

CONFIRM.

J. DAVID

NORTON

AK O&G

CONSERV.

COMMIS.



OFFICIAL BUSINESS

Alaska State Legislature
Senate
Office of the Secretary

STATE CAPITOL
JUNEAU, ALASKA 99801-1182
(907) 465-3701
FAX 465-2832

January 30, 1996

MEMORANDUM

TO: Senator Leman, Chair
Resources Committee

FROM: Nancy Quinto *NQ*
Secretary of the Senate

SUBJECT: Governor's Confirmations

Pursuant to AS 39.05.080, President Pearce has referred the following name for legislative confirmation to your committee for a hearing, recommendation and report:

Alaska Oil and Gas Conservation Commission
J. David Norton, P.E. - Anchorage
Appointed: 11/20/95; Expires: 12/31/00

NQ/vw

Resume attached

GOVERNOR APPOINTS ENGINEER TO ALASKA OIL & GAS CONSERVATION COMMISSION

Governor Tony Knowles today appointed David Norton of Anchorage as the third member of the Alaska Oil & Gas Conservation Commission. "David Norton brings 20 years of Alaska engineering experience to this commission and I welcome his expertise and enthusiasm," Knowles said.

The commission regulates everything from development and production of oil and gas drilling to recovery of hydrocarbon resources. The governor selects the commissioners who serve for six years.

"The North Slope has produced more than 10 billion barrels of oil and additional barrels are becoming more difficult to extract," Norton said. "With gas sales on the horizon, the commission's work will become more complex. I'm excited and honored to be selected to serve and I look forward to the challenge of guiding the efficient use of the state's oil and gas."

Norton is currently Haskell Corporation's project manager for a \$20 million fueling facility for a group of airlines at the Anchorage International Airport. Norton has previously worked for Alyeska Pipeline Service Company as manager of engineering and a project manager. During his 15 years of work with Alyeska, Norton supervised pipeline integrity monitoring and managed expansion of the Valdez Terminal ballast water treatment plant. Norton served as Anchorage's municipal engineer in the mid 1980s.

Norton has a degree in civil engineering from Rice University, is a registered professional engineer in Alaska, a member of the American Society of Civil Engineers and the National Association of Corrosion Engineers. Norton has served on the state's Water Resources Board for the last four years.

Norton replaces Russell Douglass whose term expired at the end of 1994. Norton begins work November 20, 1995 and will earn approximately \$78,000 annually.

Return to the October listing of Press Releases.

Posted by: R. Welton, 10/17/95, Alaska State Library

**STATE OF ALASKA
ALASKA OIL AND GAS CONSERVATION COMMISSION**

Commissioners: David W. Johnston, J. David Norton, P.E., Tuckerman Babcock

History

The Alaska Oil and Gas Conservation Act (1955) created the Alaska Oil and Gas Conservation Commission. The Commission was composed of the Governor of the Territory of Alaska, the Territorial Commissioner of Mines, and the Territorial Highway Engineer. Rules and regulations governing Commission activities became effective on October 1, 1958.

Under the State Organization Act of 1959, the Oil and Gas Conservation Commission was abolished, its function and authority transferred to the Department of Natural Resources, Division of Mines and Minerals. A group within the department was designated to hold hearings and issue decisions on oil and gas matters. This group was the Alaska Oil and Gas Conservation Committee which consisted of the Director of the Division of Mines and Minerals (Chairman), the State Petroleum Geologist, the State Petroleum Engineer, and the Deputy Commissioner of the Department of Natural Resources.

In 1968 the Division of Oil and Gas was created within the Department of Natural Resources. The new division arose from the Petroleum Branch of the Division of Mines and Minerals. The Alaska Oil and Gas Conservation Committee was placed within the new division, and consisted of the Director, Chief Petroleum Geologist and Chief Petroleum Engineer. In 1978 the word "conservation" was added to the division's title, and it became the Division of Oil and Gas Conservation.

