Petroleum news

page 15 Alaska Oil & Gas Association says Ballot Measure 4 bad public policy

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JUDY PATRICK

Osprey platform at Redoubt unit

Pacific Energy looking for partners; wants to sell down, farm-out Cook Inlet assets

In a continuing effort to pay down its debts, Pacific Energy Resources Ltd. is weighing its options for selling down or farming out some of its assets in Alaska, company directors said during a second quarter conference call on Aug. 19.

More streamlined since bringing in $135 million through a two-part sale of onshore assets in California last month,

see **PACIFIC ENERGY** page 12

Anchorage to study geothermal

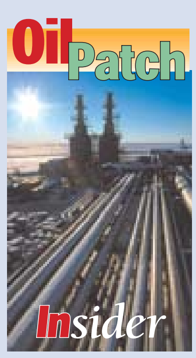
The Municipality of Anchorage and a company with ties to Iceland have partnered to study whether geothermal energy could be used to help power the largest city in Alaska.

Through a memorandum of understanding signed Aug. 15, Iceland Energy America Inc. will fully fund a study to gauge the feasibility of tapping regional geothermal reservoirs for electric generation and direct-use hot water in Anchorage.

In return, the municipality will provide "informational support" by identifying facilities, land ownership, lease

see **GEOTHERMAL** page 13

Buffet, Gates cause buzz in Alberta



If you were looking for two guys not likely to be fazed by the financial scale of Alberta's oil sands would you need to look beyond Bill Gates and Warren Buffett?

But what do you conclude when two

see **INSIDER** page 13

EXPLORATION & PRODUCTION

Moving ANS syrup

BP in initial testing phase for extracting Ugnu heavy oil at Milne Point

By ALAN BAILEY
Petroleum News

Fingers are crossed at BP as the company's heavy oil project at S-Pad in the Milne Point unit on Alaska's North Slope moves into its first test phase. The company is lowering a pump into a well designed to extract oil with the consistency of chocolate syrup from the Ugnu formation, 4,200 feet below the surface. The test well is located on an S-pad extension that was constructed for the project.

An initial test should take about three weeks, with a phase one testing project continuing into 2009 and involving the drilling of three more wells

see **ANS SYRUP** page 18

ALAN BAILEY

Heavy oil recovered from the test well during preparations for installation of the downhole pump. A weight dragged in the oil surface shows the syrupy consistency of the liquid.

EXPLORATION & PRODUCTION

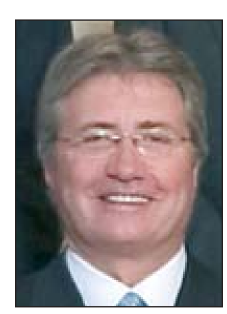
Masters of their destiny

Newfoundland leader hails Hebron advance, oil to yield $28B in royalties, taxes

By GARY PARK
For Petroleum News

Danny Williams, the tough-talking, brawling premier of Newfoundland, has achieved his own version of an Olympic gold medal.

And, more importantly for the petroleum industry, the East Coast offshore will apparently live to fight another day.



Newfoundland Premier Danny Williams

In signing a landmark agreement August 20, the Williams government and a Chevron Canada-led consortium, have set the stage for initial production from the Hebron/Ben Nevis oilfield in the 2016-2018 period, peaking at 150,000 barrels per day from reserves of about 700 million barrels.

The government will take a 4.9 percent equity stake in the project for an upfront payment of C$110 million and a contribution to its share of pre-production and construction costs, estimated last year at C$5.8 billion.

That will leave Chevron with 26.63 percent, ExxonMobil Canada with 36.04 percent, Petro-Canada with 22.73 percent and Norway's StatoilHydro Oil & Gas 9.7 percent.

As a result, Petro-Canada will have a stake in all four of Newfoundland's producing fields — 20 percent of Hibernia, 34 percent of Terra Nova (where it

see **DESTINY** page 17

PIPELINES & DOWNSTREAM

TAPS owners respond

Say shippers falsely criticized efforts to follow FERC order to lower rates

By ROSE RAGSDALE
For Petroleum News

In a spate of filings Aug. 14 and 15 in response to shipper protests, owners of the trans-Alaska oil pipeline defended their proposals for lowering the line's 2005 and 2006 interstate tariffs and their plans for tallying shipping rates in subsequent years.

The 800 mile pipeline runs from Prudhoe Bay on Alaska's North Slope south to the Port of Valdez. The five owners, BP Exploration (Alaska) Inc., ConocoPhillips Alaska, ExxonMobil Production Co., Unocal Pipeline Co. (now a subsidiary of Chevron), and Koch Alaska Pipeline Co. LLC, also criticized the shippers' objections, calling them

see **OWNERS** page 14

JUDY PATRICK

The 800-mile trans-Alaska pipeline takes North Slope oil south to the Port of Valdez for transport to market.

BREAKING NEWS

3 Class I permit for Nikaitchuq: Deep injection wells involve pumping industrial waste into underground reservoirs

5 Mac threat to bird life? Agency wants restrictions on gas line impact; tensions in government over Canada's reputation

6 Feds expect 'interesting' NPR-A sale: September sale now past the date of appeal, Interior official expects bidders

contents

Petroleum News | *A weekly oil & gas newspaper based in Anchorage, Alaska*

● EXPLORATION & PRODUCTION

EPA plans Class I permit for Nikaitchuq

Deep injection wells involve pumping industrial waste into underground reservoirs; technique used extensively across Alaska

By ERIC LIDJI
Petroleum News

As Eni Petroleum works to become the fourth operator to produce oil from Alaska's North Slope, the Italian super major is turning to a familiar strategy for disposing of the large amounts of industrial waste associated with development drilling.

Like BP, ConocoPhillips and Pioneer Natural Resources before it, Eni plans to pump millions of barrels of drill cuttings, slurry and wastewater around one mile underground beneath the offshore Nikaitchuq unit, located in the Beaufort Sea near Oliktok Point.

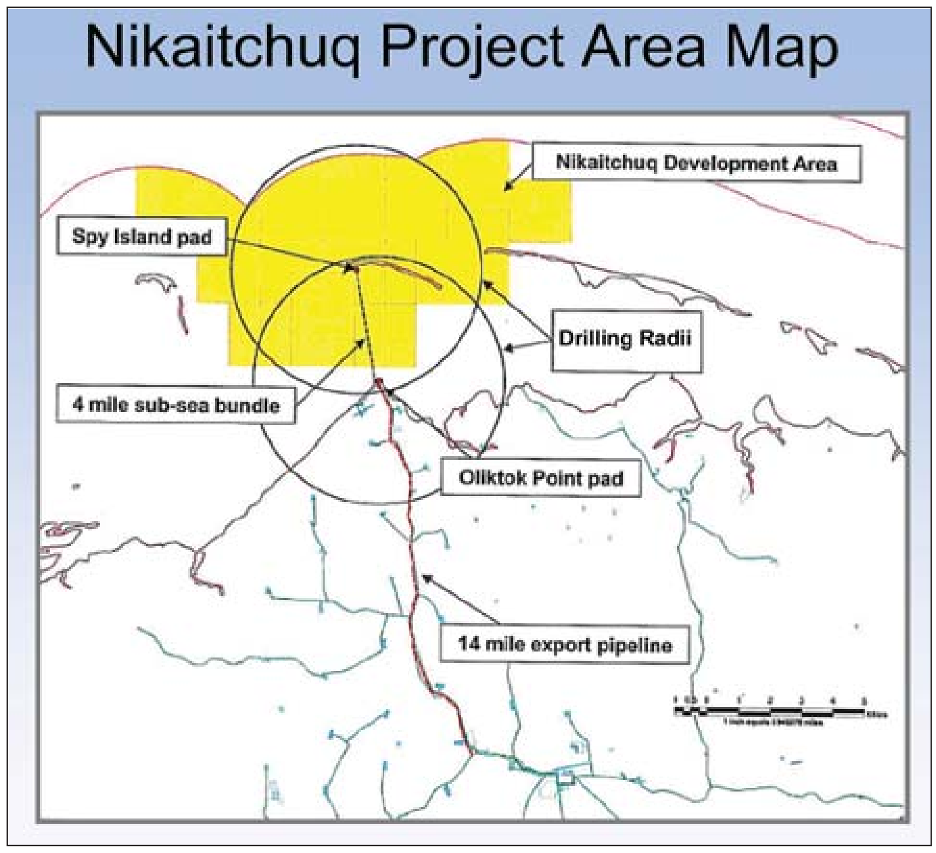
These "deep well injections" have become increasingly common on both the North Slope and the Cook Inlet basin over the past five years as a way to avoid the potential hazards of trucking industrial waste to a more traditional disposal site, according to Thor Cutler, with the U.S. Environmental Protection Agency.

"They are a very expensive alternative, but they're more environmentally sound than to transport over the tundra," Cutler said.

The EPA plans to issue a permit for Eni to drill four of these Class I injection wells at Nikaitchuq, two from a drill pad being built at Spy Island and another two from a new pad under construction at Oliktok Point. The permit would last for 10 years.

The federal regulatory agency is taking comments about the project through Sept. 15 when it plans to hold a public meeting in Anchorage on the issue.

Eni is currently spending around $1.45 billion to bring Nikaitchuq into production by the end of next year. With construction underway in the shallow waters of the Beaufort Sea as well as on land at Oliktok Point, Nikaitchuq will have the first production facilities in northern Alaska not owned or operated by BP, ConocoPhillips or Exxon.



Wells now used across Alaska

State and federal governments regulate several different kinds of deep injection wells.

In Alaska, the state government is responsible for Class II wells used exclusively by oil and gas companies trying to enhance recovery by injecting salt-brine into the ground.

More than a decade ago, federal regulators fined Doyon Drilling for disposing of hazardous Class I fluids into a Class II well at the BP-operated Endicott field.

Class I wells are used by oil, chemical and pharmaceutical companies, as well as other facilities like municipal wastewater treatment plants, to pump industrial waste below known sources of drinking water. To qualify for the EPA permit, a company must prove that any water in the reservoir is too salty for drinking.

"This deep well injection is into an area that is not a potential source of drinking water in the future," Cutler said.

As of February 2008, the EPA counted around 550 Class I wells in the United States, mostly in the Gulf Coast and the Great Lakes regions, but also across Alaska, where access to traditional landfills is scarce and traditional aboveground reserves pits are discouraged.

Although expensive, with each well costing around $3 million, the process has become more popular across Alaska over the past five years, although some Class I wells at Prudhoe Bay date back almost twenty years.

see **PERMIT** page 4

● PIPELINES & DOWNSTREAM

Refinery newcomer on the prowl

Trust prepared to gamble C$2 billion on an expansion of its Newfoundland plant, looking for a partner to share the risk

By GARY PARK
For Petroleum News

Canadian refining novice, Harvest Energy Trust, is ready to gamble C$2 billion on an expansion of its Newfoundland plant, so long as it can find a partner willing to share the risk.

