



Alaska Department of
**NATURAL
RESOURCES**
DIVISION OF OIL & GAS

Annual Report 2012



Cover Photo by Aaron Weaver, Division of Oil and Gas

**This publication was produced by the Department of Natural Resources,
Division of Oil and Gas. It was printed at a cost of \$9.80 per copy.
100 copies were printed in Anchorage, Alaska**

contents

mission	5
introduction	6
secure alaska's future	7
strategic plan	8
division of oil and gas	9
oil and gas royalty	23
north slope production	29
cook inlet production	30
exploration wells	32
development wells	33
statewide summary of undiscovered, technically recoverable conventional oil and gas	34
cook inlet activity map	35
cook inlet working interest ownership map	36
north slope activity map	37
north slope working interest ownership map	38

mission

The Division of Oil and Gas
manages lands
for oil, gas, and geothermal
exploration and development
in a fair and transparent manner
to maximize prudent use of resources
for the greatest benefit of all Alaskans.

introduction

"The Division of Oil and Gas manages lands for oil, gas, and geothermal exploration and development in a fair and transparent manner to maximize prudent use of resources for the greatest benefit of all Alaskans."

This mission, based on statutes created for us by the Alaska Legislature, means the Division is involved in every stage of oil, gas and geothermal exploration and development from identification of potential hydrocarbon resources through leasing, exploration and development management, unitization, production, and dismantlement, removal, and restoration of state lands.

This work is guided by Governor Sean Parnell's comprehensive strategy to stem the declining flow of oil through the Trans-Alaska Pipeline and secure Alaska's future. The Division of Oil and Gas employees provide the expertise to manage this world-class business with a strong sense of professionalism and a healthy respect for the fact that nearly 90 percent of State revenues are received due to their efforts.

The following pages describe these efforts in more detail, and introduce to you some of the accomplishments of the Division of Oil and Gas in 2012. The work we do in an environment where technological advances and fluctuations in world markets create an ever-changing context provides us with ongoing opportunities to expand our horizons in order to fulfill our constitutional mandate.

I am proud to consider the team at the Division of Oil and Gas my colleagues, and I look forward to another year of challenges, improvements, and growth.

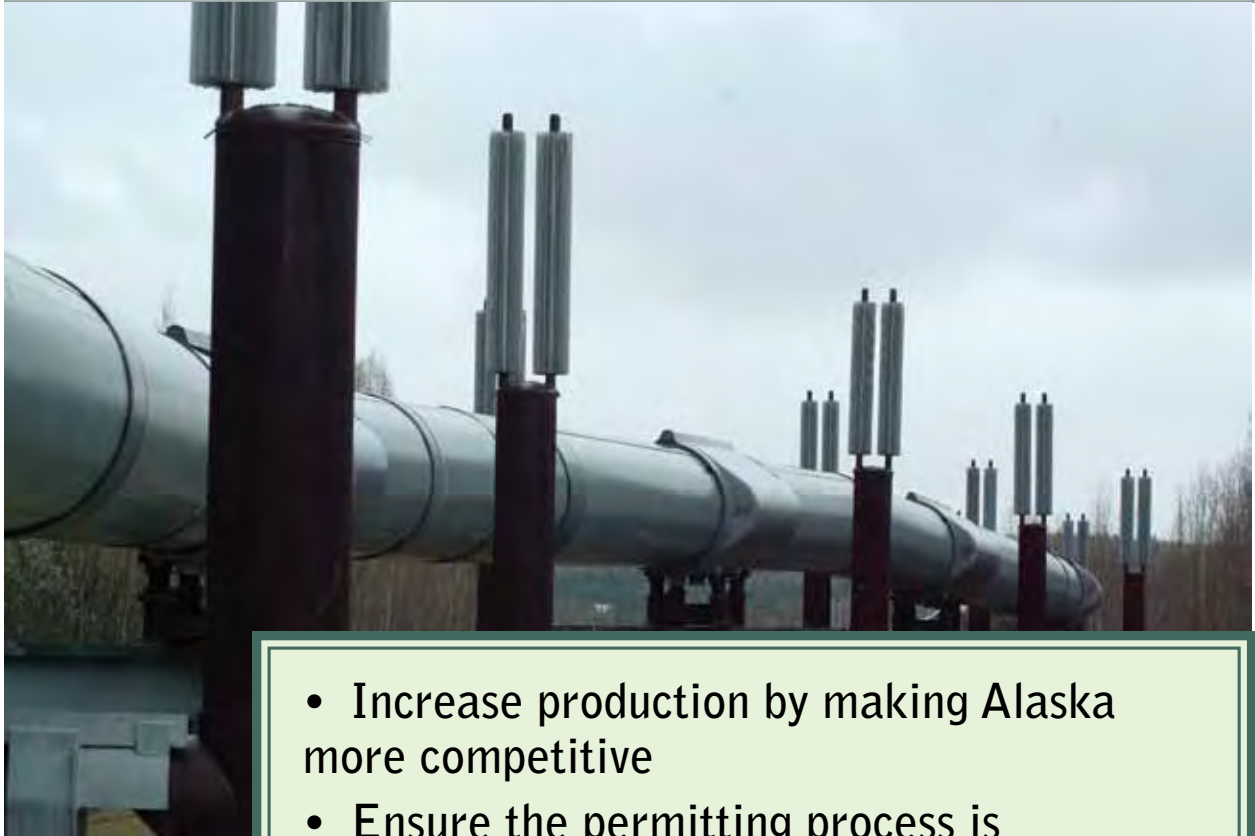
Sincerely,

William C. Barron
Director
Division of Oil and Gas

The Governor's Strategy to

Secure Alaska's Future

to increase the flow through the Trans-Alaska Pipeline System to 1 million barrels per day in a decade



- Increase production by making Alaska more competitive
- Ensure the permitting process is structured and efficient
- Facilitate and incentivize the next phase of North Slope development
- Promote Alaska's resources and positive investment climate to world markets

strategic plan

The Division of Oil and Gas Strategic Plan has as its goal to make an already well-functioning division of highly qualified professionals into an even more efficient team. Over the past two years, the strategic planning effort has involved employees on all levels. The resulting Strategic Plan is a living document that will continue to grow and expand as it helps guide our work.

In 2012, the Division moved to refine and implement strategies identified in the plan. Some of the improvements that have come out of this effort are:

- Expanded outreach to industry and investors world-wide in coordination and cooperation with other state agencies, with the goal of informing about opportunities that exist in our resource-rich state, using new outreach methods and improving the use of ones we have previously used successfully
- Improved internal communication and communication with other agencies
- Improved introduction process for new employees
- A structured internship program has been drafted but not yet approved

- All employees will receive performance evaluations in 2012
 - Initial steps have been taken toward creating a better-functioning document management system
 - A comprehensive training plan for the division ensures the Division's training budget is spent in the most urgent and important areas
 - The Division has started implementing a project management approach where appropriate
 - A mapping of our work products, the first step toward better document management, has been finalized
 - Continued and expanded mapping of work processes and relating processes back to statutes and regulations in order to ensure consistency and accuracy
- Developing and improving the Division's people, processes, internal and external communication, and products are all key to making effective use of our resources and managing our work in the most efficient way possible. Continuously invoking the laws guiding our work guarantees that our work stays on task.

Goals

GOAL 1 (Product): *The Division will strive to produce high quality data, analyses and interpretations, and decisions that are relevant, consistent, defensible, and timely.*

GOAL 2 (Communication): *The Division will foster an environment of open communication with all stakeholders.*

GOAL 3 (People): *The Division will cultivate and support a diverse workforce of highly-skilled employees.*

GOAL 4 (Process): *The Division will develop a detailed map of workflow process to help identify critical functions and optimize operation efficiencies.*

GOAL 5 (Leadership): *The Division will work to inspire confidence in decision making and guidance while promoting continuous improvement and developing new leaders.*

division of oil and gas

The Division of Oil and Gas is the agency within state government that is responsible for the leasing of state lands for oil, gas, and geothermal exploration.

We do this by implementing innovative new programs to encourage exploration on state and private lands, and by working with other agencies, local communities, and industry to fulfill the Alaska Constitution's mandate to "encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest."

The Alaska Constitution also calls on us to utilize and develop our natural resources "on the sustained yield principle, subject to preferences among beneficial uses."

From the beginning of statehood, Alaska has welcomed and encouraged responsible resource development, which is today evidenced both by the responsible methods our oil and gas industry conducts its exploration and development across the state, and in the way the Division of Oil and Gas, a single piece of the inter-agency network, works with industry and the public to educate and inform all parties of what we require, so that resource development can be performed in a predictable, safe, and environmentally responsible manner.

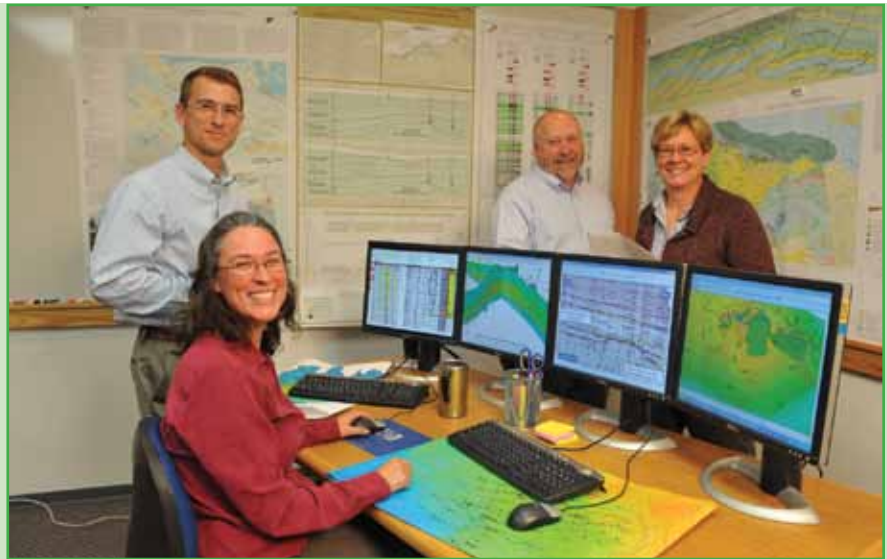


Photo: Christina Holmgren-Larson

Members of the Resource Evaluation section reviewing subsurface data from the North Slope.

The Division of Oil and Gas ensures the continued inflow of approximately 90% of state revenues through monitoring and auditing lease and unit agreement operations, including oil and gas rental and royalty payments and promotion of new opportunities for the development of royalty oil and gas.

The Division of Oil and Gas manages the state's oil and gas resources with a current staff of 80, including highly specialized technical experts with many years of experience in industry.

Led by the Director's Office, the Division works in asset teams, pulling together the experts needed from different sections in order to manage each different task or issue.

Among our professionals are: Petroleum Land Managers, Petroleum Geophysicists, Petroleum Geologists, Petroleum Engineers, Petroleum Economists, Commercial Analysts, Natural Resource Specialists, Accountants, and Auditors.

2012 sections and achievements

2012 was a year of continued change for the Division. We worked on approvals for exploration activities for the state's first shale oil exploration project and saw the first two exploration wells drilled. A second jackup rig arrived in Cook Inlet, which involved the Division in lease plans of operations. Like last year, a record number of unit applications put increased pressure on our unit managers as well as our ResourceEvaluation section.

We planned and executed five successful lease sales, resulting in significant revenue to the state and, for the first time in three years, bids received on tracts in the North Slope Foothills.

