Alaska's Proposed Tax on Oil Reserves in Situ, 1981

Outline of Comments on SSHB#200, and related materials

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Because of limited time allocation, these comments are presented in this outline form. Most of my two days were spent studying and digesting the various materials sent. It is suggested that more time be allocated to the task of fleshing out this outline.

1. Advantages of a reserves tax A. Unambiguous jurisdiction; unassailable legality. Notice is taken of legal opinion by J. Messenger, May 27, 1981. The effort here is to supplement this (from an economist's standpoint*). A reserves tax is "in rem," in contrast to an income tax in personam. The tax is addressed to the rem, or thing, not to a person or corporation. The location of the thing, the reserve, is unambiguously determined within a taxing jurisdiction, because jurisdictions are defined as areas of land. Activities of the owner outside the state are irrelevant (although state sovereignty in this matter is so strong that tax rates may vary according to personal characteristics of different owners, e.g., preferences for veterans, the aged, etc.).

There is no problem of apportionment among competing tax jurisdictions (except the special case of fugitive hydrocarbons that straddle the state line). The Legislature, in shifting the corporate income tax from the apportionment formula of Ch. 20 to the "allocation" or separate accounting formula of Ch. 21, thus evinced a desire to move in the direction of zeroing in on the reserves part of the base, located in-state. But, under any tax in personam this raises formidable problems. These problems are dissolved when the tax is in rem.

Why has the legislature not moved further and earlier into a reserves tax? One reason may be a preference for a tax based on production, without appraisal of reserves as a problem. If so, there is a solution, the "net proceeds" tax, as in Nevada. This tax is in rem, like a reserves tax, with the advantage of unambiguous jurisdiction and lack of apportionment problems. But it is based on production.

Another reason may be a desire to exempt non-corporate property. But the state may give preferential treatment to one class of owners over another, as noted, provided it be for an acceptable public purpose.

2. Taxes on property have the longest history of any tax in common use. They have all the legitimacy that time and precedent can confer.

3. Taxes on property are in no way preempted by the federal treasury. They are unambiguously, unequivocally reserved for the states (and subdivisions to which states may

* The writer is an economist, and this is in no way a legal opinion.

delegate their sovereign power of taxation).

4. Under the common law, all interests in real estate, including the fee, are held subject to various overriding sovereign powers including the police power, eminent domain, and taxation without reference to benefits received.

5. There is no question of a property tax falling on interstate commerce. It cannot be construed as a tax on exports, because it is recognized both in law and economics as the prototype of a direct tax which is presumed not shifted.

Out-of-state residence of property owners is not an issue. The tax is based on state jurisdiction over the land, not the owners. Some states even limit foreign ownership.

6. Some states classify property for taxation, with an especially high rate on minerals.

7. Some states and localities impose very high rates of property tax, much higher than contemplated in Ch. 58. There is no federally imposed limit on rates of property taxation; there are only self-imposed limits in some states.

8. The only problem I see might be to make Ch. 58 too obviously a surrogate for an assailable corporate income tax, thus to be tainted by confusion with the latter. The property tax stands on its own feet, and can only suffer by identification with other taxes. It would therefore be a mistake to try or intend to raise the same revenues from the same firms through the reserves tax as through the corporate income tax.

B. Reserves tax focuses on nonfunctional private reserves. By skillful use of taxation, much of this fat can be taken for the public treasury without interfering with, and perhaps even improving on, economic incentives. The proposed rate at 2.5% is not high enough to have major disincentive effects in any case, but to the extent that it might, these are thought to be two: it might unduly accelerate extraction; and it might discourage and reduce exploration effort. Let us consider these in order.

1. Accelerating production:

a. Earlier experiences in the lower 48 with hyperaccelerated production were in non-unitized fields. Alaska fields are unitized. The "Signal Hill Effect" is a bogey under Alaska conditions.

b. Production rates already are controlled by noneconomic factors, viz. the state controls over production, based on the concept of M.E.R.

c. Production rates are capped by pipeline capacity.

d. To the extent that economic factors affect production rates, there are narrow limits on how much a reserves tax will accelerate production. This is the result of several factors. First, a reserves tax is "capitalized," that is, it lowers the value of its own base, so that doubling the rate will not nearly double the tax, because the base falls by, say, 25% (depending on particulars). The tax is the product of the rate times the base, and in the above case will now increase by only 50%. This of course abates the effect on the taxpayer. (I trust that the Dept. of Revenue has accounted for this effect in its revenue projections. I have not seen any evidence on this.)

