

LEGISLATIVE FINANCE-HOUSE / SENATE FINANCE COMM. FILES 8879

HB 118 cont. 461

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MEMORANDUM

State of Alaska

DEPARTMENT OF REVENUE

TO: Cliff Groh
Special Assistant to the
Commissioner

DATE: February 9, 1989
2962A

FILE NO:

TELEPHONE NO:

THRU:

SUBJECT: APPLICABILITY DATE OF
HB 118

FROM: Roger Marks 
Petroleum Economist

If the ELF formula contained in HB 118 applied to oil produced after the following dates, the amount of additional revenue (relative to current law) raised through the end of FY 1990 would be as follows. This is based on the assumptions in the Department of Revenue's Fall 1988 Petroleum Production Revenue Forecast mid-case scenario, updated for actual data through November 1988:

June 30, 1987	\$397mm
December 31, 1988	\$175mm
May 31, 1989	\$126mm
August 31, 1989	\$ 96mm

The August 31, 1989 figure was the basis of the fiscal note on the bill.

Assuming the "Consensus Revenue Analysis" of January 24, 1989, the revenues would be as follows:

June 30, 1987	\$410mm
December 31, 1988	\$188mm
May 31, 1989	\$132mm
August 31, 1989	\$ 99mm

Synopsis of Alaska Fields

<u>Field</u>	<u>Volume (bbls/day)</u>	<u>Wells</u>	<u>Daily Volume p/well</u>	<u>Effctv Sev Tax Rate Under Current Law</u>	<u>Effctv Sev Tax Rate Under HB118</u>
<u>Current Fields</u>					
<u>North Slope</u>					
Prudhoe Bay	1,526,932	691	2210	11.59%	14.91%
Kuparuk	320,685	337	952	8.36%	13.18%
Lisburne	38,293	51	751	5.22%	0.36%
Endicott	98,099	35	2803	12.25%	3.68%
<u>Cook Inlet</u>					
Beaver Creek	263	2	132	0.00%	0.00%
Granite Pt.	7,454	29	257	0.00%	0.00%
McArthur River	19,053	76	251	0.00%	0.00%
Middle Ground Shoals	7,913	44	180	0.00%	0.00%
Swanson River	5,684	27	211	0.00%	0.00%
Trading Bay	2,310	34	68	0.00%	0.00%
<u>Prospective Fields</u>					
Milne Pt.	30,000	40	750	4.67%	0.00%
West Sak	260,000	4000	65	0.00%	0.00%
Pt. Thomson	50,000	45	1111	7.62%	2.43%
Seal Island	100,000	112	893	6.57%	5.75%
Niakuk	20,000	12	1667	12.25%	0.01%

For current fields actual November 1988 data. For prospective fields the expected values at peak production.

IF LOWER 48 FIELDS WERE IN ALASKA THEY WOULD PAY
NO SEVERANCE TAX UNDER EITHER CURRENT LAW OR HB 118

<u>Top 10 Lower 48 Fields</u>	<u>Daily Production</u>	<u>Average Daily Per Well Production</u>	<u>ELF (Current or Proposed)</u>	<u>Severance Tax Under Alaska Law</u>
1. Belridge South (CA)	165,981	28	0	0
2. Midway-Sunset (CA)	157,526	19	0	0
3. Kern River (CA)	128,491	17	0	0
4. East Texas (TX)	111,225	12	0	0
5. Elk Hills (CA)	107,244	98	0	0
6. Yates (TX)	91,890	80	0	0
7. Wilmington (CA)	81,975	40	0	0
8. Wasson (TX)	78,510	36	0	0
9. Spraberry Trench (TX)	60,585	8	0	0
10. Slaughter (TX)	55,792	19	0	0

Source: Oil and Gas Journal

U.S. fields with reserves exceeding 100 million bbl

State	Field	Disc. date	1988 prod.	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
	Granite Point, 1965.....		2,787	109,535	16,213	29
	Kuparuk River, 1969.....		112,055	503,357	994,945	328
	Lisburne, 1957.....		14,500	35,600	175,689	49
	McArthur River, 1965.....		7,040	529,040	34,560	76
	Middle Ground Snool, 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	209,450	8,846	29

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

State	Field	Disc. date	1988 prod.	Cum. prod. 1-1-89 1,000 bbl	Est. rem. reserves	Est. No. wells
ARKANSAS						
	Smackover, 1922.....		2,654	556,907	9,097	2,100

State	Field	Disc. date	1988 prod.	Cum. prod. 1-1-89 1,000 bbl	Est. rem. reserves	Est. No. wells
CALIFORNIA						
	San Joaquin Valley					
	Bairidge South, 1911.....		60,583	677,083	435,286	6,000
	Buena Vista, 1909.....		1,574	647,274	39,271	895
	Coalinga, 1890.....		10,212	753,345	161,138	2,174
	Coalinga Nose, 1923.....		1,285	458,665	17,370	78
	Coles Levee North, 1958.....		442	160,432	2,749	85
	Cuyama South, 1949.....		469	212,191	6,938	105
	Cymac, 1902.....		8,479	199,303	40,000	1,013
	Edison, 1928.....		1,470	134,391	25,570	674
	Elk Hills, 1911.....		39,144	693,374	579,776	1,099
	Fruitvale, 1923.....		577	115,553	13,709	274
	Greeley, 1935.....		237	112,567	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					
	Co.me, 1929.....		172	456,648	1,299	44
	Lost Hills, 1910.....		5,627	173,293	61,503	1,634
	McKittick, 1926.....		2,551	266,522	90,919	931
	Midway-Sunset, 1994.....		57,497	1,679,347	373,953	9,180
	Mount Paso, 1925.....		6,620	265,230	79,220	411
	Rio Bravo, 1937.....		151	115,051	1,319	15
	Yowumne, 1974.....		6,570	81,363	27,015	65
	Coastal Area					
	Carpintena, 1965.....		2,650	88,101	29,289	114
	Cat Canyon E. & W., 1908.....		2,755	298,236	46,930	512
	Des Cuadras, 1969.....		4,371	212,804	54,140	140
	Elwood, 1923.....		317	105,755	2,283	7
	Hanco, 1959.....		9,952	89,621	112,223	20
	Orcutt, 1901.....		906	165,874	10,236	136
	Point Pedernales, 1982.....		6,515	11,715	331,544	10
	Rincon, 1927.....		1,118	148,759	14,832	240
	San Ardo, 1947.....		4,641	408,351	122,903	600
	Santa Ana Valley, 1934.....		1,751	198,131	40,408	172
	South Mountain, 1916.....		721	145,534	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	122,616	42,356	116
	Brea Clinda, 1980.....		2,143	383,894	54,787	720
	Coyote East, 1909.....		584	109,563	13,212	103
	Coyote West, 1909.....		808	249,559	7,481	113
	Dominguez, 1923.....		607	269,266	7,448	113
	Huntington Beach, 1920.....		5,816	1,066,358	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.....		907	613,077	9,036	151
	Seal Beach, 1924.....		876	203,118	14,119	168
	Torrance, 1922.....		1,693	212,023	35,847	365
	Wilmington, 1932.....		29,921	2,292,229	495,633	2,050

State	Field	Disc. date	1988 prod.	Cum. prod. 1-1-89 1,000 bbl	Est. rem. reserves	Est. No. wells
COLORADO						
	Rangely, 1933.....		12,492	739,418	35,000	488

State	Field	Disc. date	1988 prod.	Cum. prod. 1-1-89 1,000 bbl	Est. rem. reserves	Est. No. wells
FLORIDA						
	Jay, 1970.....		4,676	360,612	55,944	121
ILLINOIS						
	Clay City, 1938.....		2,448	393,960	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	132,273	5,000	3,356
	New Harmony, 1939.....		1,072	153,545	4,000	1,140
	Salem, 1938.....		2,167	386,983	4,500	1,325

State	Field	Disc. date	1988 prod.	Cum. prod. 1-1-89 1,000 bbl	Est. rem. reserves	Est. No. wells
KANSAS						
	Bemis-Shotts, 1928.....		1,169	244,247	4,405	973
	Chase-Silica, 1930.....		1,018	301,003	4,499	1,103
	El Dorado, 1915.....		839	296,734	2,615	822
	Hall-Gurney, 1931.....		1,032	145,677	4,051	1,130
	Trapp, 1929.....		1,200	225,858	3,643	1,000

State	Field	Disc. date	1988 prod.	Cum. prod. 1-1-89 1,000 bbl	Est. rem. reserves	Est. No. wells
LOUISIANA						
	Offshore					
	Bay Marchand Blk. 2, 1949.....		5,547	596,972	53,758	120
	Eugene Island Blk. 33C, 1930.....		7,359	250,090	55,920	169
	Grande Isle Blk. 16, 1948.....		1,659	263,729	95,645	44
	Grande Isle Blk. 43, 1956.....		4,312	272,256	85,688	126
	Mississippi Canyon Blk. 194, 1920.....		4,929	116,858	76,311	44
	Main Pass Blk. 41, 1957.....		2,985	237,854	23,284	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. 21, 1958.....		9,140	152,151	45,000	156
	South Pass Blk. 62, 1965.....		3,331	106,364	91,594	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	160,159	65,274	67
	South Timbalier Blk. 21, 1939.....		1,324	216,239	47,133	45
	South Timbalier 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	86,291	73
	Onshore South					
	Bay de Chene, 1941.....		390	95,382	17,952	24
	Bay St. Elaine, 1928.....		321	164,508	25,292	18
	Bayou Sole, 1941.....		769	161,269	3,417	20
	Black Bay West, 1953.....		1,971	144,799	10,432	94
	Caillou Island, 1930.....		2,308	602,231	74,020	136
	Cote Blanche Bay West, 1940.....		741	181,594	46,374	86
	Deit's 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	242,350	16,376	93
	Leeville, 1931.....		447	141,646	7,221	37
	Paradise, 1939.....		725	126,650	8,600	31

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State	Field	Disc. date	1988 prod.	Cum. prod. 1-1-89, 1,000 bbl	Est. res. 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	900	96
Weeks Island, 1945.....			816	225,939	21,356	33
West Bay, 1940.....			1,349	228,246	16,355	79
North						
Caddo-Pine Island 1905			3,310	360,899	12,889	10,688
Delhi, 1944.....			675	211,707	34,651	58
Haynesville, 1921.....			761	168,237	2,373	166
Homer, 1919.....			434	98,375	1,908	193
Rodessa, 1935.....			331	106,027	1,506	67

MISSISSIPPI

Barterville, 1944.....	2,609	239,164	10,391	316
Heidberg, 1944.....	2,825	174,809	12,171	316
Tinsley, 1939.....	834	29,677	3,197	173

MONTANA

Bell Creek, 1957.....	958	129,836	22,984	91
Cut Bank, 1925.....	994	162,459	37,165	575
Pine, 1951.....	1,302	105,145	5,687	96

NEW MEXICO

Denton, 1949.....	652	138,693	3,000	179
Empire-Aco, 1957.....	1,424	213,983	50,017	405
Eunice-Monument, 1929	2,500	125,414	10,894	879
Mocos, 1928.....	8,460	297,482	20,000	613
Majamar, 1926.....	1,865	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	61,659	51,744	153
Little Knife, 1977.....	3,392	51,437	57,324	131
Mondak, 1976.....	439	13,165	82,837	96

OKLAHOMA

Burbank, 1920.....	1,135	536,746	8,377	1,105
Eola-Roberson, 1920.....	746	133,124	8,210	603
Fims, 1934.....	2,963	199,894	12,000	589
Glenn Pool, 1925.....	1,170	327,265	3,000	714
Golden Trend, 1945.....	4,333	474,100	28,000	1,396
Healton, 1913.....	1,938	334,645	5,563	1,000
Hewitt, 1919.....	5,152	266,371	13,615	923
Oklahoma City, 1928....	902	816,170	5,966	174
Postle, 1955.....	1,215	106,393	14,921	226
She-Vel-Tum, 1905.....	18,398	1,167,379	60,000	7,616
Sooner Trend, 1945.....	4,147	255,544	20,000	4,746

TEXAS

District 2				
Greta, 1933.....	746	147,570	12,530	100
Lake Pasture, 1953.....	2,194	87,784	12,644	143
Tom O'Connor, 1934.....	10,380	747,849	55,000	646
West Ranch, 1928.....	2,640	350,034	8,504	307

District 3				
Anahuac, 1935.....	1,068	264,888	15,112	106
Canoe, 1931.....	3,864	727,215	33,728	278
Giddings, 1971.....	8,656	278,570	148,032	2,281
Hastings, 1934.....	3,084	697,237	72,764	206
Magnet Withers, 1936...	1,234	110,960	5,000	150
Oyster Bayou, 1941.....	864	160,204	18,036	39
Thompson, 1931.....	3,972	472,540	27,360	262
Tomcat, 1933.....	402	121,055	9,858	85
Webster, 1937.....	5,304	573,192	20,000	243

District 4				
Agua Dulce-Stratton, 1928.....	360	146,623	24,751	94
Bonnegos, 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. res. reserves	Est. No. wells
Plymouth, 1925.....			400	122,923	3,300	60
Seeligson, 1925.....			156	271,483	55,544	42
TCB, 1944.....			456	112,700	52,353	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	521,960	15,000	366
District 6						
East Texas, 1930.....			40,597	5,008,747	988,759	9,363
Fairway, 1960.....			2,424	192,591	17,777	100
Hawkins, 1940.....			8,244	821,644	42,372	442
Neches, 1953.....			1,416	103,980	6,036	153
Quitman, 1948.....			1,680	121,346	8,440	208

District 8						
Andeclor, 1946.....			1,500	181,888	6,500	28
Block 31, 1945.....			3,556	220,069	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
Dollarhide, 1945.....			2,568	193,780	11,448	202
Dune, 1938.....			2,928	193,000	18,704	771
Fullerton, 1942.....			7,452	348,200	22,000	870
Goldsmith, 1934.....			7,248	755,516	33,752	2,025
Howard Glasscock, 1925			5,844	404,508	26,000	2,208
Iatan, E., 1925.....			3,372	142,565	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....			4,609	241,990	18,615	415
Sano Hills, 1931.....			2,760	248,207	21,500	1,312
TXL, 1944.....			2,004	263,515	6,500	600
Wadwell, 1927.....			708	100,712	3,792	168
Ward Estes, N., 1929...			3,408	364,177	76,425	1,562
Westbrook, 1923.....			2,000	83,000	16,000	718
Yates, 1925.....			33,540	1,171,820	782,695	1,146

District 8-A						
Anton-Irwin, 1944.....			3,564	175,910	24,190	239
Cogoli Area, 1949.....			1,556	252,218	41,204	103
Diamond M., 1949.....			1,903	239,415	16,053	474
Kelly-Snyder, 1948.....			11,552	1,234,962	115,053	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, 1936.....			20,364	1,029,800	50,000	3,001
Sprberry Trend, 1951..			22,212	653,388	50,000	7,321
Wasson, 1935.....			28,656	1,711,898	60,000	2,152
Weich, 1942.....			3,324	144,228	14,000	651

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

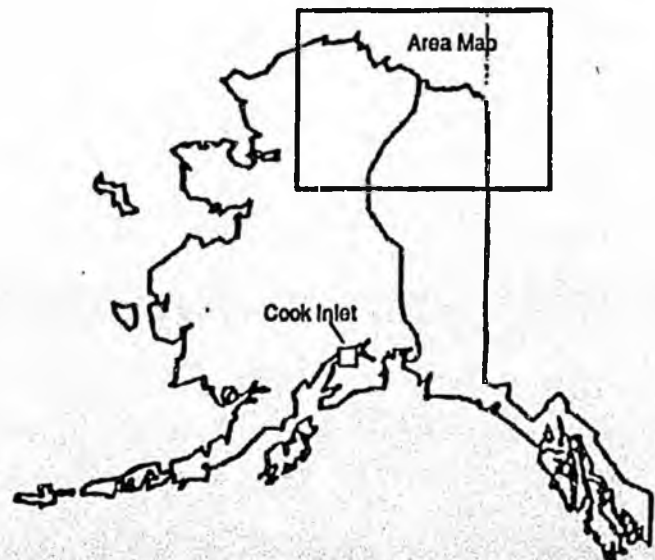
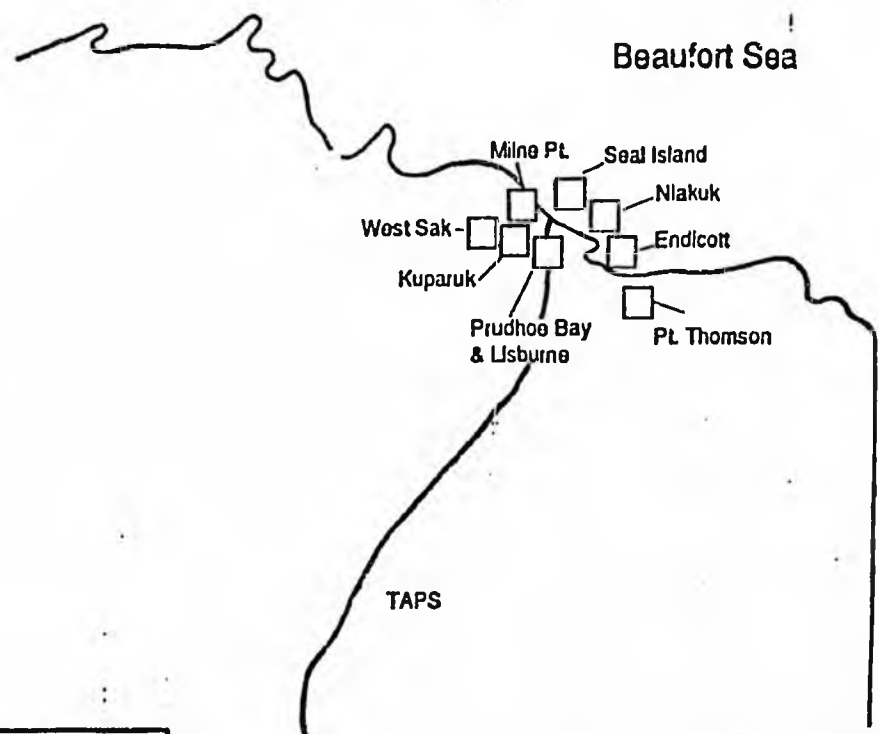
UTAH

Altamont, 1955.....	3,047	89,493	231,216	227
Aneth, 1956.....	5,340	354,004	30,000	461
East Anschutz Ranch, 1979.....	12,756	80,365	727,799	29
Res Wash, 1951.....	1,075	77,511	13,377	146

WYOMING

Brady, 1960.....	2,438	54,537	49,251	22
Byron, 1918.....	1,119	120,693	7,656	67
Elk Basin, 1915.....	2,968	446,895	25,750	170
Frannie, 1928.....	1,122	116,000	5,000	63
Garland, 1906.....	2,625	154,895	6,000	25
Grass Creek, 1914.....	2,414	185,100	9,000	288
Hamilton Dome, 1918...	2,853	268,109	6,000	239
Hartzog Draw, 1976.....	6,647	66,722	283,729	157
Hilite, 1969.....	541	75,416	55,995	93
Lance Creek, 1918.....	163	107,805	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	388,190	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

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



Date: February 7, 1989

HOW REVENUE NEUTRAL WERE THE 1981 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

