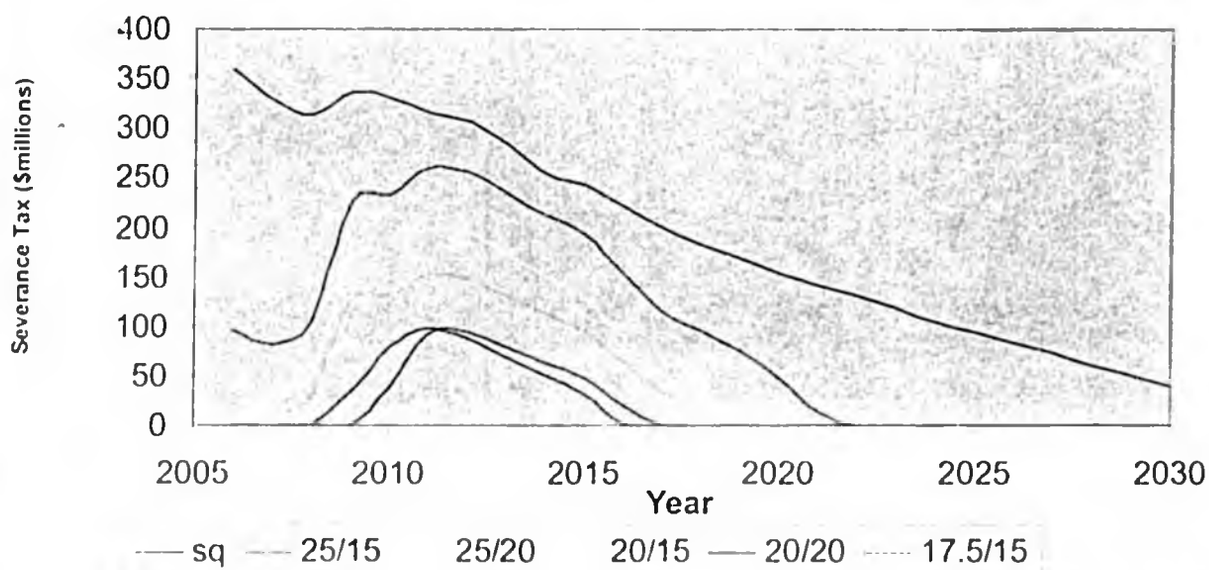
Annual Revenues

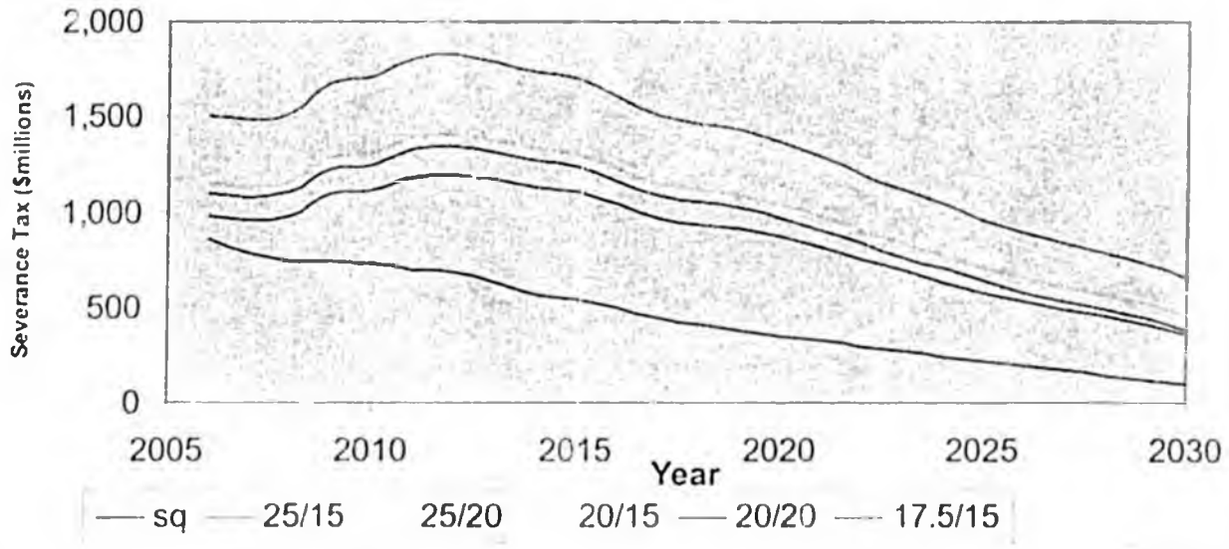
- Without enhanced volumes / without gasline (through 2030)
  - $20
  - $40
  - $60
- With gasline / with enhanced volumes (through 2050)
  - $20
  - $40
  - $60

Figure 4
Annual Oil Severance Tax ($mm)
No Gasline / No Enhanced Volumes
$20



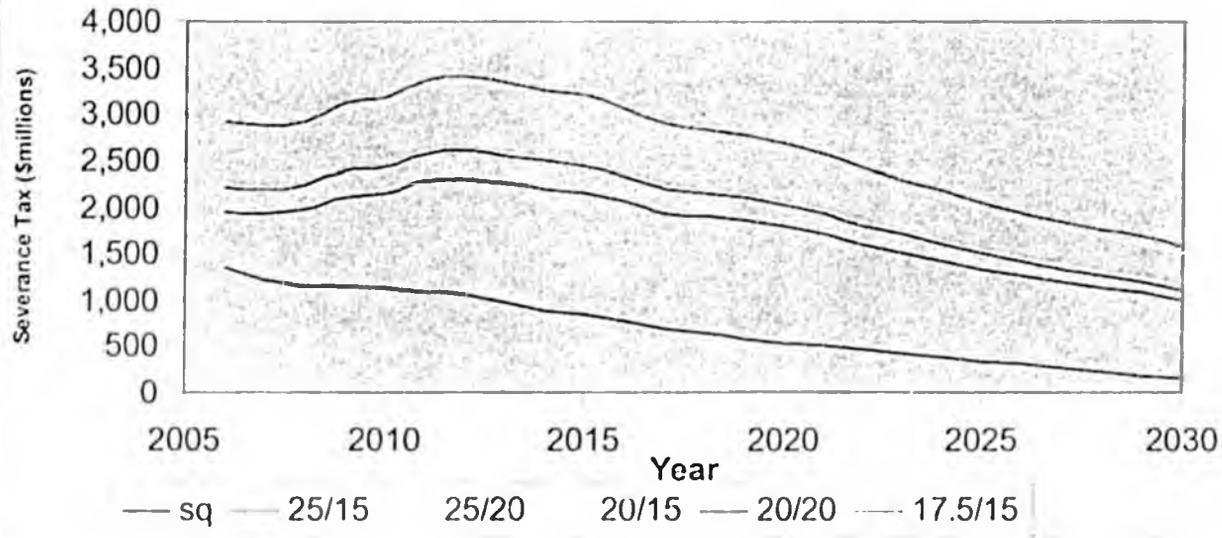
Average annual revenues $100 - $180 million less than status quo

Figure 5
Annual Oil Severance Tax ($mm)
No Gasline / No Enhanced Volumes
$40



Average annual revenues $400 - $900 million more than status quo

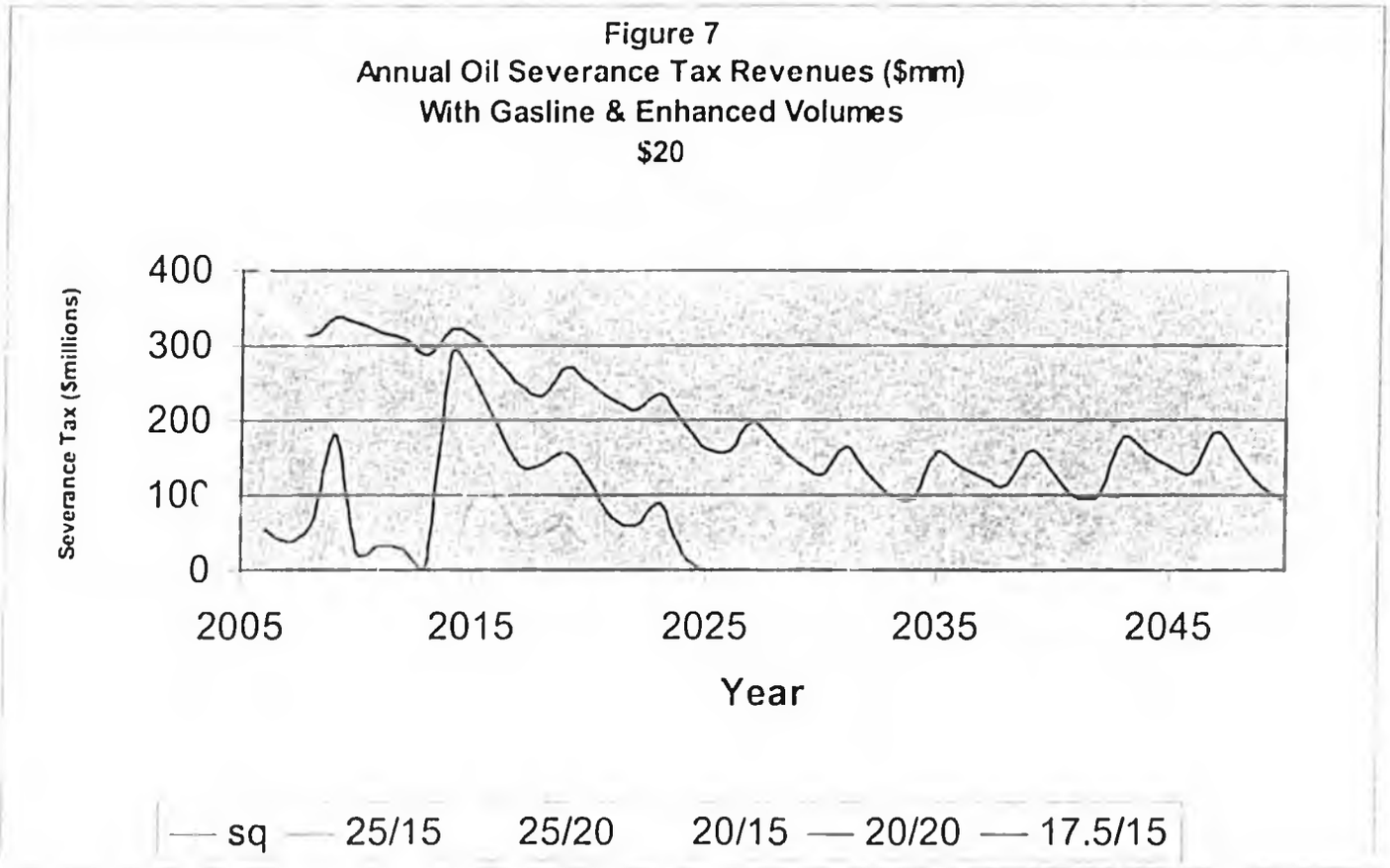
Figure 6
Annual Oil Severance Tax ($mm)
No Gasline / No Enhanced Volumes
$60



Average annual revenues $1.1 - $2.0 billion more than status quo

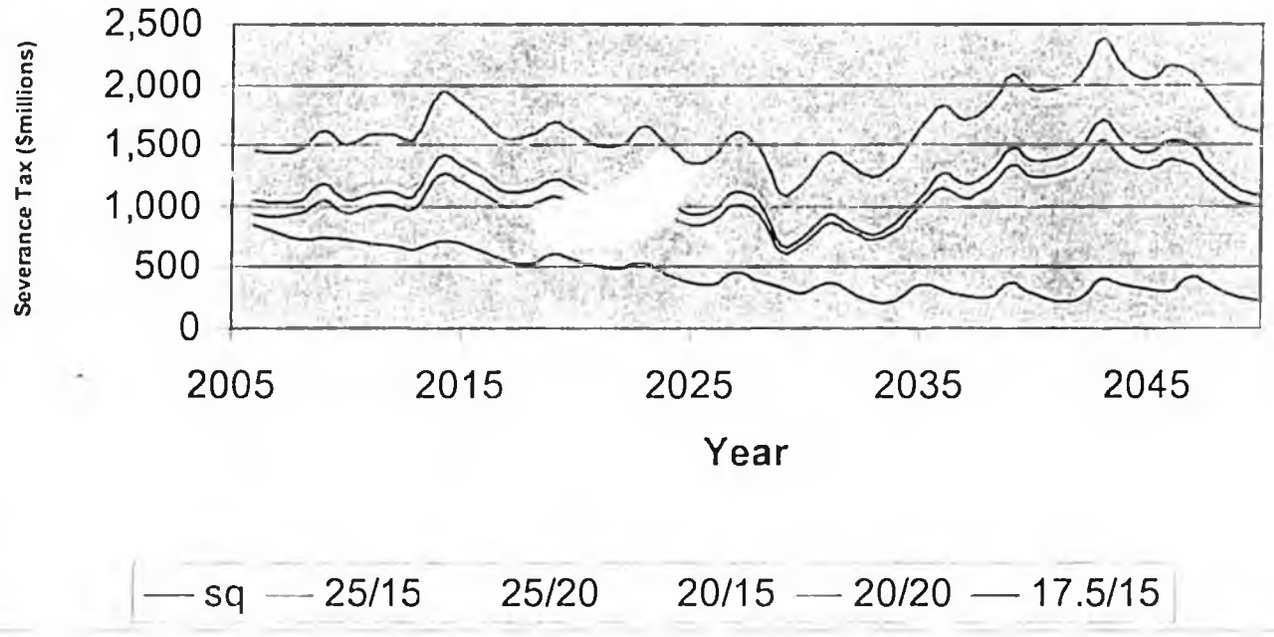
This is equivalent to total State Gasline revenues at a $5/mmbtu market price

Figure 7
Annual Oil Severance Tax Revenues ($mm)
With Gasline & Enhanced Volumes
$20

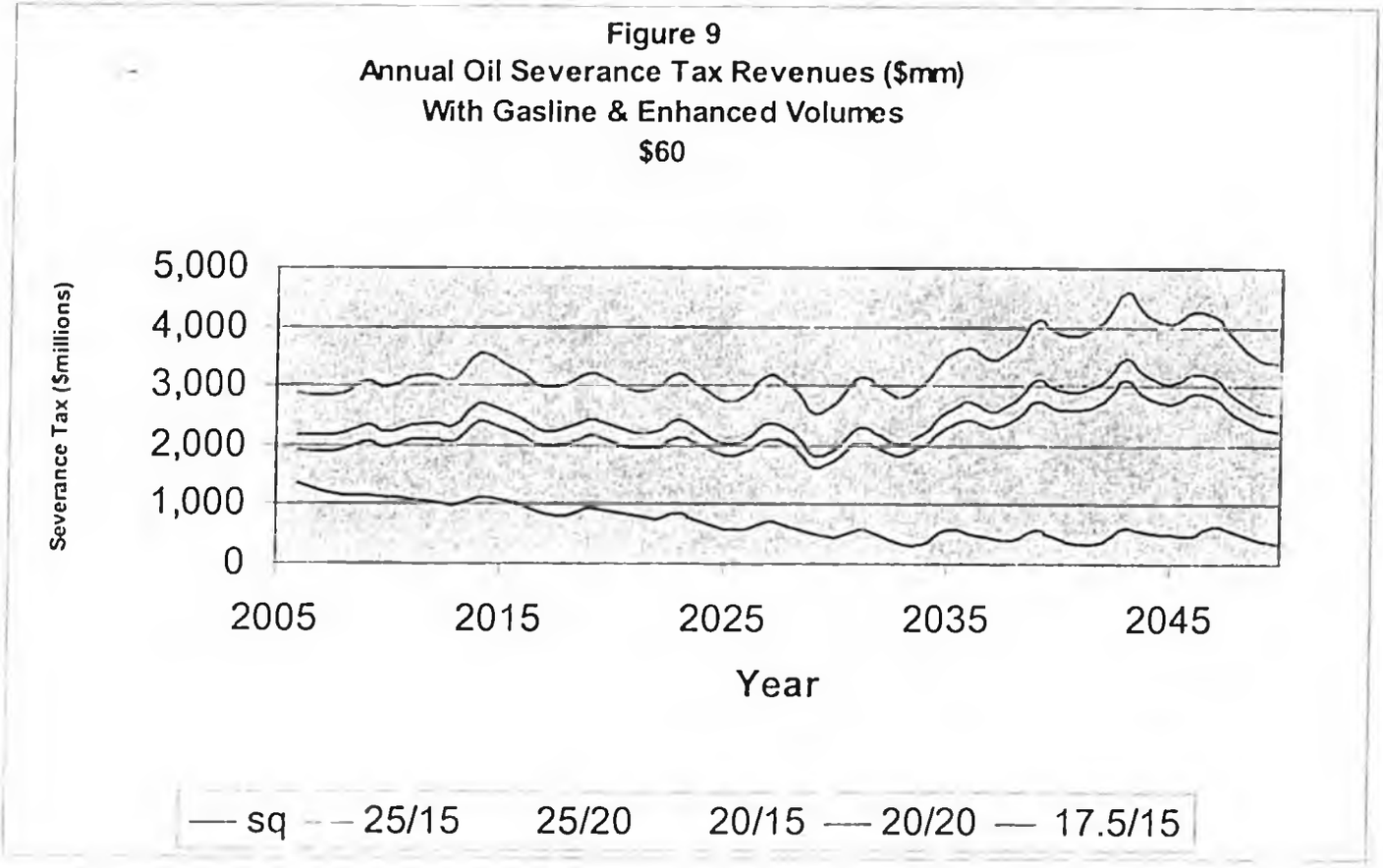


Average annual revenues $150 - $200 million less than status quo

Figure 8
Annual Oil Severance Tax Revenues ($mm)
With Gasline & Enhanced Volumes
$40