The trust's daring move into the high-stakes refining sector two years ago has convinced it there is demand for a 75,000-barrel-per-day addition to its 115,000 bpd North Atlantic refinery, allowing the processing of heavier crudes that yield better returns.

The plan involves upgrading the "negative-margin, high-sulfur" fuel it currently produces into higher-margin distillate and gasoline products, Harvest chief executive officer John Zahary said, noting that the objective is to steer the facility toward processing more diesel fuel oil and less gasoline and heavy heating fuels.

"The project is all about more and cheaper feedstock making more and better quality products," Zahary said.

Must like the refinery business

He said the trust has been approached by potential partners in the two years since it paid C$1.44 billion to acquire the refinery, formerly known as Come By Chance, from Swiss oil trader Vitol.

But, acknowledging the shaky state of global markets as a possible deterrent to investors, Zahary said anyone thinking of becoming a partner "won't be interested in this sort of refinery investment if you don't like the refinery business … that's a non-starter."

As a result, he agreed the search will be challenging.

To aid the process, Harvest has hired Deutsche Bank, which advised Vitol on the 2006 deal with harvest, to flush out interested parties.

Harvest itself is certain it is on the right track in eying an expansion based on preliminary studies covering technical feasibility and plant reconfiguration designs.

In addition, a recently completed analysis by construction engineers SNC-Lavalin has "validated" the trust's internal work.

Prize is 25-30% stake in refinery

Zahary said the upgraded facility would continue buying crude from South America, Russia and the Middle East, but it would add heavier crudes, with the products targeted at the same markets the refinery serves today, with distillate going to Europe and gasoline to New York and Boston.

He indicated Harvest would expect a partner to potentially finance all or most of the upgrade costs in exchange for a 25 to 30 percent stake in the refinery.

He said the estimated return on investment and other financial metrics are "compelling."

Jason Crumley, a Salman Partners analyst, said that given Harvest's "fairly levered" balance sheet, a partner would reduce the trust's exposure in a volatile refining market.

However, he said that if the upgrade can be completed it would be a "fairly significant" refinery in North America and should be able to generate a fairly strong cash flow.

UBS Securities Canada analyst Grant Hofer said in a note to clients that lining up a partner could be "very challenging" because of the project risks.

Partner wanted for Alberta heavy upgrader

On another Canadian refining front, privately-held North West Upgrading has recruited a new top executive to improve its chances of finding a partner for a planned merchant heavy upgrader in Alberta.

The company has appointed Doug Quinn, a former manager with Shell Canada during the design and construction stages of its Athabasca oil sands project and who has since worked with Washington State's Puget Sound refining, as its new chief executive officer.

He will take over as CEO from Rob Pearce, who will become senior vice-president of corporate development.

see **NEWCOMER** *page 5*

continued from page 3

PERMIT

More recently, BP applied for Class I well permits at Milne Point in 2004, Prudhoe Bay in 2006 and Badami in 2007. In recent years, ConocoPhillips and Pioneer both used deep injection wells on development at Alpine and Oooguruk respectively, while Forest Oil and Unocal applied for permits on efforts in the Cook Inlet basin.

"This is a common practice," Cutler said.

Eni plans to drill its injection wells into the Canning and Hue Shale formations, a 3,000-foot thick block of shale-rich geology located just below the Schrader Bluff oil formation.

The Canning formation sits about 3,600 to 4,200 feet underground, while the Hue Shale formation is about 6,500 feet below ground. Eni plans to pump its waste into many thin sand intervals in the two formations.

According to the EPA, reservoirs deeper than 4,300 feet below sea level are not underground sources of drinking water.

Nearly 3 million barrels

Of the nearly 3 million barrels of industrial waste expected to be generated over the 30-year life of Nikaitchuq, almost half will come from drill cuttings and mud during the initial seven year development phase. Eni plans to drill up to 76 wells at Nikaitchuq.

Most of the remaining waste will come from sand slurry, wastewater from the production camps and work-over fluids and flushes used on the wells.

Eni did not apply for an additional permit to pump hazardous waste underground, which means any hazardous waste will have to be moved to an approved disposal facility. ●

Contact Eric Lidji at 907-770-3505 or elidji@petroleumnews.com

On the Web

See previous Petroleum News coverage:

"Eni plans summer seismic at Nikaitchuq" in May 18, 2008 issue at http://www.petroleumnews.com/pnads/73482487.shtml

"For Eni, size matters at Nikaitchuq" in Feb. 24, 2008, issue at http://www.petroleumnews.com/pnads/432209105.shtml

"ENI sanctions $1.45 billion Nikaitchuq development" in the Feb. 3, 2008, issue at http://www.petroleumnews.com/pdfarch/333389485.pdf#page=1

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● NATURAL GAS

Mackenzie line threat to bird life?

Agency wants restrictions on gas line impact; reports show tensions within government circles over Canada's investment reputation

By GARY PARK
For Petroleum News

The sole protected wildlife area in Canada's Mackenzie Delta is threatened by the Mackenzie gas project, claims a study by the federal government's conservation branch.

But shelving the project could have damaging consequences for Canada's investment reputation, the Canadian Wildlife Service (CWS) warned.

The CWS is urging the physical impact of a Mackenzie Valley pipeline, if it proceeds, should be restricted to 1 percent of the Kendall Island Bird Sanctuary, a 240-square-mile blip near the coast of the Beaufort Sea.

The sanctuary was created in 1961 as a shelter for migratory birds such as snow geese and tundra swans and is home base for grizzly bears, polar bears and wolverines.

CWS regional director Bill Gummer told a federally-appointed environmental assessment panel almost two years ago that if Mackenzie Delta gas is developed in a "manner which reflects the highest standards of environmental practice," the impact would be minimal.

But Canwest News Services has obtained federal documents indicating government officials fear the pipeline footprint could be greater than 1 percent.

A February 2006 draft briefing note attributed to Giles Morell, assistant director of the Northern Oil and Gas Directorate of Indian and Northern Affairs Canada, said that any "future subsidence and destruction of habitat through flooding" that is linked to the Mackenzie project could surpass the basic threshold.

Gummer told the regulatory hearing that although subsidence is a "major concern," there was no consensus on how much of the region would be affected.

A briefing note by Morell in early 2007 indicates Environment Canada fears the 1 percent level may already have been exceeded.

A succession of regulatory delays has been the major factor in stretching the projected start of gas deliveries from the Mackenzie Delta to 2014 from 2010.

According to a briefing note by Morell, the CWS can refuse permits for the project, adding the Kendall Island sanctuary "has been identified as a potential show stopper … and is one of the top concerns for the proponents."

But the note also warns that if the Mackenzie project is halted "the competitiveness of Canada will be put into question, with negative implications for Canada's investment climate.

"Canada could also lose an opportunity as a member of circumpolar countries to become a global model for sustainable development in the Arctic."

Hinting at disagreement within the government, the 2007 note said Indian and Northern Affairs Canada is worried that "lands with high resource values are not sequestered indefinitely."

Environment Canada, which oversees the CWS, has suggested a Delta-wide land-management approach, which Indian and Northern Affairs believes could "add to the burden of obtaining regulatory approvals, increase costs and limit exploration and development" — all matters of special concern to the Canadian government of Prime Minister Stephen Harper, the Northwest Territories government and the industry.

The issue has surfaced prior to a scheduled visit by Harper to the Mackenzie region later this month to reinforce his administration's pledge to advance Canada's claims to Arctic sovereignty.

He has promised to introduce an "integrated northern strategy" that gives equal weight to sovereignty, the environment, economic development and the social concerns of aboriginal communities. ●

Frustrations boil over

Norman Wells, which stands to be one of the major beneficiaries of a Mackenzie Gas project, is growing edgy over continuing delays in the regulatory process.

The Town of Norman Wells, with a shrinking population of less than 800, and its business community have reacted sharply to word that the Joint Review Panel, charged with evaluating the environmental and socio-economic impact of a Mackenzie pipeline, does not expect to deliver its final report until2009.

The town, along with the Norman Wells & District Chamber of Commerce, has rejected claims by the panel that the volume of material under review needs more time to sift through than originally anticipated.

A joint new release said: "Why the JRP wasn't better prepared to manage the vast amount of evidence and produce a report on time is a mystery to us and — we would assume — potential developers.

"This type of bureaucracy is unacceptable and will only serve to harm — not help — the economy and people of the North."

A succession of regulatory delays has been the major factor in stretching the projected start of gas deliveries from the Mackenzie Delta to 2014 from 2010.

Norman Wells in the central Northwest Territories is the service hub of the pioneering oilfield north of the 60th parallel in Canada, which was discovered almost a century ago by Imperial Oil, although initial production did not start until the 1940s.

Volumes on the existing Enbridge pipeline out of Norman Wells has been in decline, with hopes for its revival pinned on the Mackenzie project and successful exploration in the Central Mackenzie Valley.

The Mackenzie proposal includes a gas line from the Delta to southern markets and a separate liquids pipeline feeding into the Enbridge system.

NATURAL GAS

Oglander tapped for federal pipeline office

Joseph "Joe" Oglander has been appointed as general counsel for the Office of the Federal Coordinator for Alaska Natural Gas Transportation Projects. The coordinator's office is responsible for expediting the response of federal agencies to the construction of a pipeline for commercializing North Slope natural gas and for ensuring that the agencies comply with the Alaska Natural Gas Pipeline Act of 2004.

Oglander will provide guidance on various legal matters, including legislation that applies to the gasline construction, the development of regulations and the development of coordinator office policies.

"There are two competing pipeline proposals and both proponents are aggressive," said Federal Coordinator Drue Pearce. "We will face any number of unique legal and policy questions over the coming months. I'm pleased to welcome Joe Oglander to my senior management team to provide advice at critical junctures."

Prior to this appointment, Oglander served as an attorney at the U.S. Air Force Legal Operations Agency, Civil Litigation/Environmental Law Division. Oglander had previously worked in the U.S. Department of the Interior and in the private sector.

—ALAN BAILEY

continued from page 4

NEWCOMER

Pearce said the hiring will allow North West to take the next step in its C$4 billion-$5 billion upgrading project "subject to financing."

So far the company has lined up only one supply agreement with oil sands producers to secure bitumen feedstock and is at least a year away from starting construction of the upgrader near Edmonton.

The plant is designed to process bitumen into low-sulfur diesel and diluent.

The first phase was supposed to have come on stream in spring 2009, handling 70,000 bpd of bitumen, but North West was unable to arrange financing. The startup has since been postponed to 2012.

During these delays, the anticipated cost of the upgrader has climbed from C$1.6 billion to C$4.2 billion in 2007, partly because of a lawsuit from a group of unhappy investors. ●

● LAND & LEASING

Gulf of Mexico lease sale draws $487M

Exxon, Chevron, Statoil account for 70 percent of total winning bids, some 68% more than last year's Western Gulf sale generated

By RAY TYSON

For Petroleum News

Western Gulf of Mexico Lease Sale 207 drew a healthy $487.3 million in apparent high bids, some 68 percent more than what last year's Western Gulf sale generated, and bringing the total high bids of all federal offshore lease sales from the U.S. Gulf and Alaska this year to $9.5 billion. That performance certainly ranks 2008 among the more successful years in the history of the U.S. leasing program, no doubt greatly helped by the extraordinary run up in world oil prices.

