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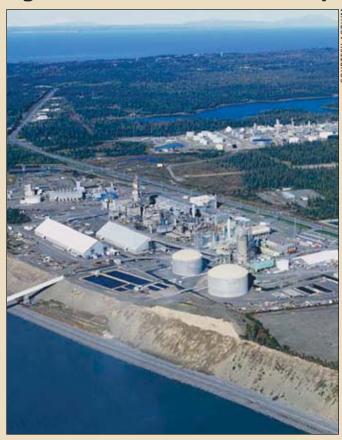
page ConocoPhillips Alaska pulls Beaufort, **11** Chukchi seismic permit applications

Vol. 12, No. 9 • www.PetroleumNews.com

A weekly oil & gas newspaper based in Anchorage, Alaska

Week of March 4, 2007 • \$1.50

Agrium, Alaska Railroad team up



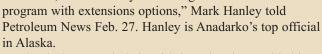
In page 12 story Tim Johnson updates Alaska Legislature on Agrium's Kenai Blue Sky project, which would use gasified coal as feedstock to replace gas for Nikiski fertilizer plant. In addition to being involved as a coal transporter, Alaska Railroad is looking at the role of financier, using its ability to generate tax-free bonds to finance a portion of the

Anadarko orders new rig for Foothills gas drilling; Canada on guard against LNG tankers; Popp takes Poe's spot at AEDC

PARTNERS ANADARKO

PETROLEUM, BG Group and Petro-Canada have ordered a new rig and remote camp from Nabors Alaska Drilling for a multi-year drilling program on shared acreage in the gasprone Brooks Range Foothills.

Nabors Rig 105 and the camp will be owned and operated by Nabors, but are being built at the request of the operator of the Foothills partnership Anadarko, "for a multi-year drilling



The rig is currently being fabricated and assembled in Alberta and both the rig and camp will be delivered to Deadhorse on the North Slope by December in time for

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9 TAPS switches to 21st century: Pump system a new era for Alaska pipeline; throughput can be varied from 200,000 to 1.1 million bpd

Cash, but no ownership

Alaska gas pipeline act has state investing up to \$500M for certification

By KRISTEN NELSON

Petroleum News

laska would contribute to upfront costs of an Alaska natural gas pipeline project, but would not be an owner, Gov. Sarah Palin said Feb. 28 from Washington, D.C.

The governor, in the nation's capital meeting with key energy officials, pro- GOV. SARAH PALIN vided a press briefing on the Alaska

Gasline Inducement Act she plans to introduce to the Legislature March 2.

Palin said Alaska will provide a trained local workforce, predictable regulatory requirements and a state contribution to early development of the line. That contribution would be up to \$500 million, on a 50/50 basis, of the estimated \$1 bil-



lion it will take for a project to receive certification from the Federal Energy Regulatory Commission.

Palin met with FERC Chairman Joseph Kelliher Feb. 26, and said in a statement that it was an opportunity to walk Kelliher through her proposal. "I recognize, as does the chairman, that a natural gas pipeline is not only in the state's best interest, but in the nation's best interest as well," the governor said.

Kelliher said he believes the governor's plans " represent the best hope for building a pipeline to bring Alaska's vast natural gas resources to the energy-consuming Lower 48 states." He said the commission stands "ready to help to the extent we

see PLAN page 18

LAND & LEASING

Natives sue to halt MMS sale

North Slope Borough, whalers ask court to stop April 18 Beaufort Sea lease sale

By KAY CASHMAN Petroleum News

he North Slope Borough and the Alaska Eskimo Whaling Commission filed a lawsuit Feb. 26 to halt a

federal Beaufort Sea oil and gas lease sale scheduled for April 18. The lawsuit, filed in U.S. North Slope District Court in Anchorage, Borough Mayor questions the "adequacy of sci-

entific data and some of the economic assumptions" used to justify lease sale 202 by the U.S. Minerals Management Service, the agency that handles offshore leasing for the Interior Department.

"I really don't want to go to court over this," said



Edward Itta

prevent crude from spreading as quickly as it might in open water. borough Mayor Edward Itta, "but there are way too many unanswered questions about the impacts of off-

Ron Morris, president and general

manager of Alaska Clean Seas, (said) ice

can often work as a natural boom and

shore activity on the bowhead whale migration and on our subsistence activities. I wouldn't be doing my job if I just let this lease sale go." Itta recently met with MMS officials and with

Interior Secretary Dirk Kempthorne in Washington, D.C., in hopes of avoiding legal action.

see LAWSUIT page 17

New Alaska Peninsula gas play?

Hewitt Mineral investigations may have found something others have missed

By ALAN BAILEY

Petroleum News

hen Ardmore, Okla.-based Hewitt Mineral Corp. picked up four tracts near Herendeen Bay at the State of Alaska's October 2005 Alaska Peninsula areawide lease sale, the company said that it was going to embark on a geologic investigation of the area of its new leases. And, as a consequence of that investigation, the company now thinks it has found a new natural gas play that exists under the Peninsula and may extend under the lower Cook Inlet.

"We now have identified some evidence that there could be a significant carbonate reservoir under the Peninsula that has not been recognized," Hewitt

see GAS PLAY page 19

Alaska areawide lease sales draw just one bid

The scene in Anchorage's Loussac library prior to the State of Alaska's Feb. 28 North Slope Foothills and Alaska Peninsula lease sales looked suspicious from the outset: there were none of the usual racks of file folders of unopened bids. And those suspicions proved correct when Kevin Banks, acting director of Alaska's Division of Oil and Gas, announced that the division had received just one bid, an offer of \$6.77 per acre by Hewitt Mineral Corp. for 5,760-acre tract 0978 on the Alaska

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Alaska - Mackenzie Rig Report

Anadarko

Operator or Status

Alaska Rig Status

Rig No.

North Slope - Onshore

Rig Location/Activity

Dreco 1250 UE 63 (SCR/TD) Jacob's Ladder Doyon Drilling Dreco 1250 UE 14 (SCR/TD) Milne Point Livion01 Sky Top Brewster NE-12

15 (SCR/TD) ConocoPhillips Kuparuk 1J-180 Dreco 1000 UE 16 (SCR/TD) Workover Endicott 2-54/Q-12 Dreco D2000 UEBD 19 (SCR/TD) Alpine COD-302 ConocoPhillips **OIME 2000** 141 (SCR/TD) Kuparuk 1J-118 ConocoPhillips Stacked in Yard TSM 7000 Arctic Fox #1 Pioneer Natural Resources Arctic Wolf #2 Amaguq #2

ConocoPhillips Kuukpik Noatak #1

Nabors Alaska Drilling

Rig Owner/Rig Type

Akita Drilling Ltd.

CDR-1 (CT) Stacked, Prudhoe Bay Available Trans-ocean rig Dreco 1000 UE 2-ES N-22B Mid-Continental U36A MPE-11 Oilwell 700 E BP 4-ES (SCR) DS 03-02 7-ES (SCR/TD) Dreco 1000 UE W-204 BP Dreco 1000 UE 9-ES (SCR/TD) W-210i Oilwell 2000 Hercules Stacked at Cape Simpson 14-E (SCR) FEX Brooks Range Petroleum Oilwell 2000 Hercules 16-E (SCR/TD) Northshore No. 1 Stacked, Point McIntyre Oilwell 2000 17-E (SCR/TD) Available Emsco Electro-hoist -2 18-E (SCR) Stacked, Deadhorse Available OIME 1000 19-E (SCR) Stacked, Deadhorse Available Emsco Electro-hoist Varco TDS3 22-E (SCR/TD) Stacked, Milne Point Available Stacked, Deadhorse Emsco Electro-hoist 28-E (SCR) Available Oliktok Point OPi2 **OIME 2000** 245-E Anadarko Emsco Electro-hoist Canrig 1050E 27-E (SCR-TD) Maggiore #1 ENI

Nordic Calista Services

Prudhoe Bay well G-08 Superior 700 UE 1 (SCR/CTD) Superior 700 LIF 2 (SCR/CTD) Endicott Island 1-39 BP Ideco 900 3 (SCR/TD) Kuparuk 2N-337b ConocoPhillips

North Slope - Offshore

Nabors Alaska Drilling

Northstar NS-33

Cook Inlet Basin - Onshore

Aurora Well Service Stacked at Nikiski Franks 300 Srs. Explorer III Available

Marathon Oil Co. (Inlet Drilling Alaska labor contractor)

Glacier 1 Ninilchik State #3 Marathon

Nabors Alaska Drilling

National 110 UE 160 (SCR) Stacked, Kenai Available Continental Emsco E3000 Stacked, Kenai Available Available Franks 26 IDECO 2100 E 429E (SCR) Stacked, removed from Osprey platform Available Rigmaster 850 Chevron

Cook Inlet Basin - Offshore

Unocal (Nabors Alaska Drilling labor contractor)

Not Available

XTO Energy

Platform A no drilling or workovers at present National 1320 XTO National 110 C (TD)

Alaska Interior

Cudd Pressure Control

Cudd 340k Jack Unit Workover Ahtna #1-19 Rutter and Wilbanks

Mackenzie Rig Status

Canadian Beaufort Sea

Seatankers (AKITA Equtak labor contract)

SSDC CANMAR Island Rig #2 SDC Set down at Roland Bay Devon ARL Corp.

Mackenzie Delta-Onshore

AKITA Egutak Dreco 1250 UE 62 (SCR/TD) Re-entry Mallick 2L-38ST Aurora College Institute

Modified National 370 64 (TD) Kumak I-25 Chevron The Alaska - Mackenzie Rig Report as of March 1, 2007. Active drilling companies only listed.

TD = rigs equipped with top drive units WO = workover operations CT = coiled tubing operation SCR = electric rig

This rig report was prepared by Alan Bailey



Baker Hughes North America rotary rig counts*

US Canada Gulf	1,754 603 85		1,746 636 84	1,543 699 84
Highest/Lowest			04	04
US/Highest		4530		December 1981
US/Lowest		488		April 1999
Canada/Highest		558		January 2000
Canada/Lowest		29		April 1992
			*Issued by B	aker Hughes since 1944

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GOVERNMENT

House begins considering PPT change

Regulations not yet written for this portion of new tax law; BP concerned that changes create further ambiguities in what's deductible

By KRISTEN NELSON

Petroleum News

he Alaska Legislature continues to discuss changing allowable deductions in the PPT, the Petroleum Profits Tax passed last year. House Bill 128, the companion to Senate Bill 80 (see story in Feb. 25 issue of Petroleum News) got its first hearing in the House Special Committee on Oil and Gas. The committee began taking testimony Feb. 22 and held the bill.

PPT is a tax on the net, so companies

deduct lease expenditures before calculating the amount on which tax is owed; there are also credits for capital investments.

There is an 18-item list in the PPT of what cannot be included in lease expenditures, including a 30-cent per Btu-equivalent-barrel deduction from expenditures "that would otherwise be qualified capital expenditures."

HB 128 and SB 80 add item 19, excluding costs "related to the repair and replacement of property or equipment that was not maintained or was improperly maintained"; costs "incurred to maintain the operational capability of facilities or equipment shut down because of a lack of or improper maintenance of property or equipment"; and "incremental operating expenses incurred as a result of operating facilities or equipment at diminished capacity when that diminished capacity is caused by the lack of or improper maintenance of property or equipment."

Determination of costs falling under this item is to be by the commissioner of Revenue in consultation with the commissioner of Natural Resources and the Alaska Oil and Gas Conservation Commission "and taking into consideration the standard practices of the industry."

Gross negligence?

Costs attributable to "fraud, willful misconduct or gross negligence" are already excluded, and Rep. Ralph Samuels, R-Anchorage, said he assumed the state is doing an inquiry as to whether or not what BP did in maintaining Prudhoe Bay transit lines was gross negligence or willful misconduct. He also said that when the PPT was under consideration legislators rejected suggestions by the Alaska Oil and Gas Association "to have a series of things entered into the PPT language and we rejected almost all of them." The thinking, he said, was that "we would rather have it in regulation where if there's a tweak that has to be made," that would be easier to do than going through the legislative process.

He asked what the regulations say about whether or not these costs would be

Jon Iverson, director of the Department of Revenue's Tax Division, said the first round of regulations have been adopted by the commissioner and are under review in the Department of Law. But, he said, "this round of regulations does not expressly address the sort of deductions that ... would be at issue in this bill." Things like ordinary and necessary expenses will be addressed in the next set of regulations. He said it will take some time to put the remainder of the regulations together, as work on the second round has just begun.

Could regulations cover it?

Asked by Committee Chair Vic Kohring, R-Wasilla, whether regulations that are being drafted "might address the intent of this legislation," Iverson said he couldn't answer the question "because we haven't started drafting the second regs project yet." When that work starts, "we'll be working with the concepts that are currently in the statute — ... gross negligence ... typical industry practices, ordinary and necessary business expenses — honing in on things that would or would not be allowed."