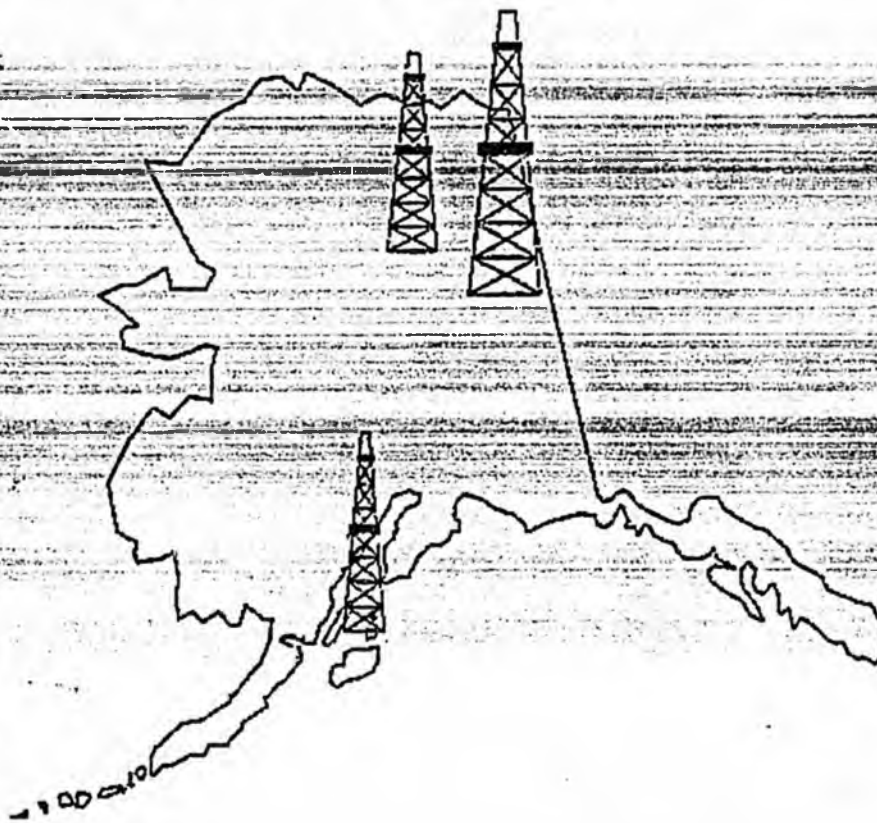
Severance Tax Receipts as Percentage of Gross Wellhead Value -
Prudhoe Bay

<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

THE FOLLOWING DOCUMENT HAS
NOT BEEN FILMED BUT IS
AVAILABLE IN THE ORIGINAL
FILE

Oil Industry Profitability in Alaska

1969 through 1987



**Prepared for the Department of Revenue
State of Alaska**

by

Edward B. Deakin

**Distinguished Enterprise Professor and
Director, Institute of Petroleum Accounting
University of North Texas**

**Price Waterhouse Centennial Professor of Accounting
University of Texas**

March 15, 1989

Department of Revenue Press Release

For More Information Contact: *Cliff Groh, Special Assistant
Commissioner's Office
Juneau, Alaska (907/465-2300)*

March 15, 1989

A petroleum accounting expert says the oil industry has earned more than \$42 billion in Alaska in after-tax profits from 1969 through 1987 -- including more than \$460,000 per hour since the super-giant Prudhoe Bay field began producing in 1977.

According to the study by University of Texas Professor Edward B. Deakin, the industry's share of profits from Alaska operations since 1969 is 45 percent greater than the \$29.3 billion received by the state. The state collects oil revenues through royalty, tax and lease payments.

Most of the oil company profits leave the state. The study found that the oil industry's cash flow, which includes profit and repayment of original investment, has exceeded \$61 billion. The study calculates that the industry has re-invested approximately 28 percent of its cash flow in Alaska since Prudhoe Bay began producing in 1977.

Industry after-tax profits in Alaska in 1986 and 1987 averaged more than \$8 million per day. In 1986 -- the year following a sharp decline in the world price of oil -- Deakin found that Alaska North Slope production and pipeline profits were \$5.23 per barrel. In 1987 that figure rose to \$5.47 per barrel. The industry's \$42.6 billion in profits since 1969 represents a profit of \$6.59 per barrel for all Alaska activities.

Deakin's study focuses primarily on North Slope production and the trans-Alaska pipeline, which account for \$41.5 billion of the industry's Alaska profits since 1969. His analysis does not consider additional profits earned by the North Slope operators on transportation, marketing and refining of Alaska crude oil after it leaves the state.

The 110-page accounting analysis, prepared under contract to the Department of Revenue, is based on public documents, including annual reports and corporate filings with the Securities and Exchange Commission, the Federal Energy Regulatory Commission, state publications and reports by financial analysts.

In addition to his position as Price Waterhouse Centennial Professor of Accounting at the University of Texas at Austin, Deakin is also Distinguished Enterprise Professor and Director of the Institute of Petroleum Accounting at the University of North Texas. He is a certified public accountant, holds a Ph. D. and has served on two task forces of the Financial Accounting Standards Board (F.A.S.B.) which dealt with oil industry accounting matters. He has advised the federal government, as well as various states and companies on issues related to oil industry accounting.

THE FOLLOWING PAGES WERE TREATED AS
A UNIT IN THE ORIGINAL FILE.

Original sponsor: Finance Committee

1 IN THE HOUSE BY THE RESOURCES COMMITTEE

2 CS FOR HOUSE BILL NO. 118 (Resources)

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; and providing for an effective date."

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.

26 * Sec. 4. RETROACTIVE APPLICATION. This Act is retroactive to
27 January 1, 1989, and applies to oil produced after December 31, 1988.

28 * Sec. 5. ALTERNATIVE RETROACTIVE APPLICATION DATES. (a) If a court
29 makes a final determination that retroactive application under sec. 4 of

1 this Act is invalid, this Act is retroactive to the first day of the month
2 in which it takes effect, and applies to oil produced on or after that day.

3 (b) If a court makes a final determination that retroactive applica-
4 tion under (a) of this section is invalid, this Act applies to oil produced
5 on or after the effective date of this Act.

6 * Sec. 6. PAYMENT OF TAX DUE. The oil production tax payable as a
7 result of the retroactive application of this Act is due on the 20th day of
8 the calendar month following the effective date of this Act. If the tax
9 due and payable is not paid by the date specified in this section, the tax
10 becomes delinquent and subject to payment of interest and the provisions of
11 AS 43.10 relating to enforcement and collection of delinquent taxes.

12 * Sec. 7. OVERPAYMENT OF TAX UNDER REVISED FORMULA. The tax liability
13 of a party that is reduced by the retroactive application of this Act shall
14 be credited against the taxpayer's future tax liability. The provisions of
15 AS 43.05.280(a) and 43.05.280(b)(1) do not apply to, and interest is not
16 allowed on, the overpayment.

17 * Sec. 8. This Act takes effect immediately under AS 01.10.070(c).

SECTIONAL ANALYSIS OF CSHB 118 (RESOURCES): 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.

Section 5. This section sets alternative dates of application in the event of a successful legal challenge to the legislation. If a court makes a final determination that the legislation cannot legally apply to oil produced after December 31, 1988, then the legislation applies to oil produced on or after the first day of the month that the legislation is effective. If a court makes a final determination that the legislation cannot legally apply to oil produced on or after the first day of the month in which the legislation took effect, then the legislation applies to oil produced on or after the effective date of the legislation.

Section 6. This section applies to payments from tax on oil produced between the first date to which the legislation applies and the calendar month preceding the effective date of this legislation. This section makes those payments due on the 20th day of the month following the effective date of the legislation. The tax becomes delinquent and subject to payment of interest if it is not paid by that date.

Section 7. This section provides that taxpayers who owe less taxes for the period between the date this legislation first applies and the effective date of this legislation will receive a credit against their future tax liability. These taxpayers will not receive any interest on their overpayment of taxes.

Section 8. This section sets an immediate effective date.

FISCAL NOTE

REQUEST:

Revision Date: March 7, 1989
Title: Oil & gas properties production tax - ELF; providing an effective date
Sponsor: House Finance Committee
Requestor: House Resources

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	49,000	126,000	144,000	163,000	187,000	180,000

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

Phone: 277-5627

Division: Dept. of Revenue, Oil & Gas Audit Division

Date: March 7, 1989

Approved by Commissioner: Hugh Malone

Date: 3/8/89

Agency: Department of Revenue

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 is retroactive to January 1, 1989, and applies to oil produced after December 31, 1988. Because the severance tax on oil for a given month is due during the following month, a tax change which takes effect on January 1 would not affect revenues until February. Depending on the actual passage date of the bill, the FY 89 amounts may not be actually collected until FY 90.

This fiscal note was calculated using the oil price and production assumptions of the Department of Revenue's Fall 1988 Petroleum Production Revenue Forecast mid-case scenario updated for actual data through November of 1988. That forecast was predicated on Alaska North Slope crude prices at the U.S. Gulf of \$13.25 a barrel in FY 89 and \$12.89 a barrel in FY 90. 1/

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

1995	174
1996	169
1997	163
1998	153
1999	152
2000	144
2001	136
2002	129
2003	117
2004	110
2005	104
2006	91
2007	80
2008	60
2009	45
2010	19

1/ Had the fiscal note used the oil price and volume assumptions of the "Consensus Revenue Analysis" of January 24, 1989, the FY 89 fiscal impact would be \$56 million, and the FY 90 fiscal impact would be \$132 million. That analysis was predicated on Gulf ANS prices of \$14.07/bbl in FY 89 and \$14.30/bbl in FY 90.

Date: March 1, 1989

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

ANS @ US Gulf (\$/bbl)	Fiscal Year					
	1989	1990	1991	1992	1993	1994
10.35	28	89	89	97	100	96
12.70	42	113	114	123	135	129
15.00	56	149	149	159	170	160
17.35	70	185	186	196	208	196
19.70	84	216	218	230	243	216
22.00	98	251	254	278	273	239

Assumptions:

1. Production and well assumptions from Department of Revenue mid scenario Fall 1988 forecast.
2. HB 118 effective date January 1, 1989.
3. The variation in revenue between years is a function of a number of factors, including:
 - A. The changing relative tax rates under the current ELF and HB 118.
 - B. The effect of price on production levels. (e.g. West Sak economic at \$18/bbl.)
 - C. The effect of changing production and wells on ELF under either formula.

1 IN THE HOUSE

BY THE FINANCE COMMITTEE

2

HOUSE BILL NO. 113

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.

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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.

DEPARTMENT OF REVENUE
February 9, 1989

SECTIONAL ANALYSIS OF HB 118: 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.

FISCAL NOTE

REQUEST:

Revision Date: _____
Title: Act relating to the oil and gas
properties production tax
Sponsor: House Finance Committee
Requestor: House Resources

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	0	96,000	144,000	163,000	187,000	180,000

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: January 31, 1989

Approved by Commissioner: [Signature]
Agency: Department of Revenue

Date: 2/3/89

Distribution (by preparer):
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page 1 of 2

LEGISLATIVE FINANCE

HB 118

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.

Since the bill does not carry an effective date, this analysis has assumed that the bill will be enacted June 1, 1989 and go into effect September 1, 1989 and will apply to oil produced after August 31, 1989. (Because the severance tax on oil for a given month is due during the following month, a tax change which takes effect on September 1 would not affect revenues until October.)

This fiscal note was calculated using the oil price and production assumptions of the Department of Revenue's Fall 1988 Petroleum Production Revenue Forecast mid-case scenario updated for actual data through November of 1988. 1/

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

1995	174
1996	169
1997	163
1998	153
1999	152
2000	144
2001	136
2002	129
2003	117
2004	110
2005	104
2006	91
2007	80
2008	60
2009	45
2020	19

1/ Had the fiscal note used the oil price and volume assumptions of the "Consensus Revenue Analysis" of January 24, 1989, the FY 90 fiscal impact would be \$99 million.



Alaska State Legislature

HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES

POUCH V
JUNEAU, ALASKA 99811
(907) 465-3715

REPORT OF THE RESOURCES COMMITTEE ON HEARINGS ON HB 118

WHAT DOES HB 118 DO?

A change to make the ELF work as it was supposed to work, and to reverse the tax cut for Prudhoe Bay, was proposed in 1987 as HB 164 and passed the House but was never considered in the Senate. Changes to the ELF were recently proposed in HB 118, now under consideration in the House. HB 118 is similar to the bill that passed the House in 1987, but would raise taxes on Prudhoe Bay and Kuparuk more, and cut taxes on all other oil fields more, than the 1987 proposal.

HB 118 provides a greater tax relief for all oil fields in Alaska except Prudhoe Bay and Kuparuk, the two most productive oil fields in Alaska (and the United States), and two of the most profitable. Under the revised ELF, taxes for these two oil fields will increase but will still remain below the statutory rate of 15%. The only oil fields besides Prudhoe Bay and Kuparuk whose severance taxes are not reduced by HB 118 are those fields which have a zero tax rate under current law.

WHAT DATE SHOULD THE ELF'S APPLICATION BEGIN?

The Resources Committee adopted an immediate effective date and a January 1, 1989 beginning application date. The Committee also considered the date of July 1, 1987 (the month following the date that the ten-year rounded ELF expired for Prudhoe Bay, reducing the effective tax rate from 15% to 12.45%) for the beginning application date.

The January 1, 1989 beginning application date will result in \$175 million more of revenue being raised than would be raised under the current ELF through fiscal year 1990. Had the July 1, 1987 application date been adopted, HB 118 would have resulted in the recapture of the entire \$397 million revenue lost under the current ELF as a result of the loophole from the period from July 1, 1987 through to the end of the 1990 fiscal year.

The Resources Committee substitute also provides for payment of the tax on the 20th day of the calendar month following the effective date of the Act. It indicates that delinquent taxes are subject to payment of interest and to the provisions in AS 43.10, which relate to enforcement and collection of delinquent taxes, and also indicates that tax overpayments will be credited against the taxpayer's future tax liability.

IS THE RETROACTIVE APPLICATION DATE LEGAL?

Two legal memos (one by Legislative Legal and one by the Attorney General's Office) have been done on the constitutionality of retroactive dates. Both conclude that a reasonable retroactive date, supported by public policy reasons in the record, will be found constitutional.

In summary, the law requires that, to be retroactive, a statute must specify that it is retroactive, and there must be a two-thirds vote for an immediate effective date, though it appears that a two-thirds vote is not necessary for a retroactive application date. There is precedent in Alaska and federal law for retroactive application of a statute back from the date of enactment to the beginning of the calendar year. Retroactivity has also been allowed during the year of the preceding session. In one U.S. Supreme Court case, the Court upheld a tax passed in 1935 applicable to tax years 1933 and 1934. It would be very unlikely that this bill, with retroactive application back to January 1, 1989, would be found to be unconstitutional. Even were the application date to be changed to July 1, 1987, the U.S. Supreme Court case supports the likelihood that the two-year application would also be upheld.

The federal rule of law is based on "reasonable notice" whether the nature or the amount of the tax could not have reasonably anticipated by the taxpayer at the time the application date would begin. Changes to tax rates are presumed to be foreseeable. In the U.S. Supreme Court case, the court flatly rejected a taxpayer's argument that retroactivity was barred by due process because the proposed rate increase had been under public discussion before Congress for about a year, and the Court concluded that this had provided ample notice of the increase. In the present case, the taxpayers have been on notice that the ELF may be modified since January 1987, when HB 164 was introduced. In fact, the taxpayers were on notice even back in 1981 that the legislature might reassess the tax structure in 1987.

While it is unlikely that the retroactive date back to January 1, 1989 would be found unconstitutional if challenged, to ensure that there won't be a problem, alternative application dates were also added to the bill in the Committee substitute. If the Finance Committee were to want to adopt the earlier retroactive date, it should adopt a committee substitute with alternative dates as well. The version considered by the Resources Committee included July 1, 1988 (the beginning of the fiscal year), January 1, 1989 (the beginning of the calendar year), and immediately on the effective date of the Act.

WHO IS FOR HB 118?

The administration has been a strong backer of HB 118. The Department of Revenue and the Office of Developmental Policy spoke before the Resources Committee on HB 118. (Contacts include Hugh Malone, Cliff Groh, and Roger Marks from the Department of Revenue, and Gregg Erickson and Richard Fineberg from the Office of the Governor, Division of Policy.) One oil company, Conoco Inc., has also indicated its support by letter. Resolutions or letters in support of HB 118 were received from Fairbanks North Star Borough, Ketchikan Gateway Borough, the City and Borough of Sitka, the City of Cordova, the City of Kotzebue, and the Alaska Conference of Mayors. The Committee to Repeal the ELF, a private organization, also supports HB 118. The Resources Committee has also received testimony, letters, and public opinion messages from members of the public in support of HB 118.

WHO IS AGAINST HB 118?

Many oil companies that testified and/or sent letters and/or placed advertisements indicating their opposition to HB 118. They include BP Exploration (Alaska), Inc. (formerly Sohio); ARCO Alaska, Inc.; Exxon Co., U.S.A.; Texaco, U.S.A.; Phillips Petroleum Co.; Chevron U.S.A., Inc.; and Amerada Hess Corp. Three private organizations, Alaska Oil and Gas Association, the Resource Development Council, and Common Sense For Alaska also oppose HB 118. ENSR Consulting and Engineering, a private firm, has also indicated its opposition to HB 118. The Resources Committee has also received testimony, letters, and public opinion messages from members of the public in opposition to HB 118.

WHAT HAPPENED IN THE RESOURCES COMMITTEE?

The Resources Committee allowed over 6 hours of testimony from the Administration, over 6 hours of testimony from the oil industry, and over 6 hours of testimony from the representatives of cities and boroughs, private organizations, and other members of the general public. In addition, the Resources Committee held a debate between the Administration (represented by Gregg Erickson) and the oil industry (represented by Tom Williams of BP Exploration (Alaska), Inc.) in which members of the committee and other House members asked questions of those two spokesmen and in which each spokesman had an opportunity to respond to each others' statements. The Resources Committee also submitted written questions to the Administration and the oil industry and obtained their responses and spent a number of hours asking questions of the Administration and the oil industry. The Resources Committee has also considered news articles written on the ELF. HB 118 passed out of Resources Committee with 4 do pass recommendations, 4 no recommendations, and 1 do not

pass recommendation. Representative Walt Furnace, who voted do not pass, submitted a "minority report" to the Committee on HB 118.

WHAT ARE THE MAJOR ARGUMENTS IN SUPPORT OF HB 118?

Those in support of the HB 118 believe that Alaska is not receiving an appropriate share of the profits from the most profitable oil fields. The Alaska Constitution requires that the legislature ensure that Alaska's resources be used for the maximum benefit of its people. (Alaska Const., Art. VIII, Sec.2) The oil industry is making substantial profits and paying a relatively small amount in taxes. Oil companies pay less in oil taxes in Alaska (both federal and state combined) than they pay in oil taxes in other oil-producing states and countries.

Since 1987, the oil companies have been able to avoid paying the full amount of the statutory nominal rate for the resource because of a loophole in the tax law. The legislature was intended to revamp the oil tax laws after the constitutionality of the separate accounting method was determined, but this was not done.

Those in support of HB 118 also support a greater tax break for marginal fields, which HB 118 provides. These tax cuts are designed to encourage continued or additional production, which promotes economic development and creates jobs.

WHAT ARE THE MAJOR ARGUMENTS IN OPPOSITION TO HB 118?

Those in opposition believe that the change is unnecessary because the present ELF is working well and as intended. The present ELF takes into account the fact that oil fields become less profitable over time until they are no longer profitable at all.