"In the middle of the national discussion about energy production, the activity at today's sale (207) signals that the offshore oil and gas industry is serious about developing our nation's resources," said U.S. Interior Secretary Dirk Kempthorne, who attended the Aug. 20 lease sale in New Orleans, La.

Fifty-three companies bid

One thing is certain about the financial outcome of latest Western Gulf sale: the government's take in high bids would have been far less had high rollers ExxonMobil, Chevron and StatoilHydro decided to sit this one out. The two U.S.-based supermajors and Norway's Statoil doled out a combined $342 million, representing just more than 70 percent of the total winning bids in the sale. Moreover, the highest 10 single bids submitted, including three by Chevron and two by Statoil, totaled $230 million, or just more than 47 percent of total high bids.

Western Gulf of Mexico Lease Sale 207, the final offshore sale of this year, drew 423 bids on 319 blocks with 53 companies participating. Last year's Western Gulf Sale 204 received 358 on 282 blocks with 47 companies participating. Though comparable in size, Sale 204 drew just $289.95 million versus the $487.3 million for this year's Sale 207. In part, the difference might be attributed to the re-emergence of Chevron and particularly Exxon as major lease sale players in the Western Gulf, at least in terms of the amount of money they spent.

Other top bidders included Shell, Eni, Conoco

Exxon was tops capturing 130 blocks for apparent high bids of $127.33 million, while Chevron collected just 20 blocks for $127.28 million. Statoil, which over the past several years has emerged as a major U.S. Gulf player, came in third with $87.35 million for just five blocks. Other top 10 finishers in Sale 207, in terms of the sum of high bids submitted, were: LLOG Exploration Offshore, $23.17 million for 11 blocks; Shell Gulf of Mexico, $20.19 million for 15 blocks; Anadarko E&P Co., $14.80 million for 19 blocks; Hess Corp., $14.16 million for 22 blocks; Eni Petroleum US, $11.12 million for five blocks; ConocoPhillips Co., $10.50 million for two blocks; and Devon Energy Production Co., $6.67 million for 20 blocks.

Ultra-deepwater Alaminos Canyon

Ultra-deepwater Alaminos Canyon, home to the multi-field Perdido Hub Lower Tertiary development, received some of the largest bids in the entire lease sale, including Statoil's sale-high $61.1 million for Block 380, which also ranks among the five highest single bids ever submitted in a federal offshore lease sale in the Gulf of Mexico, according to U.S. Minerals Management Service (MMS) records.

Statoil also captured Alaminos Canyon Block 424 for $22.3 million, the fourth highest single bid submitted in Sale 207. Shell and Chevron, both Perdido Hub producers, also weighed in on Alaminos Canyon – Chevron's $20.12 million for Block 775 and Shell's $11.99 million for Block 771. Blocks 775 and 771 also made the top ten for blocks receiving the highest bids.

Located at Alaminos Canyon 857 in 8,000 feet of water, Perdido is expected to begin processing oil from the Western Gulf in 2010. That's a trend, as wells are drilled

see GULF SALE page 7

● LAND & LEASING

Feds expect 'interesting' NPR-A sale

With September NPR-A lease sale now past the date of appeal, Interior Department official expects companies to show up and bid

By ERIC LIDJI

Petroleum News

With a series of lawsuits finally resolved, a new round of environmental studies completed and calls in Washington for increased domestic oil production, an upcoming federal lease sale in the National Petroleum Reserve-Alaska should be worth watching, according to a U.S. Interior Department official speaking in Alaska on Aug. 14.

"I think we're anticipating that it will be a very interesting sale," said Stephen Allred, assistant Interior Secretary for land and minerals said during a speech to the Resource Development Council for Alaska.

Speaking to the Reuters news agency after his talk, Allred said the Sept. 24 lease sale covering around 4.8 million acres of the reserve should draw bidding from oil companies.

"I think we're going to see a lot of interest," Allred told Reuters. "We know there's a substantial resource up there. We also know it's a challenge to develop it."

Officials with the Bureau of Land Management in Alaska, the branch of the federal agency responsible for the sale, couldn't elaborate about which companies or how many companies have expressed interest, citing the "sealed bid" nature of the sale.

> *"Onshore, we still have tremendous amounts of energy that are available… A lot of that's in northern Alaska."* **— Stephen Allred, assistant Interior Secretary for land and minerals**

The NPR-A lease sale follows a sale of federal leases in the Chukchi Sea back in February that brought in $2.7 billion in high bids.

Shift to federal lands

Much of the existing oil and gas development across the country is on state and private land, but Allred expects a "shift" toward federal property in the coming years as declining productions prompts a search for large resources.

"Because that's where those energy sources are," Allred said.

Only around 30 percent of domestic energy production, both traditional and renewable, occurs on federal lands and waters, but Allred said the government believes its onshore and offshore properties contain 62 percent of the oil and 40 percent of the natural gas remaining to be found in the United States.

"Onshore, we still have tremendous amounts of energy that are available… A lot of that's in northern Alaska," Allred said, citing the conventional oil resources of the NPR-A and the Arctic National Wildlife Refuge on opposite ends of the North Slope.

The federal government believes the 23-million acre NPR-A holds 10 billion barrels of technically recoverable oil and 70 trillion cubic feet of natural gas, Allred said.

The land up for sale next month could hold around 8 billion barrels of oil, Allred said.

Even though the prospective nature of the reserve is generally accepted, previous oil prices weren't able to offset the high costs of connecting the isolated region back to existing infrastructure in the central North Slope.

Last year, ConocoPhillips and partners Anadarko Petroleum and Pioneer Natural Resources gave back around 300,000 acres of leases in the reserve because of noncommercial finds and high costs.

Currently, only around 3 million acres of the reserve are

see NPR-A SALE page 7

NATURAL GAS

Denali gets North Slope fieldwork permit

Denali — The Alaska Gas Pipeline LLC is expanding its fieldwork to the North Slope.

The pipeline company jointly owned by BP and ConocoPhillips received a state permit on Aug. 20 to start hydrology studies along the Dalton Highway and Yukon Pacific Corp. right of way between Galbraith Lake and Prudhoe Bay.

Through the studies, the company will collect information about the streams and rivers that would be crossed by a natural gas pipeline running into Canada. That pipeline is competing with a similar state-sponsored effort by TransCanada.

Earlier this summer, Denali opened a field office to support work between Tok and the Canadian border, a 200-mile stretch of Alaska that hasn't been studied as thoroughly as the corridor of the trans-Alaska oil pipeline in the northern part of the state. The trans-Alaska oil pipeline corridor, which includes the Dalton Highway in many places, is often called the most studied piece of land in the state.

— ERIC LIDJI

FINANCE & ECONOMY

Prices rebound even as inventories jump

The price of oil bounced back near $115 a barrel on Aug. 20, as traders shrugged off a massive increase in U.S. crude inventories and a stronger dollar and focused on possible supply threats.

It was a volatile day for energy prices, which initially retreated after the U.S. Energy Department said a big gain in imports drove crude inventories up by a hefty 9.4 million barrels in the week ended Aug. 15.

And given that the hurricane season is not even halfway over, traders remain nervous about the possibility of storms striking oil facilities in the Gulf of Mexico. The delivered priced of Alaska North Slope crude oil rose 45 cents to $114.28 a barrel. futures exchange in London rose $1.11 to $114.36 a barrel.

—THE ASSOCIATED PRESS

continued from page 6

GULF SALE

and key infrastructure allows for subsea tiebacks, explained one MMS official.

Two shallow water blocks in top 10

Chevron also submitted the second and third highest single bids in the sale — $52.1 million for Garden Banks Block 973 and $34.60 million for Garden Banks Block 972.

The highest bids are usually submitted on deepwater and ultra-deepwater blocks, areas with the greatest potential for large reserves. So the presence of two shallow water High Island blocks among the 10 largest single bids, both by LLOG Exploration Offshore for $8 million and $6 million, would have to be considered a sale surprise.

One highlight of the sale involved keen interest in a cluster of blocks on the boundary line between Keathley Canyon and Garden Banks where Chevron submitted two of its three top ten winning bids. That region of the U.S. Gulf also included six of the 44 blocks with two bids and an additional seven nearby blocks attracting single bids.

Century Exploration of New Orleans submitted the apparent high bid of $2.7 million for the sale's most hotly contested block, topping six other bidders for High Island Block 469, a shallow-water block previously leased by Mariner Energy. MMS said its records show the block as a producing field as long ago as 1980. But MMS said production had ceased allowing the lease to expire. The agency said the keen interest in that recycled block might reflect an interest in drilling deeper zones for natural gas. ●

continued from page 6

NPR-A SALE

under lease.

Lease sale past appeal date

The upcoming lease sale covers portions of the northeastern and northwestern planning areas of the reserve, some of which federal officials originally intended to offer in 2006.

But a coalition of environmental groups challenged that proposal, citing concerns about the impacts oil and gas drilling might have on the wildlife around Teshekpuk Lake.

The matter wound through federal court, eventually leading to a new environmental review of the region and a July decision to defer leasing any land north and east of the lake for 10 years. The environmental groups involved in the lawsuit accepted that decision.

"For once, we may have a document that we can rely upon as we go forward without additional litigation," Allred said. ●

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EXPLORATION & PRODUCTION

Offshore Newfoundland production pushes 1 billion barrels per day

Husky Energy said its White Rose oil field offshore Newfoundland has pumped its first 100 million barrels, 27 months after coming on stream, pushing the region's three producing fields close to the 1 billion barrel mark.

Husky, with Petro-Canada as its partner, said the White Rose field has been a "tremendous success … providing strong reservoir performance and high facility uptimes." The current reservoir production capacity is 120,000 barrels per day. An infill well is currently being drilled and is due on stream in the current quarter.

Work is also underway at the North Amethyst satellite field, the first of three tiebacks identified at the White Rose satellite development with the first oil projected for early 2010 and major contracts have been awarded.

Of Newfoundland's other two fields, Hibernia has yielded 594.4 million barrels since its launch in 1997 and Terra Nova has delivered 240 million barrels since January 2002.

—GARY PARK

PIPELINES & DOWNSTREAM

More pipelines in works to handle Alberta's growing heavy oil load

Another C$2.4 billion worth of pipelines are in the works to handle growing volumes of heavy oil in Alberta.

Enbridge is applying for environmental approval of two lines — one carrying 250,000 barrels per day of diluted bitumen and the other 70,000 bpd of diluent — to serve the Fort Hills oil sands project, operated by Petro-Canada, with UTS Energy and Teck Cominco as junior partners.