Iverson said the department supports HB 128.

Samuels asked Iverson if, since the regulations hadn't been written yet, and the department supports the legislation, "why wouldn't you just write the regs to do what the legislation says?'

Iverson said the issue "is the amount of authority. Whether or not we have the authority to write any given reg depends on what's in the statute. ... There's no language currently in the statute that expressly addresses this. ... The reason we support it is because it makes it more clear, one way or another, whether we have a certain amount of authority.'

Samuels said he assumed the issue would be litigated, one way or the other; Iverson agreed.

BP concerned with potential ambiguity

Tom Williams, tax counsel for BP, told the committee his concern with HB 128 was based not just on his experience with BP, but also on his experience as commissioner of Revenue for the state. The challenge is how to "comply with the tax. There is a lot of potential ambiguity with the existing provisions," he said.

The proposed legislation adds to those, starting with the word "related."

Another issue, Williams said, is that the proposed legislation would deny a deduction, thereby create "a penalty or a disincentive against spending money to maintain operational capabilities" if a shutdown was caused by improper maintenance.

"So that means that you don't want us to spend money to get the field back up and running? Is that really what you mean to do there? Because that's the economic incentive you're doing, is you're penalizing people for being ready to get the field back up into production as soon as they can. That's literally what it says: (expense) that is 'incurred to maintain ... operational capability' of the facilities that are shut down."

He also questioned the disallowance for incremental operating expenses incurred as a result of operating at diminished capacity. Williams asked if this means the state would "rather see that the diminished capacity is diminished further because you're being discouraged from spending the money to keep the capacity as high as possible?"

Rep. Mike Doogan, D-Anchorage, asked if the decision to get a field back into operation wouldn't "be made on bases other than what the State of Alaska's tax law might be?" Williams said "you do want to get your business up and running as fast as you can, but you still do not ignore the laws of economics. ... And you cannot at your peril ignore the tax implications of what you're doing."

"If you have ... an interruption in production or a curtailment, you want that over with as soon as possible. Why create obstacles to that? Even if they're obstacles that generally would be stepped over anyway, why create any?" Williams asked.

People in the future will have to live with the specific language in the bill before the committee, he said. •



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FINANCE & ECONOMY

Texas firm to buy Enstar parent Semco

A Texas utility company has agreed to buy Enstar Natural Gas Co. and its current owner, Michigan-based Semco Energy Inc.

Enstar is Southcentral Alaska's major natural gas utility. The proposed \$867 million deal was announced Feb. 23.

The deal must be approved by the Regulatory Commission of Alaska.

The commission will require the new owner, Cap Rock Holding Corp., to provide the same services to Alaska rate-payers for the same price, state regulators said.

"If they want to make any changes, they'll have to file a tariff case with the commission," said RCA spokeswoman Grace Salazar.

The purchase could take a year to complete and will not mean any immediate changes for utility workers, Semco officials said. The sale agreement maintains Semco's current salaries and benefits for two years.

Enstar spokesman Curtis Thayer said the company's new owner has deeper pockets than Semco.

"Hopefully, there will be more to invest in Alaska with this new owner," he said.

Enstar would become private company

The deal would turn Enstar from a public company into a private one. Cap Rock is owned by Lindsay Goldberg & Bessemer, a \$5 billion New York-based private equity firm

Cap Rock has agreed to assume all of Semco's \$515 million debt, which is most of the \$867 million acquisition cost, company officials said.

There are also potential drawbacks to private-equity firm ownership, some observers of the deal said.

"You can't immediately get public information around a company's balance sheet to determine the health of a company," said Tony Izzo, Enstar's former chief executive. However, such information will be filed and scrutinized by the RCA, he said.

In response to the sale announcement, Semco's share price jumped \$1.79 a share to close at \$7.79, a 30 percent increase. Cap Rock proposes to buy Semco for \$8.15 a share

Enstar has been part of Semco since 1999, when the Michigan natural gas company bought it for \$290 million.

Enstar says it supplies natural gas to about 340,000 Alaskans.

Cap Rock does not own any power generation plants but owns distribution systems providing electricity in 28 Texas counties.

In addition to the RCA's approval, Semco shareholders must approve the sale. Also, Semco can try to obtain a more attractive buyout offer from other companies for the next 35 days.

—THE ASSOCIATED PRESS



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Short Course #2A and #2B — Understanding ATFis Explosives Regulations Time: Session 2A: 8:00-12:00, Tuesday, March 20

Session 2B: 1:00-5:00, Tuesday, March 20
Cost: Free

Short Course #3 — Navigation and GPS

Time: 8:00-12:00, 1:00-5:00, Tuesday, March 20 Cost: \$25.00

Short Course #4 — Basic Prospecting Skills

Time: 8:00-12:00, 1:00-5:00, Tuesday, March 20 Cost: \$25.00

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For conference registration information, please visit www.alaskaminers.org or contact Mike Satre, 907-789-8135 or mike.satre@greenscreek.com.

■ GOVERNMENT

B.C. gas royalties, land sales falter

Unseasonable weather takes bite out of revenue pie, but government counting on quick recovery; offshore regime being developed

By GARY PARK

For Petroleum News

aving feasted off its energy industry over the last few years, the British Columbia government is adjusting to new realities.

Its natural gas royalties are forecast to take a 26 percent slump in the budget year that ends March 31, while land sales — like those in neighboring Alberta — are waning.

The province's latest budget estimates gas royalties for the current fiscal year at C\$1.4 billion, down C\$500 million from 2005-06, but still C\$100 million ahead of forests revenue, once British Columbia's economic mainstay.

Gas prices for the current fiscal year are expected to average C\$5.65 per giga-joule, well wide of the original budget forecast of C\$8.55 and off 25 percent from 2005-06.

The commodity prices were dealt a double blow by a milder winter and cooler summer, lowering demand for heating and electricity generation.

However, the government is holding out hope for a recovery to C\$1.7 billion in 2007-08, based on its prediction of gas prices at C\$6.50 and a return to more normal winter temperatures.

It is also counting on a further slight gain in 2008-09 to C\$6.70, bumping royalties up by another C\$100 million to C\$1.8 billion, reflecting tight supply markets.

But the province underscored the volatile nature of gas royalties. Each C\$1 change per gigajoule causes a C\$325 million shift in revenues.

The government remains optimistic about the sale of drilling rights, budgeting for an average price per hectare (2.47 acres) of C\$863 in 2006-07, rising to over C\$1,000 for each of the next three years.

But land sales for the first two months of 2007 may have dented that outlook.

So far this year the government has raised just under C\$64 million from the auction of 55,782 hectares (137,334 acres) compared with C\$105 million from 140,185 hectares (346,397 acres) over the same period of 2006.

On the upside, per-hectare averages in January and February rose to C\$1,145 from C\$748 a year ago, although the latest sale eased to C\$822 per hectare.

Industry reaction biggest unknown

The biggest unknown now is how the

The province's latest budget estimates gas royalties for the current fiscal year at C\$1.4 billion, down C\$500 million from 2005-06, but still C\$100 million ahead of forests revenue, once British Columbia's economic mainstay.

industry will react to the British Columbia government's declared intention to lead North America in eliminating carbon emissions from industrial activity.

Until the initial details of that program are unveiled in March, companies are unwilling to indicate whether their plans will be altered.

In the meanwhile, several large producers — as they have in Alberta — are scaling back drilling activity this winter in response to softer gas prices, high service costs and reduced profits.

But the 2007-08 budget underscored the rich prospects in British Columbia, with onshore oil and gas resources estimated at 50 trillion cubic feet of conventional gas, 84 tcf of coalbed methane, upwards of 250 tcf of shale and tight gas and 7.9 billion barrels of oil.

The government said its oil and gas division is continuing to review its policies and programs to fine tune the regulatory regime in an effort to attract greater investment in the sector.

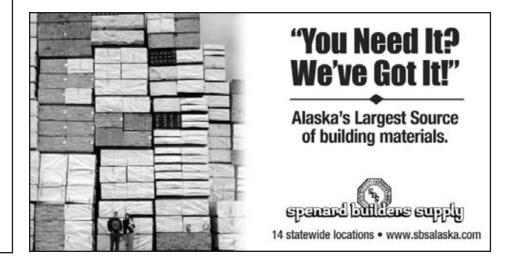
The division is also continuing to work on identifying the "potential benefits and risks of offshore development" to draft a comprehensive fiscal and regulatory regime and advance scientific knowledge of offshore activity.

It is researching management and regulatory regime in other jurisdictions to establish best practices for B.C. offshore development.

The division is teaming up with the province's universities to build environmental baseline data to support responsible exploration and development of the offshore.

It has also negotiated a protocol agreement with the Nisga'a Nation to cooperate on offshore issues and is giving financial help to a project that will collect and distribute information to the Nisga'a on the risks and benefits of offshore development.

There are also plans to bring coastal community and First Nations leaders together to tackle a number of offshore matters, including regulatory frameworks, benefits, risks and opportunities.



• ENVIRONMENT & SAFETY

Alaska crude used in oil spill test

Chilled saltwater used to simulate Arctic conditions for dispersant test in MMS's high-tech 2.5 million-gallon tank

By JEFFREY GOLD

Associated Press Writer

allons of inky Alaska crude oil poured into the shimmering green water, forming a dark cloud on the surface. Seconds later, a chemical was sprayed on the slick.

As 3-foot waves churned the chemical dispersant, the oil began dissolving, and a coffee-colored cloud began drifting below the breakers.

An ecological disaster averted? Not quite.

The action took place in a saltwater test tank about 600 feet long at Earle Naval Weapons Station, a naval base with a view of Sandy Hook Bay off New Jersey and New York City. The 2.5 million-gallon tank has its own wave-making machine to simulate ocean-like conditions.

"If you're in the oil industry, this is your toy store," said Dennis J. McCarthy, manager of the Clean Harbors Cooperative in Linden, N.J., an industry-funded group whose boats and personnel respond to spills on New Jersey waterways lined by refineries and oil terminals.

Since 1973, the tank has been used to test the effectiveness of chemicals in cleaning up the ocean after an oil spill. The tank also allows researchers to test the booms, skimmers and dispersants that are used when an oil spill occurs.

Number of big spills down before 1989

While the number of big oil spills was falling even before safety improvements that came after the 1989 Exxon Valdez disaster, millions of gallons of oil are spilled into the ocean each year.

"This tank is probably the world's best opportunity for simulating ocean conditions," said Alan A. Allen, an oil spill consultant with 40 years of experience, including work on the Exxon Valdez cleanup.

McCarthy and Allen were among about 60 spill scientists and experts from five nations who gathered at the tank on a recent brisk day to observe a cold-water test of a chemical that breaks an oil spill into droplets about one-thousandth of an inch wide. The drops sink into the water, where naturally occurring organisms can feed on them.

The official name of the tank is the Oil and Hazardous Materials Simulated Environmental Test Tank. It's better known by its initials, Ohmsett, and is part of the U.S. Minerals Management Service.

Oceanographer Joseph V. Mullin, who manages the agency's oil spill response research, said the tank allows researchers and responders such as Coast Guard personnel to work with oil, not the substitutes that are used in domestic open-water tests.

"It's not dyed water; it's not popcorn," Mullin said. "It's the real thing." The United States is among many countries that do not allow testing in open water with oil.

The tank was used last year to test a new design for a skimmer that could remove more oil from the water than traditional models

The cylinder-shaped skimmer rotates as it's dragged through a slick. Oil clings to its surface and is removed by a scraper. The new skimmer, featuring grooves on its rotating drum, is to be patented by the University of California, Santa Barbara, said one of the developers, Arturo A. Keller.

The device worked in the testing tank, but some ocean conditions, such as choppy

"It's not dyed water; it's not popcorn," Mullin said. "It's the real thing." The United States is among many countries that do not allow testing in open water with oil.

water, couldn't be reproduced, said Keller, a UCSB professor. "Because it's a controlled environment, certain things are not the same as you would have in the ocean," he said in an interview from California.

Tank kept at 31 degrees F for Alaska

The tank has a chiller the size of a tractor-trailer that kept the ocean-like water at 31 degrees Fahrenheit for the test, which was requested by the Alaska office of the Minerals Management Service to determine how the chemical worked under Arctic conditions. The agency is currently has Beaufort Sea acreage under lease off northern Alaska and is planning lease sales for

the sdjacent Chukchi Sea.

Observers said the chemical used in the test, Corexit 9500, appeared to do the job, although not all embraced the practice of using chemicals to fight oil spills.

"We really support the mechanical recovery process first," such as skimmers and booms, said a visitor from Alaska, Joe Banta, project manager of the Prince William Sound Regional Citizens' Advisory Council, a nonprofit group formed after the Exxon Valdez spill to promote environmentally safe oil industry operations.

