



● NORTH AMERICA

Start your engines

Alberta energy minister sees North Slope, Mackenzie in 'great pipeline race'

By GARY PARK

Petroleum News Calgary Correspondent

Alberta Energy Minister Murray Smith has officially declared that the North Slope and Mackenzie Delta are in a race to get their natural gas to market first.

If the U.S. Congress approval of US\$18 billion in loan guarantees for an Alaska pipeline moves the North Slope ahead of the Mackenzie on the construction schedule, Canadian Arctic gas could miss its planned 2009 start-up by 15 years or more, he said.

Telling the Financial Post that the "great pipeline race has commenced," he said U.S. security interests could override other considerations if gas prices move above US\$8 per thousand cubic feet.

He warned against underestimating the U.S. ability to mobilize resources, effort and engineering technol-



Alberta Energy Minister Murray Smith

● News Flash

4 First Nations softens position on Mackenzie gasline

ogy to fast track the Alaska project.

Hal Kvisle, chief executive officer of TransCanada, which has major stakes in both projects, said the backing of Congress now suggests 2012 is a "reasonable target" for gas to start flowing, although he described the Alaska pipeline as "50 times" more complicated than a Mackenzie Valley pipeline.

Prospect of long-term Mackenzie delays

But the heightened prospect of long-term delays for the Mackenzie could see the project shelved "for as

see **START** page 16



COURTESY OF ROWAN

Rowan's Gorilla V

Drillers on the mend: Rowan, Diamond report higher profits; Ensco's net slips on storm damage

True to industry forecasts, offshore contract drillers are beginning to report improved profits on escalating rig day rates fueled by strong commodity prices and increased exploration and development activity.

"We are encouraged by the positive trends occurring in our business," declared Danny McNease, Rowan's chief executive officer.

A Petroleum News survey conducted several weeks ago indicated that profits for 16 major drilling and oilfield service companies could increase an average 22 percent in the 2004 third quarter from the prior quarter and increase roughly 33 percent compared to last year's third quarter.

see **DRILLERS** page 12

Researchers seek 'holy grail' of oil sands production via underground refineries

The University of Calgary has recruited two international heavy oil experts to chase some oil sands dreams, notably ways to refine raw bitumen underground.

Steve Larter of Britain and Pedro Pereira Almao of Venezuela will head up the research effort at the university's newly opened Alberta Ingenuity Centre for In Situ Recovery.

University President Harvey Weingarten said new methods of developing the oil sands are vital because of the decline in conventional oil and gas reserves and increasing environmental constraints.

"Every 1 percent increase in the recovery rate of Alberta's bitumen translates into C\$26 billion in additional gross domestic

see **GRAIL** page 14

● GULF OF MEXICO

Independents team up

Kerr-McGee, Stone to focus on Gulf deep shelf and deepwater exploration prospects; McMoRan and Palace to concentrate on deep shelf exploration

By RAY TYSON

Petroleum News Houston Correspondent

Four exploration and production independents have formed or expanded joint ventures to pursue drilling opportunities in the Gulf of Mexico region.

Kerr-McGee and Stone Energy signed exploration agreements covering interests on 30 leases held by Kerr-McGee in both shallow and deeper

waters of the U.S. Gulf, the companies said Oct. 19.

McMoRan Exploration and Palace Exploration expanded their exploration venture with an initial commitment of \$500 million for future expenditures to acquire and exploit high potential prospects, primarily in the deep Miocene zone of the U.S. Gulf and Gulf Coast area, the companies said Oct. 18.

see **TEAM** page 14



Dave Hager, Kerr-McGee's senior vice president of exploration and production

● COOK INLET

The unexplored depths of the Cook Inlet basin

The pre-Tertiary rocks of Southcentral Alaska present an intriguing and largely ignored petroleum exploration play, say veteran geologists

By ALAN BAILEY

Petroleum News Staff Writer

In 1957 Richfield Oil Co. discovered the Swanson River field in Tertiary sediments on Alaska's Kenai Peninsula. This event launched the oil and gas industry around the Cook Inlet. The discovery also caused almost all subsequent exploration in the area to focus on the relatively young Tertiary rocks of the region.

But there's a major sequence of older sediments underneath the Tertiary. Could these older sediments

also hold oil and gas?

Deposition of sediments in the Cook Inlet basin started way back in the Triassic period, at the beginning of the Mesozoic era more than 200 million years ago. At that time the Pacific plate of the earth's crust started sliding under the crust along the line of the present-day Alaska and Aleutian Ranges. The sinking plate caused a trough to form along the general trend of the present-day Cook Inlet. Then from the Triassic through the subsequent Jurassic and Cretaceous peri-

see **DEPTH**s page 15

BREAKING NEWS

4 Tahiti beats expectations: Test indicates Gulf of Mexico discovery well could produce 30,000 barrels of oil per day

6 \$35 oil here to stay: Report from Calgary-based investment firm FirstEnergy predicts oil to stay above \$35 for rest of decade

12 Peace at hand: End in sight to bitter dispute involving natural gas and oil sands producers in Alberta and energy regulator

Alaska - Mackenzie Rig Report

Rig Owner/Rig Type Rig No. Rig Location/Activity Operator or Status

Alaska Rig Status

North Slope - Onshore

Doyon Drilling
 Drecto 1250 UE 14 (SCR/TD) Milne Point, drilling MPH-16 BP
 Sky Top Brewster NE-12 15 (SCR/TD) Deadhorse yard, expected start 2005 ConocoPhillips
 Drecto 1000 UE 16 (SCR) Grassroots, S-119 BP
 Drecto D2000 UE BD 19 (SCR/TD) Alpine, drilling CD2-54 ConocoPhillips
 OIME 2000 141 (SCR/TD) Infield Kuparuk, drilling 1E-114 multilateral ConocoPhillips

Nabors Alaska Drilling
 Trans-ocean rig CDR-1 (CT) Stacked, Prudhoe Bay Available
 Drecto 1000 UE 2-ES (SCR) Prudhoe Bay, J-23A BP
 Mid-Continent U36A 3-S Stacked, Deadhorse Available
 Oilwell 700 E 4-ES (SCR) Milne Point, 07-37 BP
 Drecto 1000 UE 7-ES (SCR/TD) Prudhoe Bay, Z-210 BP
 Drecto 1000 UE 9-ES (SCR/TD) Prudhoe Bay, V-106 BP
 Oilwell 2000 Hercules 14-E (SCR) Stacked, Deadhorse Available
 Oilwell 2000 Hercules 16-E (SCR/TD) Stacked, Prudhoe Bay Available
 Oilwell 2000 17-E (SCR/TD) Stacked, Point McIntyre Available
 Emsco Electro-hoist -2 18-E (SCR) Stacked, Deadhorse Available
 OIME 1000 19-E (SCR) Stacked, Deadhorse Available
 Emsco Electro-hoist Varco TDS3 22-E (SCR/TD) Stacked, Milne Point Available
 Emsco Electro-hoist 28-E (SCR) Stacked, Deadhorse Available
 OIME 2000 245-E Stacked, Kuparuk Available

Nordic Calista Services
 Superior 700 UE 1 (SCR/CTD) 1-C 25B BP
 Superior 700 UE 2 (SCR/CTD) Kuparuk, 1-Y-24 BP
 Ideco 900 3 (SCR/TD) Kuparuk, stacked at 1-Q ConocoPhillips

North Slope - Offshore

Nabors Alaska Drilling
 Oilwell 2000 33-E (SCR/TD) Stacked, NorthStar BP
 Emsco Electro-hoist Canrig 1050E 27-E (SCR/TD) Stacked at 12-acre pad Kerr-McGee

Cook Inlet Basin - Onshore

Aurora Well Service
 Franks 300 Srs. Explorer III AWS 1 Stacked in Nikiski Available

Evergreen Resources Alaska
 Wilson Super 38 96-19 Stacked in Wasilla yard Evergreen Resources Alaska Corporation

Inlet Drilling Alaska/Cooper Construction
 Kremco 750 CC-1 Stacked, Kenai Available

