

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILE 8672
1650 SCOMM 62 • SENATE SPEC. COMM. ON OIL & GAS, 1989-1990

EXHIBIT L

Area Participations and Acreage Participations
for the
Endicott Participating Area
(Revised April 1985)

<u>Working Interest Owner</u>	<u>Area Participation (%)</u>	<u>Acreage Participation (%)</u>
Amoco Production Company	10.4940	12.0142
ARCO Alaska, Inc.	0.0234	0.0586
Cook Inlet Region, Inc.	0.6456	0.4919
Doyon, Limited	0.1291	0.0984
Exxon Corporation	21.0206	24.1098
NANA Regional Corporation, Inc.	0.3874	0.2952
Sohio Alaska Petroleum Company	56.7825	50.8591
Union Oil Company of California	<u>10.5174</u>	<u>12.0728</u>
	100.0000	100.0000

ENDICOTT

CASE 1

HOW THE ELF IS CALCULATED

$$ELF = (1 - [PEL/TP])\exp(460*WD/PEL)$$

PEL = (Production at the Economic Limit) =
(300 barrels per day)*
(average number of operating wells during the month)*
(number of days of production for the month).

EXAMPLE

$$PEL = 300 \text{ barrels} * 541 \text{ wells} * 30 \text{ days} = 4,869,000 \text{ barrels per month}$$

TP = (Total Production for the field for the month) =
(average number of operating wells during the month)*
(number of days of production for the month)*
(average daily production per well).

EXAMPLE

$$TP = 541 \text{ wells} * 30 \text{ days} * 2477 \text{ barrels per well} = 40,201,710 \text{ barrels per month}$$

WD = (Well Days) =
(number of operating wells during the month)*
(number of days each well operates)

EXAMPLE

$$WD = 541 \text{ wells} * 30 \text{ days} = 16,230 \text{ well days}$$

CALCULATION EXAMPLE

$$ELF = (1 - [PEL / TP]) \exp(460 * WD / PEL)$$

$$ELF = (1 - [4,869,000/40,201,710]) \exp(460 * 16,230 / 4,869,000)$$

$$ELF = (1 - .1211) \exp (1.533)$$

$$ELF = (.8789) \exp (1.533)$$

$$ELF = .82$$

**PROFITABILITY OF
OIL AND GAS PRODUCTION
ALASKA VERSUS FOREIGN COUNTRIES
1983-87**

**Thomas Horst
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March 13, 1989**

Introduction

The ultimate objective of this Report is to compare the royalty and tax burden of oil and gas operations in Alaska with that in foreign countries. In our search for information on how the total income from oil and gas production was shared between producers and governments, we undertook a comprehensive investigation of data published by the World Bank and other international agencies, the U.S. government, domestic and foreign trade publications, academic studies, and the companies' annual reports. In the end, we could identify only one reliable comprehensive source of data describing companies' actual oil and gas production: the supplemental information U.S. oil and gas producers are required by Financial Accounting Standard No. 69 ("FAS 69") to disclose in their annual financial reports. Although FAS 69 does not require companies to disclose total royalties, taxes or other payments to various governments per se, it does require companies to report their revenues, expenses (including income taxes), and a bottom-line result of operations by major geographic area of operations. Accordingly, we tabulated the results of foreign oil and gas producing activities for 1983-87 for the ten largest U.S. producers and compared those results to the comparable results reported by BP America and Sohio, the only U.S. company that reports separately the results of its Alaska operations.

FAS 69 Disclosure Requirements

Before describing those results, we should summarize the disclosure required by FAS 69. Broadly speaking FAS 69 requires companies to disclose information pertaining to: (1) proved oil and gas reserves, (2) capitalized costs relating to oil and gas producing activities, (3) costs incurred for property acquisition, exploration and development activities, (4) results of operations, and (5) a standardized measure of discounted future net cash flows relating to proved oil and gas reserves. Domestic and foreign producing activities must be disclosed separately, and individual countries or groups of countries must be disclosed separately if appropriate for meaningful disclosure.

In disclosing their results of operations, oil and gas producers are required to report information on their (1) revenues, (2) production (lifting) costs, (3) exploration expenses, (4) depreciation, depletion, and amortization, and valuation provisions, (5) income tax expense, and (6) the result of operations, which generally equals the excess of revenues over the

various expenses.¹ Royalty payments and net profit disbursements are excluded from gross revenues. Production or severance taxes are not excluded from gross revenues, but are instead included in production costs.

Neither corporate overhead nor interest expense is included in production costs or otherwise deducted in calculating the results of operations. Moreover, income taxes are calculated using the statutory income tax rate applied to revenues less production (lifting costs), exploration expenses, depreciation, depletion, and amortization, and valuation provisions, but not corporate overhead or interest expense. Calculation of income tax expenses reflects permanent differences between book and taxable income (e.g., the excess of percentage depletion over cost depletion) and tax credits and allowances (e.g., the investment credit), but not book-tax timing differences (e.g., book depreciation versus accelerated tax depreciation, or the expensing of intangible drilling and development costs for tax, but not for book, purposes). Because book-tax timing differences usually result in a portion of book income tax expense being deferred until a later period, and because

¹ The reported results of operations would also be reduced by the after-tax income attributable to minority interests in consolidated subsidiaries. Because the revenue and expenses include amounts attributed to minority interests are not reported separately, the after-tax income amounts shown in the tables of this Report are before deduction of after-tax income attributable to minority interests in the consolidated subsidiaries. Moreover, we have not included amounts attributable to interests of the reporting company in non-consolidated entities (e.g., Aramco).

no account is taken of the deductions for corporate overheads and interest expense, the amount of income tax expense recorded under the FAS 69 disclosure will generally overstate the amount of income tax actually paid on account of oil and gas production. What effect this overstatement of income tax has had on the comparison of the results of foreign oil and gas operations to the results of Alaska oil and gas operations is uncertain because income tax expense has potentially been overstated in both instances.

Results of Foreign Oil and Gas Operations for 10 Largest U.S. Producers, 1983-87

The results of foreign oil and gas operations for the 10 largest U.S. producers are described in detail in Appendix I and are summarized in Table 1 on the following page. Because results for a particular producer vary widely from region to region and may vary from year to year for a particular region, we have shown on the following page the five-year (1982-87) cumulative results for all foreign operations of each of the 10 producers. Exxon is not only the largest U.S.-based foreign producers, but also the most profitable with after-tax income averaging 21.4 percent of total oil and gas revenues. At the other extreme was Shell, which consistently reported losses on its limited foreign operations. (Obviously, these results do not include the very substantial and presumably profitable non-U.S. operations of Shell's U.K. and Dutch parent corporation or its foreign sister subsidiaries.)

**TABLE 1: RESULTS OF FOREIGN PRODUCTION
10 LARGEST U.S. COMPANIES, 1983-87**

<u>Company</u>	<u>Years</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/ Revenues</u>
Amoco	1983-87	18,866	7,088	3,879	3,209	17.0%
ARCO	1983-87	2,789	357	330	27	1.0%
Chevron	1983-87	14,391	8,748	6,548	2,200	15.3%
Exxon	1983-87	42,198	20,696	11,673	9,023	21.4%
Mobil	1983-87	25,153	14,301	9,836	4,465	17.8%
Occidental	1983-87	8,561	3,391	3,012	379	4.4%
Phillips	1983-87	8,140	4,450	3,848	602	7.4%
Shell	1983-87	711	(77)	54	(131)	-18.4%
Tenneco	1983-87	1,033	236	137	99	9.6%
Texaco	1983-87	16,469	9,269	7,110	2,159	13.1%
10 Companies	1987	24,472	10,653	5,998	4,655	19.0%
10 Companies	1986	20,053	7,549	4,711	2,838	14.2%
10 Companies	1985	33,867	18,041	12,986	5,055	14.9%
10 Companies	1984	32,808	18,165	12,705	5,460	16.6%
10 Companies	1983	27,111	14,051	10,027	4,024	14.8%
10 Companies	1983-87	138,311	68,459	46,427	22,032	15.9%

One of the more striking features of the results shown in Table 1 is the clear correlation between the size of a U.S. company's foreign operations and its profitability (Exxon has the largest and most profitable, Mobil the second largest and second most profitable, etc.). Whether this correlation reflects economies of scale, a tendency of older foreign operations (and longer established foreign operators) to be more profitable, or some other phenomenon has not been investigated.

Results of Alaska Oil and Gas Operations for BP America, 1986-87, and Sohio, 1983-85

The only major U.S. company that discloses separately the results of its Alaska oil and gas operations is BP America and its major predecessor corporation, Sohio.² The BP America/Sohio results for the 1983-87 period are summarized in Table 2. For the entire five-year period, BP America and Sohio reported after-tax income from Alaska oil and gas operations equal to 27.7 percent of Alaska revenues. This result is higher than the comparable 21.4 percent after-tax income margin reported by Exxon, the company with the most profitable foreign operations, and substantially above

² BP America was formed in 1987 when BP successfully acquired the remaining 45 percent of the outstanding shares in Sohio. BP America was the result of the merger of Sohio with BP North America, which held BP's Trans Alaska Pipeline System subsidiary, BP's minority interest in the Kuparuk field and associated pipeline, and other BP-owned U.S. assets.

**TABLE 2: RESULTS OF ALASKA PRODUCTION
BP AMERICA 1986-87, SOHIO 1983-85**

Company	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/ Revenues</u>
BP America	1987	3,340	1,358	611	747	22.4%
BP America	1986	1,973	248	108	140	7.1%
Sohio	1985	4,433	2,571	1,241	1,330	30.0%
Sohio	1984	4,146	2,675	1,240	1,435	34.6%
Sohio	<u>1983</u>	<u>4,013</u>	<u>2,336</u>	<u>1,037</u>	<u>1,299</u>	<u>32.4%</u>
BP/Sohio	1983-87	17,905	9,188	4,237	4,951	27.7%

the 16.0 percent average margin for the foreign operations of the 10 largest producers taken together.

The annual results for BP America and Sohio shown in Table 2 indicates that for years through 1985 Sohio was consistently reporting after-tax income of 30 percent or more of its Alaska oil and gas revenues. The sharply lower after-tax income, 7.1 percent of Alaska oil and gas revenues, reported in 1986 was attributable primarily to the collapse of oil prices, but also to a series of unusual expenses recognized in that year. Specifically, BP America stated in the notes to its 1987 financial statements:

During 1986 the Company recorded special charges of \$1.13 billion pretax which have been classified as unusual items in the Statement of Income. The charges principally represented provisions for the restructuring of certain operations, the loss on the disposal of certain operations and the impairment of properties where future cash flows were no longer expected to recover current book values. Also included was a provision representing the excess of the Company's settlement with the Internal Revenue Service of the windfall profit tax valuation of Alaskan crude oil for the period 1980-83 over amounts previously provided.

In addition to these unusual items, the exploration and production businesses recorded pretax charges of \$410 million in 1986 for the impairment of leases held in oil and gas prospect inventory, over and above normal lease amortization expense. These charges were included in exploration expenses in the Statement of Income and resulted from technical reassessment and expected lower future oil prices.

The pattern of the BP America/Sohio results provide an interest contrast to that for foreign operations for U.S. companies. While both total revenues and after-tax income from foreign operations were down sharply in 1986 on account of the

lower oil prices, the ratio of after-tax income to total revenues dropped only slightly. The sharp drop in the after-tax income margin for Alaska operations compared to foreign operations may reflect two factors. First, the higher cost of transporting Alaska North Slope ("ANS") crude oil to refineries through the TAPS and then ocean transportation magnifies the impact of oil prices on ANS wellhead values. Stated differently, if the FAS 69 information consolidated the results of TAPS with ANS production, the ratio of income after taxes to total revenues would not have fallen so sharply.

Second, many foreign countries have entered into various risk-sharing agreements with oil and gas producers under which a significant portion of government revenues are calculated as a percentage of net profits -- wellhead values minus lifting and other costs -- rather than gross revenues. Risk-sharing agreements allow foreign governments to collect more revenue when oil prices are high, but reduce their revenues when oil prices are low. Consequently, the companies' ratio of income after taxes to gross revenues do not vary so sharply as oil prices fluctuate.

RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
AMOCO, 1983-87

<u>Producing Area</u>	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/Revenues</u>
Canada	1987	549	237	120	117	21.3%
Europe	1987	447	49	40	9	2.0%
Other	1987	2,021	733	406	327	16.2%
Canada	1986	521	204	89	115	22.1%
Europe	1986	430	102	69	33	7.7%
Other	1986	1,795	419	316	103	5.7%
Canada	1985	737	382	245	137	18.6%
Europe	1985	575	180	93	87	15.1%
Other	1985	3,146	1,281	732	549	17.5%
Canada	1984	727	320	216	104	14.3%
Europe	1984	579	253	59	194	33.5%
Other	1984	3,349	1,294	665	629	18.8%
Canada	1983	719	374	229	145	20.2%
Europe	1983	421	133	59	74	17.6%
<u>Other</u>	<u>1983</u>	<u>2,850</u>	<u>1,127</u>	<u>541</u>	<u>586</u>	<u>20.6%</u>
Foreign	1987	3,017	1,019	566	453	15.0%
Foreign	1986	2,746	725	474	251	9.1%
Foreign	1985	4,458	1,843	1,070	773	17.3%
Foreign	1984	4,655	1,867	940	927	19.9%
Foreign	1983	3,990	1,634	829	805	20.2%
Foreign	1983-87	18,866	7,088	3,879	3,209	17.0%

RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
ARCO, 1983-87

<u>Producing Area</u>	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/ Revenues</u>
Foreign	1987	573	90	77	13	2.3%
Foreign	1986	456	43	29	14	3.1%
Foreign	1985	674	96	95	1	0.1%
Foreign	1984	618	117	108	9	1.5%
<u>Foreign</u>	<u>1983</u>	<u>468</u>	<u>11</u>	<u>21</u>	<u>(10)</u>	<u>-2.1%</u>
Foreign	1983-87	2,789	357	330	27	1.0%

RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
CHEVRON, 1983-87

<u>Producing Area</u>	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/Revenues</u>
Canada	1987	476	259	130	129	27.1%
Canada	1986	353	117	66	51	14.4%
Canada	1985	1,148	542	347	195	17.0%
Canada	1984	1,309	669	440	229	17.5%
Canada	1983	696	352	248	104	14.9%
Africa	1987	1,160	958	587	371	32.0%
Africa	1986	913	517	403	114	12.5%
Africa	1985	1,649	1,446	1,307	139	8.4%
Africa	1984	1,037	923	786	137	13.2%
Africa	1983	82	(57)	63	(120)	-146.3%
Other	1987	978	530	224	306	31.3%
Other	1986	895	239	176	63	7.0%
Other	1985	1,494	789	719	70	4.7%
Other	1984	1,271	865	629	236	18.6%
Other	1983	930	599	423	176	18.9%
Foreign	1987	2,614	1,747	941	806	30.8%
Foreign	1986	2,161	873	645	228	10.6%
Foreign	1985	4,291	2,777	2,373	404	9.4%
Foreign	1984	3,617	2,457	1,855	602	16.6%
Foreign	1983	1,708	894	734	160	9.4%
Foreign	1983-87	14,391	8,748	6,548	2,200	15.3%

RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
EXXON, 1983-87

<u>Producing Area</u>	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/Revenues</u>
Canada	1987	965	504	209	295	30.6%
Other Western Hemisphere	1987	80	16	11	5	6.3%
Europe	1987	3,762	1,806	691	1,115	29.6%
Middle East & Africa	1987	82	(51)	12	(63)	-76.8%
Australia & Far East	1987	2,431	878	478	400	16.5%
Canada	1986	755	264	109	155	20.5%
Other Western Hemisphere	1986	62	(18)	2	(20)	-32.3%
Europe	1986	3,499	1,611	553	1,058	30.2%
Middle East & Africa	1986	62	(72)	5	(77)	-124.2%
Australia & Far East	1986	1,991	543	240	303	15.2%
Canada	1985	1,041	508	228	280	26.9%
Other Western Hemisphere	1985	98	(4)	1	(5)	-5.1%
Europe	1985	5,108	3,431	2,088	1,343	26.3%
Middle East & Africa	1985	30	(62)	3	(65)	-216.7%
Australia & Far East	1985	3,583	1,154	590	564	15.7%
Canada	1984	930	507	300	207	22.3%
Other Western Hemisphere	1984	94	(3)	(5)	2	2.1%
Europe	1984	5,159	3,793	2,506	1,287	24.9%
Middle East & Africa	1984	39	(6)	5	(11)	-28.2%
Australia & Far East	1984	3,607	1,206	589	617	17.1%
Canada	1983	937	497	316	181	19.3%
Other Western Hemisphere	1983	72	(77)	0	(77)	-106.9%
Europe	1983	4,680	3,353	2,262	1,091	23.3%
Middle East & Africa	1983	45	(6)	3	(9)	-20.0%
Australia & Far East	1983	3,086	924	477	447	14.5%
Foreign	1987	7,320	3,153	1,401	1,752	23.9%
Foreign	1986	6,369	2,328	909	1,419	22.3%
Foreign	1985	9,860	5,027	2,910	2,117	21.5%
Foreign	1984	9,829	5,497	3,395	2,102	21.4%
Foreign	1983	8,820	4,691	3,058	1,633	18.5%
Foreign	1983-87	42,198	20,696	11,673	9,023	21.4%

RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
M/OBIL, 1983-87

Producing Area	Year	Total Revenue	Income Before Tax	Income Tax	Income After Tax	After-Tax Income/Revenues
Foreign	1987	5,618	2,302	1,262	1,040	18.5%
Canada	1986	541	138	95	43	7.9%
Europe	1986	1,534	573	305	268	17.5%
Other	1986	1,519	1,233	732	501	33.0%
Canada	1985	974	495	356	139	14.3%
Europe	1985	2,193	1,171	839	332	15.1%
Other	1985	3,096	2,306	1,734	572	18.5%
Canada	1984	820	444	308	136	16.6%
Europe	1984	1,978	1,092	802	290	14.7%
Other	1984	2,453	1,836	1,373	463	18.9%
Canada	1983	643	368	262	106	16.5%
Europe	1983	1,670	879	633	246	14.7%
Other	1983	2,114	1,464	1,135	329	15.6%
Foreign	1987	5,618	2,302	1,262	1,040	18.5%
Foreign	1986	3,594	1,944	1,132	812	22.6%
Foreign	1985	6,263	3,972	2,929	1,043	16.7%
Foreign	1984	5,251	3,372	2,483	889	16.9%
Foreign	1983	4,427	2,711	2,030	681	15.4%
Foreign	1983-87	25,153	14,301	9,836	4,465	17.8%

**RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
OCCIDENTAL, 1983-87**

<u>Producing Area</u>	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/ Revenues</u>
Other Western Hemisphere	1987	568	108	144	(36)	-6.3%
Eastern Hemisphere	1987	629	424	347	77	12.2%
Other Western Hemisphere	1986	486	73	74	(1)	-0.2%
Eastern Hemisphere	1986	550	265	254	11	2.0%
Other Western Hemisphere	1985	422	(26)	87	(113)	-26.8%
Eastern Hemisphere	1985	1,358	663	542	121	8.9%
Other Western Hemisphere	1984	574	145	65	80	13.9%
Eastern Hemisphere	1984	1,572	734	633	101	6.4%
Other Western Hemisphere	1983	640	185	126	59	9.2%
<u>Eastern Hemisphere</u>	<u>1983</u>	<u>1,762</u>	<u>820</u>	<u>740</u>	<u>80</u>	<u>4.5%</u>
Foreign	1987	1,197	532	491	41	3.4%
Foreign	1986	1,036	338	328	10	1.0%
Foreign	1985	1,780	637	629	8	0.4%
Foreign	1984	2,146	879	698	181	8.4%
Foreign	1983	2,402	1,005	866	139	5.8%
Foreign	1983-87	8,561	3,391	3,012	379	4.4%

RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
PHILLIPS, 1983-87

<u>Producing Area</u>	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/Revenues</u>
Norway	1987	613	192	116	76	12.4%
United Kingdom	1987	174	76	27	49	28.2%
Africa	1987	171	109	82	27	15.8%
Other Foreign	1987	72	(8)	1	(9)	-12.5%
Norway	1986	731	364	279	85	11.6%
United Kingdom	1986	152	27	11	16	10.5%
Africa	1986	142	(55)	53	(108)	-76.1%
Other Foreign	1986	53	(1)	0	(1)	-1.9%
Norway	1985	1,227	847	672	175	14.3%
United Kingdom	1985	261	127	70	57	21.8%
Africa	1985	327	183	201	(18)	-5.5%
Other Foreign	1985	88	(7)	9	(16)	-18.2%
Norway	1984	1,383	983	806	177	12.8%
United Kingdom	1984	284	129	107	22	7.7%
Africa	1984	318	177	184	(7)	-2.2%
Other Foreign	1984	89	(45)	1	(46)	-51.7%
Norway	1983	1,598	1,308	1,058	250	15.6%
United Kingdom	1983	85	20	(4)	24	28.2%
Africa	1983	292	91	172	(81)	-27.7%
<u>Other Foreign</u>	<u>1983</u>	<u>80</u>	<u>(67)</u>	<u>3</u>	<u>(70)</u>	<u>-87.5%</u>
Foreign	1987	1,030	369	226	143	13.9%
Foreign	1986	1,078	335	343	(8)	-0.7%
Foreign	1985	1,903	1,150	952	198	10.4%
Foreign	1984	2,074	1,244	1,098	146	7.0%
Foreign	1983	2,055	1,352	1,229	123	6.0%
Foreign	1983-87	8,140	4,450	3,848	602	7.4%

RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
SHELL, 1983-87

<u>Producing Area</u>	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/ Revenues</u>
Foreign	1987	193	4	2	2	1.0%
Foreign	1986	122	(5)	31	(36)	-29.5%
Foreign	1985	130	(47)	12	(59)	-45.4%
Foreign	1984	116	(20)	6	(26)	-22.4%
<u>Foreign</u>	<u>1983</u>	<u>150</u>	<u>(9)</u>	<u>3</u>	<u>(12)</u>	<u>-8.0%</u>
Foreign	1983-87	711	(77)	54	(131)	-18.4%

RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
TEXACO, 1983-87

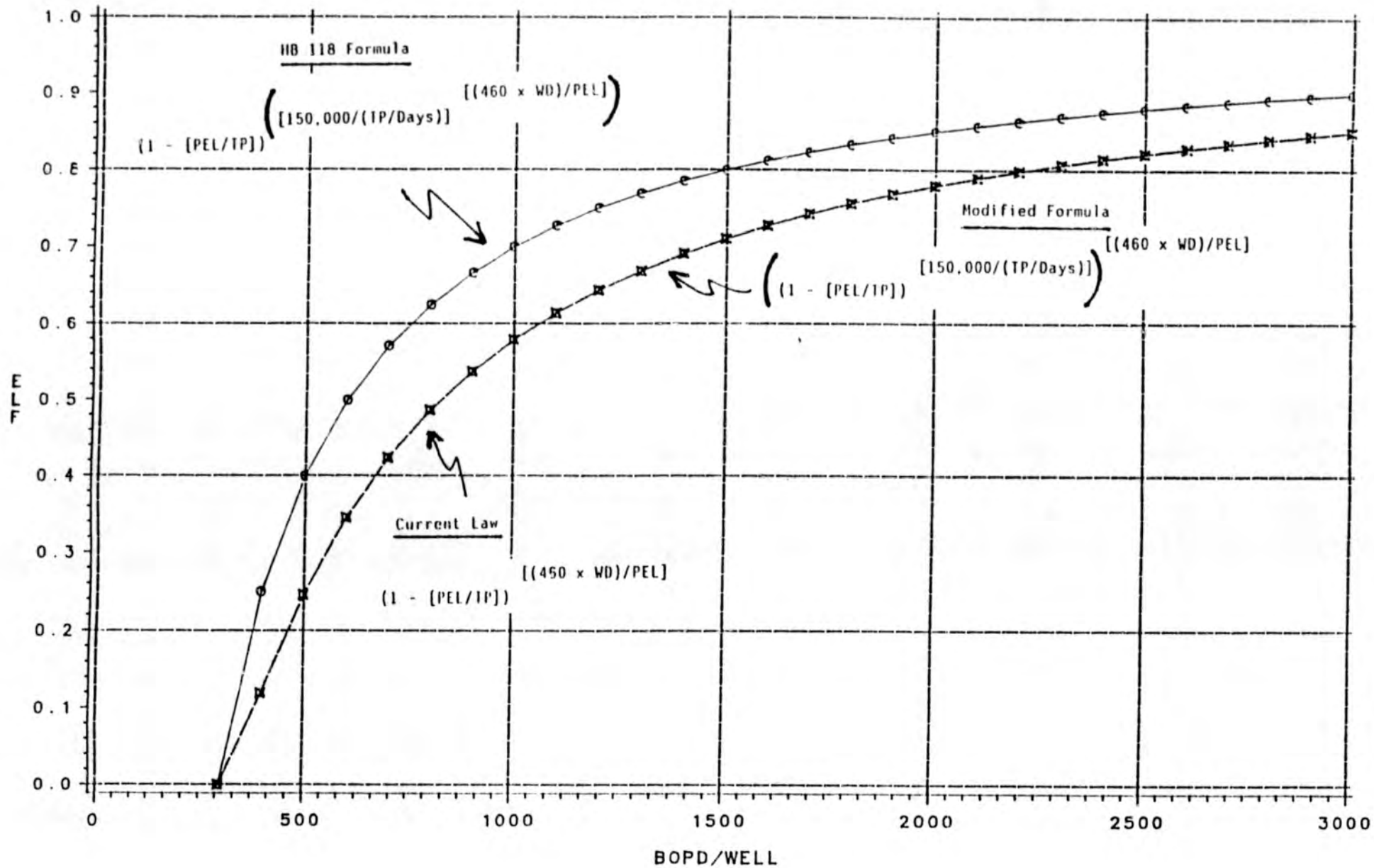
<u>Producing Area</u>	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/Revenues</u>
Canada	1987	534	294	143	151	28.3%
Other Western Hemisphere	1987	331	194	161	33	10.0%
Europe	1987	1,150	511	286	225	19.6%
Other Eastern Hemisphere	1987	718	433	411	22	3.1%
Canada	1986	504	238	131	107	21.2%
Other Western Hemisphere	1986	426	248	212	36	8.5%
Europe	1986	818	259	231	28	3.4%
Other Eastern Hemisphere	1986	598	309	267	42	7.0%
Canada	1985	952	555	338	217	22.8%
Other Western Hemisphere	1985	733	526	415	111	15.1%
Europe	1985	1,493	669	523	146	9.8%
Other Eastern Hemisphere	1985	1,094	769	718	51	4.7%
Canada	1984	1,088	696	401	295	27.1%
Other Western Hemisphere	1984	734	498	399	99	13.5%
Europe	1984	1,221	557	475	82	6.7%
Other Eastern Hemisphere	1984	1,232	904	812	92	7.5%
Canada	1983	978	659	374	285	29.1%
Other Western Hemisphere	1983	705	472	380	92	13.0%
Europe	1983	493	(2)	37	(39)	-7.9%
<u>Other Eastern Hemisphere</u>	<u>1983</u>	<u>667</u>	<u>480</u>	<u>396</u>	<u>84</u>	<u>12.6%</u>
Foreign	1987	2,733	1,432	1,001	431	15.8%
Foreign	1986	2,346	1,054	841	213	9.1%
Foreign	1985	4,272	2,519	1,994	525	12.3%
Foreign	1984	4,275	2,655	2,087	568	13.3%
Foreign	1983	2,843	1,609	1,187	422	14.8%
Foreign	1983-87	16,469	9,269	7,110	2,159	13.1%

RESULTS OF FOREIGN OIL & GAS PRODUCING ACTIVITIES
TENNECO, 1983-87

<u>Producing Area</u>	<u>Year</u>	<u>Total Revenue</u>	<u>Income Before Tax</u>	<u>Income Tax</u>	<u>Income After Tax</u>	<u>After-Tax Income/Revenues</u>
Colombia	1987	130	44	30	14	10.8%
Other Foreign	1987	47	(39)	1	(40)	-85.1%
Colombia	1986	109	36	27	9	8.3%
Other Foreign	1986	36	(122)	(48)	(74)	-205.6%
Colombia	1985	153	86	22	64	41.8%
Other Foreign	1985	83	(19)	0	(19)	-22.9%
Colombia	1984	139	91	33	58	41.7%
Other Foreign	1984	88	6	2	4	4.5%
Colombia	1983	147	113	46	67	45.6%
<u>Other Foreign</u>	<u>1983</u>	<u>101</u>	<u>40</u>	<u>24</u>	<u>16</u>	<u>15.8%</u>
Foreign	1987	177	5	31	(26)	-14.7%
Foreign	1986	145	(86)	(21)	(65)	-44.8%
Foreign	1985	236	67	22	45	19.1%
Foreign	1984	227	97	35	62	27.3%
Foreign	1983	248	153	70	83	33.5%
Foreign	1983-87	1,033	236	137	99	9.6%

Exxon

HB 118 - ELF FORMULA SENSITIVITIES 150,000 BOPD FIELD



XXXXX CURRENT TAX
 ○○○○ HB118 FORMULA
 □□□□ MOD FORMULA

SB 97 and HB 118 ELFs COMPARED

An analysis prepared for the
Senate Special Committee on Oil and Gas
20 April 1989

As the chair requested, this analysis focuses on three fields -- Prudhoe, Kuparuk and Lisburne -- and the differences between SB 97 and HB 118.

ELF formulas in both SB 97 and HB 118 have two variables: productivity per well, and total productivity (or, field productivity). In the real world these variables are closely interrelated; both are subject to continuous change over the life of an oil field. Figure 1 illustrates what realistically will happen when the two variables are considered together. Figure 2 illustrates what happens if total production is hypothetically held constant and per-well productivity is varied. Figure 3 hypothetically holds per-well productivity constant for the three fields, and illustrates the severance tax rates that would result when the total production is varied. The declining tax rates illustrated in Figure 1 are depicted graphically in Figures 4-6.

Figure 7 shows the declining total production and per-well productivity projected for the three fields, and which underly the rates in Table 1.

As requested, step-by-step instructions for calculating the ELF's under the two bills are included following Figure 7.

Division of Policy and Department of Revenue.

The Economic Limit Factor or ELF is a fraction which reduces severance taxes as well productivity declines.

**EFFECTIVE SEVERANCE TAX RATE
equals nominal severance tax rate times ELF.**

**For example, 15.00% times 0.824 equals
an effective severance tax rate of 12.36%.**

Figure 1

**PROJECTED SEVERANCE TAX RATES, FY 1990-2000
UNDER EXISTING LAW, SB 97, AND HB 118**

<u>Fiscal Year</u>	<u>PRUDHOE</u>			<u>KUPARUK</u>			<u>LISBURNE</u>		
	<u>Existing Law</u>	<u>SB-97</u>	<u>HB-118</u>	<u>Existing Law</u>	<u>SB-97</u>	<u>HB-118</u>	<u>Existing Law</u>	<u>SB-97</u>	<u>HB-118</u>
1990	12.1%	14.7%	14.9%	7.4%	11.1%	12.6%	5.4%	1.3%	0.4%
1991	12.0%	14.7%	14.9%	6.6%	10.4%	12.0%	4.7%	0.7%	0.1%
1992	11.8%	14.6%	14.9%	6.0%	9.6%	11.3%	5.7%	0.9%	0.2%
1993	11.4%	14.5%	14.9%	5.6%	8.9%	10.6%	5.7%	0.9%	0.2%
1994	11.1%	14.4%	14.8%	4.8%	7.3%	8.9%	5.4%	0.6%	0.1%
1995	10.5%	14.2%	14.8%	3.9%	5.5%	6.9%	4.4%	0.2%	0.0%
1996	9.7%	14.0%	14.6%	2.9%	3.6%	4.4%	4.0%	0.1%	0.0%
1997	8.9%	13.6%	14.5%	1.9%	1.7%	1.9%	3.5%	0.0%	0.0%
1998	7.9%	13.2%	14.2%	1.1%	0.6%	0.6%	2.9%	0.0%	0.0%
1999	6.8%	12.6%	13.9%	0.6%	0.2%	0.1%	1.3%	0.0%	0.0%
2000	5.6%	11.9%	13.4%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%

Figure 2
HYPOTHETICAL SEVERANCE TAX RATES RESULTING WHEN FIELD PRODUCTION IS
HELD CONSTANT AND AVERAGE DAILY PRODUCTION PER WELL IS
VARIED--UNDER EXISTING LAW, SB 97, AND HB 118
 (Approximate FY 90 averages shown in highlighting.)

Average Daily Production Per Well	PRUDHOE 1,452,100 barrels per day			KUPARUK 279,500 barrels per day			LISBURNE 43,800 barrels per day		
	Existing Law	SB-97	HB-118	Existing Law	SB-97	HB-118	Existing Law	SB-97	HB-118
300	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
325	0.3%	10.9%	13.9%	0.3%	2.8%	5.6%	0.2%	0.0%	0.0%
350	0.8%	11.7%	14.1%	0.8%	4.2%	7.1%	0.6%	0.0%	0.0%
375	1.3%	12.2%	14.3%	1.3%	5.2%	8.1%	1.0%	0.0%	0.0%
400	1.8%	12.6%	14.4%	1.8%	6.0%	8.8%	1.5%	0.0%	0.0%
500	3.7%	13.4%	14.6%	3.7%	8.2%	10.5%	3.0%	0.3%	0.0%
600	5.2%	13.7%	14.7%	5.2%	9.5%	11.5%	4.2%	0.7%	0.1%
700	6.4%	14.0%	14.7%	6.4%	10.4%	12.1%	5.2%	1.2%	0.3%
800	7.3%	14.1%	14.8%	7.3%	11.0%	12.5%	6.0%	1.7%	0.6%
900	8.1%	14.3%	14.8%	8.1%	11.5%	12.8%	6.6%	2.2%	0.8%
1,000	8.7%	14.3%	14.8%	8.7%	11.9%	13.1%	7.1%	2.8%	1.2%
1,100	9.2%	14.4%	14.9%	9.2%	12.2%	13.3%	7.5%	3.2%	1.5%
1,200	9.6%	14.5%	14.9%	9.6%	12.4%	13.4%	7.9%	3.7%	1.8%
1,300	10.0%	14.5%	14.9%	10.0%	12.6%	13.6%	8.2%	4.1%	2.2%
1,400	10.4%	14.6%	14.9%	10.4%	12.8%	13.7%	8.5%	4.5%	2.5%
1,500	10.7%	14.6%	14.9%	10.7%	13.0%	13.8%	8.7%	4.8%	2.8%
1,600	10.9%	14.6%	14.9%	10.9%	13.1%	13.8%	8.9%	5.1%	3.1%
1,700	11.1%	14.6%	14.9%	11.1%	13.2%	13.9%	9.1%	5.4%	3.4%
1,800	11.3%	14.7%	14.9%	11.3%	13.3%	14.0%	9.3%	5.7%	3.7%
1,900	11.5%	14.7%	14.9%	11.5%	13.4%	14.0%	9.4%	6.0%	3.9%
2,000	11.7%	14.7%	14.9%	11.7%	13.5%	14.1%	9.5%	6.2%	4.2%
2,100	11.8%	14.7%	14.9%	11.8%	13.6%	14.1%	9.7%	6.4%	4.4%
2,200	12.0%	14.7%	14.9%	12.0%	13.6%	14.2%	9.8%	6.6%	4.7%
2,300	12.1%	14.7%	14.9%	12.1%	13.7%	14.2%	9.9%	6.8%	4.9%
2,400	12.2%	14.7%	14.9%	12.2%	13.7%	14.2%	10.0%	7.0%	5.1%

Figure 3
HYPOTHETICAL SEVERANCE TAX RATES RESULTING WHEN PER-WELL PRODUCTIVITY IS
HELD CONSTANT AND AVERAGE DAILY PRODUCTION PER FIELD IS
VARIED--UNDER EXISTING LAW, SB 97, AND HB 118
 (Approximate FY 90 averages shown in highlighting.)