John S. French, a council board member, said it was not yet known whether the chemicals used to break up oil spills do more harm than good.

Corexit maker Nalco Energy Services, of Sugar Land, Texas, said responders must weigh whether dispersants are the best option.

"The decision to use or not use disper-

sants involves environmental trade-offs; every oil spill incident is unique," Nalco spokesman Charlie Pajor said in an e-mail.

He cited a 1989 report by the National Research Council that found the "overall ecological impact of oil will likely be reduced by dispersion."

Many at the recent Ohmsett tests supported the idea that booms, skimmers, dispersants and burning all have roles in spill response arsenals.

Dispersants supplement mechanical methods

Chemical dispersants can supplement the mechanical methods, which are not as effective in high waves or faster currents, said Per S. Daling, a scientist at Sintef, the Norwegian research company.

While chemicals can be applied quickly to a wide area by plane or ship, they are less

see **DISPERSANT** page 8



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FINANCE & ECONOMY

What goes around comes around

Kinder Morgan has returned to Canadian ownership part of what it acquired just over three years ago in its US\$5.9 billion takeover of Vancouver-based energy conglomerate Terasen.

In the latest shuffle of assets, Kinder Morgan struck a C\$1.4 billion deal to sell its retail utility business to Fortis, an electrical utility holding company based in St. John's, Newfoundland.

The sale has come as no surprise to analysts who believe Kinder Morgan was always more interested in Terasen's pipeline rather than its retail operations.

Robert Lane, an analyst at Sanders Morris Harris Group in Houston, said retail has never been part of Kinder Morgan's core.

He said the major motivating factor in the Terasen acquisition was the opportunity to play a role in crude oil pipelines. Kinder Morgan Chief Executive Officer Richard Kinder said the sale is the end of his company's participation in retail utilities. A year ago it sold Terasen's services unit to CAI Capital Management for C\$125 million.

The transaction, subject to regulatory approval, is scheduled to close by mid-2007. Terasen's gas distribution division has about 900,000 customers in British Columbia, about 95 percent of the province's total market.

Fortis, which has electric distribution utilities in Canada, Belize and the Cayman Islands, will become the largest investor-owned utility in gas and electric distribution in Canada, Chief Executive Officer Stan Marshall said.

He said the Terasen assets add a third element to Fortis' operating businesses and "provides a key platform for growth in gas distribution."

—GARY PARK

continued from page 7

DISPERSANT

useful with heavier petroleum products, such as fuel oil, and must be applied before the oil becomes too weathered, experts say.

The Alaska crude used in last month's test was treated so that it had the characteristics of oil that had been in the sea for 30 minutes.

Burning is best used when there is a lot of oil in a small area, said Allen, the consultant. It is corralled with booms and set afire, but must be done before the oil has become too mixed with water, he said. "Burning is the only technique that will get rid of a lot of oil fast," Allen said, and is an option when the damage to the sea and beaches would be more severe than the pollution from burning.

Another option for cleanup is biological agents, which are nutrients used to increase the number of oil-eating organisms. They can be best used in shallow, marshy areas in which booms and dispersants wouldn't do the job, Allen said.

Biological agents are not tested at Ohmsett because they would be killed by chlorine added to the water to keep it clear for underwater videotaping and photographing, Mullin said.

Petroleum Engineer

The Alaska Oil and Gas Conservation Commission ("AOGCC") is recruiting for a permanent, full-time PETROLEUM ENGINEER. Salary range starts at \$100,000 per year, DOE.

The duties are to review all drilling and workover operations to ensure compliance with state regulations governing oil and gas drilling, insure operations are conducted safely, and investigate and recommend corrective actions to address waste issues or unsafe drilling practices. Review applications for "Permits to Drill" and applications for "Sundry Approvals" prior to Commission approval for appropriate casing design, cementing programs, blowout prevention equipment, and well control requirements; determine compliance with state drilling regulations and American Petroleum Institute (API) Recommended Practices. Investigate and analyze specific drilling incidents and trends, and recommend corrective actions. Confer with operators relative to specific well problems, evaluate drilling and development proposals and recommend specific field rules to protect underground sources of freshwater, prevent waste, and protect worker safety. Apply engineering principles to the analysis of unplanned operating incidents; determine reasonableness of operators' explanations of unplanned events; prepare reports for AOGCC Commissioners and the public on analysis of potentially serious incidents; consult with industry personnel on need for corrective action in response to unplanned incidents; develop Commission strategy to minimize risk of serious potential incidents; and advise the Commissioners on appropriateness of enforcement actions in response to unplanned incidents. The engineer is responsible for recommending policy, preparing drafts of proposed regulations, and developing field operation procedures for the AOGCC's inspection staff. Finally the engineer makes recommendations for approval and prepares administrative orders or proposals for conservation orders, as appropriate.

Minimum Qualifications: A degree in Petroleum Engineering or equivalent engineering discipline, with knowledge of drilling practices, and well control and metering operations. At least 10 years of experience in petroleum engineering, demonstrating progressively increasing responsibility.

Only candidates eligible to work in the United States and meeting minimum experience levels and attributes should respond by applying on Workplace Alaska at: www.jobs.state.ak.us

Applications must be received on Workplace Alaska no later than 5:00 p.m. AKST, March 15, 2007.

The State of Alaska is an equal opportunity employer and supports workplace diversity. Individuals requiring accommodations can call 1-800-587-0430 or 1-907-465-4095 in Juneau, or 1-800-770-8225 (TTY) or correspond with the Division of Personnel at P.O. Box 110201, Juneau, Alaska 99811.

NATURAL GAS

Green protestors turn red over oil sands

Environmentalists use map on TransCanada Web site to bolster case that Mackenzie natural gas will be diverted to the Alberta oil sands, aiding and abetting production of 'dirty' fuel

"Why not try to make this

a green pipeline rather

than just feeding Canada's

greenhouse gas emission

by fueling the tar sands?"

— Stephen Hazell, Sierra Club

By GARY PARK

For Petroleum News

ith the Alberta oil sands being painted as Canada's leading greenhouse gas ogre, environmentalists seized another chance Feb. 26 to tar the resource. (See related story on page 13.)

Appearing before a Mackenzie Gas

Project session of the Joint Review Panel in Edmonton, they urged the Canadian government to prevent the use of northern gas to fuel oil sands operations.

The panel is examining the environmental and social impacts of the

project. Its recommendations go to the National Energy Board, which will submit a final decision to the Canadian government.

The Sierra Club, the Pembina Institute for Appropriate Development and the World Wildlife Fund's Canadian chapter all challenged the possible use of gas from the Mackenzie Delta to generate the power needed to extract and process raw bitumen.

They drew special attention to a map available on TransCanada's Web site showing possible links from the Mackenzie pipeline to the oil sands, providing new ammunition to their argument over recent years that introducing northern gas will only accelerate the pace of oil sands expansion.

But Imperial Oil executive Randy Ottenbreit told the hearing that oil sands development will continue apace regardless of whether the sector can gain access to Arctic gas.

Imperial: oil sands development would continue without gas

But Imperial Oil executive Randy Ottenbreit told the hearing that oil sands development will continue apace regardless of whether the sector can gain access to Arctic gas.

He said what is driving the Mackenzie project is the North American hunger for gas, which he said is forecast to increase by one-third over the next 25 years to 100 billion cubic feet per day, while the oil sands will consume only about 2 bcf per

day

Ottenbreit said Mackenzie gas will have far wider uses than those suggested by the opponents.

He said it will enter the North American pipeline grid to reach homes and businesses, to generate power and to serve as feedstock for petrochemicals and plastics.

However, environmentalists have been

unwavering in making the argument that because the Mackenzie consortium's gas owners — Imperial, Shell Canada, ConocoPhillips

Canada, ConocoPhillips
Canada and
ExxonMobil Canada —
also have major stakes
in the oil sands they plan

to divert gas from the Mackenzie pipeline to northern Alberta.

Rules for end-use of gas suggested

Stephen Hazell, executive director of the Sierra Club, suggested to the Globe and Mail that the National Energy Board should use its authority to set some rules covering the end-use of Mackenzie gas.

"Why not try to make this a green pipeline rather than just feeding Canada's greenhouse gas emission by fueling the tar sands?" he asked.

Hazell said the regulators must assess global warming and other impacts associated with using Mackenzie gas to produce the most carbon intensive oil on the planet.

He said the major problems with the review panel and National Energy Board hearings is that they did not put enough emphasis on the questions of global climate change by ignoring how gas from the north would be used.

Hazell urged the board to impose regulations limiting the end use of Arctic gas, arguing that it is time for unusual remedies to tackle climate change.

Julia Langer, of the World Wildlife Fund, said that assessing the impact of the Mackenzie pipeline without assessing the global warming impact of the gas carried by the pipeline "is like trying to pretend cake doesn't have calories."

She said "consideration of a massive project that will increase greenhouse gas emissions all the way from Arctic wells to California wheels — without a rational, continental, sustainable energy strategy to guide it — is totally unacceptable." •



PIPELINES & DOWNSTREAM

TAPS switches to 21st century

Change over to new pump system marks new era for Alaska oil pipeline; throughput can be varied from 200,000 to 1.1 million bpd

By ALAN BAILEY

Petroleum News

eb. 9 saw a landmark event in the history of the trans-Alaska oil pipeline, when pipeline operator Alyeska Pipeline Service Co. applied the on switch to the new electrical pump system at pump station 9, south of

A train of three new centrifugal pumps, each driven by a purpose-built 6,500-horsepower electric motor powered by electricity from the local electric utility, started pushing oil up the pipeline gradient over the mountains towards the marine oil terminal at Valdez. Initially the operators alternated pipeline oil flow between the new pumps and the old turbine powered pump system that had been in operation since the pipeline started up in 1977. Then, once people had verified that the new equipment was functioning correctly, the electric pumps started continuous operation. The equipment has now entered a 30 to 45-day period of operational "run in" testing, before Alyeska turns its attention to a similar switchover at pump station 3.

The old pumps at pump station 9 will remain available until the summer, in case a problem arises with the new systems.

"Our focus has been on the safe, quality startup of pump station 9," said Kevin Hostler, Alyeska president and CEO. "We will learn from this as we move our resources to pump station 3. While this is an exciting time for us, there is still work to get done on this project."

Strategic reconfiguration

The new pumping arrangements form part of what Alyeska terms "strategic reconfiguration," a massive upgrade of the pipeline system to state-of-the art technology.

Under the strategic reconfiguration project, Alyeska is installing identical electrically powered pumping systems at pump stations 1, 3, 4 and 9. But, whereas pump station 9 obtains power from the local electric utility, pump stations 3 and 4 will each use two new gas turbine generators to power the pump motors; pump station 1 will obtain electrical power from the Prudhoe Bay power grid, but will also have a single gas turbine generator.

Pump station 1 is at the northern end of the pipeline at Prudhoe Bay, and pump stations 3 and 4 push oil through the pipeline up the northern side of the Brooks Range.

Pump station 5, at the bottom of the gradient on the south side of the Brooks Range, will continue to operate as a relief station, without pumping capabilities. However, Alyeska expects to mothball pump station 7 north of Fairbanks (all of the remaining five originally operating pump stations along the pipeline were mothballed several



An aerial view of pump station 9. The train of three new electric pumps and associated variable frequency drives can be seen in the middle left part of the picture. The site layout includes space for additional pumps should Alyeska need to up the maximum pipeline capacity.

years ago in response to declining oil throughput).

On Feb. 21 Alyeska's Pipeline Vice President Jim Johnson and Oil Movements Vice President Michael Joynor talked to Petroleum News about the benefits that Alyeska expects to gain as each of the upgraded pump stations converts to the new technology and about the current status of the strategic reconfiguration project.

Scalability

Joynor explained that a key benefit of the new pump technology is scalability of the pumping capacity to varying pipeline throughput. That scalability comes from two aspects of the system: the ability of the electric motor variable frequency drives to vary the motor power output, and the potential to switch individual pumps in or out of operation. In contrast, the old turbine-powered pumps tend to vibrate at low power settings and have an optimum operating speed.

"The big benefit is we can run a single electric motor up to a certain flow rate. Then we bring on a second unit that takes us up to the next flow. Then a third unit if you want to go the maximum flow," Joynor said. "... You can run (the motors) at virtually any speed you like, which gives you that maximum flexibility."

Joynor said that after strategic configuration has been completed, Alyeska will be able to vary pipeline throughput anywhere from 200,000 barrels per day to 1.1 million bpd of crude oil.

But in the event of a major new oil find on the North Slope, Alyeska could ramp up pipeline daily throughput beyond 1.1 million barrels, Johnson said. The new pump station layouts allow for increasing the pumping power by slotting additional pumps alongside the three pumps of the standard pump station design. But achieving a maximum possible pipeline throughput of 2 million bpd would also require the equipping and re-activation of mothballed pump stations. That re-activation could be done within the lead time required to start up a new oil field, Joynor said.