Those opposed to HB 118 also believe the bill is ill-advised because the ELF would no longer depend on a field's relative profitability in setting the actual rate of tax. The proposed ELF lowers tax rates for fields with less than 150,000 barrels a day of production, while increasing them for more. This emphasizes field size rather than profitability and ability to pay taxes. Those in opposition to HB 118 also believe that the bill is ill-advised because the state stands to gain more from additional investment and development of Prudhoe Bay and Kuparuk than it will from any of the marginal fields.

Those in opposition also believe that HB 118 is unfair because they believe that fields of similar economic situations would be taxed at dissimilar rates, with more-productive fields being charged a higher rate than less-productive fields, because the oil industry is already being disproportionately

taxed relative to other industries of the state, and because the state is already receiving its fair share from oil production. Those in opposition claim that the ELF will result in oil being left in the ground and jobs being lost.

WHAT NEW INFORMATION WAS GAINED FROM THE RESOURCES COMMITTEE INVESTIGATION AND WHAT QUESTIONS REMAIN TO BE ANSWERED?

- (1) What should be included in determining what constitutes a fair profit from North Slope oil development?

The Administration has included profits from the trans-Alaska pipeline and feeder pipelines. These charges are removed to determine the wellhead (base) taxing price. Because the North Slope oil companies own the pipelines, those oil companies have been able to hide profits in the fees paid to themselves for use of the pipeline to make it appear that their profits are lower than they actually are.

Oil company representatives focus only on production profits and taxes, excluding the pipeline. Oil companies do include royalties in determining relative shares of North Slope production revenue, however. The oil companies treat royalty payments like taxes, though they are not taxes. Royalties must be paid to the owner of the land from which the oil is extracted, regardless of who the owner is. A royalty must be paid to private owners as well as when the owner is the state. Thus, royalties are appropriately considered only if all costs and profits are considered.

In their first committee appearance February 11, ARCO and BP presented per-barrel analyses of North Slope production profits. BP began from an average lower 48 well-head price, thereby excluding an estimated \$1.14 in pipeline profits from its consideration, as well as larger sums of cash flow to the company. ARCO used a Kuparuk barrel of oil, using Gulf Coast prices and transportation costs and omitting the pipeline profits from its Kuparuk and TAPS pipelines. The Resources Committee questioned whether the ARCO example was appropriate, since Kuparuk oil is marketed almost exclusively on the west coast, which is more profitable to the companies because West Coast tanker costs are considerably lower than those incurred in transportation to the Gulf Coast. Members of the Resources Committee also questioned whether the pipeline profits should be excluded from the evaluation.

Review of the 1981 record indicates that the Legislature spent little time discussing the profitability of the pipeline during its deliberations. By asking a number of questions -- and asking them a number of times -- the Resources Committee has provided a basis for others to determine that the pipeline operations constitute a significant portion of North Slope profits and should be considered in determining what is a fair profit for North Slope oil development and thus what is a fair tax.

- (2) Was there a "deal" in 1981 to put the ELF into effect at Prudhoe Bay in 1987?

The oil industry claims that there was such a deal. The Administration claims otherwise. The record shows that, in 1981, the oil and gas taxation statutes were revised to provide for another accounting method for computing corporate income taxes. This was deemed necessary because of lawsuits by oil companies challenging the constitutionality of Alaska's separate accounting method. This tax package drastically cut oil companies' corporate income taxes and modified the ELF to raise the effective rate of the severance tax. This was designed as a temporary fix. The oil and gas taxation statutes were intended to be modified once the constitutionality of the separate accounting method was determined. This was reflected in the statement of then-Governor Jay Hammond when he signed the 1981 tax package into law. Governor Hammond has recently reiterated in recent comments that he did not believe that the 1981 changes were intended to be permanent. Nothing introduced in the record supports the contention that there ever was such a deal to not change the ELF.

- (3) How do the taxes from Alaska oil development compare to oil taxes that are paid elsewhere?

The Administration showed the Committee that virtually every field in the lower 48 (except one) would pay no severance tax if they were to be placed under either Alaska's present or proposed severance tax structure. Wells in the two most productive fields in the lower 48 produce less than 30 barrels per day (compared to Prudhoe Bay's 2,200 barrels per day and Kuparuk's 950 barrels per day). Of the top 10 oil-producing states, Alaska's severance tax payments, 7 other states have higher taxes than Alaska.

The Administration also presented charts comparing oil tax and royalty payments to the state and federal governments on Alaska production to government payments for production in Great Britain, Indonesia, Venezuela, and Nigeria. In all instances, the producers' per-barrel payments to government were significantly higher in other jurisdictions.

The industry countered that different taxing policies and different formal working arrangements, as well as higher production and transportation costs in Alaska render such comparisons invalid. To ascertain the true answer, it requires knowledge of the investing company's internal rate of return on Alaska investments and its hurdle rate of return on prospective investments. The industry considers this information confidential and declines to make it public.

- (4) How do the costs of field development on the North Slope compare to lower 48 costs?

Although the Resources Committee focused on this question in questioning the industry, the responses did not shed light on the question. In essence, the three largest producers responded as follows: BP Exploration (Alaska) Inc. said it had no lower 48 production and therefore could not answer the question; ARCO said the data was confidential information; Exxon said its information was not readily available.

Subsequent to the hearings, the Administration provided an investment house review of ARCO's North Slope and Lower 48 costs. That report (by Salomon Brothers in September 1987) indicated that lower 48 and South Alaska production costs were more than twice those of Prudhoe Bay and nearly 1.5 times those of Kuparuk. This is significant, in that representatives of both ARCO and BP used data from investment house analyses and suggested that the committee should pay careful attention to that data.

- (5) What are the effects of the current ELF on current North Slope Activities?

The industry argued that the recent increase in in-fill drilling and well re-work activity at Prudhoe Bay and Kuparuk could be attributed to the ELF-caused reductions in severance tax at both fields. A change in the ELF, the industry argued, would cause a reduction in field activity and a corresponding reduction in production. In response to this contention, C.V. Chatterton, Chairman of the Alaska Oil and Gas Conservation Commission, stated that he did not think that this legislation would have a significant effect on either Prudhoe Bay or Kuparuk field operations, which he said were aimed at maximizing production in the two largest producing fields in the United States. Mr. Chatterton's views were his personal views and did not represent those of the Commission. Because of his extensive industry experience, his statements were particularly impressive.

- (6) What is the likelihood that significant amounts of oil might be left in the ground due to the passage of HB 118?

Industry opponents of HB 118 stated that if HB 118 is passed, the increase in tax collections will reduce the money that would otherwise be available to the field operators for reinvestment in Alaska. Administration economists countered that the price of oil plays a much larger role than the ELF in determining cash available for reinvestment and that if any oil were left in the ground at Prudhoe Bay or Kuparuk due to the closing of the ELF loophole at these two fields, the amounts would be relatively insignificant. They also argued that any net loss in production or jobs due to the passage of

HB 118 would be far less than the gains in revenue and jobs resulting from the capture of additional revenue on each barrel of projected production. This is because much of the tax revenue generated by HB 118 would remain in Alaska, further contributing to a healthy economy, while a large portion of industry profit would leave Alaska, with the opposite effect. The Resources Committee is awaiting a detailed memorandum on this issue from the Administration, which will be forwarded to the Finance Committee.

(7) What are the effects of North Slope activities on state employment?

The Administration countered the oil industry's claim that jobs would be lost as a result of HB 118 with the contention that some jobs would be gained from HB 118 as a result of the development of marginal fields, which are more labor-intensive. The Committee received little substantiation about claims from the oil industry that HB 118 would result in loss of jobs. Data presented last year in support of the ELF revision indicated that industry claims of effects on jobs may be somewhat exaggerated.

CONCLUSION

The voluminous data presented in the ELF supports the case for modifying the ELF so that both Prudhoe Bay and Kuparuk -- the two largest fields in the United States, whose wells produce far more oil per day than high-producing wells in the lower 48 -- pay higher effective taxes than under the current ELF and so that other operating and prospective fields, which may need a tax break, get a better break and pay lower taxes than under the current ELF. There is also justification in the record for retroactively tightening or closing the loophole that opened at the end of June 1987 at Prudhoe Bay, when the 10-year ELF exemption under AS 43.55.013[b][2] ended at Prudhoe Bay and the ELF kicked in.



Alaska State Legislature

HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES

POUCH V
JUNEAU, ALASKA 99811
(907) 465-3718

M E M O R A N D U M

TO: The Majority Caucus

FROM: Representative Cliff Davidson *CD*
Representative Curt Menard *CDM*
Co-Chairs, House Resources Committee

DATE: February 3, 1989

SUBJECT: House Bill 118 - The ELF Bill

Our staff has prepared the attached paper on the ELF and the history and issues surrounding it, which we think will be helpful in understanding the bill. We would be happy to talk to you about this bill if you have any questions.

WHAT IS THE SEVERANCE TAX?

The Severance (production) tax is a tax that the state imposes on the extraction of oil, gas, and other nonrenewable resources. The severance tax is a mechanism designed to give the people a share in the nonrenewable resource wealth of a state. In Alaska, this tax is one of the largest sources of oil revenue to the state. Other oil revenue derives from the corporate income tax and the property tax, but these taxes are a small source of state revenue by comparison. These taxes are different from a royalty, which is the amount that a company contractually agrees to pay the owner (which in this case is the state) in the oil lease for the extraction of the oil from the owner's land.

The statutory nominal rate of severance tax on oil production in Alaska is 15%. (The "nominal rate" refers to the amount of the tax prior to the application of the ELF formula. The amount of tax after the application of the ELF formula is called the "effective rate".)

WHAT IS THE ELF?

"ELF" means "economic limit factor". In simple terms, the ELF is a tax formula that serves to reduce the severance tax by variable amounts, depending on per-well production at individual fields. The ELF was designed to lower the tax rate for the less profitable oil fields to encourage continued production as the productivity of the well declined and to encourage development of the less profitable oil fields. As an oil field's production declines, the ELF reduces the tax burden. As the field's oil production reaches the point at which it would be forced to shut down further oil development, the severance tax would be reduced to zero. Thus, it was designed to provide a substantial tax cut for less profitable oil fields.

The original ELF was created by the legislature in 1977. In 1981, as a result of lawsuits by oil companies challenging the constitutionality of Alaska's separate accounting method of computing corporate income taxes (which was later found to be constitutional), the oil and gas taxation statutes were revised to provide for another accounting method. This tax package provided Alaska's oil producers a large reduction in their corporate income taxes on the assumption that most of the revenue lost from the income tax would be offset by the gains from a modification of the ELF that would raise the effective rate of the severance tax. This was devised as a temporary fix.

In this legislation, for all oil fields in their first ten years of commercial production, the ELF was fixed at 1.0 if the oil field's calculated ELF exceeded 0.7. (This has been called the "ten-year rounding rule".) At the time the 1981 legislation was passed, several policy makers, including then Governor Hammond, stated that the legislature could reassess Alaska's oil tax structure, after the courts determined the constitutionality of Alaska's method of separate accounting.

For Prudhoe Bay, the most productive and most profitable oil field, the ten-year rounding rule resulted in the severance tax being temporarily raised back up to the statutory nominal rate of 15%. Prudhoe Bay's ten-year anniversary was on June 20, 1987. On June 20, 1987, the rounded ELF of 1.0 expired, resulting in an effective tax cut from 15% to 12.45% for Prudhoe Bay.

Because oil revenues account for more than 84% of state revenues, much of it from Prudhoe Bay, state revenues were immediately reduced by more than 5% as a result of the expiration of the rounded ELF for Prudhoe Bay that occurred in 1987 -- more than \$100 million per year. The state's budget crisis is partially attributable to this loss of revenue.

A change to make the ELF work as it was supposed to work, and to reverse the tax cut for Prudhoe Bay, was proposed in 1987 and passed the House but was never considered in the Senate. Changes to the ELF were recently proposed in HB 118, now under consideration in the House. HB 118 is similar to the bill that passed the House in 1987, but would raise taxes on Prudhoe Bay and Kuparuk more, and cut taxes on all other oil fields more, than the 1987 proposal.

WHAT DOES THE ELF BILL DO?

The ELF bill provides a greater tax relief for all oil fields in Alaska except Prudhoe Bay and Kuparuk, the two most productive oil fields in Alaska (and the United States), and are two of the most profitable. Under the revised ELF, the taxes for these two oil fields will increase but will still remain below the nominal statutory rate of 15%. The only oil fields besides Prudhoe Bay and Kuparuk whose severance taxes are not reduced by the ELF bill are those fields which have a zero tax rate under current law.

WHAT DATE SHOULD THE ELF'S APPLICATION BEGIN?

There is currently no beginning application date specified in the ELF bill. If passed as is, the ELF rate change would apply to all oil produced beginning 90 days after the bill is signed by the Governor. Amendments have been drafted to provide other choices of dates for beginning application of the ELF rate change.

The other choices of dates for beginning application of the ELF rate change are June 20, 1987 (when the ten-year rounded ELF expired for Prudhoe Bay, reducing the effective tax rate from 15% to 12.45%), January 1, 1989 (the beginning of this calendar year), or immediately upon being signed by the Governor.

The earliest choice will recapture the entire \$397 million revenue lost from the period from June 20, 1987 through to the end of the 1990 fiscal year. The later the application date, the more the revenues that will be lost. If a January 1, 1989 beginning date is used, \$222 million of revenue would be lost. If a June 1, 1989 beginning date is used, \$271 million of revenue would be lost. If a September 1, 1989 beginning date is used, \$301 million would be lost.

Chart 1

In February 1988, A Barrel of Oil at Valdez Was Worth \$11.93.

This is how the \$11.93 Was Divided:

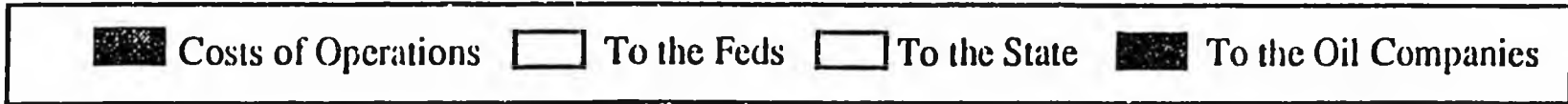
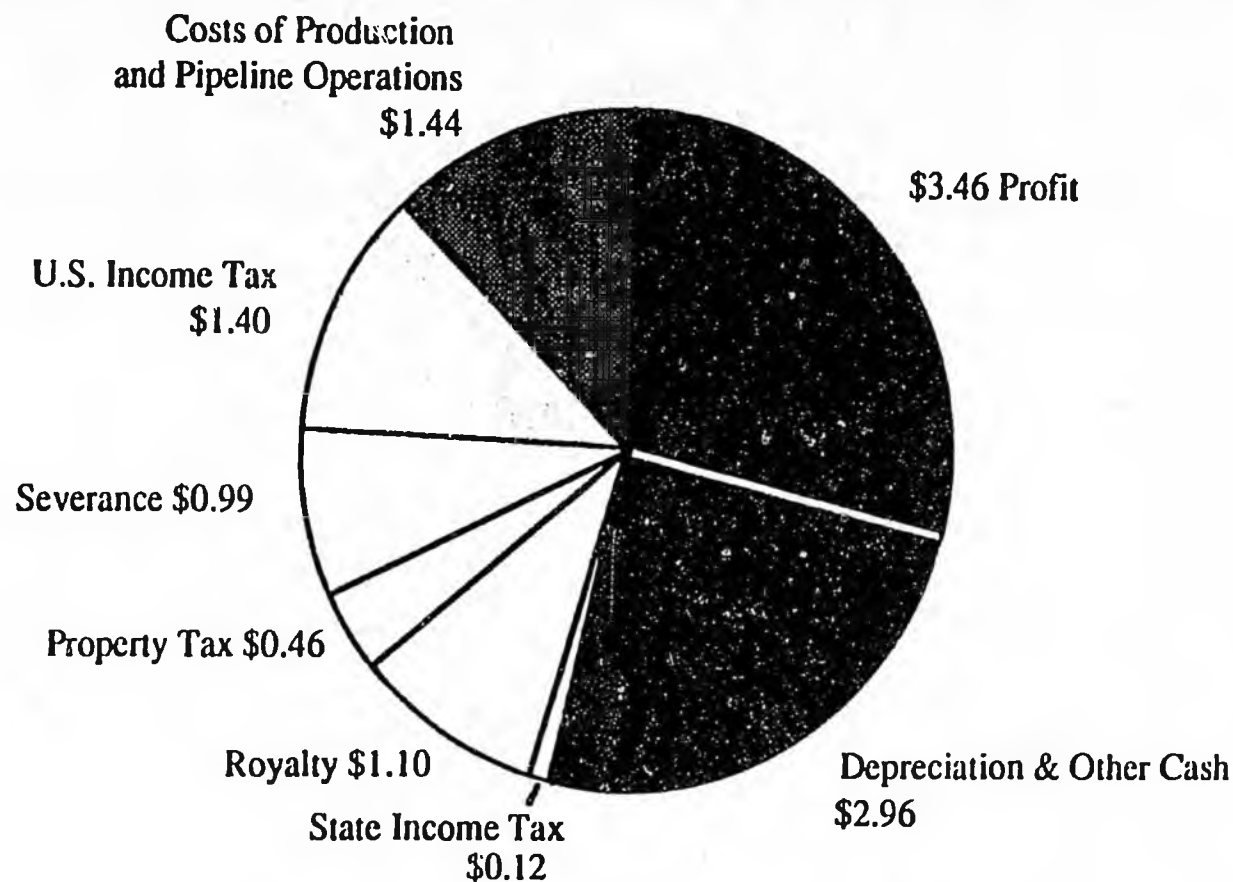


Chart 3

How Much Money Do The Oil Companies Reinvest in Alaska?