Average annual revenues $0.6 - $1.2 billion more than status quo



Average annual revenues $1.5 - $2.6 billion more than status quo

Effective Tax Rate

- Without enhanced volumes / without gasline

With enhanced volumes / with gasline

Figure 10
Effective Oil Severance Tax Rate
Without Gasline / Without Enhanced Volumes

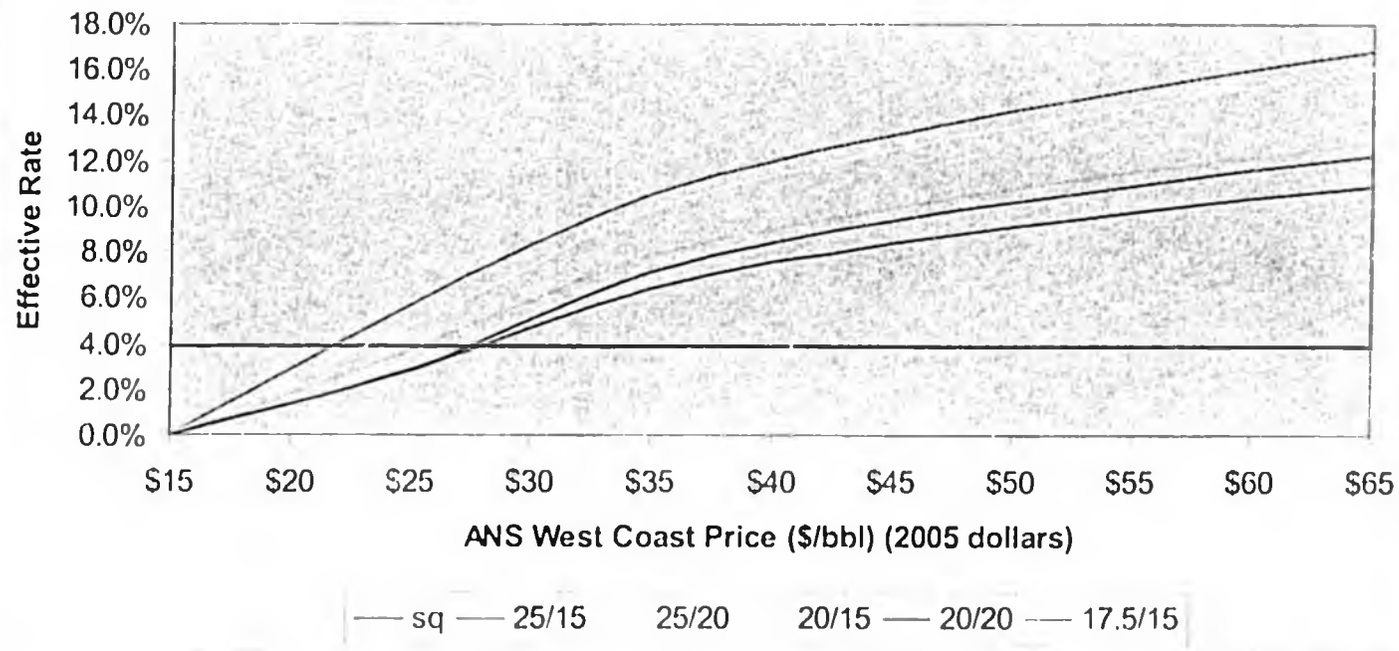
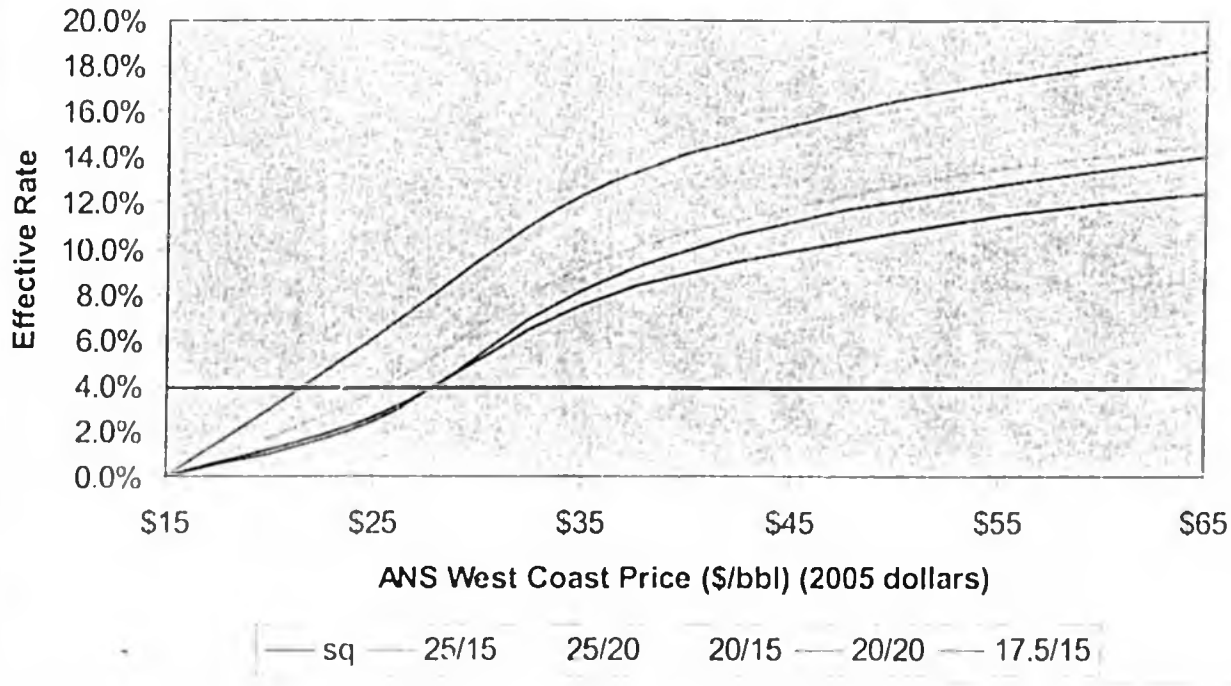
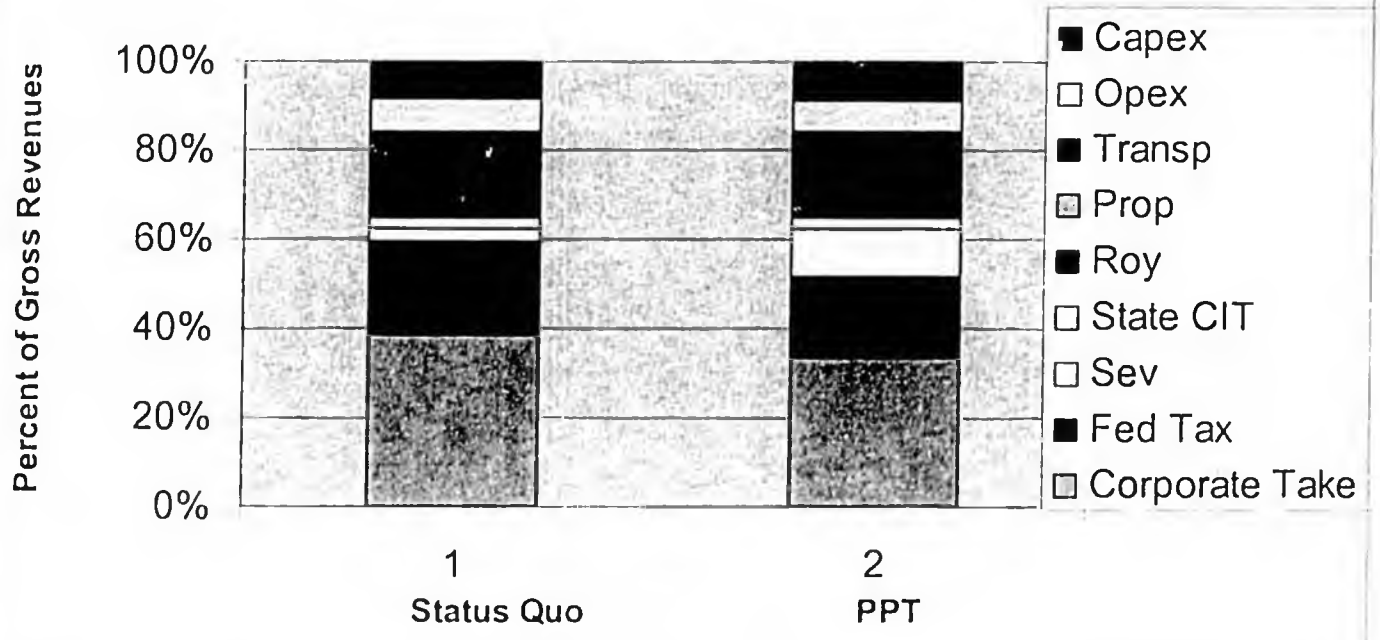


Figure 11
Effective Oil Severance Tax Rate
With Gasline & Enhanced Volumes



Conclusion:
Corporate Take

Figure 12
Corporate Take at EIA Forecast Price ($58)
20% Tax/15% Credit
With Gasline & Enhanced Volumes



Corporate take goes from 39% to 33% of gross revenues,
or from 51% to 44% of the economic rent

PPT, new investments and international competition

February 1,2006

Presentation to the Joint Senate House Finance Committee

INTERNATIONAL TRENDS

The high oil prices have had an important impact on the international government take.

Progressive countries:

- "One Way" adjustment

  NWT, Angola, Russia, Azerbaijan, Libya

- "Two way" adjustment

  Alberta, Norway, Indonesia

Regressive-Neutral countries:

US, UK, Egypt, Argentina

INTERNATIONAL TRENDS

The high oil prices create a possibility for the regressive-neutral countries to increase their government take. Several countries have already done so:

- UK
- Trinidad & Tobago
- Kazakhstan
- Bolivia
- Venezuela

PPT AND CURRENT TERMS

The PPT on new investments depend on the costs, field size and well productivity assumptions.

Six field cases were analyzed under high cost and low cost scenarios:

50 MM	– low well productivity
150 MM	- low well productivity
500 MM	- low well productivity
50 MM	- high well productivity
150 MM	- high well productivity
500 MM	- high well productivity

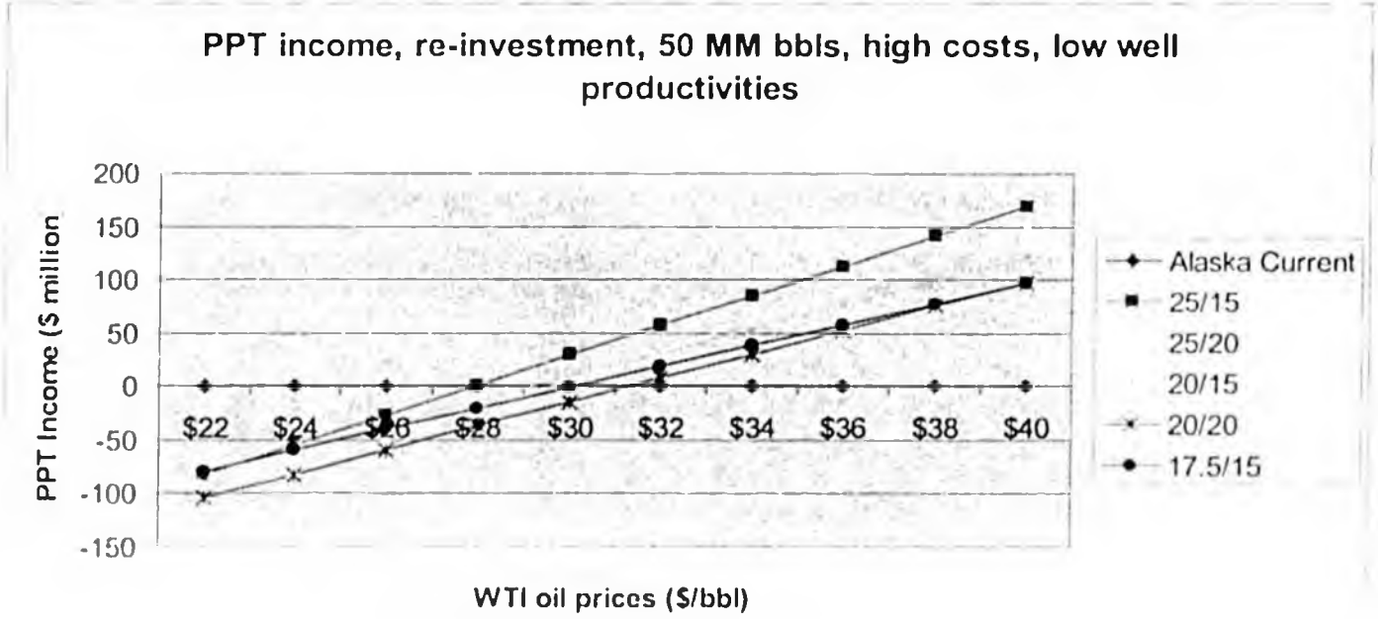
Because of special support for small producers, two scenarios will be evaluated:

First Investment

Re-investment

PPT AND CURRENT TERMS

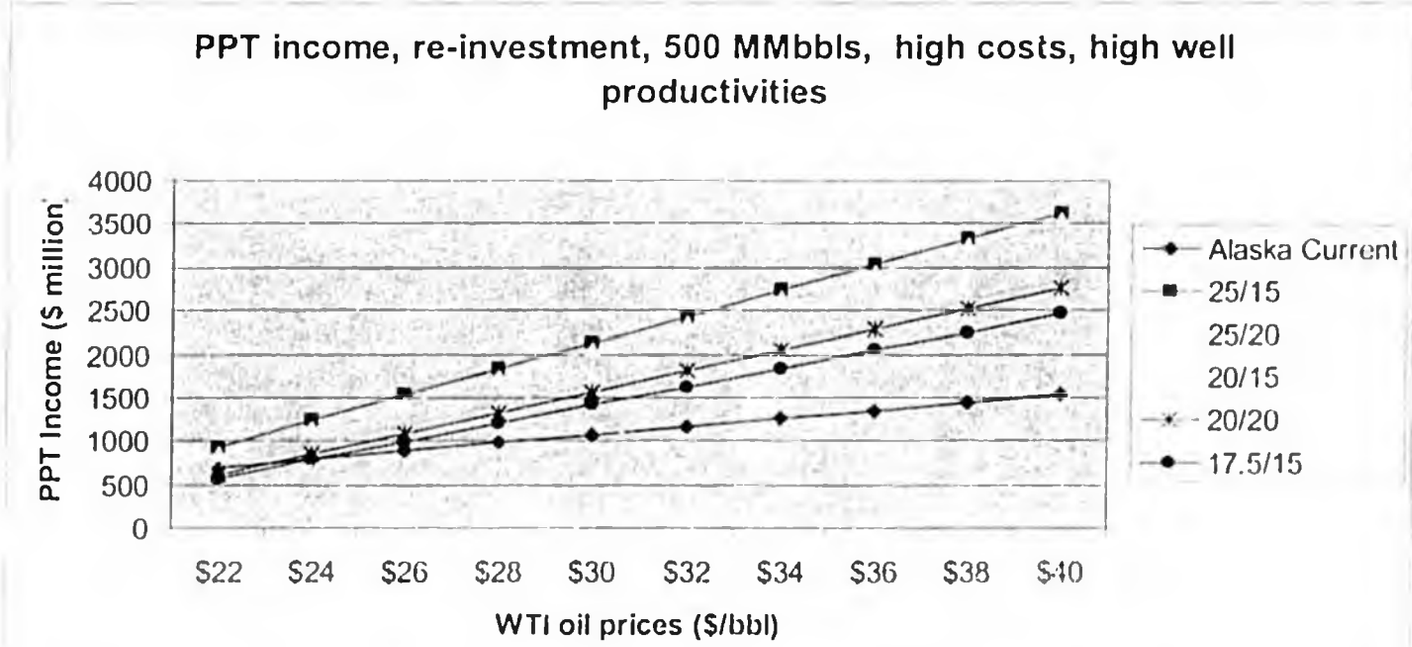
Re-investment in a 50 MM barrel field



Alaska will collect more production tax under high oil prices even on a small 50 million barrel field.