Also, with the use of electric pumps, the use of modern gas turbines, the phasing out of the old turbine pumps and the phasing out of other old turbines used for electricity generation, the pipeline system will in the future generate significantly reduced emissions, Johnson said.

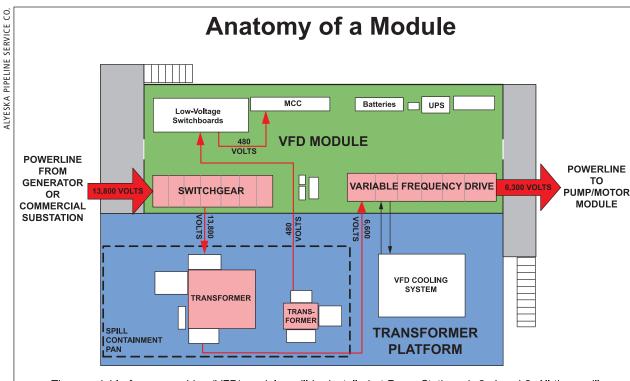
Efficient control and maintenance

Although the new pumping systems at the pump stations are perhaps the most visible aspect of the strategic reconfiguration, a complete upgrade of the pipeline control and monitoring systems to state-of-the-art digital technology also forms a critical component of bringing the pipeline system into the 21st century.

The upgrade involves the replacement of legacy 1970s era technology, Joynor said. In particular, the new systems involve deploying digital control and safety protection units to the field facilities, rather than having the control technology based at a central location. And that field distribution of the control technology will reduce the dependency of the control systems on long-distance communications.

"The person who is operating (a facility) has a complete picture of what is going on, but the protection is right there ... at the facility or location," Joynor said. "By having that protection at the facility, the facility is not dependent on the remote (central) location to provide the protection."

Instead of people walking around the facilities every day to take operational data readings, the new systems can automatically read data and store that data in a central computer archive. That automation will increase the data points available from each pump system, for example, from about 12 to about 120, Johnson said. And the data will be collected every few seconds, Joynor said.



Three variable-frequency-drive (VFD) modules will be installed at Pump Stations 1, 3, 4 and 9. All three will contain VFDs, while two will also contain switchgear. A platform adjacent to the module will hold a cooling system for the liquid-cooled VFD, a transformer to step down the incoming power from 13,800 volts to 6,600 volts, and a station transformer to provide 480-volt power to the module. The VFD controls the frequency of the power in order to vary the speed of the pump motors.

This type of state-of-the-art variable frequency drive enables the electric motors that drive the main oil line pumps to operate over a wide range of speeds.

■ LAND & LEASING

Alaska officially terminates Thomson leases

By KRISTEN NELSON

Petroleum News

he Alaska Department of Natural Resources terminated the Point Thomson unit on the North Slope last year, and although lessees have appealed the decision to the courts, the Division of Oil and Gas has terminated the leases.

Following the decision by DNR Commissioner Mike Menge in November terminating the unit — and the affirmation of that decision by Acting Commissioner Marty Rutherford in December — the division began the work necessary to notify leaseholders.

Leases can be held beyond the original term of the lease by inclusion in a unit; once the unit is terminated, however, so are the leases.

Letters went out Feb. 13 to the notification lessees. While the majority of termination notices for the 45 leases were addressed to Exxon Mobil Corp., letters

While the majority of termination notices for the 45 leases were addressed to Exxon Mobil Corp., letters also went to BP Exploration (Alaska), Chevron USA, ConocoPhillips Alaska and Devon Energy.

also went to BP Exploration (Alaska), Chevron USA, ConocoPhillips Alaska and Devon Energy. While others own portions of leases in the former unit, ExxonMobil, BP, Chevron and ConocoPhillips were the major owners.

Some leases terminated at end of year

Fourteen leases, all or parts of which were added to the unit in a 2001 expansion, were terminated effective Dec. 31 "per the terms of the 2001 Expansion Agreement." As of the end of February, those leases were shown in state records as closed, since part of the expansion agreement was that if the expansion area contracted out of the unit, the leases would terminate immediately.

The rest of the leases fall into one of two categories, but in both cases the division said those leases terminate March 27, 90 days from the Dec. 27 decision on reconsideration

Some leases had been certified in the past as containing wells "capable of producing in paying quantities." The Nov. 27, 2006, commissioner's decision denied that leases in the Point Thomson unit could be held based on certified wells.

The majority of leases were terminated because they were beyond the original term of the lease, and with the termination of the unit the leases terminated.

The former leaseholders had 20 days from the date of the decision letters to appeal the decision to DNR Commissioner Tom Irwin. ●

continued from page 9

TAPS

That mass of detailed information will enable operational fine tuning in a manner that has not been possible before, Joynor said.

Maintenance will be pro-active

And the information collected will also enable improved maintenance efficiency. In particular, the easy availability of data will enable Alyeska to move from maintenance based on the regular calendar-based scheduling of maintenance tasks to the performance of maintenance tasks when the condition of the equipment warrants attention. That approach will focus attention on essential maintenance and enable pro-active anticipation of equipment problems.

"A rotating equipment engineer or a maintenance technician can then retrieve that information and put in a trend." Joynor said. "He's able to do that from a desktop, rather than collating a bunch of handwritten readings, day-to-day data that had been collected by a human."

In addition, the ability of everyone to access and easily display the same data will enable improved communications between operations and maintenance staff.

"The screen displays that the Operations Control Center uses are exactly the same as the displays that are available at a pump station," Joynor said. "So when a maintenance engineer is at a facility looking at something and talking to OCC, there's no miscommunication. They can see identically what the OCC is seeing."

Remote operation and monitoring of the pump stations, coupled with a regional, pipeline-wide approach to more efficient pipeline maintenance, will enable a reduction in the numbers of people required on site at the pump stations, and some reductions in Alyeska office staffing, Alyeska spokesman Mike Heatwole said. Alyeska estimates that about 350 jobs will be impacted, about equally split between Alyeska staff and contractors. And those staffing reductions will all translate to a reduction in pipeline oper-

ating costs.

Alyeska is also moving to a regional approach to oil spill response, rather than basing individual teams of responders at individual pump stations. But Heatwole emphasized that staff reductions will not compromise Alyeska's ability to deal with a pipeline oil spill — the total number of responders available to respond to an oil spill will not be reduced, he said.

Miles of cabling

The installation of large numbers of control and monitoring devices at the pump stations involves the laying of miles of electrical cabling. Johnson compared the wiring requirements of a modern pump station with the wiring required in a modern car. The introduction of sensors and computer technology has probably increased the amount of wiring in a car fourfold in the past few decades, he said.

Pump station 9 has about 2,000 new devices, requiring nearly 350,000 feet of new cabling, Johnson said. Pump stations 3 and 4 each require nearly 4,000 new devices and more than 400,000 feet of cabling.

"We're adding devices, but at the same time we're reducing infrastructure from the standpoint of facilities, buildings and structures," Johnson said.

And Joynor commented that the introduction of redundant, duplicate equipment to ensure system reliability has also increased the need for cabling.

"Where we used to have one transmitter, we may now have two installed, so if we lose one, the other one's there automatically," Joynor said.

The pumping systems also include a level of redundancy and emergency backup. For example, pump stations 3 and 4 have two turbine generators each, although they only need one. And diesel generators would provide an emergency power, in the event of a power failure, Johnson said.

Phased approach

So, given that pump station 9 is now in operation, what is the status of the strategic configuration project and what are the next steps?

The original project plan envisaged installing and testing all of the new equipment and then switching on the whole new system once everything was ready.

"At one point we were working all facilities at the same time, to have completion of all of them at approximately the same time," Johnson said. "We shifted from that to what I'll call a phased approach."

In the phased approach each pump station is switching over in turn, with the lessons learned from one pump station startup feeding through to the planning of the next startup. Pump station 9 has switched over first, to be followed by pump station 3, then 4 and then 1.

Alyeska viewed this type of approach as an effective way of dealing with any problems that would arise in a project of the scale of strategic reconfiguration, Johnson said.

So far, all of the new facility modules and associated pipe work have been installed at all of the pump stations, Johnson said. Pump station 3 is 80 percent mechanically complete but installation of cabling has only just started at pump station 1. Once all the equipment and cabling are in place at a pump station, that pump station will go through a standard procedure of functional check out, commissioning, start up and run in, with oversight at all stages by the Joint Pipeline Office and other government agencies.

"It's all very orchestrated, with procedures and plans," Johnson said.

The pipeline-wide digital communications system — using both microwave and fiber optic networks — that supports the new pipeline control and monitoring system is already operational. However, Alyeska is relocating the pipeline operations control center from Valdez to a building in Anchorage in 2007.

"That project is just now under way," Joynor said.

The company is also establishing a backup control center about an hour's drive from Anchorage, he said.

Alyeska does not have a specific timetable for the remaining pump station work.

"We'll take our time and do it right, and do it to our specifications," Alyeska spokesman Curtis Thomas told Petroleum News Feb. 14. ●



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EXPLORATION & PRODUCTION

Conoco cancels Chukchi, Beaufort seismic

Company pulls MMS permit applications for 2007 open water program, will likely buy 3-D seismic data from Shell

By KAY CASHMAN

Petroleum News

onocoPhillips Alaska has abandoned plans to shoot three-dimensional seismic offshore northern Alaska, the company told federal officials in mid-February when it asked them to discontinue work on seismic permit applications for the Beaufort and Chukchi seas where the company planned to use the MV Western Patriot during the upcoming open water season.

Instead ConocoPhillips has cut a deal to acquire seismic data from another company, which is likely Shell Offshore,

the only other company that applied permits to acquire 3-D seismic in the Beaufort and Chukchi in 2007. Both Shell and ConocoPhillips listed WesternGeco on their permit applications as their seismic contractor.



The only other firm planning to shoot seismic in both areas is GX Technology Corp., which is looking at a two-dimensional seismic program.

Bruce St. Pierre, senior environmental coordinator for ConocoPhillips, told federal officials in an e-mail that ConocoPhillips "listened hard and heard the concerns of the communities, the whaling entities and the federal agencies. We evaluated the risks associated with permit timing and we weighed our options. For this season, we have worked out an arrangement to acquire data from another operator. This will significantly reduce the level of activity in the environment, reduce the amount of workload on agencies and save money. As with any action, there is a reaction and other implications to be considered."

In a speech to an Anchorage audience in November, ConocoPhillips Alaska President Jim Bowles said the potential of the Chukchi Sea was more exciting than even the National Petroleum

"For this season, we have worked out an arrangement to acquire data from another operator. This will significantly reduce the level of activity in the environment, reduce the amount of workload on agencies and save money."

-Bruce St. Pierre

Reserve-Alaska, where the company is drilling at least two wildcat exploration wells this winter.

The MMS, Bowles said, is proposing a Chukchi lease sale for 2007, noting that the Chukchi planning area was more than 34 million acres compared to 23 million acres in NPR-A.

Even more exciting than the large size, he said, was the limited amount of exploration that has been done there: just five wells. Of the five (Popcorn, Crackerjack, Klondike, Burger and

Diamond), the Burger is a discovery with MMS putting the resource there at some 14 trillion cubic feet of gas, "so we know there is at least one large potential play out there and probably much, much more in this basin."

But this big play will have big dollar costs and big challenges, Bowles said.

Just getting seismic in the Chukchi during the open water season of 2006 was a challenge, Bowles said.

The company's 2006 survey involved mobilization of a ship out of the Mediterranean. Then the window to shoot seismic was very limited because of the ice season, "even with this icehardened vessel," he said, some three months. And the vessel "got chased off early by the ice" and couldn't gather as much data as planned. "It's a big challenge just even collecting up-front data," Bowles said.

The area will have to be monitored whales, and Bowles said Just getting seismic in the Chukchi during the open water season of 2006 was a challenge, Bowles said.

ConocoPhillips has tested a drone (see story in Nov. 5, 2006, issue of Petroleum News). The area is far from shore and drones would be a safe way to monitor so that seismic surveys could be shut down if whales came through the area.

Bowles also said keys to success in an exploration program include fiscal certainty in Alaska, as well as the ability to work with non-governmental organizations which see Alaska as "an important part of their focus. For us to be successful as a company, he said, whether it's in NPR-A or in the Chukchi Sea or the Beaufort," the company will have "to figure out how to work with the NGOs and make sure that we can find solutions that work for everyone."



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NATURAL GAS

Agrium teams with Alaska Railroad

Usibelli, Homer Electric also working Blue Sky project to gasify coal as feedstock for fertilizer plant, produce power for sale

By KRISTEN NELSON

Petroleum News

grium is in phase 2, front-end engineering design, of its Kenai Blue Sky project, which would use gasified coal as feedstock to replace natural gas for the company's Nikiski fertilizer facility.