Division staff worked on overseeing the State's interest in Hilcorp's acquisitions of Cook Inlet properties and associated lease transfers, as well as the conversion of a major exploration license into leases.

In line with the Administration's efforts to boost North Slope oil production, the Division has engaged in a significant outreach effort to industry and investors, providing information and education on the State's world-class hydrocarbon resources through trade shows, webinars, and personal meetings with industry representatives.

With the increased workload, the Division has also worked on optimizing available and developing new technology in an effort to make our work more efficient and better serve our customers, internal and external.

Approximately 75 percent of Division staff went through project management training during the spring of 2012, and we are gradually moving to a project management model for those projects that are not already mapped out and handled as repeating processes.

For overview purposes, our 2012 achievements are listed section by section. While primary responsibility for leading any particular project usually resides within one specific section in the division, many projects are the result of a collaborative effort between many different sections. So, for example, while the Units section's report counts the number of unit applications handled in 2012, each unit application evaluation is handled by a team consisting of staff from Units, Leasing, Permitting, and Resource Evaluation.



Photo: Courtesy of Randy Bates

State of Alaska representatives visit Great Bear Petroleum's Merak #1 exploration well in September 2012. From left to right, Director Brent Goodrum, DNR-DLMW; Melissa Head, DNR-DMLW; Pat Galvin, Great Bear; Kyle Smith, DNR-DOG; Deputy Commissioner Lynn Kent, DEC; Commissioner Cora Campbell, ADF&G; Director Randy Bates, ADF&G Habitat; Deputy Commissioner Bruce Tangeman, DOR.

resource evaluation

Providing the Geological, Geophysical, and Engineering Data

The Resource Evaluation section's goal is to achieve "regulatory and research excellence through geological, geophysical, and engineering analysis". The experts in this section of the Division of Oil and Gas provide objective and in-depth interpretations of technical data relating to oil and gas and geothermal exploration and production throughout Alaska, supplying the solid scientific basis needed for the Division to make decisions on managing state lands. The group collects and maintains a vast and diverse collection of both confidential and public domain data. It uses this data, within the strict confidentiality guidelines defined by law, to enhance both internal and public understanding of Alaska's fossil energy and geothermal resources.

Key regulatory functions of the Resource Evaluation section include analyzing industry applications regarding units and participating areas; evaluating the prospectivity of lands included in lease sales, exploration licenses, or other land management actions; collecting, interpreting, and managing geotechnical exploration data submitted under the terms of state land use permits and production tax credits; and performing technical reviews for royalty modification applications. When appropriate, Resource Evaluation works with consultants to build and audit static and dynamic reservoir models to understand the distribution of in-place and recoverable hydrocarbons – the basis for determining equitable production allocations. In addition, the section's technical expertise informs dozens of other steps in the Division of Oil and Gas' land management process. The Resource Evaluation section works closely with the Division's Units, Leasing & Permitting, and



Photo: Christina Holmgren-Larson

Pipeline and seismic camp on North Slope

Commercial sections, as well as with the Department of Revenue's Tax Division, developing the technical findings that factor into numerous oversight and incentive decisions.

From a research perspective, Resource Evaluation geoscientists and engineers execute special projects as needed to inform both the public and policy makers within state and federal government. Recent examples include reports and briefing presentations on remaining natural gas resources in the Cook Inlet region, the potential for shale oil resource development on the North Slope, and the impact of changing technology on exploring and developing the ANWR coastal plain.

Finally, geologists and geophysicists from the Resource Evaluation section engage in ongoing collaborative research projects led by geologists from the Energy Section of the Alaska Division of Geological & Geophysical Surveys. These efforts rely on a powerful synthesis of detailed stratigraphic and structural outcrop studies, surface geologic mapping, and subsurface well and geophysical interpretation to generate valuable new insights into Alaska's resource potential. Recent and current projects have focused on the North Slope foothills and Colville foreland basin, the Alaska Peninsula back-arc basin, and

the Mesozoic to Cenozoic evolution of the Cook Inlet forearc basin and the adjoining Susitna basin. Additional studies are planned in Alaska's Interior, to evaluate sedimentary basins as potential in-state sources of natural gas. These integrated field and subsurface studies promote exploration, and serve as the basis for much of the section's outreach efforts to inform new potential explorers about the rich untapped resources in our state.

2012 achievements

Of the section's many duties, analyzing oil and gas resources in the subsurface of lands managed by the Division is its chief regulatory function. During the 2012 fiscal year, the section's geologists, geophysicists, and engineers provided the subsurface technical evaluations underpinning a number of unit actions and exploration license decisions signed by the Director or Commissioner. The number of such decisions varies from year to year due to factors that are out of the Division's hands, but all require subsurface technical understanding.

- Unit Actions: See p. 18-19
- Exploration License Applications: Two decisions for new licenses approved and issued (Susitna V and Holitna), as well as discussions with two other parties (confidential) who opted to withdraw their applications.

Additional achievements of the Resource Evaluation section in 2012:

- The section is responsible for DNR's adjudication of applications for Department of Revenue tax credits to incentivize exploration. Support staff collects, inventories, and issues completeness determination memos for technical datasets submitted to the Division in association with these applications. Of 25 completeness determinations issued in 2012, 23 were for exploration wells and two were for geophysical/geological



Photo: Christina Holmgren-Larson

Heavy transport right outside Deadhorse.

surveys. Additional adjudication efforts are not captured by this count, such as preparing pre-authorization findings, and reviews of multi-year and other incomplete projects not yet ready for final determinations.

- AOGCC records show 113 development and service wells and 14 exploration and stratigraphic test wells were completed in Alaska during 2012. During the year, Resource Evaluation technicians logged in and archived 1539 individual well data items (for example, CDs or DVDs containing multiple well logs or reports), reflecting the steady stream of technical data flowing into the Division.
- The section provided technical testimony to the Alaska legislature in committee hearings on a variety of resource development issues. The section also responded to numerous requests for input on new legislation, such as the establishment of new tax credits for exploration in key frontier basins in interior and southern Alaska.



Photo: Steve Schmitz

Caribou herd by pipeline, North Slope

- Resource Evaluation provided written analyses summarizing the oil and gas potential of numerous parcels throughout Alaska, where excess State-selected lands were under consideration for relinquishment by multiple agencies.
- Geologists analyzed and documented the petroleum potential of State lands in areas subject to Best Interest Findings updates.
- Engineering staff continued to lead the interagency Shale Task Force, committed to anticipating and resolving impediments to responsible development of shale-hosted petroleum resources.
- The section was instrumental in the Division's outreach to industry, investors, and the Alaska public, providing technical presentations, distributing supporting information, and organizing small-group discussions to forge connections with more than 30 companies interested in learning more about Alaska's oil and gas resources. Much of this effort has been conducted in Houston, Texas, targeting both U.S. and international companies ranging in size from small independents to super-majors.
- Geoscientists provided evaluation

of resource potential to the Division's interdisciplinary work group tasked with designing areawide lease sale terms, optimizing tract sizes, bundling and work commitments of key tracts, etc.

- The section advanced collaborations with geologists from the Alaska Division of Geological and Geophysical Surveys and U.S. Geological Survey, in particular outcrop-based field studies, using subsurface data to improve surface geologic mapping and basin models. Emphasis during 2012 focused on Cook Inlet Mesozoic and Tertiary petroleum systems, where recent research is taking shape as peer-reviewed technical publications slated for release in 2013 and 2014.
- Resource Evaluation staff worked with others in the Division to defend the State's interest in federal land management actions. Examples include highly restrictive withdrawals of formerly leaseable acreage in the National Petroleum Reserve – Alaska, proposed expansions of wilderness designations the Arctic National Wildlife Refuge 1002 Area without consideration of oil and gas resource potential, and oversight of the Roads to Resources — Foothills West EIS process.

exploration licenses & best interest findings

Research and Public Input on Possible Exploration and Development

In April of each year, the Division accepts applications for exploration licenses for oil, gas, and geothermal energy. After an application is received, the Division starts a fact-finding process to determine whether it is in the best interest of the state to award such a license. The result of this process, which involves information gathered by the Division's own experts and information from other agencies, municipalities, Native corporations, non-government organizations,

Geothermal

Geothermal leasing and prospecting permits are handled differently. Based on available geologic information and indications of interest, land may be designated for a competitive lease sale or for noncompetitive prospecting permits for geothermal exploration and development.

DNR has held a total of three geothermal lease sales, all for areas along the southern flanks of Mount Spurr, located about 40 miles northwest of Tyonek. The first two sales, held in 1983 and 1986, did not result in any development. In 2006, amid renewed interest in Alaska's geothermal resource potential, DNR received requests from industry to make Mt. Spurr available for geothermal leasing again.

On September 10, 2008, DNR held the

Mount Spurr Geothermal Lease Sale No. 3, and received 20 bids on all 16 available tracts, generating \$3,527,073.34 in bonus bids.

Ormat Technologies, Inc. acquired 15 geothermal leases, located approximately 75 miles west of Anchorage on the flanks of Mt Spurr volcano, in the 2008 lease sale.

After four years of exploratory drilling, Ormat is currently in the process of relinquishing 8 of their leases, totalling 18,096.08 acres.

DNR has also received interest in geothermal resource development on Augustine Island, located in lower Cook Inlet. DNR is currently in the process of evaluating the area. A finding to determine whether it is in the state's best interest to offer the area for geothermal leasing is in progress.

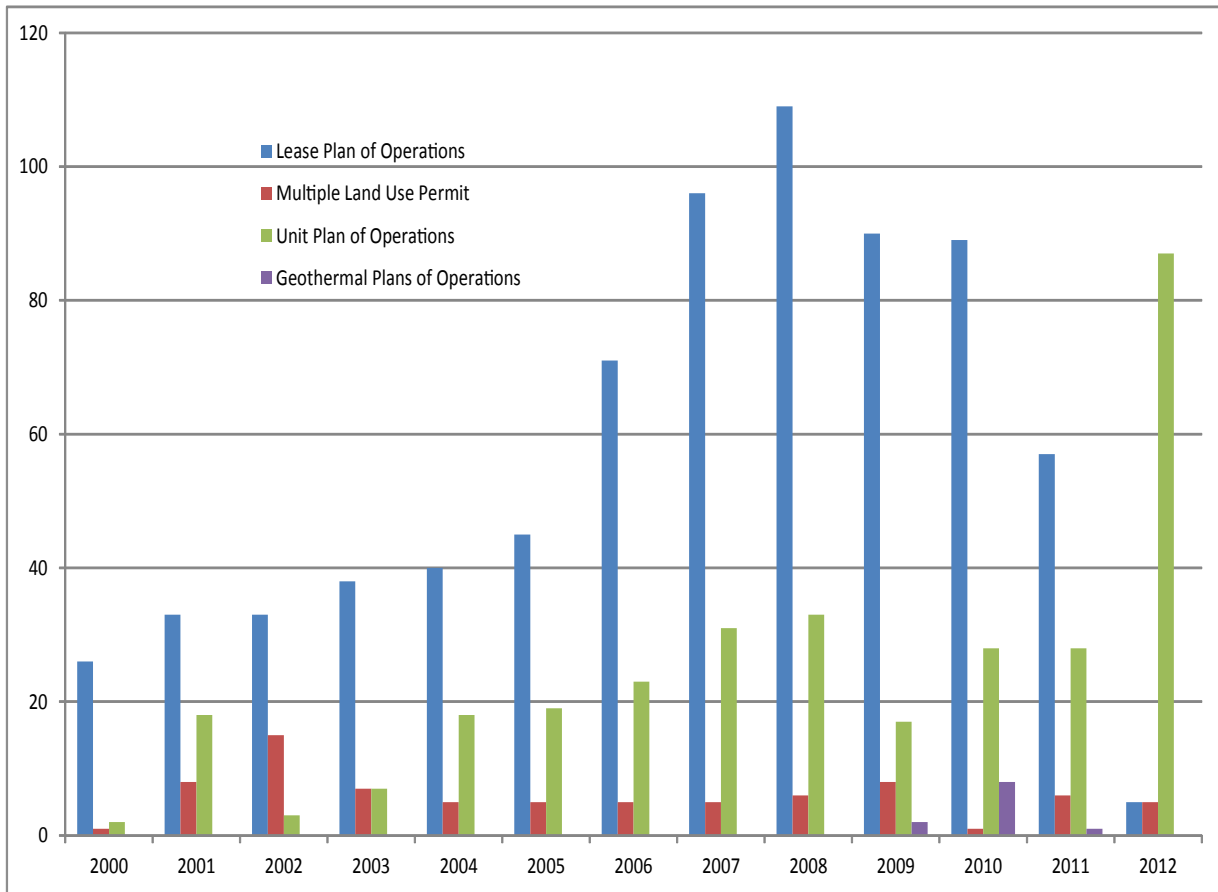
Lease Sales

In 2012, 31 bidding groups participated in lease sales with bids on 166 sale tracts. The section processed 183 valid bids totaling over \$21 million in fees and payments