PPT AND CURRENT TERMS

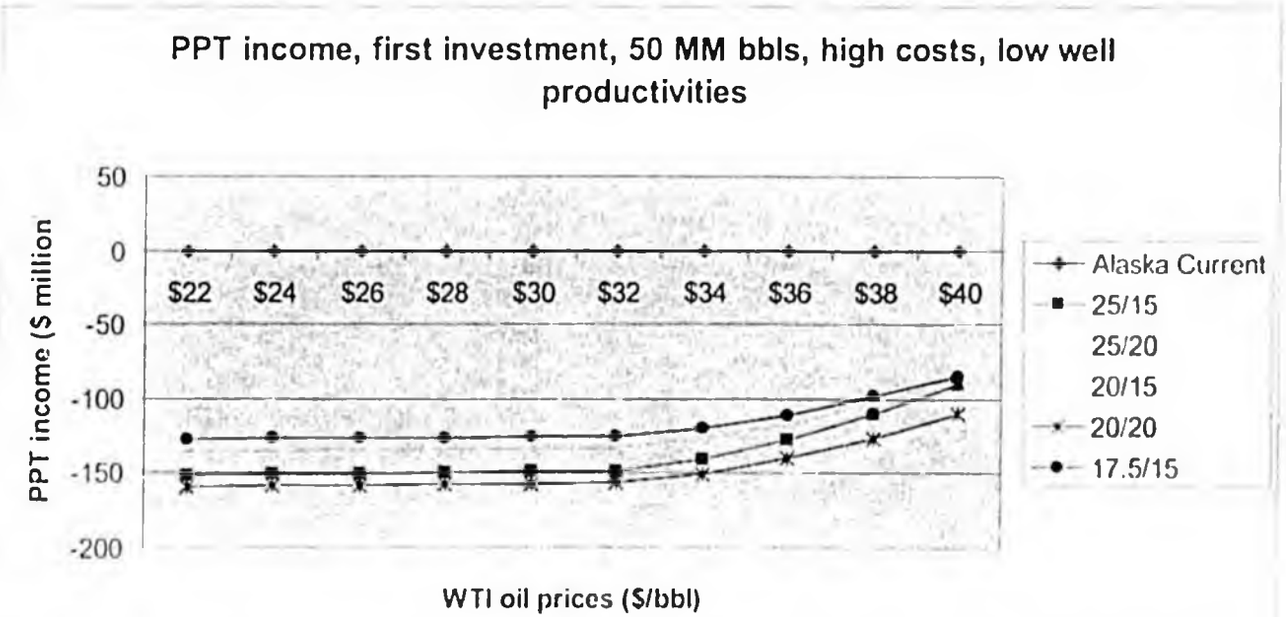
Re-investment in a 500 million barrel field



On large fields, Alaska will collect more production tax under average and high oil prices

PPT AND CURRENT TERMS

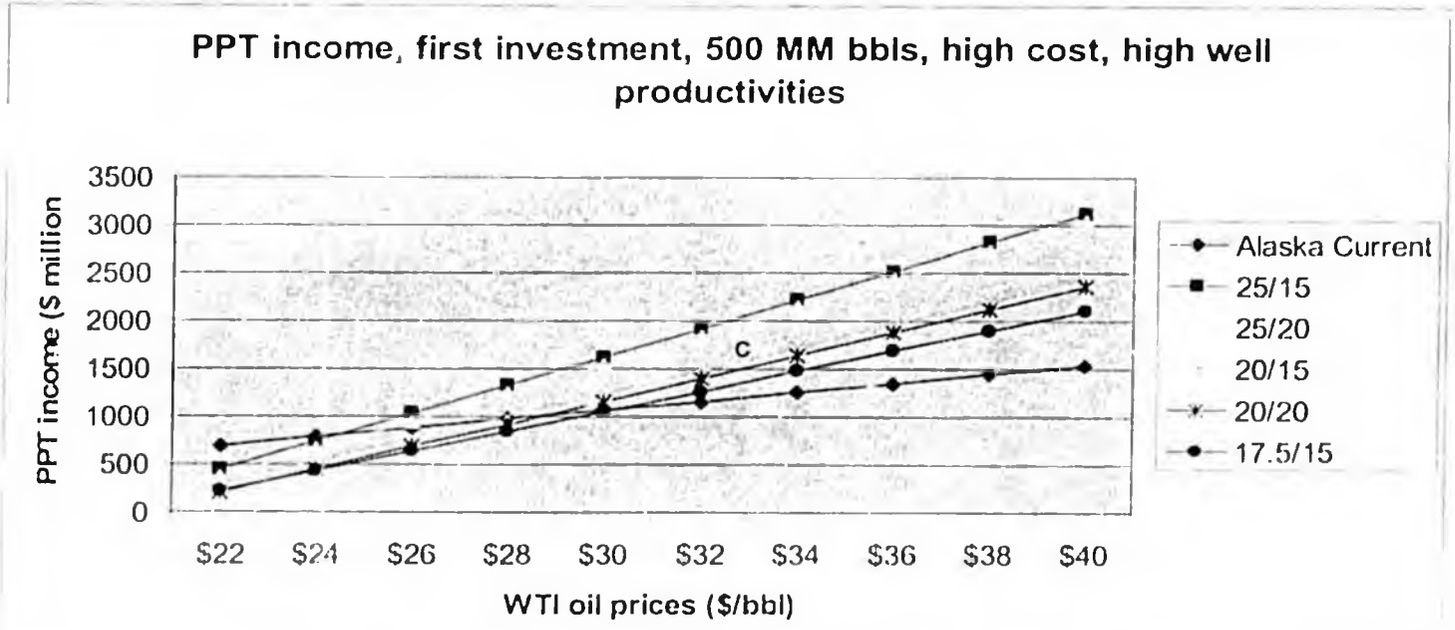
First investment in a 50 million barrel field



A small producer will not pay PPT and therefore on a small field, such producer will only earn tax credits, which can be traded.

PPT AND CURRENT TERMS

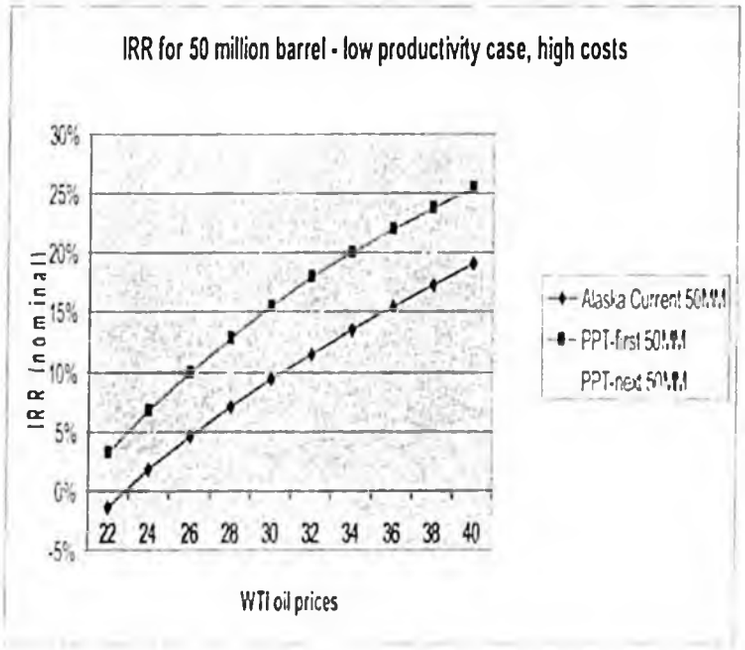
First investment in a 500 million barrel field

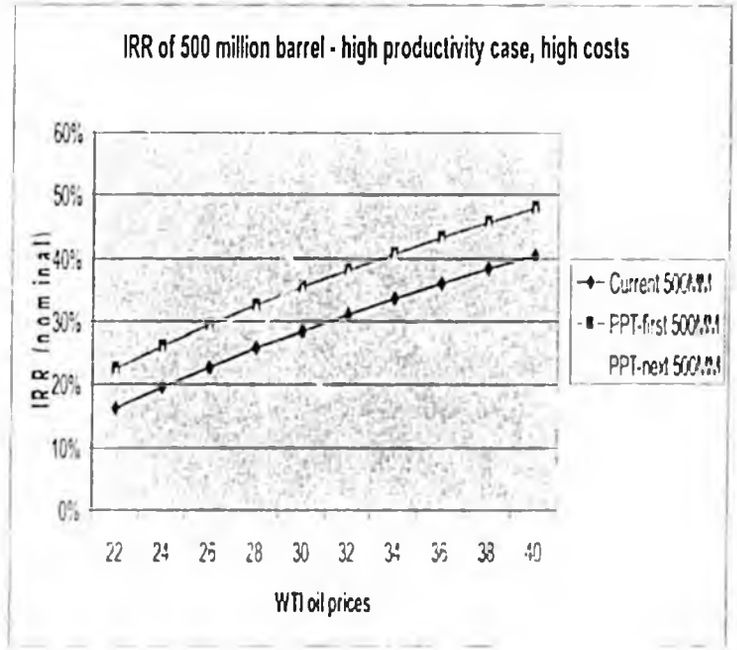


A first investment in a large field will result in considerable PPT under high prices, but less than under a re-investment scenario.

PPT AND CURRENT TERMS

Impact on investors: 50 and 500 MM barrel fields





The tax credits under the PPT improve the IRR for first investment or re-investment, regardless of field size and cost conditions (20/15 case was used for illustration)

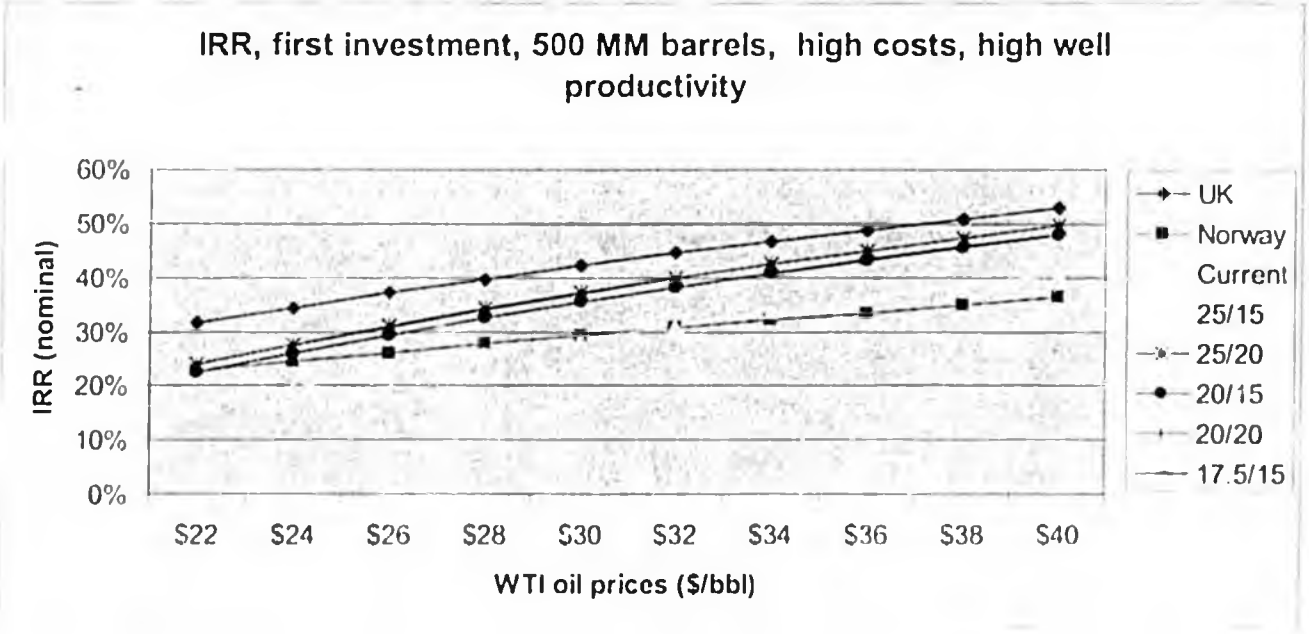
PPT AND COMPETITION

The competitive position of the Alaska system was analyzed using the same field sizes and applying international terms. Eight fiscal systems were analyzed. They all reflect areas in the world where currently considerable investment is taking place:

- Norway
- UK
- US Gulf Coast
- Alberta Oil Sands
- Nigeria
- Angola
- Russia-Sakhalin
- Azerbaijan

PPT AND COMPETITION

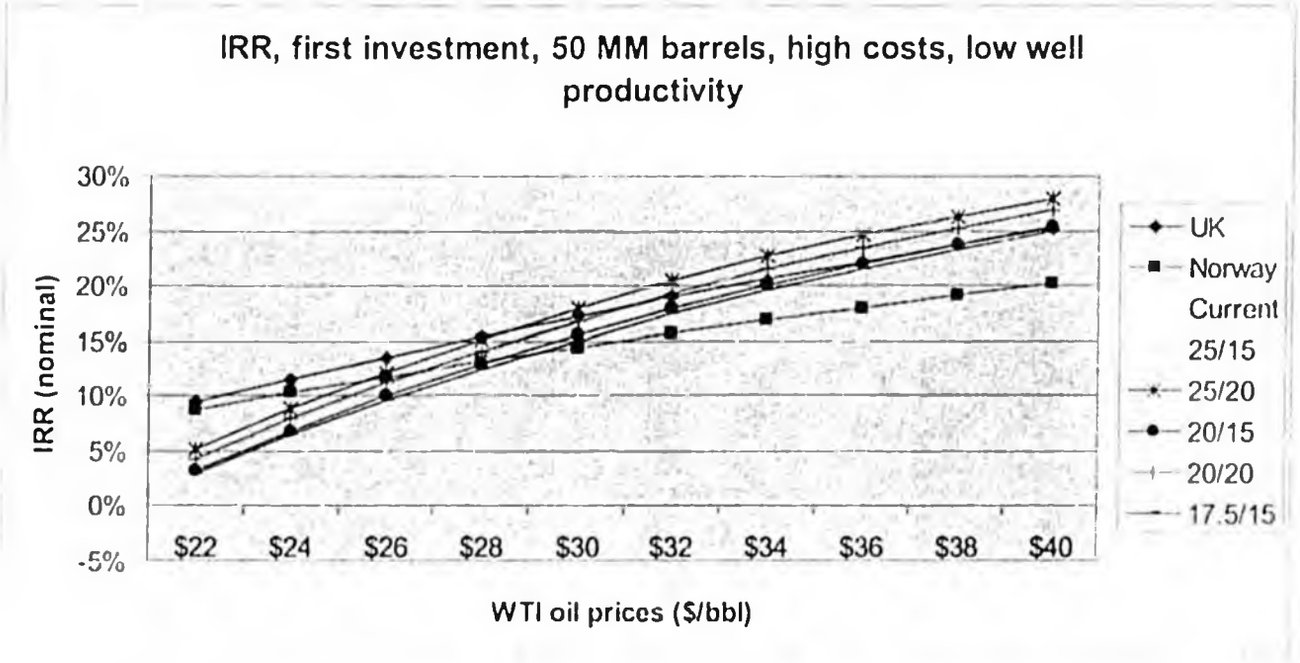
First Investment in 500 MM barrel field



The PPT creates a very material improvement in IRR relative to Norway and UK, for a first investment in a large field.

PPT AND COMPETITION

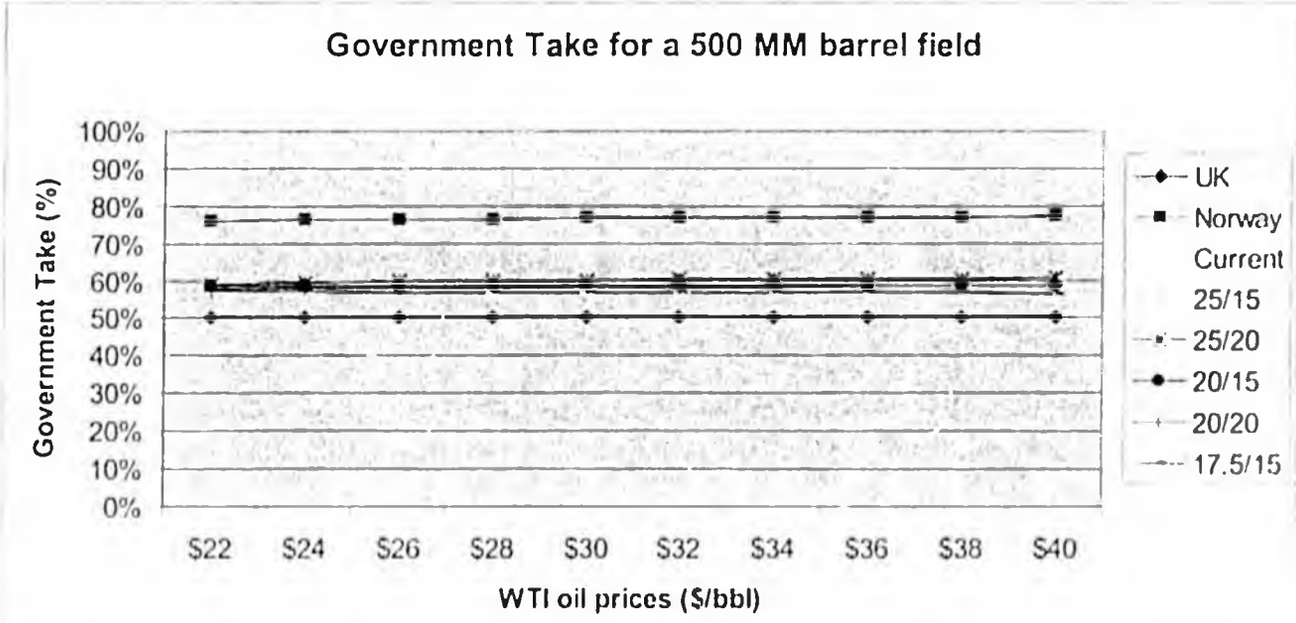
First Investment in 50 MM barrel field



The PPT creates a very significant improvement in IRR relative to Norway and UK, for a first investment in a small field.