With the advent of production from Prudhoe Bay in 1977, the Legislature became concerned that there was the appearance of a conflict of interest with the Department of Natural Resources, an owner of oil and gas rights, also acting as the regulator of other owners of oil and gas rights. To obviate its concern, the Legislature amended AS 31.05 by Chapter 158, SLA 1978 to restore the Commission, effective January 1, 1979, as an independent quasi-judicial agency within the executive branch of the state. Initially, the new Commission was housed within the Department of Natural Resources, but in 1980 it was transferred to the Department of Commerce and Economic Development. More recently, Governor Hickel transferred the Commission to the Department of Administration on February 17, 1994.

The Commission continues to function as the regulatory agency overseeing the underground operation of the Alaska oil industry on private and public lands and waters. Its responsibilities include regulating drilling and production of oil and gas to ensure that physical waste does not occur, protecting the correlative rights of mineral interest owners, insuring maximum ultimate resource recovery and managing the Class II Underground Injection Control (UIC) program for oil and gas wells in Alaska as authorized by the U. S. Environmental Protection Agency on June 19, 1986.

The Commission compiles and maintains a data bank of drilling, production and reservoir statistics, including information on oil production, associated gas production, non-associated gas production, and injection volumes on an individual well, pool and field basis. Other data includes drilling permits, well histories, well logs, and public hearings testimony. The Commission also monitors oil and gas reservoir depletion in Alaska. A reservoir surveillance system allows the Commission to provide other state agencies with detailed reservoir information, including production decline estimates.

An inspection arm of the Commission oversees drilling rig blowout prevention equipment tests and other safety requirements of oil and gas exploration and production.

STATE OF ALASKA
ALASKA OIL AND GAS CONSERVATION COMMISSION

Overview of Statutory Responsibilities and Functions

The Alaska Oil and Gas Conservation Commission is an independent, quasi-judicial agency of the State of Alaska. It is established under the Alaska Oil and Gas Conservation Act, Title 31 of the Alaska Statutes; its regulatory authority is outlined in Title 20, Chapter 25 of the Administrative Code.

The Commission acts to prohibit the physical waste of crude oil and natural gas, ensure maximum ultimate resource recovery, and protect the correlative rights of persons owning oil and gas interest in lands subject to Alaska's police powers. It also administers the UIC program for oil and gas wells in Alaska, and oversees metering operations to determine the quality and quantity of oil and gas produced in the state. The Commission holds hearings and/or adjudicates decisions, which require the combined expertise of geology and reservoir and petroleum engineering.

Physical waste can occur at the surface from the failure of surface and subsurface equipment or below ground from inappropriate reservoir management practices. Surface waste is prevented by reviewing each drilling proposal to ensure proper well design (i.e., casing/tubing program, cement program, casing setting depth, etc.), well control equipment (i.e., mud system, diverter, blowout prevention equipment, etc.), hydrogen sulfide detection equipment, well logging program, production practices, plugging and abandonment procedures, and to check for shallow geohazards and over-pressure zones. The Commission's field inspection staff then verifies that operations are conducted in accordance with approved procedures and regulations.

Waste below ground has the potential for even greater impact to the state's economy since it directly determines the amount of oil and natural gas that will be recovered. It is prevented by ensuring proper reservoir management practices, and hinges on Commission decisions about well spacing, completion techniques, production rates, injection fluid type and rates, injection well pattern, gas/oil/water ratios, and pressure maintenance efforts. Findings and conclusions of the Commission are rendered in pooling rules and conservation orders.

Maximizing ultimate recovery is similar to preventing waste, but requires detailed understanding of the physical parameters of the reservoir (e.g., porosity, permeability, stratigraphy, faulting, reservoir pressure and drive mechanism), and its production performance over time (i.e., production decline curve analysis).

Correlative rights is the right of opportunity to produce an owner's just and equitable share of a reservoir, is generally accomplished by establishing drilling units and by unitized operations of pools and plans of development.

The UIC program requires the Commission to verify the mechanical integrity of injection wells, determine appropriate injection zones and overlying confining strata, determine the presence or absence of freshwater aquifers, ensure their protection, and prepare quarterly reports of both in-house and field monitoring for the U. S. Environmental Protection Agency.