Subject to regulatory clearance, construction will start late in 2009 on the two pipelines, which will follow a common right-of-way, mostly along existing routes.

Separately, Pembina Pipeline Corp., with EnCana and Canadian Natural Resources as founding customers, is starting public consultation on its proposed C$400 million Nipisi and Mitsue pipeline systems in the Pelican lake area of west-central Alberta.

Nipisi will provide capacity of 100,000 bpd of blended heavy oil service for shipment to the Edmonton area. The Mitsue line will combine new and existing pipelines to carry 22,000 bpd of condensate as a diluent for heavy oil.

The facilities are due to come on stream by mid-2011 and each is expandable by about 50 percent of its current design capacity.

—GARY PARK

Technology not ready for Lofoten drilling?

OUR ARCTIC NEIGHBORS

A Norwegian parliamentarian who represents communities in the Lofoten area says the seismic surveys conducted this summer were necessary to obtain knowledge about oil and gas resources, in accordance with the government's exploration management plan. Hill-Marta Solberg, who is also chair of the Standing Committee of Parliamentarians of the Arctic Region, told Petroleum News that new technology should make drilling in the important fishery possible in the future, but the technology is not ready today.

NORWEGIAN STORTING

Hill-Marta Solberg is chair of the Standing Committee of Parliamentarians of the Arctic Region

Solberg was in Fairbanks in August for the Conference of Arctic Parliamentarians. She is a member of the Labor Party, which is part of a coalition government that includes the Socialist Left Party and the Center Party. Solberg is also optimistic about the Snohvit natural gas project in the Barents Sea, operated by StatoilHydro. "I'm sure that the companies will solve the problems – this is kind of a pioneer project, so we have to understand that there will be problems in the early stages," Solberg said.

—SARAH HURST

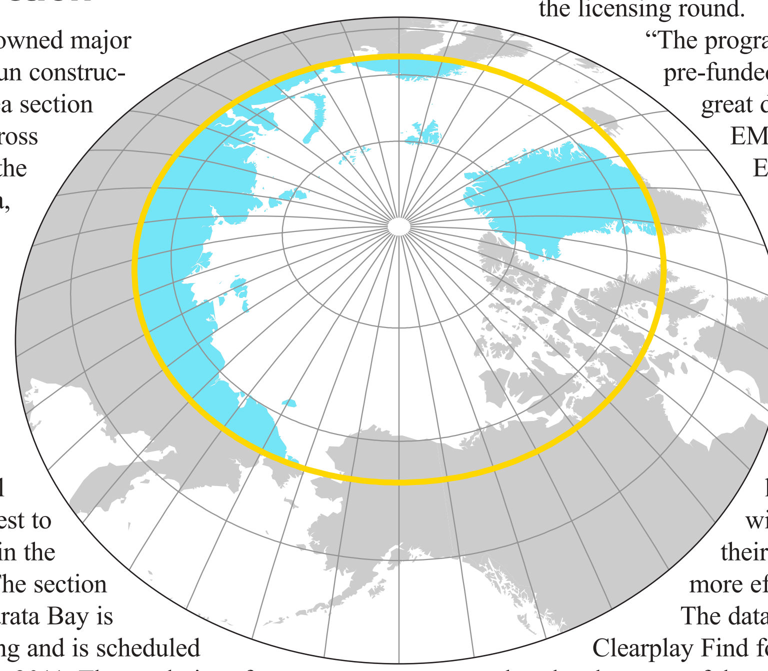
New company to manage Kola Bay terminal

As part of a major consolidation of assets, Russia's largest ship owner, state-owned Sovcomflot, has announced the creation of a new ports company called SCF Terminals. In addition to ports in the Baltic and the Far East, SCF Terminals will manage the Belokamenka floating oil terminal in the Kola Bay near Murmansk. But Sovcomflot is also considering replacing the Belokamenka with a double hull floating production storage and offloading vessel, according to Lloyd's List.

The Belokamenka acts as a collection point for small tankers delivering oil from the ports of Varandey, Arkhangelsk and the Gulf of Ob and reloads oil into 100,000-150,000-metric-ton carriers for export to the United States, Canada and northwest Europe.

—SARAH HURST

Gazprom starts undersea pipeline section



Russia's state-owned major Gazprom has begun construction of an undersea section of gas pipeline across Baidarata Bay in the southern Kara Sea, the company announced in a release Aug. 12. The 660-mile pipeline will transport gas from the Bovanenkovskoe field on the Yamal Peninsula southwest to the city of Ukhta in the Komi Republic. The section that crosses Baidarata Bay is about 43 miles long and is scheduled to be completed in 2011. The steel pipes for this technically challenging part of the project were developed and manufactured by Russian companies, Gazprom stressed.

Gazprom also said recently that it will increase investment in the Bovanenkovskoe field for 2008 by 10 billion rubles ($406.1 million) to around 105 billion rubles ($4.3 billion). At the same time, the company will cut this year's spending on the Shtokman project in the Barents Sea from a planned 16.2 billion rubles ($657.9 million) to 14.7 billion rubles ($597 million).

—SARAH HURST

Barents electromagnetic survey data available

Trondheim-based Electromagnetic Geoservices (EMGS) has completed the world's largest multi-client electromagnetic (EM) survey in the Barents Sea, ahead of Norway's 20th exploration licensing round, the company announced in a release Aug. 15. The survey area, at more than 9,000 sq. km (3,475 sq. miles) and covering 30 blocks, includes all the Barents Sea acreage in the licensing round.

"The program has been heavily pre-funded and has generated a great deal of interest," said EMGS CEO Terje Eidesmo. "We are excited by the results, which reveal valuable information related to the prospectivity of the survey areas. The EM data will give potential bidders a competitive advantage during the licensing round, and will help them to target their exploration resources more effectively."

The data is available in the Clearplay Find format, which is a further development of the company's 3D scanning service. Clearplay Find offers the display of EM data as maps and 3D volumes and is easily integrated with seismic information and geological models, according to EMGS. Combining EM techniques with conventional methods gives a clearer and more complete understanding of the subsurface, the company adds.

—SARAH HURST

● INTERNATIONAL

Canada, U.S. share Arctic expertise

Canada, United States set aside differences to conduct Beaufort Sea seismic survey for purpose of defining continental shelf; Danish admiral agrees with need for tougher controls over Arctic shipping; Canadian researcher worries about foot-dragging

By GARY PARK
For Petroleum News

Canada has found allies in the United States and Denmark on a couple of issues as the Arctic sovereignty debate heats up.

Canada and the U.S. have teamed up to conduct a seismic survey of the Beaufort seabed north of the Yukon-Alaska border, a change from the recent tensions over control of the Northwest Passage and jurisdiction over a portion of the Beaufort Sea.

Meanwhile, a Danish admiral has echoed Canada's campaign for improvements to safety regulations governing Arctic shipping, saying there should be mandatory rules for equipment and preparation before vessels can sail into Arctic waters.

The joint seismic study will involve the U.S. Coast Guard icebreaker Healy in creating a "straight and open path through the ice" for the Canadian Coast Guard ship Louis St. Laurent as its crew undertakes sonar scans on the Beaufort Sea bottom.

U.S. COAST GUARD

U.S. Coast Guard icebreaker Healy

A U.S. State Department release said the "collaboration will assist both countries in defining the continental shelf in the Arctic Ocean" — a crucial element in determining sovereignty over the region.

The joint effort will "save millions of dollars for both countries, provide data of greater interest to both countries and increase scientific and diplomatic co-operation," the State Department said.

Canadian federal geoscientist Jacob Verhoef, who is heading Canada's seabed mapping project, said the bilateral program stemmed from a sharing of information last year about previous mapping missions, at which time Canada and the United States realized each had specialized equipment and techniques that could be beneficially shared.

He said the United States was "impressed" with Canada's seismic methods for measuring the thickness of seabed sediments, while Canada was equally impressed with United States success in using a "high-resolution bathymetric system" that profiles the shape of the ocean floor.

The joint work is expected to help prepare submissions to claim jurisdiction over seabed areas beyond the 225-mile coastal economic zones. Canada faces a 2013 deadline to file its submission.

Mandatory codes needed

Rear Admiral Henrick Kudsk of Denmark's Greenland Command said there is a need for "mandatory codes" applying to Arctic and Antarctic navigation, especially as the number of vessels entering Arctic waters increases.

He predicted 45 cruise ships carrying 55,000 passengers will sail into Greenland waters this summer, up 60 percent from last year.

Dennis Bevington, a member of Canada's parliament from the Western Arctic, issued a call making it mandatory for all ships sailing into the Canadian Arctic to register with the Coast Guard, saying Canada's ability to clean up oil spills is limited by the amount of ice in the water.

Kudsk noted that vessel registration is mandatory in Greenland and those that fail to comply are fined.

Canada does not have effective control

Ron Huebert, associate director for the Center of Military and Strategic Studies at the University of Calgary, said in a Globe and Mail article Aug. 16 that melting ice in the Northwest Passage will see more international shipping in the Arctic, meaning "Canada needs to be prepared for when it comes, or else the world will simply ignore Canada."

He said that strictly speaking all foreign vessels entering what are deemed to be Canadian Arctic waters must follow the Arctic Water Pollution Prevention Act introduced in the early 1970s, but "they do not have to tell Canadian authorities."

Until now most ships have complied to gain access to Canadian reports on ice conditions, but in 2007 two cruise ships declined to report to the Arctic marine traffic system.

"This is very troubling," Huebert said. "Why they suddenly decided to do this is unknown. But it reminds the world that Canada does not have effective control."

Ice-breaking fleet small, aged

Even if Canada were to prohibit the ships from entering its waters it would have to have required vessels to support the ban,

see **EXPERTISE** page 11

● INTERNATIONAL

Politicians make promises on Arctic policy

Renewable energy to be a priority, and international shipping rules must be established, Arctic parliamentarians decide

By SARAH HURST
For Petroleum News

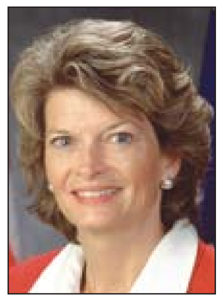
While President George Bush and John McCain were denouncing Russia's actions in Georgia, parliamentarians from the United States, Russia and several other countries were getting together to seek cooperative solutions to burning issues in the Arctic. Talk of the war on the southern border between Europe and Asia was diplomatically avoided at the Eighth Conference of Arctic Parliamentarians, which took place at the University of Alaska Fairbanks in mid-August.

The conference ended with the adoption of a statement that included numerous action items. On energy, the parliamentarians pledged to "promote and invest in research, development and deployment of alternative and renewable energy sources suitable for the Arctic region. Special emphasis should be placed on the replacement of fossil fuels by solar, wind, biomass and other alternative energy sources," the statement said.

