

SCOMM

133:4

House Bill 69 Senate
Resources Presentation
(February 24, 2003)

- Thank you Mr. Chairman.
- House Bill 69 helps streamline the permitting process for companies who wish to drill for shallow natural gas.
- The Alaska Oil & Gas Conservation Commission grants permits, but has found it difficult to grant them **quickly** because the current system was designed to regulate conventional deep, high-pressure wells, not shallow gas wells.
- Shallow gas drilling is **far** different than drilling with conventional oil wells, yet permits are held to the **same** standards—meaning an applicant must meet the conditions required for deep oil well drilling, many of which don't apply to shallow gas.
- I wish to briefly talk about the differences between the two types of wells. With shallow gas, it's typically in depths as little as several hundred feet. Well casings are small, pressure is very low and air is used instead of drilling fluids (very similar to a common water well) and typically takes two to three days to drill. In comparison, North Slope oil and gas wells are drilled miles into the ground with high pressure and drilling muds, often taking months to complete.
- Thus, comparing these two drilling methods is like comparing apples to oranges. The **problem** is simple shallow gas wells are held to the **same** permitting rules as the more complex oil wells—and that's what this bill attempts to correct.

- House Bill 69 gives the commission authority to grant a **variance** on rules that don't apply to shallow gas. In other words, exempt gas drillers from requirements that only deal with conventional oil wells, not shallow gas wells.
- At present, the commission **does not** have this ability in existing law, so their hands are tied. So we're giving them a tool to grant variances when needed to speed up the process of drilling for shallow gas.
- It's also important to understand what this bill will **not** do. It will not waive any of the Department of Natural Resource's public notification requirements prior to a well being drilled nor will it waive public notification for issuing a lease for drilling on private property. Rather, this bill focuses on granting waivers on **technical** matters.
- The result of this bill should be **much** less time for a company to be authorized to begin drilling—a process that currently can take months, involve dozens, sometimes hundreds of pages of documents, and cost a lot of money. It's expected this new law will streamline the process down to a day or two along with a few pages of documentation (similar to Colorado and other states).
- Another benefit of shallow gas development is how it may help **rural** Alaska. We've always struggled with funding the Power Cost Equalization program. There are 37 villages identified by the Alaska Dept. of Geologic & Geophysical Survey with nearby coal deposits that likely hold shallow gas. These could provide a cheap source of clean energy for generating electricity and heating homes and make villages less dependent on expensive diesel fuel subsidies.

1. Improve upon

- Our state has the largest proven coal deposits in North America and therefore **huge** potential for coal bed gas, a form of shallow gas. In the Cook Inlet Basin alone, there's estimated to be enough potential gas to supply the **entire** United States at its current rate of consumption for the next eight years.
- The legislation has a zero fiscal note, and has previously passed two House committees and the House Floor without a single no vote.
- This bill is very important for further development of the shallow gas industry in Alaska, and I would appreciate your consideration.
- Thank you.

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MEMORANDUM

January 29, 2003

SUBJECT: House Bill 69, relating to the regulation of shallow natural gas leasing and closely related energy projects; and providing for an effective date -- sectional analysis (Work Order No. 23-LS0428\A)

TO: Representative Vic Kohring

FROM: Jack Chenoweth
Assistant Revisor of Statutes



Under AS 31.05, the Alaska Oil and Gas Conservation Commission regulates a wide range of activities involving the production of natural gas. The chapter contemplates that the full commission, or a quorum of it, will take final action in all matters under its jurisdiction.

This measure concerns itself with respect to the commission's oversight of shallow natural gas (coal bed methane) from a single well or single field. **Bill section 1** provides that "where operations [involving shallow natural gas/coal bed methane exploration or development] might be unduly delayed," a member of the commission's professional staff who has been designated by the commission to do so could "approve a variance from the commission's regulations that apply to [the] well or field without conforming to requirements of [AS 31.05.060(b)]," the notice and hearing provisions of the section involving the full commission. In addition, the language of the section sets out the two standards or conditions under which the variance may be granted or withheld and describes the circumstances under which an exemption from a requirement of a commission-approved regulation may be given.

Bill section 2 gives the measure an immediate effective date.