The Commission's metering responsibilities require verification of the accuracy of crude oil sales meters used for royalty and severance tax determinations. In the field, Commission engineers and inspectors monitor water drawing and calibration of volumetric provers, and witness proving operations. Meter factor calculations and fluid volume calculation are verified to ensure that correct temperature and pressure factors were used.

In addition, the Commission also acts as Alaska's jurisdictional agency for the Natural Gas Policy Act as administered by the Federal Energy Regulatory Commission (FERC), and for qualifying enhanced recovery operations under the Windfall Profits Tax Act (1978) for the U. S. Treasury.

The Commission requires reports, data and material from operators ranging from drilling, testing and completion reports, production and injection volumes, well logs, cuttings, cores, maps, cross-sections, pressure and material balance reports, Gas/Oil Ratio reports, ownership and unitization agreements and development plans.

Sec. 31.05.005. Alaska Oil and Gas Conservation Commission created. (a) There is created as an independent quasi-judicial agency of the state the Alaska Oil and Gas Conservation Commission, composed of three commissioners appointed by the governor and confirmed by the legislature in joint session.

(b) The governor shall designate one member of the commission as chairman of the commission. This member shall serve as chairman for a term of four years, but may be appointed for successive terms. (§ 1 ch 158 SLA 1978)

Sec. 31.05.007. Term of office; vacancy; removal. (a) The term of office of each member is six years. The governor shall designate who among the initial appointees shall serve respectively for terms of two years, four years and six years. A commissioner, upon the expiration of a term, shall continue to hold office until a successor is appointed and qualified.

(b) A vacancy arising in the office of a commissioner shall be filled by appointment by the governor and confirmed by the legislature in joint session, and an appointee selected to fill a vacancy shall hold office for the balance of the full term for which the predecessor on the commission was appointed.

(c) A vacancy in the commission does not impair the authority of a quorum of commissioners to exercise all the powers and perform all the duties of the commission.

(d) The governor may remove a commissioner from office for cause including but not limited to incompetence, neglect of duty or misconduct in office. A commissioner, to be removed for cause, shall be given a copy of the charges and afforded an opportunity to be publicly heard in person or by counsel in the commissioner's own defense upon not less than 10 days' notice. If a commissioner is removed for cause, the governor shall file with the lieutenant governor a complete statement of all charges made against the commissioner and the governor's finding based on the charges, together with a complete record of the proceedings. (§ 1 ch 158 SLA 1978)

Sec. 31.05.009. Qualifications of members. Members shall be qualified as follows: one member shall be a licensed professional engineer with educational and professional background in the field of petroleum engineering; one member shall be a geologist with educational and professional background in the field of petroleum geology; one member need not be trained and experienced in the fields of petroleum engineering or petroleum geology. (§ 1 ch 158 SLA 1978)

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Alaska State Legislature

Senate Resources Committee

Official Business

State Capitol
Juneau AK 99801

April 18, 1996

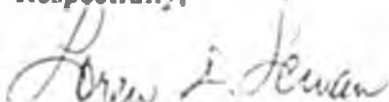
The Honorable Druc Pearce
President of the Senate
State Capitol
Juneau, AK 99801-1182

Dear Madam President:

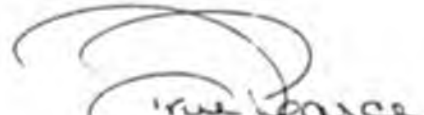
The Senate Resources Committee reviewed the following with regard to confirmation of the Governor's appointment:

Alaska Oil and Gas Conservation Commission
J. David Norton, P.E. - Anchorage
Appointed 11/20/95; Expires: 12/31/00