Next, the valuation of a reservoir rises as the production plan calls for faster production. This increases the tax, and so puts a limit on the producers' gains from speeding extraction plans. There are at least three possible scenarios:

i. Speeding production calls for more wells, closer spaced. If the added wells are in the tax base (or some municipal jurisdictions' tax base), this raises the valuation and the tax, limiting the gains from acceleration.

ii. If the added wells are not in the tax base, at least they are not deducted from it as costs (as they are under a corporate income tax), and the tax base still increases because of the faster production plan.

iii. Only if the added wells are deducted from the base could faster production fail to raise the tax base.

Notice is taken of Appendix I (Eye) of my 1976 report on oil and gas leasing policy. This appendix shows how an ad valorem charge, which operates like a reserves tax, has only the most limited effect on production rates. I suggest that more time should be spent expanding and developing the analysis in Appendix I, as Alaska moves toward heavier reliance on reserves taxation.

e. A faster rate of production would call for added capacity in transportation, stock tanks, and company infrastructure of all kinds, all along the line, all adding to the tax base. If there is any net effect of a reserves tax to increase production rates, therefore, this would not necessarily be undesirable fiscally. It is doubtful if there is much such tendency; but on the other hand, a reserves tax is not a drag on production, like a severance tax, which adds to the reserve tax's desirability compared to other taxes.

f. The weight of other taxes and charges are on a unit of production basis. In this context, any tendency of a reserves tax to speed production would simply compensate in part for the opposite bias, which is paramount. These other taxes and charges include the severance tax, the state's largest-yielding tax on oil; royalty payments off the top; the federal excise, or Windfall Profits Tax (WPT); the federal income tax (less capital recovery allowed on a unit-of-production basis); and pipeline tariffs in excess of marginal costs, which may be viewed as a kind of tax.

2. Effect of reserves tax on exploration incentives:

a. Comparison with other taxes. Any tax of any kind levied after discovery will in some way discourage discovery, but in general this is no special argument against a reserves tax, as compared with other kinds of taxes.

b. Bidders for leases will presumably bid somewhat lower bonuses, in anticipation of future taxes, just as they would react to a higher royalty or other deferred charge in the lease. Thus, taxation is a means not of increasing levies by the state on the industry, but of stretching out the payments over more time. I see little reason why firms would react by exploring less. Rather, they would simply bid a little lower for leases.

c. A reserves tax at 2.5% does not lower the present value of cash flows from producing wells by nearly as high a factor as a 2.5% property tax affects other kinds of land. This is because the cash flow of wells is bunched near the present. For example, at an interest rate of 15%, the present value of $100 due after five years is $49.72. But after a 2.5% reserves tax, it drops to $44.65, a drop of about 10%. If we take about five years as the weighted average life of wells (the year in which half the reserves are recovered), then 10% is a fair estimate of the drop in present value caused by the 2.5% tax. It is not an overwhelming matter.

d. In its present form, the tax does discourage post-leasing exploration because it is limited to leases on which there is commercial production.

C. Reliability of revenues:

1. Stable volume of base. A reserves tax is inherently much more stable than any unit-of-production tax, because the latter are turned on and off at the convenience of the producers. While this has not yet been a major problem in Alaska, it always could become one.

2. Tendency of revenues to lead output. Even though the tax is limited to leases "having commercial production,” there is a need on an active lease to step out and prove reserves some time in advance of production. Sec. 43.58.151(9) of SSHB#200 defines taxable property as "a property having commercial production.” That seems to mean that production on any part of a leasehold calls for assessment of reserves on the entire leasehold. Thus, in spite of the exemption of non-producing leaseholds, there will be a substantial cushion of reserves being assessed in advance of their specific production. This will lend more stability to revenues, as well as advance their timing. It will of course call for aggressive action by state assessors to assert their investigative right created by statute.