In a Feb. 26 presentation to the Alaska Legislature, Alaska Railroad Corp. President and CEO Pat Gamble said not only was the railroad involved in Blue Sky as a coal transporter, but the company was also hoping to use its ability to generate taxfree bonds to finance a portion of the project. Agrium officials began talking to railroad executives last fall about financing. Alaska Railroad management has since put together a resolution for the Blue Sky project using the corporation's bonding capacity and will present it to the Alaska Railroad board of directors Friday, March 9.

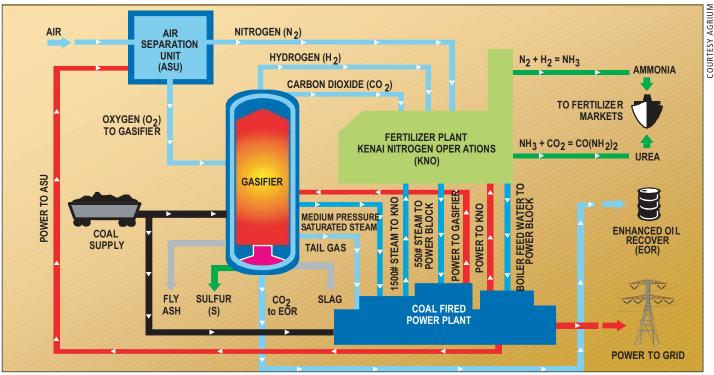
Assuming the board approves the resolution, "the Alaska Legislature will then have to approve issuing tax-exempt debt to finance a portion of the project," Tim Thompson told Petroleum News March 1. Thompson is manager of external affairs for Alaska Railroad.

In addition to Agrium and the railroad, other Blue Sky participants include Usibelli Coal Mine, which is working on the coal side of the project, and Homer Electric Association, which is involved in the power plant and would be responsible for sale of electricity to the Southcentral grid.

"The gas supply in Cook Inlet today, from an industrial user's standpoint, is at a crisis situation," Tim Johnson, Kenai Blue Sky project manager for Agrium, told the Senate Resources committee of the Alaska Legislature Feb. 26. Supply is declining and prices, now tied to Henry Hub spot prices, are rising, he said.

Agrium has been struggling with gas supply for the fertilizer plant it bought from Unocal in 2000, with supplies under a contract with Unocal depleted in 2005. The company has lost 80 jobs at the facility since 2005 even with only a portion of the facility in operation for a part of the year. It suspended manufacturing Oct. 23 last year, Johnson said, and hopes to start up again by the end of the first quarter.

"We have gas now to continue operations through the end of 2007 and no other gas contracts into the future," he said, although the company continues to look for sources of gas.



Project components of Agrium's proposed Kenai Blue Sky project.

Asked by Resources Chair Charlie Huggins, R-Wasilla, if the price of Cook Inlet gas was the issue, Johnson said currently "our biggest challenge is with supply, there simply hasn't been the supply available. We lost supply early, in October," he said, after expecting to have it into November. "And although there will eventually be a price concern, at this point in time the supply is our problem."

Gasification would provide feedstock

The Blue Sky project is Agrium's solution to its feedstock problem. It would bring coal from Healy in the Interior via rail to the Anchorage area for shipment by barge to Nikiski. "We'd construct a new dock to receive the coal in that area and that would be supplied to both the gasifier and the power-production facility," Johnson said. CO2 would be shipped to oil fields for enhanced oil recovery and excess power would be sold on the Southcentral grid.

Fertilizer production — and export — would continue.

The Blue Sky project "gasifier would convert coal and air into the building blocks that are needed for fertilizer production," he said, supplying hydrogen, nitrogen and CO2 to the current fertilizer facility.

The process requires power, so a new power plant would be built "to supply at least 100 megawatts of power to the process."

About 3 million metric tons of coal

would be needed annually, producing almost 1.5 million tons of urea and 100,000 tons of ammonia for export. The estimate now, Johnson said, is that 70 megawatts of power would be available for sale to the grid.

Because of energy requirements, the facilities must be co-located. The gasifier and power plant would be built on a field south of the Agrium facility.

Gas needed in short term

Blue Sky is in phase 2 of four phases. If the project is developed, it wouldn't be in operation until late 2011.

Agrium needs to secure natural gas resources for the plant between now and then. It's crucial that Agrium maintain its existing facility and personnel between now and the startup of Blue Sky, "so our people are out right now looking for additional gas supplies" to keep the plant running, Johnson said.

If the project remains on its current schedule, construction would begin in the spring or summer of 2009.

Phase 1 found the project feasible, he said: coal can replace natural gas as feed-stock and after a detailed look at environmental permitting Agrium believes the gasifier and the power plant can be permitted in the Kenai industrial area.

Phase 2 work is focused on nailing down the detailed design and verifying that coal is available, Johnson said. Agrium will also be screening partners to invest in the gasifier project and selecting a permitting contractor.

Sen. Bill Wielechowski, D-Anchorage, asked whether mercury emissions from a coal-fired power plant, with a limited mercury allocation for Alaska, weren't a problem for the project.

Johnson said while the Clean Air Mercury Rule has only a minor allocation of mercury for Alaska, there is litigation pending to challenge that allocation and the rule includes a trading program for mercury credits.

"We would look to minimize mercury emissions through air quality in the engineering design," Johnson said. Agrium looked at the Clean Air Mercury Rule when it did an evaluation and "determined there were no show stoppers for permitting," he said

200 megawatt power plant

Sen. Tom Wagoner, R-Kenai, asked how large the power plant would be, and how much power Agrium would use.

Johnson said the power plant would be sized to produce about 200 megawatts, 120 to 130 of which would be used at the air separation unit, the gasifier and the existing fertilizer plant. "Additionally, there's about 85 megawatts worth of thermal energy that's transferred to the fertilizer plant as steam."

Wagoner also asked if there would be byproducts other than CO2.

The gasifier also produces slag, "which is molten ash from the coal," Johnson said. Where gasifiers exist elsewhere in the world, "that slag is put to use as a value-added byproduct" that is sold as road base and used to make cinder block or construction block, he said.

Huggins asked about the source of the coal, noting that at one time Agrium was looking at using coal from Beluga.

While Beluga was the source envisioned early in the project, Johnson said, the Healy mine is a good fit for the 3 million ton scenario. Agrium is looking at both options, he said. "An advantage for Healy is it's an existing mine and an existing operation, with a rail link" to water. "Beluga is a very large resource ... with a mine that is in permitting but not in production." Both are being considered for feedstock, "but we've been working on the Healy option to help us develop our preliminary feasibility economics."

see **BLUE SKY** page 13





• FINANCE & ECONOMY

Producer oil profits set for nosedive in Canada

By GARY PARK

For Petroleum News

anada's oil producers could be in for a trying year, with profits headed for a 30 percent rollback, said the Conference Board of Canada, an independent research organization.

It projects earnings for 2007 of C\$10.635 billion, compared with C\$15.028 billion in 2006.

But the think tank predicts a 13.6 percent rebound in 2008 to C\$12.439 billion on the way to an historic high of C\$17.023 billion in 2011.

Rates of return in the sector have remained above 13 percent since 2003, peaking at 17.5 percent in 2006.

For the current year, oil prices are expected to remain

around US\$57 per barrel, well short of the July 2006 peak of US\$78.40, then edge up to US\$59.60 in 2008.

Labor, materials competition 'fierce'

The board report said that competition for labor and materials is "fierce" in Alberta's oil sector.

"Together, they resulted in project costs rising by an estimated 10.4 percent in 2006.

"Increasing wages were a large contributor to the rise in labor costs, which climbed 11 percent. Material costs also increased by over 10 percent, as shortages pushed prices up.

"Lastly, capital costs also grew by a sizeable 8.4 percent, driven largely by interest charges and depreciation," the board said.

For 2007, the board expects labor and materials costs to post a marginal gain to C\$19 billion and C\$41 billion respectively, increases of C\$1 billion and C\$2 billion from 2006.

Board senior economist Michael Burt said labor and material shortages "are expected to continue to be a concern for energy companies," adding cost as a "limiting factor" for producers and could erode their incentive.

Just as troubling for the overall industry is the outlook for natural gas during a period of extreme price volatility, with prices gyrating from C\$7-\$8 per thousand cubic feet in late 2005 to C\$10.-\$12 during the 2006 winter peak, below C\$4 in September, then back to C\$7 currently.

While they wait for prices to recover, companies have postponed C\$7 billion worth of investment. ●



Agrium is in phase 2, front end engineering design, of its Kenai Blue Sky project, which would use gasified coal as feedstock to replace natural gas for the company's Kenai fertilizer plant.

continued from page 12

BLUE SKY

Railroad a financing possibility

"One of the proposals that we have for financing of the project would be to work with the Alaska Railroad and their bonding ability to help provide some of the financing for the project," Johnson said.

Gamble said the railroad was approached by Agrium both for transportation of the coal and for "the possibility of contributing to financing with the use of the railroad's tax-free bonding capabilities."

The railroad's financing team is looking at the funding side of the project and on the operating side the railroad is looking at transportation options, including bringing coal to the Port of Anchorage for shipment by barge and the possibility of a new 42-mile line from the neighborhood of Willow to Port MacKenzie.

At the Port of Anchorage, Gamble said, it's a matter of designing the needed off-loading capability for the coal into a growing port. That proposal is being considered with the Port of Anchorage, he said.

Building a spur to Port MacKenzie would be "a significant investment," he said. Port MacKenzie "is a pricey project" but if that line were down there would be "a real opportunity to move goods to tidewater that would be hard to move all the way around to the Port of Anchorage," including products from the Interior "that would probably do well to go direct to an industrial Port

Mackenzie whereas the container business and some of the ... containers on flatcar or just the straight container business would grow and continue to come into the Port of Anchorage," Gamble said.

Tax-exempt bonding

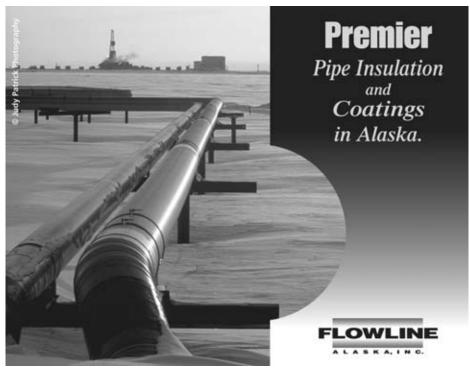
Alaska Railroad Chief Financial Officer Bill O'Leary reviewed the railroad's taxexempt bonding authority, which is based on provisions in the federal act that transferred the railroad from the federal government to the state. He said the railroad hasn't tested the language in the act and its power to issue tax-exempt bonds, but believes taxexempt bonding would be positive for the project.

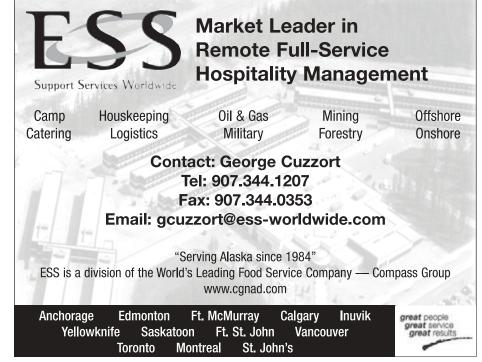
Bonding is possible for two components of the project — partnering with Agrium on

the larger project is one; the second is the rail link to Port MacKenzie.

O'Leary said the total could be in the \$2.5 billion to \$2.6 billion range, legislative authorization required for the railroad to issue bonds. The bonds would be non-recourse to the Alaska Railroad or the State of Alaska; they would be backed by the project, he said.

The Internal Revenue Service would be asked for a private letter ruling on whether the bonds would be tax exempt, O'Leary said, a process which takes six months from when IRS deems the application complete. Part of the importance of legislative approval, he said, is that it makes the project very real which is important in an application for an IRS private letter ruling. •





EXPLORATION & PRODUCTION

Norsk Hydro, Eni discover oil, gas in Barents Sea off Norway's coast

Norsk Hydro ASA has discovered oil and natural gas at a new Arctic prospect with a wildcat well in the Barents Sea off Norway's northern tip, the Norwegian Petroleum Directorate announced Feb. 28.

The well was drilled at Nucula prospect, some 65 kilometers off the northern village of Honningsvaag. While seen as promising, it was too early to estimate the

extent of the find, a directorate news release

Norsk Hydro Vice President Tore Lilloe-Olsen, head of the petroleum and aluminum group's Norwegian exploration unit, also said the discovery was encouraging.

"However, it is important to emphasize that there is a need for further evaluation and analysis of collected data in order to ascertain whether or not the discovery is commercial," he said.

The Norwegian government has allowed drilling in parts of the Barents Sea under strict environmental controls due to the fragile cold weather ecology of the region.