Respectfully,



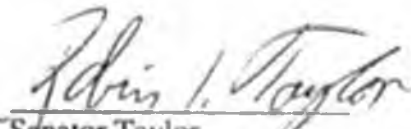
Senator Leman, Chairman



Senator Pearce

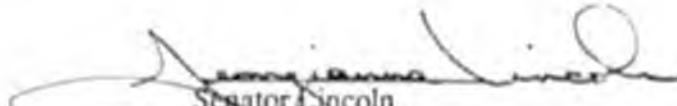
Senator Halford

Senator Frank



Senator Taylor

Senator Hoffman



Senator Lincoln

April 17, 1996

Norton Confirmation Hearing Statement to Senate Resources Committee

Introduction

Mr. Chairman and members of the committee, my name is David Norton. Thank you for inviting me to address the committee. I am sorry I cannot be in Juneau today but the commission is holding hearings this week in Anchorage on Prudhoe Bay's plan of development. I appreciate the committee holding this hearing to consider me for the commissioner's seat.

To refresh the committee on the Alaska Oil and Gas Conservation Commission, I have attached a one-page overview of the commission's responsibilities and functions. I have also attached a one page review of the history of the AOGCC.

The commission's role is to ensure the efficient depletion of the State's hydrocarbon resources. This is accomplished in three ways: preventing waste of the resource, ensuring maximum ultimate recovery of the resource, and protecting correlative rights of adjacent owners of oil and gas properties. These three aspects of the AOGCC's mission are the basis of the term "conservation" as used in oil and gas regulation and are typical of the mission that all petroleum producing states provide through conservation agencies like the AOGCC.

Qualifications

I would like to address my qualifications as commissioner. The commissioner's seat I stand for today is reserved for an Alaskan "licensed engineer with an educational and professional background in the field of petroleum engineering". I believe you have my resume and a letter to Rep. Joe Green submitting additional detail of my qualifications.

After graduation from Rice University, I moved to Alaska in 1974 to work on the trans-Alaska pipeline. For the past twenty-two years, the majority of my career has been associated with design, construction and operation of the pipeline, including facilities for gas handling, refining, and metering. I have significant experience in managing development of complex oil and gas facilities in Alaska. I have been a licensed professional engineer in the state of Alaska since 1984.

I believe a commissioner is best qualified by a range of experience in the oil and gas industry that allows a broad perspective while maintaining an understanding of the technical challenges associated with public policy. There is a difference between technical staff work and the judgment required of a commissioner. The professional staff at the commission includes two petroleum engineers and a petroleum geologist. As do most commissioners and legislators, I will use my technical staff as is appropriate.

I believe I have a unique industry perspective because of my Alyeska pipeline experience. At Alyeska, I was required to obtain financial and technical approvals of the major owners: Arco, BP, and Exxon. As a result, I have intimate knowledge of the companies' various cultures, biases, and procedures. I am the only current commissioner with direct industry experience.

I would like to provide a response to criticism that I do not have appropriate petroleum engineering background for this seat.

Petroleum engineering is such a broad category that no one could claim experience in all areas under the commission's purview. Petroleum engineering can be viewed as encompassing three broad areas. It covers reservoir characteristics and petrophysics. It covers drilling and recovery techniques. And it covers surface equipment, processes and delivery. My background is in the area of surface equipment, processes and delivery.

The statute does not specifically require a licensed petroleum engineer. If the intent of the statute was to reserve the seat for licensed petroleum engineers, then according to state records only a small pool of about twenty people would be qualified, some of whom may have conflicts because of their employment. I am a licensed civil engineer with significant background in the oil and gas industry in Alaska.

I believe I am a good fit with the current commissioners and staff. We are working well together and I would like to apprise you of some current initiatives that I believe we should and can accomplish at the commission.

Initiatives

1. Regulation Revision

We are in the process of completing the first comprehensive revision of our regulations since 1986. The focus is on streamlining technical and procedural requirements for drilling and reservoir management. AOGA is a key industry partner in this effort. We are deleting obsolete requirements and providing less prescriptive regulations to allow more latitude to regulate rapidly changing oilfield techniques. We are anticipating new requirements for abandoning offshore platforms in Cook Inlet. The first phase was completed this quarter and we hope to adopt the finished set this summer.