3. Stability of unit values. The tax base depends on the unit value of reserves as predicted over a long period. This is substantially independent of short-run fluctuations in spot prices. On the other hand, reserve values are sensitive to interest rates, and could be undercut by a sharp rise of long-term rates, under the present approach. I will suggest that a proper approach would legislate a constant ratio of tax rate to discount rate, thus overcoming this problem.

4. A reserves tax sustains revenues over a longer period than other taxes, by virtue of beginning earlier (cf. point #2, just above). As to sustaining revenues when production declines, there is no tax that accomplishes that. Only the state, by wise investment of its permanent fund, can accomplish that goal. Note, however, that taxation, to the extent that it may damp down early exploration, does work in the direction of causing the oil revenues of the whole state to be found and extracted over a longer period.

D. Thoroughness of extracting the economic surplus:

a. The source of the economic surplus is the rent of the state's oil deposits. A reserves tax focuses on this surplus more directly than most other taxes do.

b. On the other hand, a reserves tax does not take a large share of the surplus when production is concentrated up front. Thus, for $100 which is to be realized at the end of one year, the present value (given the statutory 19% interest rate and 2.5% tax rate) is $82.30. The tax on this value is $2.06, which is due at the same time as the $100 is received (i.e. one year after the assessment date.) I hope this makes it clear why a reserves tax, to be effective, must begin before production. That is, the reserves must be taxed for some years as they lie in the ground, else the state's share is minimal.

II. Some problems with SSHB#200

A. Choice of discount rate.

The tax base varies inversely with the discount rate, so the discount rate is as important as the tax rate in determining the state's revenues. But it is by no means clear that it has received the same attention. I see disadvantages in having to legislate any discount rate, particularly one so high as 19%.

1. Inflation has been built into the discount rate, giving a high number. This is the logical counterpart of building inflation into price forecasts, but the latter has not been done. It has been left to the discretion of assessors what to assume about future prices. This creates a downward bias in assessments based on income projections, because assessors are generally reluctant to project rising prices.

If inflation rates should abate, the assessors are still compelled to look backwards five years for the inflation rate to add to the discount rate, while they would have to look forward to predict prices. This could result in valuations being much too low. This is not a symmetrical risk, because of the one-sided appeals process. That is, if inflation rates should rise, hurting the leaseholders, they can appeal that discount rates based on historical inflation are too low. But the assessor has no such out; he must use the historical rate willy-nilly. And at the high rate of 19%, only the state would want to appeal.

2. The rate of 19% is high above what borrowers pay for long-term funds today. The yield-to-maturity of U.S. Treasuries and Exxon bonds today is about 13%; of AT&T and Sohio about 13.8%. Besides that, most oil companies generate huge flows of internal funds. Their ratios of net worth to total assets are generally higher than industry averages, indicating unused borrowing power. This means that they are in effect declining opportunities to borrow at 13-14%. This in turn says that their marginal internal funds are yielding only that, or less. It should therefore be assumed that they discount future cash flows at less than 14%.

3. It has been advanced that a high discount rate should be used because the North Slope is a high-cost area. However, high costs are already factored into net revenues. To use a high discount to add to this is simply double counting.

4. It has been alleged that the SEC requires that oil firms use a 10% discount rate in their Reserve Recognition Accounting. I have not double-checked this.

B. Omitting gas reserves.

1. The neglected concept of "taxable event." It is advanced that gas is exempted to avoid

discouraging a marginal industry. But taxation does not necessarily discourage private economic activity. It is a mistake to lump all taxes together. It depends on the taxable event. A tax on producing gas may discourage production. A tax on holding reserves is another matter altogether. Here, the taxable event is just the passage of time.

As to finding gas, that is not the central problem. Much gas has already been found. New gas will be found as a byproduct of oil searching. Coupling this with other reasons why taxes do not much inhibit exploration, there seems virtually no reason to exempt gas from a reserves tax. On the contrary, we have seen that the only way a reserves tax can capture much economic surplus is for it to begin in advance of production.

As to federal preemption, there is no federal WPT on gas, leaving an open field for the state.