2012 Sale Results

Sale	Date	Acres Leased	High Bonus Bids	Status
Alaska Peninsula 2012	May 16, 2012	0	\$0	No bids received
Beaufort Sea 2012W	November 7, 2012	99,200	\$1,781,235	Preliminary
Cook Inlet 2012	May 16, 2012	197,795	\$6,865,835	Preliminary
North Slope 2012W	November 7, 2012	165,179	\$11,497,178	Preliminary
North Slope Foothills 2012	November 7, 2012	46,080	\$961,920	Preliminary
Totals:		508,254	\$21,106,168	

authorizations for surface activities



The drop in number of Lease Plans of Operation is explained by the rise in Unit Plans of Operation: During 2012, more Plan of Operations applications came from operators of units than single leases.

permitting

Ensuring That Oil and Gas Activities Comply with Land Management Statutes and Regulations, and the Terms of the Oil and Gas Lease

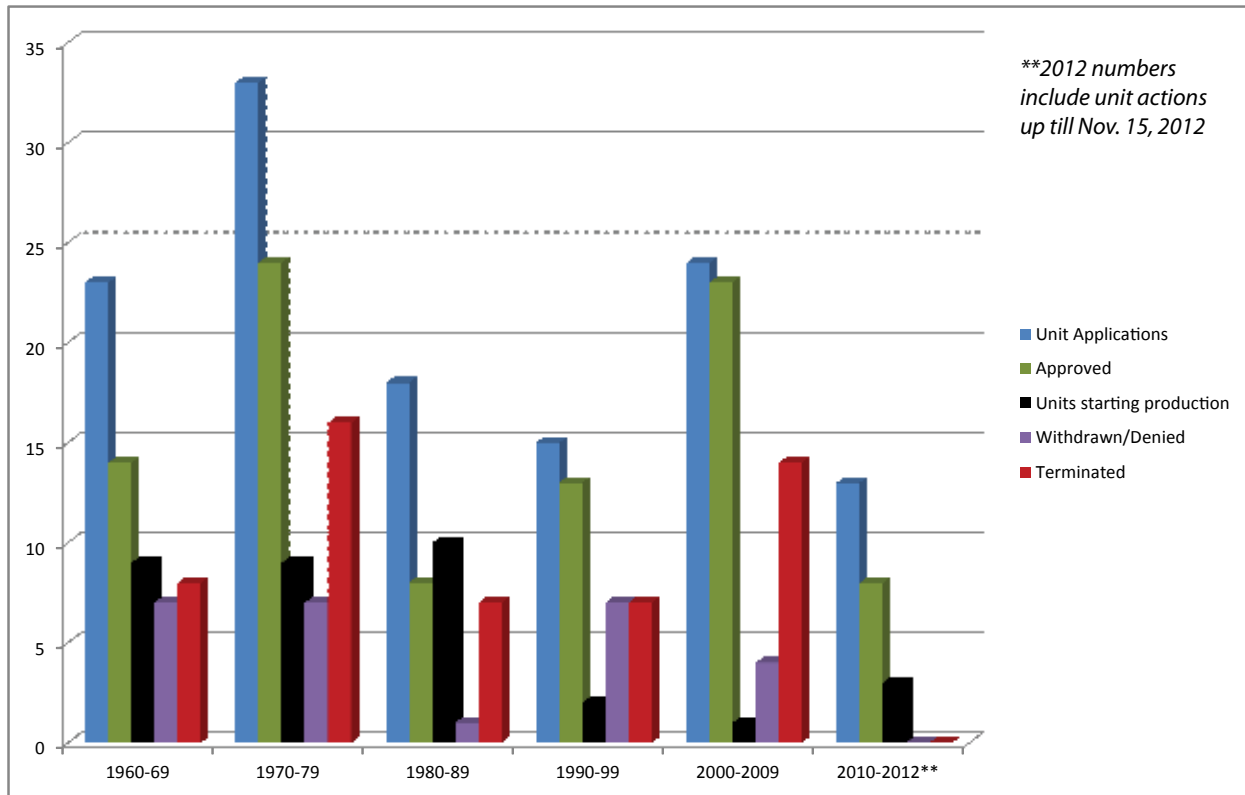
When a company wants to initiate exploration or development on state land, it must submit a Plan of Operations. The Division is responsible for determining the completeness of the plan and issuing approvals with appropriate conditions for environmental protection and safe operations.

These practices apply to oil, gas and geothermal activities on exploration

licenses, leases or within units, and ensures the proposed activity addresses all the mitigation measures identified in the lease or Best Interest Finding. Routine site inspections are conducted to monitor compliance with approvals.

This section is also responsible for ensuring that proper bonds or other securities are in place before surface activities are started. Lease Plans of Operations generally require a \$100,000 bond for individual lease operations, or a statewide bond of \$500,000. Additional bonding requirements may be applied in unusual circumstances relative to abandonment obligations.

statewide unitization and production 1960-2012



units

Promoting Conservation, Preventing Waste, and Protecting All Parties

When lessees propose to commit leases to a unit, Unit Managers in the Division evaluate the unit application and negotiate the terms of the Unit Agreement in order to promote conservation of all natural resources; prevent economic and physical waste; and protect all parties of interest. Unit managers consider environmental costs and benefits, geological, geophysical and engineering characteristics of the reservoir, prior exploration activities, and economic costs and benefits to the state.

Unit managers review updated unit plans of exploration and development,

approve contraction and expansion of Participating Areas, tract allocations, and other unit issues. They also oversee expansions, contractions, and termination of units.

2012 achievements

Unit actions involve not only the units section, but are a cooperative effort between several different sections, including (but not always limited to) the Units, Commercial, Resource Evaluation, Permitting, and Leasing sections. The total number of unit applications processed in 2012 equals the number of applications processed between 2000 and 2010.

- Unit applications: 6 (one approved, one denied, one withdrawn, three in progress)

- Unit expansions/contractions: 3 (1 approved (Exp), 1 pending (Exp) 1 voluntary (Cont))
- Unit terminations: 2 (1 voluntary, 1 by terms of unit agreement)
- Unit extensions: 3 approved
- PA Applications: 2 (2 pending)
- PA Expansions/Contractions: 1
- PA Redeterminations: 2 finished, two ongoing
- Plans of Exploration/Plans of Development: 51 (All either approved, partially approved, or pending)
- Plans of Tract/Lease Operations: 9 (Approved, ongoing)
- The North Slope has nine (9) units currently in production from a total of 59 processed unit applications from 1968-2012



Since 1968,

- Average time to production for a North Slope unit has been 54 months (includes high and low outliers)
- Out of 44 formed units on the North Slope, 32 have been terminated (5 units exist without production)
- 18 unit applications were either denied or withdrawn

commercial section

Helping Maximize Value

The Commercial Section provides cross-cutting support to the Division in its entirety to fulfill the constitution's goal of maximizing the use of Alaska's natural resources by providing economic expertise.

The overall mission of the Commercial Section is to maximize value given the state's ownership, regulatory, and legal positions. Primary responsibilities of the Commercial Section include royalty modification, gasoline support work, Royalty-in-Kind contract negotiations, Royalty Settlement Agreements, supporting state tariff litigation and settlements, and improving the competitive environment.

The Commercial section also provides economic analysis such as project economics, market structure, optimization and price and cost assessments. It also supplies the expertise to support policy,

legislative, and regulatory decisions by analyzing market implications of laws, regulations, and contract provisions, and works on negotiation strategy and support.

2012 key achievements

As of November 15, 2012, the Commercial Section is negotiating one Royalty Settlement Agreement reopener with ConocoPhillips. Royalty Settlement Agreement reopeners are the result of provisions in the three primary ANS royalty settlement agreements, allowing the state and its lessees the opportunity to change portions of the royalty oil valuation methodology, and to resolve disputes and avoid costly and time-consuming litigation.

The State or the affected producer may exercise some of these reopeners at any time with no limits on when, or how many times, a reopener can be initiated. Other reopeners may only be exercised once every one to three years.

When assets change hands, the associated risk profile may also change. The Commercial Section provided analysis to the DNR Commissioner to support the negotiation of the financial assurances agreement (FAA) for the transfer of Marathon's Cook Inlet assets to Hilcorp. The FAA is a tool that can be used to help manage the State's risk exposure should the lease holder not be able to meet his financial obligations as outline in the lease.

In 2012, the governor requested that the Producers reexamine the strategic direction of the large diameter gasline and reconsider an LNG export project. The Commercial Section provided commercial analysis as new data was provided to the State. This is an on-going evaluation as concept selection has not yet narrowed the concepts to a single preferred option.

royalty audit

Making Sure the State Receives Full Value of Royalty Payments

The Division's Audit Section is tasked with making sure the state receives the full value associated with royalty payments.

This section conducts audits under a number of different authoritative guidelines including Royalty Settlement Agreements, Lease Agreements, Alaska Statutes and the Alaska Administrative Code. Audits examine volumes, values, and costs claimed as deductions against a lessee's royalty or Net Profit Share lease filing, such as marine operating and capital expenses, lease operating and capital expenses, and pipeline tariffs.

The Royalty Audit section also conducts federal audits and compliance reviews through a contract with the Department of Interior's Office of Resources Revenue.



Kuparuk from the air.

Photo: Lori Yares, DOG

These audits are conducted under authoritative guidelines and standards that apply to federal leases, such as Government Auditing Standards and the Code of Federal Regulations. This program ensures that lessees correctly pay the royalties due from oil and gas production on federal leases where the state has a revenue share.

The Division of Oil and Gas obtained the authority to audit in 2003. Since then, 56 audits have been issued, and an additional \$151.9 million has been collected as a result.

The Division of Oil and Gas Audit Section conducts audits of State royalties and net profits and Federal royalties received from leases within Alaska. AS 38.05.036 provides the authority to conduct State royalty and net profit audits. Federal royalty audits are conducted under a contract with the Department of Interior's Office of Natural Resources Revenue. The State receives 27% - 90% of the federal royalty payments from federal leases within Alaska.

Royalties owing the State and the Federal governments are calculated under a variety of leases, agreements, statutes and regulations. Because a royalty filing provides information at a summary level, It is important to audit the details that support the filing to ensure that royalties have been correctly calculated and reported in the royalty and net profit payments. In conducting an audit an

Auditor may look at oil and gas valuation, costs associated with the transportation of oil and gas, and exploration, development and production costs.

