

**SB**

**103**

SB/03

# Alaska UIC Issues

What we do.

What are the challenges?

What are the options?



# AOGCC – EPA UIC Situation

- Introduction
- UIC and other USDW Responsibilities
- Senate Bill 103
- The Problem to Solve
  - UIC Well Classes
  - Alaska UIC Situation- redundancy, confusion, Time, \$\$\$
- Options/Solutions



2 5:59 AM

Meter proving on pipelines

**AOGCC regulates operations affecting subsurface oil & gas resources, ensures the reliability of oil & gas flow measurements, and ensures that underground sources of drinking water are protected.**

Inspection of drilling operations



Protect Fresh Water

Regulate oil & gas fields operations

Regulate wells constructed

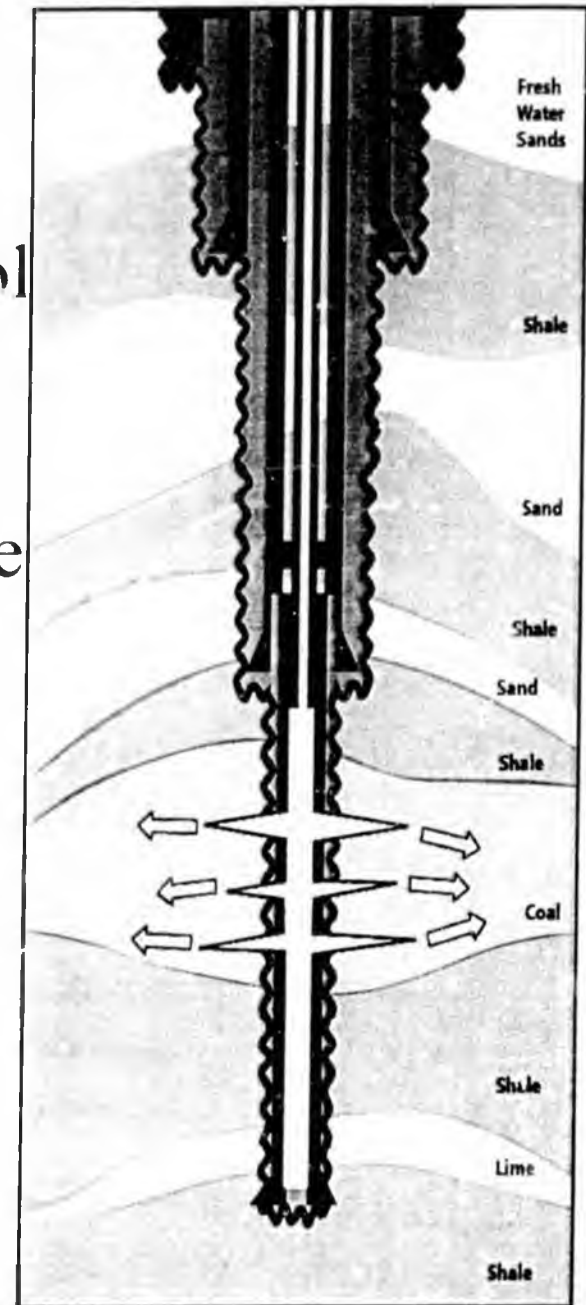
# UNDERGROUND INJECTION PROGRAM (Class II)

AOGCC has primacy for implementing the federal Underground Injection Control (UIC) Program relating to regulation of underground injection activities for the purposes of enhanced oil recovery and the most environmentally sound disposal of oil field waste.

The proper underground injection of material to enhance oil recovery has resulted in billions of \$\$\$ in revenue to the State of Alaska

And

The best place to put oilfield waste is deep underground.