C. Excluding "'unproven' reserves," Sec. 43.58.061 instructs assessors to "consider all factors" that "may be known by the department to affect the value of taxable property, including but not limited to the discounted present value of the expected future net income from the proven reserves of the taxable property." This may suggest, although it does not literally say, that "unproven" reserves need not be taken very seriously, and indeed an assessment of unproven reserves might be challenged. In light of the reluctance of assessors and courts, especially in some eastern states, to value reserves truly, a stronger, clearer statement would be preferable. It is an uphill battle to get unproven reserves on the tax rolls, and the slightest hint of doubt should be avoided, if that is the legislative intent.

The conventional usage of "proven" in respect to reserves is known to be highly restrictive, and far short of what is reasonably expected to be found. Definition 7 doesn't help much, and in effect throws the ball to geologists and engineers, substituting their professional conventions for a clear legislative intent. This is asking for trouble, and inviting the "experts," who should be on tap, to get on top.

The provision to exclude leaseholds not having commercial production seems too generous. (It also acts as a tax on going into production, as noted above.) Non-producing leaseholds have a market value, evidenced initially by bonus bids. It is a probability or speculative value, based on skilled interpretation according to the best state of the art. It is not a uniquely conjectural or uncertain value. It is in many ways more certain than the "floating value" that attaches to suburban lands in the van of expanding commercial demand, where buyers have to guess about future freeways, zoning decisions by other owners, etc. The oilman's position is in some ways better, because he can always reduce uncertainty by drilling, whereas the suburban landowner is stuck with uncertainty.

So long as a lease is not abandoned, there is a presumption of value because it is known that lessees upon abandoning can deduct their basis from taxable income.

The precedent of the 1975-1977 reserves tax indicates that taxation prior to commercial production is feasible.

It is even conceivable, although perhaps unlikely, that the exclusion of unproduced reserves could be held to be an unreasonable classification. A marginal, valueless lease having commercial production would be taxed; a billion-dollar lease without current production would be exempt.

Finally, the definition of "proven reserves" contains some troubling vague language: "… recoverable in the future under prevailing economic conditions and technology" is ambiguous. Prevailing when, now or then? The more likely reading is now. But that then relegates to “unproven" all reserves that may reasonably be expected to become recoverable with future increases in demand and improved techniques and extended pipelines.

D. Use of the open market concept, the conventional definition of value in Sec. 43.58.061(b) speaks of an open market. It would be realistic to take notice of the narrow market actually existing, and the very real possibility that a property may be worth more in a closed market than an open market, because of the preemptive value to insiders, and the entry value to outsiders. Since closed markets are contrary to common law and public policy, such a classification might be held reasonable.

It is also possible that in the existing market, the firms may not be taking advantage of the full range of tax-shelter devices that would be attractive in a truly open market. Thus, in areas with more firms active, it is common for firms that explore and find to sell leaseholds for a capital gain, thus converting their ordinary income to capital gain, while establishing for the buyer a high valuation for cost depletion. A trio of vertically integrated multinational firms may not feel that these devices are to their advantage. Yet, should not the conditions of the market that would yield the higher valuation be assumed? The above two arguments could be at cross purposes, the first arguing for presuming monopoly, the second for presuming an open market. I would only urge that these cross purposes not be allowed to be used against the interest of the state; and that the absence of an open market be laid at the feet of the industry, as something for which they should be penalized, but from which they should never be allowed to benefit.

One very useful device to consider in cases of this sort is a provision that any protested assessment should be accompanied by a binding offer to abandon the lease to the state, in consideration for the amount of the protested assessment.

E. Unclear definition of "net income" to be capitalized. Assessors are instructed to discount future net income, but net income is nowhere defined. The juxtaposition with Ch. 21 might lead to appeals to the definition there. But Ch. 21 allows an extraordinary list of deductions, including the cost of lease acquisition itself. Surely, bonus bids are not intended to be excluded from the reserves tax base. It seems to me that "cash flow" rather than net income is the term intended.

It would be desirable to clarify that valuation should consider all the advantages a firm gets, or could get from tax shelters.

At the same time, the Ch. 21 definition of net income is too broad, in that it does not allow deduction of federal excise taxes. This could lead to challenge as a clearly wrong method of valuation—the only grounds, according to the J. Messenger opinion, on which a state property tax is likely to be XXXX…