Average Daily Production for the Field	PRUDHOE 2,290 barrels per well per day			KUPARUK 817 barrels per well per day			LISBURNE 730 barrels per well per day		
	Existing Law	SB-97	HB-118	Existing Law	SB-97	HB-118	Existing Law	SB-97	HB-118
10,000	12.1%	1.1%	0.0%	7.4%	0.0%	0.0%	5.4%	0.0%	0.0%
20,000	12.1%	4.1%	0.7%	7.4%	0.2%	0.0%	5.4%	0.1%	0.0%
30,000	12.1%	6.4%	2.9%	7.4%	0.9%	0.1%	5.4%	0.5%	0.0%
40,000	12.1%	7.9%	5.2%	7.4%	1.8%	0.5%	5.4%	1.1%	0.2%
50,000	12.1%	9.0%	7.0%	7.4%	2.8%	1.3%	5.4%	1.8%	0.7%
60,000	12.1%	9.8%	8.5%	7.4%	3.7%	2.3%	5.4%	2.4%	1.4%
70,000	12.1%	10.4%	9.5%	7.4%	4.5%	3.4%	5.4%	3.1%	2.2%
80,000	12.1%	10.9%	10.4%	7.4%	5.3%	4.5%	5.4%	3.6%	3.1%
90,000	12.1%	11.3%	11.0%	7.4%	5.9%	5.5%	5.4%	4.2%	3.8%
100,000	12.1%	11.6%	11.5%	7.4%	6.5%	6.4%	5.4%	4.6%	4.6%
200,000	12.1%	13.2%	13.7%	7.4%	9.9%	11.2%	5.4%	7.5%	8.7%
300,000	12.1%	13.8%	14.3%	7.4%	11.3%	12.8%	5.4%	8.9%	10.2%
400,000	12.1%	14.1%	14.5%	7.4%	12.2%	13.5%	5.4%	9.6%	10.9%
500,000	12.1%	14.2%	14.7%	7.4%	12.7%	14.0%	5.4%	10.1%	11.3%
600,000	12.1%	14.4%	14.8%	7.4%	13.0%	14.2%	5.4%	10.4%	11.5%
700,000	12.1%	14.5%	14.8%	7.4%	13.3%	14.4%	5.4%	10.7%	11.7%
800,000	12.1%	14.5%	14.8%	7.4%	13.5%	14.5%	5.4%	10.9%	11.8%
900,000	12.1%	14.6%	14.9%	7.4%	13.7%	14.6%	5.4%	11.0%	11.8%
1,000,000	12.1%	14.6%	14.9%	7.4%	13.8%	14.6%	5.4%	11.1%	11.9%
1,100,000	12.1%	14.7%	14.9%	7.4%	13.9%	14.7%	5.4%	11.2%	11.9%
1,200,000	12.1%	14.7%	14.9%	7.4%	14.0%	14.7%	5.4%	11.3%	12.0%
1,300,000	12.1%	14.7%	14.9%	7.4%	14.1%	14.8%	5.4%	11.4%	12.0%
1,400,000	12.1%	14.7%	14.9%	7.4%	14.1%	14.8%	5.4%	11.4%	12.0%
1,500,000	12.1%	14.7%	14.9%	7.4%	14.2%	14.8%	5.4%	11.5%	12.1%
1,600,000	12.1%	14.8%	14.9%	7.4%	14.2%	14.8%	5.4%	11.5%	12.1%

Figure 4

PROJECTED TAX RATES AT PRUDHOE BAY

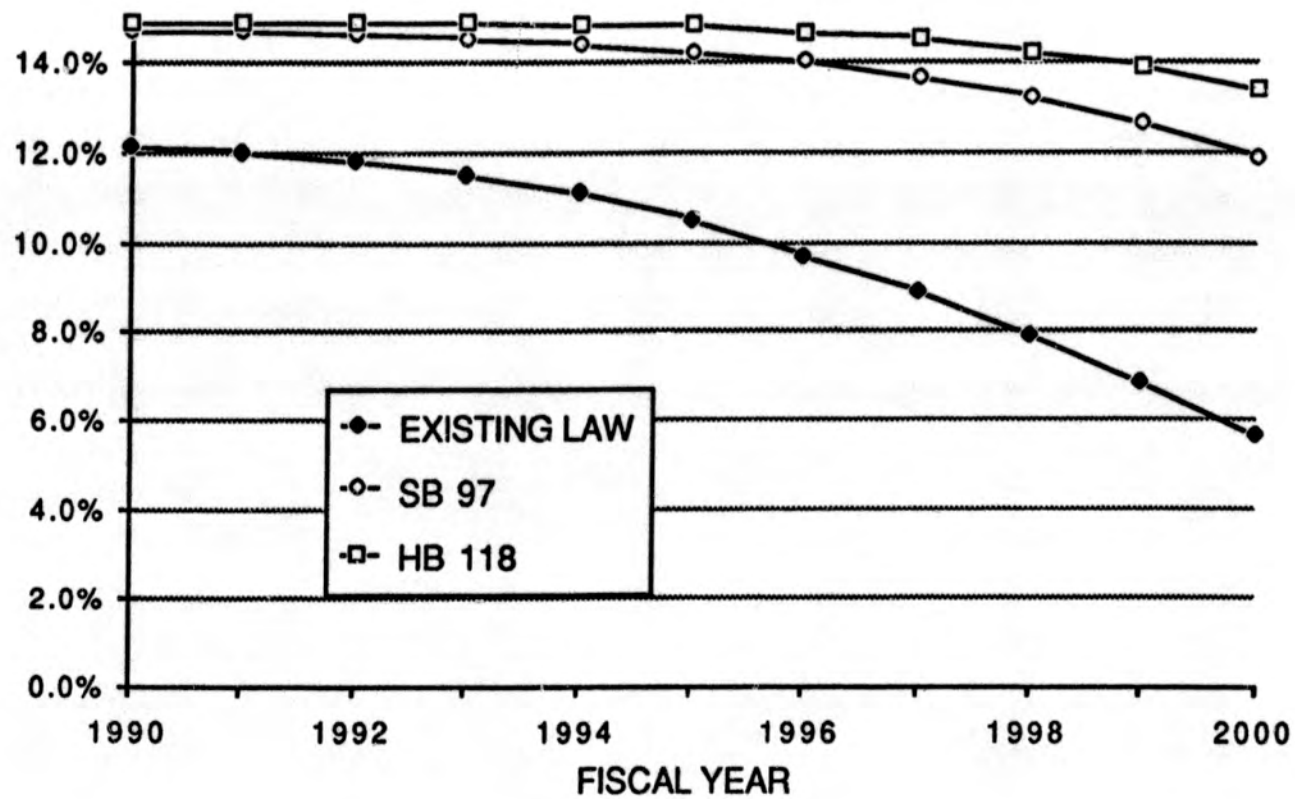


Figure 5

PROJECTED TAX RATES AT KUPARUK

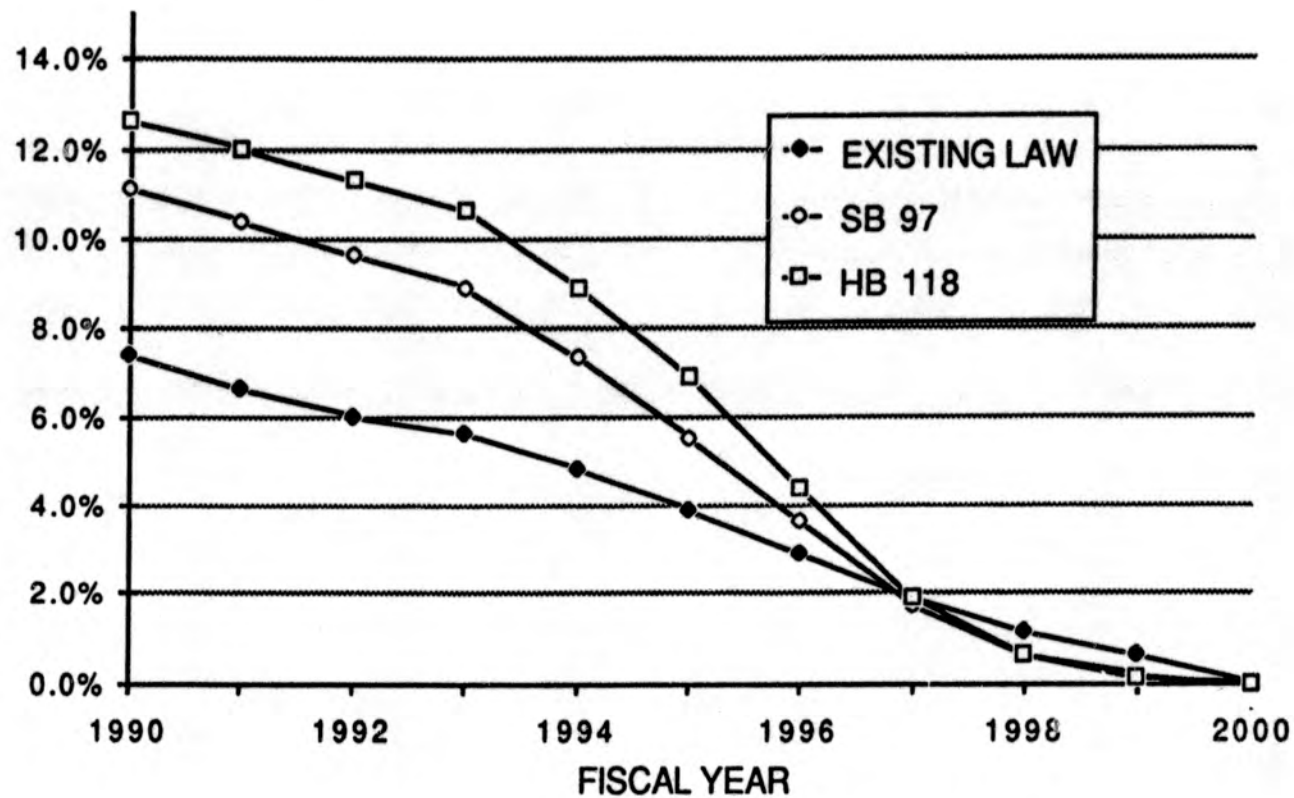


Figure 6

PROJECTED TAX RATES AT LISBURNE

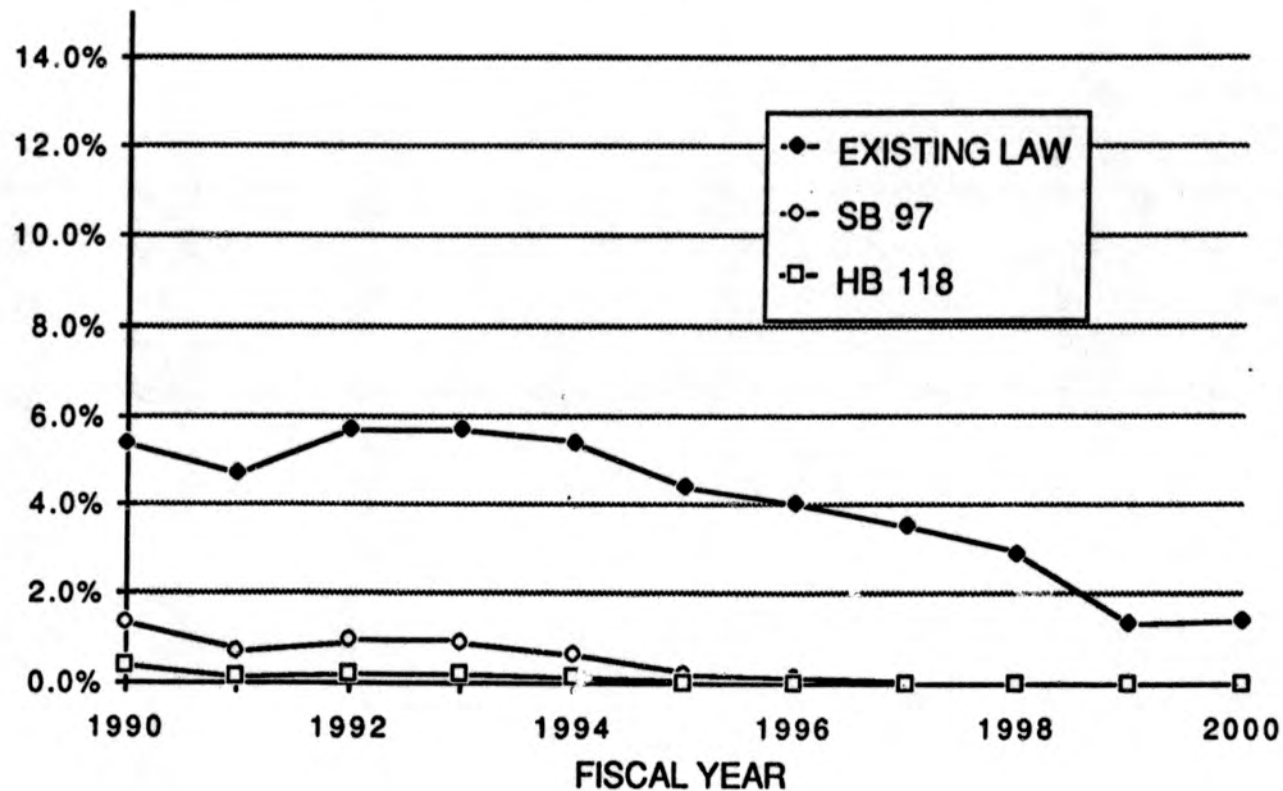


Figure 7
Estimated Production and Well Productivity
Prudhoe Bay, Kuparuk, Lisburne

	<u>Prudhoe Bay</u>		<u>Kuparuk</u>		<u>Lisburne</u>	
	Avg		Avg		Avg	
	p/well		p/well		p/well	
	Volume	Prod	Volume	Prod	Volume	Prod
	(mmbbl/yr)	(bbl/day)	(mmbbl/yr)	(bbl/day)	(mmbbl/yr)	(bbl/day)
1990	530	2290	102	817	16	731
1991	504	2080	97	724	15	642
1992	472	1845	89	666	15	642
1993	427	1614	81	636	15	642
1994	387	1450	69	569	14	619
1995	332	1303	59	513	12	548
1996	282	1165	50	457	11	520
1997	239	1039	42	404	10	489
1998	203	930	36	365	9	457
1999	173	834	32	341	7	376
2000	147	753	26	294	7	376

Based on the Dept of Revenue's Spring 1989 forecast. Well productivity is adjusted for well days.

COMPUTING THE SB 97 ELF

(Using typical Prudhoe Bay field values in the examples.)

The SB 97 Economic Limit Factor formula is:

$$\text{ELF} = (1 - \text{PEL} / \text{TP}) \text{EXP}[(55,000,000 * \text{WD}) / (\text{PEL} * \text{TP} / \text{Days})]$$

PEL (Production at the Economic Limit) =

(300 barrels per day)*

(average number of operating wells during the month)*

(number of days of production for the month).

For example:

*300 barrels * 634 wells * 30 days = 5,706,000 barrels per month at the Economic Limit.*

TP (Total Production for the field) =

(average number of operating wells during the month)*

(number of days of production for the month)*

(average daily production per well).

For example:

*634 wells * 30 days * 2290 barrels per well = 43,555,800 barrels of production per month.*

EXP (Exponent) -- Means that the expression following is an exponent.

WD (Well Days) =

(average number of operating wells during the month)*

(number of days of production for the month).

For example:

*634 wells * 30 days = 19020 well days.*

Days = the number of days in the month for which the tax is paid.

For example: In April, 30 days.

CALCULATION EXAMPLE

$$= (1 - \text{PEL} / \text{TP}) \text{EXP}[(55,000,000 * \text{WD}) / (\text{PEL} * \text{TP} / \text{Days})]$$

$$= [1 - (5,706,000 / 43,555,800)] \text{EXP}[(55,000,000 * 19,020) / (5,706,000 * 43,555,800 / 30)]$$

$$= (1 - .1310) \text{EXP} (.1263)$$

$$= (.8690)^{(.1263)}$$

$$= .9824$$

TP = total production

COMPUTING THE HB 118 ELF

(Using typical Prudhoe Bay field values in the examples.)

The HB 118 Economic Limit Factor formula is:

$$\text{ELF} = (1 - [\text{PEL}/\text{TP}]) \text{EXP}([150,000/(\text{TP}/\text{Days})]) \text{EXP}[(460 * \text{WD})/\text{PEL}])$$

PEL (Production at the Economic Limit) =

(300 barrels per day)*

(average number of operating wells during the month)*

(number of days of production for the month).

For example:

*300 barrels * 634 wells * 30 days = 5,706,000 barrels per month at the Economic Limit.*

TP (Total Production for the field) =

(average number of operating wells during the month)*

(number of days of production for the month)*

(average daily production per well).

For example:

*634 wells * 30 days * 2290 barrels per well = 43,555,800 barrels of production per month.*

EXP (Exponent) -- Means that the expression following is an exponent.

WD (Well Days) =

(average number of operating wells during the month)*

(number of days of production for the month).

For example:

*634 wells * 30 days = 19,020 well days.*

Days = the number of days in the month for which the tax is paid.

For example: In April, 30 days.

CALCULATION EXAMPLE

$$= (1 - [\text{PEL}/\text{TP}]) \text{EXP}([150,000/(\text{TP}/\text{Days})]) \text{EXP}[(460 * \text{WD})/\text{PEL}])$$

$$= [1 - (5,706,000/43,555,800)] \text{EXP}[(150,000/(43,555,800/30))] \text{EXP}[(460 * 19,020)/5,706,000]$$

$$= (1 - .1310) \text{EXP} .1033^{1.5333}$$

$$= .8690^{.0308}$$

$$= .9957$$

SCS CSHB118 (JUDICIARY)

LEGISLATION REVISING THE ECONOMIC LIMIT FACTOR (ELF)

Presented to the

Senate Special Committee on Oil and Gas

by the

Department of Revenue

April 20, 1989

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QUESTIONS AND ANSWERS ON

SCS CSHB 118 (JUDICIARY)

Why should the Legislature modify the ELF?

This legislation promotes economic development, creates jobs, raises revenue, and protects the interests of the people of Alaska in their resources.

What tax does the Economic Limit Factor formula affect?

The Economic Limit Factor (ELF) formula affects the severance tax on oil. The severance tax — also called the production tax — is a tax on oil removed from the ground. The tax compensates for the depletion of the state's non-renewable resources. The severance tax has provided more than a third of the state's unrestricted General Fund revenue in the past decade.

What is the Economic Limit Factor?

The ELF is a formula which reduces the severance tax actually paid on oil. The ELF formula produces a fraction which reduces severance taxes as the productivity of a well declines. This reduced severance tax rate is the "effective" severance tax rate — that is, it is the rate the producer actually pays. The effective severance tax rate is the "nominal" severance tax rate (the one set out, or "named" in statute, which is normally 15 percent for mature fields) multiplied by the ELF. Here's an example which shows the tax rate on Prudhoe Bay now:

15% nominal tax rate

multiplied times ELF of 0.824

equals an effective severance tax
rate of 12.36%

The higher the ELF, the higher the actual tax paid. The lower the ELF, the lower the actual tax paid. A low ELF provides a large tax break.

Why do we have the ELF?

The ELF was originally created in 1977 to encourage oil companies to develop marginal oil fields, and to extend the life of producing fields when production at those fields became marginal.

How did we get to where we are today?