JBC:med
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FISCAL NOTE

STATE OF ALASKA
2003 LEGISLATIVE SESSION

Fiscal Note Number: _____
Bill Version: HB 69
() Publish Date: _____

Revision Date/Time (Note if correction): _____ Dept. Affected: Administration
Title An Act relating to regulation of shallow BRU Alaska Oil & Gas Cons. Com
natural gas Component Alaska Oil & Gas Cons. Com
Sponsor Rep. Kohring
Requester (H) Spec Committee on Oil & Gas Component No. 2010

Expenditures/Revenues

(Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES						
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CHANGE IN REVENUES ()						
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FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0
Other (Specify Type--Do not abbreviate)	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2003) cost: 0.0

Mark this box (X) if funding for this bill is included in the Governor's FY 2004 budget proposal: ☐

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

Zero fiscal impact.

Prepared by: Cammy Taylor
Division: Alaska Oil and Gas Conservation Commission
Approved by: Mike Miller by Stephen D. Sings
Agency: Department of Administration

Phone: _____
Date/Time: 2/6/03 10:56 AM
Date: 2/6/2003

Friday, November 24, 2002

Valley gas wells show promise

CEO: Evergreen might double Cook Inlet reserves

By SCOTT CHRISTIANSEN
Frontiersman reporter

HOUSTON — Last week Colorado-based gas driller Evergreen Resources Inc. made its biggest media push in Alaska since it started exploring for coal-bed methane in August with a visit from Evergreen CEO Mark Sexton and an invitation for reporters to visit a drilling site in Houston.

Sexton told reporters that Evergreen might double the amount of natural gas available for the South-central Alaska market. The company's target is methane gas inside coal seams that are generally shallower than 2,500 feet underground.

"We know that vast quantities of gas exist in these coal seams," Sexton said. "If we are successful, we'll be able to produce 50 percent of the gas [in the coal beds]."

The company holds 100 percent working interest in about 63,000 acres around Cook Inlet, acquired through deals with the state of Alaska, the Alaska Mental Health Lands Trust and two other energy companies — UNOCAL and Ocean Energy — that previously acquired gas rights in the area. Evergreen specializes in coal-bed methane, which industry publications call easy to find but difficult to produce.

Sexton — who once worked for Amoco — told reporters that it's not uncommon for large energy companies to fail at coal-bed methane production only to have a smaller specialist such as Evergreen follow in their tracks and succeed.

Evergreen's Alaska Projects Manager John Tanigawa has been in the state for two years and has been making presentations to local community groups and working on permitting with the state of Alaska. Tanigawa said community members often want to know if the gas wells will affect surface water — such as Loon Lake just north of last Wednesday's media



Evergreen Resources CEO Mark Sexton talked to reporters at a drilling site in Houston last week. The company is excited about coal-bed methane prospects that Sexton said might double the known reserves for the Southcentral Alaska natural gas market.

tour — or affect the water tables that homeowners' wells draw from.

"Shales are impermeable, meaning that you can't flow water through them," Tanigawa said. "There exists several shale zones in between the fresh water aquifers and where we are [prospecting for gas]. The proof is in the pudding. Loon Lake is still unharmed, and nobody's ground water has been effected."

The subsurface layers are made up of gravel, shale and coal, according to Tanigawa, who said the layers alternate but that there is no particular pattern to their sequence. Tanigawa said Evergreen has drilled a water monitoring well with each pilot well cluster.

So far, the company has drilled eight wells in two pilot clusters as was required by the state when Ever-

green acquired gas leases. The real answers as to whether or not Evergreen will produce gas at a profit will come next spring when the company completes the exploration wells.

To complete each well, workers will fracture the coal seams by pumping a nitrogen-based foam down the well under pressure. The fractures will extend several hundred feet from the well. Foam is then used to carry sand down the well and fill the fractures so they won't collapse.

Coal-bed methane gas sometimes exists in a deep water table similar to the way carbonation gas exists in beer. A pump placed deep in the well will be used to draw the gas/water mix up the well. Company officials say the wells can't blow out. Wells at Evergreen's successful Raton Basin field in southern Colorado run at pressures as

low as 10 psi, according to Sexton.