Kuukpik 5 West Forelands, drilling #2 Forest Oil

Marathon Oil Co. (Inlet Drilling Alaska labor contractor)
 Taylor Glacier 1 Working on well West Fork #3 Marathon

Nabors Alaska Drilling
 Rigmasters 850 129 Happy Valley #10 Unocal
 National 110 UE 160 (SCR) Stacked, Kenai Available
 Continental Emsco E3000 273 Stacked, Kenai Available
 IDECO 2100 E 51 Steelhead platform, done 12-1-03 Unocal
 IDECO 2100 E 429E (SCR) Stacked, removed from Osprey platform Available

Water Resources International
 Ideco H-35 KD Moving to Beluga area Pelican Hill

Cook Inlet Basin - Offshore

Cudd Pressure Control 340K Stacked Available

Unocal (Nabors Alaska Drilling labor contractor)
 Not Available

XTO Energy (Inlet Drilling Alaska labor contract)
 National 1320 A Idle XTO
 National 110 C (TD) C31-26RD testing on completion XTO

Mackenzie Rig Status

Mackenzie Delta-Onshore

AKITA Equitak
 Drecto 1250 UE 62 (SCR/TD) Barges at staging site EnCana
 Drecto 1250 UE 63 (SCR/TD) Barges at staging site Chevron Canada
 National 370 64 Stacked, Inuvik, NT EnCana

Central Mackenzie Valley

AKITA/SAHTU
 Oilwell 500 51 Stacked, Fort Good Hope, NT Apache Canada

Nabors Canada
 62 Racked Available

Yukon Territories Rig Status

Yukon

AKITA/Kaska
 National 80UE 58 Kotaneelee, drilling L-38 Devon Canada

The Alaska - Mackenzie Rig Report as of October 20, 2004.
 Active drilling companies only listed.

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

This rig report was prepared by Wadeen Hepworth



Drill bits

Baker Hughes North America rotary rig counts*

	September 24	September 17	Year Ago
US	1,239	1,232	1,095
Canada	291	246	308
Gulf	83	87	102

Highest/Lowest

US/Highest	4530	December 1981
US/Lowest	488	April 1999
Canada/Highest	558	January 2000
Canada/Lowest	29	April 1992

*Issued by Baker Hughes since 1944

Rig start-ups expected in next 6 months

Rig Owner/No.	Rig Location/Activity	Operator
Akita Equitak 62	Umiak No. 5 camp and construction equipment are on barges at staging site at Mason Bay.	EnCana
Akita Equitak 63	West Ellice rig camp and construction equipment are on barges at staging site at Ellice Island.	Chevron Canada
Akita/Sahtu Drilling 51	Will be drilling in the Colville Lake area	Apache Canada
Akita/Sahtu Drilling 40	Will be drilling in the Summit Creek area, west of Tulita NT.	Northrock Resources

The Alaska - Mackenzie Rig Report is sponsored by:



YUKON FLATS

Fish and Wildlife, Doyon negotiate draft land exchange for Yukon Flats

The U.S. Fish and Wildlife Service said Oct. 20 that it has negotiated a draft land exchange with Doyon Ltd., an Alaska Native Claims Settlement Act corporation, for lands in the Yukon Flats National Wildlife Refuge.

The agency said negotiators for Doyon and the Fish and Wildlife Service "have agreed in principle to provide Doyon title to some refuge lands that may hold developable oil and gas resources." In exchange, Fish and Wildlife will receive habitat currently owned by Doyon within the refuge boundary consisting of "wetlands previously identified by the Service as quality fish and wildlife habitat."

The agreement now requires further policy and legal review by the Fish and Wildlife Service and by the Department of the Interior.

Once the agreement has been finalized, the Fish and Wildlife Service "will conduct a review of the biological resources impacted by the agreement," and results of the review and the final agreement will be presented to the public for review and comment, including public meetings and a public comment period.

Under the proposed agreement Doyon would receive lands with prospects for oil and gas while an estimated 98,000 acres of "quality fish and wildlife habitat" would be added to the refuge.

The agency said the increase of 98,000 acres is calculated based on: an estimated 150,000 acres to be received by the Service in the exchange minus 110,000 acres of surface/subsurface conveyed to Doyon in the exchange, plus 58,000 acres of Alaska Native Claims Settlement Act entitlement acres that will not be taken within the refuge.

The agency said Doyon will also take title to approximately 96,000 acres of subsurface oil and gas interests in a "halo" of lands around both the core lands to be transferred to it and other Doyon holdings within the refuge. If marketable oil and gas resources are discovered, Doyon would be able to access their "halo" land interests only by directional drilling from their adjacent surface holdings, with no surface occupancy or surface construction to be permitted on the 96,000 acres.

—PETROLEUM NEWS

JUNEAU

North Slope producers embrace state of Alaska's equity concept; state to submit draft proposal by Oct. 28

Negotiations between the state of Alaska and the North Slope producers, BP, ConocoPhillips and ExxonMobil, appear to be moving right along, with Alaska Gov. Frank Murkowski reporting that the producers have embraced the state's concept of equity ownership in the proposed Alaska gas pipeline.

The governor met with the producers Oct. 19 in Pasadena, Calif.

He said in an Oct. 20 statement that substantial progress has been made in advancing Alaska's gasoline project.

"The single most significant event that made these meetings possible was the success of our congressional delegation in obtaining the federal incentives necessary to advance the prospect to the next phase — the development of a stranded gas act contract between the state and the producers," the governor said in a statement.

Murkowski said the producers have embraced the state's equity concept, which he presented to legislators Oct. 13. He said the state has set a target date of Oct. 28 to submit its proposal to the producers, and the producers have indicated it will be their goal to respond within a week.

Deputy Press Secretary Michael Chambers told Petroleum News that what will be submitted to the producers will be "our fiscal terms which we expect will incorporate what we envision the equity stake to be."

The producers will then submit their proposal, and negotiation will begin on the specifics.

"Our fiscal terms and theirs will be confidential throughout the process," Chambers said.

Negotiations will then continue as the state's stranded gas team works with the producers to develop a final proposal to submit to the Legislature early in the coming session.

North Slope producers at the Pasadena meeting were: Jim Mulva, CEO and chairman of ConocoPhillips, Houston; Bill Berry, executive vice president, exploration, ConocoPhillips, Houston; Tony Howard, CEO, BP Exploration, London; Steve Marshall, president, BP Exploration (Alaska), Anchorage; and Rex Tillerson, president, ExxonMobil, Dallas.



Alaska Gov. Frank Murkowski

JUDY PATRICK

—KRISTEN NELSON

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• GULF OF MEXICO

Gulf Tahiti discovery beats expectations

Test indicates well could produce 30,000 bpd of oil

By RAY TYSON

Petroleum News Houston Correspondent

The Tahiti discovery well alone is said to be capable of producing upward of 30,000 barrels of oil per day, surpassing initial estimates and further confirming the huge potential for what already was considered to be among the largest oil finds in the Gulf of Mexico.

The well's peak rate during a production test concluded in early September reached 15,000 barrels per day, a maximum level because of equipment limitations and safety concerns, field operator ChevronTexaco said Oct. 19.

However, analysis of the rate and pressure data collected during the test indicates the well is capable of exceeding the pre-test expectation of 25,000 barrels of oil per day, the company said, adding the well actually could produce as much as 30,000 bpd.

"The results of this well test are very positive for our Tahiti field development plans," ChevronTexaco Exploration and Production President Ray Wilcox said. "These test results serve to reinforce our efforts around finding significant new oil resources in the Gulf of Mexico."

Tahiti, on Green Canyon Block 640 in more than 4,000 feet of water, was announced as a significant discovery in April 2002, with a net pay zone of more than 400 feet. However, appraisal drilling unveiled one of the most significant net pay accumulations in the history of the U.S. Gulf, with one well encountering more than 1,000 feet of net pay in high-quality sandstone.

Reservoir spreads over distance of three miles

The appraisal program also confirmed that the reservoir in Tahiti spreads over a distance of three miles. ChevronTexaco

has said Tahiti could hold at least 400 million to 500 million barrels of oil reserves.