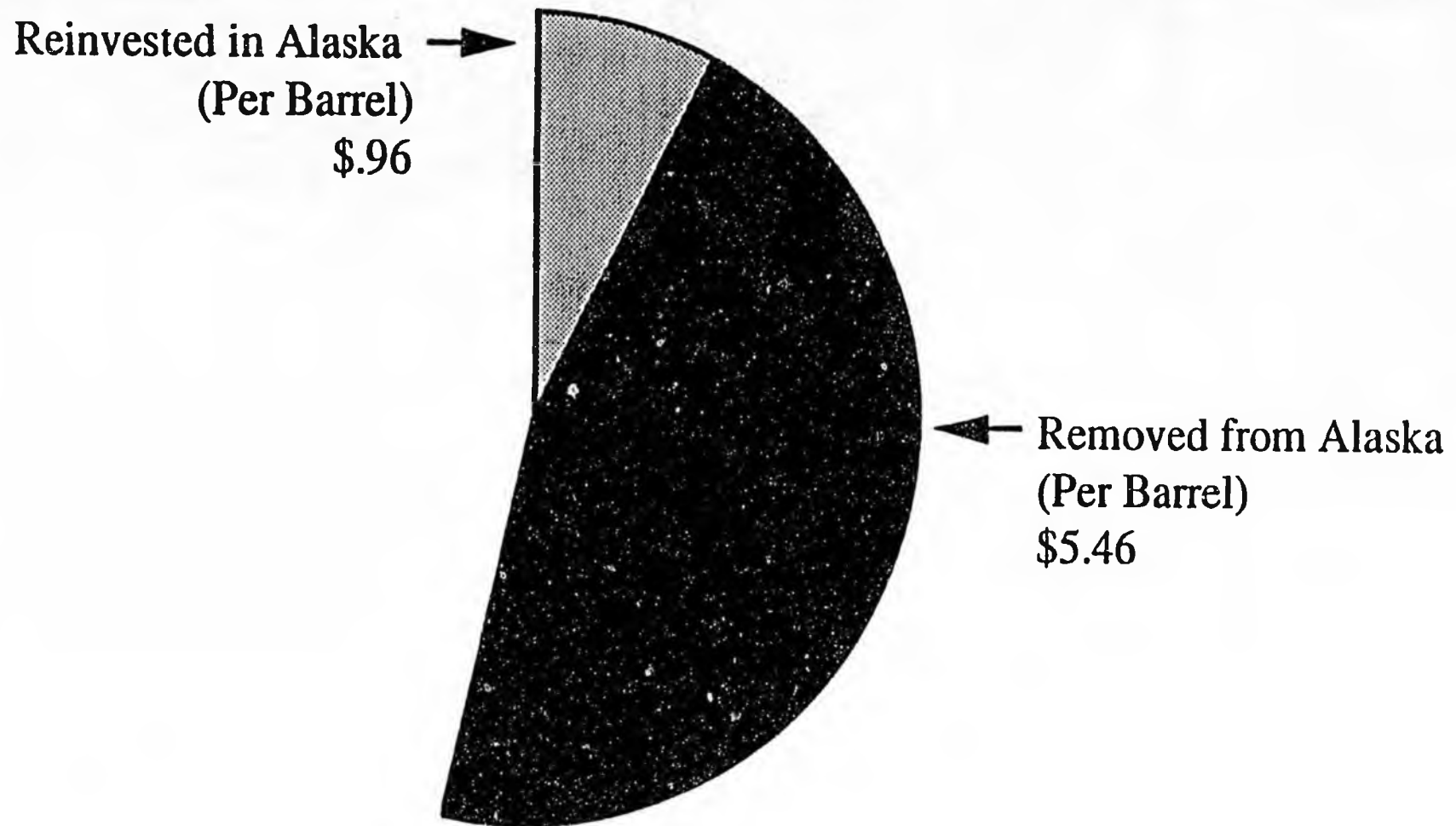
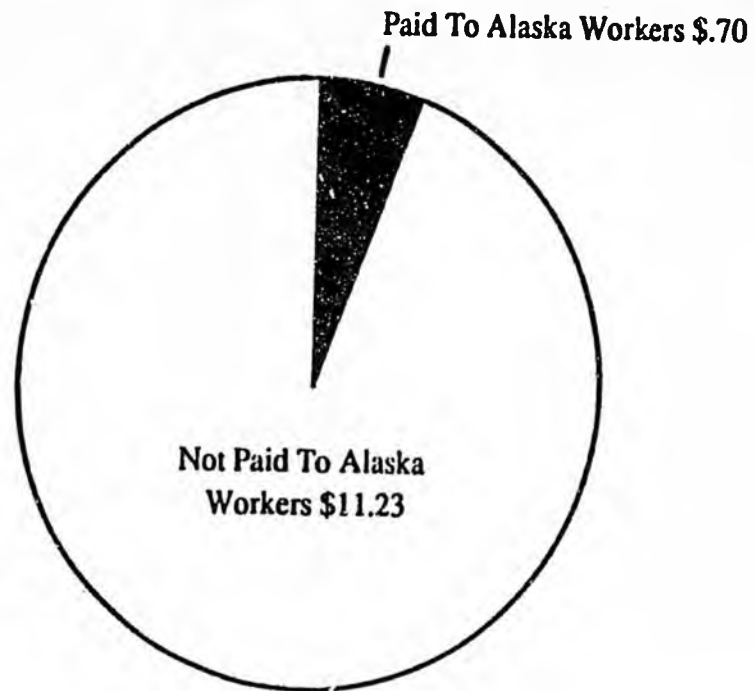
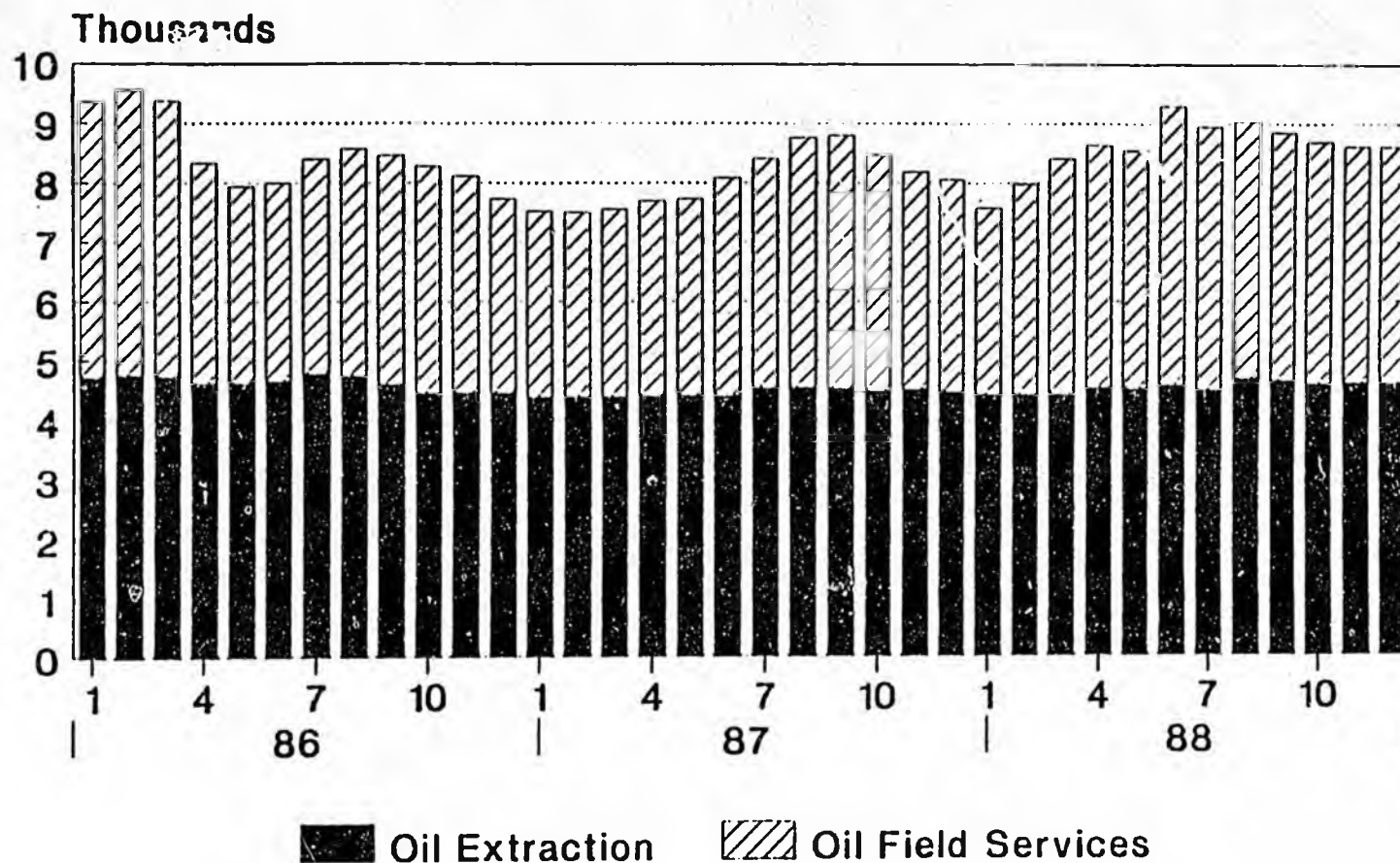


Chart 4

**How Much of The \$11.93 Revenue Per Barrel Gets Paid To Alaska Workers?
(\$/Barrel)**



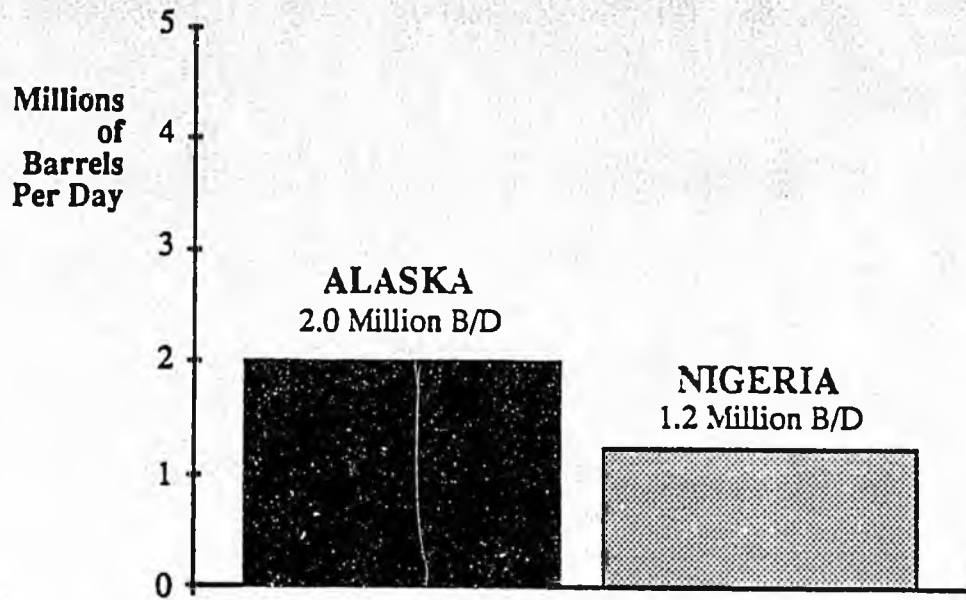
Alaska Oil Industry Employment 1986-1988



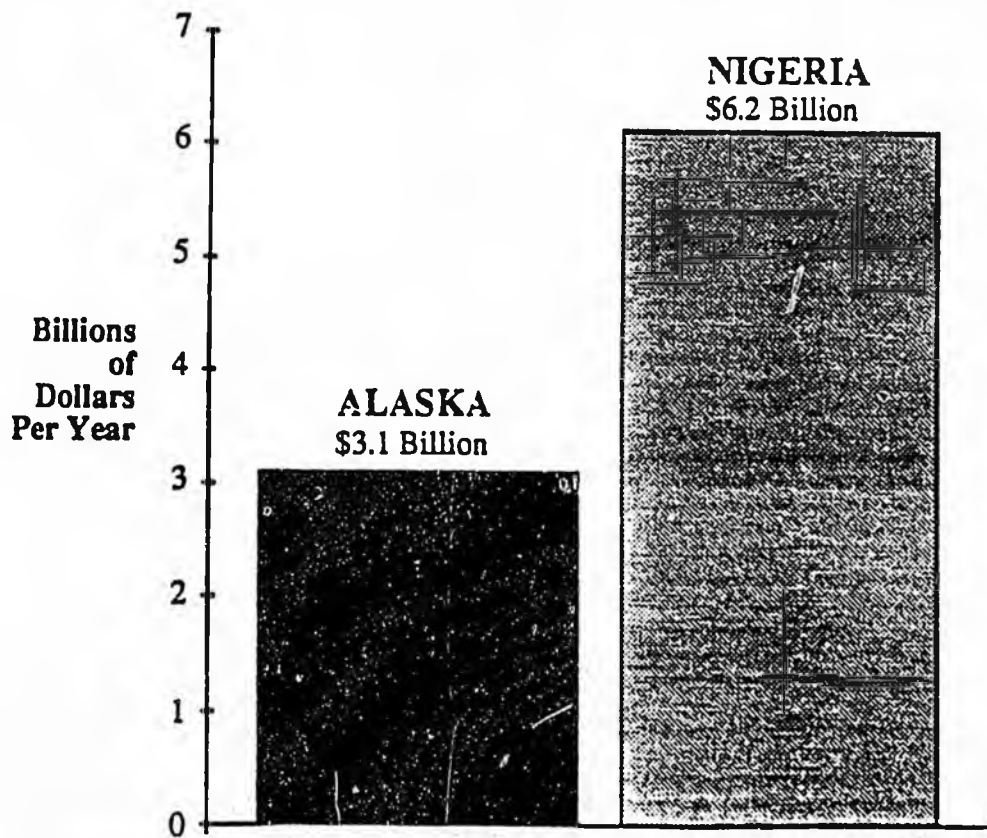
Source: Alaska Dept. of Labor
BLS 790 Survey

PRODUCTION

(Calendar Year 1987)

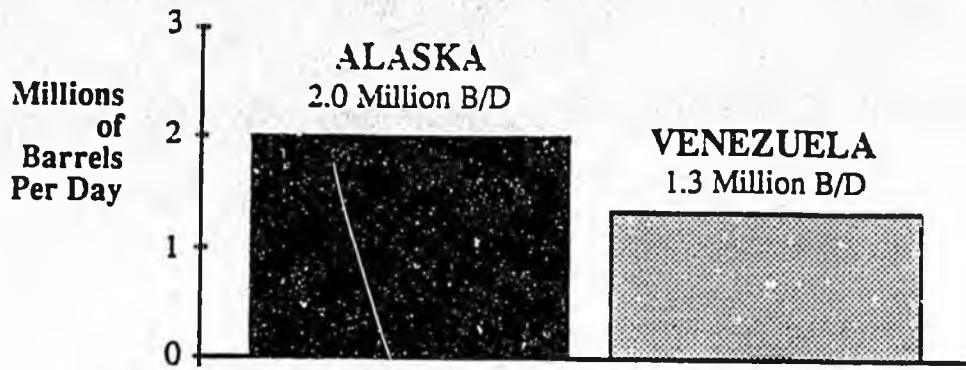


GOVERNMENT REVENUE

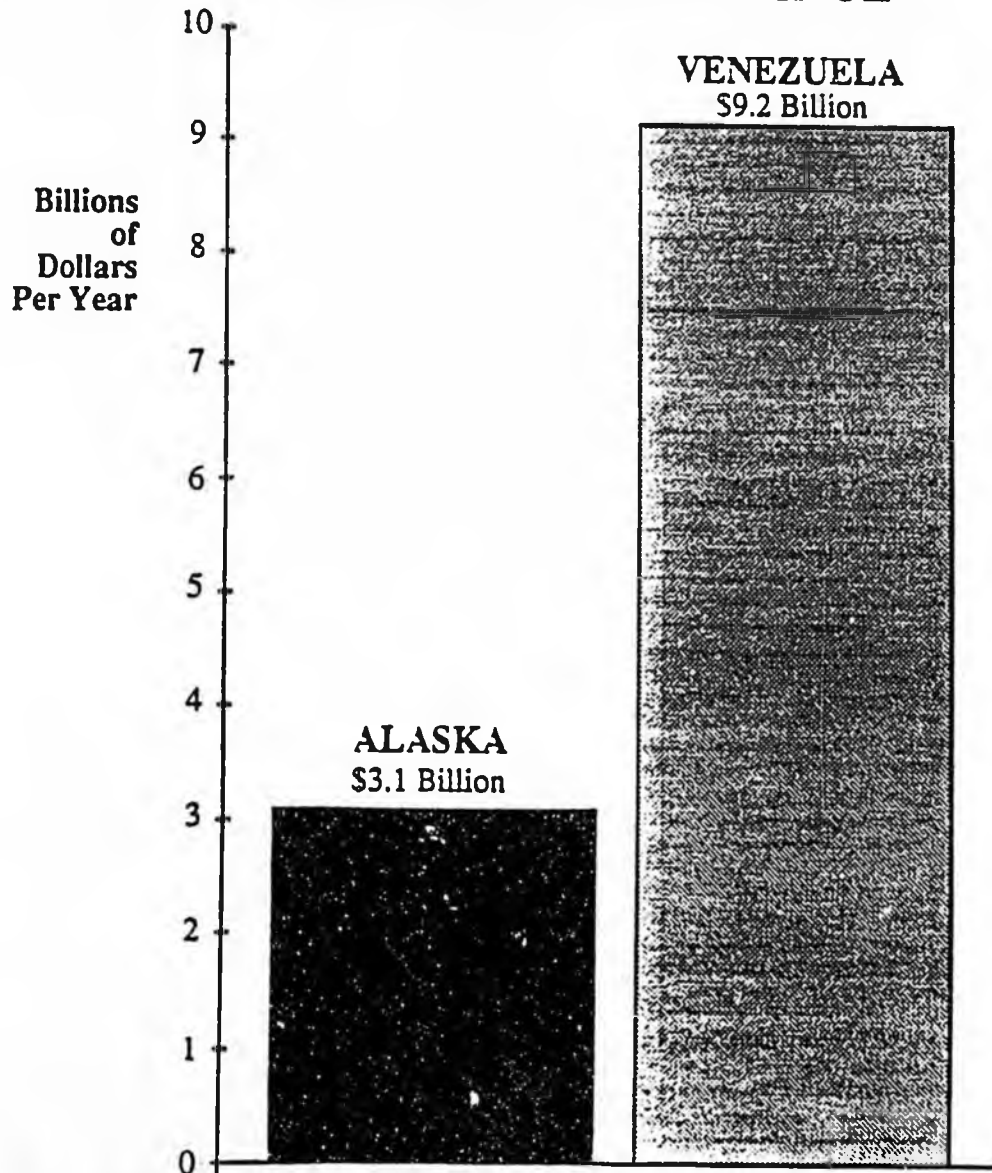


PRODUCTION

(Calendar Year 1987)