Evergreen's permits allow the company to drill to 3,000 feet. Sexton may not know for sure if the wells will be profitable yet, but he's excited about the Susitna Valley prospects and the information gleaned so far.

"There's 80 to 150 feet of coal in these wells, which is plenty to work with," Sexton said. "The potential exists for this to be really big, to double the known reserves."

If Evergreen is successful, the company plans to market the gas locally to Enstar or other utility companies.

Sexton was also one of a group of presenters at who spoke about new prospects for Alaska at the annual conference of the non-profit business organization Resource Development Council for Alaska in Anchorage last week.

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The Frontiersman

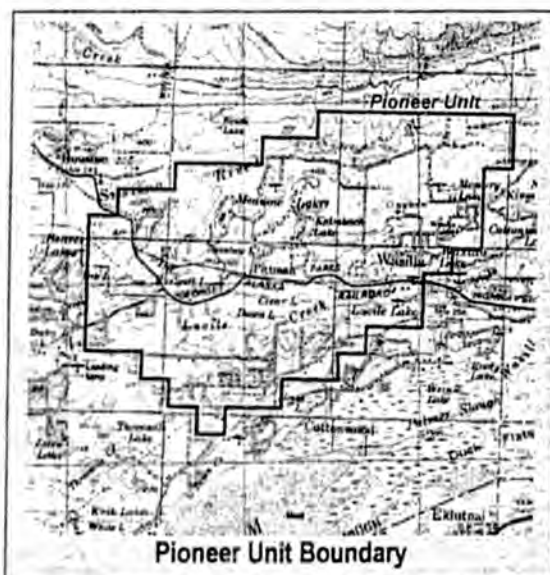
Fact Sheet

Evergreen Resources Alaska & the Pioneer Unit

Evergreen Resources Alaska Corp is a Mat-Su Valley based independent energy company focused on exploring for coal bed methane gas in Alaska. In April 2001, we purchased the 72,000 acre Pioneer Unit from Unocal and Ocean Energy. This unit is located between the towns of Wasilla, Houston and Big Lake as shown in the figure to the right.

Evergreen Resources Alaska is a wholly owned subsidiary of Evergreen Resources, Inc.. While the Alaskan subsidiary is less than one year old, the parent company was founded in 1981 and is headquartered in Denver, Colorado. We trade in the New York Stock Exchange under the symbol EVG. Our website address is www.EvergreenGas.com.

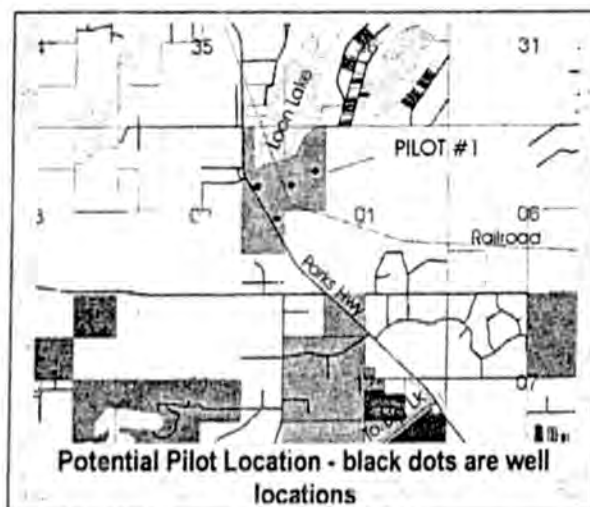
Our relationship with the community and with our landowner neighbors is extremely important to us. In our most active area, the Raton Basin of southern Colorado, we received several awards from the Colorado Oil and Gas Conservation Commission, specifically citing Community Relations. Last year, we also received the *Environmental Stewardship* award from Governor Tony Knowles who chairs the Interstate Oil and Gas Compact Commission. A former recipient is ARCO for their North Slope development. Evergreen is known for our ability to develop natural gas in close proximity to houses.



Our Plan

Evergreen plans to drill eight wells in the valley to explore for coal bed methane natural gas beginning in August 2002. These wells are separated in two groups called pilots with each pilot having four wells. One of the pilots is located 1.5 miles northwest of the intersection of the Parks Highway and the Big Lake Turnoff, as shown in the figure to the right. In this figure, the proposed well locations are shown as four black dots. This pilot area is located on a 148 acre parcel owned by a private party who has agreed to site wells on his property. Evergreen makes every reasonable effort to ensure that this exploration program imparts minimal impact to our neighbors.