In 1981, the Legislature sharply reduced the state's corporate income tax on oil and gas producers by abandoning separate accounting. (The changes were made because the separate accounting law had been challenged in court, but the state later won the lawsuit.) In an attempt to compensate for the expected loss of revenues from the changes made in the corporate income tax, the Legislature raised the severance tax rate from 12.25% to 15%. Because the ELF formula would have cut into this needed revenue, the Legislature -- as a stopgap measure -- suspended the ELF at Prudhoe Bay until 1987.

Even at the outset, this attempt to compensate failed. The 1981 changes in the income tax and severance tax had the net effect of costing the state more than \$1 billion in lost revenues between fiscal years 1982 and 1987.

In 1987, the impact of the 1981 tax changes became even more negative for the state. When the stopgap provision ended in 1987, this additional tax break caused the effective severance tax rate at Prudhoe Bay to drop sharply. (Graphic #1 shows this sharp drop for Prudhoe Bay.) This sharp drop immediately cut Alaska's total revenue by \$135,000,000 in FY 88, and has cost the state more than \$70 million more for FY 89 by the middle of March of 1989.

Why do people want to change the ELF now?

The current ELF is not giving Alaska an attractive enough tax climate to encourage development of marginal oil fields. Instead of helping marginal fields, the ELF formula now mostly provides a massive and unnecessary tax break to two fields which are not marginal at all -- Prudhoe Bay and Kuparuk. These are the largest oil fields in the United States, and two of the most profitable as well.

House Bill 118 would target tax breaks toward marginal fields and away from these two large, high-profit fields. The bill would give tax breaks to currently producing marginal fields such as Endicott and Lisburne and to prospective marginal fields at Niakuk, Point Thomson, Milne Point, and Seal Island. It would leave taxes at zero at West Sak and all the Cook Inlet fields. (See Graphic #2.)

In fact, HB 118 would cut -- or leave at zero -- the taxes on every oil field in Alaska except Prudhoe Bay and Kuparuk.

HB 118 would reduce the tax breaks given to Prudhoe Bay and Kuparuk. The current ELF gives a 20 percent tax break to Prudhoe Bay, and more than a 40 percent tax break to Kuparuk. HB 118 would reduce -- but not eliminate -- the tax breaks given to these two large fields.

Graphic #3 shows the tax savings provided by HB 118 for producers at all other fields except Prudhoe Bay and Kuparuk. Graphic #4 shows the increased revenues generated from Prudhoe Bay and Kuparuk by HB 118. The legislation on balance raises substantial revenues.

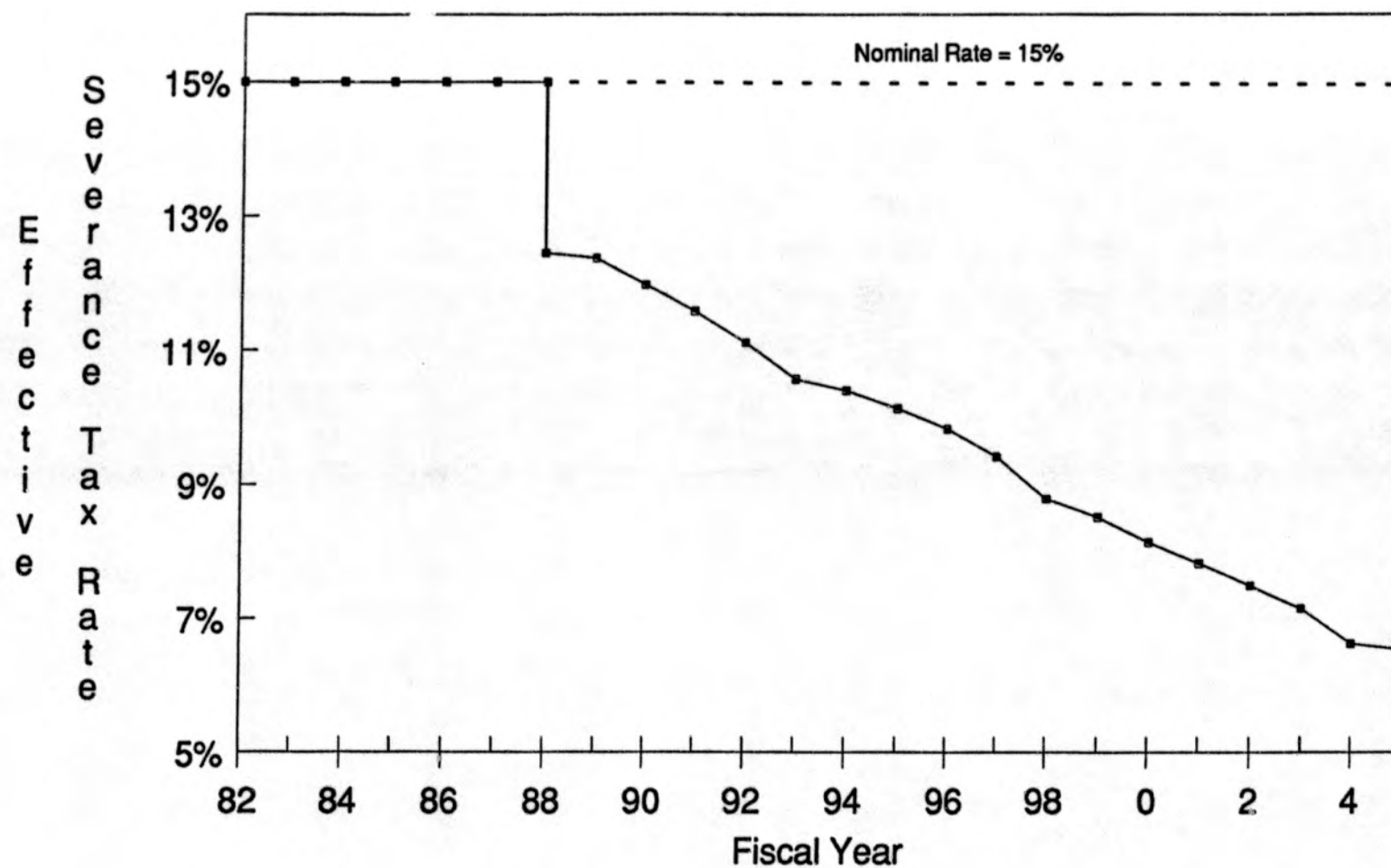
How much revenue would HB 118 raise?

HB 118 does not provide for an effective date, nor does it specify when it begins to apply. Assuming that the bill went into effect September 1, 1989 and applied to oil produced after August 31, 1989 -- and assuming the mid-case scenario projections of the Fall, 1988 Department of Revenue forecast -- the bill will raise \$132 million in Fiscal Year 1990.

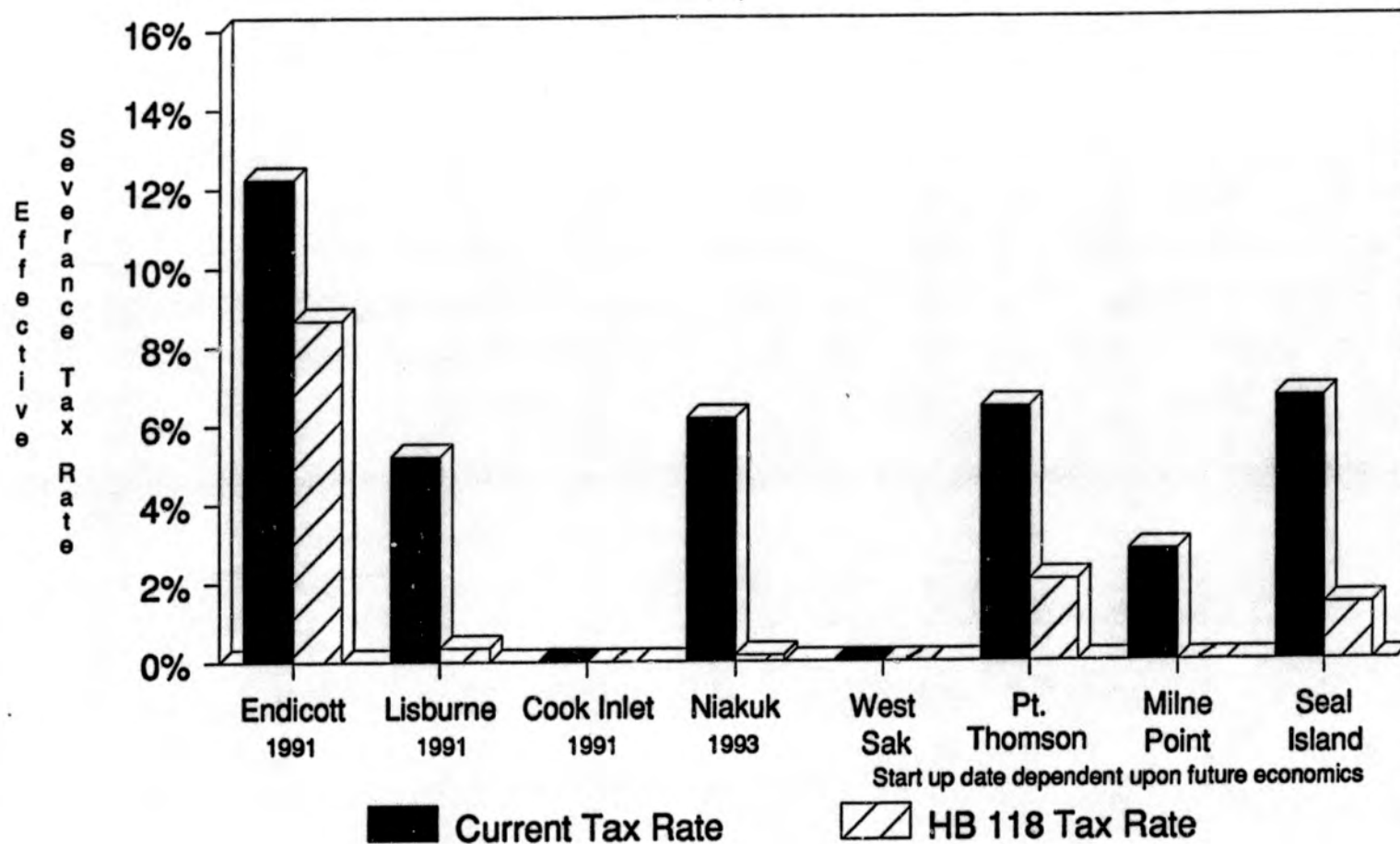
The legislation would raise much more money if it were retroactive. If the bill applied to oil produced after December 31, 1988, it would generate \$235 million for FY 89 and FY 90.

The long-term fiscal impact is substantial as well. For the FY 91 - FY 95 period, the legislation would raise \$981 million.

The Tax Rate at Prudhoe Bay Collapsed on July 1, 1987



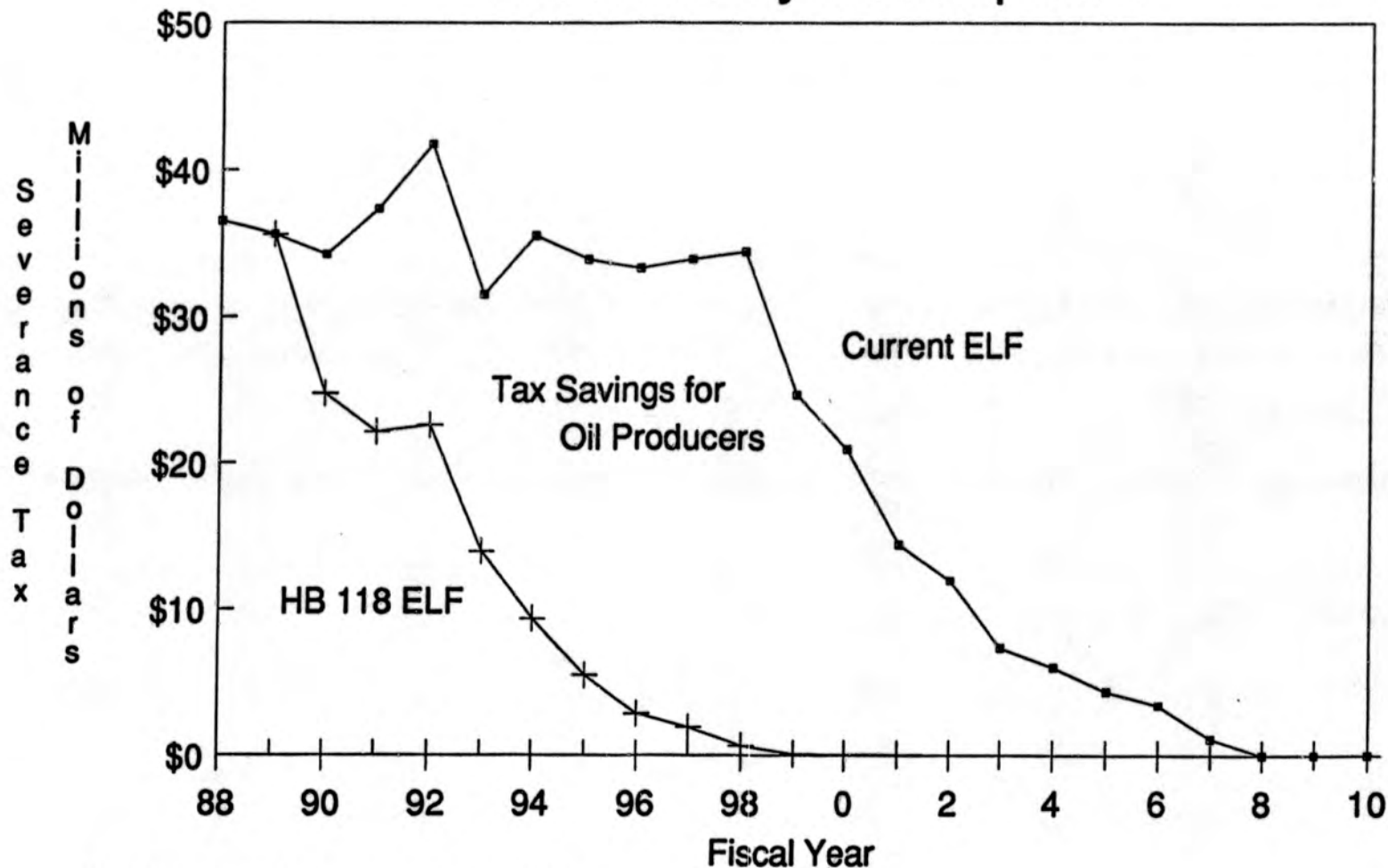
Fields Where Taxes Would Decrease Under HB 118 (For Representative Years)



Source: Department of Revenue

Date: February 7, 1989

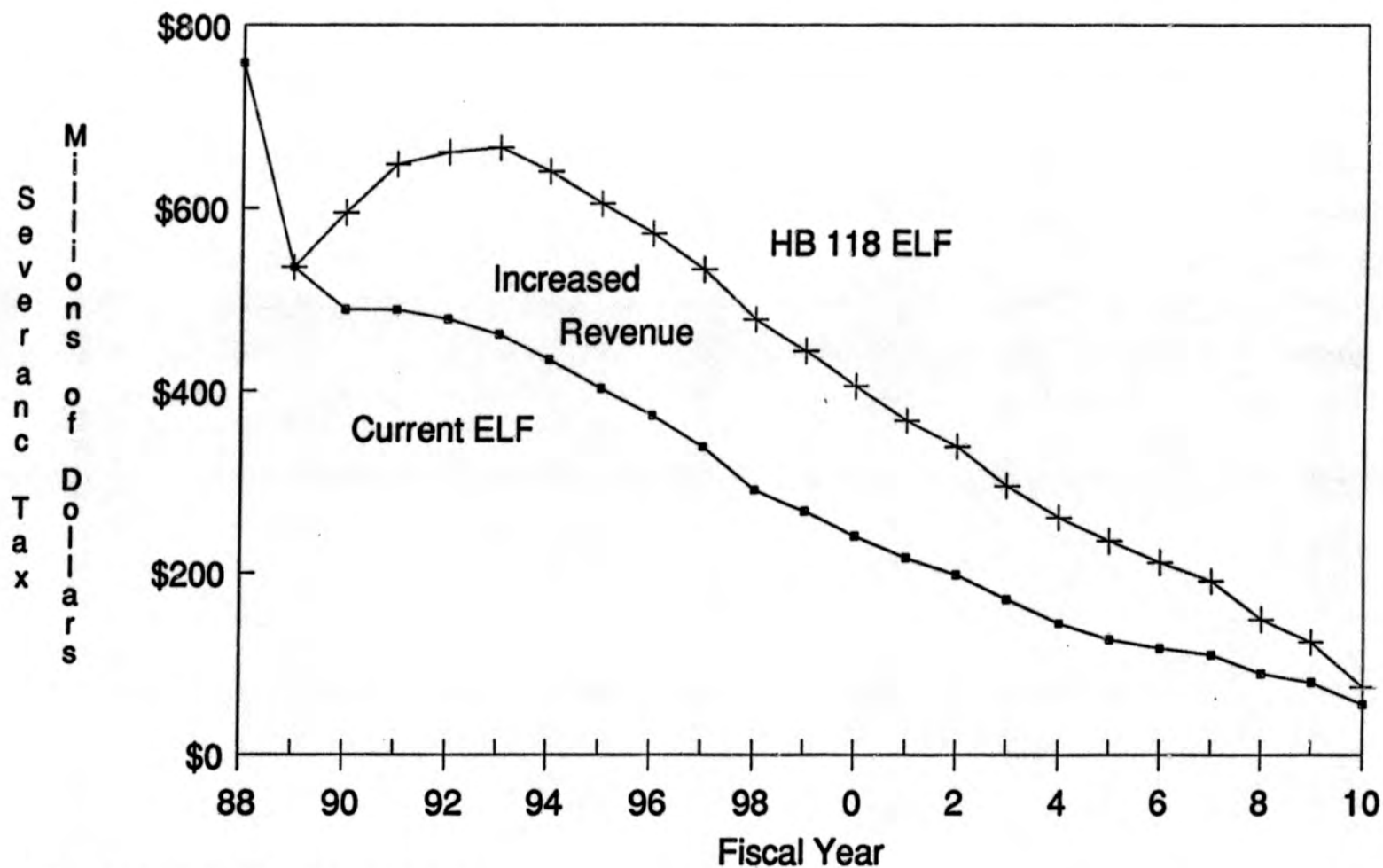
HB 118 Gives a Tax Savings for Producers at Oil Fields Other than Prudhoe Bay and Kuparuk



Note: Revenues are from severance taxes on fields other than Prudhoe Bay and Kuparuk