PPT AND COMPETITION

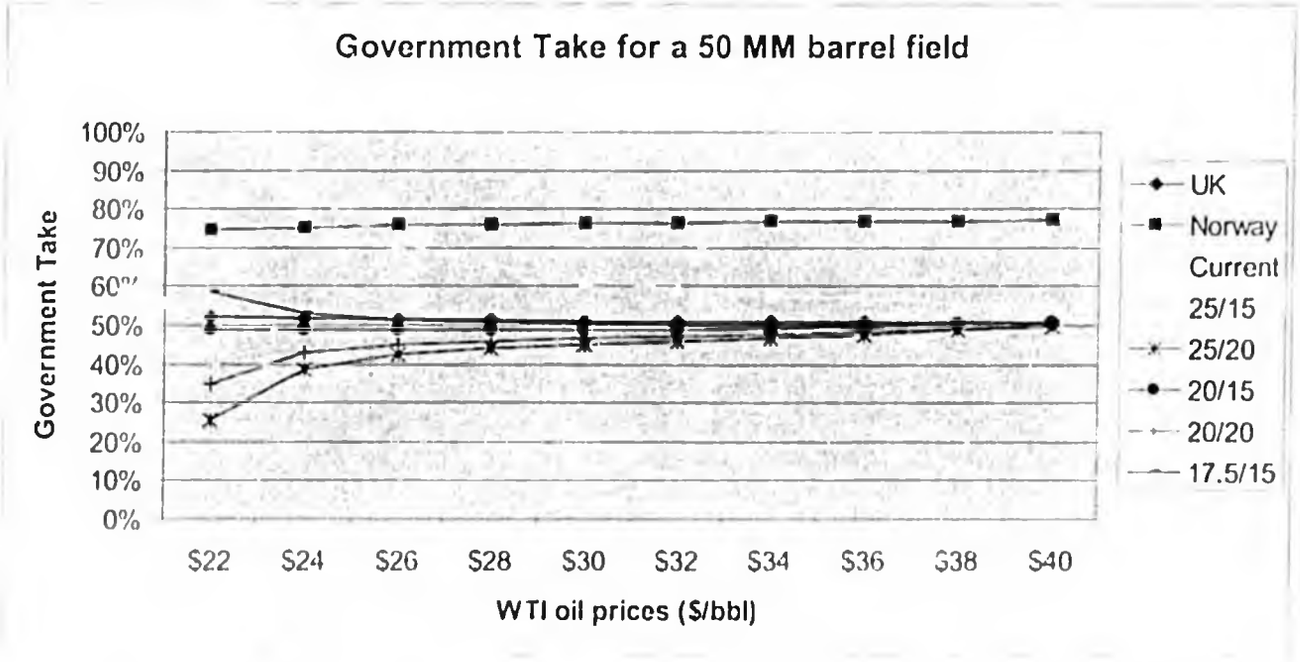
First Investment in 500 MM barrel field



The PPT provides for a modest total government take for each of the five options, in order to compensate for the low net back prices and high costs.

PPT AND COMPETITION

First Investment in 50 MM barrel field



For first investors or small producers there is a reduction of government take compared to the Current System. The regressive nature of the government take is removed for each of the five options.

PPT AND COMPETITION

First Investment

COMPETITIVENESS INDEX

Hypothetical best	**48**	
US GOM	**52**	**#1**
UK	**135**	**#2**
Alberta-Oil Sands	**157**	**#3**
Nigeria	**172**	**#4**
Alaska PPT	**272**	**#5**
Angola	**318**	**#6**
Azerbaijan	**329**	**#7**
Alaska Current	**364**	**#8**
Norway	**397**	**#9**
Russia-Sakhalin	**444**	**#10**
Hypothetical worst	**480**	

The lower the number the better the rating. The table shows a considerable improvement in overall competitiveness for the PPT for **new investors** (20/15 options was used)

PPT AND COMPETITION

Next Investment

COMPETITIVENESS INDEX

Hypothetical best	**48**	
US GOM	**51**	**#1**
UK	**131**	**#2**
Alberta-Oil Sands	**153**	**#3**
Nigeria	**169**	**#4**
Angola	**307**	**#5**
Alaska PPT	**322**	**#6**
Azerbaijan	**323**	**#7**
Alaska Current	**353**	**#8**
Norway	**391**	**#9**
Russia-Sakhalin	**440**	**#10**
Hypothetical worst	**480**	

The lower the number the better the rating. The table shows a modest improvement in overall competitiveness for the PPT for **investors who do not benefit from the small producer incentive** (20/15 option was used).

2/7/06 OVERVIEW: AK. MINERALS COMMIS-SION

ALASKA MINERALS COMMISSION REPORT TO THE LEGISLATURE 2006

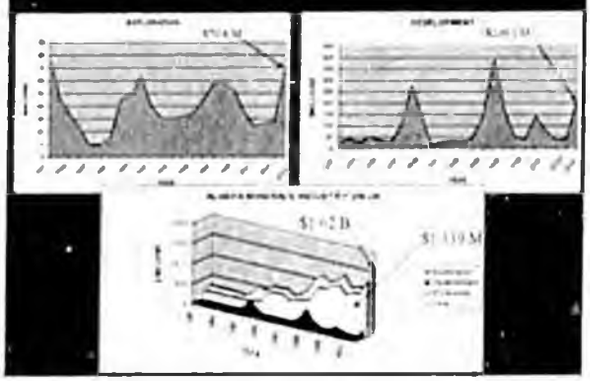
House Finance Committee

FEB. 7, 2006

ALASKA MINERALS COMMISSION

- Created by the 14th Legislature, signed into law on June 6, 1986
- Authorized until January 2014
- Eleven Member Commission, appointed by:
  - The Governor
  - The President of the Senate
  - The Speaker of the House
- Commission's Remit – Make recommendations to the Governor and the Legislature on ways to mitigate constraints on the development of minerals, including coal
- Many recommendations implemented since first report in January 1987

INDUSTRY OVERVIEW



INDUSTRY OVERVIEW

Major producing mine

Developing and major exploration projects

MINING LICENSE TAX

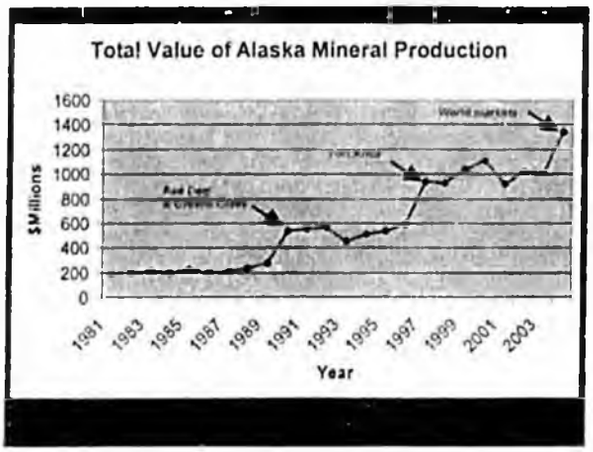
- First enacted by Territorial legislature in 1913
- Component of resource policy at statehood
- 7% Net Profits for major operations
- Payable by all operations in State regardless of land status or mineral ownership

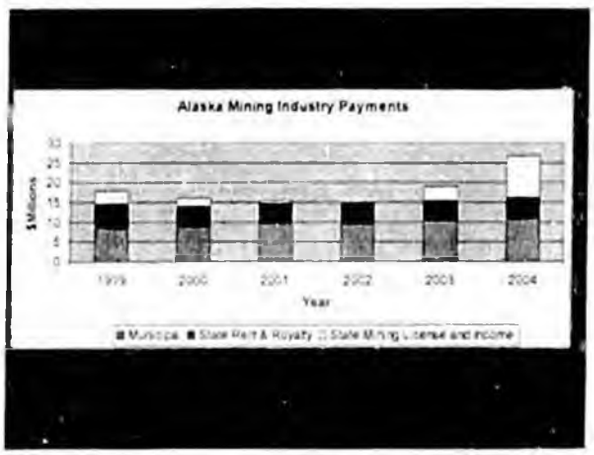
MINING RENTS & ROYALTIES

- Mineral development major factor at statehood
- 1981- State AG questioned state policy (Section 6(i))
- 1981/82 legislature tried modification
- 1983-1987 litigation
- 1987- AK Supreme Court – rents ***or*** royalties
- 1989 legislature - rents ***and*** royalties

MINING RENTS & ROYALTIES

- Rent – up to $3.30 per acre/yr
- Royalty – 3% Net Profits
- State land only
- Debate and resolution occurred prior to industry expansion





FINDINGS AND RECOMMENDATIONS TO FINANCE

- TAX CONSIDERATIONS
- GEOLOGICAL AND GEOPHYSICAL MAPPING
- AMEREF

FINDINGS

- TAX CONSIDERATIONS
  - Mineral development provides private sector investment and employment to diverse areas of the State
  - A substantial portion of the State's mineral potential lies in unorganized boroughs
  - The formation of boroughs presents uncertainty regarding future taxation

FINDINGS

- TAX CONSIDERATIONS
  - The mining industry is willing to pay a fair share of the tax burden, such as an equitable broad-based tax, a property tax, not an industry specific severance tax
  - An industry-specific tax could be a disincentive to development of the industry in rural areas and thereby becomes a negative to the rural communities
  - Tax uncertainty makes investment decisions in the State difficult and contributes to the disincentive against investment in mining in Alaska

RECOMMENDATIONS

- TAX CONSIDERATIONS

  The Governor and the Legislature take steps to improve the investment climate for the mining industry by ensuring that future municipal taxes, especially in those areas presently within the unincorporated regions of Alaska, are broad based, equitable, and stable

FINDINGS

- GEOPHYSICAL & GEOLOGICAL MAPPING
  - Alaska map coverage is one of poorest in the world
  - Discourages investors
  - When privately done, no baseline for progress
  - mapping expenditures since 1993 have averaged $400,000 per annum
  - Approximately 9,000 square miles, less than 6% of the State's land entitlement, has been mapped during this period
  - $600,000 for general geophysical/geological mapping and $350,000 for pipeline Delta to Canada geophysical/geological mapping has been proposed by the governor for FY2007

RECOMMENDATIONS

- GEOPHYSICAL & GEOLOGICAL MAPPING
  - The Governor and the Legislature increase annual rate of funding in geophysical and geological mapping to more than $1,000,000 per year
  - Provide $500,000 to complete both surficial and bedrock geologic mapping of the Delta Junction to Canada border pipeline corridor

FINDINGS

- AMEREF
  - The "Alaska Resource Kit" is an excellent tool for public school education about the natural resources industries
  - AMEREF is supported by the resource industries in partnership with the State
  - A State funded AMEREF position within the Dept of Education ensures a curriculum in accordance with State standards and provides teacher training to facilitate its application in the classroom

RECOMMENDATIONS

- AMEREF
  - Appropriate $100,000 to the Division of Teaching and Learning Support, Minerals and Energy Education Program for curriculum development of AMEREF

OTHER FINDINGS & RECOMMENDATONS

- NPDES Program Primacy
- Litigation Reform
- Permit Efficiency
- General Permits for Small Remote Work Camps
- Mixing Zones
- Roads to Resources
- Power Supplies

OTHER FINDINGS & RECOMMENDATONS

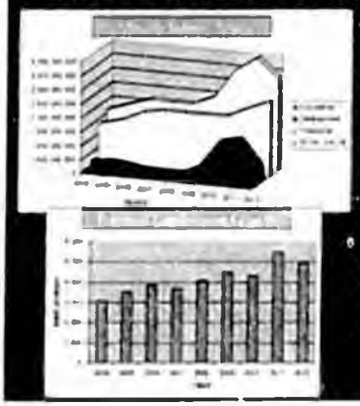
- RS2477 Trails
- Navigability
- College of Engineering & Mines
- Minerals Marketing & Foreign Trade Offices

FINDINGS & RECOMMENDATONS

Federal Level

- Tailings Impoundment Classification
- Toxic Release Inventory
- Geological Mapping
- Resolution of Outdated Segregations
- Essential Fish Habitat
- MSHA Training & Relief for Small Mines

INDUSTRY GROWTH POTENTIAL



Given a stable fiscal and regulatory regime and reasonable commodity prices, the industry could grow from current levels to about $3.4 billion by 2012. This considers development and production for Iron Pigo, Rock Creek, Big Hurrah, Kensington, Nixon Fork, Donlin, Pebble, Chuitna Coal, others in addition to continuing current levels.

Thank You

The Alaska Minerals Commission

REPORT OF THE 2006

ALASKA

MINERALS COMMISSION

The Alaska Minerals Commission was created by the 14th Legislature and signed into law on June 6, 1986. The enabling legislation instructs the Commission to make recommendations to the Governor and Legislature on ways to mitigate constraints, including governmental constraints, on the development of minerals, including coal, in the state

COVER PHOTO: THE 850 PORTAL, ON LYNN CANAL AT THE KENSINGTON GOLD MINE. THE BACKGROUND IS LYNN CANAL AND THE CHILKAT MOUNTAINS. PHOTO WAS TAKEN IN FEBRUARY 2005 BY TIM ARNOLD, GENERAL MANAGER OF THE KENSINGTON PROJECT.

ALASKA MINERALS COMMISSION
JANUARY 2006
MEMBERS

Chairman	Irene Anderson	Bering Straits Native Corporation P.O. Box 1008, Nome, Alaska, 99762 Phone (907) 443-5252, Fax (907) 443-2985 E-mail: irene@beri..gstraits.com
Vice-chairman	Eric Neil MacKinnon	Hyak Mining Co. 1114 Glacier Avenue, Juneau, Alaska, 99801 Phone (907) 586-1254, Fax (907) 463-3433 E-mail: nmackinnon@acsalaska.net
	Del Ackels	Goldust Mines P.O. Box 61520, Fairbanks, Alaska, 99706 Phone (907) 474-0971, Fax (907) 474-0966 E-mail: golddustmines@gci.net
	Leo Mark Anthony	C-D Development Co. 2020 Lake Otis Parkway, Anchorage, Alaska, 99508 Phone (907) 279-4702, Fax (907) 279-4702 E-mail: AKleomarkanthony@yahoo.com
	Greg Beischer	Bristol Environmental & Engineering Services Corporation 111 W 16th Ave # 301, Anchorage, Alaska 99501-5129 Phone (907) 563-0013, Fax (907) 563-6713 E-mail: gbeischer@beesc.com
	Bartly Colley	Usibelli Coal Mine, Inc. 100 Cushman Street, Suite 210, Fairbanks, Alaska 99701 Phone (907) 452-2625, Fax (907) 451-6543 E-mail: bcolley@usibelli.com
	Karl Hanneman	Teck Pogo, Inc. 3520 International Street, Fairbanks, Alaska, 99701 Phone (907) 455-8325, Fax (907) 455-8326 E-mail: Karl.Hanneman@teckcominco.com
	Rich Helg	Kennecott Green's Creek Mining Co. P.O. Box 32199, Juneau, Alaska, 99803-2199 Phone (907) 789-8110, Fax (907) 789-8117 E-mail: HelgR@Kennecott.com
	Charlotte MacCay	Bristol Environmental & Engineering Services Corporation 111 W 16th Ave # 301, Anchorage, Alaska 99501-5129 Phone (907) 743-9366, Fax (907)563-6713 E-mail: cmaccay@beesc.com
	Dr. Lance D. Miller	Juneau Economic Development Council 612 W. Willoughby Ave., Suite A, Juneau, Alaska, 99801 Phone (907) 463-3662, Fax (907) 463-3929 E-mail: lmiller@jedc.org
	Don Cook	Cook International P.O. Box 80093, Fairbanks, Alaska, 99708 Phone (907)479-2487, Fax (907)479-9038 E-mail: none

STAFF

Rich Hughes	Development Specialist, Office of Mineral Development Department of Commerce, Community and Economic Development 211 Cushman St., Fairbanks, Alaska, 99701-4639 Phone (907) 451-2738, Fax (907) 451-2742 E-mail: rich_hughes@commerce.state.ak.us

FOREWORD

The Alaska Minerals Commission, authorized until January 2014, was created by the 14th Legislature and signed into law on June 6, 1986. The Governor, the President of the Senate, and the Speaker of the House appoint the Commission. The current members represent the placer, hard rock, and coal mining industries and come from diverse areas of the state. The enabling legislation instructs the Commission to make recommendations to the Governor and Legislature on ways to mitigate constraints on the development of minerals, including coal.

Many important commission recommendations have been implemented since the first report in January 1987. Highlights of progress during 2005 included the legislative direction to ADEC to seek primacy from EPA for the NPDES program, the support for BLM to examine future management of the southern part of the National Petroleum Reserve-Alaska to include mining, intervention in the Kensington wetlands lawsuit, marketing minerals to Pacific Rim Nations, continued work on water quality regulations, selection of land given to BLM, streamlining the permitting process, the "Roads to Resources" program, and acceleration of the land conveyance timetable. These types of changes have put Alaska on track to become a premier global mining jurisdiction. There is more to accomplish, but the State is moving in the right direction. The Commission commends and thanks the Governor, the Legislature, and the Agencies for the proactive and supportive stance that has been provided to the industry over the past three years.