**Sec. 31.05.030. Powers and duties of commission.**

**(d) The commission may require**

**(3) the drilling, casing and plugging of wells in a manner that will prevent the escape of oil or gas out of one stratum into another, the intrusion of water into an oil or gas stratum, the pollution of fresh water supplies by oil, gas or salt water, and prevent blowouts, cavings, seepages and fires;**

**(e) The commission may regulate**

**(1) for conservation purposes**

**(D) the disposal of salt water, nonpotable water, and oil field wastes;**

**(E) the contamination or waste of underground water;**

**(h) The commission may take all actions necessary to allow the state to acquire primary enforcement responsibility under 42 U.S.C. 300h-4 (Safe Drinking Water Act of 1974, as amended, 42 U.S.C. 300f-300j), for the control of underground injection related to the recovery and production of oil and natural gas.**

## Senate Bill 103

“An Act relating to regulation of underground injection under the Safe Drinking Water Act and providing for an immediate effective date.”

\* **Section 1.** AS 31.05.030(h) is amended to read:

(h) The commission may take all actions necessary to allow the state to acquire primary enforcement responsibility under 42 U.S.C. 300h-1 and 42 U.S.C. 300h-4 (Safe Drinking Water Act of 1974, as amended, 42 U.S.C. 300f - 300j-26), for the control of underground injection related to the recovery and production of oil and natural gas and the control of underground injection in Class I wells as defined in 40 C.F.R. 144.6, as amended.

\* **Sec. 2.** This Act takes effect immediately under AS 01.10.070(c).

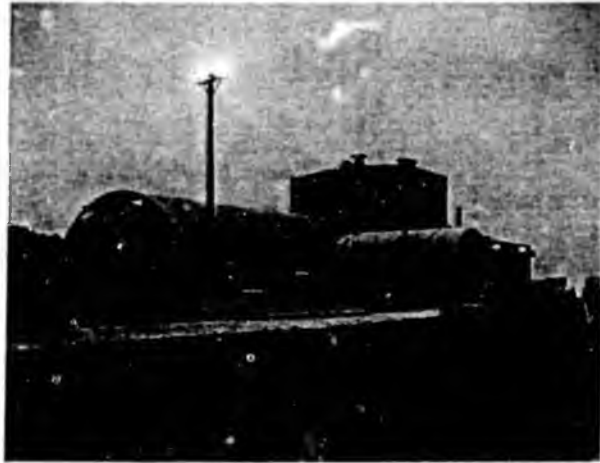
## UIC Situation

Two agencies performing same job, one protecting a non-existent resource resulting in onerous and costly requirements on industry and Alaska.

