.