Date: February 15, 1989

HB 118 Raises More Severance Tax Revenue from Prudhoe Bay and Kuparuk



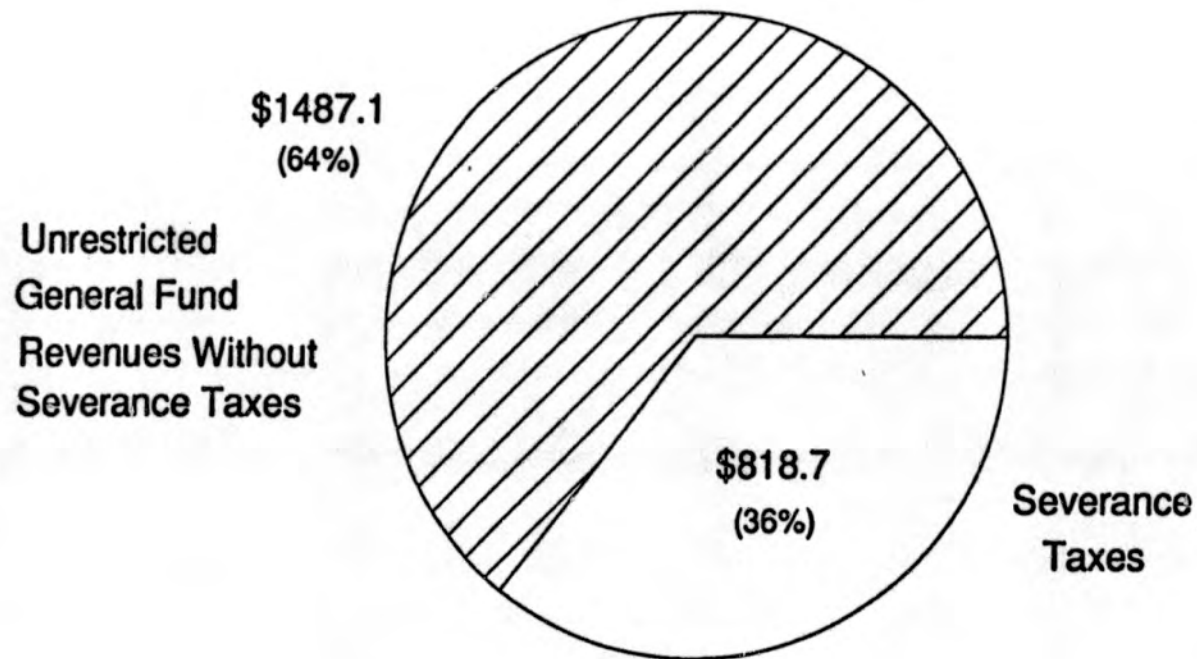
Note: Revenues are from severance taxes on Prudhoe Bay and Kuparuk

Date: February 15, 1989

SEVERANCE TAX, also called production tax, is a tax on oil removed from the ground. The tax compensates for the depletion of the state's non-renewable resources.

Date: February 7, 1989

Severance Taxes are an Important Part of Alaska's Revenues



\$2305.8
Total Unrestricted General Fund
Revenues For Fiscal Year 1988

Date: February 7, 1989

The Economic Limit Factor or ELF is a fraction which reduces severance taxes as well productivity declines.

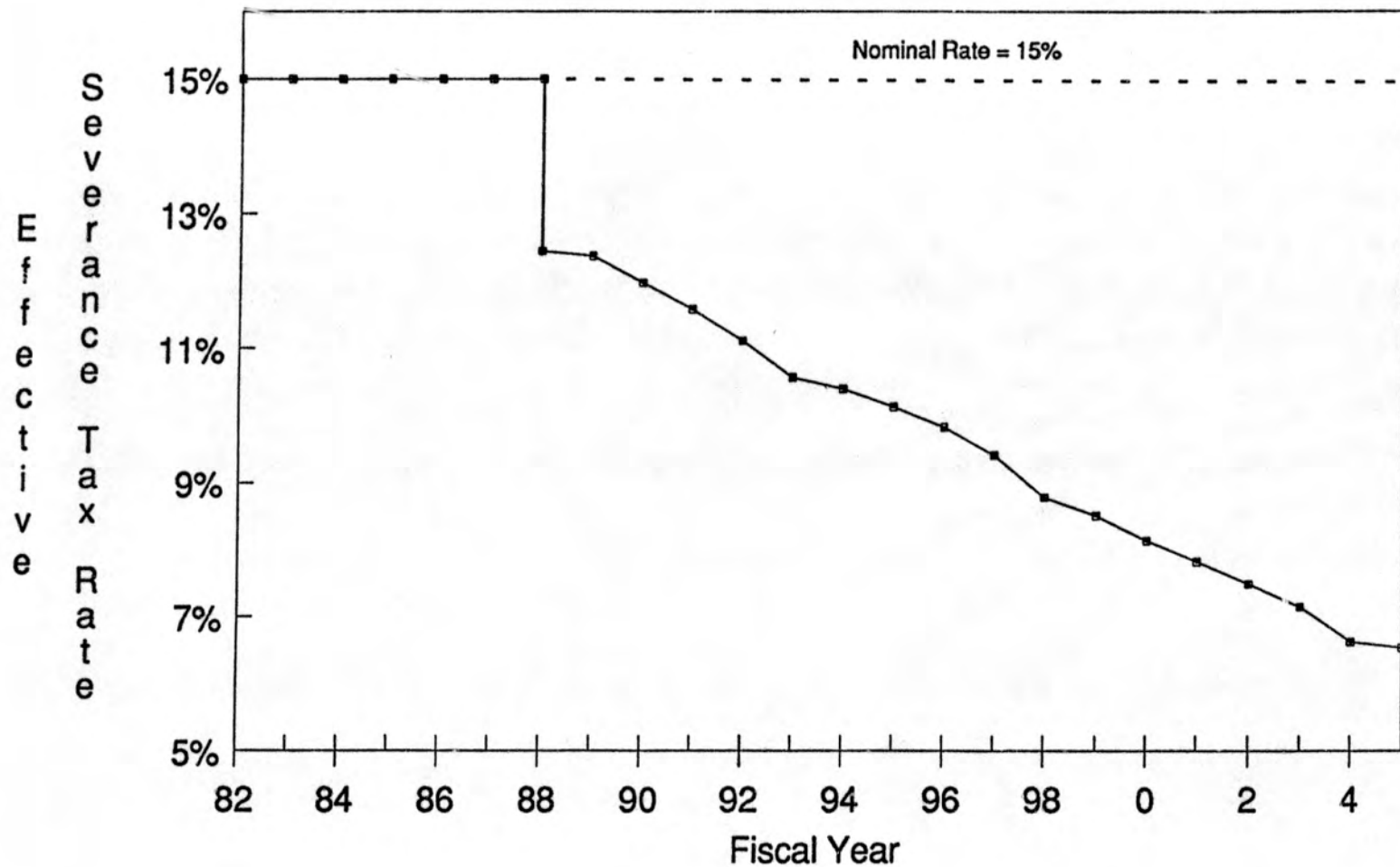
Date: February 7, 1989

EFFECTIVE SEVERANCE TAX RATE
equals nominal severance tax rate times ELF.

For example, 15.00% times 0.824 equals
an effective severance tax rate of 12.36 %

Date: March 3, 1989

The Tax Rate at Prudhoe Bay Collapsed on July 1, 1987



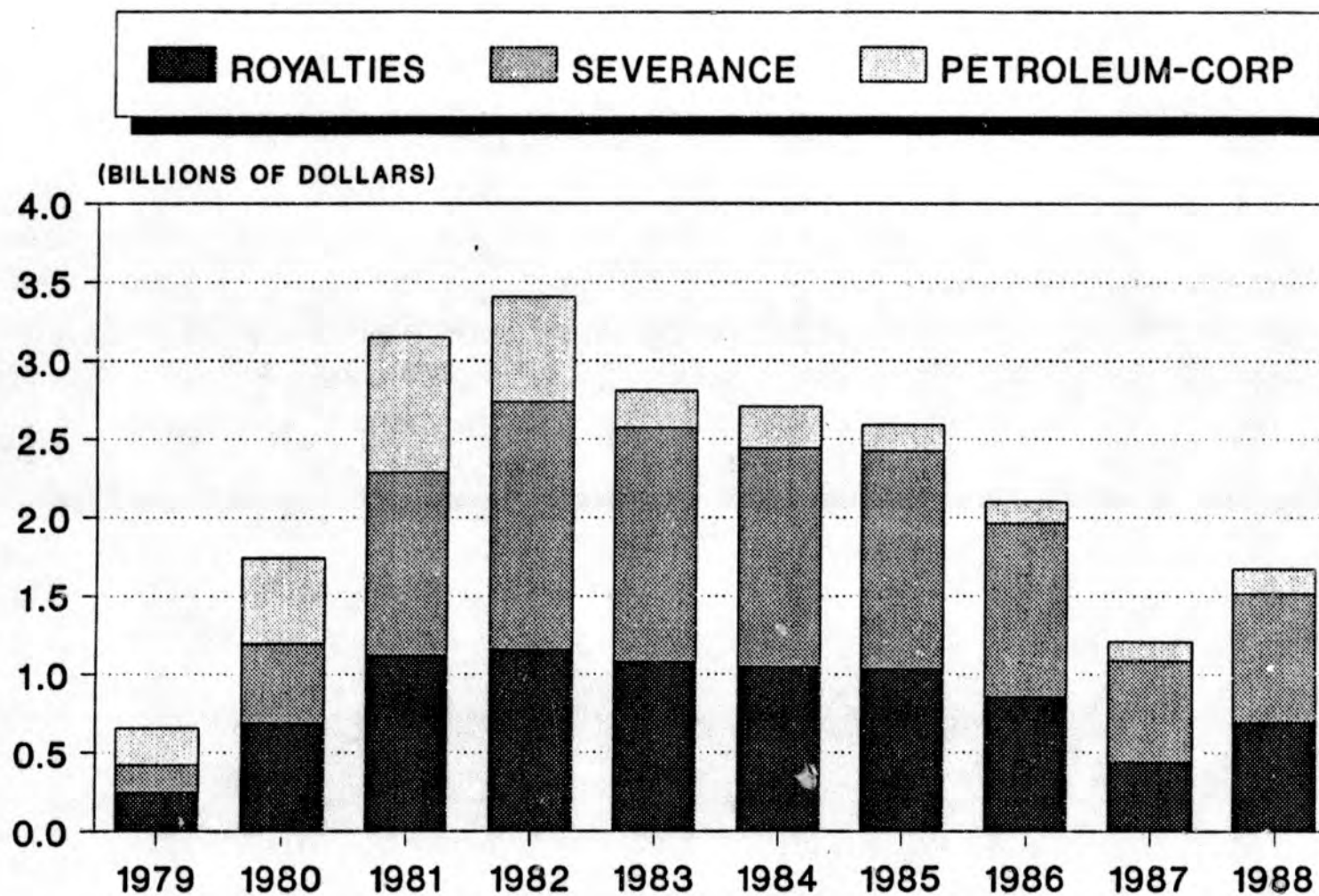
HOW REVENUE NEUTRAL WERE THE 1987 CHANGES?
(\$mm)

	<u>What collections would have been under pre 1982 Law</u>			<u>Actual Collections</u>			<u>Loss from change in Law</u>
	<u>Petro. Corp. Income Tax</u>	<u>Sev. Tax</u>	<u>Total</u>	<u>Petro. Corp. Income Tax</u>	<u>Sev. Tax</u>	<u>Total</u>	
1982	980	1219	2199	669	1582	2251	52
1983	915	1099	2014	236	1494	1730	(284)
1984	836	1033	1869	265	1393	1658	(211)
1985	812	1014	1826	169	1389	1558	(268)
1986	658	805	1463	134	1108	1242	(221)
1987	<u>375</u>	<u>464</u>	<u>839</u>	<u>120</u>	<u>649</u>	<u>769</u>	<u>(70)</u>
Total	4576	5634	10210	1593	7615	9208	(1002)*

*Had the Legislature authorized deduction of the Federal Windfall Profits Tax the total loss over the period would have been \$670 mm

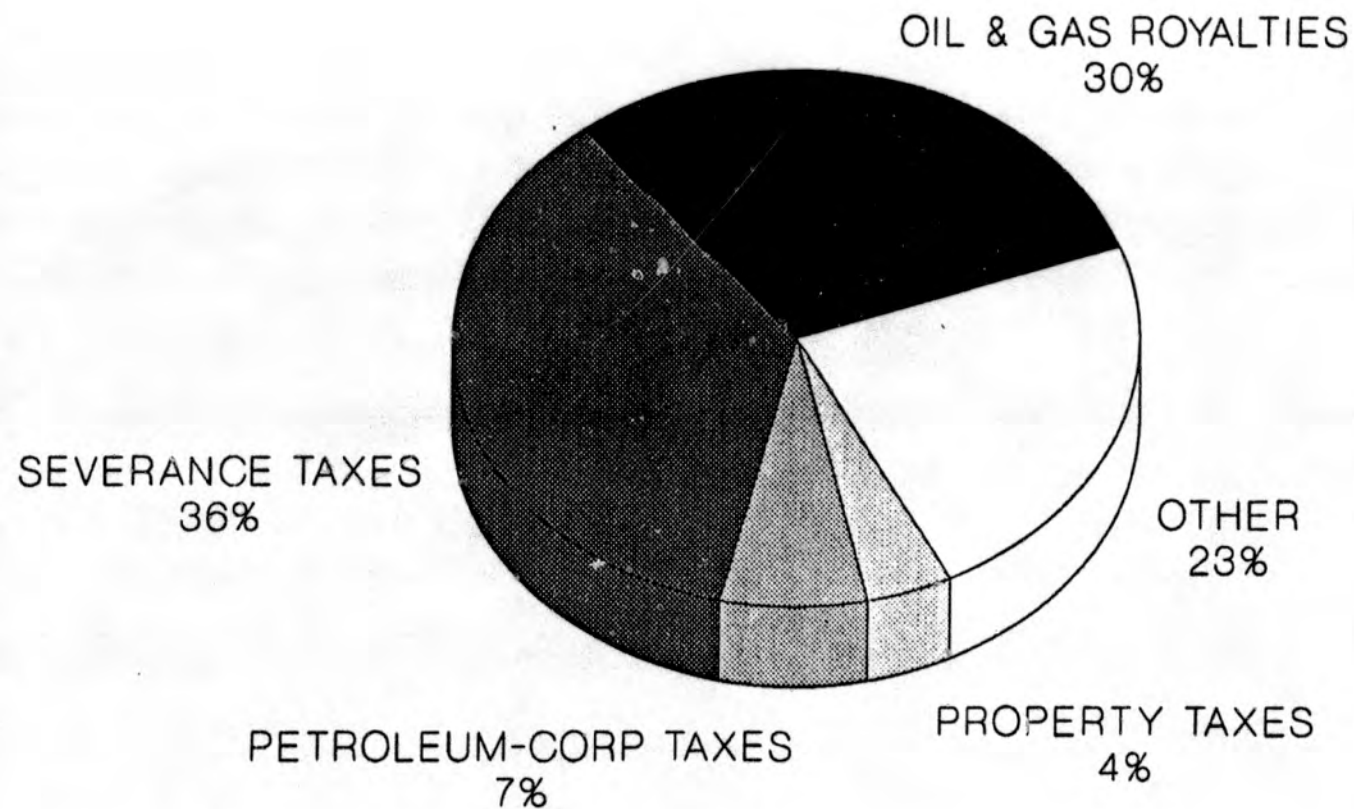
SELECTED PETROLEUM REVENUES

(FY 1979 - 1988)



(Alaska Department of Revenue-Research)

GENERAL FUND UNRESTRICTED REVENUES (FY 1988)



(Alaska Department of Revenue-Research)

Severance Tax Receipts as Percentage of Gross Wellhead Value -
Prudhoe Bay

<u>Year</u>	<u>Wellhead Price (\$/bbl)</u>	<u>Volume (mmbbl)</u>	<u>Gross Value (\$mm)</u>	<u>Sev Tax (\$mm)</u>	<u>Sev Tax as % of Gross Value</u>	<u>Loss from ELF (\$mm)</u>
1982	24.45	557	13619	1787	13.1%	NA
1983	20.27	560	11351	1499	13.1%	NA
1984	19.73	562	11088	1455	13.1%	NA
1985	18.48	564	10423	1368	13.1%	NA
1986	12.74	563	7173	941	13.1%	NA
1987	8.08	567	4581	601	13.1%	NA
(Suspension of ELF on Prudhoe Bay ends)						
1988	10.68	565	6034	657	10.9%	135
1989	7.36	540	3974	430	10.8%	92
1990	7.00	502	3514	368	10.5%	93
1991	7.56	466	3523	357	10.1%	105

Original sponsor: Finance Committee

1 IN THE HOUSE BY THE JUDICIARY COMMITTEE

2 SENATE CS FOR CS FOR HOUSE BILL NO. 118 (Judiciary)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 SIXTEENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act relating to the oil and gas properties pro-
7 duction tax."

8 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

9 * Section 1. AS 43.55.013(b) is repealed and reenacted to read:

10 (b) The economic limit factor for oil production of a lease or
11 property shall be computed according to the following formula:

12 $(1 - [PEL/TP]) \exp ([150,000/(TP/Days)] \exp [(460 \times WD)/PEL])$

13 where: PEL = the monthly production rate at the economic limit;

14 TP = the total production during the month for which the
15 tax is to be paid;

16 WD = the total number of well days in the month for which
17 the tax is to be paid;

18 Days = the number of days in the month for which the tax is
19 to be paid; and

20 exp = exponent.

21 * Sec. 2. AS 43.55.013(d) is repealed and reenacted to read:

22 (d) The monthly production rate at the economic limit for a
23 lease or property is 300 barrels times the number of well days for the
24 lease or property during the month for which the tax is to be paid.

25 * Sec. 3. AS 43.55.013(e) and 43.55.013(f) are repealed.

FISCAL NOTE

REQUEST:

Revision Date: April 4, 1989
Title: Oil & gas properties production
tax - ELF
Sponsor: House Finance Committee
Requestor: Senate Judiciary

Agency Affected: Department of Revenue
BRU: Oil & Gas Audit Division

Components: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
OPERATING						
PERSONAL SERVICES	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0
CONTRACTUAL	0	0	0	0	0	0
SUPPLIES	0	0	0	0	0	0
EQUIPMENT	0	0	0	0	0	0
LANDS & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	VARIES - SEE ESTIMATE ATTACHED					
	181,000	192,000	207,000	207,000		

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS: See attached page for analysis.