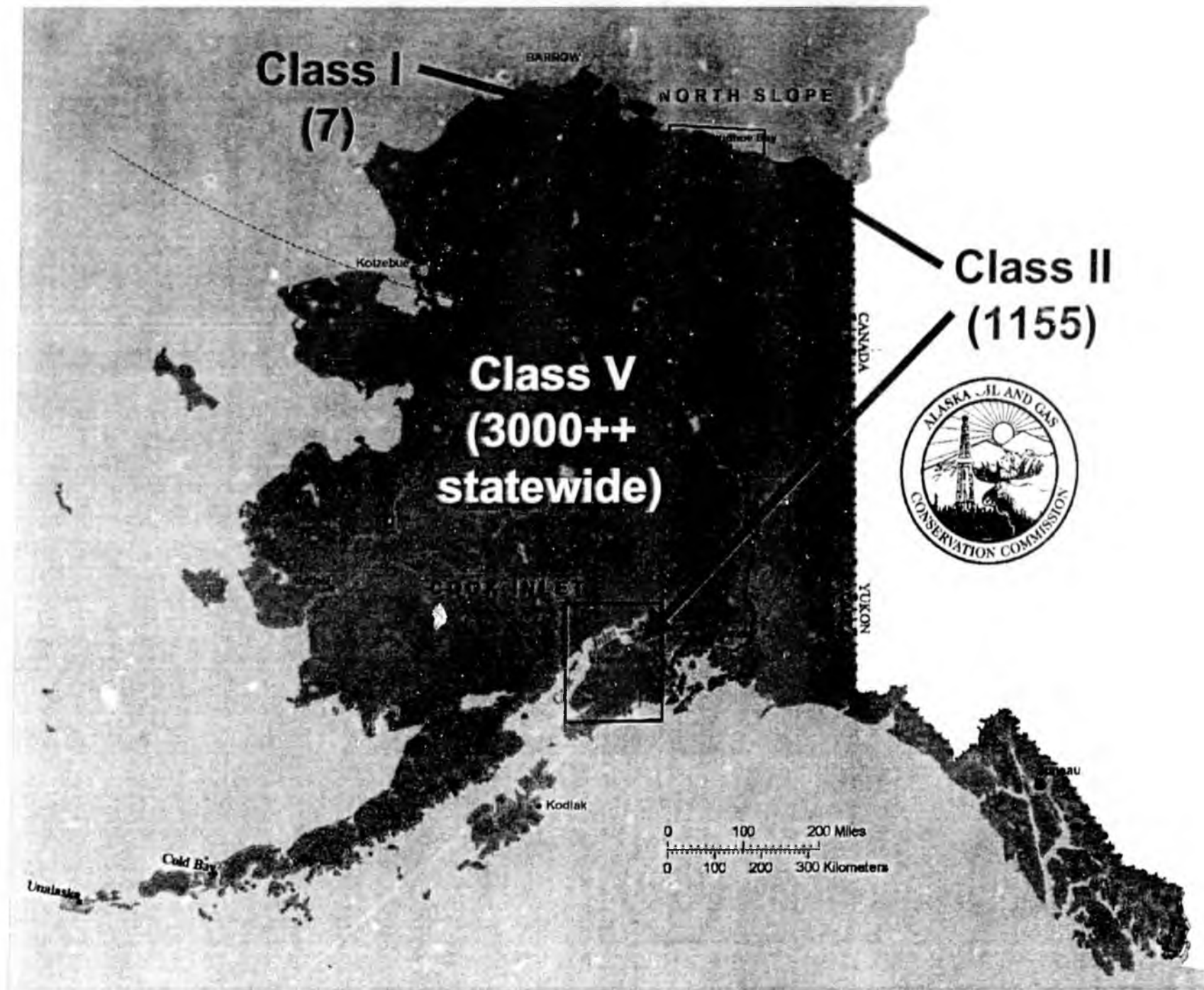
### Common Sense Solutions?

AOGCC control through primacy or single disposal class by eliminating redundancy through statute change (new bill) and positive EPA interpretation and ruling (EPA doesn't think this is possible)