150 attendees in Fairbanks

About 150 participants came to Fairbanks at the invitation of U.S. Sen. Lisa Murkowski, who summed up the results of the conference in an Aug. 14 call with journalists. The three main themes of the conference were adaptation to climate change, development of rural energy resources and human health in the Arctic, Murkowski said. Presentations were made on topics ranging from Arctic marine policy to the use of geothermal power in Iceland.

"We can learn so much from one another, and when you recognize that we've got so much in common, it's not just our weather and the geography, being in the high north, we deal with small populations in large geographic areas," Murkowski said. "We're faced with changing conditions to our lands that make development of infrastructure more problematic. We're seeing a great rush to resource wealth, energy resource wealth, and how you manage that," she added.


LISA MURKOWSKI

Murkowski said she had to constantly remind her colleagues in Congress that the United States is an Arctic nation and needs to act like an Arctic nation.

"So let's be sharing some of these best practices, learn from some of the mistakes, and try to advance an area of the globe that is really — I hesitate to say we're being discovered; we know we've been here all along, but for many on the planet, the Arctic is just kind of this forgotten, cold place, and now that we're learning how rich we are in energy resource up here, for instance, all of a sudden everyone's paying attention. All eyes are upon us as we see the impact of a changing climate, because it's more readily apparent here in the Arctic," Murkowski said.

Tourism on the rise

Tourism in the Arctic is another indicator of the world's increased interest in the region, she said, and the opening up of new shipping routes due to reduced ice cover makes that tourism possible, Murkowski noted. Last year ships brought about 3,000 tourists to Greenland; this year the figure was up to 55,000 – almost the same as the total population of the country.

"Last year for the first time the Northwest Passage was wide open... Think what that means to us in terms of commerce and opportunity. But it's also very challenging because we don't have the infrastructure in place," Murkowski said. "How do you provide for search and rescue in an area where you don't have ports and harbors? How do you provide for any kind of clean-up if you have an accident in these waters? How do you provide just for things like communication when we really don't have a level of communication ability up there?"

International Arctic shipping rules needed

After listening to presentations by an admiral from Denmark and an admiral from the U.S. Coast Guard, conference participants agreed that there is a need to establish international guidelines for ships operating in ice-covered waters. An aerial

see **POLICY** page 13

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EXPERTISE

he said.

Because the Canadian Coast Guard's ice-breaking fleet is so small and aged and its search-and-rescue capability is based farther south and the navy has only limited ability to venture north, Canada is ill-equipped to exercise control over the Arctic, Huebert said.

He said successive Canadian governments have failed to develop a comprehensive policy framework for the Arctic and "time is running out."

Unless clear rules are introduced "it will be too late to do so after new shipping arrives. Already some foreign companies are beginning to resist Canadian efforts to control their activities," Huebert said.

He noted that rising oil and gas prices are renewing interest in Arctic exploration, with ExxonMobil, Imperial Oil and BP investing heavily in Beaufort Sea rights, but climate change is making pipeline construction more problematic.

Huebert said melting ice and the loss of permafrost is shifting the spotlight to the possible use of tankers for the movement of oil and gas.

The resources in Canada's Arctic Islands and waters have not been developed because of the challenge and cost of extraction and delivery to market, but those impediments are "lessening," making the economic development of the Arctic with ships rather than pipelines "much more likely," he said. ●

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PACIFIC ENERGY

Pacific Energy now wants to focus on its remaining prospects in California and Alaska. But the company is also looking to further reduce its leverage ratio, or the relationship of debt to assets used as a gauge of financial solvency.

Some reductions will come from new oil production brought online over the past six months, especially from the long shut-in Eureka platform off the coast of California.

DARREN KATIC

But the company sees further opportunities in Alaska, according to Gerry Tywoniuk, who took over as chief financial officer for the company on Aug. 15.

"We've also begun the process of evaluating our options of selling down our interest in the Alaska properties in some fashion, whether that is to farm-out some of the new drilling, or by selling our working interest in some specific asset," Tywoniuk said.

The Long Beach, California-based independent came north nearly a year ago after picking up the Alaska assets of Forest Oil, which include a complete and partial stake in several units and stand-alone leases in the Cook Inlet basin. During the second quarter, Pacific Energy produced 4,300 barrels of oil per day on average from its Alaska operations.

With the price of oil doubling since the sale, Pacific Energy's Alaska assets could provide the company with a tremendous return on investment, should it decide to go shopping for partners.

"We've been very fortunate to experience a substantial increase in our equity value in a short time period," Tywoniuk said.

One of those wholly owned prospects, the offshore Corsair unit, is the core of Pacific Energy's exploration efforts, and the company intends "to farm out a large portion of the project to fund the exploration program," said Darren Katic, president of Pacific Energy.

"We've also begun the process of evaluating our options of selling down our interest in the Alaska properties in some fashion, whether that is to farm-out some of the new drilling, or by selling our working interest in some specific asset." **—Gerry Tywoniuk, new chief financial officer of Pacific Energy Resources Ltd.**

Corsair and Osprey in 2Q 2009

With a year of "planning and integration" under its belt, Pacific Energy offered a firmer timeline for work in Alaska, now expecting to begin exploration drilling at Corsair and development work from the Osprey platform at the Redoubt unit in mid-2009.

Pacific Energy originally hoped to get those projects underway by the end of this year, but "rig-availability and weather-related logistics" cause a six-month delay, Katic said.

While the company is looking at leasing or buying a rig for the Osprey platform, the "availability" problem likely refers to Corsair.

Exploration drilling at Corsair requires a jack-up rig, a mobile drilling unit well suited for shallower offshore prospects. Previous failed attempts to get a jack-up to Alaska have forced other companies to delay or abandon drilling projects in the Cook Inlet basin.

Earlier this year, Pacific Energy signed a three-year lease on a Blake Offshore jack-up rig, but is now working to get the large piece of machinery to Alaska from its current location in the Gulf of Mexico near Louisiana.

Katic estimates that the voyage around the southern tip of South America would take "roughly" two months, but first Pacific Energy needs to contract with a shipping company capable of making the trip. The state recently gave Pacific Energy until Sept. 29 to sign a contract with a heavy lift vessel operator, or face losing the unit.

If Pacific Energy is successful, though, the company will have several new options for partnership, because a jack-up rig is in high demand in the Cook Inlet. The rig could be used to drill the Escopeta-operated Kitchen unit and the Renaissance-owned Northern Lights prospects, which both sit along the same geological formation as Corsair.

Katic said Pacific Energy is "in discussions" with other companies.

"Currently, the rig does have enough work, assuming we all drill our wells for the entire 2009 drilling season," Katic said, referring to the period from spring to fall when the ice covering the Cook Inlet thaws enough to use a jack-up rig.

Economics still in question

Although the timing would be tight, leasing out time on a jack-up rig would improve the economics of Corsair, which Pacific Energy began questioning after the state rejected the company's request to expand the unit boundaries to include four adjacent leases.

The expansion would have more than doubled the unit. Instead, three of the four leases expired at the end of April, and remaining lease expires at the end of the year. Pacific Energy appealed the decision May, but the state has not responded to the appeal and is under no statutory timeline to do so.

For a time, Pacific Energy suggested Corsair might not be economic without the expansion acreage, but now the company is presenting a more nuanced picture.

"While we believe that the original Corsair Unit has significant stand-alone economic merit, the decision of the State not to include the additional leases could have a negative impact on the overall economics of the project," company management wrote in an analysis of second quarter operations released Aug. 15.

Offering the first revised estimates in since February, Katic said recoverable reserves at Corsair might prove to be as high as 500 billion cubic feet of gas or 100 million barrels of oil.

Under the terms of exploration plans with the state, the company has until June 30, 2009 to start drilling on the prospect or face losing the unit.

Benefits from McArthur River

Before work begins on either Osprey or Corsair, though, Pacific Energy could see the benefits from development work at the McArthur River unit, which the company does not operate.

According to Katic, Chevron plans to start development drilling from the Steelhead platform in the McArthur River field in the first quarter of 2009. Pacific Energy owns just less than a 50 percent working interest in several leases at the Cook Inlet field, and many of those leases hold existing platforms.

"Top side improvements continue on all five platforms in preparation for an extensive redevelopment and exploitation program, which will span the next three years," Katic said.

—ERIC LIDJI

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INSIDER

of the world's richest people make a sneaky, flying visit to northern Alberta?

As guests of the Canadian Association of Petroleum Producers, the multi-zillionaires were whisked in August 18 to have a peak at Canadian Natural Resources' massive Horizon project.

CAPP vice-president Greg Stringham told reporters that Gates and Buffett asked his industry lobby group for a general overview of the oil sands and where the resource fits into Canada's position in the energy world.

"They were exercising curiosity, basically saying 'Wow, this is neat,'" Stringham said.

Canadian Natural refused to comment beyond confirming the two men were accompanied by chairman Allan Markin and vice-chairman Murray Edwards.

One source told the Calgary Herald the two men had "investment in mind."

Buffett is already a stakeholder in ConocoPhillips, which controls its own oil sands projects and is a partner with EnCana in a production/refining joint venture.

But given that Buffett and Gates have liberally pouring some of their wealth into charitable causes, there is an undercurrent of disquiet that they might be more concerned about growing U.S. reliance on so-called "dirty fuel" from the oil sands.

The visit comes at a time when the oil sands are increasingly under fire on a global scale, especially from environmentalists and governments unhappy with Canada's stance on greenhouse gas emissions.

It coincided with a speech by Canada's Industry Minister Jim Prentice in Atlanta, Ga., when he surprised some in the industry by announcing his government will soon introduce legislation pushing for more dramatic cuts in emissions than the 45 percent per barrel cut in carbon dioxide achieved since 1990.

—GARY PARK

Mexico to open consulate in Anchorage

Mexico will open a full consulate office in Anchorage to provide services and promote trade.

In the past Mexico has assisted its citizens living in Alaska through traveling consular officials.

An office is under construction and will open this fall. The consulate is looking for temporary space, said consul Jose Luis Cuevas. It will employ 10 people.

There are 50 Mexican consulates in the U.S.

Hispanics make up one of the fastest growing ethnic demographics in Alaska. Nearly 40,000 Hispanics live in Alaska and about half are of Mexican descent, according to estimates from the U.S. Census and the consulate.

—THE ASSOCIATED PRESS

ENVIRONMENT & SAFETY

Study: Seismic doesn't impact Gulf whales

Powerful acoustic devices used by oil companies searching for new sources of hydrocarbons in the Gulf of Mexico have had no discernible effect on endangered sperm whales living in those waters, according to a federally funded study released Aug. 21.

The six-year, $9.3 million study examined the impact of offshore seismic activity, which involves firing air guns into the water, on the Gulf's sperm whale population.

"The two are not mutually exclusive," said Randall Luthi, director of the U.S. Minerals Management Service, which oversees E&P activities in federal waters and which funded the study. "That's the kind of knowledge we need to have."

The study sought to establish baseline information about the whales' biology and behavior, and to determine the effect of man-made noise like seismic probes for subsea oil and natural gas.