2. Alaska Energy Infobank

The Infobank is an exciting joint industry and government initiative championed by Arco and BP that puts non-proprietary private and public petrotechnical data on a common shared database. The prize is significant cost savings in not maintaining duplicate sets of data. Since the AOGCC is the primary state archive of well and production data, there are opportunities and challenges for the commission to be more efficient at less cost. I am on the Infobank Steering Board, along with representatives of Arco, BP, Exxon, Unocal and DNR. For more information on the Infobank see the website at: <http://www.alaska.net/~infobank/index.html>

3. Budget Discipline

The commission is committed to efficient use of state funds, including the Oil and Gas Conservation Tax, to monitor safe oilfield practices and to promote maximum recovery of the state's petroleum resources. To gain the efficiencies to live within our means, we are evaluating several options, including moving facilities to reduce cost and share infrastructure, sharing resources with other agencies, and upgrading technology to take advantage of opportunities to cut costs.

In closing, I would like to use an analogy I picked up at the annual petroleum industry Alliance meeting last January. Dick Olver, John Morgan's boss at BP, had flown in to give his assessment of the state of the industry in Alaska. He spoke about a metaphorical bridge between today and tomorrow by comparing it to a real bridge over the Gulkana River. The real bridge was a critical link in the completion of the trans-Alaska pipeline and required extraordinary innovation, teamwork and cooperation to complete on time.

Mr. Olver said that the girders of the metaphorical bridge will be marginal oil fields developed with new emerging technologies. This bridge will require the same extraordinary efforts used on the Gulkana bridge and will span today's gap between Prudhoe Bay and future opportunities such as ANWR and a gas pipeline.

I worked on that Gulkana bridge twenty years ago as a young engineer. Now, as a more seasoned bridge builder, I look forward to working on today's bridge to tomorrow. Thank you.



08/28/95

J. DAVID NORTON, P.E.
1208 "S" Street
Anchorage, AK 99501
(907) 276-2530

EXPERIENCE

1995-Present HASKELL CORPORATION, Bellingham, Washington

Project Manager:

Managing construction of \$20 million fueling facility at Anchorage International Airport for a consortium of cargo airlines. Facility includes tank farm, pipelines, Pump Station/Filter System, and fire suppression and control systems.

1988-1995 ALYESKA PIPELINE SERVICE COMPANY, Anchorage, Alaska

Manager of Engineering/Engineering Supervisor:

Managed transition of 200-person technical staff to smaller, leaner organization that met reduced expectations of pipeline throughput. Supervised pipeline integrity monitoring and corrosion mitigation program that focused on "fit-for-service" life-cycle planning for pipeline maintenance and repair. Maintained technical standards as the Design Authority for the company. Primary technical interface with regulators.

Project Manager: Ballast Water Treatment System Expansion

Managed permitting, design, and construction of \$40 million expansion of Valdez Marine Terminal Tankership Ballast Water Treatment System to meet terms of National Pollution Discharge Elimination System (NPDES) Permit. Completed on time and within budget expectations.

1985-1988 MUNICIPALITY OF ANCHORAGE

Municipal Engineer, Department of Public Works:

Manager of engineering division, \$6.5 million operating budget, 100-person staff. Responsible areas included: planning, design and construction of \$50 million/year capital improvement program, including roads, drainage, water quality, and traffic control; development of an automated mapping/facility management (AM/FM) system with an installed value of \$3.5 million; management of the private development/land use/subdivision process; and oversight of the traffic management system.

J. DAVID NORTON, P.E.

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1977-1985 ALYESKA PIPELINE SERVICE COMPANY, Anchorage, Alaska

Project Supervisor:

Provided project management for several pipeline/pump station repair and renovation projects, including a \$25 million above-ground pipeline reroute; a \$4 million line-wide pipeline corrosion study; installation of a pump station naphtha fuel conversion system; a line-wide fire foam system expansion; and rehabilitation of a fuel gas compressor/flare system.

Pipeline and Civil Supervisor:

Directed maintenance contractors in installation, operation, and repair of mainline pipe and appurtenances, including a fuel gas pipeline, drainage and river training structures, roads, and airports. Supervised hazardous waste spill response and clean-up in accordance with RCRA requirements within a 100-mile pipeline section.