There are currently five Oil and Gas Revenue Auditors, one Oil and Gas Revenue Specialist and one Audit Manager in the Division of Oil and Gas Audit Section.

In FY 2012 the Section issued 5 audits and collected an additional \$10.2 million in royalties and net profits. Audit recoveries in FY 2012 represent 6.7% of the total royalty and net profit audit recoveries since 2003.

Seven audits were initiated or opened in calendar year 2012, and payments received against audit claims over the calendar year totaled \$10.2 million.

petroleum systems integrity office (psio)

Ensuring safe and reliable petroleum development in Alaska

The Petroleum Systems Integrity Office (PSIO) is the lead state agency for oversight of facilities, equipment, and infrastructure for the sustained production and transportation of oil and natural gas resources in the state.

The PSIO was established in 2007 by executive order of the governor to:

1. Ensure that oil and gas infrastructure is designed and maintained in a safe and environmentally sound manner in compliance with state law
2. Minimize economic impacts of unplanned interruptions in oil and gas production to the ongoing functions of state government
3. Avoid premature abandonment of oil and gas infrastructure and waste of state resources
4. Ensure efficient and effective oversight of oil and gas industry practic-



Photo: Christina Holmgren-Larson

The trucks might be big, but they yield to wildlife.

es by utilizing existing state government structures and processes to the maximum extent possible.

Through designated agency liaisons, PSIO leads interagency efforts to evaluate industry system integrity performance. Designated agencies, to the extent authorized by state regulations, require oil and gas producers and operators to provide comprehensive descriptions of current practices of quality control, quality assurance, monitoring, and inspection used to ensure the integrity and reliability of oil and natural gas facilities, equipment, infrastructure and activities.

The goal of PSIO is to provide a comprehensive and cost-effective approach to statewide oil and gas oversight activities, and to address any gaps in oversight. PSIO is tasked with ensuring that overarching quality management programs are in place and followed, both within the industry and within the involved state agencies. The PSIO makes recommendations to the

commissioner of ADNR regarding gaps, findings and issues that address the reliability and system integrity of oil and gas infrastructure.

During 2012 the PSIO was reorganized to place emphasis on higher risk issues on state lands. The risk profile of the state's petroleum infrastructure is increasing due to aging infrastructure and the arrival of new operators, who may have varying levels of integrity management and quality assurance systems in place.

PSIO utilized various unit agreement provisions and oil and gas lease requirements as authority to oversee the integrity of petroleum systems of the operators of these units and leases. These requirements require operators to develop units "in accordance with good engineering and production practices"; and operate leases by "carry(ing) on all operations hereunder in a good and workmanlike manner in accordance with approved methods and practices...", and to "exercise reasonable diligence in drilling, producing, and operating wells on said land...". However, without specific standards, these broad legal requirements could lead to objections to PSIO's assessment of various operators' integrity management systems and difficulty enforcing industry compliance with minimum quality management standards.

In order to provide more clarity to the industry on compliance requirements, PSIO submitted legislative proposals in 2012 through the Executive branch that would grant PSIO statutory authorities. The executive order that established PSIO did not grant statutory or regulatory powers. The legislative proposals would grant PSIO with statutory authority to require the oil and gas industry to establish adequate system integrity standards, and allow PSIO to monitor quality assurance efforts by industry to

ensure that system integrity standards are maintained.

information technology (IT)

The past year was a busy year for the Information Technology Team within the Division of Oil & Gas. Two primary activities consume the better part of available technology resources: Royalty Accounting, and Lease Sales.

Over the course of the last twelve months the IT Team continued to provide support to the Royalty Accounting section, implementing new automated royalty validation functions, and processing of millions of individual royalty filing records.

Additionally, recent changes in the bi-annual lease sale required systems that allow frontline staff to administer and manage sales in completely different ways than had historically been done.

Over the next year the IT Team looks forward to enhancing and streamlining the permitting processes conducted by the Division of Oil & Gas, and to find new ways to meet both old and new business challenges.

geographic information systems (GIS)

The GIS Section is responsible for maintenance, development, management and coordination of the Division's spatial data in the form of GIS databases, cartographic print products and map presentations. As a tech support group for the Division of Oil and Gas, the GIS group works with all sections of the Division to provide geospatial data and services that help manage the State's oil and gas assets in the most efficient manner possible.

Our goal is to provide accurate geographical, database, and related information services and make cartographic tools available to help DOG staff make



The Division of Oil and Gas Map Viewer is one of the many products created by the division's GIS group

better decisions. GIS team plays an essential role in the Annual Area wide Lease Sales. The maps produced by the division representing lease and unit geo-spatial data are used by potential bidders in making their bidding decisions. On lease sale day, the sealed bids are opened and read aloud, as a presentation created by our team, displays the lease sale tract map.

Our team also creates public outreach material for national conferences and exhibitions in which the Division representatives participate. The cartographic and associated presentation material, supporting graphics, posters and DVDs we create for NAPE and AAPG conferences become useful take home material for potential lessees and others interested in oil and gas development in Alaska.

We maintain a daily updated GIS section page on the Division of Oil and Gas website which serves as an easy access portal for public to download oil and gas spatial layers. This year we developed and deployed an interactive public web map application on our Division's website. This new app does away the hassle of downloading data, instead letting the viewer directly interact with our layers with different base maps while displaying tabular and identity information for the selected resource or layer.

Looking forward, the top priorities of the GIS section are creating cross platform maps and apps with enhanced spatial data interactivity and ease of use for the end user while continuing to provide tried and tested mapping solutions to support DOG's day to day operations and information exchange.

royalty accounting

Tracking Payments Due the Landowner

The Royalty Accounting Section maintains all records for reported values and volumes of oil and gas produced in the state. It processes royalty reports from lessees and unit operators, monitoring monthly production volumes, royalty values, and amounts paid to the state. Royalty Accounting keeps track of royalty ownership and makes sure the state receives its proper allocation of royalty revenue from each producing property.

Royalty Accounting is also responsible for reconciling a plethora of different reports, and reports monthly allocations and distributes revenue to the General Fund, School Fund, Permanent Fund, and Constitutional Budget Reserve Fund.

The “Oil and Gas Royalty” chapter (next page) explains our work as well as lists our 2012 achievements.

oil and gas royalty

introduction

The state of Alaska receives a royalty of approximately 12.5 percent of the oil and gas produced from its leases. The state may take its royalty share of production "in-kind" or "in-value." When the state takes its royalty share in-kind (RIK), it takes possession of the oil or gas and sells it directly to a refinery or other end user. The Commissioner of Natural Resources may sell the RIK oil or gas in a competitive auction or through a noncompetitive sale negotiated with a single buyer. When the state takes its royalty-in-value (RIV), the state's lessees who produce the oil or gas market the state's share along with their own share of production. The lessees remit cash payments on a monthly basis for the state's RIV share. The value assigned to the State's RIV is determined either under a royalty settlement agreement formula or under the terms of the lease.

Over the last 30 years the state has taken about one-half of its royalty oil as RIK and sold it to in-state refineries. Pricing terms are targeted to provide the state a value that is higher than would have been received had the royalty been taken in value. Unit agreements require that when the state elects to take RIK it must provide 90 days' notice of a percentage of royalty to be taken in kind, rather than a specific number of barrels to be taken in kind; the uncertainty as to future production volumes makes a precise specification of RIK deliveries impossible.

These in-state sales have provided an important supply security, thereby stimulating Alaska's refining industry by providing long-term supplies of oil to each of the state's two refineries that sell refined products to Alaskans.

Net Profit Share Leases

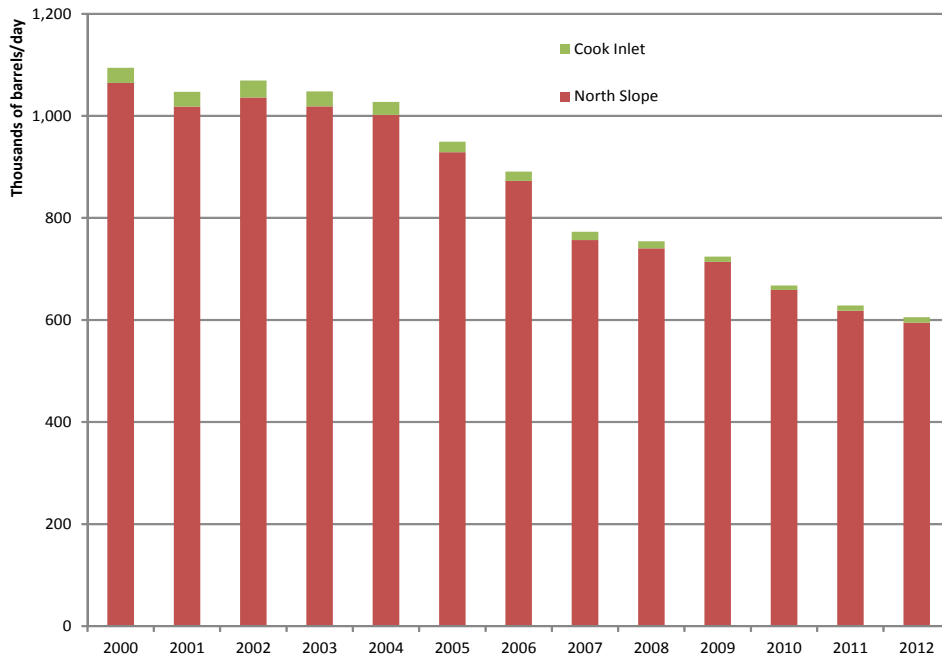
The State has approximately 20 active net profit share (NPS) leases. These leases provide, in addition to royalty revenues, a percentage of lease net profits after all development and operating costs are recouped. As of the end of FY 2012, eight of the NPS leases have reached payout status and the State is receiving a monthly payment of its share. Active NPS leases that have reached payout are in the Duck Island Unit, Milne Point Unit, and the Colville River Unit.

Royalty Volumes and Values

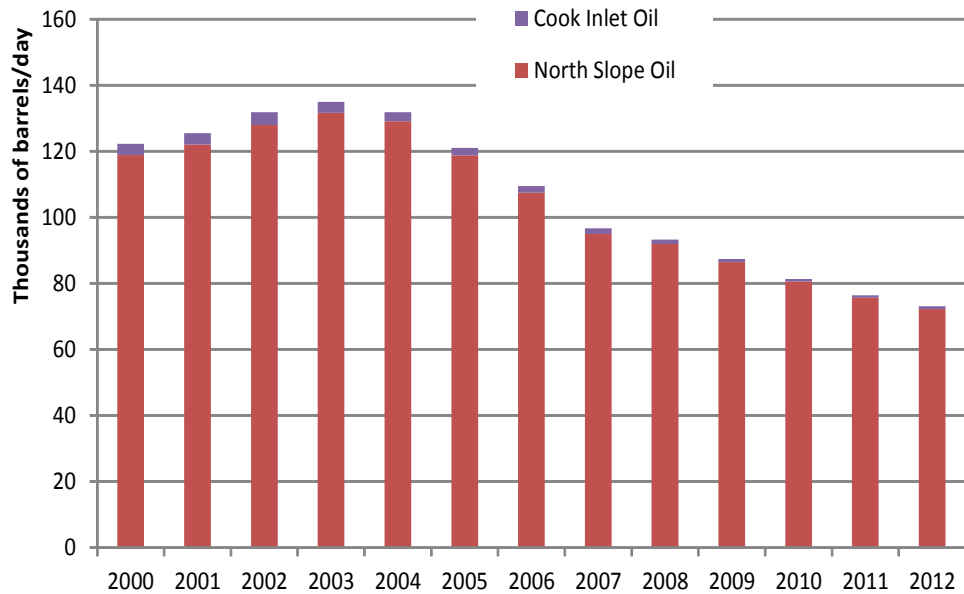
The following graphs depict oil and gas volumes for FY 2000 through 2012. The first graph "North Slope and Cook Inlet Oil Volumes" indicates the decline in oil production through this time period.