"The bottom line is that air-gun noise from seismic surveys that are thousands of yards distant does not drive away sperm whales living in the Gulf," said Doug Biggs, a professor of oceanography at Texas A&M University and a study participant.

In May, Alaska Native and environmental groups sued to stop exploration by oil companies in Arctic waters frequented by whales, seals and other marine species. The groups are challenging federal permits that allow the companies to search for oil and gas using acoustic devices.

The plaintiffs claim the signals could disrupt tens of thousands of animals as they feed, socialize and travel through the seas of northern Alaska. They say it's especially worrisome to Alaska Natives in the region who depend on the marine mammals for food and worry they will desert traditional hunting areas for quieter waters.

The Minerals Management Service and National Marine Fisheries Service, both of which grant permits, are defendants in the suit.

—THE ASSOCIATED PRESS

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POLICY

photograph of Big Diomede and Little Diomede islands in the Bering Strait that was shown in one of the presentations was a visual reminder of how narrow the waters between Alaska and Russia are, Murkowski said. "You get tankers moving up there, you get cruise ships moving up there. There really needs to be an understanding of what the rules of the road are," she added.

As Arctic nations compete for sovereignty over disputed territories in the region, the United States can stake its claim to resources on the outer continental shelf by ratifying the Law of the Sea treaty, Murkowski said.

In addition to representatives from Arctic nations, there were observers from China at the Fairbanks conference. ●

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GEOTHERMAL

arrangements and access to previous geothermal studies.

Iceland Energy America will start with a geologic survey to find the best spot for a test well. The study will cover not only Anchorage, but also lands and waters around the Cook Inlet and Mt. Spurr, the site of an upcoming state geothermal lease sale.

Iceland Energy America is a California company with ties to Iceland, a country famous for turning its vast geothermal resources into heat and electricity.

Iceland Energy America was formed in 2004 and currently operates several geothermal projects, many in California. One of the company's largest shareholders, Enex of Iceland, has been involved with geothermal energy projects for 70 years.

"Currently Iceland's capital Reykjavik is the largest municipal geothermal heating service in the world," Magnus Jóhannesson, CEO of Iceland Energy America Inc., said during the signing ceremony with Anchorage Mayor Mark Begich. "This study will determine if Anchorage has the potential to take its place as number one."

Begich said geothermal resources could be used to both lower energy costs in Anchorage and reduce locally produced greenhouse gas emissions.

If the upcoming study ultimately proves nearby geothermal resources to be viable for development, Anchorage could start to see the results by 2016, according to the municipality. The agreement covers only the study, not any future development plans.

— ERIC LIDJI

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OWNERS

“illogical, not true” and “without merit.”

The pipeline’s owners had outlined their calculations and plans earlier for the Federal Energy Regulatory Commission in a July 21 filing meant to comply with the commission’s June 20 order to lower the rates, issue some refunds and configure more reasonable shipping rates going forward.

With its order, the commission upheld a May 2007 administrative law judge ruling that interstate rates charged on the Trans-Alaska Pipeline System in 2005 and 2006 were not “just and reasonable.” The judge also ordered limited refunds to shippers who had overpaid.

Shippers Anadarko Petroleum Corp., the State of Alaska and Flint Hills Resources Alaska LLC filed protests and comments separately, citing reasons why the pipeline owners erred in their calculations or asked for clarification of the commission’s directions to the owners. (See story in the Aug. 10 issue of Petroleum News.)

Owners counter Anadarko’s arguments

In its Aug. 5 protest, Anadarko said it objected to the pipeline owners including in their compliance filing different proposed rates for the various years in question and trying to introduce new evidence after the hearing is closed. The shipper also said $1.92 per barrel of oil should be the rate adopted for 2005 and $2.02/bbl for 2006.

The shipper also accused the pipeline owners of improperly presenting alternative rates “based on new and untested data.”

The owners defended their right to introduce new information in the compliance filing by noting that the FERC has allowed additional data to be introduced in compliance filings in the past, “provided the data is adequately supported.”

The owners also said due process is served by allowing the shippers to review and comment on this “new” data before the commission takes any action that relies on its accuracy.

The owners called Anadarko’s arguments in support of a uniform rate “misguided,” noting that the five of them do not have the same costs, and a uniform rate would cause any owner with above-average costs to “under-recover” its cost of service.

Secondly, they do not transport volumes in proportion to their ownership shares of the pipeline’s capacity, and a uniform rate would necessarily cause an owner with throughput that is less than its ownership share of total system-wide throughput to under-recover its cost of service, the owners said.

Thirdly, an owner with a relatively small ownership share of the pipeline will be precluded by a uniform rate from recovering fixed, base-line costs that are incurred in the owner’s operation of the pipeline.

“Because a uniform rate guarantees that certain TAPS (owners) will under-recover their costs of service while other owners will over-recover their costs of service, it produces a rate that is necessarily unjust and unreasonable,” the attorneys argued.

“Anadarko is also incorrect in asserting that these problems can be resolved through pooling. Indeed, Anadarko’s reliance on pooling is tantamount to an admission that a uniform rate cannot – without a subsequent adjustment – produce just and reasonable rates for each TAPS (owner). Moreover, the commission does not have the authority to order the TAPS owners to pool revenues – a fact that Anadarko simply ignores in its Answer,” the attorneys wrote

The owners further said it is speculative to assert that the problem would be greater for the trans-Alaska oil pipeline than for other oil pipelines that set rates individually.

Criticisms lacks merit

The owners also criticized Anadarko’s protest for failing to raise any specific issue regarding the accuracy or suitability of the actual 2006 data other than “alleging that TAPS throughput ‘during the period in

Question’ was ‘abnormally low.’ ”

The owners said Anadarko failed to show that the actual level of petroleum that flowed through the pipeline in 2006 was unrepresentative, “particularly given the general declining trend in TAPS throughput over the years.”

“Anadarko further argues that the use of actual data is somehow inconsistent with Opinion No. 502. Anadarko Protest at 5-6. But nothing in Opinion No. 502 directed the Carriers not to use actual data, and nothing about the use of actual cost and throughput information for 2005 and 2006 is inconsistent with the methodology established in the commission’s order,” wrote attorneys for the owners.

They also noted that the use of actual data is consistent with commission precedent.

The owners further defended their interpretation of when the FERC meant for prospective rates to take effect, but acknowledged that the commission’s order is subject to different interpretations of how 2007 and 2008 rates should be set.

However, Anadarko is wrong in its interpretation, they argued.

“The prospective rate in this case cannot take effect from 2006 forward or supersede the 2007 or 2008 rates as Anadarko suggests,” the attorneys wrote.

In a separate filing the owners argued that Anadarko’s answer to their compliance filing should be rejected by FERC because the 20-page argument does not meet the commission’s prerequisite that such filings be “brief” and “factual.”

They further charged that Anadarko brought up many of the same issues it raised during the regular proceedings.

“In sum, Anadarko has not shown good cause for waiving the prohibition on answers to requests for rehearing. Rather, it is largely repeating its earlier arguments, which will not assist the commission in its decision-making process,” the owners’ attorneys wrote.

State protest lacks merit

The State of Alaska filed a protest Aug. 5, accusing the pipeline owners of making several mistakes in their compliance filing, including improperly using 2005 and 2006 actual cost figures, interpreting the commission’s order to set prospective rates and interjecting discussion of extraneous and immaterial issues beyond the scope of the commission’s order.

The pipeline owners said state’s protests are without merit and its claim that the prospective rate should begin Jan. 1, 2005 is illogical, given that the Supreme Court has said the meaning of “prospective” is “to be thereafter observed” and FERC’s order was issued June 20, 2008, not Jan. 1, 2005.

The owners also said the state presented no grounds to strike so-called “extraneous” issues from the compliance filing.

BP counters Anadarko’s criticisms

BP, which owns more than 50 percent interest in the trans-Alaska oil pipeline, said Anadarko is attempting to “misframe” its request for rehearing certain aspects of the FERC’s June 20 order.

BP said that it would not oppose a uniform rate if an acceptable FERC-approved pooling arrangement could be put in place that would eliminate the over- and under-recoveries that would otherwise flow from a uniform rate.

BP said its percentage ownership of the pipeline significantly exceeds its share of petroleum that flows through the line. This means the owner is “doomed to chronic under-recovery under a uniform rate system unless the commission orders full revenue pooling as a prerequisite to uniform rates,” BP argued.

BP said Anadarko’s claims that the owners’ concerns are hypothetical and that the pooling issue is not yet germane is untrue.

“The losses BPPA faces are real, they are huge, and they are imminent. If BPPA must charge a uniform rate, it stands to fall short of recovering its cost of service by tens of millions of dollars a year commencing January 1, 2009 - less than five months from today - the TAPS Settlement Agreement is terminated, unless the Commission orders pooling, as it acknowledges it has the power to do.

” BP’s attorneys wrote.

Moreover, if the FERC requires pooling, it could alleviate the pipeline owners’ antitrust concerns by authorizing them to share the information needed to calculate and file uniform rates, BP said. ●

Anadarko asks FERC to deny Flint Hills’ motion

Anadarko Petroleum Corp., a shipper on the trans-Alaska oil pipeline, asked the Federal Energy Regulatory Commission Aug. 19 to deny a motion filed two weeks ago by Flint Hills Alaska LLC.

Flint Hills, also a shipper on the pipeline, filed comments and a motion for clarification of the pipeline owners’ approach to calculating lower rates for 2005 and 2006 and their suggestions for determining 2007 and 2008 rates.

Flint Hills also asked the FERC to direct the owners to refund to the shippers the full difference between pipeline tariffs charged for 2004 and the amounts charged for 2005 and 2006 “in light of the fact that rate calculations submitted by the Carriers are all lower than the 2004 rates.”

Anadarko said Flint Hills appears to be seeking the FERC’s endorsement of its interpretation of parts of the commission’s June 20 order, directing the pipeline owners to lower their interstate shipping rates.

Anadarko urged the commission to deny the motion, saying it is not pertinent to the only issue in question at the compliance stage of the proceedings.

The shipper said Flint Hills initially stated “correctly” that nothing in the FERC order grants the pipeline owners license to increase their rates for indexing or any other reason.

But then Flint Hills requested clarification that the compliance filing dealt only with refunds due for the 2005-2006 period and not the 2007 and 2008 rate periods.

Anadarko said no such clarification is necessary because the owners’ compliance filing does not deal with rates for the 2007 and 2008 period, which the commission plans to address in separate proceeding pending the outcome of the current case

Moreover, Flint Hills appears to be seeking endorsement of its interpretation of part of the FERC’s June 20, an interpretation that is “inconsistent” with its “plain language,” Anadarko added.