Prepared By: Roger Marks
Division: Dept. of Revenue, Oil & Gas Audit Division

Phone: 277-5627
Date: April 4, 1989

Approved by Commissioner: Hugh Malone
Agency: Department of Revenue

Date: 4/4/89

Distribution (by preparer):

Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

Fiscal Analysis of HB 118

This bill modifies the economic limit factor (ELF) formula used in computing the production (severance) tax on oil.

The bill (1) introduces the rate of field production into the exponent of the current ELF formula; (2) repeals the so-called "rounding rule," the provision of current law which states that for any month during the first 10 years of commercial oil production for which the computed ELF of a lease or property exceeds 0.7 the ELF shall be considered to be one; and (3) fixes the production at the economic limit (PEL) at 300 barrels times the number of well days in the month.

This bill does not explicitly state the date on which it first begins applying to oil production. That date will determine how much revenue is raised for FY 89 and FY 90. The following table shows the revenue raised for each date.

If the bill applies to oil produced after this date	Revenues Raised for FY 89	Revenues Raised for FY 90
12/31/88	64	171
01/31/89	50	171
02/28/89	37	171
03/31/89	24	171
04/30/89	12	171
05/31/89	0	171
06/30/89	0	158
07/31/89	0	145
08/31/89	0	132

The severance tax is paid monthly for the prior month. For example, the tax for production in April is due in May.

This fiscal note was calculated using the oil price and production assumptions of the Department of Revenue's Spring 1989 Petroleum Production Revenue Forecast mid-case scenario. That forecast was predicated on Alaska North Slope crude prices at the U.S. Gulf of \$14.29 a barrel in FY 89 and \$16.41 a barrel in FY 90.

Additional revenues for future years in millions of dollars are as follows:

1995	194
1996	180
1997	165
1998	157
1999	148
2000	139
2001	129
2002	110

2003	86
2004	69
2005	45
2006	21
2007	4
2008	(3)
2009	0
2010	0

A price - revenue matrix is included. It is based on an application date of December 31, 1988.

Price/Revenue Increase for HB 118
(Millions of \$)

Saudi Light (\$/bbl)	ANS @ US Gulf (\$/bbl)	Fiscal Year						
		1989	1990	1991	1992	1993	1994	1995
10	11	35	85	88	98	104	104	99
12	13	48	115	116	129	146	148	139
14	15	63	151	153	161	174	175	164
16	17	78	187	189	198	213	214	200
18	20	92	223	226	235	253	253	236
20	22	107	259	262	272	283	277	258

Price/Revenue Increase for SCS CSHB 118 (Judiciary)
(Millions of \$)

ANS @ US Gulf (\$/bbl)	Fiscal Year					
	1990*	1991	1992	1993	1994	1995
11	85	88	98	104	104	99
13	115	116	129	146	148	139
15	151	153	161	174	175	164
17	187	189	198	213	214	200
20	223	226	235	253	253	236
22	259	262	272	283	277	258

*Assumes 5/31/89 application date.

Size of Field Where Taxes Will Increase or Decrease Under HB 118

HB 118 modifies the ELF statute in two ways which affect the relationship of field size to the tax rate for the field: (1) by modifying the formula; and (2) by repealing the "rounding rule." (Under current law, if a field has an ELF of greater than 0.7 for the first ten years of the field, the ELF is elevated to 1.0. This is called the "rounding rule.") The combined effect of these two changes will increase the severance tax on fields producing an average of more than approximately 150,000 barrels per day, and will reduce the severance tax on fields producing an average of less than approximately 150,000 barrels per day. An analysis of these two changes and the underlying assumptions follows.

The change in the formula would raise taxes on fields which produce more than approximately 115,000 barrels per day and for which the rounding rule does not apply. (Only Prudhoe Bay and Kuparuk fit this description. The rounding rule does not apply to them now because Prudhoe Bay is older than ten years and Kuparuk's current ELF is less than 0.7.) The Bill would cut taxes -- or leave them at zero -- for any field producing less than approximately 115,000 barrels per day. If a field produces an average of less than 300 barrels per well per day, their taxes are zero under current law and the new Bill.

The Bill also initially decreases the ELF for new higher productivity (where average well productivity is greater than 1500 barrels per day) large fields (over the 115,000 barrel per day level). Under current law, fields producing more than an average of 1500 barrels per well per day will have an ELF of greater than 0.7, and would have an initial effective ELF of 1.0 because of the rounding rule. Since the first ten years of the field is when the greatest proportion of oil is produced (upwards of 75 percent), these large fields could have reduced weighted average severance taxes over the entire life of the field under the Bill since it eliminates the rounding rule.

The repeal of the rounding rule will only benefit fields whose ELF's would be greater than 0.7 for the first ten years of the field, and will only benefit such fields initially, the first ten years at most. (If the ELF for such a field dropped to 0.65 in year 4, for example, the proposed ELF only helps it out for the first three years.) Depending on the dynamics of the field, specifically its per well productivity and its decline profile as well as the discount rate used to evaluate the time value of money, the repeal of the rounding rule may or may not help such fields over the entire life of the field as measured by the weighted average severance tax rate over the life of the field. For instance, if a field has a reduced ELF for the first ten years, but an increased ELF for the next 20 years, its average severance tax rate over the 30 year period may or may not be lower under HB 118 than under current law.

The exact size of field that will benefit over the entire life of the field will depend on its well productivity, decline profile, and the discount rate. We estimate that a field with the same well productivity and decline characteristics as Endicott, for example, (which produces 100,000 barrels per day and produces 2500 barrels per well per day average), but with peak production of 280,000 barrels per day, would have the same discounted (8%) weighted average effective ELF over the life of the field under the Bill as it would under current law. Fields producing less than that amount would have a lower ELF than under current law.

The question was what size field would benefit from HB 118 and there were two answers. The first answer stems from the change in the formula itself and that was approximately 115,000 barrels per day. The second answer stems from the repeal of the rounding rule and that was estimated at 280,000 barrels per day. The final step necessary to get a single answer is to weight these two effects.

The two effects were weighted as follows. First, if a field produced less than 115,000 barrels per day, it would benefit from the formula. Second, it was assumed that if a field were to benefit from repeal of the rounding rule, it would be a field that produced 280,000 barrels per day. Finally, it was necessary to estimate the probability that a field would benefit from repeal of the rounding rule.

A field would benefit from repeal of the rounding rule if its ELF would be greater than 0.7 and it produced more than 115,000 barrels per day. To have an ELF of greater than 0.7, its average per well productivity must be approximately 1450 barrels per day or more. Thus, we need to see what is the probability of a field having average per well productivity of 1450 barrels per day and total production of greater than 115,000 barrels per day.

To gauge this probability, we looked at the characteristics of the fields actually producing in Alaska. There were five fields considered: Prudhoe Bay, Kuparuk, Milne Point, Lisburne, and Endicott. The prospective fields were not considered since their characteristics are not really known. The Cook Inlet fields were not considered since any field that will benefit from the proposed ELF is probably on the North Slope.

Of the five fields, only one, Prudhoe Bay, had production of greater than 115,000 barrels per day and average well productivity of greater than 1450 barrels per day. Thus, there is a one in five chance (0.2) that a field would have these characteristics. The two effects were weighted as follows:

$$\begin{array}{rcl} .2 \times 280,000 & = & 56,000 \\ + .3 \times 115,000 & = & \underline{92,000} \\ & & 148,000 \end{array}$$

That is how the 150,000 barrel figure was derived.

SECTIONAL ANALYSIS OF SCS CSHB 118 (JUDICIARY): LEGISLATION REVISING
THE ECONOMIC LIMIT FACTOR

Section 1. This section modifies the severance tax's Economic Limit Factor (ELF) as it relates to oil production.

Under current law and under this section, the ELF statute reduces the effective severance tax rate on oil production by applying a formula which considers productivity. The ELF formula always produces a fraction between zero and one. That fraction is multiplied with the nominal tax rate to get the effective tax rate. This means that the higher the ELF, the higher the actual tax paid; the lower the ELF, the lower the actual tax paid. This also means that if the ELF is zero, the severance tax rate is zero.

This section changes the ELF statute in two ways.

First, this section modifies the formula for calculating the "economic limit" of oil production. The current law considers only average per-well productivity of the field. The formula here adds consideration of total field productivity to the current ELF formula. Second, this section repeals the provision of current law which states

that for any month during the first 10 years of commercial oil production for which a lease or property's computed ELF exceeds 0.7, the ELF shall be considered to be one. This section's repeal of this "rounding" rule of current law would result in initial lower taxes for any field in this situation.

Compared to current law, these two changes raise taxes on fields producing on average more than 150,000 barrels a day and reduce taxes on fields producing on average less than 150,000 barrels a day.

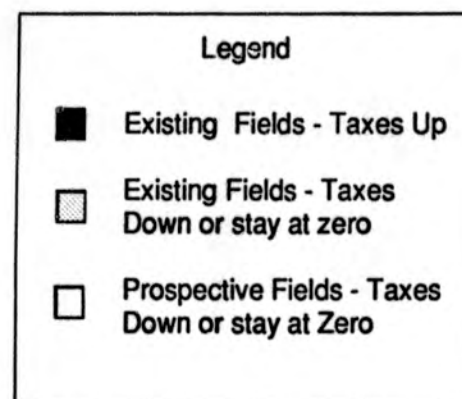
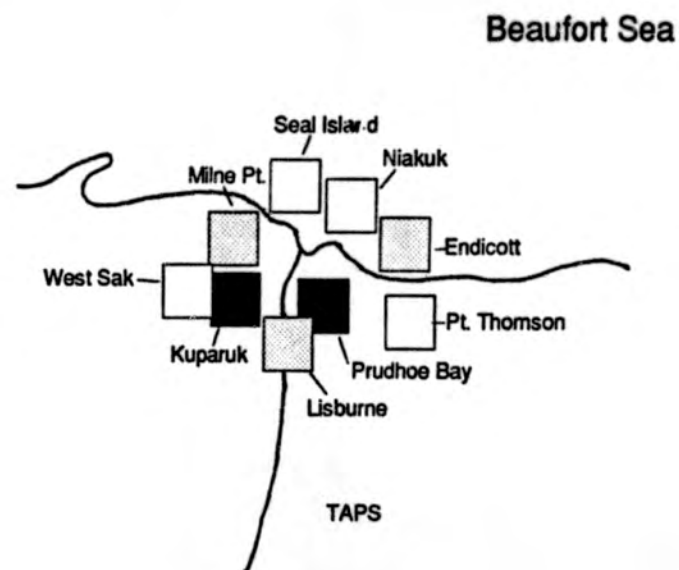
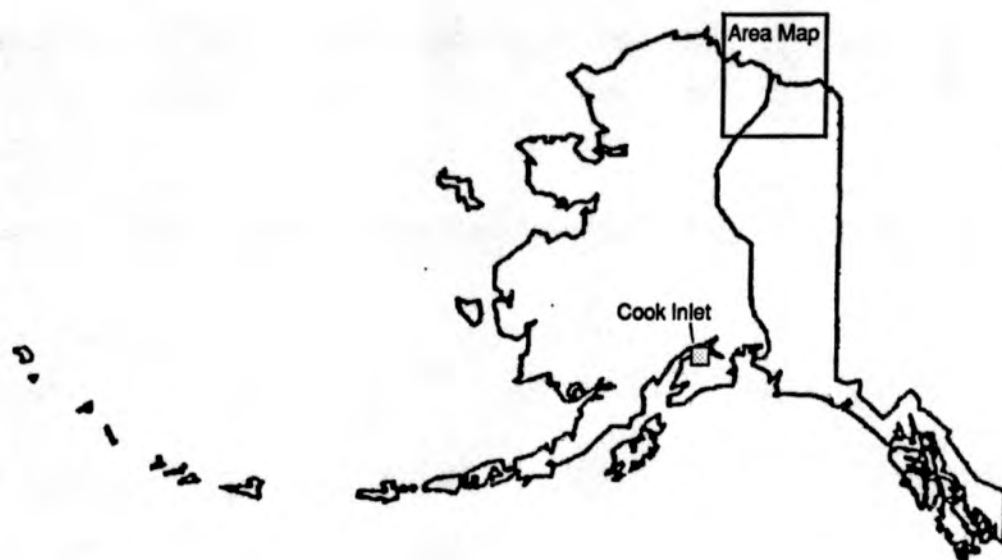
Section 2. This section fixes the monthly production at the economic limit (PEL) at 300 barrels per well per day. The PEL is a rough approximation of the number of barrels a well must produce to cover costs.

Under current law, the PEL is presumed to be 300 barrels a day, and the taxpayer may rebut this presumption at a hearing. This section repeals the provisions for rebutting the 300 barrel per day presumption.

Section 3. This section repeals two provisions of current law which are only necessary for setting a PEL in a hearing.

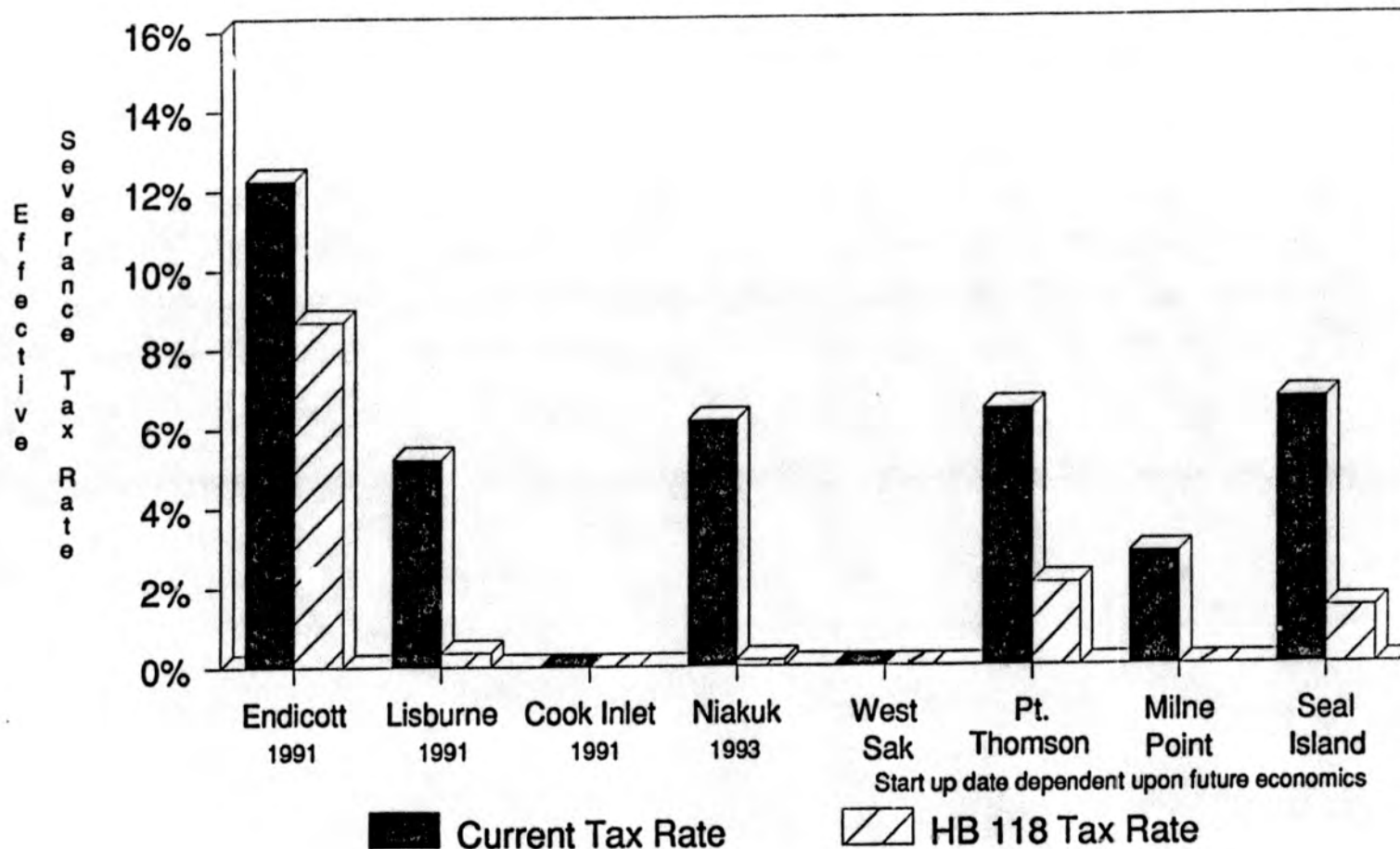
Section 4. This section applies the legislation to oil produced after December 31, 1988.

State of Alaska Approximate Field Locations (Current and Prospective Fields)



Date: April 20, 1989

Fields Where Taxes Would Decrease Under HB 118 (For Representative Years)



Source: Department of Revenue

Date: February 7, 1989

Fields Where Taxes Would Increase Under HB 118

<u>Field</u>	<u>Current Tax Rate¹</u>	<u>HB 118 Tax Rate¹</u>
Prudhoe Bay	11.59	14.91
Kuparuk	8.36	13.18

¹ Estimated effective severance tax rate for 1991.

Date: February 7, 1989

Effective Severance Tax Rates Under Different ELF Formulas

<u>Field</u>	<u>Volume</u> <u>(mmbbl/day)</u>	<u>Wells</u>	<u>Current</u> <u>Law</u>	<u>SB</u> <u>97</u>	<u>HB</u> <u>118</u>
Prudhoe	1.452	634	12.1%	14.7%	14.9%
Kuparuk	.279	342	7.4%	11.1%	12.6%
Milne ('91)	.031	39	5.9%	0.8%	0.1%
Endicott	.106	44	12.3%	9.8%	9.8%
Lisburne	.044	60	5.4%	1.3%	0.4%
Niakuk ('93)	.021	12	12.3%	2.4%	0.3%

Based on the mid-case scenario of the Department of Revenue's Spring 1989 forecast for FY 1990, unless otherwise indicated. Nominal rates are 15% for Prudhoe Bay and Kuparuk and 12.25% for the other fields. Well numbers are adjusted for well days.

Synopsis of Alaska Fields

<u>Field</u>	<u>Volume (bbls/day)</u>	<u>Wells</u>	<u>Daily Volume p/well</u>
<u>Current Fields</u>			
<u>North Slope</u>			
Prudhoe Bay	1,471,701	709	2076
Kuparuk	312,319	331	944
Lisburne	36,441	55	663
Endicott	98,774	39	2533
<u>Cook Inlet</u>			
Beaver Creek	322	2	161
Granite Point	7,351	29	253
McArthur River	18,872	75	252
Middle Ground Shoals	7,494	41	183
Swanson River	5,162	27	191
Trading Bay	3,638	40	91
<u>Prospective Fields</u>			
Milne Point	30,000	40	750
West Sak	150,000	4000	38
Point Thomson	50,000	50	1000
Seal Island	100,000	100	1000
Niakuk	20,000	12	1667

For current fields, actual February 1989 data. For prospective fields, the expected values at peak production.