PLEASE NOTE that the graphs on the following pages (pages 24-27) in this chapter contain numbers for Fiscal Year 2012, while most other graphs show numbers for Calendar Year 2012. The reason for this is that production and revenue numbers for Calendar Year 2012 are not finalized and available for publication until March 2013.

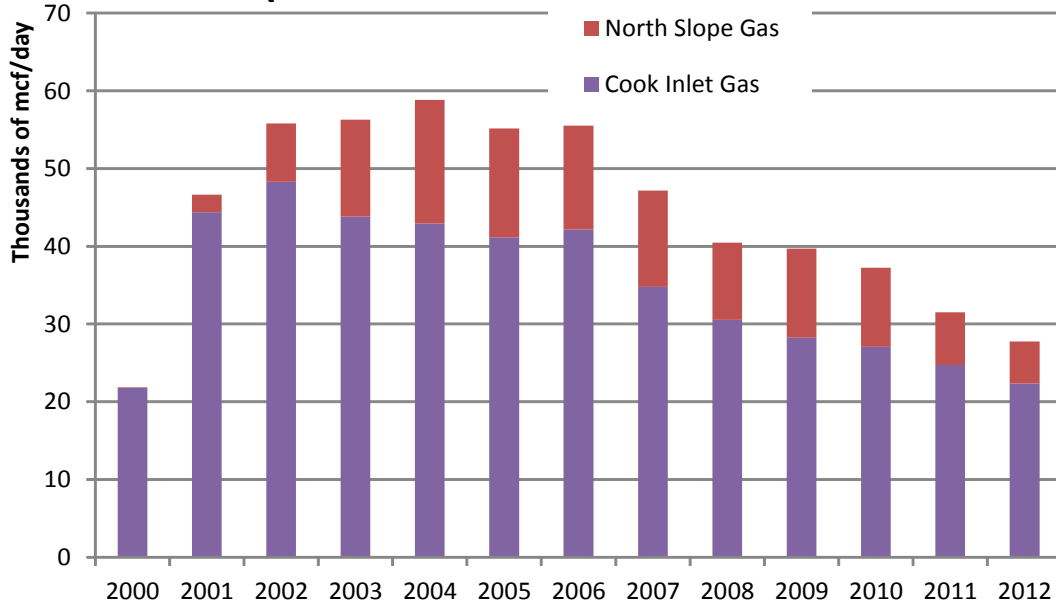
TOTAL NORTH SLOPE AND COOK INLET OIL VOLUMES
FY 2000 - 2012
(in thousands of barrels/day)



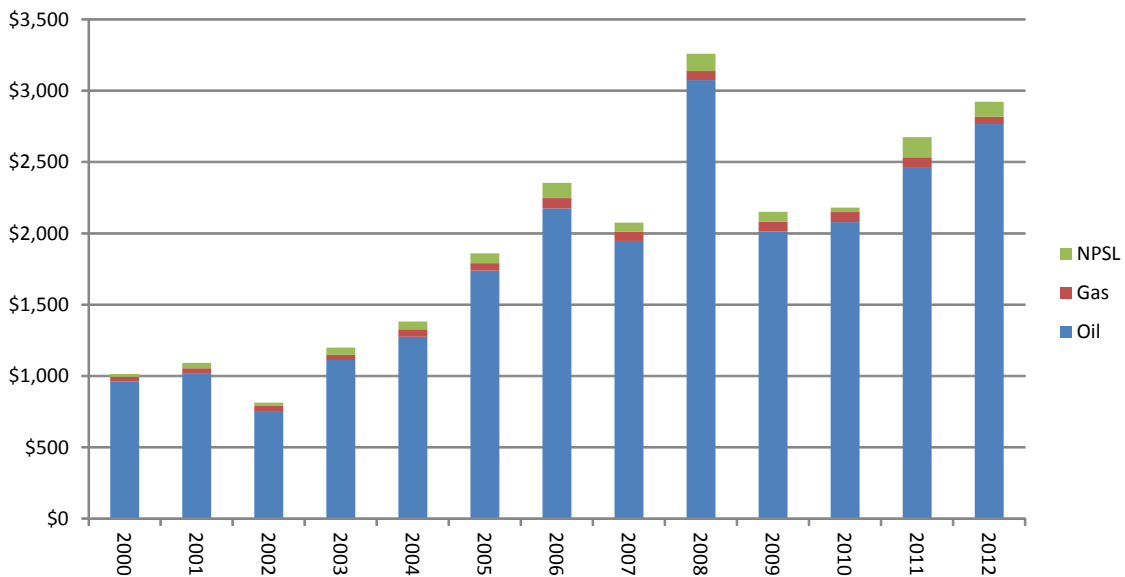
OIL ROYALTY VOLUMES
FY 2000 - 2012
(in thousands of barrels/day)



GAS ROYALTY VOLUMES **FY 2000 - 2012** **(in thousands of mcf/day)**

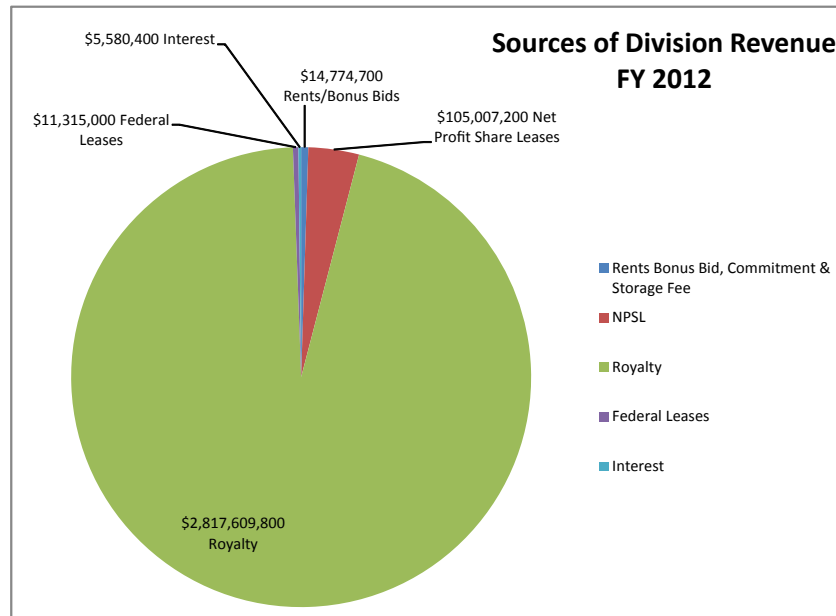


DIVISION OF OIL AND GAS **ROYALTY AND NPSL REVENUE** **FY 2000 - 2012** **(in millions of dollars)**

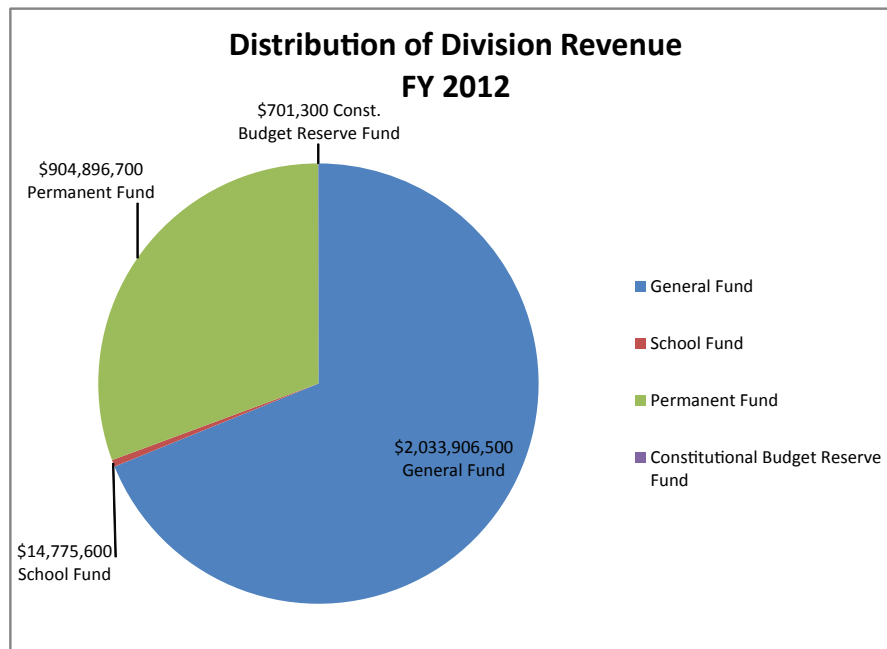


Sources and Distributions of Division Revenues

The Division's primary sources of revenues are from royalty from state lands and NPS lease payments. Other sources are rents, bonus bids and commitment and storage fees which are received through the Leasing section. Other sources are royalties and rentals from federal lands and interest on amounts due. The pie chart below depicts the composition of the \$2.934 billion in total revenues received by the Division during fiscal year 2012.