Norway third-largest oil exporter

Norway is the world's third-largest oil exporter, after Saudi Arabia and Russia, and sees the Arctic Barents Sea it shares with Russia as a key new frontier for maintaining production as flows from its more southern offshore fields decline.

The Snoehvit offshore natural gas field, operated by the state-controlled oil company Statoil ASA, is due to come on stream in the same area in December as the first offshore field in the Barents Sea.

The Norwegian branch of Italy's largest oil company, Eni SpA, stuck oil last year at its Goliat field, about 110 kilometers southwest of Norsk Hydro's new find. In January, Eni made a second find at Goliat.

The Norwegian government has allowed drilling in parts of the Barents Sea under strict environmental controls due to the fragile cold weather ecology of the region. It also fears that oil spills could foul the nearby Arctic coastline.

Lilloe-Olsen said the well was drilled by the Polar Pioneer offshore rig without incident or pollution.

Norsk Hydro and Eni each own a 30 percent share in the Nucula fields, while BG Norge ASA and the Norwegian state-owned Petoro AS each own 20 percent.

Statoil is expected to acquire Norsk Hydro's share as part of a plan announced in December to combine the two groups' oil operations into a new company.

—THE ASSOCIATED PRESS



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Room for big and small in oil sands

Suncor Energy rolls out plans for 46 percent hike in production, applying new technology; newcomer North Peace makes initial public offering to support Peace River plans

'Our work has only

just begun, as we

while minimizing

By GARY PARK

For Petroleum News

he veteran is pushing ahead with expansion and the newcomer is testing the market with an initial public offering, as the oil sands keep rolling regardless of doubts hanging over the Alberta government royalty review and the prospect of tougher environmental regulations.

Oil sands pioneer Suncor Energy has

taken the first formal step towards a 120,000 barrel per day expansion of its 260,000 bpd operation as it prepares to break with almost 40 years of traditional mining methods.

At the other end of the scale, North Peace Energy became the latest entry to the sector as it embarked on fund raising through an initial public offering of shares to support development of 3.1 bil- these technologies lion barrels of bitumen with a your or advancing the oil resource in northwestern sands industry Alberta.

the footprint of The Suncor project, called development." Voyageur South, is a key part —Suncor Energy **CEO Rick George** of the company's plans to achieve crude production of 500,000-550,000 bpd by 2010-12.

What makes the plan especially interesting is Suncor's introduction of a new technology, replacing the use of trucks and mechanical shovels to mine bitumen and deliver it to an upgrader.

After more than a year of commercial-scale testing at a cost of about C\$100 million, Suncor is confident the mobile ore preparation method can reduce noise pollution, air emissions (notably nitrogen oxide) and the work-

Other technological advances Suncor hopes to introduce are new methods to advance tailing reclamation and reduce water inventories, while improving heat integration and extraction processes that could lower energy consumption and greenhouse gas emission intensity.

More intormation this summer

At this stage, Suncor has released only a public disclosure document.

By the time it is ready to file a formal regulation application this summer, it expects to have completed a full assessment of the technological advances and

North Peace is entering the field with no staff and no production, but a large land holding, which it started to assemble in late 2005 and has been drilling delineation wells since mid-2006.

have a preliminary cost estimate for the expansion.

Chief Executive Officer Rick George

said investing in new technology is a "key to ensuring oil sands development provides economic benefits in a responsible manner."

He said Suncor is working closely with stakeholders to minimize the significant pressures the pace of oil sands development is placing on the community and the environment.

"Our work has only just begun, as we continue to refine these technologies with a goal of advancing the oil sands industry while minimizing the footprint of development," he said.

Pending regulatory approval, Suncor is targeting a construction start in 2009 on an expansion that is expected to have an

operating life of 40 years.

North Peace has no staff, production

North Peace is entering the field with no staff and no production, but a large land holding, which it started to assemble in late 2005 and has been drilling delineation wells since mid-2006.

Chief Executive Officer Louis Dufresne, while trying to put together the pieces of a company, has been relying on consultants who are experienced in cold flow heavy oil, such as the BlackRock Ventures' Seal project acquired last year by Shell Canada for C\$2.4 billion.

Cold flow involves conventional oil wells that need less time and money to achieve production than thermal projects that inject steam to melt the bitumen and force it to the surface.

North Peace is now planning a 20well program starting this fall, but is not yet in a position to set a capital budget, although Dufresne said he has had no difficulties raising C\$12 million in nonbrokered private placements. •



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NATURAL GAS

Commission revisits Prudhoe gas offtake

2006 study finds major gas sale would provide some 4 billion additional BOE; oil capture prior to gas sales increases recovery

By KRISTEN NELSON

Petroleum News

ith a major gas sale from Alaska's North Slope on everyone's wish list, the Alaska Oil and Gas Conservation Commission is revisiting what an allowable offtake rate would be from Prudhoe Bay.

In a study completed late last year, commission staff concluded that a major gas sale would add some 4 billion barrels of oil equivalent to Prudhoe Bay recovery based on the known 24 trillion cubic feet of natural gas at the field, but also concluded there was insufficient evidence to recommend increasing the offtake rate at this time.

The commission sets gas offtake rates under its charge to promote greater ultimate recovery and prevent waste of hydrocarbon resources in the state. In 1977, at the startup of production, it set a maximum gas offtake rate of 2.7 billion cubic feet per day from the Prudhoe oil pool, well below the 4.5 bcf a day that has been discussed recently for a natural gas pipeline from the North Slope.

Gas offtake is an important issue at Prudhoe Bay because it's an oil field.

Gas extraction lowers reservoir pressure, decreasing the energy required for oil production and oil recovery suffers, commission senior reservoir engineer Jane Williamson said in a Feb. 28 public summary of the Prudhoe oil pool offtake study. Gas is produced at Prudhoe along with the oil and the bulk of the gas is reinjected to maintain reservoir pressure and increase oil production.

While the commission has not received an application to alter its 1977 gas offtake rule, it is trying to position itself so that it is not a holdup when there is a major North Slope gas sale, commission Chair John Norman said at the public meeting.

The commission then went into executive session to hear details of the study from Frank Blaskovich, a consulting reservoir engineer who worked with commission staff on the study. They used information provided by the Prudhoe Bay working interest owners under a confidentiality agreement. The commission has said in the past that when it holds a public hearing on changing the gas offtake rate, it will require that enough information be put on the public record to support its decision.

Study done in 2006

With the North Slope producers and the State of Alaska working on a project for gas sales from Prudhoe Bay and Point Thomson, the commission held hearings and in late 2005 concluded there was a need to revisit the offtake rate question.

The 1977 decision was made "without benefit of production history," Williamson said in a Feb. 28 memo to the commission. The decision needed to be revisited "in light of several decades of reservoir development and information that has become available since 1977," she said.

The 2006 study was done with the Prudhoe working-interest-owner full-field reservoir simulator, with a range of runs from no gas sales to rates of 1 bcf to 5.6 bcf per day. Williamson told the commission that the majority of some 130 runs involved offtake rates of 2.3 bcf to 4.3 bcf a day, with gas sale startup times ranging from 2015 to

2024. "Some simulation cases were run to test the impact of other factors such as changes in waterflood operation, fuel usage, CO2 offtake and some drilling/workover variations," Williams said, as well as the effect of different assumptions about the end of field life, when costs exceed the value of production.

Comparisons were made based on barrel of oil equivalent to allow comparison of total energy content and the study concluded that a major gas sale would add some 4 billion barrels of oil equivalent to recovery; 11.4 billion barrels of oil, condensate and natural gas liquids have been produced to date. In 1977 the projection of total recovery from Prudhoe was less than 9 billion barrels of oil, an assumption which included gas sales beginning in 1981 and a 2003 estimated end of field life.

Strategy: increase oil capture

Williamson said the study concentrated on trends and was not looking for a single optimum development strategy.

Results showed that the most promising strategy was to increase oil capture prior to the beginning of gas sales, a strategy which the study found "can increase hydrocarbon recovery and result in recovery trends that are less sensitive to either gas offtake rates or gas sales startup dates."

"This was the only mitigation option evaluated that significantly improved trends in BOE recovery," Williamson said.

In the public summary of the report Williamson said that at this time there is insufficient evidence to recommend increasing the offtake rate established in 1977, but said the Prudhoe owners should be required to do depletion planning prior to committing to selling gas. Pre-major gas sales strategies should include: increasing oil capture prior to major gas sales and minimizing well and facility downtime. She also said a mechanism is needed for the commission and the working interest owners to exchange information during the depletion planning stage. ●

INTERNATIONAL

Venezuela's Chavez decrees oil takeover

President Hugo Chavez ordered by decree on Feb. 26 the takeover of oil projects run by foreign oil companies in Venezuela's Orinoco River region.

Chavez had previously announced the government's intention to take a majority stake by May 1 in four heavy oil-upgrading projects run by BP PLC, Exxon Mobil Corp., Chevron Corp., ConocoPhillips Co., Total SA and Statoil ASA.

He said Feb. 26 that he has decreed the nationalizations that will see state oil company Petroleos de Venezuela SA, or PDVSA, taking at least a 60 percent stake in the projects.

"The privatization of oil in Venezuela has come to an end," he said on his weekday radio show. "This marks the true nationalization of oil in Venezuela."

By May 1, "we will occupy these fields" and have the national flag flying on them, he said. The law is expected to be published soon in the government's official gazette, and the companies will have four months from then to negotiate terms and conditions with PDVSA to decide whether they will take part in new joint ventures as minority partners, Chavez said.

The Orinoco projects are the only oil-producing operations in the country under private control, which Chavez called "disgraceful." But he added that Venezuela does not "want the companies to go. ... We just want them to be (minority) partners."

—THE ASSOCIATED PRESS

FINANCE & ECONOMY

Canadian oil patch deals surge in '06

Oil and gas deal-making tallied C\$56.9 billion in Canada last year, an increase of 32 percent from 2005, and accounting for one-quarter of all Canadian mergers and acquisitions, said investment banker Crosbie & Co.

But the list includes the planned C\$8.7 billion takeout of Shell Canada by its parent company Royal Dutch Shell — a transaction that has yet to be concluded.

The other major transactions were TransCanada's US\$3.4 billion purchase of ANR Pipeline from El Paso and Canadian Natural Resources' US\$4.25 billion acquisition of Anadarko Canada.

—GARY PARK

EXPLORATION & PRODUCTION

Shell delays oil shale production decision

A decision by Royal Dutch Shell on whether to begin commercial oil shale development won't happen by the end of this decade as planned because the permit process has taken longer than expected.

Jill Davis, spokeswoman for an experimental project in western Colorado, said they'll decide shortly after 2010 whether to proceed.

"We just need a little more time to get our test projects going on the federal leases," she said. "Those leases took a little more time than we thought."

Shell plans to further test its in-ground mining process that uses rows of electric heaters to cook the shale oil out of the rock and pump it to the surface.

Leases for oil shale extraction issued in December were the first granted in 30 years, two decades after companies abandoned large-scale commercial efforts in western Colorado because coaxing oil out of rock was laborious and expensive. The leases were issued to Shell, Chevron and EGL Resources.

—THE ASSOCIATED PRESS



PETROLEUM NEWS • WEEK OF MARCH 4, 2007

Companies involved in Alaska and northern Canada's oil and gas industry

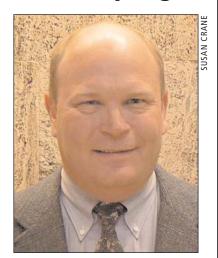
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Business Spotlight



Charles D. Bates, General Manager

Alaska Aggregate Products LLC

Alaska Aggregate Products (AAP) is a subsidiary of Alaska Interstate Construction (AIC) recently formed to develop and operate aggregate operations primarily on Cook Inlet Region Inc. (CIRI) and Eklutna Inc. lands. The location of aggregate resources will enable AAP to provide a wide range of competitively priced aggregate products to Anchorage, Mat-Su and the Kenai Peninsula.

AIC hired Charles Bates in 1995 to participate in the Fort Knox gold mine's startup. He later helped other regional Native corporations launch mining operations, rejoining AIC in early 2006 to manage AAP. Charles attacks both work and play with a big smile, and especially enjoys Alaska Aces and Denver Broncos games, entertaining his family in South Anchorage, and blasting rock elsewhere in Alaska.



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continued from page 1

LAWSUIT

He said North Slope whalers and elders are increasingly worried about the stepped-up pace of exploration in recent years.

"People feel like it's just too much, too soon, too fast," Itta said. "We're seeing it onshore with leasing in sensitive areas of NPR-A, and we're seeing it offshore, which is even more sensitive because of the whale migration. MMS's own numbers indicate as much as a 29 percent chance of a large spill from development related to the current five-year plan, and if they used more accurate numbers, it could be considerably higher. I'm kind of surprised that the government is willing to put our way of life at such high risk."