—ROSE RAGSDALE

On the Web

See previous Petroleum News coverage:

“Shippers protest new tariff proposals” in Aug. 10, 2008, issue at http://www.petroleumnews.com/pnads/746907414.shtml

“Williams seeks rehearing; says FERC overlooked inequitable dismantlement fees collected from shippers by TAPS owners” in July 27, 2008, issue at http://www.petroleumnews.com/pnads/3631989.shtml with sidebar “Pipeline owners ask FERC for rehearing”

● MINING

AOGA opposes ballot measure

By SHANE LASLEY

Petroleum News

In a rare move the Alaska Oil & Gas Association's board of directors passed a resolution opposing Ballot Measure 4, aimed at changing regulations on water discharged from Alaska's large-scale metallic mines.

In its Aug. 7 resolution AOGA said the Aug. 26 primary ballot measure would dramatically change portions of Alaska's water quality laws without the level of review and scrutiny they would receive under the regular legislative and/or rulemaking process — processes that require public hearings, public comment periods, scientific analysis, input from stakeholders and, often times, a detailed economic analysis.

When asked why AOGA is weighing in on a ballot measure targeting mining, AOGA Executive Director Marilyn Crockett told Petroleum News, "It is bad public policy to be deciding scientific and technical issues in a voter referendum. It doesn't bring with it the appropriate scrutiny that the legislature or an agency with expertise in that area would bring with it. That is not a good way, from our perspective, for issues technical in nature such as the ones being addressed in that ballot measure. That is not the appropriate way for those issues to be addressed and resolved."

JUDY PATRICK

MARILYN CROCKETT

AOGA said the state of Alaska and the federal government each have a rigorous and comprehensive permitting process to ensure that thorough environmental analyses are conducted on all resource development projects before any project is allowed to proceed. The association said state and federal permitting processes include specific requirements that ensure water quality is protected.

AOGA also pointed out that because the initiative language will not receive a thorough examination by most voters, Alaskans may not fully understand the significant ramifications and implications of the proposed changes.

"It doesn't matter whether the issue is one that addresses restrictions on discharges into water, discharges into air; any of those kinds of issues really need to be run through the rigorous scientific evaluation that the legislature or the agencies would do, and not simply in a confusing voter referendum that don't meet that sort of rigorous review," Crockett said.

AOGA board members decided to oppose Ballot Measure 4 because it "could preclude a project from proceeding before it even begins the governmental review process and more importantly, this initiative would set a precedent for scientifically based policy to be determined without the benefit of a full public process." ●

Petroleum news

Business Spotlight

Victaulic Piping Systems Solutions


FORREST CRANE

Stover Smith, Alaska Territory Manager

What began as a faster, easier and cheaper way to join pipe evolved into Victaulic's total "systems" approach. Today, Victaulic Piping Systems Solutions offers Alaska companies complete solutions that anticipate a project's every need. The Victaulic grooved-piping method accommodates lightwall, standard and extra-heavy steel, stainless, aluminum, high-density polyethylene, PVC and other plastics. Products for copper tubing (CTS) and ductile iron (AWWA) for water supply, and underground and waste-treatment process piping are also available.

Stover Smith joined Victaulic in 2003, transferring to Alaska in 2007. He, his wife Amy and their two daughters — Briede, age 5, and Laurel, 10 months — are on a mission to experience as much of Alaska as possible. They're enjoying the nice, cool summer but would be happy with somewhat less precipitation.

—PAULA EASLEY

ACS


FORREST CRANE

Steve Gebert, Director, Program Management

ACS is Alaska's leading broadband, wireline and wireless services provider to business and mass-market customers. The Anchorage-based company recently purchased Crest Communications and its Northstar fiber optic cable between Alaska and the contiguous 48 states. ACS is also building a geographically diverse undersea fiber optic network — called AKORN, or Alaska Oregon network — to greatly enhance Alaska's bandwidth capacity.

Steve Gebert, who served a 20-year career as a naval flight officer, was tapped to head the $105-million AKORN construction. During his career Steve flew combat missions in Bosnia and Iraq, including numerous aircraft carrier deployments in an F-14 Tomcat. Now, settled in Alaska, he and his wife Pamela and their three children are enjoying all the state has to offer, including the world's best fishing, Steve's favorite pastime.

—PAULA EASLEY

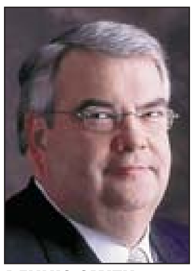
Companies involved in Alaska and northern Canada's oil and gas industry

All of the companies listed above advertise on a regular basis with Petroleum News

Petroleum news Oil Patch Bits

Nabors names new leader

Nabors Industries, the world's largest land drilling contractor, has named Dennis Smith, 58, to oversee its Alaska operations. This includes Nabors Alaska Drilling, the largest drilling contractor in Alaska. Smith will oversee Nabors joint venture holdings with Cook Inlet Region Inc., specifically Peak Oilfield Services Co., Precision Power and Alaska Interstate Construction as well. Prior to joining Nabors in 1992, Smith lived in Anchorage for nearly 14 years where he served as chief executive of Pool Arctic Alaska, acquired by Nabors in 1999. In addition to his new role, Smith will continue as director of corporate development with Nabors Industries Ltd. based in Houston, and report to Gene Isenberg, chairman and CEO of Nabors Industries.


DENNIS SMITH

American Tire acquires land for new plant

In line with its objective of becoming the "largest and best manufacturer" for 63-inch and 57-inch tires, American Tire Corporation said Aug. 18 that it has purchased a 22,605,000-square-foot feet (about 2,100,000 square meters) parcel of land for one of its new plants in Washington, and intends to purchase another piece of land of similar size to "support its long-term development in the OTR tire industry." For more information, go to American Tire's Web site at http://www.americantire.us.

GCI gives broadband gift

GCI has contributed a $30 million broadband gift to the University of Alaska system. University of Alaska President Mark Hamilton said the gift is essential to the university's mission of education, research and public service. The university, he said, had requested the money from the Alaska legislature for several years to increase its broadband capacity, but didn't receive the support it needed. The broadband gift from the communications company provides up to 10 gigabits-per-second from Anchorage to Seattle, benefitting not only the university but Alaska schools through a network that is part of the state's multi-partner Distance Education Consortium.

See full stories in next Petroleum Directory

● NATURAL GAS

State keeps LNG pipeline on the table

By ERIC LIDJI

Petroleum News

Hoping to alleviate the concerns of those who favor an "all-Alaska" option for marketing North Slope natural gas, Gov. Sarah Palin on Aug. 20 signed an order directing her administration to continuing pursuing a liquefied natural gas project.

Although the administrative order outlines a simple framework for the Departments of Natural Resources and Revenue to work with project sponsors, the document is mostly meant to assure those who felt betrayed after the legislature gave TransCanada a license and matching grant to pursue an overland pipeline from Alaska to Alberta.

An LNG project, such as the one long proposed by the Alaska Gasline Port Authority, would involve a pipeline contained entirely within the boundaries of the state, and would ship LNG either to markets in East Asia or on the West Coast of the United States.

Testifying before state lawmakers recently, TransCanada promised to allow potential shippers to commit gas to a LNG project, as well as an overland route, during the first open season. With enough customers committing enough gas, TransCanada even promised to build a Y Line, a configuration combining the overland and LNG routes.

The new Administrative Order is "memorializing that same intent, that same attitude for the state," according to Natural Resources Commissioner Tom Irwin.

"Everything comes back to the market conditions," Irwin said. "If you a market for LNG only, we agree that will be built. If there's only a market for the U.S through Canada, that will be built. If for both, both can get built."

During legislative hearings, some experts questioned whether an LNG project would get Congressional approval to export domestic natural gas supplies to overseas markets, especially as energy security becomes an increasingly hot topic across the country.

Proponents, especially those at the Alaska Gasline Port Authority, say they already have the export license, and believe it will remain valid if the project moves into development.

Others now believe a Y Line could relieve some pressure by addressing domestic demand, while also giving the state diversity through overseas markets.

"It helps us deal with a lot of that concern," said Sen. Gene Therriault, R-North Pole, a proponent of an all-Alaska line who also voted to give TransCanada the state license.

Voters in three municipalities created the Alaska Gasline Port Authority by an overwhelming majority nearly a decade ago, and Palin supported the project during her 2006 run for governor, but the agency failed to submit a conforming application to the Alaska Gasline Inducement Act, and spent much of the past year struggling to remain in front of the public. ●

continued from page 1

DESTINY

is operator) and 27.5 percent of White Rose.

Never hesitant about trumpeting his successes, real or imagined, Williams, who brought development of Hibernia to a screeching halt more than two years ago is now proclaiming a new era of industry-government partnership.

The consortium has made guarantees of local contracting, which Newfoundland hopes will see a return of construction workers from the Alberta oil sands to join a work force expected to reach 3,000.

"This really is a win-win," he told a news conference. "We are soon to become a 'have' province as master of our own destiny. This is a day that all (Newfoundland residents) can take pride in and celebrates. The signing of this agreement reflects a bold new era of partnership … it marks our emergence as a full participant on the global energy stage …" he said.

The taxpayers of Newfoundland, who are now part of the industry gamble, have reason to hope he is right.

To reassure them, Williams said the partners could count on generous profits even if oil prices fall back from current levels.

Based on average oil prices of $87 per barrel, Newfoundland would collect C$20 billion in royalties, corporate income tax and return on equity over Hebron's 25-year operating life. The Canadian government and other provinces could receive more than C$8 billion.

Newfoundland's existing generic oil royalty regime will apply with some modifications. It provides for an additional super royalty of 6.5 percent on top of existing rates any time after net royalty payout where the price of West Texas Intermediate exceeds $50 per barrel. This results in a top royalty rate of 36.5 percent.

The basic royalty remains at 1 percent of gross revenue until project costs are recovered. Conceding the wrangling that has taken place, Williams said: "We had to play tough to up the ante … there were some tough things said and we went through some tough times."

As oil prices started rising last year, Williams said "both sides just said let's get on with it."

At the height of the furor, he blamed ExxonMobil for blocking his bid for a government equity stake and accused the supermajor of holding his province to ransom.

Chevron Canada President Mark Nelson said the construction and production phases will "deliver significant benefits to the people of Newfoundland, generate a competitive rate of return for Chevron and our co-venture companies … and provide additional energy supplies for the North American marketplace."

The pact is accompanies by the most positive trends in many years for the Newfoundland offshore.

Transocean's dullish Henry Goodrich has arrived in the region under a two-year contract with Husky Energy, StatoilHydro and Petro-Canada to drill a series of exploration and delineation wells in areas where the three companies are active.

StatoilHydro will move the drillship to the Flemish pass basin in about 1,100 meters of water later this year to test the unexplored Mizzen prospect in partnership with Husky, which can acquire an interest of up to 35 percent.

ExxonMobil has contracted for a rig to drill a second exploration well in the deep-water Orphan Basin and ConocoPhillips is gearing up for an exploration program in the gas-prone Laurentian Basin.

In all cases, the companies are aware that the Williams government, under its new energy policy, will insist on a 5 percent stake if commercial oil or natural gas is discovered.