ChevronTexaco said that based on the successful well completion and the positive test results, project development "can move forward with greater confidence."

Fluid samples, well data and reservoir property information acquired during the test were essential components of the design for the Tahiti Project, the company said. The well test was completed in 25,812 feet sub-sea.

"This makes it the deepest successful well test in the history of the Gulf of Mexico, which is even more significant because it is in a high-pressure environment," said Kathleen Arthur, vice president of ChevronTexaco's Gulf of Mexico deepwater business unit.

Earlier this year ChevronTexaco announced that two major engineering contracts had been awarded for the development of Tahiti's sub-sea systems and floating production facility. That work is well under way and on schedule, the company said.

Under the agreement, Technip Offshore is performing front-end engineering and design for the proposed truss spar floating production facility, and Mustang Engineering is performing the same for the Tahiti topsides oil and gas processing facilities.

Tahiti construction contracts are expected to be awarded in the second quarter of 2005, ChevronTexaco said.

ChevronTexaco is the operator of the Tahiti Project with a 58 percent working interest. Tahiti partners are EnCana with a 25 percent working interest and Shell with a 17 percent working interest.

"The Tahiti production test helps fortify the commercial potential of this field," EnCana USA President Roger Bieman said. ●

NWT

Deh Cho softens Mackenzie Valley hard line

The Deh Cho First Nations are prepared to drop lawsuits that could delay progress on the Mackenzie Valley gas pipeline if they are offered a seat on the environmental review panel and are assured of progress in their land claims negotiations.

In the first sign of a crack in the Deh Cho hard line, Grand Chief Herb Norwegian said Oct. 20 that his community is ready to meet "half way" and respond to any gesture of compromise.

Rather than insisting on having two representatives on the seven-member panel, he said the Deh Cho are willing to settle for a single representative, similar to the other three aboriginal communities along the pipeline route.



Grand Chief Herb Norwegian

Norwegian said the Deh Cho might also drop lawsuits filed in the Supreme Court of the Northwest Territories and the Federal Court of Canada seeking an injunction to halt the regulatory review.

But he said there must be progress in the land claims, although a settlement would not necessarily have to precede Deh Cho support for the pipeline, although he insisted that with "no movement (on claims) we would oppose the pipeline."

Norwegian said the Deh Cho are still looking for fees covering access to their lands, along the lines of compensation paid to property owners in Alberta by oil and gas companies.

So far, the Canadian government has been unwilling to consider such a proposal.

Since filing the lawsuits in September, the Deh Cho, whose land covers the southern 40 percent of the pipeline right of way, have come under attack from leaders of the Gwich'in, Sahtu and Inuvialuit, who are all full partners in the Aboriginal Pipeline Group, and Northwest Territories Premier Joe Handley. All have accused the Deh Cho of undermining the Northwest Territories' hopes of economic self-sufficiency.

Canada's Indian Affairs and Northern Development Minister Andy Scott said he is prepared to meet with Norwegian once some unspecified issues are resolved.

—GARY PARK



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BUY ALASKA

• BEAUFORT SEA

MMS outlines terms for proposed March Beaufort Sea sale

Notice includes royalty suspension volumes, as in 2003 sale, conditional on oil prices below inflation-adjusted \$39 per barrel

By KRISTEN NELSON

Petroleum News Editor-in-Chief

The Minerals Management Service has issued a proposed notice of sale for its next Beaufort Sea sale, tentatively scheduled for March 30 in Anchorage. Alaska Gov. Frank Murkowski has 60 days to comment on the size, timing and location of the proposed sale, and then after addressing any comments it receives from the governor, if the Department of the Interior decides to proceed with the sale, MMS would issue a final notice for the sale at least 30 days prior to the public opening of the bids.



Alaska Gov. Frank Murkowski

JUDY PATRICK

The sale area includes approximately 1,800 whole or partial blocks encompassing some 9.4 million acres offshore Alaska's northern coast in the Beaufort Sea, extending from the Canadian border on the east to near Barrow on the west. The sale area "excludes offshore areas near Barrow and Kaktovik used by the Inupiat for bowhead whole subsistence hunts," MMS said Oct. 18.

The agency said it will require any offshore oil and gas activity to be coordinated with Inupiat whalers during their hunt.

The agency said it has developed six other lease stipulations to help minimize effects to the environment and to the Inupiat people, including requirements for protection of biological resources and spectacled and Steller's eiders, bowhead whole monitoring, use of pipelines rather than tankers and booming for fuel transfers.

"These stipulations supplement our regulatory regime that companies must follow to keep their activities safe and pollution free," MMS Regional Director John

The sale area "excludes offshore areas near Barrow and Kaktovik used by the Inupiat for bowhead whole subsistence hunts."

—Oct. 18 MMS proposed sale notice

Goll said in a statement.

The agency estimates the Beaufort Sea could contain 7 billion barrels of oil and 32 trillion cubic feet of natural gas — those volumes are the mean estimate of conventionally recoverable reserves.

Royalty suspensions based on price, zone

As in the September 2003 Beaufort Sea sale, MMS is proposing royalty suspensions on the production of oil and condensate, subject to price thresholds. Zone A, tracts closer to infrastructure, receive a royalty suspension volume of 10 million to 30 million barrels of oil and condensates, depending on the size of the lease. Zone B tracts, those farther from infrastructure, receive royalty suspensions of 15 million to 45 million barrels, depending on the size of the lease.

There is no royalty relief for any calendar year in which the actual New York Mercantile Exchange annual price of oil exceeds the ceiling price threshold, adjusted for inflation, for oil in that year. The ceiling price threshold is based on \$39 per barrel, the 2004 base year, adjusted for inflation. If the Nymex quarterly price is below the fixed floor price of \$21 per barrel (that price will not be adjusted for inflation), oil produced during that calendar year will be royalty free, and would not count against the lease's royalty suspension volume, although there would be no royalty-free volume if the lease's royalty suspension volume has already been used.

There are 64 MMS leases active in the Beaufort, some 120,000 hectares in total. ●

WESTERN CANADA

Land sales taper off in B.C., Saskatchewan

Governments across Western Canada raked in more than C\$1 billion during the first three quarters in sales of exploration lands and work commitments, but British Columbia and Saskatchewan took a nosedive.

The four provinces tallied C\$1.04 billion for 7.8 million acres, compared with last year's blistering C\$1.39 billion for 9.4 million acres. It was the sixth time since 1980 that returns to the end of September topped the C\$1 billion mark.

Alberta easily showed the way this year, collecting C\$809 million from 5.98 million acres, a solid gain from last year's C\$687 million from 5.96 million acres.

But British Columbia, which posted a 21 percent increase in well completions for the first nine months, saw its land sales slump to C\$180 million from C\$600 million over the same period of 2003, an anomaly because of the C\$500 million EnCana invested in its Cutbank Ridge play in northeastern British Columbia.

Acres sold in British Columbia slipped to 1.06 million acres from 1.51 million acres. Saskatchewan, after last year's rush to secure rights to the Shackleton shallow gas play, has settled back to a more normal year, selling 756,400 acres for C\$47.2 million, compared with last year's 1.9 million acres for C\$106.5 million.

In the work commitment category, the Northwest Territories easily led the pack with its June sale that attracted C\$124.8 million for 720,000 acres.

—GARY PARK

ALASKA

Potential Alaska, federal oil gas lease sales

Agency	Sale and Area	Proposed Date
DNR	North Slope Areawide	Oct. 27, 2004
DNR	Beaufort Sea Areawide	Oct. 27, 2004
MHT	Cook Inlet	Nov. 9, 2004
MMS	Sale 195 Beaufort Sea	March 30, 2005
DNR	Cook Inlet Areawide	May 2005
DNR	Foothills Areawide	May 2005
BLM	NE NPR-A	June 2005
DNR	North Slope Areawide	October 2005
DNR	Beaufort Sea Areawide	October 2005
DNR	Alaska Peninsula Areawide	October 2005
MMS	Sale 199 Cook Inlet	2006
MMS	Sale 202 Beaufort Sea	2007
MMS	Chukchi Sea/Hope Basin	interest based
MMS	Norton Basin	interest based

Agency key: BLM, U.S. Department of the Interior's Bureau of Land Management, manages leasing in the National Petroleum Reserve-Alaska; DNR, Alaska Department of Natural Resources, Division of Oil and Gas, manages state oil and gas lease sales onshore and in state waters; MHT, Alaska Mental Health Trust Land Office, manages sales on trust lands; MMS, U.S. Department of the Interior's Minerals Management Service, Alaska region outer continental shelf office, manages sales in federal waters offshore Alaska.