The borough has argued that the 2003 Environmental Impact Statement justifying lease sales in the five-year plan is fundamentally flawed. It said industry has failed to demonstrate any proven method of oil spill cleanup in broken ice conditions and that the amount of estimated exploration activity following the sale is likely understated

because the EIS uses outdated oil price estimates.

Ice can be an advantage

Ron Morris, president and general manager of Alaska Clean Seas, told Petroleum News Feb. 27 that ice can often work as a natural boom and prevent crude from spreading as quickly as it might in open water.

"We have methods in our tactics manual that are recognized methods for cleaning up oil in broken ice," Morris said. "It's not your typical clean-up situation — putting out booms and skimming it off the surface — because you have to contend with ice, but you take opportunities to find oil in pockets where it has been trapped by the ice. Your encounter rate is going to be lower than if you have open water, but depending on the quantity of oil ice can actually help you corral the oil; it works as a sort of a boom. ... Ice can actually impede the spread of the oil. ... You take advantage of the fact you have broken ice — leads — that are going to trap the oil."

He said there are actually several techniques that can be used in broken ice. (One is) "in-situ burning. Once you go

through the checklist with the regulatory agencies and get approval, in-situ burning can be very effective."

ACS is the non-profit spill response cooperative for northern Alaska, onshore and offshore.

Morris said ACS is currently participating in a joint industry project through Sintef (The Foundation for Scientific and Industrial Research at the Norwegian Institute of Technology) "in a research and development effort in Norway looking at removing oil in Arctic ice conditions. This three-year program will culminate with actual oil in water testing off the coast of Norway," something that is not allowed in U.S. waters. (See related article on page 7 outlining a recent Arctic spill test by MMS.)

Gary Strasburg, MMS' media team lead in Washington, D.C., told Petroleum News Feb. 27 that the agency had "no statement at this time" about the lawsuit.

Lease sale 202 is the last of three sales in MMS' current five-year offshore plan, which ends in June 2007. The July 2007-June 2012 five-year plan for offshore Alaska includes two sales for the Beaufort and three for the Chukchi Sea. ●

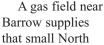
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INSIDER

next winter's drilling season, Hanley

The rig is a "mobile rig, not a wheeled rig, so it can be broken down and transported on rolligons," he said.

The partnership's Foothills well could be the first gas exploration well drilled on the North Slope — one that is actually targeting natural gas instead of oil.





MARK HANLEY

Slope community with fuel, but to date there have been no wells drilled in northern Alaska that targeted gas for possible shipment to outside markets via a pipeline that has not yet been built.

On Nov. 15, Doug Wilson, Anadarko's Alaska exploration manager, told an Anchorage audience that the Houston-based independent was gearing up for a 3-D seismic survey in the Brooks Range Foothills this winter, with the intention of drilling a gas exploration well in the winter of 2007-08.

London-based BG Group, a 1986 spin-off from the privatization of the British government-owned gas monopoly British Gas, officially entered Alaska in January 2006, when its Foothills participation agreement with Anadarko Petroleum and Petro-Canada went into effect.

The agreement gave BG Group's new Alaska subsidiary BG Alaska E&P Inc. a "33.33 percent equity share in 2.1 million acres of land in the Foothills area of the Alaskan North Slope," the company said in a press release.

Under the terms of that agreement, each partner owns a one-third working interest in the acreage.

Anadarko has said that when it had its partnership agreements in place and was reasonably certain a gas line would be built, it would begin gas exploration.

Note: The State of Alaska's Division of Oil and Gas refers to the Brooks Range Foothills as the "North Slope Foothills." The Foothills lie along the southern boundary of the North Slope, which technically ends at the Brooks Range.

—KAY CASHMAN

Canada on guard against LNG tankers; FERC about to start hearings

ALREADY AT ODDS with the United

States over sovereignty in Arctic waters, the Canadian government has set the stage for a second dispute, telling Washington it is opposed to the passage of liquefied natural gas tankers in the waters separating Maine and New Brunswick.

Two U.S. companies — Downeast LNG and Quoddy Bay LNG— have applications before the U.S. Federal Energy Regulatory Commission to build import terminals on the Maine coast.

But Ottawa said the risks of navigating the narrow channel of Head Harbor Passage are too great, given the region's fogs, high tides and a whirlpool rated as the second most powerful in the world.

Canadian ambassador to Washington Michael Wilson, in a letter to the U.S. regulator, Secretary of State Condoleezza Rice and Energy Secretary Sam Bodman, said his government will not allow LNG tankers to pass through or use Head Harbor.

He said the dangers are too great in "the environmentally sensitive and navigationally challenging marine and coastal areas of the sovereign Canadian waters of head Harbor Passage."

He said the Canadian government is "therefore prepared to use domestic legal means to address our concerns and prevent such passage from occurring."

Wilson said the decision is based on studies of environmental concerns, navigational safety and "other considerations."

FERC is about to start hearings on the two LNG applications and is expected to make a decision in about 18 months. The companies had originally hoped to start construction this year and bring the terminals into service in 2011.

Wilson said the Canadian government was taking its stance ahead of the hearings "so that proponents could withdraw or amend their project applications. ...

This will save them from having to expend resources on projects which cannot proceed as currently envisioned."

However, Washington insists the passage is in international waters, refuting Canada's claims that the water flows

through a channel created by Canadian islands.

The U.S. also contends that even if Canada does have sovereignty over the waters, U.S. ships would have right of passage under the international Law of the Sea Treaty.

Wilson assured the U.S. that Canada is ready to meet its natural gas needs by taking into account the "concerns of both our countries."

—GARY PARK

Popp leaving Kenai borough to head AEDC

THE BOARD OF DIRECTORS of the Anchorage Economic Development Corp. said Feb. 27 that Bill Popp will replace its outgoing President and CEO Bob Poe, who announced his departure in January.

Popp, currently oil, gas and mining liaison for Kenai Peninsula Borough Mayor John Williams, will take the reins of the private nonprofit corporation on April 2.

"We were very pleased with the strong selection of candidates we had — our finalists were all outstanding individuals," said Sophie Minich,



BILL POPP

chair of AEDC's board. "Bill clearly stood out among them, and we are really looking forward to AEDC's future under his direction."

Once named Business Person of the Year by the Alaska State Legislature, Popp will be responsible for leading AEDC in its efforts to encourage growth and diversity in the Anchorage economy, AEDC said in a press release. He will set the strategic direction in marketing Anchorage to Alaska companies and global industries considering Anchorage as a place to do business.

—KAY CASHMAN

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EXPLORATION & PRODUCTION

NWT moves to protect Mackenzie waters

Northerners worry thirsty oil sands could damage major waterways of Canadian Northwest; Kearl oil sands gets conditional approval

By ROSE RAGSDALE

For Petroleum News

xtracting petroleum from Alberta's oil sands is a big challenge in itself.

But potentially detrimental effects on the water quality of northwestern Canada are raising the stakes of development for the province's northern neighbor.

The Northwest Territories and others took steps recently to ensure that they get a chance to play a role in the oil sands' future, and in the process, safeguard the future of the Mackenzie River system.

Responding to concern expressed by NWT's Ministry of Environment about dropping water levels and possible contamination, Alberta Environment agreed to travel to Yellowknife for a meeting in the next few weeks.

Bob Bailey, deputy minister of NWT Environment, said he sought the meeting because of growing concern that the Northwest Territories might not have a voice in consultations being done in Alberta to review development in the oil sands.

"We want a collective opportunity to state our case about water quality," he said.

The NWT is the second jurisdiction to complain about cross-border environmental effects of Alberta's oil sands in recent months. Saskatchewan is currently negotiating with its upwind neighbor over acid-rain-causing airborne emissions.

Most of population on Mackenzie River system

Most of the population of the NWT lives on the Mackenzie River system, which is largely fed by inflows from northern Alberta. Aboriginal groups in the region complained to Alberta's energy regulator last fall that water

The NWT is the second jurisdiction to complain about cross-border environmental effects of Alberta's oil sands in recent months. Saskatchewan is currently negotiating with its upwind neighbor over acid-rain-causing airborne emissions.

levels are dropping in the Slave River, which provides about three-quarters of the water in Great Slave Lake.

Government figures show the Slave River was consistently about half a meter lower last year than its 2002 level. At one point in September, the river was down three

Growing numbers of Canadians, including members of the oil industry, are worried that water use by oil sands companies may be at least partly to blame. Some estimates suggest the industry returns only 10 percent of the 500 million cubic meters of water it takes annually from the downstream Athabasca River.

Bailey said the ministry's concerns are part of a larger picture, and others, including the Mackenzie River Basin Board, are watching the oil sands development closely.

Though Alberta officials say the low water levels are more likely the result of drought, possibly related to climate change, they agreed to meet with Bailey to hear the northerners' viewpoint on managing water use on the Athabasca and Slave.

\$15 million in research funded

Separately, Imperial Oil Ltd., one of Canada's top pro-

ducers of oil and gas, and Alberta Ingenuity announced Feb. 27 a partnership to fund \$15 million in research over the next five years at the University of Alberta's engineering school that will focus on water use in oil sands development. Government-affiliated Alberta Ingenuity spends income from a \$1 billion endowment on finding ways to improve business, education and the environment in Alberta.

The Imperial Oil-Alberta Ingenuity Centre for Oil Sands Innovation was given a mandate to find more efficient, economically viable, and environmentally responsible ways to develop Canada's oil-sands resources, according to a joint statement.

Kearl conditionally approved

Meanwhile, Canadian regulators conditionally approved Imperial Oil's plans Feb. 27 for the C\$8 billion Kearl oil sands project, but urged the Alberta government to ease social and environmental strains caused by the oil

The decision by a joint panel of the Canadian Environmental Assessment Agency and Alberta Energy and Utilities Board placed 17 environmental, planning and safety conditions on the approval for the 300,000-barrel-aday project, which followed a hearing in November.

Imperial has said it wants to develop the Kearl oil sands mining and bitumen extraction project in stages, starting with a 100,000-bpd phase.

Exxon Mobil Corp. owns a 30 percent interest in the proposed project, located 44 miles north of Fort McMurray.

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PLAN

The governor also met with Interior Secretary Dirk Kempthorne, Energy Secretary Sam Bodman and Alaska's congressional delegation.

One-stop regulatory shopping

Marty Rutherford, deputy commissioner of the Department of Natural Resources, and head of the administration's gas pipeline team, was also in Washington for the meetings. She said the \$500 million capital match will be toward the cost of obtaining a FERC certificate and could not be rolled into the tariff, so it would result in a lower tariff for all shippers. Over 25 to 30 years the state would recoup a good deal of that \$500 million because of lower tariffs.

The state will mimic what the federal government has done and provide a single point of contact, a state pipeline coordinator, for coordinating among state regulatory agencies on permitting. Rutherford said the federal government has indicated it is willing to integrate its regulatory process with that of the state. The goal, she said, is to provide shopping for state



one-stop MARTY RUTHERFORD

and federal regulatory processes.

On the upstream side of the project, the state would reward producers making commitments to ship in a first open season with a contractual commitment that if the Legislature changed the production tax rate for gas in the first 10-year period, the producers would be reimbursed the difference as a tax credit. Rutherford said the state will change its existing lease provisions to provide predictability in how royalty rates are determined. The formula used now is complicated, she said, and the state would make the formula more certain for producers who commit gas into the project. The state will also

change lease provisions on how it switches between royalty in value and royalty in kind to give producers longer notice and will take the transportation commitment to market for RIK.

All of this, she said, is intended to provide some elimination of risk for parties who will develop natural gas.

State wants commitments

What does the state want?

Rutherford said applicants would have to commit to hold an open season within three years of a licensee being determined and commit to a firm date for an application to FERC. Applicants would have to identify interim steps they intend to take and timing within the application and would need to tell the state how they intend to use matching funds.

The state wants financial provisions that will ensure that the tariff rate is low for all upstream companies and a commitment to solicit for expansion demand on the pipeline every two years and, when reasonable, to expand the pipeline.

The state also wants applicants to indicate how they intend to deal with the risk of cost overruns, and how they might take on some of that risk in the tariff structure. The state wants at least five off-take points within Alaska and a commitment to hire Alaskans to the degree allowed by

The state wants to make sure, Rutherford said, that applicants are able to perform commitments they are making to the state. The purpose of AGIA is to move the project forward and put Alaska skin in the game so the nation and applicants know the state is willing to share some of the risk, Rutherford said.