Top Ten Lower 48 Fields

	<u>Volume (bbls/day)</u>	<u>Wells</u>	<u>Daily Volume p/well</u>	<u>*Effctv Sev Tax Rate - Alaska Law</u>
1. Belridge South (CA)	165,981	6000	28	0.00%
2. Midway-Sunset (CA)	157,526	9180	17	0.00%
3. Kern River (CA)	128,490	6709	19	0.00%
4. East Texas (TX)	111,225	9363	12	0.00%
5. Elk Hills (CA)	107,244	1099	98	0.00%
6. Yates (TX)	91,890	1146	80	0.00%
7. Wilmington (CA)	81,975	2050	40	0.00%
8. Wason (TX)	78,510	2152	36	0.00%
9. Spraberry Trend (TX)	60,585	7321	8	0.00%
10. Slaughter (TX)	55,792	3001	19	0.00%

*Either Current Alaska Law or HB118.

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P.2

U.S. fields with reserves exceeding 100 million bbl

State	Field	Disc. date	1988 prod. 1,000 bbl	Cum. prod. 1-1-89 1,000 bbl	Est. rem. reserves	Est. No. wells
ALABAMA						
	Citronelle, 1955.....		1,827	147,861	7,000	435
ALASKA						
	Endicott, 1978.....		36,098	43,098	324,902	37
	Grande Point, 1965.....		2,787	109,535	16,213	29
	Kuparuk River, 1969.....		112,055	503,397	994,945	328
	Lisburne, 1957.....		14,600	35,600	175,689	49
	McArthur River, 1965.....		7,040	529,040	34,960	76
	Middle Ground Shoal, 1962.....		2,737	155,889	5,263	42
	Prudhoe Bay, 1967.....		576,335*	6,053,018*	3,533,665	691
	Swanson River, 1957.....		2,154	209,490	8,846	29

*Includes about 30.66 million bbl of condensate. †Includes about 138.66 million bbl of condensate.

ARKANSAS

	Smackover, 1922.....		2,654	556,907	9,097	2,100
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CALIFORNIA

	San Joaquin Valley					
	Bainbridge South, 1911.....		60,583	677,063	435,285	6,000
	Buena Vista, 1909.....		1,574	647,274	39,271	895
	Coalinga, 1890.....		10,212	753,845	161,198	2,174
	Coalinga Nose, 1923.....		1,285	458,665	17,370	78
	Coles Levee North, 1938.....		442	160,432	2,748	85
	Cuyama South, 1949.....		469	213,191	6,938	105
	Cymme, 1909.....		8,479	199,303	40,000	1,013
	Edison, 1909.....		1,470	134,391	25,670	674
	Elk Hills, 1911.....		39,144	693,374	579,776	1,099
	Fruitvale, 1923.....		577	115,553	13,709	274
	Grealey, 1936.....		237	112,547	1,763	27
	Kern Front, 1912.....		1,500	173,056	55,230	950
	Kern River, 1939.....		46,899	1,204,479	743,000	6,709
	Kettleman North Dome, 1928.....		172	456,648	1,298	44
	Lost Hills, 1910.....		5,627	178,293	61,603	1,634
	McKittrick, 1926.....		2,551	266,522	90,919	931
	Midway-Sunset, 1934.....		57,497	1,679,347	373,963	9,180
	Mount Poso, 1926.....		6,620	263,250	79,220	411
	Rio Bravo, 1937.....		151	115,051	1,319	15
	Yorba Linda, 1974.....		6,570	81,368	27,015	65
	Coastal Area					
	Carpinteria, 1965.....		2,650	88,101	29,289	114
	Cat Canyon E. & W., 1908.....		2,735	238,236	46,930	512
	Des Cuadras, 1969.....		4,371	212,374	54,140	140
	Elwood, 1923.....		317	105,705	2,283	7
	Hondo, 1959.....		9,952	89,621	112,223	20
	Orcutt, 1901.....		906	165,874	10,236	136
	Point Pedernales, 1982.....		6,515	11,715	331,344	10
	Rincon, 1927.....		1,118	148,759	14,832	240
	San Ardo, 1947.....		4,641	408,351	122,903	600
	Santa Maria valley, 1934.....		1,751	198,131	40,408	172
	South Mountain, 1915.....		727	145,584	12,035	352
	Ventura, 1919.....		7,072	894,742	97,026	570
	Los Angeles Basin					
	Beta, 1976.....		6,013	40,423	173,825	60
	Beverly Hills, 1900.....		2,034	122,615	42,356	116
	Brea Clinda, 1980.....		2,143	383,394	54,787	720
	Coyote East, 1909.....		584	108,663	13,212	103
	Coyote West, 1909.....		808	249,569	7,481	113
	Dominguez, 1923.....		607	269,266	7,448	113
	Huntington Beach, 1920.....		5,816	1,066,368	72,044	990
	Inglewood, 1924.....		2,790	345,453	54,149	356
	Long Beach, 1921.....		2,466	909,757	17,216	410
	Montebello, 1917.....		525	192,357	10,267	155
	Richfield, 1919.....		1,494	189,165	27,412	203
	Santa Fe Springs, 1919.....		987	613,077	9,036	151
	Seal Beach, 1924.....		876	203,118	14,113	168
	Torrance, 1922.....		1,693	212,023	35,847	365
	Wilmington, 1932.....		29,921	2,292,229	495,633	2,050

COLORADO

	Rangely, 1933.....		12,492	739,418	35,000	488
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FLORIDA

	Jay, 1970.....		4,676	360,612	55,944	121
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ILLINOIS

	Clay City, 1938.....		2,448	393,860	6,000	2,600
	Lawrence, 1906.....		2,919	394,521	5,500	2,700
	Louden, 1936.....		1,345	388,237	3,555	1,340
	Main, 1906.....		2,066	233,273	3,000	3,356
	New Harmony, 1939.....		1,072	153,545	4,000	1,140
	Salem, 1938.....		2,167	386,983	4,500	1,325

KANSAS

	Bemis-Shuttles, 1928.....		1,169	244,247	4,405	973
	Chase-Silica, 1930.....		1,019	301,003	4,499	1,103
	El Corado, 1915.....		839	296,734	2,615	822
	Hall-Gurney, 1931.....		1,032	145,677	4,051	1,130
	Trapp, 1929.....		1,200	225,858	4,643	1,000

LOUISIANA

	Offshore					
	Bay Marchand Blk. 2, 1949.....		5,547	596,972	53,758	120
	Eugene Island Blk. 330, 1930.....		7,859	209,090	55,920	169
	Grande Isle Blk. 16, 1948.....		1,659	263,729	85,645	44
	Grande Isle Blk. 43, 1956.....		4,312	272,256	85,688	126
	Mississippi Canyon Blk. 194, 1980.....		4,929	116,858	76,311	44
	Main Pass Blk. 41, 1957.....		2,985	237,854	23,384	112
	Main Pass Blk. 336, 1969.....		1,776	201,869	78,335	94
	South Pass Blk. 27, 1954.....		1,659	125,317	73,198	118
	South Pass Blk. 61, 1968.....		8,140	152,151	45,000	156
	South Pass Blk. 62, 1965.....		3,331	106,364	81,594	73
	South Pass Blk. 55, 1969.....		4,032	100,875	89,252	61
	Ship Shoal Blk. 204, 1968.....		1,591	66,070	38,930	40
	Ship Shoal Blk. 207, 1967.....		1,023	87,818	38,000	25
	Ship Shoal Blk. 208, 1962.....		4,117	160,169	65,274	67
	South Timber Blk. 21, 1939.....		1,324	216,239	47,133	45
	South Timber Blk. 135, 1956.....		1,390	139,337	25,663	37
	West Delta Blk. 30, 1949.....		6,754	446,083	47,375	153
	West Delta Blk. 73, 1952.....		4,469	188,700	86,231	73
	Onshore South					
	Bay de Chene, 1941.....		390	96,382	17,932	24
	Bay St. Elaine, 1928.....		321	164,808	25,292	18
	Bayou Sole, 1941.....		769	161,269	3,417	20
	Black Bay West, 1953.....		1,971	144,799	10,432	94
	Callicou Island, 1930.....		2,308	602,231	74,020	136
	Cote Blanche Bay West, 1940.....		741	181,594	46,374	86
	Delta Farms, 1944.....		293	115,351	7,019	13
	Garden Island Bay, 1934.....		1,406	221,261	31,954	144
	Golden Meadow, 1938.....		894	135,439	4,290	176
	Grand Bay, 1938.....		454	170,514	3,760	41
	Hackberry, East, 1927.....		777	109,087	7,603	60
	Hackberry, West, 1928.....		1,771	141,995	6,492	107
	Iowa, 1931.....		134	99,303	697	25
	Jennings, 1901.....		315	116,409	700	181
	Lafitte, 1935.....		1,665	255,304	9,550	111
	Lake Barre, 1929.....		941	204,023	20,051	31
	Lake Pelto, 1929.....		477	117,000	17,415	23
	Lake Washington, 1931.....		2,353	242,390	16,376	93
	Leeville, 1931.....		447	141,646	7,221	37
	Parad's, 1939.....		725	126,650	8,600	31

FEB 08 '89 11:19 FENNELL - TULSA

P.3

State	Field	Disc. date	1988 prod.	Cum. prod. 1-1-89 1,000 bbl	Est. rem. reserves	Est. No. wells
Quarantine Bay, 1937...			761	172,672	1,654	71
Timbalier Bay, 1938						
Venice, 1937			858	181,978	7,590	59
Vinton, 1910			287	161,001	800	96
Weasa Island, 1945			816	225,939	21,355	33
West Bay, 1940			1,349	228,246	16,355	79
North						
Caddo-Pine Island 1905			3,310	360,899	12,888	10,688
Deihi, 1944			673	211,707	34,651	58
Haynesville, 1921			761	168,237	2,373	166
Homer, 1919			434	98,375	1,908	198
Rodessa, 1935			331	106,027	1,506	67

MISSISSIPPI

Baxterville, 1944	2,509	239,154	10,391	316
Heiderberg, 1944	2,823	174,809	12,171	316
Tinsley, 1939	834	29,677	3,197	173

MONTANA

Bell Creek, 1957	958	128,836	22,984	91
Cut Bank, 1925	994	162,459	37,169	575
Pine, 1951	1,302	105,145	5,657	96

NEW MEXICO

Denton, 1949	652	138,693	3,000	179
Empire-Abo, 1957	1,424	219,993	50,017	405
Eunice-Monument, 1929	2,500	125,414	10,854	879
Hoops, 1928	8,430	297,482	20,000	613
Majama, 1925	1,665	144,961	5,070	851
Vacuum, 1923	12,359	432,242	40,000	1,556

NORTH DAKOTA

Beaver Lodge, 1951	1,704	111,574	16,684	132
Billings Nose, 1978	2,550	61,699	51,744	153
Little Anne, 1977	3,392	51,437	57,924	131
Mondak, 1976	439	13,165	82,837	96

OKLAHOMA

Burbank, 1920	1,135	536,746	8,377	1,105
Eola-Roberson, 1920	746	153,124	8,210	603
Fitts, 1934	2,963	199,894	12,000	589
Glenn Pool, 1905	1,170	327,865	5,000	714
Golden Trend, 1945	4,332	474,100	28,000	1,396
Healdton, 1913	1,938	334,645	9,553	1,000
Hewitt, 1919	3,152	268,371	13,615	923
Oklahoma City, 1928	802	816,170	5,966	174
Poste, 1955	1,215	106,393	14,921	226
Sho-vel-Tum, 1905	18,298	1,167,379	60,000	7,616
Sooner Trend, 1945	4,147	255,544	20,000	4,746

TEXAS

District 2				
Greta, 1933	748	147,570	12,530	100
Lake Pasture, 1953	2,184	87,784	12,644	143
Tom O'Connor, 1934	10,350	747,845	55,000	646
West Ranch, 1938	2,640	350,034	8,504	307

District 3				
Anahuac, 1935	1,068	284,888	15,112	106
Conroe, 1931	3,864	727,215	33,728	278
Giddings, 1971	8,668	278,570	148,032	2,281
Hartsgill, 1934	3,084	697,237	72,764	206
Magnet Withers, 1935	1,834	110,960	5,000	150
Oyster Bayou, 1941	864	160,204	18,036	39
Thompson, 1931	3,972	472,540	27,350	262
Tomball, 1933	402	121,055	9,858	85
Webster, 1937	5,304	573,197	20,000	243

District 4				
Agua Dulce-Stratton, 1928	360	146,623	24,751	94
Bonegas, 1945	192	114,021	20,186	40
Kelsey, 1938	200	114,359	36,247	60

State	Field	Disc. date	1988 prod.	Cum. prod. 1-1-89 1,000 bbl	Est. rem. reserves	Est. No. wells
Plymouth, 1925			400	122,823	3,300	60
Seeligson, 1925			156	271,483	55,544	42
TCB, 1944			456	112,700	52,358	30
White Point E, 1938			60	104,034	6,340	21

District 5						
Alabama Ferry, 1983			3,600	14,600	86,400	253
Van, 1928			3,096	521,950	15,000	366

District 6				
East Texas, 1930.....	40,597	5,008,747	988,759	9,363
Fairway, 1950.....	2,424	192,591	17,777	100
Hawkins, 1940.....	8,244	821,644	42,372	442
Neches, 1953.....	1,416	103,980	6,036	163
Quitman, 1948.....	1,680	121,346	8,440	208

District 8				
Andecor, 1946.....	1,500	181.888	6,500	28
Block 31, 1945.....	3,556	220.068	12.000	325
Cowden, N., 1930.....	13,596	488.092	40,000	1,210

Cowden, S. Foster, Johnson, 1932	9,696	500,796	40,000	1,593
Dollarice, 1945	2,568	193,780	11,448	202
Dune, 1938	2,928	183,000	18,704	771
Fullerton, 1942	7,452	348,200	22,000	870
Goldsmith, 1934	7,248	755,516	33,752	2,036
Howard Glasscock, 1925	5,844	404,508	26,000	2,209
Jatan, E., 1925	3,372	142,955	12,000	1,304
Jordan, 1937	480	129,975	2,520	135
Keystone, 1920	1,872	313,050	9,374	812
McElroy, 1926	7,894	465,549	56,800	1,600
Means, 1934	7,020	228,598	20,000	713
Midland Farms, 1944	4,608	241,990	18,616	415
Sand Hills, 1931	2,760	248,207	21,500	1,312
TXL, 1944	2,004	262,515	6,500	600
Waddell, 1927	708	100,712	3,792	188
Ward Estes, N., 1929	3,408	364,177	76,416	1,562
Westbrook, 1923	2,000	88,000	16,000	718
Yates, 1925	33,540	1,171,820	782,685	1,146

District 8-A					
Anton-Israh, 1944.....	3,554	175,910	24,190	239	
Cogdell Area, 1949.....	1,656	252,219	41,234	103	
Diamond M., 1948.....	1,908	239,415	16,053	474	
Kelly-Snyder, 1948.....	11,552	1,234,962	115,039	805	
Levelland, 1938.....	17,328	464,144	50,000	3,012	
Prentice, 1951.....	6,216	161,036	20,000	437	
Salt Creek, 1950.....	10,404	247,340	12,552	173	
Seminole, 1935.....	17,004	524,765	35,000	624	
Slaughter, 1935.....	20,354	1,029,800	50,000	3,001	
Spraberry Trend, 1951..	22,212	653,388	50,000	7,321	
Wesson, 1925.....	28,656	1,711,898	60,000	2,152	
Welch, 1942.....	3,324	144,225	14,000	651	

District 10				
Pannancie, 1921.....	7,812	1,423,286	41,240	11,643

UTAH

Altamont, 1955	3,047	89,493	231,216	227
Aneth, 1955	5,340	354,004	30,000	461
East Anschutz Ranch, 1979	12,755	80,365	727,799	28
Red Wash, 1951	1,075	77,511	13,377	146