Civil Engineer:

Responsibilities and projects included: geotechnical evaluation and foundation design for buildings, towers, and other pipeline facilities; thermal analysis of frozen soils relating to pipeline support; utilities delivery design for remote worker housing; and structural design and evaluation of pipeline components.

1974-1977 MICHAEL BAKER ENGINEERS, Fairbanks, Alaska

Field Engineer: Trans-Alaska Pipeline Project

Duties included: access road design and mineral material site planning; coordination of survey control for above-ground pipeline system; and supervision of construction engineering for above-ground pipe supports.

REGISTRATION: Professional Engineer: Alaska CE6253; Texas 58028 (inactive)

EDUCATION: RICE UNIVERSITY, Houston, Texas
Bachelor of Science in Civil Engineering, 1974

COMMUNITY: Member, Alaska State Water Resources Board
Former Member, Anchorage Public Transit Advisory Board
Member, Gov. Knowles Transition Team - Transportation

PROFESSIONAL: Member, American Society of Civil Engineers
Member, National Association of Corrosion Engineering
Member, Alaska Pipeline Builders Association

References available upon request.

Alaska State Legislature

AMLE 11-11-95 04
CAPITOL BUILDING
JUNEAU, ALASKA 99801-1007
907-586-2111
907-586-2114 FAX

STATE ADDRESS
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ANCHORAGE, ALASKA 99501
907-263-8138
907-263-8111 FAX



FINANCE POLICIES COMMITTEE
OFF CHAIR JUDICIARY COMMITTEE
MEMBER STATE AFFAIRS COMMITTEE

FINANCE SUBCOMMITTEES
DEPT. OF NATURAL RESOURCES
DEPT. OF COMMERCE & ECONOMIC DEVELOPMENT
DEPT. OF ENVIRONMENTAL CONSERVATION

Representative Joe Green

District 12

November 7, 1995

The Honorable Tony Knowles
Governor of Alaska
State Capitol Building
Juneau, Alaska 99811

Governor Knowles:

Tony
It has come to my attention that you have appointed Mr. J. David Norton to a position on the Alaska Oil & Gas Conservation Commission (AOGCC) currently held by a registered professional petroleum engineer.

I have never met Mr. Norton, and certainly hold nothing against him personally. However, after reviewing his resume, I have grave concerns about his lack of qualifications for this position.

The statute establishing qualifications for AOGCC commissioners (AS 31.05.009) is very clear, as is the legislative intent reflected by the legislative record. Every version of the bill that created the commission required the seat to which Mr. Norton has been appointed to be filled by "a licensed professional engineer with educational and professional background in the field of petroleum engineering."

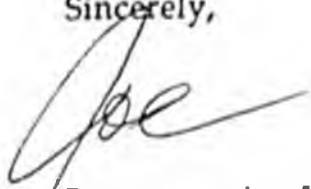
It is imperative from a safety, as well as a resource conservation standpoint, that the person filling the petroleum engineering position be proficient in subsurface hydrocarbon reservoir mechanics and the highly specialized technology required to analyze the design of drilling, completing, and producing oil and/or gas wells. The required level of expertise is only acquired through specific course study supplemented by actual field experience. As you learned during your days as a rig hand, drilling and completing oil and/or gas wells requires a specialized knowledge, skill, and implementation of proper safety precautions.

Governor Tony Knowles
November 7, 1995
Page 2

There is no single "blue print" or "go by" for this requirement as each well presents its own unique set of conditions. Mr. Norton is clearly deficient in this regard.

For the above reasons I cannot support, and feel compelled to oppose, Mr. Norton for the position to which you have appointed him.

Sincerely,

A handwritten signature in cursive script, appearing to read "Joe", written in dark ink.