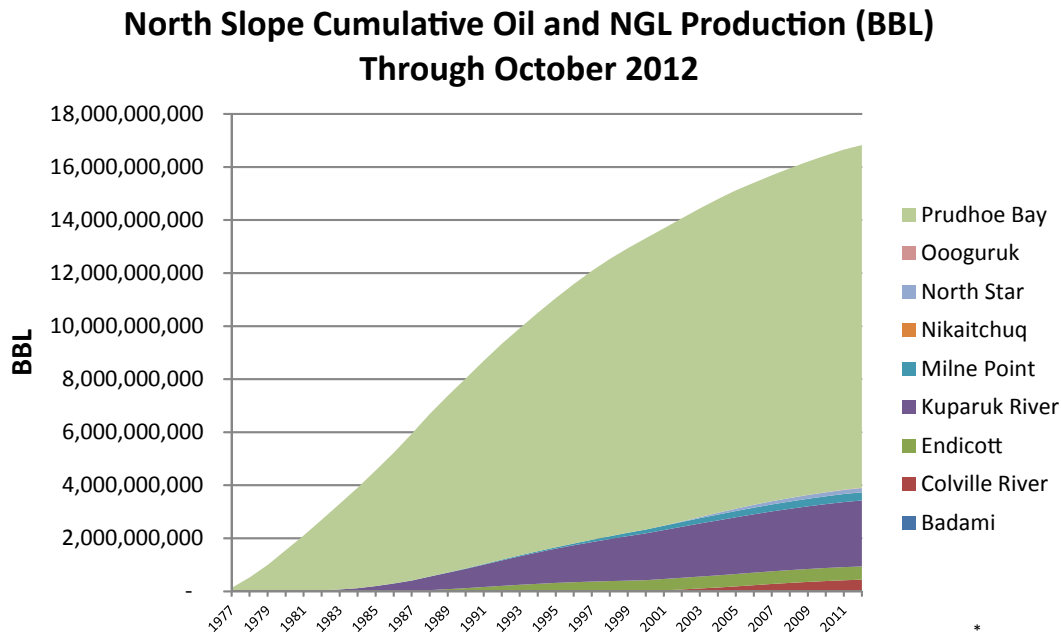
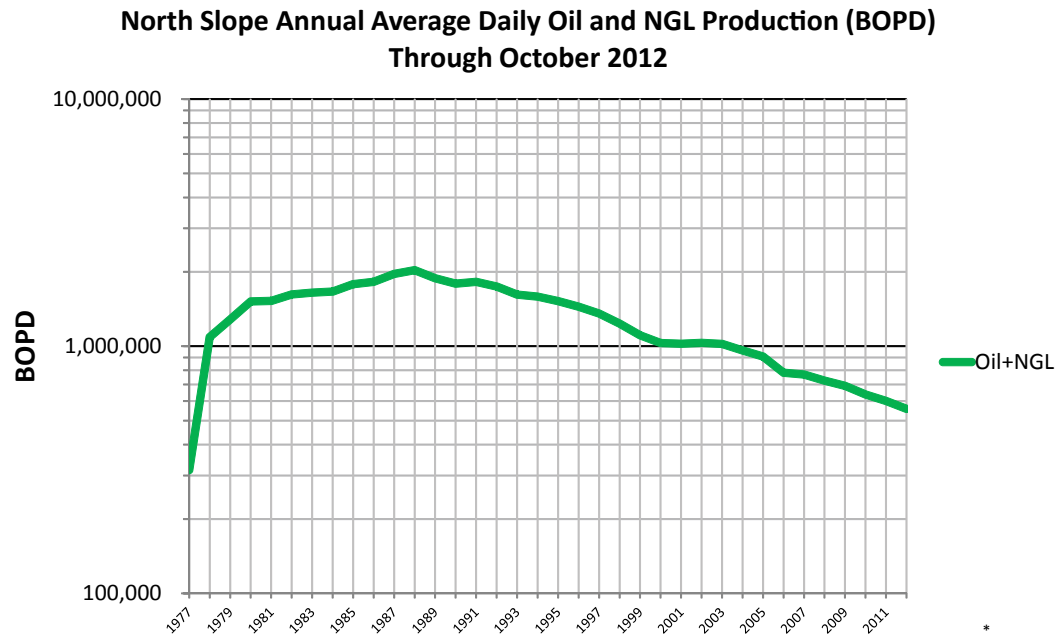


The Division is responsible for the correct allocation of revenues to the various state funds in accordance with statute and regulation. Royalty and lease revenues are allocated among the general, permanent, school and constitutional budget reserve funds based on a number of factors. The graph below depicts how the 2012 calendar year revenues of \$2.818 billion were distributed.



production

north slope

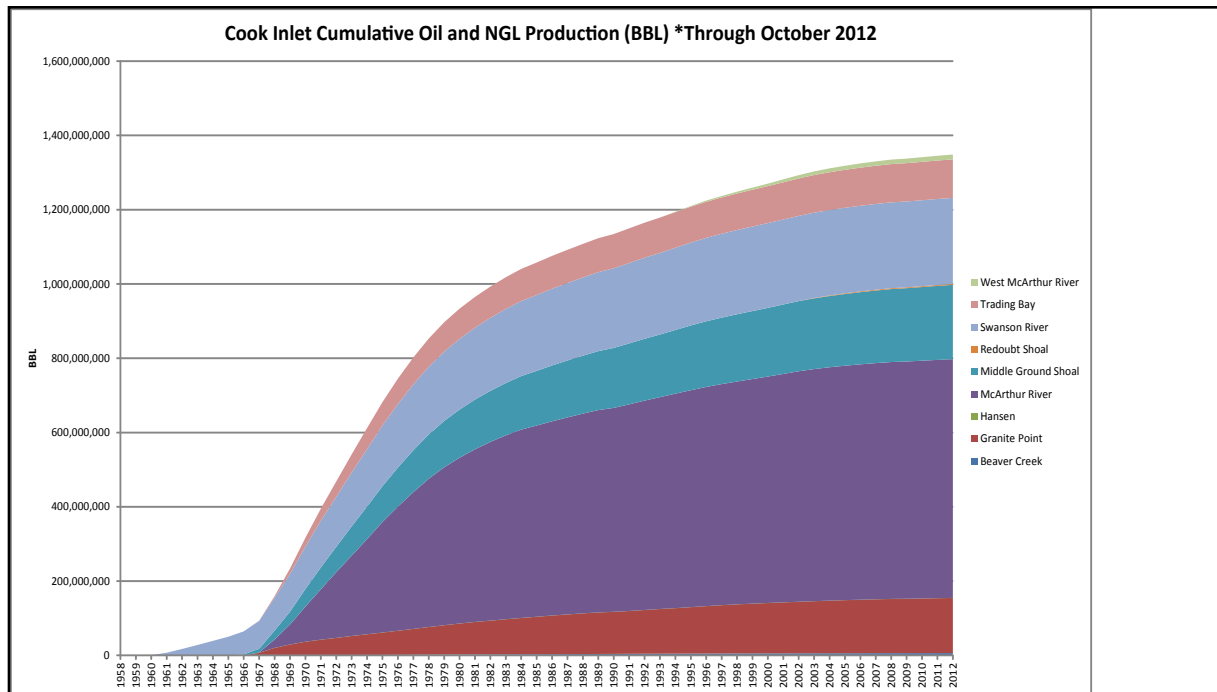
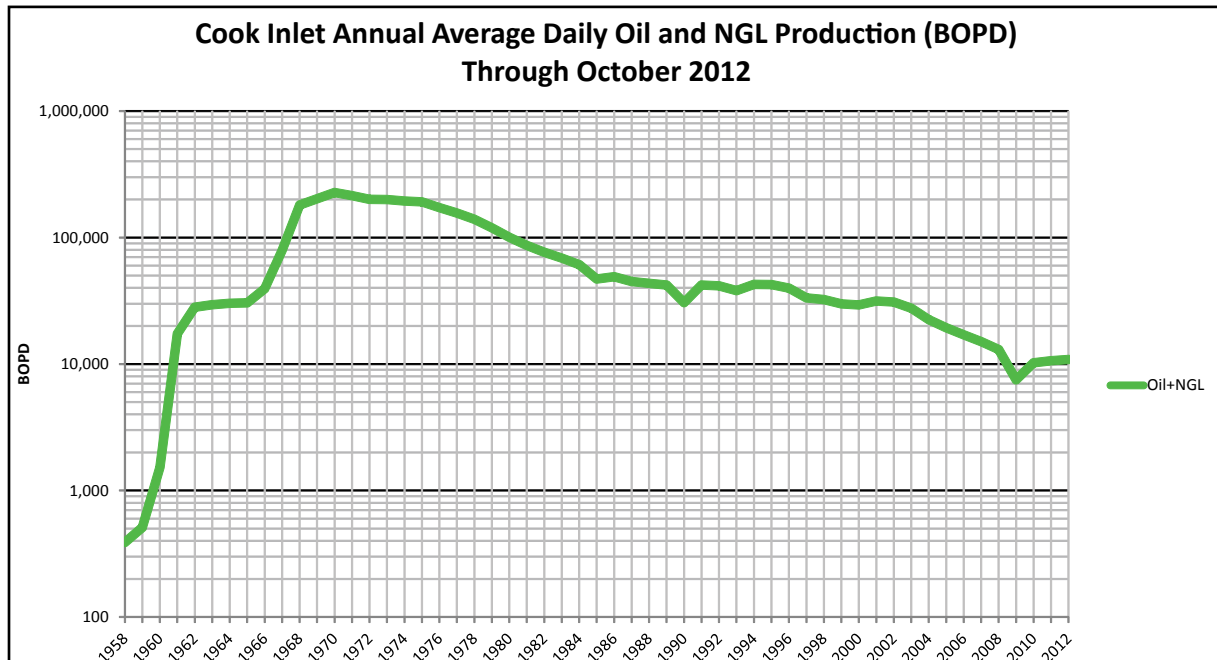


PLEASE NOTE:

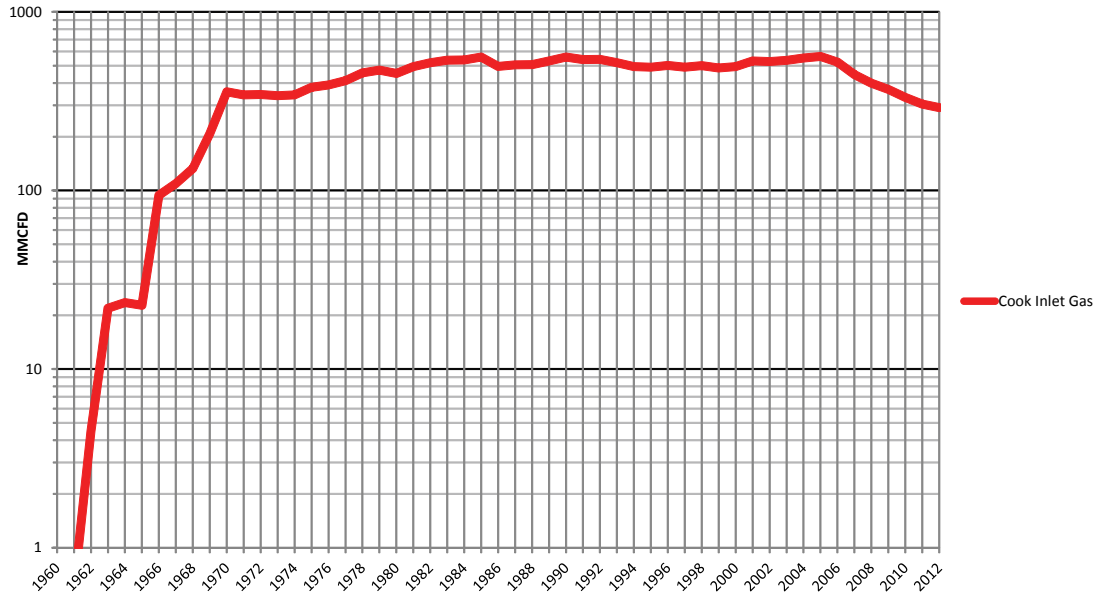
1) The Division of Oil and Gas does not maintain production numbers or make forecasts. The official source for production numbers is the Alaska Oil and Gas Conservation Commission (<http://doa.alaska.gov/ogc/index.html>). The official state source for production forecasts is the Department of Revenue (<http://dor.alaska.gov/>).

2) Production numbers on pages 29-31 include production until October 31, 2012.