This week's lease sale chart sponsored by:

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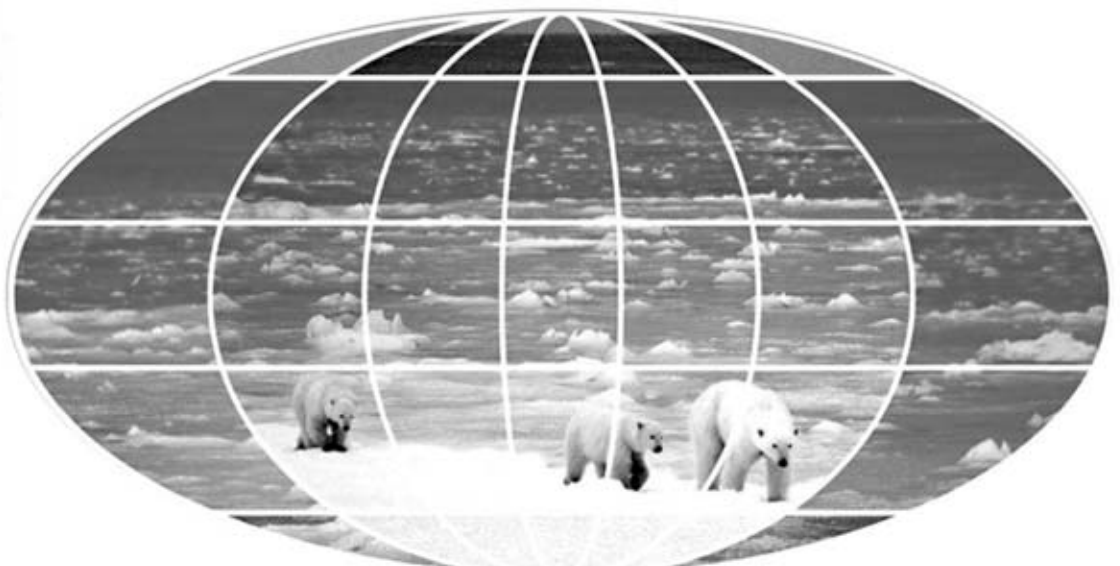


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CALGARY

FirstEnergy research: Oil to stay above \$35 for rest of decade

FirstEnergy Capital, a Calgary-based investment dealer, does not see West Texas Intermediate prices dropping below \$35 per barrel for the rest of the decade.

In a research report, First Energy has inflated its 2004 forecast by \$4 per barrel and added another \$6-\$7 through 2007.

It now expects the 2004 WTI price will average \$38.90, climbing to \$40 in the final quarter, then continue at \$38 from 2005 through 2007 and \$35-\$36 from 2008 through 2010.

FirstEnergy bases its outlook on International Energy Agency estimates of a finer supply-demand balance through the rest of the decade, combined with slow supply from non-OPEC countries.

In addition, it said more intensive capital along the crude supply chain points to higher prices to sustain cash flows and rates of return needed to pay for the massive infrastructure projects on the horizon.

FirstEnergy does not include any "fear premium" in its forecasts, arguing the market outlook should offer a "fundamentally based view."

—GARY PARK

DALLAS

ExxonMobil to take charge against earnings in court case

Exxon Mobil Corp. said Oct. 15 it would take a \$550 million charge against earnings to cover potential costs in a class-action lawsuit brought by gas station dealers.

The dealers said they were overcharged for gasoline for several years. The class-action lawsuit could affect 10,000 current and former dealers, lawyers say.

In 2001, the dealers won a \$500 million verdict in federal court in Florida. ExxonMobil, the world's largest publicly traded oil company, appealed. On Oct. 12, the U.S. Supreme Court agreed to hear part of the company's appeal, but lawyers for the dealers said the court ruling allowed most of the verdict to stand.

The company said in an Oct. 15 statement that it would take the \$550 million after-tax charge in its third-quarter financial results.

The company said that while it was taking a charge against earnings, depending on the final ruling from the Supreme Court, it might go back to the Florida court to seek "further relief" from the verdict.

ExxonMobil said it acted in good faith and met its obligations to dealers and customers. The case goes back to 1982, when Exxon — before it bought Mobil Oil — charged dealers a 3 percent processing fee on gasoline purchases made with credit cards. The company promised to offset the fee by reducing wholesale fuel prices but stopped after six months without telling the dealers.

The dealers sued in 1991. The \$500 million verdict was upheld by a federal appeals court. ExxonMobil then took the case to the Supreme Court.

—THE ASSOCIATED PRESS

• LONDON

Nymex and IPE set to battle over Brent futures

Exchanges look set for direct confrontation if Nymex introduces trading in its own Brent futures contract in IPE turf — London or Dublin

By **ALEN MATTICH**

Dow Jones/AP

The New York Mercantile Exchange and its great rival the International Petroleum Exchange are playing a game of chicken over who will dominate, and perhaps ultimately monopolize, the trading of energy futures.

The two exchanges look set for a direct confrontation if Nymex carries through with plans to introduce trading in its own Brent futures contract in either London, the IPE's home turf, or, as seems more likely, in Dublin. Brent refers to oil produced from fields in the East Shetland Basin of the North Sea, which is used as a benchmark to price oil produced in Europe, Africa or the Middle East and shipped West.

While insisting that a decision "hasn't finally been made," Nymex President James Newsome all but confirmed Oct. 14 that the exchange was making every effort to launch a Brent contract in Dublin "as

soon after Nov. 1 as possible."

The reason Nymex thinks it can make inroads into the market for Brent futures — which in oil trading stands second only to Nymex's own West Texas Intermediate contract — is the unhappiness many Brent traders feel about the IPE's march away from floor-based, open-outcry trading to electronic trading.

Nymex remains committed to open-outcry trading, says Newsome.

"Indications have been very positive" from the London trading community about the possibility of Nymex setting up on this side of the Atlantic, Newsome said.

IPE moves to boost screen trading

Nov. 1 is critical because from that day, the IPE will offer open-outcry trading only in the afternoon session in an effort to boost its screen trading, which

see **FUTURES** page 7

• DENVER

Davis Petroleum to focus on Rockies, hires McGuire

THE ASSOCIATED PRESS

The company run by the son of the late billionaire Marvin Davis plans a major energy exploration push in Colorado and Wyoming and has hired a veteran oil man to oversee its Rocky Mountain operations.

Davis Petroleum Inc., a private company based in Houston and run by Gregg Davis, said Oct. 13 that Mike McGuire, 54, will run the operations.

McGuire has spent three decades looking for oil and gas in the region. His is a former top exploration executive at Prima Energy Corp. McGuire said he plans to add staff to Davis' 10-person Denver office.

"We are going to be prudent, but we are going to staff up as quickly as we can," he said.

The company, which has 170,000 leased acres

available for exploration in the Rockies, said it plans to build reserves by drilling but won't rule out acquisitions.

Several companies interested in Rockies

Davis is just one of several companies showing heightened interest in the region, said Kathleen Eccleston, spokeswoman at the Independent Petroleum Association of Mountain States.

"Domestic natural gas has to come from somewhere, and a very significant portion of America's natural-gas resources are located in the intermountain West," she said.

The Rockies are viewed as one of the nation's most promising region of new natural gas development.

see **DAVIS** page 7

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IRVING, TEXAS

Magnum Hunter taps Deutsche Bank, Merrill Lynch as financial advisors

Independent producer Magnum Hunter Resources said Oct. 18 that it has hired Deutsche Bank Securities as lead advisor and Merrill Lynch as co-advisor to assist the company in developing a plan that could include selling the company or merging it with another company. "The Magnum Hunter board and management team are absolutely committed to building, enhancing and maximizing shareholder value and will take whatever steps necessary to ensure that all possible alternatives regarding Magnum Hunter's strategic future will be investigated thoroughly," Magnum Hunter Chairman Jerry Box said.