Since we are permitting more pilots than are needed for this year's program, these wells may not be drilled in 2002.



Coal bed Methane

Coal bed methane is simply the extraction of methane gas from coal seams. The process of producing methane from coal consists of drilling, and completing wells – just like traditional oilfield operations – however, as you will see below, you may want to reconsider what natural gas development looks like. Evergreen is known for our low impact and environmentally friendly way we conduct our exploration. Methane is a gas and is the primary component of the natural gas that heats our homes, produces electricity and makes fertilizer and liquefied natural gas (LNG) on the Kenai Peninsula. Our targets are the Tyonek formation coals at depths from 1,000 to less than 3,000 ft.

Site Preparation, Drilling, Completing, and Production Testing

Evergreen is recognized as an industry leader in coal bed methane exploration and development. We have developed one of the most successful coal bed methane plays in the Raton Basin of Southern Colorado. We plan to use our own state of the art drilling, cementing, completion and production equipment in Alaska. This equipment is designed for the specific requirements of coal bed methane and work is accomplished quickly and in an environmentally friendly manner. So that you know what is involved, described on the next page are the four steps involved with our program.

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Fact Sheet (continued)

1. **Site Preparation** consists of clearing a 175 by 200 foot pad, digging a pit and lining it with impermeable plastic for the temporary storage of drill cuttings, and setting 12-inch steel conductor pipe to approximately 100-200 feet. This pad is a fraction of the size currently used in the industry. A local water well contractor will set the conductor pipe using air (versus mud) as the drilling fluid. Roads will also be constructed. This work will take roughly 4 to 5 days per site.

2. **Drilling** is accomplished using Evergreen's own high tech drilling equipment shown in the adjacent figure. As this photo illustrates, Evergreen's uses a modified truck mounted water well drilling rig, and not the derrick type rigs used in typical oil and gas operations. Air is used as the drilling fluid instead of mud. Evergreen's drilling times are roughly 3 days instead of 3 weeks/months required by derrick type rigs. For these reasons, neighbors view our drilling operations more like water well drilling than they do traditional oilfield operations. The shallow fresh water aquifer is completely protected using two strings of steel pipe sealed with cement. This is a 24-hour a day operation.



Evergreen's Drilling equipment is a Modified Water Well Drilling Rig

3. **Well Completion** is a process that allows the gas and water to be produced from the coals to the well bore. In this process, the coal seams are fracture stimulated (frac), a process where nitrogen gas, gelled water and sand are injected into the formation to enhance the well's ability to produce. Evergreen will utilize its own equipment to fracture stimulate the wells. By volume, the majority of the fluids pumped into the coals consist of inert nitrogen gas. The well completion process takes approximately 3 days per well, of which the frac takes approximately 9 hours.



Evergreen Frac Equipment - uses mostly nitrogen gas

4. **Production Testing** is a period of at least 9 months where we pump water from the well to determine how much gas is produced from the coals. We use a progressive cavity pump to bring the water from the coal to the surface where it is temporarily stored in above ground tanks. Water trucks will visit the site daily to remove the water from the tanks for disposal at an already approved injection well. A straight-six cylinder natural gas or propane motor will be used to power the pump. Noise emitted from this process is minimal - similar to that of an idling car. Due to winter operations, the engine will be enclosed in a small shed further reducing any noise. Small amounts of methane natural gas, typical for beginning stages of coal bed methane development, will be measured and vented to the atmosphere in accordance with state regulations. Some of this methane may be used to keep the well site locations from freezing. If the pump fails, we will change the pump using equipment similar to the drill rig.



Water Pump and gas Engine



Water Truck

More Information

For more information, contact Scott Ogan, Public Relations Consultant at 907-841-6259 or Bill Vallee, Consulting Landman at 907-333-1277 or John Tanigawa, Alaska Projects Manager at 907-841-0000 or 907-357-8130.