# Underground Injection Control

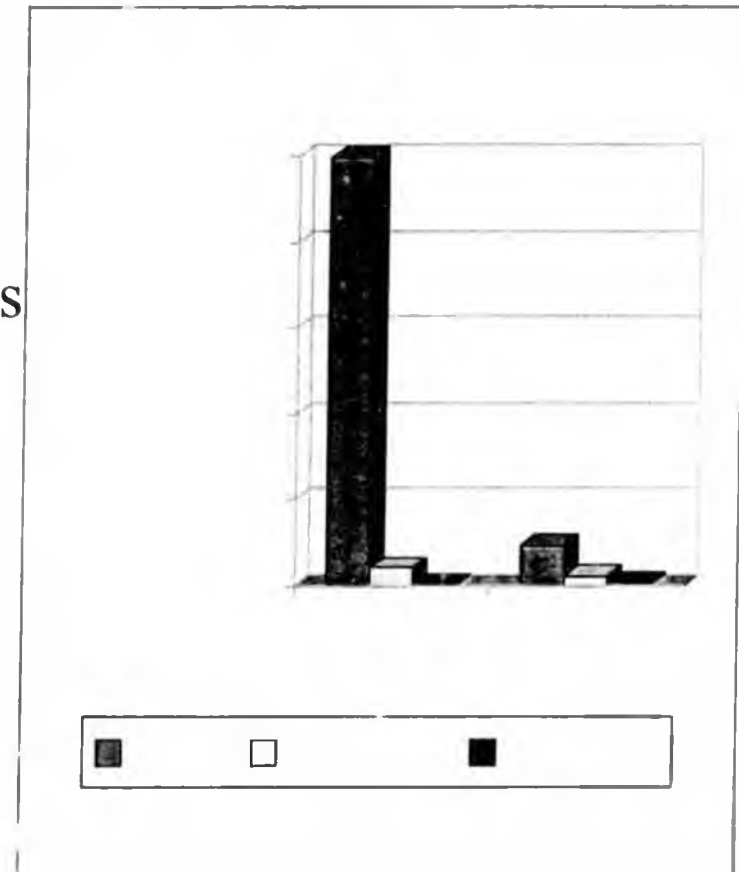


- Program under Safe Drinking Water Act
  - Protect underground drinking water sources
- 5 classes of wells
  - Class I: industrial, hazardous and non-hazardous; municipal waste
  - Class II: oil and gas
  - Class III: mining
  - Class IV: shallow hazardous and radioactive waste injection
  - Class V: whatever doesn't fit in I-IV (into H<sub>2</sub>O table->20 people domestic, industrial, ?)



# Alaska UIC Statistics - 2004

- 1155 operable UIC wells
  - 90% EOR (Class II-R)
    - Most converted producers
  - 1.1 billion bbls water, 3.2 Tcf gas injected (2004)
- 7 Class I wells
  - All on North Slope
    - 8th Class I well drilling
- 1.87 Billion bbls waste disposed (cumulative)
  - Class I wells: 1.2% of total volume disposed to date



## UIC Situation- Waste of Tax Payer and Industry \$\$ & Time

- Confusion by operators over what waste is allowed to be disposed in each Class
  - All wastes on the NS are directly associated with hydrocarbon production- should all be Class II-(not EPA view)
  - Much time & energy expended for waste determination and tracking by industry and government
- Redundancy- North Slope- EPA and AOGCC running virtually identical programs.
  - Often same fluids injected into the same disposal zones
  - Class I- same confinement and well construction or worse (see slide after next)
  - AOGCC performs much work advising EPA on their program

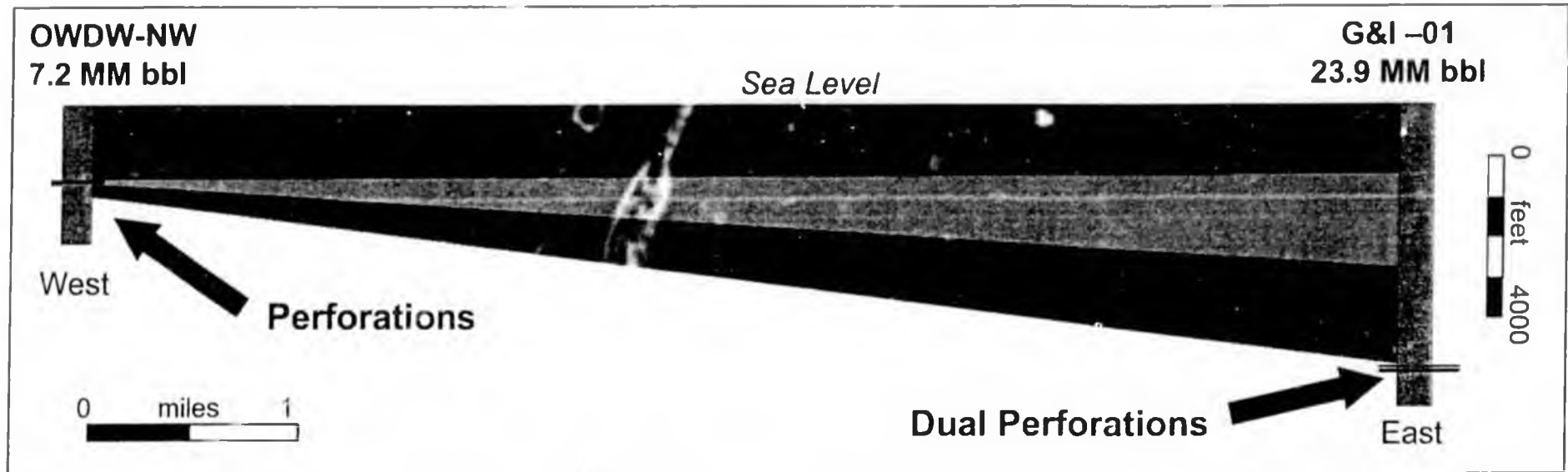
## UIC Situation- Waste of Tax Payer and Industry \$\$ & Time (cont.)