—RAY TYSON

CALGARY

First Calgary not on auction block – yet

First Calgary Petroleum denied British newspaper reports that it is up for sale, but confirmed it is weighing "strategic alternatives" — heightening speculation that it is close to being on the block. The little-known Calgary-based junior, whose market capitalization has soared more than 70-fold since 2000, said Oct. 19 that it has appointed a board committee to consider ways of developing its Algerian properties estimated to hold 1.2 billion barrels of oil equivalent of proved and probable reserves.

The Financial Times in London quoted First Calgary Chief Executive Officer Richard Anderson as saying his company was about to appoint bankers to advise on the best way to "maximize shareholder value," including the possible full sale of First Calgary. Last month the Globe and Mail in Toronto reported Anderson as saying a sale was under consideration but wouldn't be decided on until 2005.

He said First Calgary had been approached by Shell, Total and Norway's Statoil and Norsk Hydro, all of them interested in the Algerian assets, but declined to say whether any of them had made a bid.

"We are sitting with a large company asset in a little company," Anderson said, noting that First Calgary has no production. "We need to do what is best for shareholders."

With stock exchange listings in London and Toronto, First Calgary has seen its market-cap soar from C\$39 million four years ago to C\$2.83 billion, fueled by its exploration successes that have tested at cumulative daily flow rates of 500 million cubic feet of gas and 40,000 barrels of oil — all that preceding an Oct. 19 announcement of another discovery well producing 214 million cubic feet per day and 9,863 bpd.

First Calgary also said it was issuing 10.15 million shares worth C\$174 million to buy out an unnamed investor who holds rights to 5 percent of net profits from the company's properties.

—GARY PARK

continued from page 6

DAVIS

The government estimates that Colorado, Montana, New Mexico, Utah and Wyoming contain 41 percent of the nation's gas reserves.

Since April, three Denver companies have announced they are being acquired: Pioneer Natural Resources Co. of Dallas is buying Evergreen Resources for about \$1.7 billion in cash and stock. Canadian energy

giant EnCana Corp. is buying Tom Brown for \$2.2 billion in cash. And Kerr-McGee is buying Westport Resources in an estimated \$2.4 billion stock deal.

The return of the Davis family, which ran Davis Oil, Denver's leading independent oil and gas producer from the 1960s to the 1980s, is symbolic. Davis Oil's successor, Davis Petroleum, has maintained a small office in Denver.

Marvin Davis, who died Sept. 25, approved of his son's plans to refocus on the Rocky Mountain region, McGuire said. ●

continued from page 6

FUTURES

now accounts for less than 5 percent of Brent trade. Mornings will just be electronic trading.

"You could imagine a scenario in which an exchange planning to move from floor to electronic trading doesn't have electronic yet but where floor traders defect," says Benn Steil, a senior fellow at the Council on Foreign Relations.

If, in the weeks after Nov. 1, the IPE fails to attract trading onto its electronic platform, the exchange runs the risk of traders moving onto Nymex en masse, especially since Nymex's plans are for a Brent contract that looks exactly like the one currently traded on the IPE.

But that risk is a relatively small one.

A more worrying prospect for the IPE would be if Nymex opened shop in London. A Dublin contract could be offered fairly quickly pending approval of the Irish regulator. But London isn't as easy a proposition.

Nymex's Newsome, who spoke to British regulator the Financial Services Authority Oct. 14, said approval to open a London exchange would take six months.

Furthermore, he estimated that it would cost \$40 million to \$50 million to establish an exchange in London. Those sorts of sums would require Nymex to find a joint venture partner with deep pockets.

Nymex also carries the attraction of a better, more comprehensive clearing system than the IPE, which uses the London Clearing House, say traders.

History on IPE's side

Although the IPE faces near-term risks over its Brent contract, over the longer term, history is on its side.

Exchanges have relentlessly moved from open-outcry to electronic trading during recent years, a move that's always been greeted with loud protests from the floor traders and brokers.

By and large they've argued — as IPE traders do now — that the complexity of the contracts they trade makes maintaining liquidity and transparency impossible on an electronic exchange. And yet, the move from floor to screen has universally been accompanied by a fall in the cost of trading and an increase in volumes.

For futures, no one's ever demonstrated that floor trading is better than electronic

OIL COMPANY EARNINGS

Earnings from Top 35 North American E&P Capex Spenders

Earnings third quarter 2004 • Change from third quarter 2003
Liquids production third quarter 2004 • Change from third quarter 2003
Natural gas production third quarter 2004 • Change from third quarter 2003

Company	symbol	earnings	%	liquids	%	gas	%
BP	BP						
RD/Shell	RD						
EnCana	ECA						
ExxonMobil	XOM						
Can. Natural	CNQ.TO						
ConocoPhillips	COP						
El Paso	EP						
ChevronTexaco	CVX						
Anadarko	APC						
Devon	DVN						
Dominion	D	\$337	+32	31,708	+32	1,003	-9
Burlington	BR	\$389	+46	151,600	+37	1,906	+1
Occidental	OXY	\$758	+70	431,000	+3	649	+7
Husky	HSE.TO	C\$286	+15	208,100	+3	700	+20
Newfield	NFX						
Petro-Canada	PCZ						
Unocal	UCL						
Kerr-McGee	KMG						
EOG	EOG						
Nexen	NXY.TO	C\$220	+22	196,800	-11	285	-5
Imperial	IMO	C\$539	+44	257,000	-5	581	+12
Talisman	TLM						
Pioneer	PXD						
Apache	APA						
Marathon	MRO						
Suncor	SU.TO						
Merit	Private company does not report results						
Williams	WMB						
Chesapeake	CHK						
Pogo	PPP	\$87	+28	50,948	-22	339	+19
Penn West	PWT.TO						
XTO	XTO	\$141	+37	33,054	+62	857	+19
Spinnaker	SKE						
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NORTH AMERICA

Canada picks up five rigs, U.S. down by five rigs in survey

The number of rotary drilling rigs operating in North America during the week ending Oct. 15 stood at 1,635, unchanged from the previous week but up 129 compared to the same period last year, according to rig monitor Baker Hughes.

Canada's rig count rose by five to 410 vs. the previous week and was up by 19 compared to the year-ago period.

The number of rigs operating in the United States dropped by five to 1,225 from the previous week and was up by 110 compared to the same period last year. Compared to the previous week, offshore rigs alone fell by four to 92, while land rigs slipped by one to 1,115. Inland water rigs remained unchanged at 18.

Of the total number of rigs operating in the United States during the recent week, 1,057 were drilling for natural gas and 167 for oil, while one was being used for miscellaneous purposes. Of the total, 766 were vertical wells, 334 directional wells, and 125 horizontal wells. Among the leading producing states, New Mexico's rig count fell by seven to 65. Oklahoma lost five rigs for a total of 158, while Louisiana lost four rigs for a total of 165 and Wyoming lost one rig for a total of 83. California picked up two rigs for a total of 27, while Texas gained one rig for a total of 513. Alaska was unchanged with 12 rigs.

—RAY TYSON

ALBERTA

Oil sands junior has eye on giant prize in NE Alberta

Deer Creek Energy, having started public trading in July, is ready to take the big leap from the smallest pure oil sands producer to an operator on a grand scale — although the full transition will take another 16 years. After six years of testing the potential of its 7 billion barrel lease in northeastern Alberta, the Calgary-based company has started producing 600 barrels per day from what it describes as its Phase I demonstration project and has its sights set on big league numbers of 200,000 bpd by 2020.

"Deer Creek is at a major project milestone," said Mark Montemurro, vice president of thermal operations.

With the initial phase moving ahead, Deer Creek is now clearing a facility site and has ordered major equipment for its Phase II expansion to 10,000 bpd by mid-2006.

Since 1998, the company has gathered data from 560 core hole wells and 410 miles of geophysical surveys.