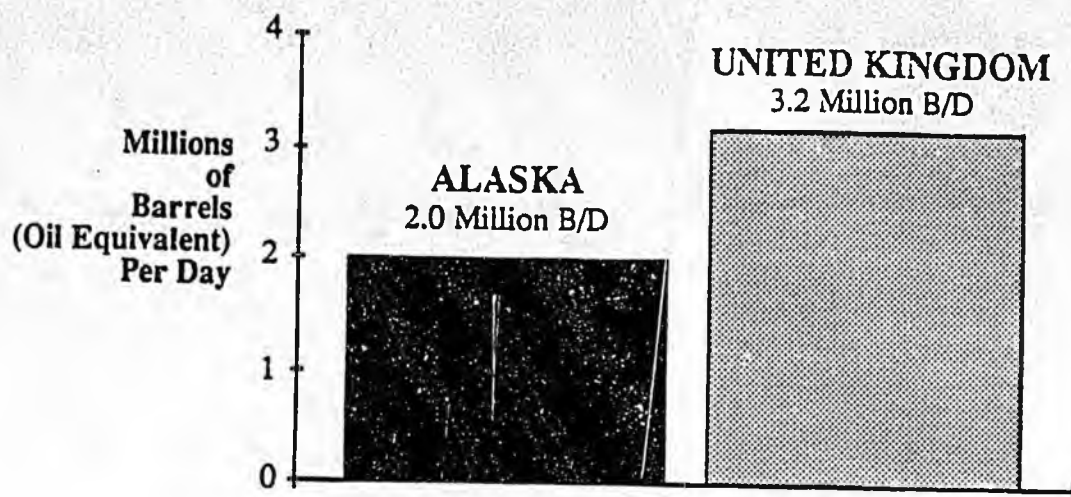


GOVERNMENT REVENUE

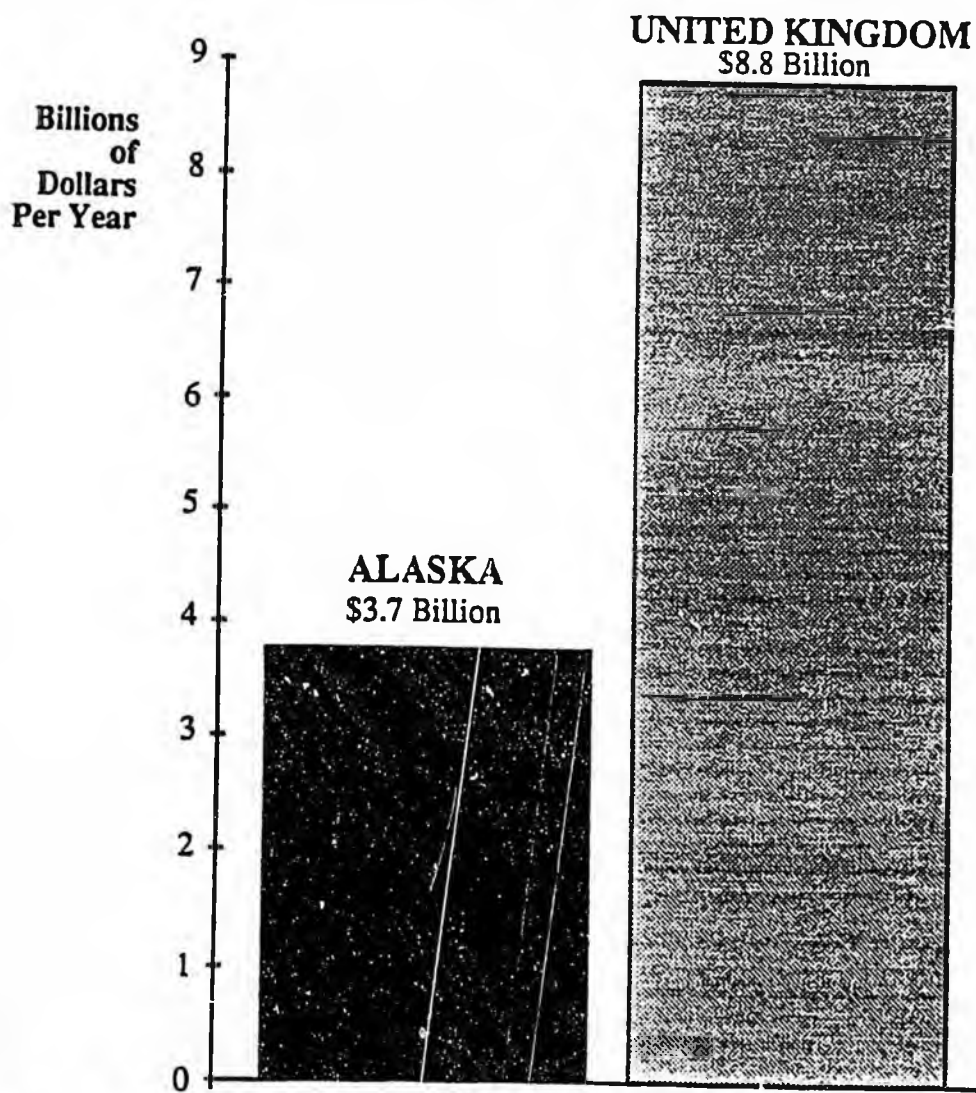


PRODUCTION

(Fiscal Year 1987)

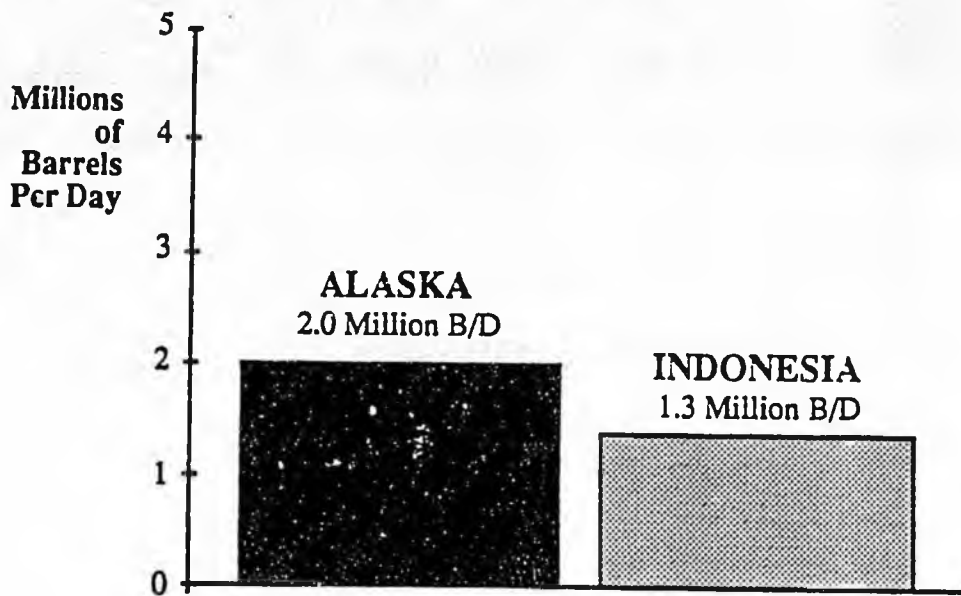


GOVERNMENT REVENUE

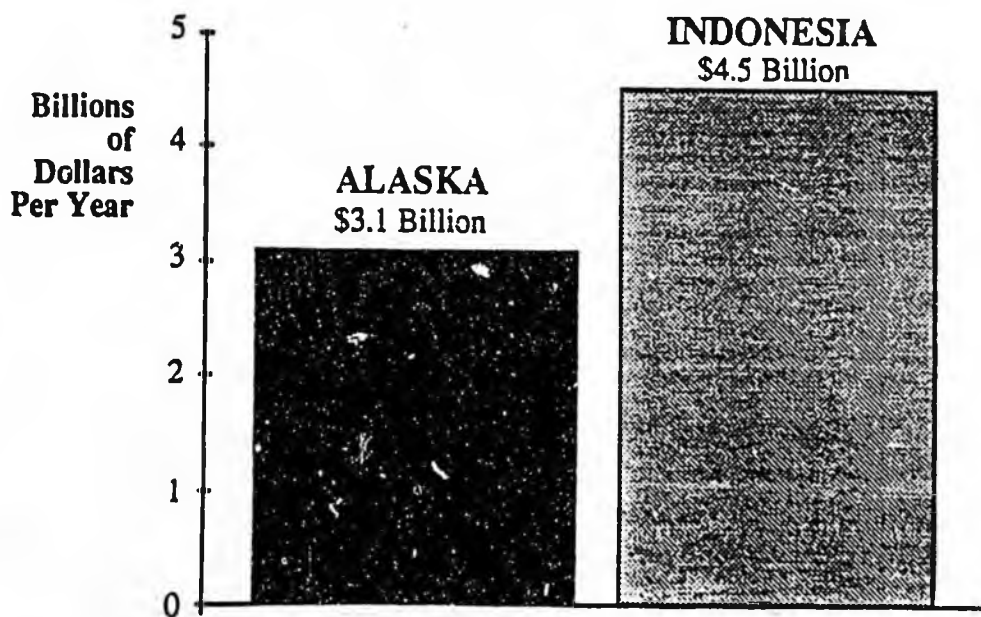


PRODUCTION

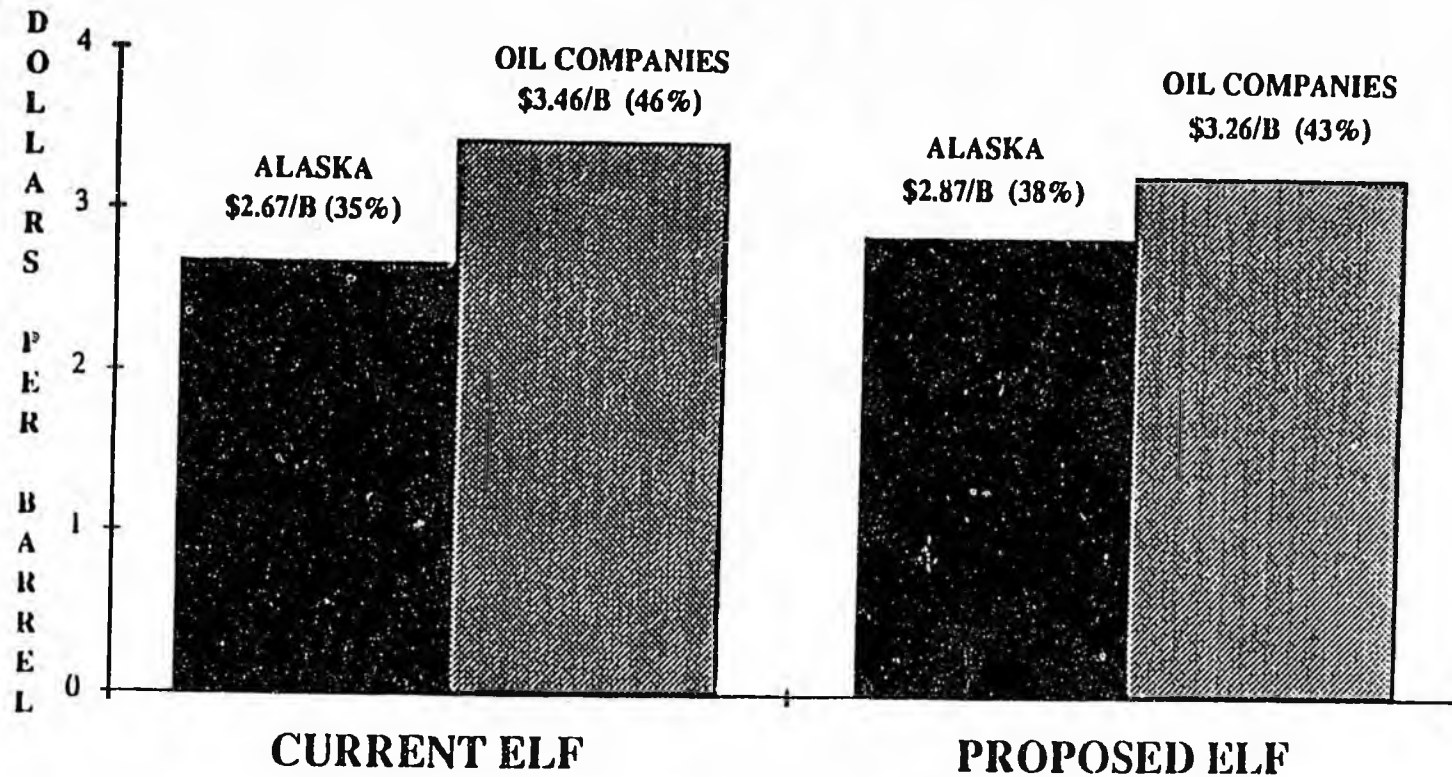
(Calendar Year 1987)



GOVERNMENT REVENUE



How Would The New ELF Affect Profits And Shares ?



MEMORANDUM

State of Alaska

DEPARTMENT OF REVENUE

TO: Cliff Groh
Special Assistant to the
Commissioner

DATE: February 9, 1989
2962A

FILE NO:

TELEPHONE NO:

THRU:

SUBJECT: APPLICABILITY DATE OF
HB 118

FROM: Roger Marks *RM*
Petroleum Economist

If the ELF formula contained in HB 118 applied to oil produced after the following dates, the amount of additional revenue (relative to current law) raised through the end of FY 1990 would be as follows. This is based on the assumptions in the Department of Revenue's Fall 1988 Petroleum Production Revenue Forecast mid-case scenario, updated for actual data through November 1988:

June 30, 1987	\$397mm
December 31, 1988	\$175mm
May 31, 1989	\$126mm
August 31, 1989	\$ 96mm

The August 31, 1989 figure was the basis of the fiscal note on the bill.

Assuming the "Consensus Revenue Analysis" of January 24, 1989, the revenues would be as follows:

June 30, 1987	\$410mm
December 31, 1988	\$188mm
May 31, 1989	\$132mm
August 31, 1989	\$ 99mm

Synopsis of Alaska Fields

<u>Field</u>	<u>Volume (bbls/day)</u>	<u>Wells</u>	<u>Daily Volume p/well</u>	<u>Effctv Sev Tax Rate Under Current Law</u>	<u>Effctv Sev Tax Rate Under HB118</u>
<u>Current Fields</u>					
<u>North Slope</u>					
Prudhoe Bay	1,526,932	691	2210	11.59%	14.91%
Kuparuk	320,685	337	952	8.36%	13.18%
Lisburne	38,293	51	751	5.22%	0.36%
Endicott	98,099	35	2803	12.25%	8.68%
<u>Cook Inlet</u>					
Beaver Creek	263	2	132	0.00%	0.00%
Granite Pt.	7,454	29	257	0.00%	0.00%
McArthur River	19,053	76	251	0.00%	0.00%
Middle Ground Shoals	7,913	44	180	0.00%	0.00%
Swanson River	5,684	27	211	0.00%	0.00%
Trading Bay	2,310	34	68	0.00%	0.00%
<u>Prospective Fields</u>					
Milne Pt.	30,000	40	750	4.67%	0.00%
West Sak	260,000	4000	65	0.00%	0.00%
Pt. Thomson	50,000	45	1111	7.62%	2.43%
Seal Island	100,000	112	893	6.57%	5.75%
Niakuk	20,000	12	1667	12.25%	0.01%

For current fields actual November 1988 data. For prospective fields the expected values at peak production.

IF LOWER 48 FIELDS WERE IN ALASKA THEY WOULD PAY
NO SEVERANCE TAX UNDER EITHER CURRENT LAW OR HB 118

<u>Top 10 Lower 48 Fields</u>	<u>Daily Production</u>	<u>Average Daily Per Well Production</u>	<u>ELF (Current or Proposed)</u>	<u>Severance Tax Under Alaska Law</u>
1. Belridge South (CA)	165,981	28	0	0
2. Midway-Sunset (CA)	157,526	19	0	0
3. Kern River (CA)	128,491	17	0	0
4. East Texas (TX)	111,225	12	0	0
5. Elk Hills (CA)	107,244	98	0	0
6. Yates (TX)	91,890	80	0	0
7. Wilmington (CA)	81,975	40	0	0
8. Wasson (TX)	78,510	36	0	0
9. Spraberry Trench (TX)	60,505	8	0	0
10. Slaughter (TX)	55,792	19	0	0

Source: Oil and Gas Journal

Size of Field Where Taxes Will Increase or Decrease Under HB118

HB118 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 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 2800 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.

A weighted average of all field sizes and average per well productivities from all Alaska fields indicates that on average fields which produce less than approximately 150,000 barrels per day will have a reduced severance tax under HB 118.

ALASKA DEPARTMENT OF REVENUE

POSITION PAPER

QUESTIONS AND ANSWERS ON

HOUSE BILL 118

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:

15% nominal tax rate

multiplied times ELF of 0.66

equals an effective severance tax:
rate of 9.9%

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 FY88.

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.

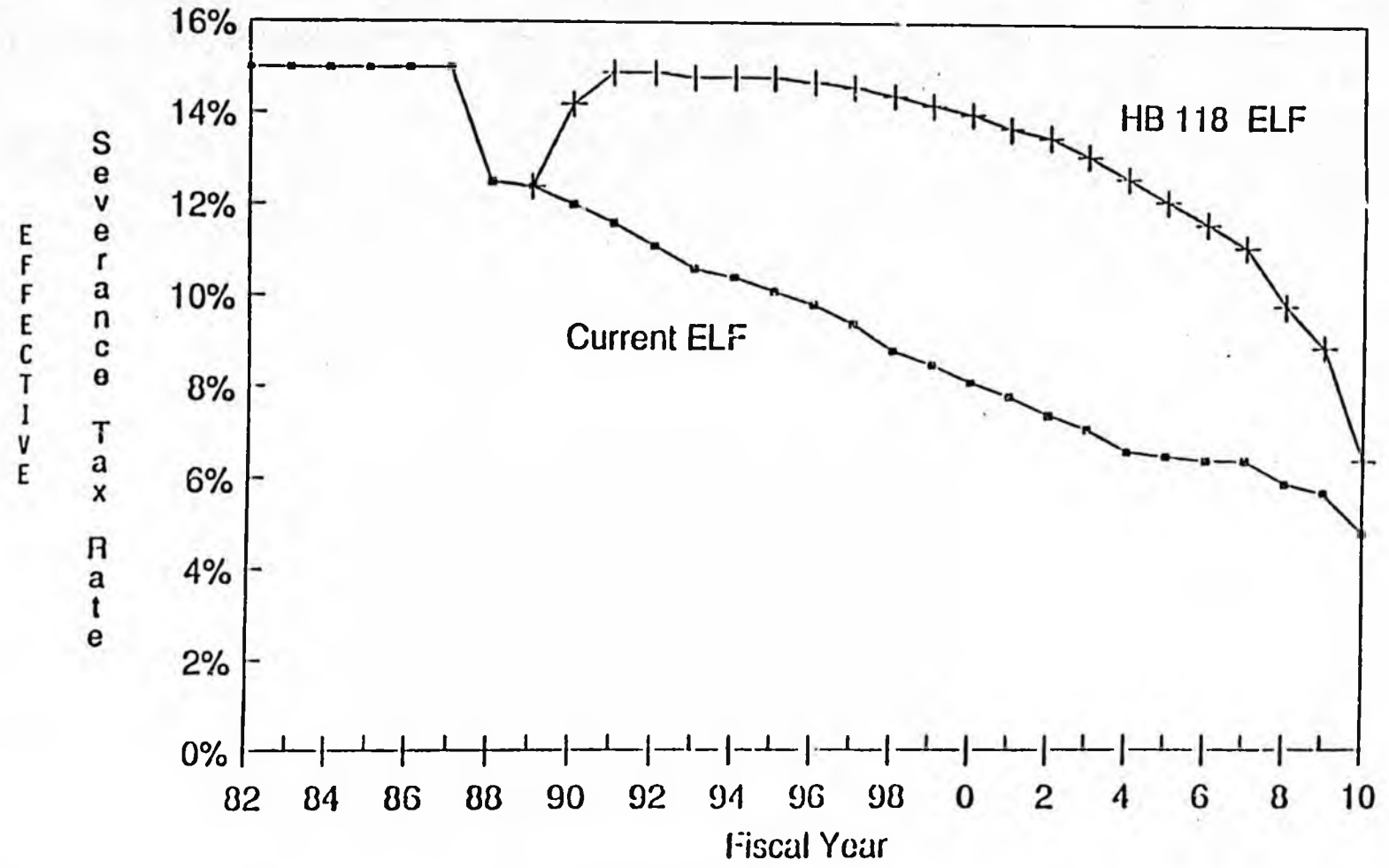
How much revenue would HB 118 raise?

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 \$96 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 \$175 million for FY89 and FY90. If the bill applied to oil produced after June 30, 1987, it would generate \$397 million in FY89 and FY90.