During 2005, the Commission met in Fairbanks on September 28 and held a follow-up meeting in Anchorage on November 1. The recommendations in this report are the result of input at, and follow-up to the meetings. On behalf of the Commission, I would like to express appreciation to those members of the public, the Alaska Miners Association, the Resource Development Council, and the many government agencies and private organizations that contributed to the preparation of the report. The Commission wishes to thank Commissioners Edgar Blatchford and William Noll of the Department of Commerce, Community and Economic Development. Division of Economic Development staff, Rich Hughes, provided valuable administrative and professional support. Diane Somers expertly formatted and assembled the report for publication and printing.

Irene Anderson, (Chair)
ALASKA MINERALS COMMISSION

ALASKA MINERALS COMMISSION

2006 Report to the Governor and Alaska State Legislature

TABLE OF CONTENTS

(www.dced.state.ak.us/oed/minerals/mining.htm)

EXECUTIVE SUMMARY

The Alaska mining industry enjoyed another excellent year in 2005. Following on gains in 2004, metal prices and profitability of existing mining operations have continued to improve. Venture capital markets have provided substantial funding for explorers, resulting in an exceptionally active year for mineral exploration in the state. Construction of the Pogo mine continued throughout the year and production from Alaska's newest mine will commence in early 2006.

Despite the improvements in 2005, the industry still faces a number of challenges and investment disincentives. A cloud of uncertainty has been cast over the industry by the U.S. Army Corps of Engineers decision to suspend a key permit for the Kensington mine. This decision by the federal agency is counterproductive to the state's efforts to present itself as a jurisdiction possessing tough, but efficient environmental permitting regulations. The State must demand that federal permitting agencies be accountable, and provide timely, responsive project review and permit issuance in cooperation with State agencies. Environmental obstructionists continued to throw up hurdles despite genuine, cooperative project design and permitting work on industry's part. Spurious lawsuits and appeals continue without Litigation Reform. Efficiency of permitting is improving under the Administration's initiatives, and though the proposed changes are at times unpopular, they are crucial for the long-term health of the mining industry, the environment, and the state economy.

State government has provided significant advances on initiatives put forward originally in 2004. The programs have not only benefited the industry directly, but also improved the perception of the State in the eyes of outside investors. The Commission looks forward to continuing to work with the Governor, the Legislature, and the Agencies to build the framework for a robust, sustainable, environmentally responsible industry that benefits Alaskans in all corners of the State.

CURRENT RECOMMENDATIONS

The Commission encourages the Governor and Legislature to act on the recommendations provided in this report in 2006, including the following:

- Continue to develop more efficient and timely permitting processes.
- Ensure adequate funding and personnel for permitting agencies so they can meet the needs of the State's growing mining industry.
- Seek NPDES State primacy from the US EPA according to legislation passed in 2005.
- Restore the General Permit for remote camps.
- Implement the proposed revisions to the mixing zone regulations.
- Continue to keep infrastructure development as a policy cornerstone.
- Resolve land tenure, navigability, and right-of-way access issues.
- Provide adequate funding for acquisition of baseline geological and environmental knowledge statewide.
- Support the Alaska Minerals & Energy Resource Education Fund (AMEREF).
- Ensure that a world-class mining engineering program is developed and maintained within the new framework of the College of Engineering and Mines at University of Alaska Fairbanks (UAF).
- Expand the effort directed toward marketing Alaska as a premier place to invest in mineral exploration and development prospects, particularly in Asian countries.
- Vigorously support the exclusion of waste rock in the U.S. Environmental Protection Agency (EPA) Toxic Release Inventory requirements.

- Support funding of Mine Safety & Health Administration (MSHA) training for small remote operations.
- Re-institute a systematic program that utilizes Recordable Disclaimers of Interest to secure state title to lands beneath navigable waters.
- Ensure fair and equitable taxation in state, municipality, and unorganized regions of Alaska to support the investment climate for the mining industry.

INDUSTRY OVERVIEW

The mining industry in Alaska continued to prosper during 2005. World metal prices have increased faster than most costs, making existing operations more profitable and stimulating additional exploration in the state. Substantial risk capital was available for exploration and development of projects and some new discoveries were announced. Construction of the Pogo gold mine continued and construction began at the Kensington gold project. The total value of Alaska's mining industry will be up for 2005 to about $1.7 billion compared to $1.6 billion in 2004. Initiatives put forth by the administration, such as "Permit Efficiency Streamlining", "Roads to Resources", and NPDES assumption continue to bolster the industry. Just as importantly, these programs have improved the outside perception of Alaska as a quality place to invest. The state and the industry are beginning to reap the rewards of these initiatives.

Red Dog, Fort Knox, and Greens Creek, Alaska's three major metal mining operations, and Usibelli Coal Mine all turned in strong performances. These mines contributed significantly to the employment base and economic vitality of their respective host communities and rural regions. Placer gold mining operations benefited from increased gold prices, a though very high fuel prices had an offsetting negative affect.

Several mine development projects achieved important milestones in 2005. These include:

Pogo: Teck-Cominco and Sumitomo continued with the $347 million construction of the Pogo Mine near Delta Junction. This will be Alaska's next gold mine, with production to begin in early 2006. The underground mine will process ore at the rate of 2,500 tons per day and will produce approximately 400,000 ounces of gold per year for the 10 year mine life. The operating workforce will be 230 employees.

Kensington: Coeur Alaska, Inc. received its final permit in June of 2005 and began construction of this $105 million underground gold mine in July. Located 45 miles north of Juneau, the mine would employ approximately 200 workers during its 10-year operating life. The Wetlands Permit, issued by the U.S. Army Corps of Engineers, was subsequently withdrawn by the Corps for further study, as the Corps prepared to defend the permit in lawsuits brought by environmental opposition groups. Construction is continuing at a reduced pace.

Rock Creek: NovaGold Resources continued engineering studies of the Rock Creek Project during 2005. Rock Creek is located seven miles north of Nome; its satellite deposit, Big Hurrah, is located 41 miles east of Nome. Equipment acquisition has begun, with project construction targeted for mid-2006 and production at a rate of approximately 100,000 ounces per year beginning in 2007. Project construction costs are forecast at $40 – 50 million. Operating mine employment will be approximately 130 personnel.

Donlin Creek: Placer Dome and partner NovaGold continued with evaluation of the Donlin Creek gold deposit, located on Calista land in southwest Alaska, with a major drilling program consisting of 27,000 meters of drilling. A feasibility study is expected to be initiated in 2006. A three year permitting program is scheduled to commence in mid-2006, with construction to follow in about 2009 and production by about 2011. Construction costs are expected to be greater than $1 billion and average employment during operation at about 400 employees.

Chuitna Coal: Pacrim Coal announced initiation of permitting for the Chuitna Coal project located west of Anchorage on the north side of Cook Inlet. Construction for this project is scheduled for 2007 with production in 2009. Construction costs will be approximately $650 million. This will be a significant coal development for the state.

Pebble Copper: This is a large copper-gold deposit owned by Northern Dynasty and located north of Iliamna. Intense exploration drilling and baseline sampling activity continued during 2005 Announced resources are currently calculated at 31.3 million ounces of gold, 18.8 billion pounds of copper and 993 million pounds of molybdenum. Step out drilling to the east intersected very significant extensions to the ore body that could significantly enhance the project size and scope. Permit applications will be submitted once the company delineates the deposit extension, assesses its feasibility, and if necessary, redesigns the project.

Nixon Fork: This previous gold producer is located approximately 35 northeast of McGrath. The company has submitted permit applications and proposes to re-start of gold production in 2006 at the rate of approximately 45,000 ounces per year. This project is owned by St. Andrew Goldfields.

With increased metal prices, risk capital markets provided robust exploration budgets in 2005. Total expenditures are projected to approach $100 million. There was activity in virtually every corner of the state. Notable projects include:

Arctic: NovaGold Resources announced significant drill intercepts from its exploration efforts during the year. This project is a significant polymetallic volcanogenic massive sulfide deposit in the Ambler District.

LMS: AngloGold USA Exploration Inc. announced a significant Pogo-type gold discovery between Pogo and Delta Junction. Significant gold intercepts were obtained from two parallel quartz vein systems.

Rainy Pass (Whistler): Kennecott Exploration (Rio Tinto) announced a significant copper-gold porphyry discovery at Rainy Pass. Metallurgical (flotation) testing shows that gold reports to the copper concentrate. Minor amounts of silver and molybdenum are present. Kennecott has identified eight other targets similar to the Whistler prospect in the surrounding area.

ER, Eagle, Beverly: AngloGold and Rimfire Minerals Corp. conducted exploration on these gold occurrences near Pogo. Significant gold values have been obtained from sampling and drilling.

MAN: Nevada Star Resources and Anglo American Exploration continued exploration on the large nickel, copper, platinum group complex located northwest of Paxson. Interesting sample results have been returned and continued exploration is scheduled.

Shulin Lake: Golconda Resources, Ltd., Shulin Lake Minerals Inc. and Shear Minerals, Ltd. joint venture has identified numerous intrusive-style magnetic anomalies over the Shulin Lake diamond property near Talkeetna. Diamond drilling of 5 holes to test 3 of the anomalies returned one diamond fragment and indicated that the holes were drilled on the apron of a volcanic center. Three test pits taken from glacial till in the area returned visual observation of diamond indicator minerals. Exploration work will continue in 2006.

Lucky Shot: Full Metal Minerals of Vancouver announced discovery of a high grade extension to the historic Lucky Shot Mine located 40 miles north of Anchorage in the Willow Creek district. Six significant drill intercepts, including one 13.1 ft containing 7.04 ounces of gold per ton, were encountered.

Shotgun: TNR Gold Corp. announced that it received assay results from its 2005 six-hole drilling program on the new Winchester Gold Zone. The holes were more than 1000 meters apart and

returned anomalous gold values warranting further drilling. The property is located about 280 miles west of Anchorage and 100 miles north of Dillingham in the Kuskokwim Mineral Belt.

Other: Exploration drilling, trenching and geochemical/geophysical mapping were conducted on a number of other new or historic projects in the state. The pace of exploration during the year will reach near record levels. Further information on projects can be obtained from Dave Szumigala, DGGS or Rich Hughes, Commerce.

The Minerals Branch of the Alaska Division of Geological and Geophysical surveys (DGGS) continued to provide quality data with an improved budget for 2005. The division completed the ground surficial geologic mapping project of the Council mining district. Geophysical surveys were conducted northeast of Fairbanks, in the Black Mountain area and east of Richardson in the Pogo area. A major geophysical survey to evaluate geologic hazards was initiated on the proposed pipeline corridor between Delta Junction and the Canadian border. A geological mapping program was conducted in the Liberty Bell area south of Healy. An airborne geophysical survey, funded by the BLM, was initiated on 1448 square miles of the southern National Petroleum Reserve of Alaska. The division, in collaboration with DNR, provided rankings on all remaining state-selected lands with mineral potential as part of the BLM 2009 Project prompted by the federal Alaska Land Transfer acceleration Act (S.1466).

The global mining industry continues to expand rapidly in response to explosive demand for mineral commodities in developing countries. The cycle appears to be long term. The improvements to the geopolitical character of the state made by the administration and legislature are attracting minerals industry funding to the state. People in rural regions are benefiting from the increased economic activity in their areas. With continued positive change in permitting efficiency, access and infrastructure development, land tenure, Alaska's geological database, education, marketing and a stable tax structure, the state will achieve a robust, sustainable mining industry that will provide economic and social benefits throughout the state

FINDINGS AND RECOMMENDATIONS

PART A: ISSUES REQUIRING STATE ACTION

A1) REGULATORY REFORM

1a) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PROGRAM PRIMACY

FINDING: NPDES permitting may be the greatest obstacle to timely development of mines in Alaska. The EPA currently conducts NPDES permitting, compliance, and enforcement for the State of Alaska. Alaska is one of only four states that does not have primacy over the NPDES program.

State control of this program will likely make the process more efficient by allowing for greater access to permit writers, allowing for better coordination with other State agencies during the permitting process, and by removing the duplication of effort of permitting through EPA while also working on State certification. State primacy may allow more efficient, timely administration of NPDES permitting while effectively addressing unique Alaska water issues and maintaining high environmental standards.

The state legislature funded a study to determine if the State of Alaska should assume NPDES program primacy, as it has in air quality. The study report included the pros and cons of program primacy, the funding requirements if adopted, and a preview of what the program and regulations will look like. This work product has prepared the State to assume a program that has been well-researched and planned with careful forethought.

Legislation was passed and approved by the Governor in 2005 to direct the Alaska Department of Environmental Conservation (ADEC) to promulgate regulations for the State assumption of NPDES permitting. By this legislation, ADEC is required to 1) file a completed application to seek State NPDES primacy to US EPA before July 1, 2006 and 2) continue work-group sessions, including representatives of permittees affected under the federal NPDES program, in the development of the permitting program. Additionally, ADEC is required to report to the Governor and the Legislature within 10 days of the Legislature convening in regular session 1) on progress of the application to the US EPA, 2) to provide a description of progress by US EPA in reviewing the application, and 3) to provide progress made by ADEC and the US EPA during the five-year transition period in transferring the NPDES program to the State.

The Minerals Commission supports the State of Alaska assuming NPDES primacy.

THE COMMISSION RECOMMENDS THAT:

1a1) The Alaska Department of Environmental Conservation aggressively pursue NPDES State primacy according to the schedule provided in the 2005 legislation.

1a2) The Alaska Legislature ensure the NPDES program is appropriately funded during the transition period and when the NPDES program is fully assumed.

1b) LITIGATION REFORM

FINDING: The Minerals Commission supported the adoption of the Public Interest Litigant legislation passed in 2003. The new legislation placed mining companies (and other industries) on equal status with any party bringing a civil action seeking judicial review of Administrative Agency decisions. This legislation is very positive and will increase investor confidence immeasurably. Unfortunately, a legal challenge to the legislation was lodged in mid 2003, with a ruling in favor of the plaintiffs in 2004, preventing implementation of the legislation. The Administration has appealed the court's ruling on this legislation, which has now been heard before the Alaska Supreme Court (November 9, 2005).

Alternative legislation was introduced in 2005 by the Administration that will serve a similar purpose. This legislation will continue to be heard in the 2006 legislative session.

THE COMMISSION RECOMMENDS THAT:

1b1) The Administration continues to vigorously defend the Public Interest Litigant statute against the legal challenge.

1b2) The Legislature consider and pass SB86 legislation on State/Municipal Liability for Attorney Fees.

1c) PERMIT EFFICIENCY

FINDING: The Alaska State agencies have been successful in improving permit efficiency. Through consolidation of permit administration under the Department of Natural Resources (DNR), and direction by the ADEC Commissioner, the permitting process for mining operations is becoming more streamlined. Permit coordination under DNR and aggressive review of backlog permits by ADEC appears to improve both timeliness and cooperation, making the process reasonably predictable while reducing the burden of the permitting process. Professional staff has been added in both Air and Water Quality to reduce the backlog of permit applications. The benefits of the Administration's and State Agencies' efforts in improving permit efficiency have been recognized by the mining industry in their business activities.

The Alaska industries, Agencies, Administration, and Legislature can work together to provide responsible and reliable permitting that ensures the protection of the environment, predictability to permittees, and a sound future. Coordination with Federal Agencies must be improved among all parties to make the permitting process more efficient.

The Administration received approval for six (6) additional staff positions in the FY06 budget for the Division of Mining, Land and Water to support and maintain efficient permitting activities. As of late 2005, these positions had not been filled, although recruitment was underway.

In late 2005, a number of talented senior staff members of the DNR left the Agency, including the Commissioner. The staff members that departed the Agency had significant experience in the mining industry, both from previous operational tenure as well as Agency experience in mining. The Administration and DNR has assured the mining industry that current policies and activities will continue, and that there will be no diminution of service from DNR. The mining industry supports this Administration's efforts in ensuring the environmentally sound development of Alaska's natural resources, and DNR's assertions of continued resource management services, however the industry also recognizes the difficulty in the timely filling of vacancies with highly talented individuals, especially in an era of increased mining activity warranted by regional and world-wide economic growth.

The present economic growth being experienced in the natural resource industries world-wide, as well as regional and US economic growth in all industries, has strained the supply of human resource professionals available to fill vacancies in industry as well as governmental agencies. If not already, the Alaskan agencies will see the same inability to attract skilled professional staff. The ADEC and DNR should review their recruiting mechanisms and salary and benefits packages to ensure they are capable of maintaining existing staff and attracting staff in a timely manner.

THE COMMISSION RECOMMENDS THAT:

1c1) The Administration continue to seek efficient and timely permitting by maintaining high quality internal staff and using third-party contractors to support the permitting process.

1c2) The Department of Natural Resources aggressively recruits to fill the outstanding vacancies approved in the FY06 budget for the Division of Mining, Land and Water.

1c3) The Department of Natural Resources ensures excellent resource management services by ensuring the vacancies occurring in late 2005 of senior staff members are filled with highly qualified individuals with relevant experience.

1c4) The agencies ensure their recruiting mechanisms and salary and benefits packages are capable of reacting to market conditions in the employment of professional staff.

1c5) The Legislature require a periodic permitting status report accounting for agency staff and management.