Wade Locke, an economist at Newfoundland's Memorial University, said that if the Hebron negotiations had failed for a second time the offshore would have lost its fresh momentum.

He said the deal is "extremely important (because) it reconfirms that there is an industry going forward here for the next 30 or 40 years."

Paul Barnes, Atlantic Canada manager for the Canadian Association of Petroleum Producers, welcomed the two latest pacts — with Hebron and with Husky to expand its White Rose development, as a "very positive signal for the industry." ●

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ANS SYRUP

by the end of 2008, Eric West, BP's heavy oil project manager, told a media tour of the Milne Point test facility Aug. 18.

If the phase one testing demonstrates the technical feasibility of heavy oil production, the project will move into a second phase of testing, to evaluate whether heavy oil production at Milne Point will prove economically viable, said Max Easley, Alaska Consolidated Team business unit leader.

20 billion barrels

And, with an estimated 20 billion barrels of heavy oil in place in the central North Slope, the stakes couldn't be higher.

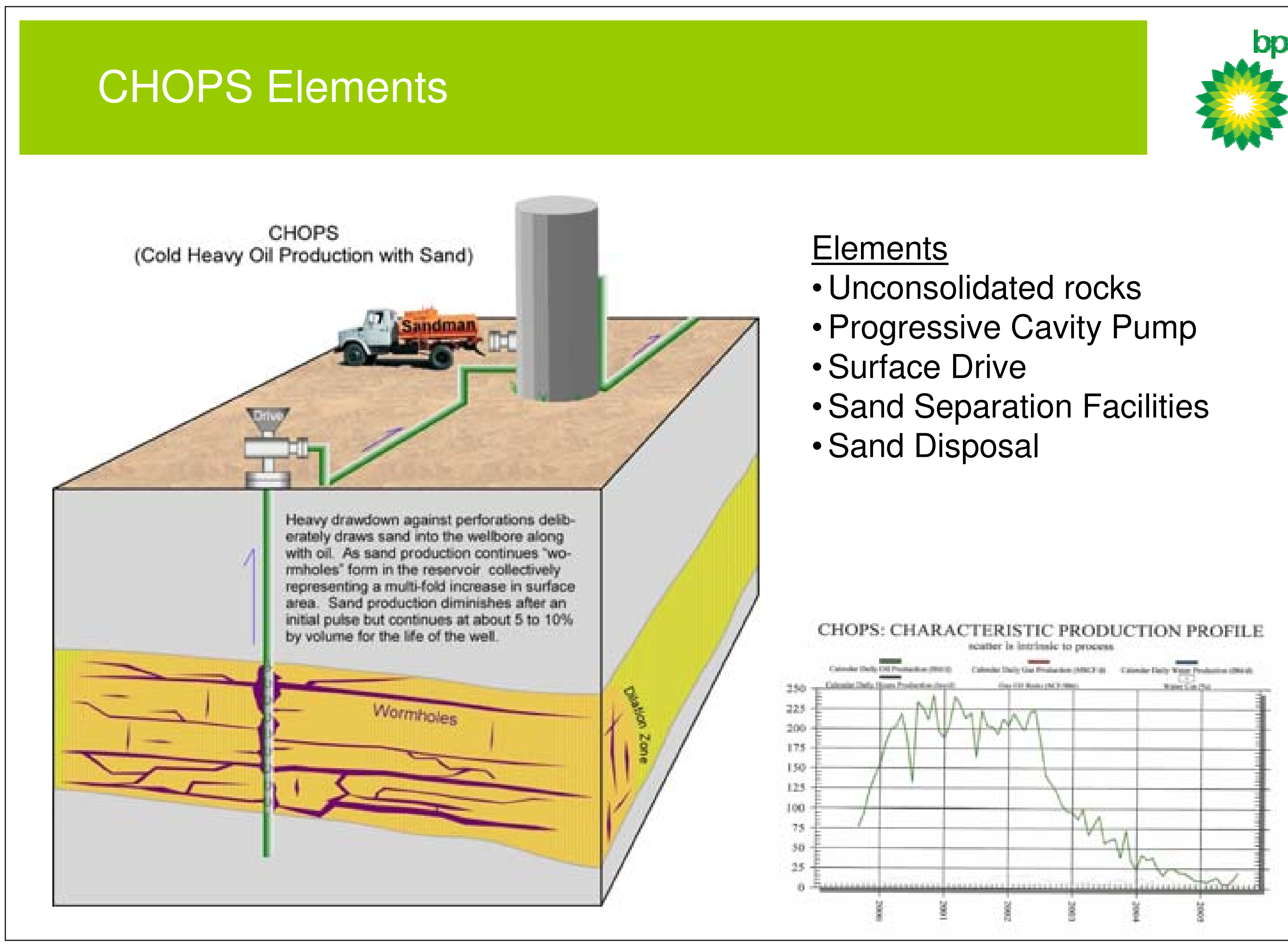
"If we only get 10 percent of it, that's a lot of oil," West said.

The oil in the Prudhoe Bay region has migrated into various reservoirs at different depths. But bacteria that become particularly active in the temperature conditions at depths of around 4,000 feet eat out the lighter hydrocarbons, West said. That results in a residue of heavy oil in relatively shallow reservoirs far above the conventional light oil reservoirs of the North Slope oil fields.

Methane waste from the bacterial action bubbles towards the surface and becomes trapped around the base of the permafrost as gas hydrate, West said.

About three years ago BP decided to embark on a project to try to develop the heavy oil while there is still significant production of light oil from the North Slope. The light oil is needed to thin the heavy oil so that the resultant fluid can flow down the trans-Alaska pipeline, West explained

"We need the light oil to blend it with, so it's the perfect time in the North Slope's life," Easley said.



Were BP to stick to the conventional concept of waiting for depletion of the North Slope light oil before producing the heavy oil, the company would have to resort to an expensive technique such as hydrogen cracking to create a light enough fluid for export by pipeline, West said.

Which way?

But which of the many possible ways of producing that residue of heavy oil is likely to work?

The most widely publicized methods consist of either the surface mining of oil sands or the application of heat to the underground reservoirs, West said. However, in Canada, the epicenter of heavy oil development, techniques for cold heavy oil extraction have also been developed, he said.

BP has a policy of not mining for heavy oil, West said. But the choice between hot and cold in-situ production depends on the nature of the oil reservoir and the characteristics of the oil, he said. On the North Slope much of the Kuparuk unit area heavy oil appears most suitable for hot extraction, while in the Prudhoe Bay and Milne Point units cold techniques seem more appropriated.

West also said that cold techniques create a smaller carbon footprint than hot techniques.

The particular technique that BP has chosen to try at Milne Point is called cold heavy oil production with sand, or

see **ANS SYRUP** *page 19*

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ANS SYRUP

CHOPS, a technique that has seen several commercial developments in Alberta.

In this technique, which depends on an unconsolidated sand reservoir, the production well has large perforations and no screen for keeping the sand out of the well. Sand is produced along with the oil and is subsequently separated from the oil at the surface by heating the oil/sand mixture in a tank.

"You're actually producing a bit of the reservoir into the wellbore," West said. "That is totally contrary to light oil reservoirs where you always want to keep the sand out."

Downhole pump

A key part of the well technology is the downhole pump, known as a progressive cavity pump, consisting of a long auger-like rotor that spins at high speed inside an enveloping tube. The rotating augur screw will draw material up the well, while being less susceptible to wear than a piston-based pump design.

Because the sand in the well would tend to cause a downhole electric motor to overheat, the pump's motor drive is placed at the surface and is connected to the pump rotor by means of a long rotating rod that extends through the well inner casing. A huge spool called a mobile gripper unit feeds the drive rod down into the well casing.

The pump should cause a pressure drawdown or drop of around 1,000 pounds per square inch or more at the bottom of the well.

"We're going to put really significant drawdown against these open perfs," West said. "And that's going to induce the formation to produce into the well."

Once a well goes into operation, initial sand production should be high, perhaps 40 percent of the total production volume, said Grant Encelewski, operations lead tech for the BP heavy oil team. Then, after a system of fissures and wormholes in the reservoir has opened up and somewhat stabilized, sand production will drop to 10 percent or less, with a corresponding increase in oil production.

But, although the project team has already recovered a small amount of oil from the test well in the course of preparing the well for pump installation, the key to success will be the pumping of sand up the well.

"We define success, not so much as oil, but as being able to bring sand to the surface in a sustainable manner," West said. "… If we can do that we know we're going to have a project, because the oil will come with it."

Initial testing is using adapted conventional oilfield equipment to process the material drawn from the well. If that test proves successful the team will drill three more wells by end 2009 and install a long-term test kit consisting of processing equipment purpose built for handling heavy oil. Sand separated from the oil will be disposed through the Prudhoe Bay grind and inject facility.

The total cost of this phase one testing will be $68 million.

Phase two will involve an additional extension to S-pad, the drilling of four more wells and possibly the installation of additional well test facilities. Phase two is likely to cost about as much as phase one.

"We're going to put over $100 million into this, before we even know if this is a business opportunity," West said.

Several hurdles

Phase two could culminate in a development decision, but for a viable full-scale development the testing will need to cross several hurdles.

"This is a journey that is going to take some time," West said.

Assuming that the initial well configuration works successfully, the team will try to improve flow rates — higher than normal cold heavy oil production rates will be needed to offset high Alaska well costs. The technique of choice for flow rate optimization is the use of multilateral horizontal wells but no one knows whether the sand production will work through horizontal well bores.

"No one has yet determined how you can pull sand along a horizontal well," West said. "That's our technology challenge."

And one key factor will be the use of good reservoir imaging from seismic data to enable precise well placement.

"In Alberta they have a 40 percent (CHOPS) well failure rate," West said.

Cost and value

The project team will try to apply innovative technologies to reduce costs. And, finally, the team will need to ensure that the footprint of the required surface equipment is acceptable.

By crossing these various hurdles, BP expects to overcome the two major challenges of heavy oil production: high production costs resulting from the high oil viscosity and the relatively low value of the product. Because the heavy oil contains a smaller proportion of high value products such as gasoline than light oil, BP expects the North Slope heavy oil to sell at about $9 per barrel below the regular price for Alaska North Slope crude. But at current oil prices, the economics look good, West said.

And BP's strategy for its North Slope production is to bolster overall fluid oil production by bringing heavy oil on line.

"Without the heavy oil the future of Alaska is very much one of diminishing light oil, but then gas coming on big," West said. "But with heavy oil you … have a rejuvenation of the fluids business for Alaska, and it becomes as much a fluids future as a gas future."

"This to me is the next big oil boom," Encelewski said. "… This is a domestic project that's under our noses. … That's what gets me enthusiastic." ●

ALAN BAILEY

Grant Encelewski, operations lead tech for the BP heavy oil team, points to the top-drive motor unit for the downhole pump. The pump will be installed on the wellhead of the test well.

ALAN BAILEY

The auger-like rotor of the progressive cavity pump used to reduce the well downhole pressure and draw a mixture of sand and oil up the well.