Representative Joe Green, Co-Chairman
House Resources Committee

cc: Members, 19th Alaska Legislature

ALASKA OIL AND GAS CONSERVATION COMMISSION

3001 PORCUPINE DRIVE
ANCHORAGE, ALASKA 99501-3192
PHONE: (907) 279-1433
FAX: (907) 278-7542

February 14, 1996

Representative Joe Green
Room 24 State Capitol
Juneau, AK 99801

Dear Representative Green:

Thank you for meeting with me to discuss my appointment to the Alaska Oil and Gas Conservation Commission. As we discussed, I am providing you with additional information on my educational and professional background in the field of petroleum engineering.

I received a B.S. in Civil Engineering from Rice University in 1974. I have previously provided a transcript of my undergraduate academic record at Rice to Jack Chenoweth, at his request. Rice does not offer a degree program in petroleum engineering. However, the field of petroleum engineering is derived from the major engineering branches of Mechanical, Chemical, and Civil, and the principal sciences of Geology, Materials Science, Mathematics, Computer Sciences, Physics, and Chemistry. I have completed coursework at Rice in all of these disciplines except for Chemical Engineering.

My relevant post-undergraduate work includes Arctic Engineering credit from the University of Alaska Anchorage and NACE certification in corrosion engineering and cathodic protection/coatings inspection. I have also received significant training in Safety, Loss Control, Risk Management, and Quality Assurance in the oil and gas industry in Alaska.

In response to your concern about my educational background, I have engaged additional formal and informal coursework in reservoir engineering and drilling practices. Formal coursework includes (see attached course outlines for content):

University of Texas Austin "Basic Reservoir Engineering for the Oil and Gas Professional" 3.0 Continuing Education Credits

University of Alaska Fairbanks "Introduction to Drilling and Production"
PETE 205 (audit)

MMS Well Control/Safety Certification, including drilling simulator

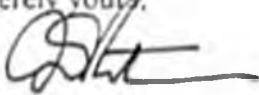
Rep. Green
2/14/96
page 2

I am also a member of the Society of Petroleum Engineers and avail myself to continuing educational and professional development opportunities afforded by membership in the Society

My professional background includes management of highly technical projects and programs in pipelines and process facilities supporting North Slope development, and significant experience in regulatory affairs, including industrial wastewater treatment permitting and approval of "smart pigging" programs by regulators. I was Manager of Engineering at Alyeska Pipeline and was the single, designated Design Authority in the Alyeska Integrity Management System. I am also a member of the Alaska State Water Resources Advisory Board.

In summary, I believe my educational and professional background covers a significant portion of the oil and gas industry in Alaska, and I have endeavored to expand my knowledge base into the remaining areas of the Commission's responsible charge. I hope this information helps your understanding of my qualifications. If you have additional questions, I will be pleased to oblige.

Sincerely yours,



J. David Norton, P.E.
Commissioner

attachments

cc: Pat Pourchot, Office of the Governor
Senator Loren Leman, Chairman, Senate Resources Committee
John B. Chenoweth, Legislative Affairs Agency

The University of Texas at Austin
College of Engineering

presents

a 5 day short course

Basic Reservoir Engineering
for the
Oil and Gas Professional

January 8 - 12, 1996

Presented by

Petroleum & Geosystems Engineering Department

Administered by

Continuing Engineering Studies

UT ΔJSTW

Schedule

January 8, 1996 (Monday)

8:30 am	Welcome - Mike Jackson, Introductory remarks - Mark Miller
10:00 am	Break
10:15 am	Nature of petroleum reservoirs
11:45 am	Lunch
1:15 pm	Properties of petroleum reservoir fluids
2:45 pm	Break
3:00 pm	Properties of petroleum reservoir fluids (cont.)
4:30 pm	Adjourn

January 9, 1996 (Tuesday)

8:30 am	Properties of petroleum reservoir rocks
10:00 am	Break
10:15 am	Properties of petroleum reservoir rocks (cont.)
11:45 am	Lunch
1:15 pm	Volumetric determination of initial oil and gas in-place
2:45 pm	Break
3:00 pm	Natural drive mechanisms and recovery factors
4:30 pm	Adjourn

January 10, 1996 (Wednesday)