- EPA Class I program-
  - Protects non-existing resource (fresh water)
  - Inefficient permit process; EPA approvals generally much slower than AOGCC.
  - Onerous & costly stipulations concerning well integrity
  - EPA has no permanent onsite field inspectors
  - EPA regulates only 7 out of 1162 UIC wells
  - Costly and remote for EPA

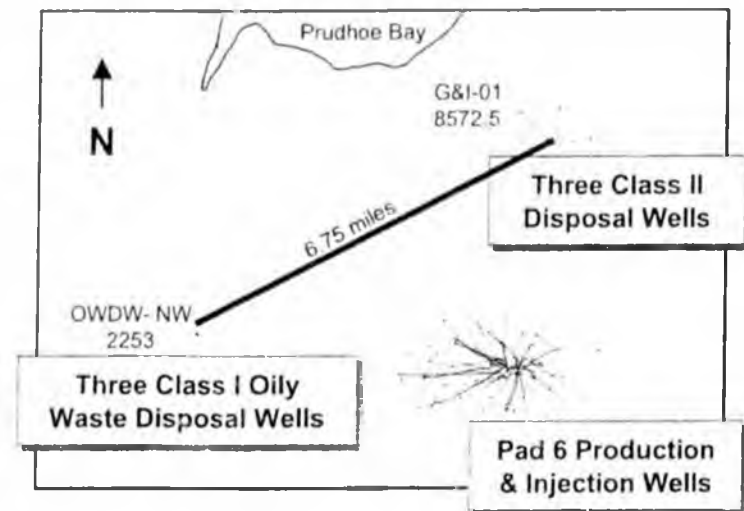
**Temptation to transport waste long distance for surface displacement or disposal in redundant disposal well**



# Confinement Analysis in Prudhoe Bay Unit Class I vs. Class II-D



	OWDW-NW	G&I-01
Permafrost Interval	0-1905'	0-1800'
Confining Interval	1905-1980'	1800-4200'
Injection Interval	1980-2253'	4270-6750'
Perforations	1980-2005'	6415-6422' 6505-6527'



# Confusion- Fluids Eligible for Class II

- EPA position
  - fluids that have been down hole
  - generated by contact with oil & gas production stream during removal of produced water or other contaminants
- Wastes “directly associated”; “intrinsically derived from”; “associated with”; “uniquely associated”?
  - Interpretive; contrary to logic
    - Cement rinsate; unused fluids; camp wastes
- Room for exceptions? On what basis?
  - EPA position – no; rules do not provide for exceptions
  - AOGCC – should be
    - uniqueness of NS ops; environmental preference; no USDWs; freshwater protection mandate for AK; SDWA and UIC

# Class I and Class II Examples

- Alpine UIC compliance cost (per barrel fluid disposed)
  - Class I: \$2.50
    - \$100k to operate
  - Class II: \$1.50
  - Difference is integrity demonstrations, reporting
- Prudhoe Bay field comparison
  - Grind and Inject Facility – Class II
    - AOGCC
  - Oily Waste Disposal Wells – Class I
    - EPA

# Options/Solutions

AOGCC working with EPA Region 10

- Business as Usual
  - No effort expended to change status quo
  - Confusion
  - Costly to tax payer and industry
  - Redundant
  - Inefficient approval process
  - Not Operator preference

# Options/Solutions (Cont.)

AOGCC working with EPA Region 10

- AOGCC primacy over EPA oversight- 2 well classes- SB103
  - Less industry confusion
  - Saves industry and tax payer \$\$
- One class of well for all disposal- overseen by AOGCC- need statute & ruling by EPA
  - Less energy used for waste determination and tracking
  - Less industry confusion greatly
  - Saves industry and tax payer \$\$

Senate Resources

February 28, 2005

**SB 103 Packet - materials**

- Bill (1 page)
- Fiscal Note ADM (1 page)
- Power Point Presentation is too big a file to send – a color set will be handed out at meeting

NOTE: It is not expected that the bill will be moved at this meeting. Dan Seamont will be doing to the power point presentation.