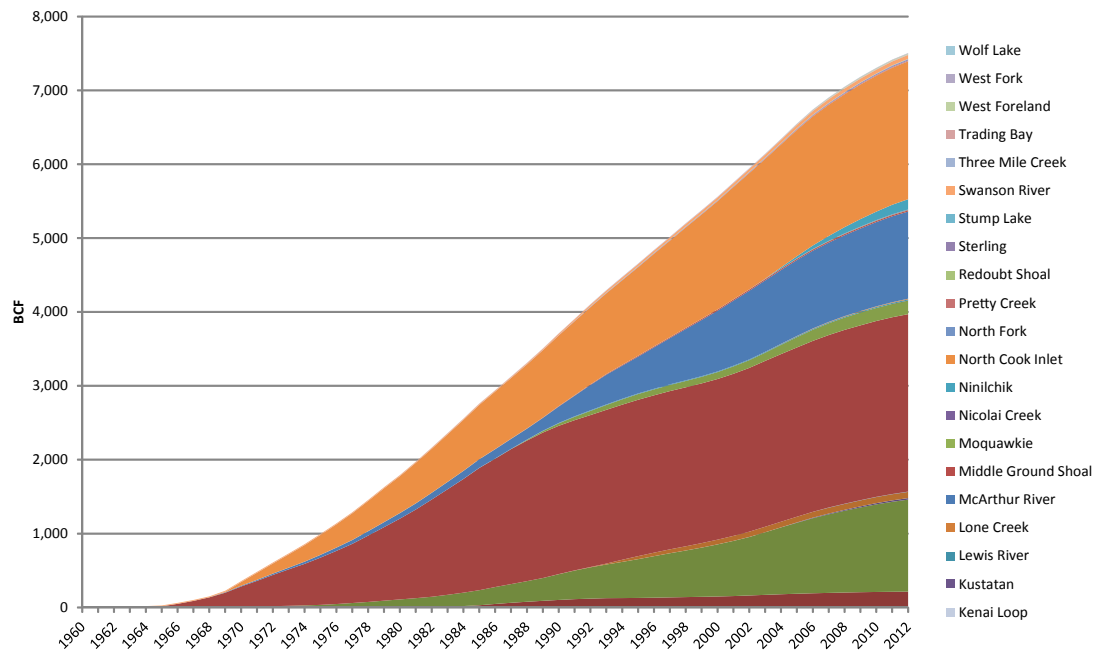
cook inlet



**Cook Inlet Annual Average Daily Gross Gas Production (MMCFD)
Through October 2012**



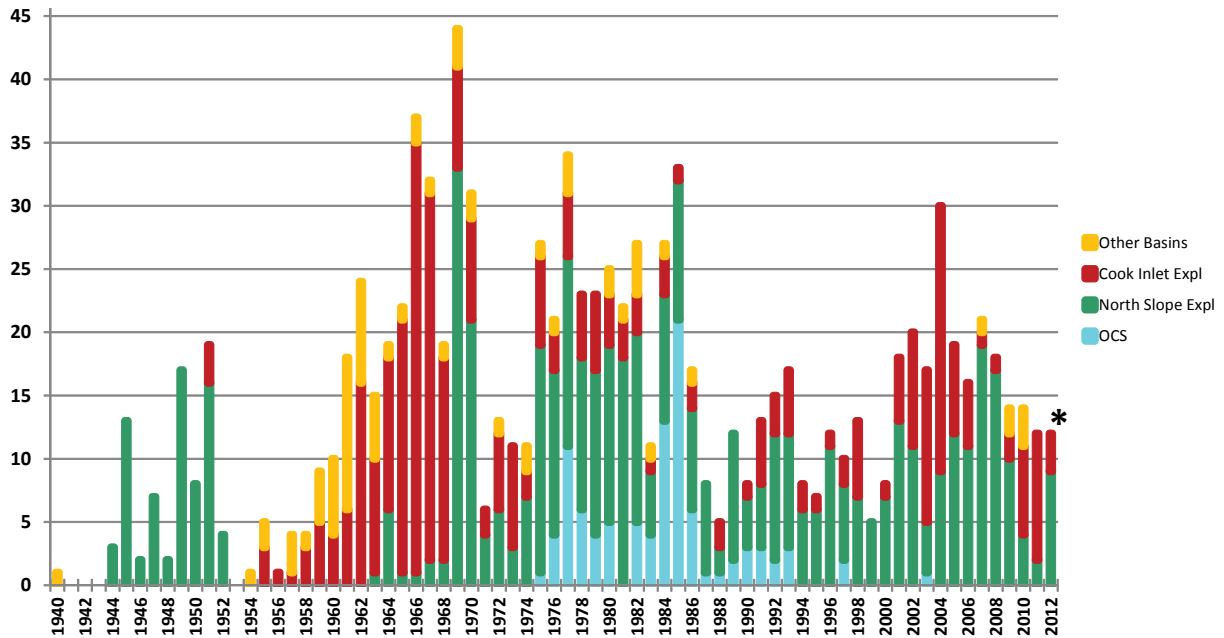
Cook Inlet Cumulative Gross Gas Production (BCF) Through October 2012



Please note: The graphs above show gross production and does not include storage.

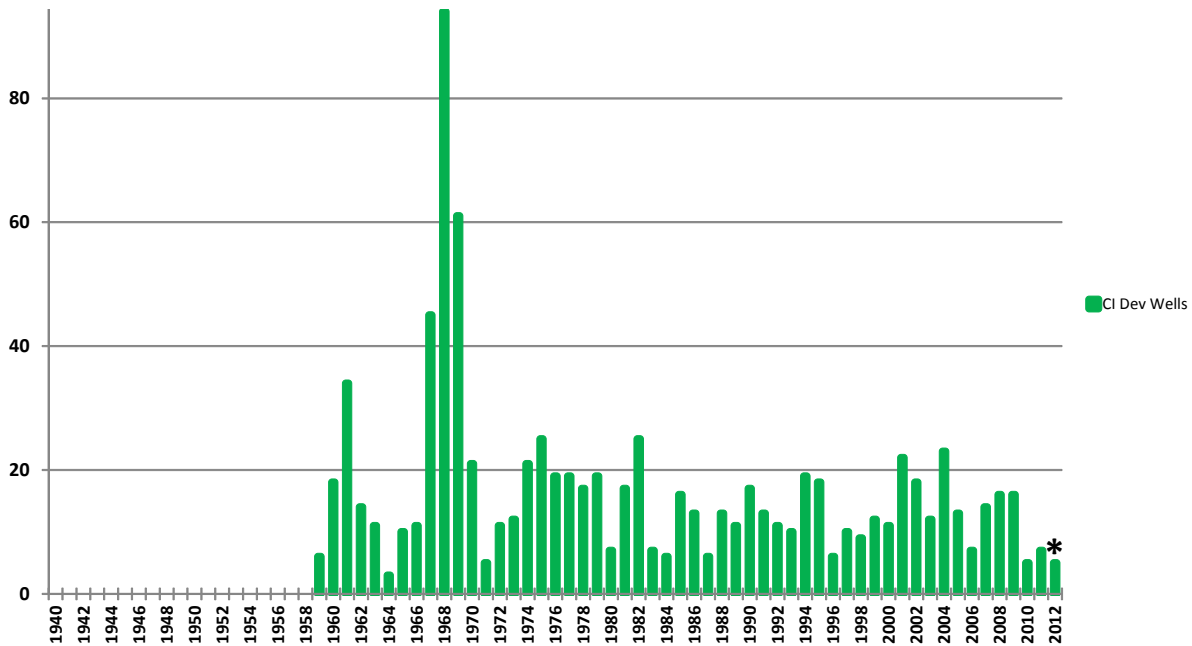
exploration wells

Alaska Exploration Wells: 1940 to Present (as of October 2012*)

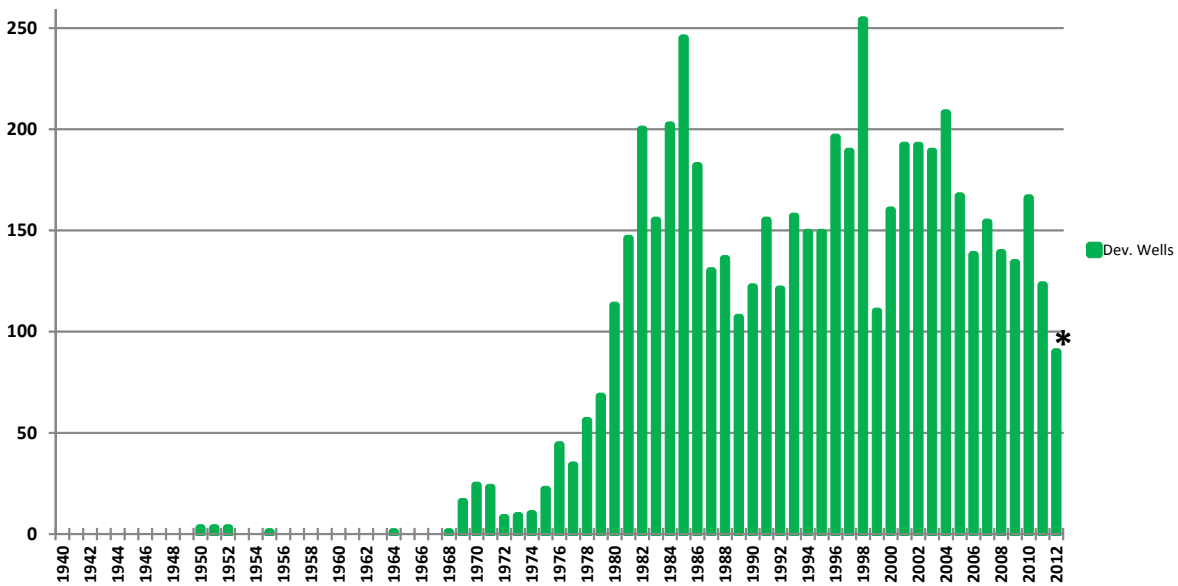


development wells

Cook Inlet Development Wells by Year (as of October 2012*)



North Slope Development Wells by Year (as of October 2012*)



Alaska Statewide Summary of Assessments of Undiscovered, Technically Recoverable Resources, Conventional Oil and Gas¹

Region and Assessment Segment		Oil, MMSTB (million stock tank barrels)			Gas, BCF (billion cubic feet)			Marginal Probability ⁴	Reference
		Probability Distribution			Probability Distribution				
North Slope Onshore & State Waters ²		F95	Mean	F05	F95	Mean	F05		
Central North Slope	Oil & Associated gas	2,565	3,984	5,854	2,681	4,198	6,092	1.00	USGS, 2005: Open-File Rpt 2005-1182
	NGL & Non-associated gas	-- ³	478	-- ³	23,939	33,318	44,873		USGS, 2005: Open-File Rpt 2005-1182
	Oil & Associated gas	-- ³	896	-- ³	--	--	--	1.00	USGS, 2010: Fact Sheet 2010-3102
Nat'l Petrol Reserve Alaska	Oil & Associated gas	-- ³	--	-- ³	--	52,839	--		USGS, 2010: Fact Sheet 2010-3102
	NGL & Non-associated gas	5,724	10,360	15,955	--	4,764	--	1.00	USGS, 1999: Open-File Rpt 98-34 (entire assessment area, includes native lands and state waters)
	Oil & Associated gas	-- ³	190	-- ³	0	3,841	10,852		USGS, 1999: Open-File Rpt 98-34 (entire assessment area, includes native lands and state waters)
total - North Slope Onshore		-- ³	15,908	-- ³	-- ³	98,960	-- ³		
Arctic Alaska Outer Continental Shelf (OCS)									
Chukchi Shelf	Oil & all gas	2,320	15,380	40,080	10,320	76,770	209,530	1.00	BOEM, 2011 National Assessment Factsheet; MMS, 2007 Alaska OCS Assessment
	Oil & all gas	410	8,220	23,240	650	27,640	72,180	1.00	BOEM, 2011 National Assessment Factsheet; MMS, 2007 Alaska OCS Assessment
	Oil & all gas	0	150	600	0	3,770	14,980	0.40	BOEM, 2011 National Assessment Factsheet; MMS, 2007 Alaska OCS Assessment
total - Arctic OCS (offshore)		-- ³	23,750	-- ³	-- ³	108,180	-- ³		
TOTAL - Arctic Alaska		-- ³	39,658	-- ³	-- ³	207,140	-- ³		
Interior Alaska (USGS Assessments)									
Yukon Flats Basin ³	Oil & all gas	0	173	592	0	5,463	14,629	0.81	USGS, 2004: Fact Sheet 2004-3121
	Oil & all gas	--	--	--	--	--	--	--	USGS, 1996: 1995 National Assessment, Digital Data Series DDS-30
	Oil & all gas	0	61	312	--	178	--	0.42	USGS, 1996: 1995 National Assessment, Digital Data Series DDS-30
Kandik Basin	Oil & all gas	--	--	--	--	--	--	0.02	USGS, 1996: 1995 National Assessment, Digital Data Series DDS-30
	Oil & all gas	--	--	--	--	--	--		
	Oil & all gas	--	--	--	--	--	--		
Copper River Basin ⁷		-- ³	234	-- ³	-- ³	5,641	-- ³		
TOTAL - Interior Alaska		-- ³	234	-- ³	-- ³	5,641	-- ³		
Southern Alaska									
Southern Cook Inlet OCS	Oil & all gas	60	1,010	2,850	30	1,200	3,480	1.00	BOEM, 2011 National Assessment Factsheet; MMS, 2007 Alaska OCS Assessment
	Oil & all gas	108	599	1,359	4,976	19,037	39,737	1.00	USGS, 2011:Fact Sheet 2011-3068
	Oil & all gas	0	9	53	--	188	--	0.32	USGS, 1996: 1995 National Assessment, Digital Data Series DDS-30
Alaska Peninsula Onshore	Oil & all gas	20	750	2,500	400	8,620	23,280	1.00	BOEM, 2011 National Assessment Factsheet; MMS, 2007 Alaska OCS Assessment
	Oil & all gas	0	630	2,040	0	4,040	13,870	0.80	BOEM, 2011 National Assessment Factsheet; MMS, 2007 Alaska OCS Assessment
	Oil & all gas	--	460	--	--	9,410	--	0.40-0.60	BOEM, 2011 National Assessment Factsheet; MMS, 2007 Alaska OCS Assessment
Other OCS basins ⁸		-- ³	3,458	-- ³	-- ³	42,495	-- ³		
TOTAL - Southern Alaska		-- ³	3,458	-- ³	-- ³	42,495	-- ³		
TOTAL STATEWIDE mean undiscov., tech recov		43,350 MMSTB			255,276 BCF				