8:30 am	Material balance
10:00 am	Break
10:15 am	Reserves
11:45 am	Lunch
1:15 pm	Flow of fluids in reservoirs
2:45 pm	Break
3:00 pm	Flow of fluids in reservoirs (cont.)
4:30 pm	Adjourn

January 11, 1996 (Thursday)

8:30 am	Pressure transient testing of oil and gas wells
10:00 am	Break
10:15 am	Pressure transient testing of oil and gas wells (cont.)
11:45 am	Lunch
1:15 pm	Deliverability testing of oil and gas wells
2:45 pm	Break
3:00 pm	Rate vs. time forecasting
4:30 pm	Adjourn

January 12, 1996 (Friday)

8:30 am	Decline curve analysis
10:00 am	Break
10:15 am	Reservoir simulation
11:45 am	Lunch
1:15 pm	Enhanced oil and gas recovery
2:45 pm	Break
3:00 pm	Enhanced oil and gas recovery (cont.)
4:30 pm	Adjourn

U.A.F.

PETE 205: COURSE OUTLINE (SPRING 1996)

- Week 1 (1/23, 1/26) - Introduction to early days of oil activities, Geology of Pet. Reservoirs.
- Week 2 (1/30, 2/2) - Drilling Practices
- Week 3 (2/6, 2/9) - Drilling Fluids
- Week 4 (2/13, 2/16) - Drilling Problems dependent on drilling fluid control
- Week 5 (2/20, 2/23) - Drilling Hydraulics
- Week 6 (2/27, 3/1) - Well Control and BOP, Casing Program
- Week 7 (3/5) - Cementing - 3/2
(3/8) - Mid-Semester Exam - 3/5 @ BA
- Week 8 (3/12, 3/15) - SPRING BREAK
- Week 9 (3/19, 3/22) - Early Production Methods, Field Development
- Week 10 (3/26, 3/29) - Formation Evaluation (logging, core, etc)
- Week 11 (4/2, 4/5) - Completing the well
- Week 12 (4/9, 4/12) - Well testing, Production Concepts
- Week 13 (4/16, 4/19) - Production Methods, Improved Recovery Techniques
- Week 14 (4/23, 4/26) - Surface Production Equipment
- Week 15 (4/30, 5/3) - Production Problems & Workover Operations, Stimul. Methods
- Week 16 (5/7) - FINAL EXAM



STATE OF ALASKA

TONY KNOWLES, GOVERNOR

DEPARTMENT OF EDUCATION

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CURRICULUM FOR 32 HOUR MMS CLASS

FIRST DAY

Morning:

- Intro
- Formation pressures
- Causes of kicks
- Warning signs of kicks
- U - tube concept
- Pressure relationships - HP, SIDPP, SICP, HP loss due to influx
- Indicators of changing formation pressures
- Shut-in procedures
- Circulating pressures, ECD, slow pump rates and choke line friction if necessary
- Constant bottom hole pressure methods - drillers, wait & weight, concurrent

Afternoon:

- Boyles gas law - regarding expansion of gas during migration vs. circulating
- Wait & Weight method of well control - kill sheet
- Necessary math

SECOND DAY

Morning:

- MMS regs - Federal guidelines for drilling on leases
- Review constant bottom hole methods - advantages/disadvantages

Afternoon:

- Diverter operation
- Leak-off tests/formation integrity tests
- Pressure on the shoe
- Surface pressure limitations
- Riser displacement - if necessary
- Removal of stack gas - if necessary

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To <i>James Thompson</i>	From <i>Brian</i>		
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THIRD DAY

Morning:

- Tripping
- Correct fill
- Trip margin/overbalance
- HP loss pulling pipe and not filling the hole
- Kicks with pipe off bottom
- Safety valve/inside dart valve
- Stripping using bag or rams

Afternoon:

- Difference between gas/water kicks
- Volumetric well control
- Lubrication
- Lost circulation

FOURTH DAY

Morning:

- Horizontal well control
- Completion activities
- Review

Afternoon:

- Testing - written and simulator

Simulator is used twice a day. Slides and videos also shown periodically to emphasize topics