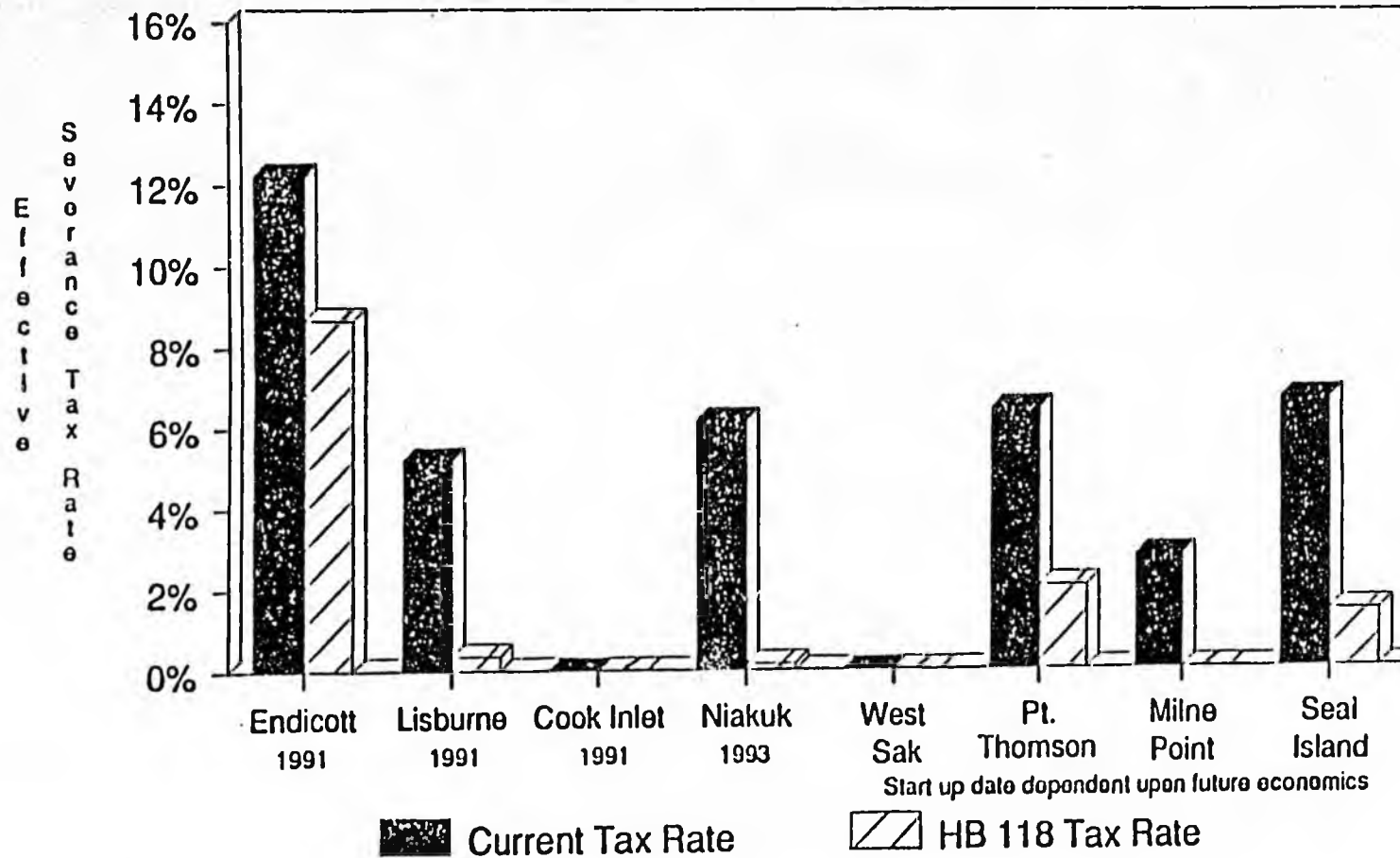
The long-term fiscal impact is substantial as well. For the FY91-FY95 period, the legislation would raise \$848 million.

GRAPH #1
The Tax Rate on Prudhoe Bay
Has Dropped Sharply



GRAPH #2

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

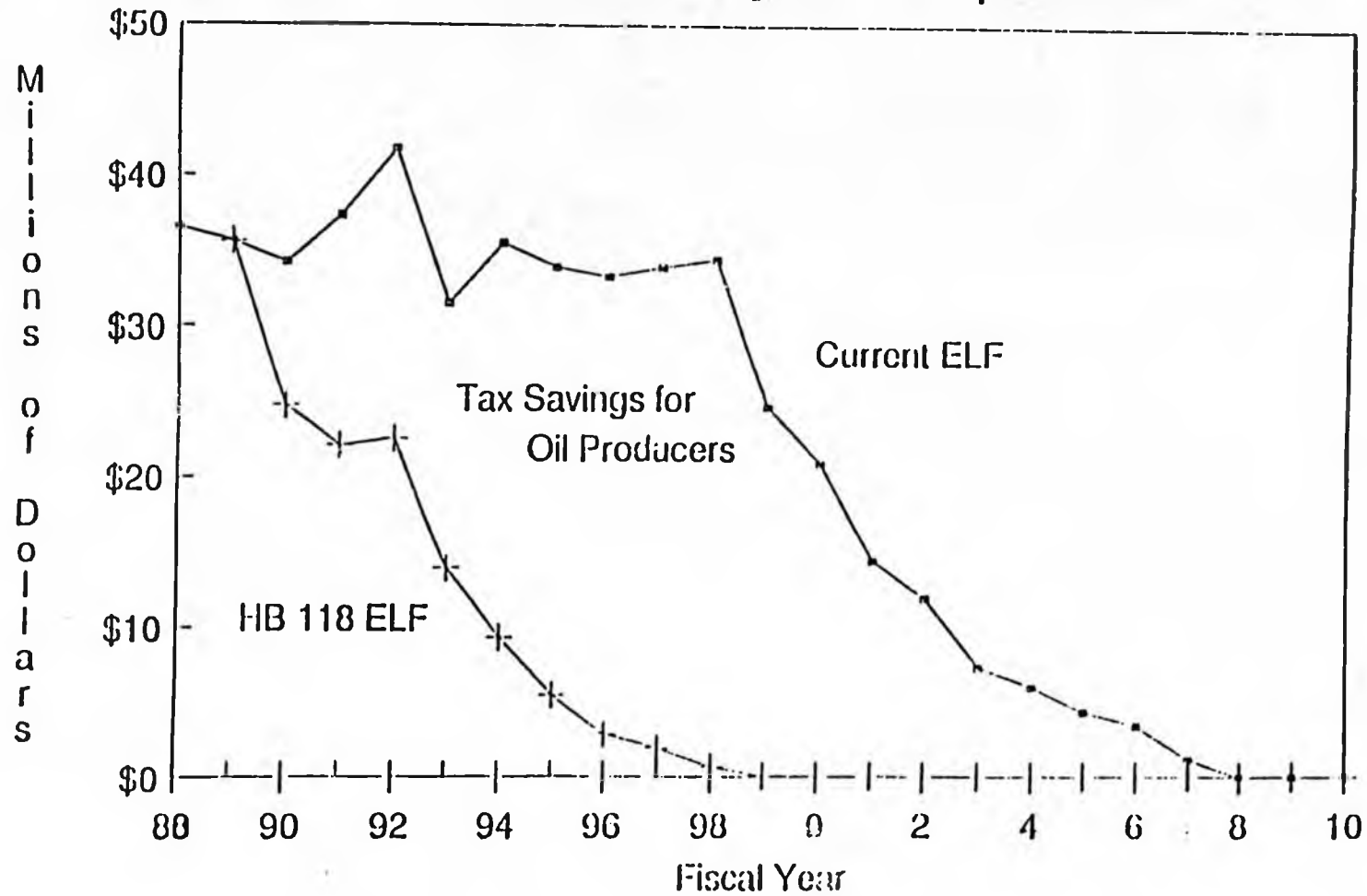


Source: Department of Revenue

Date: February 7, 1989

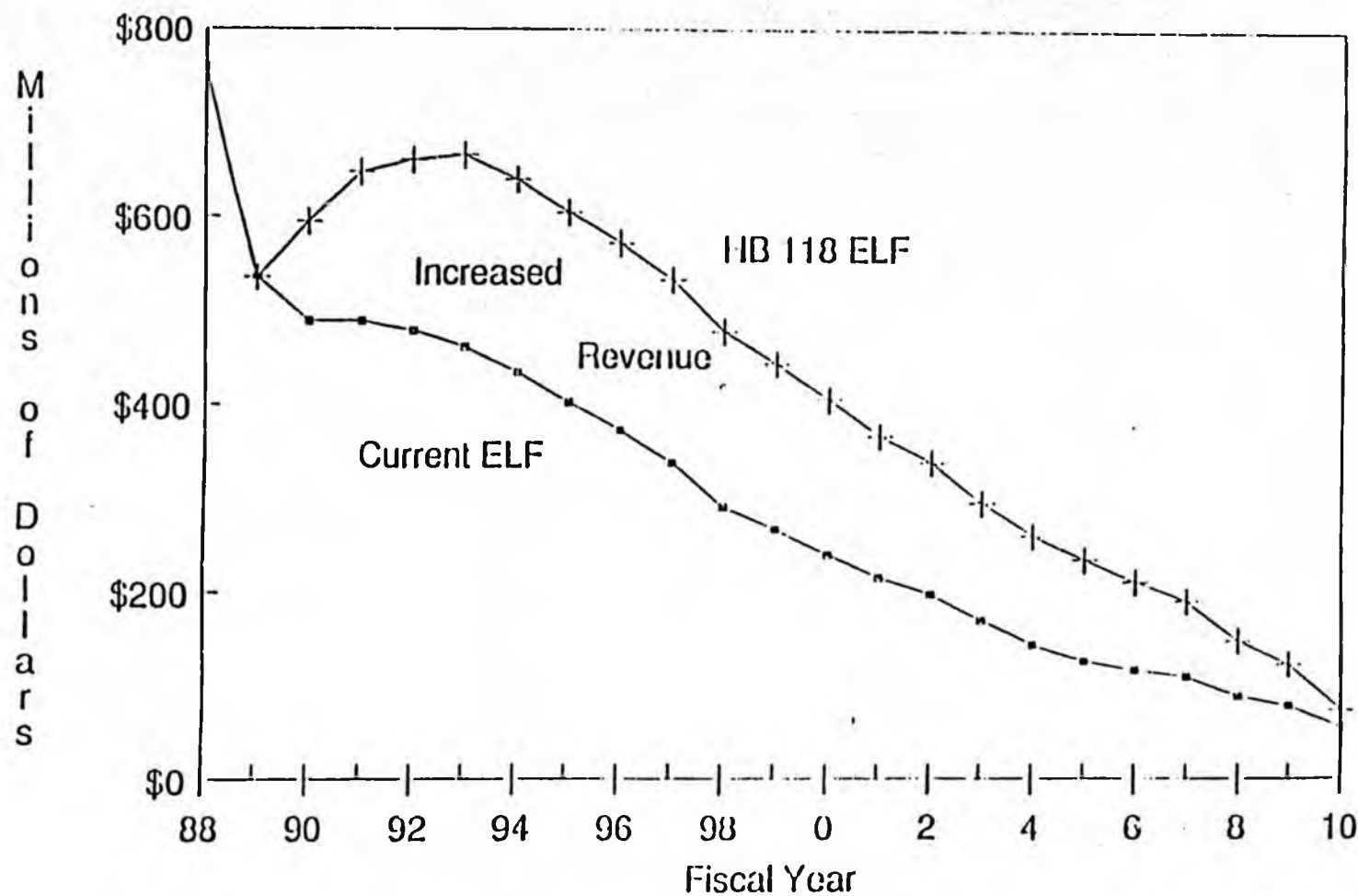
GRAPH #3

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



GRAPH #4

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



BP EXPLORATION (ALASKA) INC.

POSITION PAPER

QUESTIONS AND ANSWERS ABOUT THE "ELF"

Q. What is the ELF?

A. The Economic Limit Factor (ELF) is just a number ranging from zero to one (1.00) that is multiplied times the base tax rate to figure out the actual tax rate on oil and gas production. The ELF is computed according to a formula set out in the production tax statute.

Q. Why have the ELF?

A. It allows oil and gas to be produced that would stay in the ground without it. This gives the State of Alaska additional royalties and gives the State and municipalities a higher property tax base because the tangible field investment is depreciated over a longer economic life.

A production tax is based on the gross value of the production, not the profit from it. Operating costs rise as time passes. Eventually they reach the total value of the production, leaving nothing for profit. Since the tax does not change when profits are shrinking, it squeezes profits even further and hastens the time when there is no profit left at all. The field then gets shut down even though more oil and gas could be economically produced if there were no tax.

The ELF avoids this by lowering the actual tax rate as the field becomes less profitable. However, the ELF formula is carefully designed so that the tax rate is not reduced very much until the field is very close to closing down. Then the ELF falls rapidly to zero and so does the tax.

Q. Last year the state House of Representatives passed a change to the ELF formula that they say would lower tax rates for small fields like Endicott. Wouldn't this change be better for marginal fields than the present ELF formula?

A. Don't confuse smallness with being marginal. A field in Cook Inlet about 1/20 the size of Prudhoe Bay has had a higher internal rate of return than Prudhoe. On the other hand, West Sak has as much or even more oil in place than Prudhoe, but it will be so difficult and expensive to produce that it is only a marginal field economically.

All small fields would get a tax break under the House bill, whether they need it or not.

The House bill would calculate the ELF using field-wide production, instead of production per well. Under the House

bill, drilling new wells to increase production would actually raise the tax burden per barrel for the field. This would be a disincentive to full development. The present ELF provides an incentive.

Q. Isn't the ELF just a give-away that was made in 1981?

A. No, the present ELF formula was enacted in 1977. Our present governor, Steve Cowper, was the House Finance Committee chairman then and endorsed the ELF concept:

"Given the tax relief that the [ELF] proposal will afford the economically marginal oil and gas fields and the relatively modest increase in taxation the proposal places on the highly productive and profitable oil and gas fields, House Finance Committee Substitute for CS for SB 238 represents a balanced and reasonable adjustment to the present tax law."

Source: 1977 House Journal, Supp. 60 (May 7, 1977), p. 8.

The 1981 legislation raised the actual tax rate for Prudhoe Bay to 15% by increasing the base rate from 12.25% to 15% and by "rounding off" the ELF to 1.00 until June 1987, the 10th anniversary of Prudhoe production. The actual tax rate with the ELF today is 12.1% -- higher than the 11.7% it was prior to the legislation in 1981.

Q. When Governor Hammond signed the 1981 legislation, he said he had full confidence in the ability of the Legislature to deal with the situation when the ELF would start up again for Prudhoe Bay in mid 1987. Didn't he mean that the ELF would have to be fixed or changed then?

A. No. Governor Hammond's most important concern was that the State's share should remain at or above 30%. He was told that the bill would keep the State's share just over this 30% minimum until the ELF started working again in mid 1987 for Prudhoe Bay. Everyone agreed the ELF would reduce the State's share, but no one in 1981 was prepared to predict whether the reduction would drop the State's share below 30%. If it did drop below that minimum level, Governor Hammond had full confidence in the Legislature's ability to remedy the situation.

Q. Has the State been getting its 30% share? If so, is it still getting it now that the ELF has kicked in again for Prudhoe Bay?

A. Yes to both questions. The following table shows the State's actual share through FY 87 and its projected share for FY 88 through FY 91.

	<u>Actual State Share</u>
FY 82	35.02%
FY 83	33.80%
FY 84	36.53%
FY 85	36.89%
FY 86	37.40%
FY 87	52.35%

	<u>Projected State Share</u>	
	<u>\$9 Oil at Wellhead (\$13-14 at market)</u>	<u>\$11 Oil at Wellhead (\$15-16 at market)</u>
FY 88	79%	57%
FY 89	92%	61%
FY 90	96%	63%
FY 91	103%	67%

Sources: For FY 82-85 actuals, Alaska Department of Revenue (Research Section), "ANALYSIS OF HB 353" (October 31, 1985), Mean Case Summary Tables, Table 2a ("Calculation of State Petroleum Revenues as a Percent of Adjusted Production Income"), column 12 ("State / Net Rev %"); for FY 86-87 actuals, Petroleum Intelligence Weekly; for FY 88-91 projections, Alaska Department of Revenue (Larson, Logsdon and Marks), "SENSITIVITY ANALYSIS OF PROJECTED REVENUE COLLECTIONS" (December 1986), pp. 82 (for \$11 wellhead figures) and 93 (for \$9 wellhead figures).

Q. How much is the impact of the ELF? Last year in June the State was saying it would be \$200 million for FY 88 and 89 together. This past February the Department of Revenue said it will be \$300 million, and the Speaker of the House recently said \$400 million.

A. As a percentage of the State's petroleum revenues, the ELF represents a reduction of slightly less than 7%. The dollar amount depends on the price levels you assume. The higher your prices are, the greater the impact in dollar terms.

Both the Speaker and the Department of Revenue tell only part of the story when they focus only on the extra "cost" of the ELF due to their higher price assumptions. Despite the ELF, higher prices mean higher production tax and royal-

ty collections. While Revenue bemoaned the "loss" of another \$100 million because of the ELF, its higher price assumptions indicate an increase of \$189 million in production tax from Prudhoe Bay alone, plus another \$260 million in royalties.

Less than 1/6 of the Department of Revenue's latest \$300 million figure is due to an increased number of producing wells.

Q. Prudhoe Bay isn't a marginal field. Why should it get a tax break like the ELF?

A. Prudhoe Bay is a lot more marginal these days than people think. A major indicator of field profitability is daily production per well. Ten years ago Prudhoe was producing 1.2 million barrels a day from only 120 wells -- an average of 10,000 barrels a day per well. Today it produces 1.55 million barrels a day from 669 wells. While total production for the field has increased, the average production per well has declined by 76.8% to a little over 2300 barrels per day. Yet the ELF has declined by only 15.3%, from 0.954370 to 0.808459.

Q. Isn't the ELF providing a tax incentive for oil companies to drill extra wells at Prudhoe Bay that aren't really needed?

A. No unnecessary wells are being drilled just for the tax benefit of the ELF. Based on the Department of Revenue's price forecast for FY 89 (\$10.43 at the wellhead), the difference in production tax in FY 89 due to having 715 wells in the ELF calculation (as Revenue has in its forecast this past February) instead of 590 (as it had in its forecast last June) is \$26.8 million. For the extra 125 wells, the average tax benefit per well is only \$0.21 million -- not enough to justify the \$2 million that each well costs.



Alaska State Legislature

HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES

POUCH V
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MEMORANDUM

TO: House Resources Committee members

FROM: Representative Cliff Davidson
Representative Curt Menard
Co-Chairs, House Resources Committee

DATE: February 27, 1989

SUBJECT: ELF Questions

Attached are answers to 26 questions concerning HB 118 (ELF) that have been provided to the Committee by the following:

- 1) Department of Revenue
- 2) BP Exploration (Alaska), Inc.
- 3) Exxon Company USA
- 4) ARCO Alaska, Inc.

ELF QUESTIONS

I AMOUNT OF OIL EXTRACTED

(1) The ELF is designed to provide production incentives for wells in "marginal" oil fields. Which oil fields are considered "marginal" in Alaska?

(2) How many barrels per day are extracted from the most productive oil field in Alaska that will be allowed tax cuts under this ELF bill?

(3) How many barrels per day are extracted from Prudhoe Bay? from Kuparuk?

(4) How many barrels per day are extracted from wells in the most productive oil fields in the various lower 48 states? What is the greatest barrels-per-day extraction considered marginal and provided tax cuts for production incentive in the various lower 48 states?

(5) Which oil companies have the greatest lease interests in Prudhoe Bay and Kuparuk oil fields and what is the percentage of their lease interests?

(6) Oil Companies: How much oil did you extract world wide in 1976? How much of that was from Alaska? (Prudhoe Bay?)

(7) Oil Companies: How much oil did you extract world wide in 1988? How much of that was from Alaska? (Prudhoe Bay?)

II TAXES PAID

(8) Which oil fields will receive tax breaks from this ELF Bill? Which oil fields will receive tax increases from this ELF bill?