As a result, it is convinced the Joslyn lease has the potential for both surface mining and steam-assisted gravity drainage production.

Because the thermal steam-assisted gravity drainage extraction generates a faster payout than mining, Deer Creek plans to operate three phases of steam-assisted gravity drainage initially, then embark on four mining expansions in 2011. As well as building quicker cash flow, steam-assisted gravity drainage also poses fewer complications in gaining regulatory and investor approval.

—GARY PARK

• NORTH SLOPE

BP, MMS, Corps sign MOU for stalled Liberty prospect

Work set to begin next year includes permit evaluation, NEPA process: BP to provide development plan for Alaska project in November 2005

By KRISTEN NELSON

Petroleum News Editor-in-Chief

Work on BP's stalled Liberty prospect, in the Beaufort Sea east of Prudhoe Bay, may be inching forward again.

BP Exploration (Alaska) Inc., the Minerals Management Service and the U.S. Army Corps of Engineers signed a memorandum of understanding Sept. 27 for permit evaluation and the National Environmental Policy Act process for Liberty.

BP drilled the Liberty discovery well in 1997 on federal outer continental shelf acreage, has estimated recoverable oil at 120 million barrels and has been evaluating development options. An environmental impact statement was issued in May



Daren Beaudou, BP Exploration (Alaska)'s director of public affairs

2002, but BP had already said it was deferring the project as it revised its development plan. There was agency disagreement on how the project should go forward, and reports that one of the Endicott owners was "holding up" a BP proposal to process Liberty oil through Endicott facilities. In addition to BP, which is 68 percent working interest owner at Endicott, and the field's operator, ExxonMobil owns 21 percent and Unocal owns 10 percent. Doyon Ltd., NANA Regional Corp. and

ConocoPhillips combined hold the remaining 1 percent.

Although BP said in January 2002 that it was putting the project on hold, MMS decided to pub-

see LIBERTY page 9

• NORTH SLOPE

Winstar continues to study North Slope seismic data

Alaska independent isn't planning drilling yet, but is evaluating data for leases near Point McIntyre and between Liberty and Badami

By ALAN BAILEY

Petroleum News Staff Writer

Jim Weeks, president and CEO of Winstar Petroleum told Petroleum News in early October that Winstar is continuing to evaluate seismic data for several of its North Slope leases. The evaluations have not yet reached a point where company officials can decide on additional drilling. Winstar's first North Slope well, the Oliktok Point State No. 1, came up dry last year.

Winstar and its sister company, Ultrastar



Jim Weeks, Winstar Petroleum

Exploration, have more than 20,000 acres of state leases on the North Slope.

West of Point McIntyre

Weeks said Winstar has purchased a license to use some 3-D seismic data for an area in the Prudhoe Bay unit, just west of the Point McIntyre operating area. The seismic was originally shot by ARCO and is now owned by ConocoPhillips, BP and ExxonMobil.

"We were successful in obtaining a license to

see WINSTAR page 9

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continued from page 8

LIBERTY

lish the final EIS because it included substantial changes made in response to comments on the draft EIS and documented the extensive analysis done for the project. MMS said it also expected to use the 2002 final EIS as a reference document for future projects.

MMS said that when BP submitted a revised project, agencies would evaluate whether to use the 2002 final EIS, issue a supplemental EIS or issue new environmental documentation.

A supplemental EIS is included in the scope of work covered in the MOU.

Suspension of production running

BP's current plan of operations for Liberty began in June 2003 and runs through June 2006.

In June 2003, BP requested a suspension of production from MMS to run through Dec. 15, 2004, and told MMS that if "an economically viable option exists and permitting risks to costs and schedules are manageable," the company would select a preferred conceptual development in 2004, and, by Dec. 15, 2004, "submit the permit application with a revised DPP (development and depletion plan) and start the permitting process."

The schedule in the MOU calls for pre-application work to begin in November 2005, with BP providing the



BP Exploration (Alaska) Inc. drilled the Liberty discovery well in Foggy Island Bay

agencies with a complete description of the Liberty project, an application in June 2006 and final approvals in late 2007.

The MOU "delineates the roles and responsibilities of the parties" in the development of the supplemental EIS for Liberty, as well as permit evaluation and decision-making for the project, which would develop an offshore oil accumulation between Endicott and Badami. It

"covers permit evaluation and the NEPA analysis of environmental impacts of the Liberty Project."

MMS will review existing NEPA documentation and determine if that documentation "is adequate" for use in the supplemental EIS, and may request that BP supplement existing documentation "if new information is needed."

Agreements needed with state, borough

Daren Beaudou, BP Exploration (Alaska)'s director of public affairs, told Petroleum News Oct. 15 that the MOU establishes "the roles and responsibilities of the applicant and agencies and sets forth a business-like schedule, beginning

BP said in June 2003 that the options it is evaluating each includes a "nearshore, potentially off-lease, drilling island" to develop the accumulation, with produced fluids "sent to existing infrastructure for processing," with both Badami and Endicott being considered.

with a permit application in June 2006.

"Other steps forward would be to reach similar agreement with the state of Alaska and North Slope Borough for their permitting processes, to make sure their needs are met."

Beaudou said "BP is pursuing this in a very deliberate way and through this process we have no appetite for controversy."

"In order to succeed," he said, "the project has to be wanted by federal, state and local constituencies."

Unit agreement signed in 2003

BP finalized a unit agreement for Liberty in June 2003, and told MMS then that during the June 2003 to June 2006 plan of operations it intended to complete an appraisal of the economic viability of "current conceptual development options;" assess permitting risks associated with each option; "if commercially viable," select a conceptual development option; and prepare and submit a conceptual design and permit package.

BP said in June 2003 that the options it is evaluating each includes a "nearshore, potentially off-lease, drilling island" to develop the accumulation, with produced fluids "sent to existing infrastructure for processing," with both Badami and Endicott being considered. ●

continued from page 8

WINSTAR

that data from the owners ... and that data is currently being analyzed by ... Petrotechnical Resources of Alaska (PRA)," Weeks said.

Winstar has two leases in the area west of Point McIntyre and has obtained enough seismic to assess whether there's a promising-looking prospect. We already had some 2-D seismic, but you really need the 3-D data, he said. "We're hopeful that we'll find something that we want to invest in, but it's just too early to say right now."

The need to negotiate access to existing oil and gas facilities would impact the timeframe for any development in this area — 100 percent agreement from the owners of the Lisburne and Point McIntyre facilities would be essential. However, Weeks doesn't see that agreement as a major obstacle because the same owners approved the Oliktok Point deal.

"We do have a precedent out there," he said.

Winstar has two leases in the area west of Point McIntyre and has obtained enough seismic to assess whether there's a promising-looking prospect.

The Liberty/Badami area

A subsidiary of Chroma Energy of Sugar Land, Texas, has completed an analysis of some 3-D seismic data that Winstar obtained from BP (Exploration) Alaska for the Liberty and Badami areas. PRA is doing further analysis of the data. Winstar has two sets of leases between BP's Liberty prospect and BP's Badami unit.

Weeks expects that any development in this area would require access to the Badami facilities, which are currently in warm shutdown. The Badami pipeline has plenty of capacity but there would need to be a sizable oil find for the economics of using the pipeline to work, he said.

"If PRA identifies the structure or structures that justify drilling investments, we'll start serious negotiations with BP to get access," Weeks said. ●

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• NORTH SLOPE

BP Milne Point focus on viscous oil

Ugnu well drilled in 2003; more wells into shallowest formation planned for 2005; Northstar tubing record

By KRISTEN NELSON

Petroleum News Editor-in-Chief

At the Alaska North Slope Milne Point field development drilling encompasses both conventional Kuparuk formation oil and shallow viscous Schrader Bluff oil.

BP Exploration (Alaska), the field owner and operator, has even drilled into the shallowest and most viscous formation, the Ugnu, and plans more Ugnu wells next year.

Probably two-thirds of the drilling at Milne Point this year has been viscous, says BP senior drilling

engineer Pat Archey. A rotary rig, Doyon 14, is used for both viscous Schrader Bluff wells and Kuparuk formation wells at the field on the edge of the Beaufort Sea northwest of Prudhoe Bay.