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Well Location

Pilot number 1 is located on a 148-acre parcel of land located in sections 1 and 2 of township 17 North and 3 West. The site is 8.5 miles west of the city of Waskita and 3.5 miles Southeast of the city of Houston. This is 1.5 miles northwest of the intersection of the Parks Highway and the Big Lake Turnoff.

Shown on both maps are black circles or red rectangles showing the proposed well locations. We have spent time with the landowner and believe these locations are within 50 to 100 ft of their final position. These locations however, may be changed.

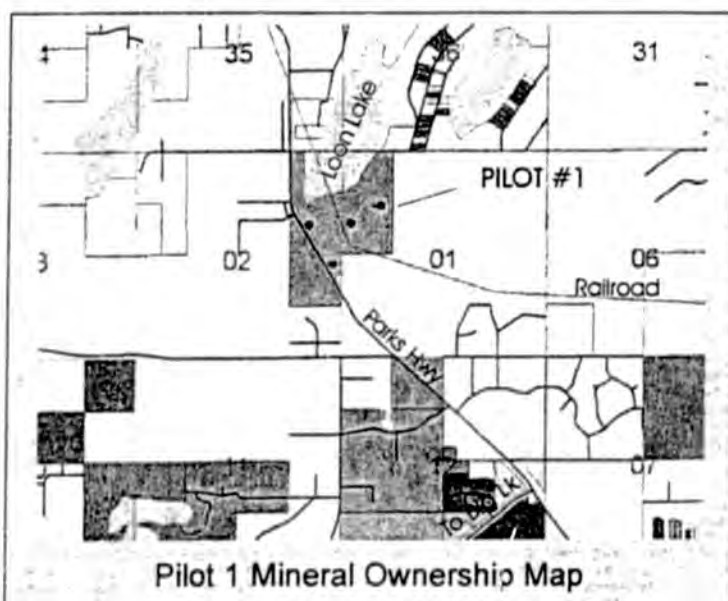
Of the four wells, two parallel the Parks Highway. Both wells will be placed roughly 225 feet from the centerline of the Parks Highway. This is roughly 75 feet in the trees. The remaining two wells, located in the west half of the northwest quarter of section 1, are positioned approximately 650 feet from Loon Lake. In all cases, trees will obscure these well pads from the public view. Further these spruce trees dampen noise that come from our operations. Wells will not be closer than 500 ft from the lake.

The figure to the right is a satellite image taken in April 2002 of the same area. In this image, well pads are shown as rectangles. Size of these rectangles is 200 feet by 175 feet. No wetlands, streams or lakes are disturbed by this activity. All activities are outside of the set back buffer to Loon Lake, which is located on the northern edge of the lease.

The light green lines are the existing yet unimproved roads on the property. Part of this road includes an orphaned railroad crossing. Evergreen plans to use all or a portion of these roads, however, actual access is at the discretion of the landowner. Access to this lease is from the Parks Highway, which runs through the lease.

Legal Description

W/2 of NW/4 of Section 1 township 17 north range 3 west (except for portions in Loon Lake)
E/2 of the NE/4 of Section 2 township 17 north range 3 west (except for portions in Loon Lake)
NE/4 of SE/4 of Section 2 township 17 north range 3 west, all are Seward Meridian.



Questions & Answers

Will my water well be affected by your exploration?

No. We set two strings of steel casing, sealed from top to bottom with cement, to ensure that your fresh water is protected. Further we drill with air to eliminate groundwater contamination.

What do you mean by the term "Exploration Wells"?

Exploration wells are designed to test the coal's ability to produce methane natural gas. During exploration, wells are drilled close together to minimize the time to testing period. Following the exploration phase, the wells will either be plugged and abandoned and the land recovered according to state regulations, or further exploration and development may occur.

Can Evergreen hook-up natural gas to my house?

No. Evergreen is not a regulated utility in the state of Alaska and we cannot sell natural gas directly to consumers. If the wells are economic, then we plan to sell natural gas to Enstar, the local gas utility.

Does the coal bed methane exploration make much noise?