Notes:

¹ All numbers are probabilistic estimates of undiscovered, technically recoverable resource. Because these estimates include oil and gas resources in small, non-economic accumulations, these mean volumes are unlikely to ever be produced.

² North Slope figures used here include State waters and Native lands within the assessment areas (e.g., ANWR coastal plain includes inholdings, not just Federal 1002 lands).

³ Because only the means of different distributions can be summed, table contains blanks for F95 and F05 totals (except where source provides figures for aggregated distributions).

⁴ Marginal probability is likelihood (0-1) that assessed play or area is capable of producing at least one technically recoverable accumulation (areas with discoveries automatically assigned 1.0). Area is given highest probability of assessed plays.

⁵ Yukon Flats figures include four plays, but are overwhelmingly dominated by the conventional Tertiary sandstone play.

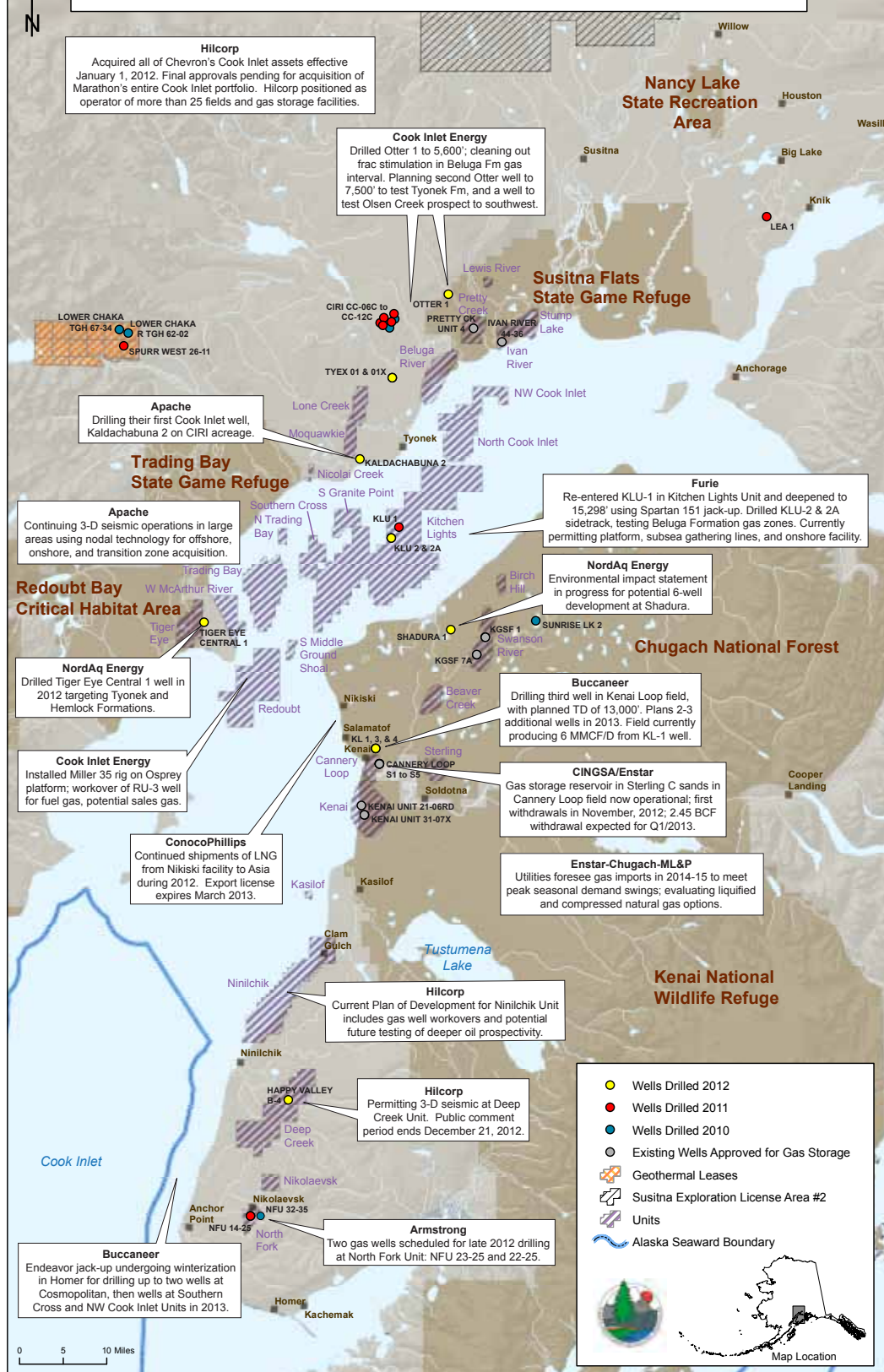
⁶ 1995 assessment of Central AK lumped multiple basins together (Yukon Flats, Minchumina, Nenana, Hollna, Bethel, Inoko, Galena, & Kotzebue basins), but total estimate was less than the more recent 2004 estimate of Yukon Flats Basin alone, so the 1995 results are not tabulated here.

⁷ Copper River Basin resource not volumetrically assessed. Mesozoic oil & Cenozoic biogenic gas plays given only 2% probability of producing at least one technically recoverable accumulation.

⁸ Other OCS includes Navarin Basin, St. George Basin, Norton Basin, Shumagin, and Kodiak planning areas.

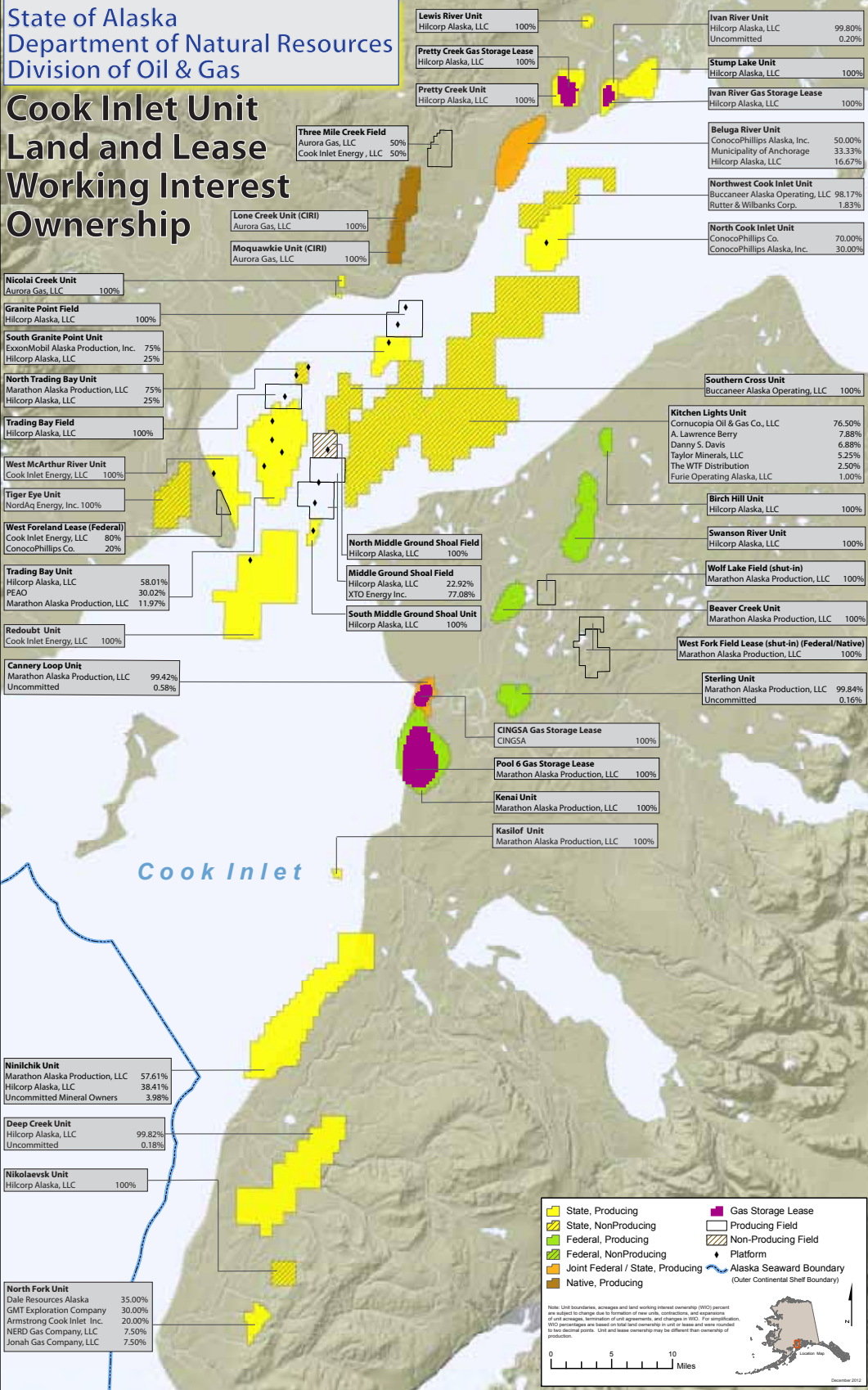
Cook Inlet Oil and Gas Activity 2012

State of Alaska, Department of Natural Resources, Division of Oil and Gas, December 2012



State of Alaska
Department of Natural Resources
Division of Oil & Gas

Cook Inlet Unit Land and Lease Working Interest Ownership



North Slope Oil and Gas Activity 2012

State of Alaska, Department of Natural Resources, Division of Oil and Gas, December 2012