1c6) The Administration demand that Federal Agencies respond in a timely, responsive manner when their participation is required in the permitting process.

1d) GENERAL PERMITS FOR SMALL REMOTE WORK CAMPS

FINDING: Small work camps are commonly used for construction and mining exploration throughout the remote areas of Alaska. These camps are short-term, low-impact facilities with common features. However, the camps require several State permits to address waste, wastewater, drinking water, food service and other environmental and human health regulations. To ease the permitting burden on both the permittee and the State, ADEC needs to develop a General Permit for these facilities.

THE COMMISSON RECOMMENDS THAT:

1d) The Alaska Department of Environmental Conservation and Alaska Department of Law develop a simplified permitting method to bring small, remote work camps into compliance with all applicable State regulations, or restore the ADEC General Permit provision for simplification of permitting small work camps.

1e) MIXING ZONES

FINDING: Existing water quality regulations contain a prohibition against mixing zones in anadromous or resident fish spawning areas. This overly broad language makes it more difficult to consider site-specific conditions, such as the productivity of the spawning area compared to the potential benefit of a municipal waste treatment plant or industrial project that might require a mixing zone. Without flexibility in the regulation, many projects that could significantly improve the health and welfare of people throughout Alaska may be precluded because of the widespread presence of spawning fish, including resident fish.

During 2004 and 2005, ADEC proposed revisions to the mixing zone regulations and solicited public comment. Three critical improvements were provided in the proposed mixing zone regulations. These included 1) allowing mixing zones in spawning areas provided an applicant can demonstrate no adverse effect to the spawning area, 2) simplifying and reorganizing the mixing zone regulations into one section of the water quality standards as compared to several locations, without compromising the protection of the environment, and 3) moving the technical specifications for designing and modeling mixing zones into guidance documents and out of regulation to allow for modifying and improving design criteria and specifications based on current science and technology. As of the end of 2005, these proposed revisions to the mixing zone regulations have not been finalized.

THE COMMISSION RECOMMENDS THAT:

1e) The Alaska Department of Environmental Conservation finalize the promulgation of the mixing zone regulations after considering the comments provided during the comment period that result in enhancements to the proposed regulations and without detracting from the original three improvements in the proposed regulations.

A2) ACCESS and INFRASTRUCTURE

The lack of infrastructure, including roads, airports, and power transmission networks, increases the costs of mineral exploration, development, and mining, and substantially increases economic risk incurred by potential investors. High costs and risk levels are a deterrent to investment and, consequently, decrease the rate of mineral deposit discovery and subsequent development. Alaska mining operations are rendered less competitive in the global marketplace because of the lack of public infrastructure, limiting mining industry growth and slowing economic diversification, particularly in rural areas.

2a) ROADS TO RESOURCES

FINDING: The current Administration has recognized this deterrent to resource industry investment, and has taken positive action to develop the needed infrastructure through the Industrial Roads Program ("Roads to Resources"). High-priority roads and facilities have been identified and engineering studies commissioned. The program significantly bolsters perception from Outside that the State is open to mineral development, and that logistical hurdles inherent in frontier regions can be overcome in an active partnership with State government. The program thereby stimulates exploration investment and allows development projects to proceed more rapidly. The Commission applauds the government for its actions and initiatives.

THE COMMISSION RECOMMENDS THAT:

2a1) The State continue with the Roads to Resources program and select projects for funding that can directly result in resource development.

2a2) The Administration aggressively seek federal funding to complete the selected projects.

2b) POWER SUPPLIES

FINDING: Major mines typically require substantial (20-80 megawatt) power supply, and additional or extraordinary processing requirements can significantly increase that demand.
The availability of electrical power is a significant challenge to mineral development in Alaska. Many remote mines must generate their own power using costly modular diesel or other forms of power generation, and transportation of the fuel adds to the logistical hurdles that must be overcome by the mine. If the existing power grid in Alaska was enhanced by additional generation facilities, future extensions of the grid could incrementally extend power-by-wire not only to mining developments, but also to remote communities. Coal fired generation offers the means to provide stable long term power supply to enhance the existing power grid in Alaska.

THE COMMISSION RECOMMENDS THAT:

2b) The Governor and Legislature support development of a long-term electrical generation plan for the existing electrical grid in Alaska that incorporates the use of coal.

A3) STATE'S RIGHTS ISSUES

These issues have been segregated because although they are also about ownership and access, both of which are fundamentally important in mineral investment decisions, two of them are not exclusively Alaska issues, and allow for cooperative efforts with other states at the federal level.

RS 2477 trails may offer the only access across lands in Alaska where ownership patterns have changed and become more complex since statehood. Similarly, navigable waterways can provide the cheapest form of transportation for some mineralized areas, and some are inherently important sources of placer gold.

Western States have as much a vested interest in RS 2477 access as does Alaska, and all states have an interest in ownership of the riverbeds and water columns of navigable rivers and lakes.

3a) RS 2477 TRAILS

FINDING: In 1993, the Legislature appropriated funds for a task force to create an RS2477 right-of-way inventory. The Division of Mining Land and Water has recently formed a Public Access Assertion and Defense Unit to focus exclusively on asserting access to public lands and waters. The unit, under former State Senator Scott Ogan's direction, is managing the Quiet Title Action on a RS 2477 (RST) in the Coldfoot-Chandalar Lake area of the Brooks Range. This trail was chosen because of it's long history as a critical access to a mining region. There are many active mining claims that are directly and indirectly affected by this trail. The defendants in the case are primarily the Federal Government, a Native Corporation and a private property owner near Chandalar Lake. The objective of the litigation is to set a precedence to make it easier for miners and others to get access across RSTs. There has been a recent 10th Circuit case ruling that is favorable to acknowledging the existence of RSTs.

The Alaska Division of Mining, Land, and Water has researched 1,950 routes proposed as RS2477 rights-of-way. Of these, about 620 routes have been legislatively recognized, about 250 need more information, and the remainder may not qualify because of circumstances such as lack of evidence, duplication of existing rights-of-way, or failure to meet the requirements of the RS2477 law.

The Department of Law and the Division of Mining, Land and Water require continued funding for "quiet title" actions that could establish the validity of these 620 routes.

THE COMMISSION RECOMMENDS THAT:

3a) The Legislature should preserve the State's rights by providing adequate funding for a multiyear, multi-agency Capital Project of aggressively pursuing precedent-setting Quiet Title actions for RS 2477 trails based on the results of the Coldfoot-Chandalar Lake litigation.

3b) NAVIGABILITY

FINDING: State ownership of the beds of navigable waters is an inherent attribute of State sovereignty protected by the United States Constitution.

The State of Alaska owns all water columns and the land under most navigable waterways in Alaska. The Equal Footing Doctrine, the Submerged Lands Act of 1953, the Alaska Statehood Act of 1958, the Alaska State Constitution, and the Alaska Statutes establish State ownership of public water (actual water that is in a lake or river) and the submerged lands (the beds of navigable waterways below the mean high water mark). The courts have defined navigable waters as those "used **or susceptible to use** for travel, trade, and commerce at the time of statehood" (emphasis added). In the Gulkana decision the court determined that for this purpose, any stream capable of floating a boat, canoe or raft carrying 1,000 pounds is navigable.

This interpretation would include not only the obviously navigable waterways, such as the Yukon, Kuskokwim, Tanana, Fortymile, and Kobuk rivers, but many smaller rivers and lakes used for travel. Some of the rivers that will clearly qualify under the Gulkana decision contain important placer gold deposits. Regrettably, the Bureau of Land Management Solicitors refuse to recognize this important 9th Circuit Case Law in their adjudication of Recordable Disclaimers of interest filed by the State of Alaska.

While title to the beds of navigable waters was vested in the state at Statehood, the federal courts have only ruled on the navigability of 13 waterways in Alaska. Alaska faces two types of legal hurdles in establishing its ownership of lands under navigable waters. The first is to determine what rivers and lakes are navigable under federal law, as determined by the Gulkana decision. The second is to establish that the United States did not defeat the State's title to navigable waters through pre-statehood federal reservations. The State has used the court action (quiet title) to address both of these hurdles by defining the types of rivers and lakes that are navigable under federal law, and to determine whether or not certain pre-statehood federal reservations defeated the State's title. The most recent case is the Glacier Bay case, which the courts ruled was a pre-Statehood withdrawal that defeated State Title. However, in that case, the Federal Government acknowledged state title to the tidelands within the Tongass National Forest.

In 1980, the State established a comprehensive navigability program within the DNR. This program was designed to respond to federal land conveyances and land management activities under the Alaska Statehood Act, the Alaska Native Claims Settlement Act, and the Alaska National Interest Lands Conservation Act. The basic purpose of the program was to protect the public rights associated with navigable waters, including the State's title to the submerged lands. The program also included monitoring of federal land conveyance and management programs to identify navigability disputes, seeking cooperative resolution of navigability problems through negotiation and legislation, and preparing for navigability litigation. The program was mostly eliminated through budget cuts in the late 1980s, although the program has been restored in recent years, and further strengthened with the establishment of the Public Access Assertion and Defense Unit.

In January 2003, the Department of Interior adopted new regulations that allow Bureau of Land Management (BLM) to issue "Recordable Disclaimers of Interest" for navigable waters. The Recordable Disclaimer process provides the state and federal governments with a process to agree on State ownership of navigable waters without going through the costly Quiet Title process. The state must submit applications to the BLM. To date, the state applied for such determinations on 21 rivers and 10 lakes, and BLM has issued disclaimers for six rivers and two lakes. In FY03 and FY04, the Legislature provided special funding to DNR and the Alaska Department of Fish and Game (ADFG) that has been used to prepare the state's initial work on this project. BLM has agreed to provide the State with funding for conducting research to support additional applications by the State for Recordable Disclaimers of Interest for navigable waters.

THE COMMISSION RECOMMENDS THAT:

3b) The Legislature continue to adequately fund the Department of Natural Resource's Public Access Assertion and Defense Unit and personnel within the Department of Fish and Game to continue work on the Recordable Disclaimers applications program. Additionally, funding should continue to be made available to the Department of Law to support any Quiet Title actions necessary to assert ownership of submerged lands. Further, Federal Government should continue to establish more efficient methods for determining what water bodies are navigable and recognize the established Gulkana Case Law in regard to susceptibility when issuing Recordable Disclaimers of Interest.

A4) DATA ACQUISITION

4a) GEOPHYSICAL AND GEOLOGICAL MAPPING

FINDING: Alaska is one of the most poorly mapped regions of the world and ranks far behind many third world countries in spending for geologic data acquisition. Many potential investors in Alaska's mineral industry are discouraged by the lack of detailed geologic information, and choose to invest in areas that have more public data to guide grassroots exploration. Furthermore, companies that have persevered and identified prospects worthy of development find that they are expected to fully define the baseline data of the whole area surrounding their discovery because no such database exists.

Since 1993, the State of Alaska has spent an average of $400,000 per year on airborne geophysical surveys and the "ground truth" geologic mapping necessary for interpretation of the airborne surveys. The geophysical work to 2005 has covered approximately 9,000 square miles, less than 6% of the State's land entitlement. At the current rate of mapping, it will take more than 100 years to have basic coverage of State land in Alaska. A healthy, growing mining industry, as well as competent State management of mineral and other natural resources, requires a much more substantial and

consistent annual investment in basic geological data acquisition. The Governor has proposed funding for this geophysical mapping at a level of $[illegible]000 for 2006. The Governor has also proposed $350,000 for surficial geologic mapping of the proposed gas pipeline corridor between Delta Junction and the Canadian border as a follow-up to airborne geophysics. To be consistent with the other high-quality mapping products produced by the State and to be efficient in field work and map production, additional funding should be provided to insure that bedrock geology mapping is completed as well. DGGS made significant progress in making geological information more accessible to the public, through a graphical web-based interface. This was a major undertaking initiated some years ago. With information easier to obtain and synthesize, exploration companies are better able to learn of high-potential areas, and are more inclined to make financial investments in exploration. This is an example of how relatively small investments in Alaska's geological survey translate to major economic investment in the state.

THE COMMISSION RECOMMENDS THAT:

4a1) The Governor and the Legislature increase the annual rate of investment in geophysical surveys to a level greater than $1,000,000 per year.

4a2) The Governor and the Legislature should provide $500,000 to complete both surficial and bedrock geology mapping of the Delta Junction – Canadian border pipeline corridor.

A5) EDUCATION AND RESEARCH

5a) AMEREF

FINDING: The "Alaska Resource Kit", which is being used in the statewide public school system, is an excellent program for educating Alaska's students in the issues and fundamentals of resource development. With the current expansion of mining activity in the State, there is a parallel need to educate our youth in all aspects of mineral development. The AMEREF program provides a broad-based resource education for Alaska's students that is critical to their future ability to make well reasoned decisions about the use and protection of Alaska's wealth of natural resources. The kit incorporates technical, economic, and environmental aspects into a balanced program that addresses mineral, timber, and energy development.

AMEREF is supported by the resource industries in partnership with the State of Alaska. The resource industries fund AMEREF's production and replacement of all teaching materials and ensure the technical accuracy of the material. The resource industries also organize and distribute the education kits. AMEREF is looking to expand the program by obtaining additional funding through various grant programs.

The Governor and Legislature reinstated basic AMEREF funding with a Department of Education position in the FY05 budget. The AMEREF program's successful integration into the State of Alaska school systems has been the result of past cooperative efforts between AMEREF and the Alaska Department of Education. This position was specifically designed to work with AMEREF to ensure that the curriculum was developed in a manner that would meet State standards. This position

also provides teacher training to familiarize Alaska teachers with the program and to facilitate its application in the classroom. The Commission appreciates the reinstatement of funding for this position by the Administration and seeks to build on this success for the future.

THE COMMISSION RECOMMENDS THAT:

5a) The Governor and the Legislature should appropriate $100,000 to the Division of Teaching and Learning Support, Minerals and Energy Education Program for curriculum development of AMEREF. Industry will continue to support all AMEREF materials, but the State's support in funding Department of Education approved curriculum development is essential to the program's integrity.

5b) COLLEGE OF ENGINEERING AND MINES

FINDING: The University of Alaska was founded as a mining and agriculture college to train Alaskans for the development of our resources. Alaska has some of the most highly prospective mineral lands in the world and mineral development remains an important component for a strong, diversified state economy. Alaska also presents unique educational requirements. Mineral resource operations are challenged by severe cold, permafrost conditions, and remoteness. These challenges are best met with home-grown, in-state expertise and knowledge. The State should maintain a strong mineral engineering degree program so that there is a base of knowledgeable, capable people prepared to meet Alaska's unique challenges.

UAF recently integrated the School of Mineral Engineering into the College of Engineering and Mines in 2004. The School of Mineral Engineering has had the reputation of being one of the best school of mines in the United States. Its graduates hold responsible mining positions around the world. There is strong concern that the school's focus on mining, geological and petroleum engineering will be significantly diminished within this broader context of general and civil engineering. Many other mining schools across the continent have been forced to roll their mining programs into their engineering schools for financial survival. However, in many instances, the mining programs have been under-funded and poorly staffed. As a result, these formerly venerable institutions have become ineffective at producing quality mining graduates. A similar fate must be prevented in Alaska, where mining is poised to become a premier employer of professional mining personnel.

The president of UAF, Mark Hamilton, has committed to funding a President's Professor of Mining and Energy Technologies for the next five years. He has stated that attracting a world class researcher to help address the most pressing needs of our mining industry should help "jump start" UAF's new college in the right direction. He has also stated that he would hope, during those five years, that we can demonstrate enough progress and growth to justify endowing the position. That position has not yet been filled.

THE COMMISSION RECOMMENDS THAT:

5b1) The Legislature encourage the University to maintain a world-class Mine Engineering degree program.

5b2) The Legislature ensure that the UAF Administration and Board of Regents has the resources necessary to support the position of the President's Professor of Mining and Energy Technologies.

A6) IMPROVING THE INVESTMENT CLIMATE IN ALASKA

6a) TAX CONSIDERATIONS

FINDING: Diversification of the Alaska economy is a cornerstone of all credible discussions regarding long-term fiscal planning for Alaska. With the development of the Greens Creek, Red Dog, Fort Knox, True North, and Pogo mines over the last decade and a half, it is a proven fact that mineral development can bring substantial private sector investment and employment to diverse geographic regions of Alaska, from southeast Alaska to the Interior and on to the northwest Arctic. Other projects such as Kensington, Chuitna Coal, Rock Creek, Nixon Fork, Donlin Creek, and Pebble offer potential economic development to still other parts of Alaska, including eastern, western, and southwestern Alaska.

Mining is an industry that can bring economic development to areas both inside and outside the rail belt. Yet with much of Alaska's mineral potential located in portions of the State that remain within the unorganized borough, there are major fiscal uncertainties with respect to the private sector investment needed to explore and develop these projects. The legislature has considered the possibility of mandatory borough formation in these areas, bringing with those proposals the uncertainty of taxation formulas, tax rates, and the overall equity of the potential tax structures that might be instituted.

The mining industry expects to contribute to state and local government. In addition to state income tax paid by corporations in all industries, mining operations pay an additional 7% Net Profits Interest (NPI) Mining License Tax to the state, regardless of where they are located in Alaska. Operations on State land pay an additional 3% NPI royalty. Mining is one of the few industries to pay this additional percentage of profits to the State over and above the corporate income taxes. In addition, all of the major mining operations make large payments to local municipal governments via property taxes or payments in lieu of property taxes.