On the conventional oil side, "Milne still has several targets to exploit in the field" from the farthest north drill site, F pad, Archey said. These are Kuparuk formation targets out under the Beaufort Sea which will be reached with extended reach drilling technology and are planned for next year, although some of the targets, he said, are far enough out to be beyond the reach of current ERD technology.

But Schrader Bluff viscous oil (also referred to as "heavy oil") is the biggest part of Milne Point drilling right now, with production primarily from the Schrader O



Editor's Note: Members of BP Exploration (Alaska)'s drilling group sat down with Petroleum News Sept. 28 to talk about the company's development drilling program, recent drilling records and about the technology that is driving the company's North Slope development drilling. Part 1 of this story, printed in the Oct. 10 issue of Petroleum News, included an overview of the company's North Slope drilling activity and an update on its coiled tubing drilling program. Part 3, which will appear in the Oct. 31 issue, describes multi-lateral drilling for viscous oil at Orion in the Prudhoe Bay unit.

sands, and to a lesser extent from the Schrader N sands. Schrader Bluff is a shallower formation than the Kuparuk.

"These sands are really equivalent with the West Sak" at the Kuparuk River unit and with what BP is developing at Orion in the western part of Prudhoe Bay, he said.

Ugnu wells planned next year

The shallowest formation at Milne Point, the Ugnu, lies above Schrader Bluff. There is currently no Ugnu production.

"The Ugnu reservoir ... is thicker yet and colder (than Schrader Bluff), making it harder to produce," Archey said.

Conventional oil is a free-flowing liquid; shallower Schrader Bluff oil is thicker and not as free flowing; and Ugnu, the shallowest of the formations, is closest to permafrost and colder, with a consistency that makes it difficult to flow the oil.

BP drilled an Ugnu well in 2003, but hasn't yet produced any oil from the formation and the well "plugged off pretty quickly," Archey said.

BP has been trying to determine what to

change down hole so the Ugnu oil can be produced, difficult both because the oil is cold and thick and because of the associated sand. Shallow viscous oils are in what are called unconsolidated reservoirs, bits of which are produced, as sand, along with the oil.

The Ugnu well BP drilled had screens to try to keep the sand in the formation and out of the oil flow, with screen mesh wrapped around perforations. The screen mesh in the existing well must be too tight, Archey said: "It's filtering out everything. So our next attempt would be to change the size of those passageways," perhaps using slots or perforated pipe, to get the oil to flow.

"Then the challenge is sand," he said. Ideally, you keep the sand in the ground, because if it is produced, it has to be re-injected, which requires a grind and inject facility, all of which is expensive.

Individual multi-laterals can be shut off

If technology has yet to help much with Ugnu production, it is helping a lot with multi-lateral wells.

Milne Point, like other North Slope fields, uses multi-lateral wells to reach multiple targets from a single well bore, and technology is helping BP produce these wells effectively, Archey said, because "we have the ability to shut off or produce those zones independently."

Where multiple zones are in production from a multi-lateral well, and one leg of the multi-lateral starts to produce water, he said, that leg can be shut off, and production of oil continued from the other leg of the well.

And the technology to get those long directional wells drilled into the formation has also improved.

Directional drilling advances now allow the driller "to stay within 10 feet ... out at a couple miles-plus from the surface location." This wireless mud-pulse technology "sends pulses up through the mud" and the pulses tell the driller "if they're in a sand or a shale" and "when you're in that sand, if there's water or oil" so you know whether you want to continue drilling in that direction or not.

What is missing now, Archey said, is a tool that will tell drillers how thick or thin the oil is, and whether it will flow. That could be technology that is run with the drill bit, or it could be technology that is used in pilot holes, he said.

Record at Northstar

Advances in directional drilling equipment have also been useful in setting tubing.

see BP page 11



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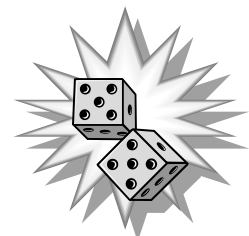
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BP's wells group: from bringing a well on production to plugging and abandoning

Well maintenance for BP-managed North Slope fields is done by the wells group, said Andy Kirk, Alaska drilling and wells performance consultant, and involves everything from putting a newly drilled well on production, to getting it ready for the rig to come in and drill a sidetrack to plugging and abandoning a well which is no longer productive.

The wells group uses slick line, electric line, coiled tubing and fracture stimulation, "everything except rotary and CTD (coiled tubing drilling)," Kirk said, with well work done with coiled tubing units, as distinguished from coiled tubing drilling units.

Work includes patching tubing with wireline and coiled tubing to extend the life of a well, and deferring or delaying "a rig workover where the tubing would be pulled and replaced, which is an expensive operation," Kirk said.

A new technology, called "cladding," uses long patches "which are a metal-to-metal seal or extruded, expanded metal inside of an existing tubing" and sealed to existing tubing at the top and bottom of the patch "so effectively you can cover up a couple thousand feet of corroded tubing."

And, with co-owner ConocoPhillips, BP is using "some high-strength coiled tubing" which is being tested for dislodging plugs with coil, and is "going to be deploying some chrome coil velocity strings," Kirk said.

Velocity strings are used to improve production, said BP senior coiled tubing drilling engineer Mark Johnson.

"Sometimes wells produce better through smaller tubing," Johnson said. "A velocity string is ... a smaller string of tubing inserted into a well to shrink its tubing size, but actually get more production rate out of the well because it flows better."

Kirk said they'll also be testing the 16-chrome corrosion-resistant coil "as a work string," to see if it lasts longer than standard steel coiled tubing in use.

Wells does field trials

Gary Christman, BP's Alaska drilling and wells manager, said the wells group is used to do field trials for the rest of BP. In addition to the tubing patch methodology using cladding, "the coiled tubing deployed expandable ... is a new technology that's being tested here in field trials," he said. BP is also "looking at expandable sand control, expandable screens for sand control, as a field trial for the rest of the corporation."

So in addition to developing technology (see part 1 of this story in Oct. 3 issue of Petroleum News) such as coiled tubing, "we also help test technology for the rest of the corporation," Christman said.

A two-man slick-line unit, designed to be operated by two men in the Arctic, was brought to the slope by Schlumberger in May, said Christman, the result of a contracting effort last year. There was a "collaborative effort to actually design and commit to the utilization of these units, so they're very unique to the Arctic, you don't see these kind of units anywhere else."

A standard slick-line unit is designed to be operated by three men, Kirk said, but with the two-man unit, there is "less personnel exposure on location."

The goal, Christman said, is to spend dollars efficiently, "to do the same amount of work at a lower cost and as safely as we did it before."

He said that effort has been successful, as BP's Alaska drilling group has improved its safety record over last year. "We're actually twice as safe this year as we were last year at this same point in time," with a recordable incident frequency of 0.91, compared to 2.02 for all of 2003.

ALBERTA

BlackRock gets regulatory clearance for Hilda Lake oil sands project

Having gone through a seven-year work-up of its technology, oil sands junior BlackRock Ventures is ready to enter the commercial phase.

It said Oct. 20 that the Alberta Energy and Utilities Board has approved a 20,000 barrel per day project at Hilda Lake, near Imperial Oil's 140,000 bpd Cold Lake heavy oil operation.

If the BlackRock board of directors gives the final green light next month, the company will start detailed engineering of the 10,000 bpd first phase which is expected to cost C\$150 million.

As sole owner of a lease covering 5,120 acres, BlackRock has access to an estimated 190 million barrels of recoverable oil, enough to support its Orion project over a 25-year operating life.

Following its start-up in 1996, BlackRock launched a 500 bpd pilot project at Hilda Lake, using steam-assisted gravity drainage technology.

No timetable for completion of the two phases has been set.

Meanwhile, BlackRock has been generating cash flow from its 50 percent working interest in the Seal heavy oil property in the Peace River area of north-western Alberta.

Despite a C\$500,000 fire that shut down production for most of September, it is again pumping about 6,000 bpd of conventional oil and anticipated reaching its target of 10,000 bpd by year's end.