SENATE BILL NO. 103

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-FOURTH LEGISLATURE - FIRST SESSION

BY THE SENATE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

Introduced: 2/14/05  
Referred: Resources, Finance

A BILL

FOR AN ACT ENTITLED

1 " **to** Act relating to regulation of underground injection under the federal Safe Drinking  
2 Water Act; and providing for an effective date."

3 **BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

4 \* **Section 1.** AS 31.05.030(h) is amended to read:

5 (h) The commission may take all actions necessary to allow the state to  
6 acquire primary enforcement responsibility under 42 U.S.C. 300h-1 and 42 U.S.C.  
7 300h-4 (Safe Drinking Water Act of 1974, as amended, 42 U.S.C. 300f - 300j-26  
8 [42 U.S.C. 300f - 300j]), for the control of underground injection related to the  
9 recovery and production of oil and natural gas and the control of underground  
10 injection in Class I wells as defined in 40 C.F.R. 144.6, as amended.

11 \* **Sec. 2.** This Act takes effect immediately under AS 01.10.070(c).

# FISCAL NOTE

**STATE OF ALASKA**  
**2005 LEGISLATIVE SESSION**

Fiscal Note Number: 1  
 Bill Version: SB 103  
 (S) Publish Date: 2/14/05

Revision Date/Time (Note if correction): \_\_\_\_\_ Dept. Affected: Admin  
 Title: Underground injection under the RDU: Oil & Gas Conservation Commissione  
Federal safe drinking water Component: Oil & Gas Conservation Commissione  
 Sponsor: Rules Committee  
 Requester: Governor Component No: 2010

**Expenditures/Revenues** (Thousands of Dollars)

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

OPERATING EXPENDITURES	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Personal Services	25.0	25.0	25.0	25.0	25.0	25.0
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
<b>TOTAL OPERATING</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>

<b>CAPITAL EXPENDITURES</b>						
-----------------------------	--	--	--	--	--	--

<b>CHANGE IN REVENUES ( )</b>						
-------------------------------	--	--	--	--	--	--

**FUND SOURCE** (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other 1162 AOGCC Receipts	25.0	25.0	25.0	25.0	25.0	25.0
<b>TOTAL</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>

Estimate of any current year (FY2005) cost: 00  
 Mark this box (X) if funding for this bill is included in the Governor's FY 2006 budget proposal:

**POSITIONS**

Full-time						
Part-time						
Temporary						

**ANALYSIS:** (Attach a separate page if necessary)

Will take 10% inspection time (\$9.0) and 10% Petroleum Engineer (\$16.0). The impact will be covered by overtime.

Prepared by: Daniel Seamount, Commissioner Phone: 907-793-1221  
 Division: Alaska Oil & Gas Conservation Commission Date/Time: 1/28/05 1:13 PM  
 Approved by: Michael Tibbles, Deputy Commissioner Date: 1/28/2005  
 Agency: Department of Administration

Senate Resources

February 28, 2005

**Confirmation - materials**

- Resume (2 pages)
- Confirmation Report (1 page)

NOTE: The motion to move from committee is:

Move to forward Daniel Seamount's name as Commissioner of the Alaska Oil and Gas Conservation Commission to the full Senate for confirmation.