During discussions regarding borough formation in rural areas, it has become clear that the residents in these areas do not generally endorse payment of taxes themselves to support new local government. If borough formation was effected in these areas, it is possible that the potential tax burden would be placed primarily on the major industry in the region. While the mining industry does expect to pay its fair share of future municipal government costs, if and when it is appropriate to form these local governments, it should do so by an equitable, broad-based tax such a property tax, not an industry-specific tax such as a severance tax. Without the mitigating effects of a broad-based tax, the mining industry could then end up facing a very onerous tax structure. Such uncertainty serves as a strong disincentive to the very investment and economic diversification that is so vital to rural development.

From the perspective of making the initial decision about whether to invest in Alaska, the unpredictability of future tax liability makes planning difficult. This unpredictability contributes to the disincentive against investment in mining in Alaska, for the mining industry in particular, because unpredictable operating costs, such as tax liability, combine with fluctuations in metals prices to make projection of economic risks more difficult at the development decision stage. Placing limits on the extent of new taxes for mining operations would make economic planning more predictable and thereby reduce the disincentive against investment in Alaska.

THE COMMISSION RECOMMENDS THAT:

6a) The Governor and the Legislature take steps to improve the investment climate for the mining industry by ensuring that future municipal taxes, especially in those areas presently within the unincorporated regions of Alaska, are broad-based, equitable, and stable.

6b) MINERALS MARKETING AND FOREIGN TRADE OFFICES

In the past three years, the State of Alaska has made dramatic improvements to the business environment for the mining industry. This improvement, coupled with the long-recognized geological potential for strong mineral endowment, makes Alaska one of the premier locations in the world for mineral exploration and development investment. With a resurgence in metal prices, the State is experiencing growth in exploration. However, most of the exploration funding comes from Canadian-based sources. A lesser amount comes from American companies. Very little Alaska exploration funding originates outside North America.

FINDING: Much greater investment in Alaska mineral exploration and development could be achieved through more aggressive marketing of Alaska's potential, both in North America, and abroad, particularly Asian countries. Foreign trade representatives maintained on contract by the State in Korea, Japan, China and Taiwan respond to industry requests for assistance in those marketplaces. They can provide assistance by initiating contacts, making introductions to potential investors, and representing the state's improvements to the markets. Increased cooperation among mining entities and state agencies could better market Alaska as a place for Asian companies to invest in mineral projects. Expanded, better-financed, minerals marketing efforts could elevate North American investment in Alaska. Despite the very positive changes that have been made, it is necessary to follow through and convince mineral exploration and development managers and financiers around the world that Alaska truly is, in a global context, one of the best places in the world to explore and develop mineral deposits.

THE COMMISSION RECOMMENDS THAT:

6b1) The Department of Community and Economic Development work with the Alaska Minerals Commission, the Alaska Miner's Association, and the Governor's Office of International Trade to provide information, marketing materials, and instruction to the Alaska foreign trade representatives in Asia, and

6b2) The Department of Community and Economic Development and the state's foreign trade representatives be provided with adequate funding to expand the presence at domestic and foreign trade shows at which investment in Alaskan mineral exploration, development and mining projects can be promoted, and

6b3) The State continue with high-level Trade Mission efforts that promote development of coal resources in Alaska.

PART B. FEDERAL ISSUES OF STATE CONCERN

B1) TAILINGS IMPOUNDMENT CLASSIFICATION

FINDING: The Clean Water Act (CWA) generally prohibits the discharge of pollutants into "waters of the United States" except in compliance with a permit issued under sections 402 (NPDES program) or 404 (dredge and fill program) of the CWA. EPA Region 10 is responsible for issuing NPDES permits in Alaska and the U.S. Army Corps of Engineers issues 404 permits.

In 2002, the Corps and EPA adopted regulations defining "fill material" for purposes of the 404 permitting program as any material that has the effect of either replacing any portion of a water of the United States with dry land or changing the bottom elevation of any portion of a water. The new regulations also include a definition of "discharge of fill material," which is now defined to include "placement of overburden, slurry or tailings or similar mining-related materials.

On May 17, 2004, EPA headquarters issued a memorandum entitled "Clean Water Act Regulation of Mine Tailings" (also known as the "Regas memo") to EPA Region 10 addressing the permitting of the disposal of mine tailings under the 404 permitting program. Among other things, the Regas memo provides that the discharge of fill material to construct the dam for a tailings impoundment as well as the discharge of the mine tailings into the impoundment is subject to permitting under CWA section 404; any discharge of pollutants from the impoundment to a downstream water is subject to CWA section 402.

The location of the tailings impoundment is to be specified through the application of guidelines developed by EPA pursuant to Section 404 (b)(1) of the CWA. The guidelines include among other requirements a provision that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharged that would have less adverse impact on the aquatic impact system. An alternative is "practicable" if it is available and capable of being done taking into account cost, existing technology, and logistics in light of overall project purposes. The guidelines also generally prohibit the discharge of fill material if it will cause or contribute to "significant degradation" of waters of the United States. EPA has the power to veto or place restrictions on any 404 permit issued by the Corps if the discharge would have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishing areas, wildlife, or recreational areas.

The Regas memo notes that in 1992, prior to the adoption of the current definitions of "fill material" and the "discharge of fill material," EPA had issued a memorandum (the so-called "Wilcher memo") stating a different regulatory basis for permitting tailings impoundments. The regulatory definition of "waters of the United States," contains an exclusion for "waste treatment systems." Therefore, neither a 402 nor 404 permit is required to put fill material or other pollutants into a waste treatment system.

Since a tailings impoundment is a type of waste treatment system, EPA concluded that a 402 or 404 permit isn't needed to put tailings into it. EPA states in the Regas memo that although EPA now chooses to rely on section 404 of the CWA and the 2002 changes in the regulations definitions of "fill material" and the "the discharge of fill material" in permitting the disposal of mine tailings into waters of the United States, this reliance does not preclude the use of the waste treatment exclusion.

The permitting of the disposal of mine tailings into waters of the United States including wetlands is critical to the mining industry in Alaska. Many mine operations can only be built in valley areas through which streams run and wetlands are present. In many instances disposing of tailings in a "drystack" on uplands is not practicable. The benefits of the 2002 rulemaking and the permitting guidance provided in the Regas memo will not be realized if Region 10 EPA does not appropriately exercise their oversight responsibility of the Corps' 404(b)(1) process, particularly in regards to the practicability analysis. In regards to a 404 permit recently issued for a tailings impoundment in Southeast Alaska, EPA Region 10 categorically stated that drystack tailings management is the "preferred method in Alaska." This statement indicates a possible bias against wet tailings facilities, which are often the only practicable alternative in Alaska.

The Minerals Commission appreciates the Murkowski Administration's and EPA Headquarter's and Region 10's efforts to develop and implement the Clean Water Act Regulation of Mine Tailings memorandum of May 17, 2004. The Administration and ADEC have strongly supported the resolution to provide clear direction on the permitting of mine tailings as "fill material" under the Army Corps of Engineers Section 404 permitting program.

THE COMMISSION RECOMMENDS THAT:

B1-1) The Administration work with EPA to appropriately implement the Regas Memorandum in a consistent and objective manner, recognizing that it is the Army Corps of Engineers' responsibility to conduct the 404(b)(1) analysis, with oversight from EPA, and that in all cases site-specific environmental factors and the practicability considerations of cost, existing technology, and logistics are to be fairly considered in light of the overall project purpose.

B2) TOXIC RELEASE INVENTORY

FINDING: The Toxic Release Inventory (TRI) program details toxic chemical releases and waste management activities reported annually by certain covered industry groups as well as federal facilities. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and expanded by the Pollution Prevention Act of 1990. In 1997, EPA added seven new industries to the TRI reporting program, which included coal and metal mining. The original intent of the program was to identify possible releases that could occur from a regulated facility – and how they might affect the health and well being of a community. The disagreement over what should be reported centers around the fact that the term "release" is not defined under the TRI program as the term is commonly used in the English language. Myriad environmental programs for mining already regulate and have reporting requirements for "true releases" to the environment.

THE COMMISSION RECOMMENDS THAT:

B2-1) The State Administration and Legislature send a message to Congress and the Federal Administration that the TRI reporting of mining wastes clearly violates the spirit of EPCRA. Reporting gross quantities of naturally occurring compounds that never leave a permitted facility only creates distorted numbers that have no basis in reality in predicting risks posed by a mining operation to the general public. It costs mining companies time and money, whether reporting to the TRI data base or not, because of having to do all of the requisite paperwork to establish whether threshold amounts of any one compound would necessitate the filing of a report.

B3) GEOLOGICAL MAPPING

FINDING: The State of Alaska lacks a comprehensive geological base of information. As a minimum, the state should have, for each 1:250,000 scale quadrangle: 1) a basic geological map, 2) an airborne magnetic survey at suitable line spacing, 3) reconnaissance stream sediment sampling surveys, and 4) baseline water quality data. Information at this level of detail is necessary to attract investment in mineral resources to the state. The federal government is carrying out very little geological mapping and geophysical surveying, and is not meeting its obligations under ANILCA in a systematic, sustainable fashion.

Section 1010 of ANILCA requires that "The Secretary shall. to the full extent of his authority, assess the oil, gas, and other mineral potential of all public lands in the State of Alaska in order to expand the data base with respect to the mineral potential of such lands..."

This ANILCA requirement was formerly met by the Alaska Mineral Resources Assessment Program (AMRAP), which was funded for several years immediately after passage of ANILCA, and was carried out by the United States Geological Survey (USGS). Over time, the amount of funding for the program was cut, and finally the budget line item was eliminated and folded into other USGS programs. The AMRAP program was subsequently cut to the point where it has effectively been dormant since about 1992.

THE COMMISSION RECOMMENDS THAT:

B3-1) The legislature pursue reinstatement of the AMRAP program by lobbying the congressional delegation.

B4) RESOLUTION OF OUTDATED SEGREGATIONS

FINDING: Large tracts of land in Alaska that were "temporarily" withdrawn from public entry more than 30 years ago remain unnecessarily closed. These Outdated Segregations preclude mineral development, deny access to other lands and resources, and prohibit transfer of land selections to the State of Alaska and Alaska Native Claims Settlement Act (ANCSA) corporations.

The land segregations were originally set aside for three primary purposes:

1. Selection and conveyance to ANCSA corporations,
2. Possible inclusion within federal conservation units, and
3. Industrial developments such as alternate candidates for a Trans-Alaska Pipeline corridor.

The BLM has initiated a large number of land management planning studies that are required before the land withdrawals can be removed by congressional action. As the first task required by S1466, The Alaska Land Tranfer Acceleration Act, the agency has prepared a report to Congress that clearly identifies all lands forming the outdated segregations, and made recommendations for those that can be immediately rescinded.

THE COMMISSION RECOMMENDS THAT:

B4-1) The Department of Natural Resources continue to work cooperatively with the BLM to allow completion of the land conveyance process on schedule by 2009.

B4-2) The Department of Natural Resources monitor the land planning process to ensure that high-potential mineral lands are reopened to mineral entry when the withdrawals are rescinded.

B4-3) The Alaska Legislature provide adequate funding for the Department of Natural Resources to carry out the actions that will be required to permit it to meet the deadline imposed by S1466.

B5) ESSENTIAL FISH HABITAT

FINDING: Protection of "Essential Fish Habitat" (EFH) is a key component of the 1996 Sustainable Fisheries Act (SFA), which amended the 1976 Magnuson-Stevens Fisheries Conservation and Management Act (MSFCMA).

EFH is an evolving program administered by the National Marine Fisheries Service (NMFS). In January, 2004, a Draft Environmental Impact Statement (DEIS) for Essential Fish Habitat Identification and Conservation in Alaska was made public for review and comment. The State of Alaska, in April, 2004, forwarded their comments to NMFS. The State of Alaska was generally supportive of the progress shown in the DEIS, but held a deep concern about the possible inland reach of the EFH program. The State claimed that EFH consultation for activities and projects occurring within State waters and uplands is a duplication of existing protections and processes in which the State is currently engaged. The State also contends that EFH consultation does not provide for any enhanced protection for those identified habitats. In fact, the additional consultation does nothing more than create additional work for local, State and Federal agencies, as well as the applicant proposing the activity or project within the State. EFH consultation may ultimately result in loss of resource development opportunities and economic benefit to the State without any additional habitat protection or gain beyond those required under local, State or Federal regulatory programs.

Under the SFA, eight Regional Fisheries Management Councils develop Fisheries Management Plans for important fish species, and provide this information to NMFS. The NMFS has defined essential fish habitats very broadly, and throughout the western states has included all waters currently accessible to salmon. All federal agencies involved in any kind of development are required to consult NMFS if their actions "may adversely affect EFHs."

This broad mandate will, at best, slow permitting with a complex consultative process, or in the worst case result in project denial or modifications that effectively prohibit resource development. Thus, this

poorly defined EFH program has the potential to be at least as onerous as the Corps of Engineers 404 "Wetlands" permitting.

THE COMMISSION RECOMMENDS THAT:

B5-1) The Governor and Legislature work with the Congressional Delegation to require NMFS to define the scope and application of the EFH program, limit the authority of the NMFS to marine waters, and leave management of anadromous fish within State waters to ADF&G.

B6) MSHA

FINDING: MSHA regulates the safety of mining operations. This agency has recently added the requirement that gravel operations that "screen, crush, or size" gravel must provide MSHA training for

employees. This requirement affects all road, airport, community, and other infrastructure construction or upgrade projects in Alaska. MSHA also increased the penalties for violations. MSHA did not increase the University of Alaska funds for this training, which will be required in potentially 200 Alaska villages.

FINDING: Comparing MSHA with the Occupational Safety & Health Administration (OSHA) Benefits for Small Business one sees that OSHA has fewer recordkeeping requirements for very small business. Employers with 10 or fewer employees are exempt from most OSHA recordkeeping. The violations are also reduced for smaller business with a 60% reduction with 25 or fewer employees.

THE COMMISSION RECOMMENDS THAT:

B6-1) The Governor communicate with the U.S. Department of Labor to ensure that appropriate funds are available for the required annual MSHA training held throughout the State of Alaska.

B6-2) The Governor communicate with the U.S. Department of Labor to ensure that small mines in Alaska, who fall under MSHA, can have similar regulatory relief as provided to small operators under OSHA.

APPENDIX A
ENABLING LEGISLATION

Chapter 98
Session Laws of Alaska, 1986
As Amended by Chapter 12
Session Laws of Alaska, 1998

AN ACT

Relating to the Alaska Minerals Commission; and providing for an effective date.

Section 1(a) The legislature finds that the minerals industries, including metallic minerals, industrial minerals, and hydrocarbons, have traditionally and continue to be the major source of wealth and income in the state.

(b) The legislature further finds that there are major constraints on the continued development of a diverse mineral industry in the state, including the Environmental Protection Agency's effluent guidelines, state water quality standards and improperly classified streams and rivers, restriction on surface access, complex and numerous permitting requirements, and limited access to minerals through mineral closing orders and restrictions on multiple use through state and federal land use plans.

Section 2. ALASKA MINERALS COMMISSION ESTABLISHED. (a) The Alaska Minerals Commission is established in the Department of Commerce and Economic Development.

(b) The Commission is composed of 11 members. The Commission shall be composed of individuals who have at least five years' experience in the various aspects of the minerals industries in the state. The Governor shall appoint five members of the Commission, one of whom must reside in a rural community. The President of the Senate shall appoint three members of the Commission. The Speaker of the House of Representatives shall appoint three members of the Commission. Each member serves at the pleasure of the appointing authority.

(c) The Commission shall make recommendations to the Governor and to the Legislature on ways to mitigate the constraints, including governmental constraints, on development of minerals, including coal, in the State.

(d) The Commission shall report its recommendations each year to the Governor and the Legislature during the first 10 days of the regular session of the Legislature.

Sec. 3. This Act is repealed February 1, 1994.*

Sec. 4. This Act takes effect immediately in accordance with AS 01.10.070(c)

*Note: The Act was amended to extend the life of the Commission to February 1, 2014.

APPENDIX B
ALASKA MINERALS COMMISSION
STATEMENT OF PURPOSE

The Alaska Minerals Commission was created by the 14th Legislature in Chapter 39 of the Session Laws of 1986 and was established to make recommendations to the Governor and to the Legislature on ways to mitigate constraints on the development of minerals in the State.

The minerals industry offers the greatest potential of any Alaska industry for expanding and diversifying the State's economic base, for increasing Statewide employment, and for generating new wealth to create businesses and provide revenues for State and local governments.

However, Alaska has a complex pattern of land ownership and management; has overlapping and uncertain regulatory requirements; has unique geographic, geologic and climatic conditions; and has an undeveloped transportation system.

To attract the capital necessary for the exploration and development of new mines, to ensure that mines can be developed feasibly and in a timely fashion, and to ensure that producing mines remain viable, constraints on the industry must be mitigated.

The Alaska Minerals Commission will prepare reports for the First and Second Sessions of the 15th Legislature and the First Session of the 16th. Legislature, recommending to the Governor and to the Legislature the adoption of legislation and the implementation of administrative policy that will best accomplish the statement of policy found in Article VIII of the Constitution of Alaska:

"It is the policy of the State to encourage the settlement of its land and development of its resources by making them available for maximum use consistent with the public interest."