The administration will ask the Legislature to pass AGIA this session and hopes to have a request for proposals out by June or July, with applications due Oct. 1. Rutherford said the timeline would be for state and public review and a written decision to the Legislature by the end of January 2008, with a goal to have a license issued April 1, 2008, so that field work can begin in the summer of 2008. •



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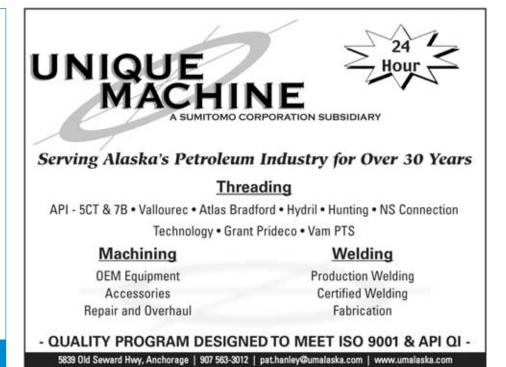


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continued from page 1

GAS PLAY

petroleum geologist Bryan Sralla told Petroleum News on Feb. 27.

The Hewitt leases lie over what geologists call the Sapsuk Lake anticline, a major fold in Mesozoic strata that outcrop at the surface in that area. The Mesozoic rocks are known to have petroleum potential, but presence of pore-clogging minerals formed from volcanic fragments in the rocks has long caused concerns about reservoir quality.

But following some advice from Alaska geologist Robert Blodgett, Sralla conducted a field investigation of Triassic strata of the Kamishak formation, where these rocks are exposed on the coast at Puale Bay on the southeastern side of the Alaska Peninsula.

Carbonate rocks

At Puale Bay a thick sequence of carbonate rocks particularly intrigued Sralla. Carbonate rocks consist predominantly of calcium or magnesium carbonate — rock containing calcium carbonate is generally known as limestone, while rock containing calcium/magnesium carbonate (the mineral dolomite) is known as dolostone.

"At Puale Bay there is a thick carbonate sequence that is about 2,000 to 2,500 feet thick," Sralla said.

And in the lower sections of the Triassic Kamishak formation, Sralla found carbonate rocks, crammed with fossil corals and shellfish. Fractures, cavities and pores in the rocks indicated significant petroleum reservoir potential — a feature of particular importance since carbonate rocks would not become clogged with altered volcanic material in the same way as the potential reser-



The Triassic Kamishak formation exposed at Puale Bay.

contain what geologists term "hydrothermal dolomite," formed when magnesium from warm underground fluids reacts with calcium carbonate in limestone.

Because the fluids that pervaded this type of rock tend to cause extensive fracturing, hydrothermal dolomites are associated with particularly good petroleum reservoirs.

"Very prolific reservoirs are often associated with these hydrothermal dolomites," Sralla said. "...Hydrothermal dolomites have been very much in the literature in the last several years. There is pervasive theory

explanation of how hydrothermal dolomite could have formed.

Source and seal potential

Above the carbonate rocks lie upper Kamishak shales. These shales are equivalent to the prolific Shublik oil source rock of Alaska's North Slope and contain a large amount of organic material. The shales would make an excellent source rock in the Alaska Peninsula Area and may be the source for a well known oil seep at Oil Creek, west of Puale Bay.

"We think that this looks every bit as good or better than the Shublik," Sralla said.

And just to confirm the source rock potential of the region, Sralla's microscope slides revealed pervasive bitumen staining and dead oil in pore spaces of the Kamishak carbonates. In addition, the upper Kamishak shales could effectively seal a Kamishak carbonate reservoir.

"So potentially the Triassic has three elements: a source, a seal and now a potential reservoir rock in a hydrothermal dolomite," Sralla said.

Evidence from the past

Their interest piqued by an apparent lack of previous reports of dolomite in the Triassic of the Alaska Peninsula, Sralla and Blodgett embarked on a detective adventure through the archives of Alaska Peninsula petroleum geology, pooling information from several companies that had been active in the region in the past.

"We've got a lot of data that's been buried for 50 years now," Blodgett said.

They discovered that legendary prospector and geologist Earl Grammer had championed a Triassic oil play on the Alaska Peninsula back in the 1950s; Grammer had, in fact, persuaded the Standard Oil Company of California to pursue that play.

But Sralla and Blodgett's investigations led them to the Bear Creek No. 1 well, drilled near Puale Bay in 1959 by Exxon; at a depth of 14,000 feet, this was the deepest well in Alaska at the time.

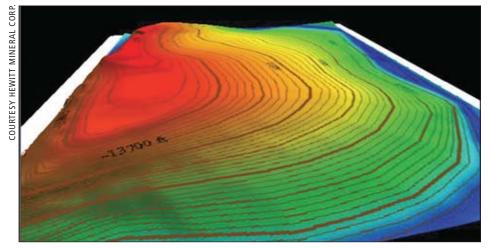
"They were drilling for the Triassic and drilled deep and didn't find any reservoir rock there," Sralla said. According to "Crude Dreams," Jack Roderick's account of the history of the Alaska oil industry, Shell partnered with Exxon in the drilling of Bear Creek No. 1 and the lease was held in the name of Earl Grammer's sister.

The rig used to drill the Bear Creek well later drilled the discovery well at Prudhoe Bay, Blodgett said (the Prudhoe Bay discovery in 1968 diverted the attention of oil explorers away from the Alaska Peninsula and Cook Inlet for decades to come).

But Sralla and Blodgett dug through boxes of core chips from the Bear Creek well, archived at the Alaska Geologic Materials Center, and concluded from fossil evidence that the well did in fact penetrate a Triassic reservoir. The prevalence of dolomite in the core chips confirmed that conclusion.

Sralla said that well logs from Bear Creek show good permeability over a 500foot interval at the inferred level of the Kamishak. A drill stem test in the top of that

see GAS PLAY page 20



A computer model of the top of the Kamishak formation in the Sapsuk Lake anticline. The anticline closure covers an area of about 60 square miles.

voir sandstones of the region.

Later examination of microscope slides of the rocks confirmed a prevalence of dolomite in the lower Kamishak sequence. But what particularly caught Sralla's attention was microscope evidence that the rocks that a lot of prolific dolomite reservoirs are in fact hydrothermal dolomites."

And the known existence in the Alaska Peninsula area of very deep faulting that could have supported the movement of chemically laden fluids provides a plausible



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SALES

Peninsula, with a total bonus bid of \$38,995.

Banks attributed the lack of interest in the sales to two factors, both of which relate to pending actions by the federal government.

In the foothills a large swath of land still awaits conveyance from the federal government to either the State of Alaska or to Arctic Slope Regional Corp., Banks said, commenting that "a good deal of the (existing) state acreage is now under lease."

"Both the state and the Arctic Slope Regional Corp. have selected lands for conveyance from the federal government. Companies are unlikely to bid on the land until those competing claims are resolved," the division said in a statement following the sale.

Banks told Petroleum News that the U.S. Bureau of Land Management is committed to convey the land by 2009. Banks also said

that expansion capability for a future North Slope gas pipeline is critical to future leasing and development in the foothills.

Waiting for MMS lease sale

And the Alaska Peninsula?

Industry is anticipating a federal offshore Bristol Bay lease sale in the North Aleutian basin, Banks said. The deepest part of the basin lies offshore, so that onshore exploration is intrinsically linked to what happens offshore. The U.S. Minerals Management Service estimates the basin holds 750 million barrels of oil and 8.6 trillion cubic feet of natural gas, and has included the area in its next five-year lease sale plan.

"In the Peninsula it really is a story about the rocks," Banks said.

However, Banks said that the division wants to provide predictability for industry and is committed to holding regular lease

"Participation in today's sales was dampened by some of industry's uncertainties," Banks said. "As oil and gas prices change, as other governments work on land status issues, and as access to a gas pipeline becomes more certain, the best thing for the state is to maintain our stable, predictable schedule of regular annual lease sales.

"We are committed to our regular schedule of lease sales around the state, and are confident that both established majors and enterprising independents will continue to take advantage of the outstanding opportunities for oil and gas exploration and production in Alaska."

Hewitt Mineral

Hewitt Mineral told Petroleum News that the Alaska Peninsula tract it bid on consolidates the company's lease position southwest of Port Moller. The company bought four tracts in that area in the October 2005 lease sale and the new tract covers a section of the Sapsuk Lake anticline not included in the earlier leases.

Since the 2005 lease sale the company has been researching Alaska Peninsula geology and has identified what it believes to be a new natural gas play involving Triassic hydrothermal dolomite (see the accompanying article).

Hewitt concurs with the view that an MMS offshore lease sale will provide the key to opening up exploration in the Bristol Bay region. As a small company, Hewitt needs a partner to help fund the seismic surveying and drilling that would be required to explore its Alaska Peninsula acreage. Exploring the Triassic prospect that the company is interested in would require a 14,000-foot well.

"We've had some preliminary discussions with Shell and they've told us ... that their main focus is offshore in Bristol Bay," Hewitt geologist Bryan Sralla said.

But, apart from the cost of exploration, the cost of developing infrastructure and export facilities in the remote Bristol Bay area would require a significant scale of exploration and development, Stralla

"I think we need some critical mass in this area," he said.

—ALAN BAILEY

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GAS PLAY

interval flowed some gas and also flowed saltwater. Sralla's calculations from the flow rate of water indicate a good permeability of about 21.4 millidarcies.

"What that tells us is that this Kamishak is a very good reservoir in this Bear Creek well where it was tested," Sralla said. "... We feel really good that we've uncovered some significant evidence that had been overlooked out there. We say with a pretty good degree of certainty that this test was in the lower Kamishak."

So what does all of this mean when it comes to oil and gas prospects under Hewitt's acreage near Herendeen Bay, or elsewhere?

Sralla said that the Sapsuk Lake anticline in the Hewitt acreage has a closure area of about 60 square miles, much larger that the structures associated with the oil and gas fields of the Cook Inlet. But the Triassic Kamishak formation appears to be buried to a depth of about 14,000 feet, likely placing it within the temperature window where the organic source material would have been cooked into natural gas rather than oil.

Assuming a reservoir thickness of about 120 feet, a porosity of about 7 percent and the high pressure resulting from deep burial, the reservoir could contain huge amounts of gas.

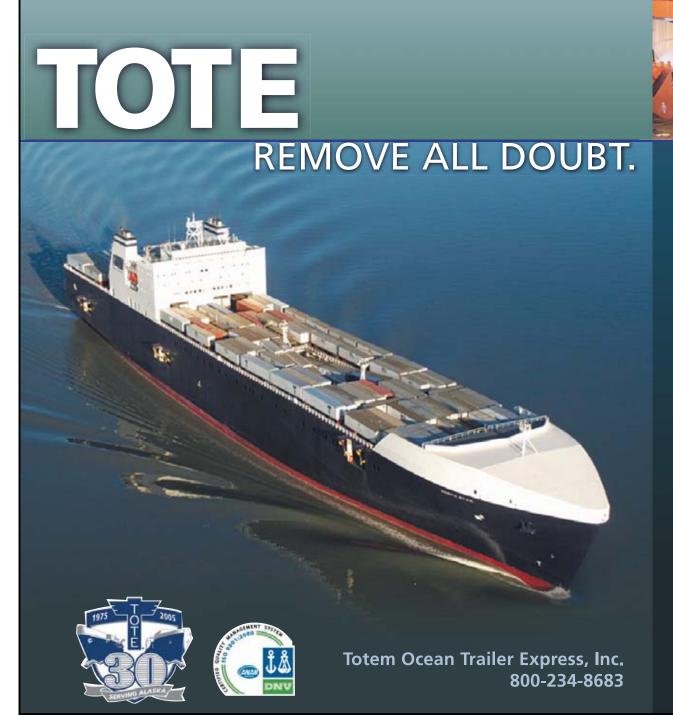
"With those sorts of pressures you could have multiple trillions of cubic feet of gas in a structure of this size," Sralla said. Perhaps even more intriguing is the regional implication of a widespread Triassic reservoir rock. Carbonate rocks of the type found in the lower Kamishak form on stable marine platforms that can extend over large areas. And geologists have found Triassic carbonate rocks to the west of the Iniskin Peninsula (on the west side of the Cook Inlet, opposite Kachemak Bay), and at Port Graham on the eastern side of the lower Cook Inlet.

"What gives us some reason to believe that there might be an extensive areal extent of this carbonate deposition is that it appears that there was a fairly pervasive carbonate platform during the Triassic," Sralla said.

And it appears that none of the wells in the lower Cook Inlet ever drilled deep enough to penetrate the Triassic. "If it is shown that this lower Triassic carbonate is extensive it might have pretty large ramifications for exploration in the lower Cook Inlet," Sralla said. "... The interval seems to extend across the lower Cook Inlet. If that could be a seal, a source and a reservoir, it could make some of those anticlines down there attractive targets."

Meantime, Sralla and Blodgett are publishing their findings for peer review by geologists and industry.

"I can say ... that of all of the rocks that we've looked at on the Peninsula so far, this is by far and away the most interesting thing we've seen in the field," Sralla said. "... We think it could be significant. It argues that these structures need to be tested down to the Triassic to fully evaluate their potential."



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