**RESUME**

**DANIEL TAYLOR SEAMOUNT Jr.**

**State of Alaska Professional Geologist License #507**

**AIPG Certified Professional Geologist #10425**

**State of Texas Professional Geologist- #3182**

**WORK EXPERIENCE:**

Alaska Oil & Gas Conservation Commission, 2/14/00 to Present

Title: **Commissioner (Geologist Seat)**

Duties: Help manage State Oil & Gas Conservation Commission (AOGCC) whose mission is to protect the public interest in exploration and development of oil and gas resources throughout Alaska. Main emphasis is regulation of underground drilling and reservoir development operations to ensure conservation of resources, protection of drinking water, and protection of correlative rights. Associated with full range of petroleum geology, reservoir engineering, and drilling engineering of the states exploration areas and oil and gas fields. Exploration activity mainly includes Cook Inlet and North Slope. Participate in numerous hearings and incident investigations. Write conservation, disposal, area, and storage injection orders. Help in managing the Class II Underground Injection Control (UIC) program as authorized by the U.S. Environmental Protection Agency. Worked on multi-agency task force to develop regulations and policies to ensure protection of underground sources of drinking water in areas of coal bed methane development. Periodically advise and make presentations to the State Legislature and Governor's office concerning AOGCC duties and legislation.

Union Oil Co. of Ca., 2/8/93 to 2/14/00

Title: **Senior Advising Geologist**

Duties: For one year evaluated North Slope Oil Fields and prospects. For 3 1/2 years explored for hydrocarbons in Cook Inlet Basin on both regional and specific prospect levels. Worked on prospects in the offshore, Matanuska Valley, South Cook Inlet, Susitna Basin and west side and east side areas. Mapped the base of fresh water section in Matanuska Valley for water disposal (UIC) well permits. Was project manager of the Matanuska Valley Coal Bed Methane project. For 3 1/4 years prior, was project manager and Team leader of a group which exploited development, exploration, and business opportunities in Cook Inlet and Alaska North Slope. Heavily involved in planning and budgeting wells and forming partnerships. Made numerous written and oral presentations to management and partners to update them on project progress and presented to state agencies (DNR & AOGCC) to form units, drilling PA's, spacing exceptions, and plans of operations. Proficient in Landmark's Stratworks, Petroworks, and Seisworks packages.

Union Oil Co. of Ca., 5/16/88 to 2/8/93

Titles: **District Development Geologist: 8/89 to 2/93**

**Geologist: 5/88 to 8/89**

Duties: Supervised and worked development and exploration geology of UNOCAL operated properties in the San Juan, Paradox, and Piceance Basins. Exploited tight sandstone reservoirs (27 wells), coal seam gas (57 wells), and conventional sandstone and carbonate oil and gas reservoirs. Horizontal, deviated, and vertical well bores were utilized. Additional work included managing geological contractors; progress reporting of drilling programs and field mapping. Presented San Juan Dakota reservoir characterization results to NM State O&G Comm. in approval process of tight gas sands unit designation. Worked with Utah O&G Comm. in forming Lisbon Field Unit. Presented to numerous potential partners and was on a

team which sold Unocal's alternative fuel tax credit to outside investors.

Marathon Oil Co., 7/13/81 to 5/16/88

**Titles: Staff Geologist: 1986 to 1988**

**Project Supervisor: 1984 to 1986**

**Geologist: 1981 to 1984**

**Duties:** Oil and gas prospecting in the D-J Basin (one Paleozoic discovery), the Green River Basin (assisted in two Moxa Arch Frontier and Dakota gas discoveries and one sub-economic oil well), the Las Animas Arch (a number of Morrow Prospects on hold), and the central Kansas uplift (Pennsylvanian basal ss and Lansing- Kansas City Fm.). Work included regional & local mapping of structures, thickness', and facies of Rocky Mountain petroleum reservoirs and presentation of prospects to management. Was expert witness in Nebraska lawsuit between Marathon and KN Energy.

Chevron U.S.A. Inc., 8/18/73 to 1/3/79

**Titles: Geologic Assistant: 1975-1979**

**Computer Analyst : 1973-1975**

**Duties:** Utilized geologic and geophysical computer programs. Performed well site work and prospect generation in California onshore and offshore. Correlated logs and generated structure and isopach maps. Witnessed logging runs, DST's, production tests, coring, and fracture stimulations.