And the statement of policy found in the President's National Materials and Minerals Report to Congress of April 5, 1982:

"It is the policy of this administration to decrease America's mineral vulnerability by taking positive action that will promote our national security, help ensure a healthy and vigorous economy, create American jobs, and protect America's national resources and environment."

The goals and recommendations of the Alaska Minerals Commission are to assure that the Legislature and the State administration endorse and promote development of a viable mining industry in the State.

APPENDIX C
MINERAL POLICY ACT

Sec. 44.99.110. Declaration of state mineral policy. The Legislature, acting under art. VIII, sec. 1 of the Constitution of the State of Alaska, in an effort to further the economic development of the state, to maintain a sound economy and stable employment, and to encourage responsible economic development within the state for the benefit of present and future generations through the proper conservation and development of the abundant mineral resources within the state, including metals,

This publication was released by the Department of Commerce, Community, and Economic Development. Its purpose is to report the findings and recommendations of the Alaska Minerals Commission to the Governor and to the Legislature of Alaska. It was produced at a cost of $1.31 per copy and printed in Fairbanks, Alaska. This publication is required by Chapter 98, Session Laws of Alaska, as amended by Chapter 4, Session Laws of Alaska, 1993.

2/23/06

AK. PERM. FUND CORP.

Economic & Capital Market Update

Michael J. O'Leary CFA
Executive Vice President
Callan Associates Inc.
February 2006

Callan's Capital Market Projection Process

Economic Outlook Drives Our Projections

- Evaluate the current environment and economic outlook for the U.S. and other major industrial countries:
  - Business cycles, relative growth, inflation.
- Examine the relationships between the economy and asset class performance patterns.
- Examine recent and long-run trends in asset class performance.
- Apply market insight:
  - Consultant experience - Plan Sponsor, Manager Search, Specialty
  - Industry consensus
  - Client Policy Review Committee
- Test the projections for reasonable results.

Capital Market Expectations as a Set

- Relationships between asset class assumptions are as important, or more important, than the individual asset class level of assumptions, with the following relationships being most important:
  - Inflation versus cash equivalents.
  - Fixed income returns versus inflation.
  - Stock returns versus bonds - the equity premium.
  - Large capitalization versus small capitalization equities.
  - U.S. equity versus international equity.
- These relationships will have a strong effect on the generation of efficient asset mixes using the optimizer.

The Capital Markets - Context

Wild Ride for Investors Over the Last Six Years

	2000	2001	2002	2003	2004	2005	Average Ann Return Five Years 2001-05	Ten Years 1996-05	Fifteen Years 1991-05
Russell 3000	-7.46	-11.46	-21.54	31.06	11.95	6.12	1.58	9.20	11.86
S&P Super Composite 1500	-6.98	-10.64	-21.31	29.59	11.78	5.66	1.48	9.47	11.97
Russell 1000	-7.79	-12.45	-21.65	29.89	11.40	6.27	1.07	9.29	11.85
S&P 500	-9.10	-11.88	-22.10	28.80	10.88	4.91	0.54	9.07	11.52
Russell 2000	-3.02	2.49	-20.48	47.25	18.33	4.55	8.22	9.26	13.04
S&P 600 Small Cap	11.80	6.54	-14.63	38.79	22.65	7.68	10.76	12.16	15.17
EAFE ($US)	-14.17	-21.44	-15.94	38.59	20.25	13.54	4.55	5.84	7.00
LB Aggregate	11.63	8.43	10.26	4.10	4.33	2.43	5.87	6.16	7.26
SB Non-US Bonds	-2.63	-3.54	21.99	18.52	12.14	-9.21	7.27	4.42	6.94
90-day T-bill	6.18	4.42	1.78	1.15	1.33	3.07	2.34	3.84	4.06
CPI-U	3.39	1.55	2.38	1.88	3.26	3.42	2.49	2.51	2.61

Brief Overview

- Economy
  - Recovery
    - Consumer
    - Investment spending
    - Housing
    - Energy
    - Dollar
  - Inflation
- Capital Markets
  - Bonds
  - Stocks
  - Projections
  - Efficient Frontier

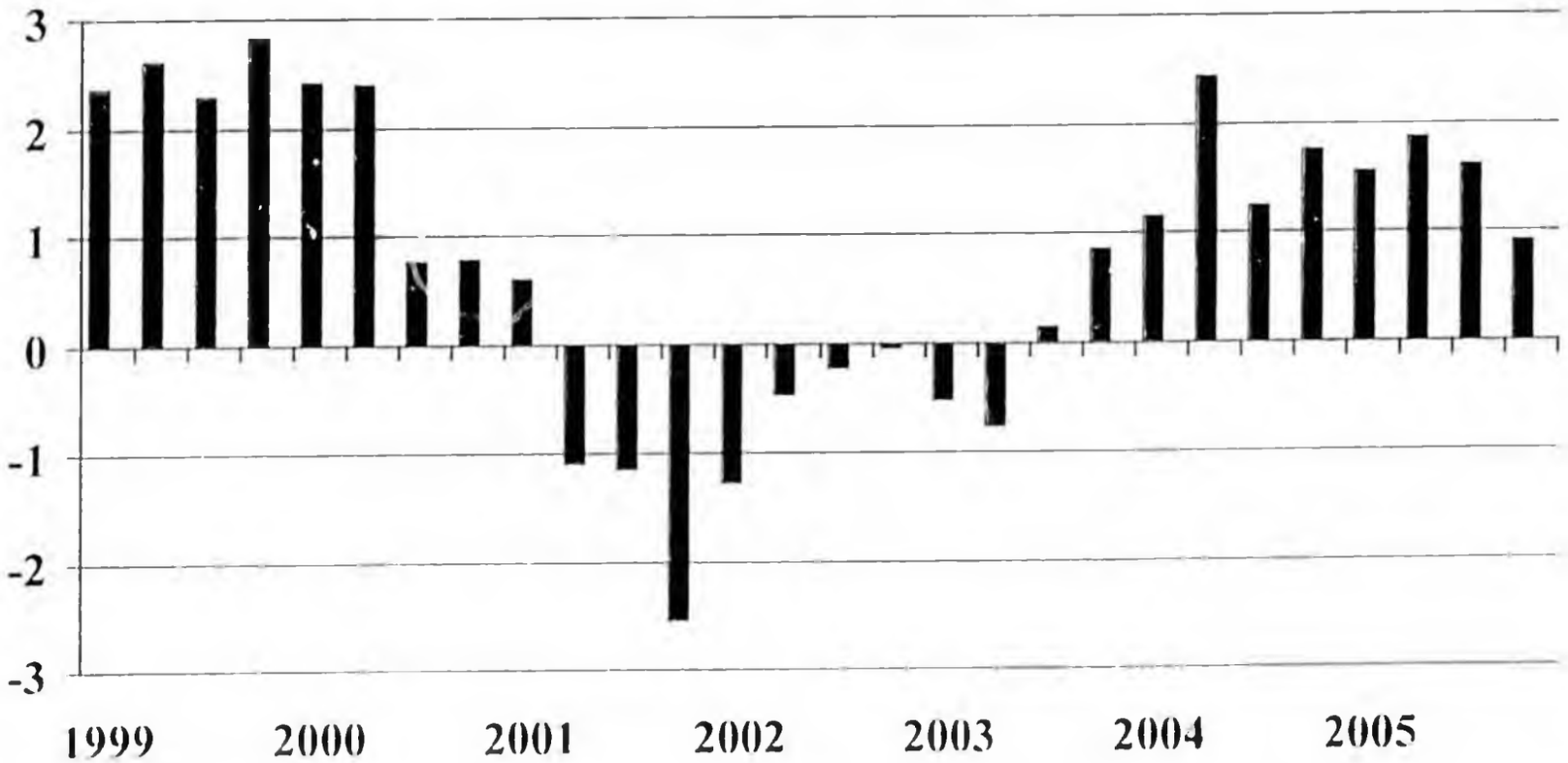
Consumer Spending: Slowdown or Retreat?

- Consumer spending carried the economy since 2000, fueled by low interest rates, tax cuts, and a housing boom.
- The housing boom triggered a "wealth effect" on confidence and spending, and encouraged the extraction of home equity.
- However:
  - Savings rate is low,
  - Tax cuts are over,
  - Interest rates are rising,
  - The housing market shows signs of cooling, and
  - Energy costs are substantially higher.
- Most observers expect the housing bubble to fizzle rather than pop.
- The bursting of the housing bubble has replaced deflation as the next disaster sure to strike.

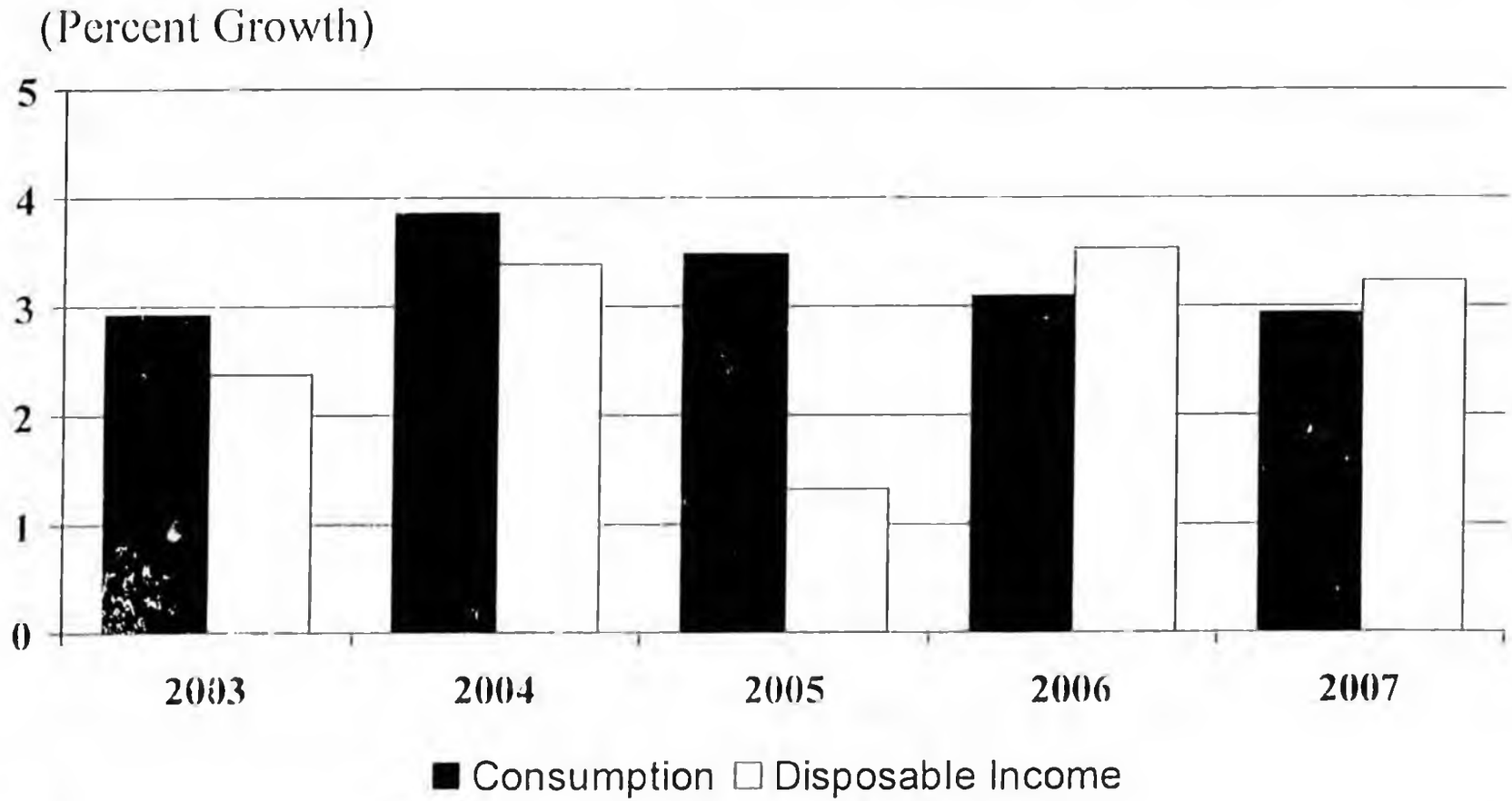
2005 Best Year for Job Growth Since 2000

Employment finally surpassed the February 2001 peak in January 2005.

(Employment - percent change, annual rate)



Real Consumer Spending Has Outpaced Real Income Growth



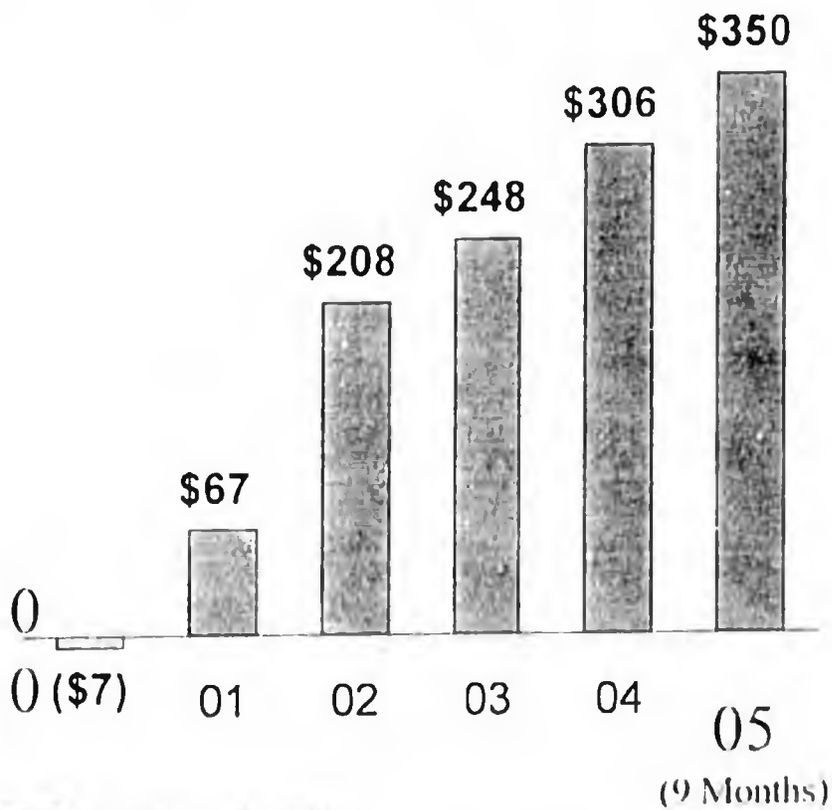
Source: Global Insight

Cash Generated from Mortgages Stimulating Consumer Spending

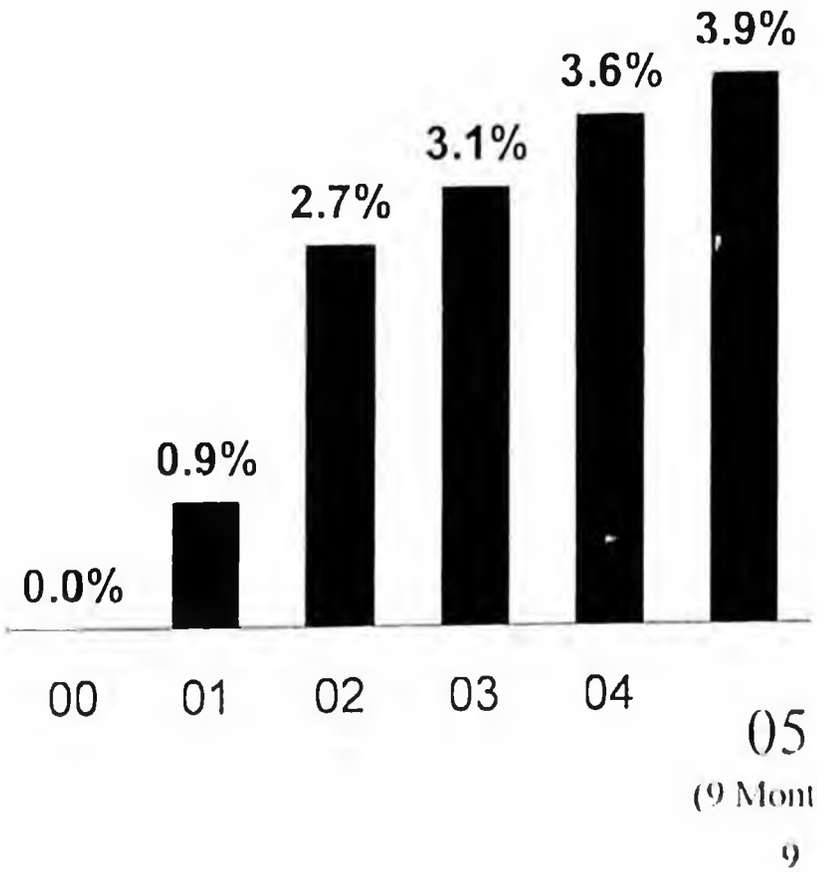
source AllianceBernstein/CII 1/30/06

Mortgage Growth in Excess of New Housing Investment

($ Billions)



% of Personal Consumption Expenditures



*2005 first half annualized

Source: Federal Reserve Board and AllianceBernstein estimates