No, not compared to conventional oil field operations. Since our drilling operations use water well drilling equipment, the noise that you hear is similar to a neighbor drilling a water well. The total time to drill each well is roughly 72 hours (3 days) and of that time, actual drilling occurs for 30-40 hours. When we complete wells, you will hear the diesel engines from our pumps for a total of 6 to 9 hours over a one or two day period. During production testing, you may hear the enclosed six-cylinder natural gas engine that powers our pump or a water truck that unloads water from the temporary water tank. Also during the testing period, you may hear us replacing a pump.

What does Evergreen do to protect the Environment?

Evergreen uses the latest equipment and technology to perform our work in an environmentally safe manner. To begin with, Evergreen uses newly developed air drilling technology. Using air, we eliminate the majority of the drilling wastes generated in the drilling process. We can also drill the wells much faster than conventional wells - on the order of several days instead of several weeks or months. Second, the amount of land we require in our activities is a fraction of the size required by conventional operations. With regard to our produced water, we inject it into a state approved water disposal well. Finally, we produce and use methane natural gas in our operations. Natural gas is arguably, the cleanest and most viable fuel source currently available.

Why is Evergreen the "Recognized Leader in Coal bed Methane Technology"?

Evergreen receives this industry recognition because of our success record developing coal bed methane. We receive awards for our ability to develop this type of resource in close proximity to developed areas. Further, we consistently lead the industry in several industry benchmarks including, lowest finding and development costs, highest reserve replacement through drilling, and highest full cycle economics.

Does Coal bed methane smell like some oil and gas operations?

No. Coal bed methane produces mostly methane. Methane is odorless, colorless and is lighter than air. This is very different from some conventional reservoirs that have hydrogen sulfide gas, or other aromatic hydrocarbons.

Can there be a blow out?

No. Evergreen employees specialized equipment to ensure that these wells remain in control at all times.

Can there be an oil spill?

No. No oil spill can occur since no oil is produced.

What is in it for me?

In the long run, locally produced natural gas will benefit the entire state, especially, the Mat-Su Valley. This gas source can replace the diminishing supply in the Cook Inlet. If our exploration program is successful, then development may mean more wells. Along with these wells come jobs, a diversified property tax base, and of course, more money to the State's Permanent Fund.

EVERGREEN

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REPRESENTATIVE VIC KOHRING DISTRICT 14

SPONSOR STATEMENT

HB 69

House Bill 69 is legislation that clarifies the Alaska Oil and Gas Conservation Commission's (AOGCC) authority to regulate the state's shallow and unconventional natural gas resources, including allowing for variances from AOGCC's general regulatory requirements in certain cases. Alaska possesses tremendous shallow natural gas resources, such as shallow coal bed methane gas. Production involves extraction of methane gas from coal deposits lying at relatively shallow depths of about 3,000 feet. In Cook Inlet alone, there is an estimated 1.5 trillion tons of coal, with an estimated 200 trillion cubic feet of coal bed methane. Two hundred trillion cubic feet of gas is enough to supply U.S. natural gas requirements for more than eight years. The entire state has coal-bed methane resources estimated at 1,000 trillion cubic feet, not including natural gas from tight sands also in place across Alaska.

Statewide, these resources are abundant and widely distributed. They hold the promise of bringing a much cleaner, locally-produced, alternative energy source to areas of rural Alaska long dependent upon diesel or fuel oil barged in from distant sources for heat and power. Production of coal-bed methane and other forms of shallow natural gas development also has little effect on the environment. A typical well is drilled in two to three days, and advanced drilling technology uses simple air to drill a well, greatly reducing drilling wastes. Further, wells are lined and cemented from top to bottom which protects groundwater, and as no oil is present, there is no risk of an oil spill. Once in production, the "footprint" of a typical well is less than one acre.

Despite such promise and benefits, shallow natural gas and coal bed methane are still expensive to develop. Such projects are very sensitive to development and production costs which include the costs of safety and excessive regulations. Shallow natural gas is being regulated as though it is a deep hole, high-pressured reservoir such as on the North Slope. In fact, shallow gas wells are more like low-pressure water wells that produce gas. Therefore, the purpose of HB 69 is to ensure that the AOGCC has the authority and discretion necessary to regulate such projects in an appropriate manner, suited specifically to the nature and characteristics of shallow natural gas development projects, while also providing for human safety and environmental protection.