**EDUCATION:**

**M.S. - Ceology, 6/81, University of CA, Riverside, CA.**

Emphasis on geothermal development and exploration. Thesis titled, " Well Log Study of the Hydrothermally Altered Sediments of Cerro Prieto Geothermal Field, Baja California, Mexico".

**B.S. - Geology, 5/73, University of CA, Riverside**

# ALASKA STATE LEGISLATURE



Official Business

## SENATE RESOURCES COMMITTEE

Senator Tom Wagoner, Chair

State Capitol, Room 427

Juneau, AK 99801-1182

Phone: (907) 465-4907 Fax: (907) 465-4779

Senator Ralph Seekins, Vice-Chair

Senator Ben Stevens

Senator Kim Elton

Senator Fred Dyson

Senator Bert Stedman

Senator Gretchen Guess

---

### REPORT ON CONFIRMATION OF APPOINTMENTS

February 28, 2005

The Honorable Ben Stevens  
President of the Senate  
State Capitol  
Juneau, Alaska 99801-1182

Dear President Stevens:

In accordance with AS 39.05.080, the Senate Resources Committee reviewed the following and recommends the appointment be forwarded to a joint session for consideration

(insert boards/or if commissioner, name of dept. and nominee names here)

There were no stated objections to the confirmation of the named individual(s) by committee members. This does not reflect an intent by any of the members to vote for or against the individual during any further sessions.

Respectfully,

\_\_\_\_\_  
Senator Tom Wagoner, Chair

\_\_\_\_\_  
Senator Ralph Seekins, Vice-Chair

\_\_\_\_\_  
Senator Fred Dyson

\_\_\_\_\_  
Senator Kim Elton

\_\_\_\_\_  
Senator Burt Stedman

\_\_\_\_\_  
Senator Ben Stevens

# ALASKA STATE LEGISLATURE



Official Business

## SENATE RESOURCES COMMITTEE

**Senator Tom Wagoner, Chair**

State Capitol, Room 427

Juneau, AK 99801-1182

Phone: (907) 465-4907 Fax: (907) 465-4779

Senator Ralph Seekins, Vice-Chair

Senator Ben Stevens

Senator Kim Elton

Senator Fred Dyson

Senator Bert Steedman

Senator Gretchen Guess

---

DATE: March 4, 2005

RE: SB 103: OIL & GAS: REG. OF UNDERGROUND INJECTION

---

The issue of having AOCGG in charge of all wells was raised at the February 28<sup>th</sup> meeting (Monday).

The attached Letter of Intent is provided to remedy concerns raised by that issue.

Mary Jackson

# ALASKA STATE LEGISLATURE



Official Business

## SENATE RESOURCES COMMITTEE

Senator Tom Wagoner, Chair

State Capitol, Room 427

Juneau, AK 99801-1182

Phone: (907) 465-4907 Fax: (907) 465-4779

Senator Ralph Seekins, Vice-Chair

Senator Ben Stevens

Senator Kim Elton

Senator Fred Dyson

Senator Bert Stedman

Senator Gretchen Guess

---

### Letter of Intent

#### **SB 103: OIL & GAS: REG. OF UNDERGROUND INJECTION**

March 7, 2005

It is the intent of the Legislature that state agencies with relevant expertise and experience, contribute appropriately to the regulation of Class I injection wells. The Legislature recognizes that all Class I wells to date in Alaska have been used in the oil and gas industry and that the Alaska Oil and Gas Conservation Commission is clearly the appropriate agency to regulate these and any future Class I wells used in the oil and gas industry. In the event that Class I wells are proposed for other uses, the Legislature should have a timely opportunity to consider the potential role of other regulatory agencies. Therefore, it is the intent of the Legislature that if an application for a Class I well not associated with oil or gas operations is received by the Alaska Oil and Gas Conservation Commission, the Commission shall immediately provide a copy to the Legislature, so as to enable the Legislature to consider appropriate action.

**DRAFT**