(9) Can the ELF raise the amount that would be paid for severance taxes above the statutory nominal rate of 15% for any oil field or any oil company? So this ELF bill can't do this either, right?

(10) Will this ELF bill raise the rate that would be paid for severance taxes for Prudhoe Bay above the rate that was paid by oil companies at Prudhoe Bay prior to June 20, 1987?

(11) How much is being paid to the State of Alaska in severance taxes each year?

(12) How does the amount that Alaska receives in severance taxes compares to the amount that other oil-producing states and nations receive? How much would the

fields in the lower 48 pay if they were placed under the Alaska tax structure?

(13) Oil Companies: Do you have North Sea productions? If so, what percent of the total economic rent do you realize from your Alaska production and what percent do you realize from your North Sea production?

III PROFITS

(14) Oil Companies: How much profit is being made off of the most productive oil fields in the lower 48 states?

(15) Oil Companies: How much profit is being made off of the most productive oil fields in other oil-producing countries?

(16) How much profit is being made off of Prudhoe Bay and Kuparuk oil fields each day?

(17) Does this include TAPS? If not, what is the profit on TAPS?

(18) What public sources corroborate this? Would you provide materials proving this? Would you provide a detailed list of your revenues and expenses?

(19) How much profit is made from refined products from Alaskan oil?

(20) What did the oil companies of Prudhoe Bay do with the savings made as a result of the tax break occurring on June 20, 1987?

(21) What percent of money grossed by Alaska's oil in Prudhoe Bay and Kuparuk is reinvested in Alaska? How much money is sent outside?

IV IMPACTS ON ALASKANS

(22) How many jobs are involved in starting up a small oil field? How many jobs are involved in maintaining a small field?

(23) How many Alaskans were employed by the oil companies of Prudhoe Bay prior to June 20, 1987 when the tax cut kicked in? How many Alaskans are employed by the oil companies of Prudhoe Bay now?

(24) What is the long-term effect on Alaskan jobs in Prudhoe Bay and Kuparuk oil fields as a result of this ELF bill?

(25) How many Alaskans are employed by the oil companies of the marginal oil fields now? How many Alaskans are likely

to be employed by the oil companies of existing marginal oil fields and in developing other oil fields as a result of this ELF bill?

(26) What is the long-term effect on Alaskan jobs in the smaller oil fields as a result of this ELF bill?

Department of Revenue

February 21, 1989

Response to Questions from House Resources Committee - HB 118

I. Amount of Oil Extracted

1. Marginal fields are fields with either relatively low per well productivity or relatively low daily production. These are indicative of the economic well being of the field. Production is significant because of the considerable economies of scale that accompany large fields. For example, the consultants report for the U.S. Minerals Management Service estimated the production platform capital cost per barrel for a 300,000 barrel per day field to be approximately 60% of that of a 100,000 barrel a day field. Attachment 1 displays economies of scale for production platform costs. There are numerous precedents for taxing on the basis of field size. For example, see Attachment 2, which shows higher royalties for larger fields in Norway. In Alaska the marginal fields are the six Cook Inlet fields (Beaver Creek, Middle Ground Shoals, Granite Point, McArthur River, Swanson River, and Trading Bay), Milne Point, Lisburne, Endicott, Niakuk, West Sak, Point Thomson, Seal Island, and probably any other field that will be discovered in Alaska.

2. There are two factors that will affect the size of field that will have reduced taxes under the bill. The first factor is the change in the formula itself. Because of this fields that produce less than approximately 115,000 barrels per day will have reduced taxes under the bill. The second factor is the elimination of the "rounding rule." Under current law fields whose ELF is greater than 0.7 must raise the ELF up to 1.0 for the first ten years of the field, making the severance tax rate equal to that set in the law (12.25% for the first 5 years, then going to 15%). This provision is eliminated under the bill. Thus fields that produce more than 115,000 barrels per day could benefit from the bill by eliminating the rounding provision. The most productive oil field in Alaska that will have reduced taxes under the bill is currently Endicott, which produces approximately 100,000 barrels per day.

3. Prudhoe Bay produces approximately 1,500,000 barrels per day. Kuparuk produces about 320,000 barrels per day.

4. The most productive fields in the lower 48 produce less than

100 barrels per well per day. (Prudhoe Bay produces over 20 times that much.) Alabama, for example, gives tax relief for wells producing less than 25 barrels per day.

5. BP owns approximately half of Prudhoe Bay with the remainder split approximately in half between ARCO and EXXON. There are eight other minor owners. ARCO/BP have an approximate 60/40 split of Kuparuk. There are four other minor owners.

II. Taxes Paid

8. Milne Point, Lisburne, Endicott, Niakuk, Point Thomson, and Seal Island would receive tax breaks under the proposal. Cook Inlet and West Sak pay no severance tax under current law and would not pay any under the proposal. Prudhoe Bay and Kuparuk would have increased taxes under the proposal.

9. Neither the current nor the proposed ELF could raise the effective severance tax rate over the statutory nominal rate.

10. This ELF bill would result in a lower effective severance tax rate for Prudhoe Bay than was in effect on June 20, 1987.

11. The State received \$819 million from severance taxes in FY 88. Attached is a table for other prior years.

12. For 1987, the last year where we have comparable data, Alaska ranked 8 out of the top 10 producing states in severance tax payments per barrel (where 1 would be the highest payment). (See Attachment 3.) Texas received \$529 million more in severance taxes (55%) than Alaska, whereas its production was only six percent higher. (Texas got \$1.55 per barrel, Alaska got 91 cents per barrel). Virtually every field in the lower 48 (except one) would pay no severance tax if put under either Alaska's present or the proposed severance tax structure under HB118.

III. Profits

16. The Administration testimony of February 10, 1989 showed that producers made \$3.46 per barrel in profit from Alaska North Slope operations in February 1988. This is \$7 million a day. TAPS accounted for \$1.15 of this. The remainder (\$2.31) is attributable to production. Also according to PIW (see Attachment 4), average production profits worldwide were \$0.87 per barrel. This is derived by dividing total production profits by oil production.

17. See #16 above.

18. See #16 above. Also the State is currently developing an

extensive analysis of the profitability of North Slope fields.

19. Because the refining segment is more concentrated than the producing segment, and thus less competitive, when crude prices (upon which State revenues are based) are low, refining profits are high since the lower price does not have to be passed on directly to consumers, and because demand increases. In the third and fourth quarters of 1988, for example, petroleum earnings were very high because of this. For example, ARCO's fourth quarter 1988 earnings set a record of a 15 percent increase. Their refining and marketing segments were up 76 percent. (See Attachment 5.)

20. Well drilling was only increased slightly. The average well count at Prudhoe Bay increased by 60 in 1986 and by 67 in 1987. See #21 below.

21. Based on the PIW data and the announced spending figures of the producers (\$750 million), it is estimated that approximately 15% of cash flows (profit plus depreciation - this is discretionary income) are reinvested in Alaska. (See Attachment 6.) The other 85% leaves the State. Note, however, that even the investment that stays in Alaska does not create income indigenous to Alaska. For instance, the amount invested in a gas plant is invested where the plant is manufactured. e.g., Texas), not where it is erected. (See Attachment 7.)

IV. Impacts on Alaskans

22. The start-up and maintenance of small fields, that might otherwise not occur without HB 118, could create in excess of 1,000 jobs. (See Attachment 8.)

23. Department of Labor data suggests that employment on the North Slope has not increased over the period. (See Attachment 9.)

24. #23 above suggests that HB 118 would not affect employment at Prudhoe Bay and Kuparuk. Also note that the bill will result in lower severance tax rates than current law even on those fields in the long run.

25. It is difficult for the State to get a field by field breakout of employment. This bill could cause fields to come on line that otherwise might not. Since the bill reduces severance taxes on the marginal fields, the Department of Revenue estimates that the bill would reduce the threshold start-up price on the marginal fields by approximately \$2 a barrel. As stated above, each new field that comes on line could create in excess of 1,000 jobs.

26. See #25 above.



BP EXPLORATION

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February 22, 1989

Representative Cliff Davidson, Co-Chair
Representative Curt Menard, Co-Chair
House Resources Committee
Alaska State Legislature
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Juneau, AK 99811

Re: Your "ELF Questions"

Dear Representatives Davidson and Menard:

Set out below are the 26 questions regarding the ELF that you distributed at your Committee's hearing on House Bill No. 118 on February 10, 1989. Following each question is BP Exploration's answer.

(1) The ELF is designed to provide production incentives for wells in "marginal" oil fields. Which oil fields are considered "marginal" in Alaska?

Answer: The question misstates the purpose and function of the ELF. The ELF was designed to provide incentives for the full development of all fields. It does this by adjusting the tax rate for each field so that it is based on that field's own degree of profitability. As a profitable field starts becoming marginal, the ELF automatically responds by lowering the tax rate; but while the field is very profitable, the ELF keeps the tax rate high.

The idea behind the ELF is simple -- the more profitable a field is, the more tax it can afford to pay. Although it looks complicated, the ELF formula simply asks what percentage of the current production from a field is needed to cover the basic costs of getting that production out of the ground. The rest of the production is treated as representing profit. The larger the percentage of profit, the more tax the field can afford to pay. Thus, the larger the percentage of production that is deemed to represent profit, the higher the ELF is. In fact, for gas the ELF is precisely equal to this percentage of deemed profit. The

oil ELF formula is similar, except that the percentage is modified somewhat by the present exponent.

Every field eventually becomes marginal. Usually this is a very gradual process, instead of one that happens over night. There is no identifiable point at which a field suddenly becomes "marginal." Thus, to the extent one sees the ELF to be "designed to provide production incentives for wells in 'marginal' fields," the ELF provides such incentives for every field in Alaska.

(2) How many barrels per day are extracted from the most productive oil field in Alaska that will be allowed tax cuts under this ELF bill?

Answer: By "this ELF bill" in this and other questions you have posed, we assume you mean House Bill No. 118. As you have been told, the present formula in HB 118 is flawed and does not work the way it has been described as working. However, it appears that the formula in HB 118 -- whether it stays as written or whether it is corrected to work as intended -- would reduce the rate of production tax for the Endicott field because the ELF for Endicott is currently being "rounded" to one. According to data provided by the Administration to your Committee, Endicott produced an average of 98,099 barrels a day during November 1988.

(3) How many barrels per day are extracted from Prudhoe Bay? from Kuparuk?

Answer: According to the same data provided by the Administration for November 1988, Prudhoe Bay produced 1,526,932 barrels a day that month and Kuparuk River produced 320,685 barrels a day.

(4) How many barrels per day are extracted from wells in the most productive oil fields in the various lower 48 states? What is the greatest barrels-per-day extraction considered marginal and provided tax cuts for production incentive in the various lower 48 states?

Answer: BP does not have extensive holdings in the Lower 48 states and therefore does not have direct, first hand information available to answer these questions.

(5) Which oil companies have the greatest lease interests in Prudhoe Bay and Kuparuk oil fields and what is the percentage of their lease interests?

Answer: Both Prudhoe Bay and Kuparuk River have been unitized, and hence each company's working interest in either field is

determined under the unit agreement for that field. The following shows each company's present working interest in each field.

	<u>Prudhoe Bay</u>		<u>Kuparuk River</u>
	<u>Oil Rim</u>	<u>Gas Cap</u>	
BP Exploration	50.6848339%	13.8398950%	38.756%
ARCO	21.7799635	42.5649413	56.301
Exxon	21.7776490	42.5647901	0.218
Mobil	1.8915771	0.2843666	0.366
Phillips	1.8805235	0.2629370	--
Chevron	0.6717745	0.4830700	0.109
Texaco	0.5484215	--	--
Amerada Hess	0.5379191	--	--
Shell	0.1375744	--	--
Marathon	0.0499044	--	--
Louisiana Land	0.0397591	--	--
Unocal	--	--	4.250

(6) Oil Companies: How much oil did you extract world wide in 1976? How much of that was from Alaska? (Prudhoe Bay?)

Answer: BP had worldwide oil production of 3.5 million barrels a day in 1976. The Standard Oil Company (SOHIO) produced 41,927 barrels a day worldwide in 1976. BP and SOHIO had no commercial production in Alaska in 1976. The Prudhoe Bay field came into production in June 1977.

(7) Oil Companies: How much oil did you extract world wide in 1988? How much of that was from Alaska? (Prudhoe Bay?)

Answer: BP had worldwide oil production of 1.45 million barrels a day in 1988, of which 0.86 million barrels a day was from Alaska.

(8) Which oil fields will receive tax breaks from this ELF bill? Which oil fields will receive tax increases from this ELF bill?

Answer: It appears that HB 118 is intended to reduce taxes for the Endicott and Lisburne fields. It also appears that the bill is intended to increase substantially the production tax for the Prudhoe Bay and Kuparuk River fields. Intended or not, HB 118 would increase the tax for Milne Point, which was zero when the field was shut in. The rate for Milne Point would be low under HB 118, but it would not be zero. No other producing oil fields

would be affected because the present ELF already reduces their effective tax rate to zero.

(9) Can the ELF raise the amount that would be paid for severance taxes above the statutory nominal rate of 15% for any oil field or any oil company? So this ELF bill can't do this either, right?

Answer: Wrong. HB 118 would increase the tax rate for fields as they get larger. So if a 1,000 barrel-a-day well were drilled in a 100,000 barrel-a-day field, that well would increase the rate of tax on the first 100,000 barrels a day as well as increase it for its own additional production. The effective rate of tax on the new production from this well could easily exceed the nominal statutory rate of 15 percent.

The following example illustrates this negative effect of HB 118. Suppose a field produces 100,000 barrels a day from 100 wells, and the wellhead price of the oil is \$7.00 a barrel. The State has a one-eighth royalty in the production. Suppose a new well can be drilled, and it will produce 1,000 barrels a day. Under the ELF formula in HB 118, the tax on the present production of 100,000 barrels a day would be \$1,418,644 a month (30 days). If the 101st well were drilled and produced 1,000 barrels a day, the value of the additional taxable production would be \$183,750 a month. The tax on 101,000 barrels a day would be \$1,447,312 for the month. This is an increase of \$28,668 in tax for an extra \$183,750 worth of taxable production, giving an effective tax rate of 15.60 percent. Here are the details of these calculations.

TAX ON EXISTING PRODUCTION (100 wells)

$$\begin{aligned} \text{"A"} &= (1 - [\text{PEL}/\text{TP}]) & \text{"B"} &= [150,000 / (\text{TP}/\text{Days})] \\ &= (1 - [(300 \times 100) / 100,000]) & &= [150,000 / (100,000)] \\ &= 0.700000 & &= 1.500000 \end{aligned}$$

$$\begin{aligned} \text{"C"} &= [(460 \times \text{WD}) / \text{PEL}] \\ &= [(460 \times \text{WD}) / (300 \times \text{WD})] \\ &= [460 / 300] \\ &= 1.533333 \end{aligned}$$

$$\begin{aligned} \text{ELF} &= \text{A}^{\text{B}^{\text{C}}} \\ &= 0.700000^{(1.500000^{1.533333})} \\ &= 0.700000^{(1.862115)} \\ &= 0.514701 \end{aligned}$$

$$\begin{aligned}\text{Tax} &= (7/8) * (100,000 \text{ B/D}) * (30 \text{ days}) * (\$7.00) * (\text{ELF}) * (15\%) \\ &= \$1,418,644\end{aligned}$$

TAX WITH 101 WELLS PRODUCING

$$\begin{aligned}\text{"A"} &= (1 - [\text{PEL}/\text{TP}]) & \text{"B"} &= [150,000 / (\text{TP}/\text{Days})] \\ &= (1 - [(300 * 101) / 101,000]) & &= [150,000 / (101,000)] \\ &= 0.700000 & &= 1.485149\end{aligned}$$

$$\begin{aligned}\text{"C"} &= [(460 * \text{WD}) / \text{PEL}] \\ &= [(460 * \text{WD}) / (300 * \text{WD})] \\ &= [460 / 300] \\ &= 1.533333\end{aligned}$$

$$\begin{aligned}\text{ELF} &= \text{A}^{(\text{B} * \text{C})} \\ &= 0.700000^{(1.485149 * 1.533333)} \\ &= 0.700000^{(1.833920)} \\ &= 0.519903\end{aligned}$$

$$\begin{aligned}\text{Tax} &= (7/8) * (101,000 \text{ B/D}) * (30 \text{ days}) * (\$7.00) * (\text{ELF}) * (15\%) \\ &= \$1,447,312\end{aligned}$$

EFFECTIVE TAX RATE ON THE ADDITIONAL 1,000 B/D PRODUCTION

$$\begin{aligned}\text{Rate} &= (\text{Change in Tax}) / (\text{Value of Additional Taxable Production}) \\ &= (\$1,447,312 - \$1,418,644) / [(7/8) * (\$7.00) * (1,000) * (30)] \\ &= (\$28,668) / (\$183,750) \\ &= 15.60\%\end{aligned}$$

(10) Will this ELF bill raise the rate that would be paid for severance taxes for Prudhoe Bay above the rate that was paid by oil companies at Prudhoe Bay prior to June 20, 1987?

Answer: Yes, for new production that is added by further development of the field, the effective rate of tax under HB 118 could exceed the 15% rate that was in effect prior to June 20, 1987. The answer to the preceding question applies here. The following hypothetical case illustrates how, for example, the effective tax rate could be 15.04% on additional production from Prudhoe Bay.

Suppose it is some time in the future and Prudhoe Bay is in its decline, producing 1,400,000 barrels a day from 700 wells. To offset the decline partially, another well could be drilled that would produce 2,000 barrels a day. The wellhead price is \$7.00 a barrel, and the State has a 1/8 royalty.

TAX ON PRODUCTION WITHOUT THE 701st WELL (1.4 MMB/D)

$$\begin{aligned} \text{"A"} &= (1 - [\text{PEL}/\text{TP}]) & \text{"B"} &= [150,000 / (\text{TP}/\text{Days})] \\ &= (1 - [300 \times 700 / 1,400,000]) & &= [150,000 / 1,400,000] \\ &= 0.850000 & &= 0.107142 \end{aligned}$$

$$\begin{aligned} \text{"C"} &= [(460 \times \text{WD}) / \text{PEL}] \\ &= [(460 \times \text{WD}) / (300 \times \text{WD})] \\ &= [460 / 300] \\ &= 1.533333 \end{aligned}$$

$$\begin{aligned} \text{ELF} &= \text{A}^{\text{B}^{\text{C}}} \\ &= 0.850000^{(0.107142^{1.533333})} \\ &= 0.850000^{(0.032554)} \\ &= 0.994723 \end{aligned}$$

$$\begin{aligned} \text{Tax} &= (7/8) \times (\$7.00) \times (1,400,000 \text{ B/D}) \times (30 \text{ days}) \times (\text{ELF}) \times (15\%) \\ &= \$38,383,884 \text{ per month} \end{aligned}$$

TAX WITH 701 WELLS PRODUCING (1.402 MMB/D)

$$\begin{aligned} \text{"A"} &= (1 - [\text{PEL}/\text{TP}]) & \text{"B"} &= [150,000 / (\text{TP}/\text{Days})] \\ &= (1 - [300 \times 701 / 1,402,000]) & &= [150,000 / 1,402,000] \\ &= 0.850000 & &= 0.106990 \end{aligned}$$

$$\begin{aligned} \text{"C"} &= [(460 \times \text{WD}) / \text{PEL}] \\ &= [(460 \times \text{WD}) / (300 \times \text{WD})] \\ &= [460 / 300] \\ &= 1.533333 \end{aligned}$$

$$\begin{aligned} \text{ELF} &= \text{A}^{\text{B}^{\text{C}}} \\ &= 0.850000^{(0.106990^{1.533333})} \\ &= 0.850000^{(0.032483)} \\ &= 0.994735 \end{aligned}$$

$$\begin{aligned} \text{Tax} &= (7/8) \times (\$7.00) \times (1,420,000 \text{ B/D}) \times (30 \text{ days}) \times (\text{ELF}) \times (15\%) \\ &= \$38,439,163 \text{ per month} \end{aligned}$$

EFFECTIVE TAX RATE ON PRODUCTION FROM THE 701st WELL

$$\begin{aligned} \text{Rate} &= (\text{Change in Tax}) / (\text{Value of Additional Taxable Production}) \\ &= (\$38,439,163 - \$38,383,884) / ((7/8) \times \$7.00 \times 2,000 \times 30) \\ &= (\$55,279) / (\$367,500) \\ &= 15.04\% \end{aligned}$$

(11) How much is being paid to the State of Alaska in severance taxes each year?