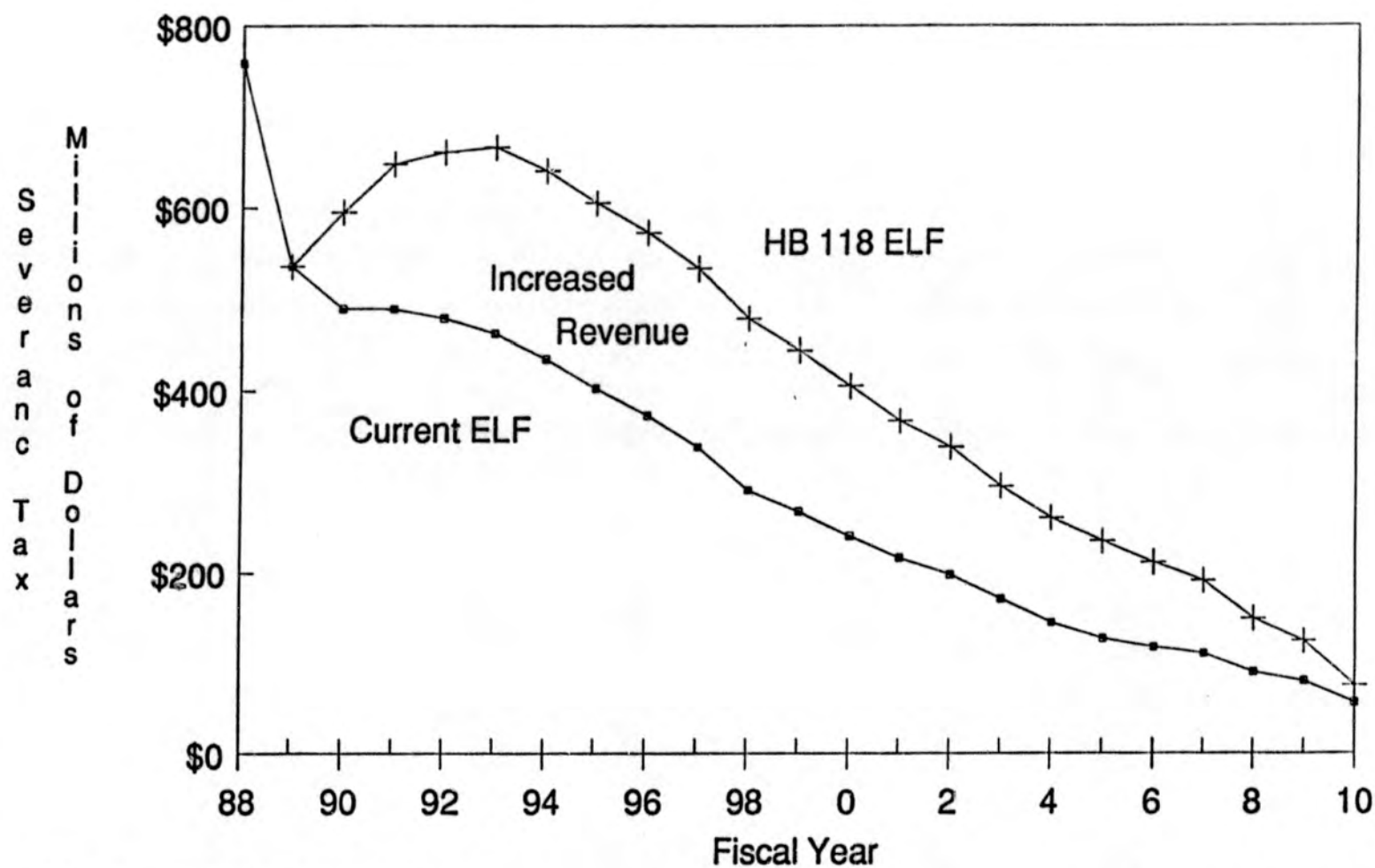
WYOMING

Brady, 1960	2,438	54,537	49,251	22
Byron, 1918	1,119	120,638	7,656	67
Elk Basin, 1915	2,968	446,695	25,750	170
Frannie, 1928	1,122	116,020	5,000	63
Gariand, 1906	2,625	154,825	6,000	225
Grass Creek, 1914	2,414	185,120	9,000	288
Hamilton Dome, 1918	2,853	268,103	6,000	239
Hartwig Draw, 1976	6,647	66,722	283,739	157
HiLite, 1969	541	75,416	55,885	93
Lance Creek, 1918	163	107,605	400	24
Little Buffalo Basin, 1914	2,666	118,653	9,389	154
Lost Soldier, 1916	2,308	192,073	6,000	71
Oregon Basin, 1912	8,669	388,150	30,000	500
Painter Reservoir, 1979	1,739	31,674	80,674	31
Salt Creek, 1906	5,210	629,689	25,000	1,217
Wertz, 1920	3,500	99,695	15,000	65
Whitney Canyon, 1980	1,652	10,379	105,485	29

Department of Revenue
April 20, 1989

There is no statutory or precise legal definition of the term "marginal field." The proposed ELF modifications benefit "marginal fields" in the same way that a graduated personal income tax benefits poorer people; the law need not contain a precise definition of the term. Generally, the term "marginal field" refers to a field whose relatively low total daily production and/or relatively low average per well productivity adversely affect the economics of its operation.

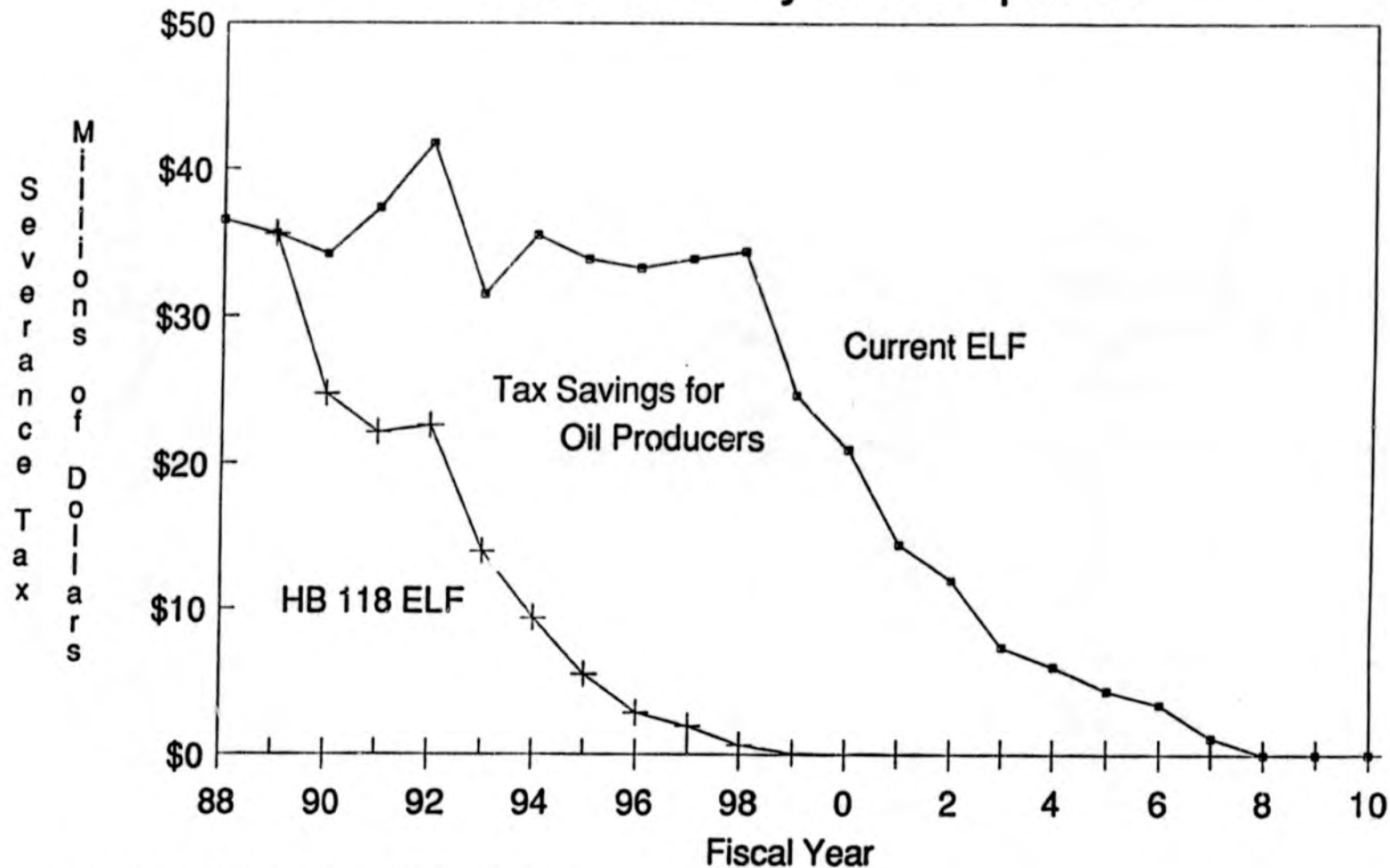
HB 118 Raises More Severance Tax Revenue from Prudhoe Bay and Kuparuk



Note: Revenues are from severance taxes on Prudhoe Bay and Kuparuk

Date: February 15, 1989

HB 118 Gives a Tax Savings for Producers at Oil Fields Other than Prudhoe Bay and Kuparuk



Note: Revenues are from severance taxes on fields
other than Prudhoe Bay and Kuparuk

Date: February 15, 1989

Attachment 3

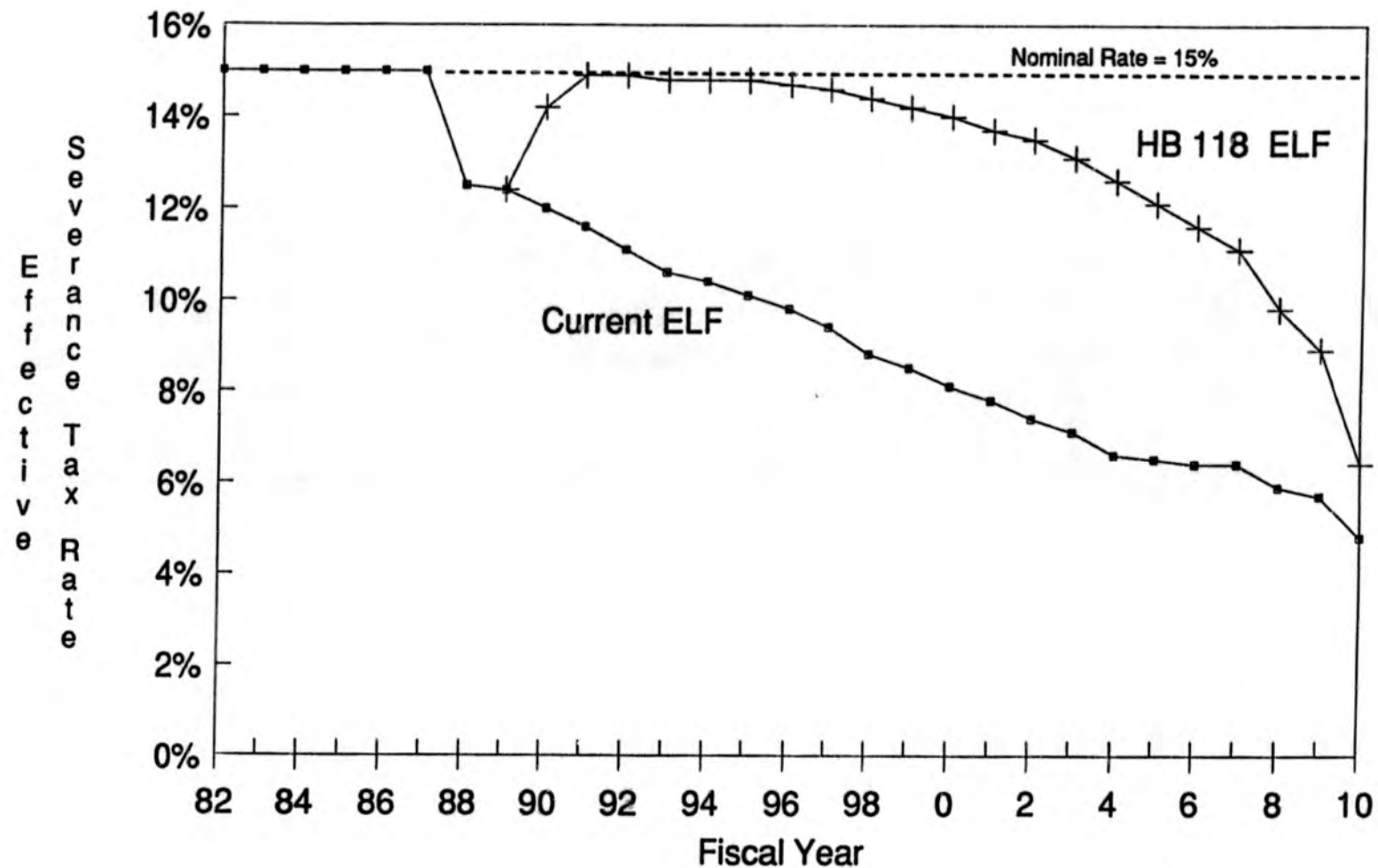
Comparative Severance Tax Payments
1987 Production and Collections
10 Top Oil Producing States

	Production ¹ (1000's of bbls)	Severance Tax ² (1000's of \$)	\$/Bbl	Severance Tax Rank
Texas	760,145	1,178,052	1.55	6
ALASKA	715,855	648,500	0.91	8
California	364,572	14,600	0.04	10
Louisiana	173,409	439,237	2.53	4
Oklahoma	132,970	372,883	2.80	2
Wyoming	112,597	138,915	1.23	7
New Mexico	71,533	262,290	3.67	1
Kansas	59,120	159,952	2.71	3
North Dakota	41,351	90,665	2.19	5
Utah	35,477	22,781	0.64	9

¹ Source: Department of Energy

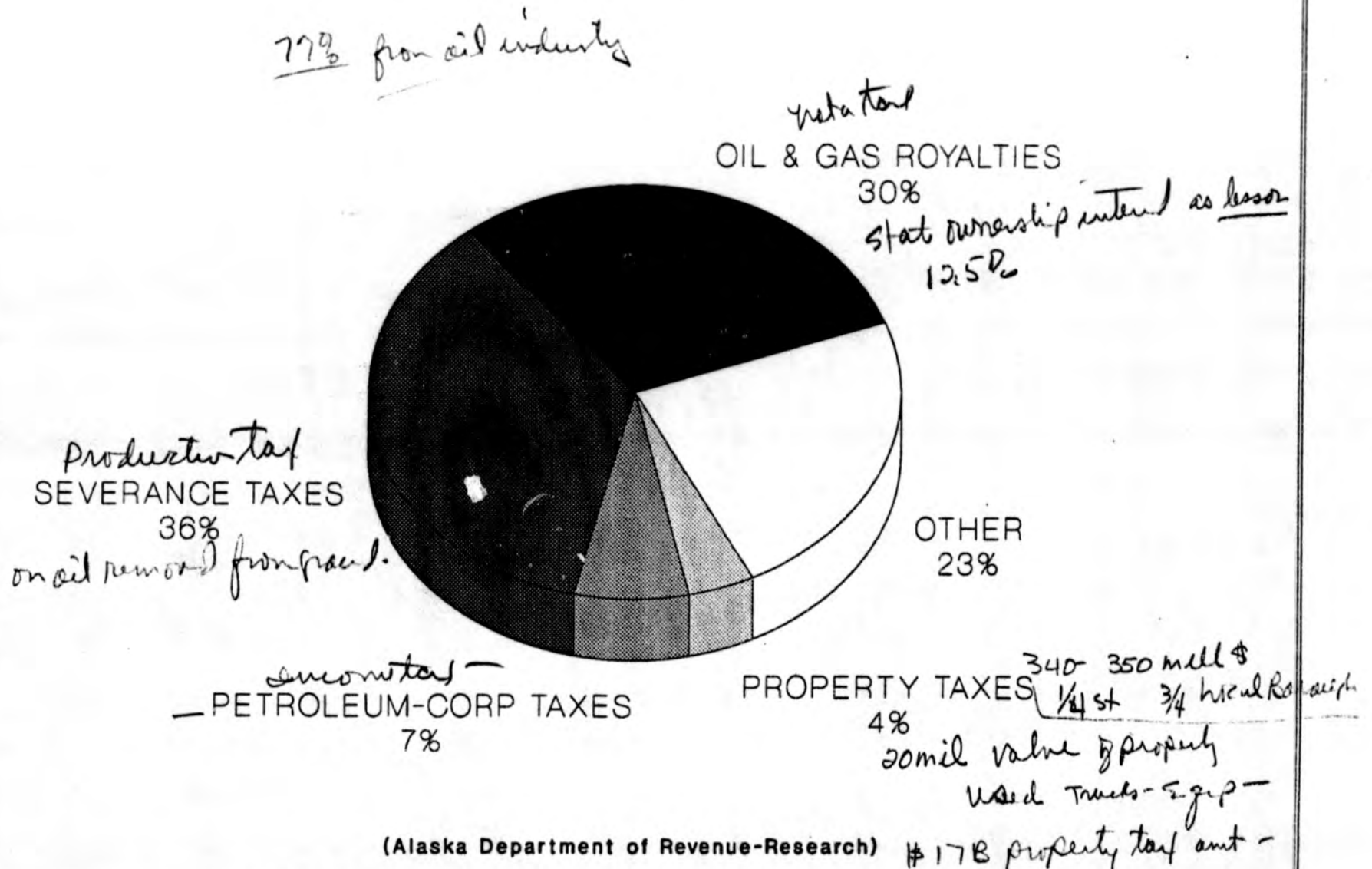
² Source: Petroleum Independent, September 1988

The Tax Rate on Prudhoe Bay Has Dropped Sharply



Date: February 16, 1989

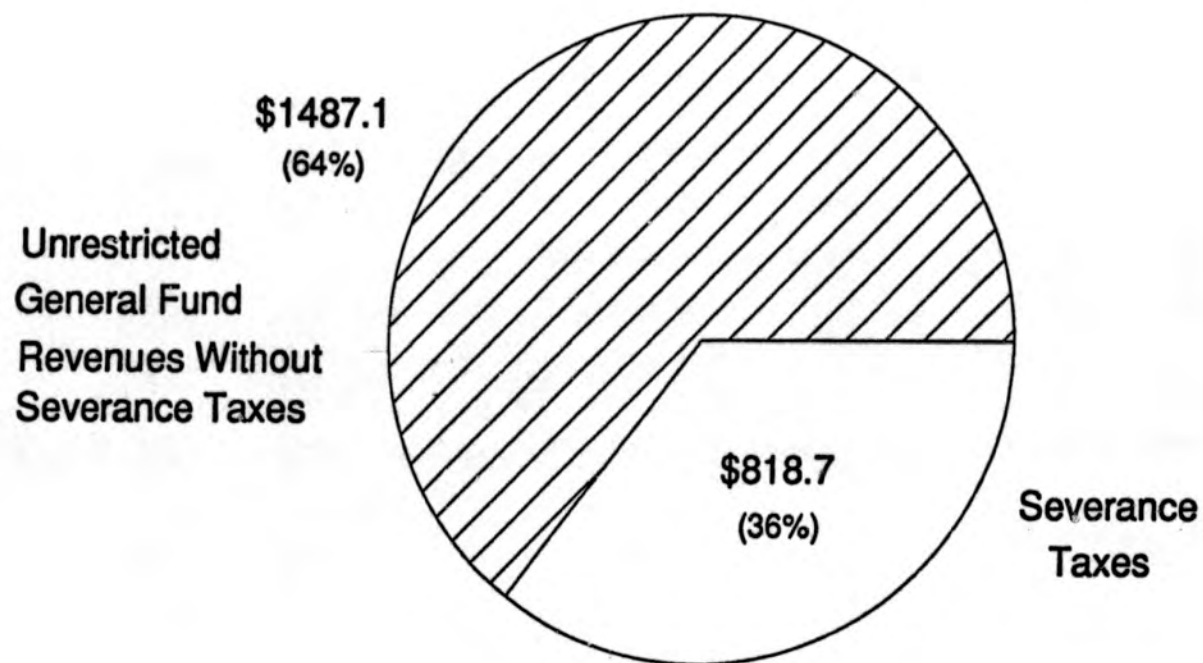
GENERAL FUND UNRESTRICTED REVENUES (FY 1988)



SEVERANCE TAX, also called production tax, is a tax on oil removed from the ground. The tax compensates for the depletion of the state's non-renewable resources.

Date: February 7, 1989

Severance Taxes are an Important Part of Alaska's Revenues



\$2305.8

**Total Unrestricted General Fund
Revenues For Fiscal Year 1988**

Date: February 7, 1989

The Economic Limit Factor or ELF is a fraction which reduces severance taxes as well productivity declines.

Date: February 7, 1989