Answer: According to the Alaska Department of Revenue's latest revenue forecast, the following severance taxes have been paid to the State of Alaska since FY 82 (in millions of dollars):

FY82	\$1,581.7
FY83	1,493.7
FY84	1,393.1
FY85	1,389.4
FY86	1,108.4
FY87	648.5
FY88	818.7

Under the "Mid Case Scenario" in that forecast, severance taxes this fiscal year (FY 89) will be \$547.35 million, and next year will be \$484.47 million.

(12) How does the amount that Alaska receives in severance taxes compare to the amount that other oil-producing states and nations receive? How much would the fields in the lower 48 pay if they were placed under the Alaska tax structure?

Answer: Among oil-producing states, only Louisiana has a severance tax rate approaching Alaska's base rates of 12.25 and 15 percent.

Comparisons between Alaska and oil-producing nations are inappropriate for several reasons. First, foreign nations have greater sovereign powers than Alaska has, and their institutions regarding the ownership of property and natural resources often vary considerably from those in the United States and Alaska.

Second, foreign nations often grant concessions to large areas of land, instead of making it available in much smaller, leased parcels as Alaska does.

Third, the regime in many foreign nations allows the oil company to recover its exploration costs and some or all of its development costs before the host government starts taking its share. This is very different from leasing on a bonus-bid basis, which has been the method primarily used by Alaska.

Fourth, the lifting costs for Alaskan oil, particularly on the North Slope, are significantly higher than for large fields in many other countries. In addition, in none of the foreign countries does the oil have to be transported over 800 miles by pipeline to an ocean port. Moreover, unlike foreign oil, Alaskan North Slope production must go only to U.S. ports, which means more expensive Jones Act tankers have to be used instead of low-

cost foreign-flag ships. This combination of greater costs of producing and transporting the oil to market makes it extremely difficult to draw any meaningful comparisons between Alaskan oil and that of the foreign nations you seem to be referring to.

(13) Oil Companies: Do you have North Sea production? If so, what percent of the total economic rent to you realize from your Alaska production and what percent do you realize from your North Sea production?

Answer: To compare Alaska with the North Sea at any given moment is like taking a single frame from Gone with the Wind and a frame from Star Wars and asking which is the better movie. You have to know the whole story before any meaningful comparison can be made.

In the North Sea, the oil company gets to recover its costs of exploring and developing the resource, before the high tax rate begins. Depending on whether these costs have been recovered or not, the government's share of the "economic rent" is either very small or very large.

The most nearly comparable situation in Alaska is its net profits share leases. Under those leases, the State's net profits share does not start to be paid until the lessee has recovered its developments costs, plus a reasonable rate of return on its investment. The rate of return was specified by the State when it put the lease up for bid. For one lease at Endicott, SOHIO and three Alaska Native Regional Corporations bid a net profits share of over 79% for the State. Once the development costs and return are recovered, the State's share of the "economic rent" from this lease will be very comparable to that of the United Kingdom for properties in the North Sea that have similarly paid off their investments.

(14) Oil Companies: How much profit is being made off of the most productive oil fields in the lower 48 states?

Answer: Because BP's interests in the Lower 48 are somewhat limited, we are unable to answer this question.

(15) Oil Companies: How much profit is being made off of the most productive oil fields in other oil-producing countries?

Answer: Either BP does not have access to this information, or if it does, the information is proprietary.

(16) - (18) How much profit is being made off of Prudhoe Bay and Kuparuk oil fields each day?

Does this include TAPS? If not, what is the profit on TAPS?

What public sources corroborate this? Would you provide materials proving this? Would you provide a detailed list of your revenues and expenses?

Answers: The State of Alaska's most recent revenue forecast is the Department of Revenue's Revenue Sources - Fall 1988 dated December 16, 1988 (hereinafter cited as Revenue Sources). The "Mid Case Scenario" in that forecast assumes an average wellhead value of \$7.36 a barrel on the North Slope during FY 89 (Revenue Sources, p. 21). It also assumes production will average 1.97 million barrels a day (id.), or 719.05 million barrels during the year. The following table shows the potential production profits from the North Slope based on an average wellhead price of \$7.36 a barrel.

	<u>\$ millions</u>	<u>\$/barrel</u>	
Total Revenue	5,292.2	7.36	
Production Costs	(2,158.0)	(3.00) *	
Net Revenue	<u>3,134.2</u>	<u>4.36</u>	100%
To Alaskan Government			
Royalty - Unrestricted	469.8	0.65	
Royalty - Perm. Fund	178.7	0.25	
Production Tax	547.4	0.76	
Property Tax	214.0	0.30	
Income Tax	<u>111.8</u>	<u>0.16</u>	
TOTAL	1,521.7	2.12	49%
To Federal Government	548.2	0.76	17%
To Industry	1,064.2	1.48	34%

* See the discussion in the first two full paragraphs on the next page.

This is how the numbers in the table have been calculated. In the first line, the \$7.36 figure is taken from Revenue Sources, page 21 ("Wellhead Value" - "Mid" case). The yearly figure of

\$5,292.2 million equals \$7.36 a barrel times the annual production of 719.05 million barrels.

The information in the second line is based on BP Exploration's audited financial statements for 1988. The composite production cost is for depreciation and lifting expenses; it was \$3.43 a barrel for our working-interest oil on the North Slope. (The figure of \$3.39 that was previously given to your Committee represented our actual cost experience through only the first 11 months of 1988.) We are enclosing a copy of a letter from our independent auditors, Ernst & Whinney, confirming the \$3.43 figure in our financial statements for these costs during 1988.

These production costs are not borne by the State's royalty interest; hence, in grossing up to the annual production cost figure in the table above, we have multiplied \$3.43 a barrel times $\frac{7}{8}$ of 719.05 million barrels. When these costs are averaged over $\frac{8}{8}$ of production, the average cost is \$3.00 per barrel (\$2,158.0 million divided by 719.05 million barrels). The table previously provided to your Committee erroneously deducted a per-barrel cost of \$3.39 for the working-interest barrels, as if it had been the cost per barrel for 100% of the production.

The data in the third line (Net Revenue) are obtained by combining lines one and two.

The figure of \$469.8 million for unrestricted royalty revenue is taken from Revenue Sources, p. 24 ("Mid" case). The per-barrel amount is found by dividing by the annual production of 719.05 million barrels.

The figure of \$178.7 million for royalties contributed to the Permanent Fund is taken from Revenue Sources, p. 39, column 18 ("Perm Fund Contri"). Again, the per-barrel amount is found by dividing by the annual production figure.

The figure of \$547.4 million for production tax is taken from Revenue Sources, p. 24 ("Mid" case for "Severance Tax"). Dividing by 719.05 million barrels yields the per-barrel amount in our table.

The figure of \$214.0 million for property tax equals 20 mills times our estimate for the 1989 assessed value of property taxed under AS 43.56 within the North Slope Borough, excluding the Trans Alaska Pipeline System (TAPS). The actual assessment roll will not be issued by the assessor until March 1, 1989. Dividing by 719.05 million barrels equals the per-barrel amount.

Next is the corporate income tax on the industry. Taxable Alaskan income is determined by a modified three-factor formula under AS 43.02.072, based on the ratios of Alaskan property, sales and production to worldwide property, sales and production. We have compared our apportioned Alaskan income under the modified formula, using first the factors including our interest in TAPS, and then without TAPS. Based on this analysis and on public information about Arco and Exxon, we estimate that about 14%, or nearly one seventh, of the taxable Alaskan income is attributable to the inclusion of TAPS in the companies' apportionment factors. This reflects the heavy emphasis on production under the modified apportionment formula in AS 43.20.072.

The Department of Revenue predicts a total of \$130.0 million in petroleum income tax for this fiscal year; Revenue Sources, p. 24 ("Mid" case for "Corporate Petroleum" tax). Deducting 14% of this, or \$18.2 million, as income tax due to TAPS leaves us with \$111.8 million as the portion of the petroleum income tax attributable to production. This \$111.8 million figure is the one in our table above. Dividing it by 719.05 million barrels equals the per-barrel amount.

The data for the total paid to Alaskan government are the totals for the data for unrestricted royalty, royalty contributed to the Permanent Fund, production tax, property tax and income tax.

The federal income tax of \$542.0 million is computed by applying the tax rate of 34 percent to the difference between the net production revenue of \$3,134.2 million and the total payments to the State of Alaska of \$1,539.9 million. The per-barrel amount is found by dividing by the amount of annual production.

The difference between net revenue and the total paid to the State of Alaska and the federal government equals the amount that goes to the industry and its shareholders.

The figures in the table above do not include TAPS. HB 118 is a production tax proposal. The figures above represent production revenues and costs.

Income attributable to Alaskan pipeline activity is already being taxed under the corporate income tax, using a specially modified two-factor or three-factor apportionment formula under AS 43.20.-072. The number of factors in the formula depends on whether the pipeline company or any of its affiliates produces oil or gas in Alaska. We might add that TAPS profits are limited by the TAPS tariff settlement.

(19) How much profit is made from refined products from Alaskan oil?

Answer: BP refines a relatively small percentage of its Alaska North Slope (ANS) oil because most of its refining capacity in the United States cannot accommodate large amounts of ANS. The rest is either sold outright to third parties or is exchanged for other crude, which may then be refined or further exchanged for crude that can be run in the refineries.

BP has no refineries in Alaska, yet part of its refining profit is apportioned to Alaska and taxed under the modified apportionment formula in AS 43.20.072.

(20) What did the oil companies of Prudhoe Bay do with the savings made as a result of the tax break occurring on June 20, 1987?

Answer: We do not agree that the expiration of the 10-year rounding rule for Prudhoe Bay was a "tax break."

Substantial amounts of new capital were invested in Alaska both before the rounding rule expired for Prudhoe Bay and afterwards. Within the space of 12 months in 1986 and 1987, approximately \$3 billion worth of new facilities were installed at Endicott, Lisburne and the central gas facility at Prudhoe Bay. Those investments were justified in part because of the anticipation that the State would not change the rules of the game and the "rounding" rule would expire as scheduled.

Since 1987 the industry has continued to make major expenditures for the continued drilling and development of the North Slope. Without the drilling of new wells and the workovers of existing ones, production from Prudhoe Bay would already be in serious decline. If these activities were to be discontinued today, the repercussions could start being felt in as little as 60 to 90 days. The decline would not only set in sooner than it needs to, but it would also be faster than it would be if drilling and workover work can continue unabated.

(21) What percent of money grossed by Alaska's oil in Prudhoe Bay and Kuparuk is reinvested in Alaska? How much is sent outside?

Answer: As stated in the answer to the preceding question, major new investments in the development of the North Slope have continued to be made. Some \$3 billion dollars of investment came on line within a single 12 month period ended in late 1987. This

was despite the fact that SOHIO's entire "upstream" net operating income (before interest, income tax and extraordinary item) reported to its shareholders for 1986 was only \$13 million -- a figure that included both the North Slope and Lower 48 operations. These continued investments have added a billion barrels to the reserves that can be recovered, and have increased production by some 200,000 barrels a day, allowing Alaska to overtake Texas for first place as the nation's largest oil-producing state. All other major oil-producing states were reporting significant declines in production during the same time as Alaska's was increasing.

Your question seems to suggest that there is something wrong if profits from Alaskan operations are not all reinvested back into Alaska. It is worth remembering that the industry's investment in Alaska -- which exceeds \$25 billion to date -- came primarily from "outside" funds.

(22) How many jobs are involved in starting up a small oil field? How many jobs are involved in maintaining a small field?

Answer: That depends partly on what you mean by "small." For the Endicott field, employment on the North Slope during construction peaked at approximately 725 jobs, not including indirect support positions in Anchorage or Fairbanks. Of these construction jobs, 95% went to Alaskans.

The number of people operating the Endicott field varies seasonally from a low of about 205 in winter to a high of about 235 in summer. The winter figure includes 103 employees of BP Exploration, 39 employees of contractors, and 63 in the drilling rig crew. All of these positions are on the North Slope, and do not include any support personnel in Anchorage.

(23) How many Alaskans were employed by the oil companies of Prudhoe Bay prior to June 20, 1987 when the tax cut kicked in? How many Alaskans are employed by the oil companies of Prudhoe Bay now?

Answer: As of June 15, 1987 (the last payroll date before June 20, 1987) Standard Alaska Production Company had 1,333 full-time people and 16 part-time people on its payroll. Contract employees at that time totaled 259.

As of January 31, 1989 BP Exploration had 1,380 full-time and two part-time employees, plus 350 contract employees.

(24) What is the long-term effect on Alaskan jobs in Prudhoe Bay and Kuparuk oil fields as a result of this ELF bill?

Answer: The long-term effect will probably be a reduction in the number of Alaskan jobs, as the ELF bill will make various development projects at Prudhoe Bay and Kuparuk River too expensive for the companies to afford. The number of missed opportunities at Prudhoe and Kuparuk because of HB 118 is likely to be greater than any opportunities in "marginal" fields elsewhere that HB 118 might stimulate. Frankly, we doubt that HB 118 will stimulate any new development of "marginal" fields -- the Administration's statement that HB 118 will lower the threshold oil price for a new "marginal" field by \$2 a barrel is exceedingly doubtful. On the one hand the Administration says that HB 118 will not affect development of the large fields, but on the other hand it says HB 118 will significantly encourage the development of small ones. They can't have it both ways -- either HB 118 will affect development, or it will not. If it does affect development, it will adversely affect those fields where the tax would increase. The Committee should request the Administration to provide the backup for its figure, because of the inconsistency in the Administration's position on the face of it.

(25) How many Alaskans are employed by the oil companies of the marginal oil fields now? How many Alaskans are likely to be employed by the oil companies of existing marginal oil fields and in developing other oil fields as a result of this ELF bill?

Answer: As stated in response to Question 22, BP Exploration employs about 205 to 235 people at Endicott.

The Eileen (West End) Project in Prudhoe Bay is nominally slated to have 72 oil production wells and four gas injection wells. Two rigs (Alaska United Drilling's rig #2 and rig #3) began drilling 36 of these wells in 1988. This project was a pioneer in the "mini-module" approach to North Slope production facilities. While Eileen's mini-modules were fabricated Outside and trucked to Alaska, the success of this design has led to the in-state fabrication of mini-modules for the Hurl State Project, also at Prudhoe. Contracts were let to Alaskan contractors in Anchorage and Fairbanks for over 180,000 man-hours of work, creating more than 350 temporary construction jobs. Some 16 oil production wells and four water injection wells are planned for Hurl State, with drilling currently planned to begin in the third quarter of 1989 and be completed late next year.

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Plans for Niakuk have not been finalized, and we do not at this time have estimates of the likely workforce that would be involved.

With respect to the effects of this ELF bill on planned projects that BP is involved in, we foresee no additional Alaskan jobs being created as the result of HB 118. Instead, we believe it is likely that jobs that would have been created for Alaskans will not come into existence because of HB 118.

(26) What is the long-term effect on Alaskan jobs in the smaller oil fields as a result of this ELF bill?

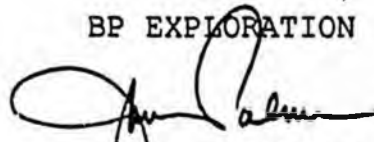
Answer: HB 118 is unlikely to cause any measurable long-term increase in the number of Alaskan jobs in smaller oil fields. As noted above, we do not believe the Administration's statement that HB 118 would lower the threshold price for developing a small field by \$2 a barrel. By relying on fieldwide production as its dominant parameter, HB 118 provides an incentive to keep small fields small. When drilling another well is going to increase the tax rate for all the oil already in production, why should the producer of even a small field want to increase production any more than necessary?

HB 118 provides a disincentive to the full development of even the small fields it purports to help, as was illustrated by the example in our answer to Question 9. This disincentive will tend to offset any incentive that HB 118 would provide through lowering the effective tax rate for small fields.

Thank you very much for this opportunity to respond to your questions. The ELF is still working the way it was intended to work. There is no need to fix it. We believe HB 118 is not necessary and is likely to prove counterproductive in terms of the public interests it seeks to advance.

Very truly yours,

BP EXPLORATION (ALASKA) INC.



James A. Palmer
Director of Government Affairs

Enclosure

Exxon Company U.S.A
Response to Request for HB 118 Information

The following are provided in response to the questions posed by the House Resources Committee on February 10, 1989:

Question 1

The ELF was designed to encourage investment in "marginal" oil projects. The definition of "marginal" should relate to the profitability of a field, or projects within a field, and not to the total production from a field. Recently, some people have erroneously confused profitability with productivity. Profitability is not directly related to productivity. Crude prices, operating expenses including taxes and investments are variable, that affect field profitability. As an example, although Prudhoe Bay is a profitable oil field overall, there are marginal projects within the field that cannot be pursued if HB 118 becomes law.

Question 2

HB 118 will reduce taxes for only two producing oil fields in the entire state of Alaska. The two fields that will incur a tax reduction are Endicott and Lisburne, with Endicott being the largest, averaging approximately 100 thousand barrels of oil per day in 1988. HB 118 imposes a higher production tax rate on larger fields. The average production rate per well at Prudhoe Bay during the mid-1990's is projected to be the same as at Lisburne today. However, HB 118 would impose a production tax rate on Prudhoe Bay at that point in time, which would be six times higher than on Lisburne today.

Question 3

The 1988 annual average oil production for Prudhoe Bay was 1.45 million barrels of oil per day. The January 1989 average oil production for Kuparuk was 318 thousand barrels per day.

Question 4

We do not have a readily available list of average well productions, but expect it to be highly variable, especially if offshore properties are included. Several states offer incentives for new development, tertiary projects and stripper wells. As an example, Alabama provides tax incentives for all new wells regardless of rate.

Question 5

The three major working interest owners at Prudhoe Bay are BP Exploration with 50.7% of the oil production, and ARCO and Exxon who both have 21.8%. The major Kuparuk owners are ARCO and BP Exploration with 56.3% and 38.8%, respectively.

Question 6 & 7

Exxon's 1976 worldwide net production of crude oil and natural gas liquids was 2.295 million barrels per day with virtually none of it being produced from Alaska. Exxon's 1988 worldwide net production of crude oil and natural gas liquids was 1.919 million barrels of oil per day with 356 thousand barrels extracted from our Alaska properties. Exxon's 1988 Prudhoe Bay net liquids production averaged 322 thousand barrels per day.

Question 8

HB 118 will only affect four oil fields in the entire state of Alaska that are currently producing. None of the Cook Inlet fields will be affected since