The company also started deliveries in the summer on a 55-mile, 58,000 bpd pipeline from Seal to the Rainbow pipeline system.

—GARY PARK

continued from page 10

BP

Gary Christman, BP's Alaska drilling and wells manager, said directional drilling equipment available this year enabled BP to set a record at Northstar. This wasn't technology developed in Alaska, he said, but is an example of making "effective use of technology that exists in the oil patch."

The record set was "for the longest string of 9-5/8 inch ever set" on the North Slope,

Christman said. The 20,207 feet of tubing was set at a 70-degree angle, in Northstar No. 21, a 22,261-foot well reaching to the farthest north part of the reservoir.

Andy Kirk, Alaska drilling and wells performance consultant, said with rotary steerable technology instead of bent-motor slide drilling, "you drill a straighter well bore" than you can get with slide drilling, which is "the key to getting casing down." The "straighter the well bore, the less friction," he said, making it possible to set longer strings of casing. ●



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ALBERTA

Peace at hand in oil sands, natural gas fight

An end is in sight to a bitter eight-year dispute involving natural gas and oil sands producers in northeastern Alberta and the province's energy regulator.

A solution surfaced in recent cabinet changes to Alberta's gas royalty regime that allow the Alberta energy minister to provide royalty relief to any gas producers who have their wells in the Athabasca region shut in by the Energy and Utilities Board.

If the plan gets final government approval, it will result in lowered royalties equivalent to a portion of the gas operator's lost cash flow from shut-in gas.

As a result, Energy Minister Murray Smith said Oct. 15 that lost royalties could cost the province as much as C\$175 million over 10 or 12 years, or less than C\$10 million if a way is found to allow gas production to take place without having a negative impact on the bitumen. The gas shut-in, which represents less than 1 percent of the province's total gas production, was imposed to preserve bitumen reservoir pressures in a region holding an estimated 25.5 billion barrels of reserves.

Under a complex formula, the gas producers who currently have lost 123 million cubic feet per day from more than 1,000 wells and are denied access to about 280 billion cubic feet of reserves would receive compensation of C\$2.44 per thousand cubic feet when gas prices are C\$6.50 per thousand cubic feet.

Currently, the producers — including Paramount Energy Trust, BP Canada, Devon Canada, Petro-Canada, Talisman Energy and Canadian Natural Resources — are receiving 60 cents per thousand cubic feet for lost production.

Although there is no indication when the plan might be implemented, a spokesman for Energy Minister Murray Smith said there have been encouraging discussions with the producers, while Paramount President Susan Riddell Rose said she was "very encouraged by the plans."

She said the minister now has the "authority and a mechanism to implement a financial solution."

Smith said the solution "reflects appropriate signals" to the investment community and the industry, while protecting the integrity of the Energy and Utilities Board "in protecting Albertans' interest in the resource."

—GARY PARK



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Petroleum Geophysicist II State of Alaska/Division of Oil and Gas

The Department of Natural Resources, Division of Oil and Gas, is seeking applications from qualified, experienced petroleum geophysicists to fill a Petroleum Geophysicist II vacancy in the Resource Evaluation Section. This is a permanent, full-time, non-supervisory Range 26 exempt position.

Primary responsibilities include:

- Quality control of seismic and geospatial data prior to export to the PC-based Landmark Graphics Incorporated GeoGraphix Discovery interpretive system utilized by the Division.
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- Determination of tract allocations based on reservoir volumes or surface area to assure equitable distribution of resources to all stakeholders.
- Analysis of 3-D seismic attribute processing to characterize possible reservoir properties.
- Serving as the Division representative in technical meetings, discussions and negotiations with representatives of state, federal and private-sector entities.

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This position requires an appropriate college degree(s) and a minimum of five years of industry experience (ten years preferred) as an exploration and development geophysicist in Alaska. Applicants must have experience with the GeoGraphix Discovery application utilized by the Division or with similar applications and with analysis of seismic attribute processing. Applicants should have knowledge of State of Alaska statutes and regulations governing petroleum exploration and development and excellent interpretive and communication skills.

The State of Alaska is an equal opportunity employer and supports workplace diversity. Individuals requiring accommodations call 800-587-0430 Voice or 800-770-8973 TTY/TDD (Relay Alaska). Submit resumes, application materials, and a writing sample by 4:00 p.m., October 29, 2004, to Sheila Westfall, Administrative Manager, Alaska Division Oil and Gas, 550 West 7th Avenue, Suite 800, Anchorage AK 99501-3560.

continued from page 1

DRILLERS

Rowan income up

The first of the major drilling companies to weigh in with 2004 third-quarter earnings, Rowan's net income jumped to \$16.3 million or 15 cents per share, a hefty 41 percent increase compared to the \$11.6 million or 12 cents per share earned in the year-ago period. Revenues increased 21 percent to \$234 million from the prior quarter.

Rowan's report excluded several charges, including a \$6.4 million impairment associated with the planned sale of its Era Aviation subsidiary. Rowan has since agreed to sell Era to Seacor Holdings for \$118.1 million in cash.

However, Rowan's rig utilization and day rates improved across all markets. In the Gulf of Mexico, where the company maintains a fleet of 24 jack-up rigs, 97 percent of the company's rigs were under contract in the 2004 third quarter vs. 88 percent in the previous quarter and 93 percent compared to the same period last year.

The company's average day rate in the U.S. Gulf during the third quarter was \$46,500, an increase of 10 percent or \$4,300 compared to the year-ago period. McNease said virtually all of Rowan's premium jack-up rigs are currently under contract.

"Worldwide demand for premium jack-ups has effectively caught up with the available supply," he said, adding that all of the company's jack-ups in the U.S. Gulf are currently deployed.

Rigs to be moved out of Gulf

Nevertheless, McNease said that despite improvements in the U.S. Gulf, where the overall offshore fleet is 77 percent utilized, he expects industry to move another seven or eight rigs out of the Gulf to other regions of the world over the next 12 to 18 months.

"However, as day rates and utilization continue to climb in the U.S. Gulf, migration to other markets could begin to taper off in the fourth quarter of 2004 and into 2005," he said in an Oct. 14 conference call with industry analysts.

McNease cited a Lehman Brothers study projecting that some 60 percent of exploration and production companies surveyed planned to increase their spending in 2005. And of the those companies indi-

cating an increase, more than 10 percent said they intended to raise spending more than 10 percent, while 18 percent planned to raise their budgets more than 20 percent.

Moreover, he added, "the energy price forecast for the remainder of 2004 and 2005 remains bullish. And U.S. Gulf companies continue to post record cash flows."

Additionally, he said with 1,280 continental shelf leases in the Gulf set to expire over the next three years, companies will be encouraged to drill and that means more business.

Diamond out of the red

Meanwhile, Diamond Offshore Drilling dug itself out of the red in the 2004 third quarter, despite negative impacts during the period that included damage to three rigs in the U.S. Gulf caused by Hurricane Ivan.

The company reported net income of \$2.9 million or 2 cents per share, compared to a loss of \$11.5 million or 9 cents per share in the year-ago quarter. Revenues were \$208.2 million vs. \$183.9 million a year earlier.

Larry Dickerson, Diamond's president and chief operating officer, said the deepwater or "floater" market in the U.S. Gulf is strengthening. He said the turnaround began in mid-July.

"We've had some really nice day rate renewals that continue to increase," Dickerson told analysts in an Oct. 19 conference call. "We're seeing ultra-deep and deepwater rates becoming very strong."

He said the company has received contracts and letters of intent for nine of its semi-submersible rigs in the U.S. Gulf and the North Sea beginning in this year's fourth quarter.

Commitments for Diamond's fourth generation rigs have reached as high as \$140,000 per day for work in the U.S. Gulf starting in 2005, Dickerson said. He said improving day rates were a factor in the company's decision to reactivate the Ocean Voyager for the Gulf's "mid-water" market. The rig is expected to begin work by the middle of December, he added.

EnSCO encouraged by activity

Like Diamond, EnSCO International's 2004 third-quarter profit was impaired by Hurricane Ivan, which swept through the U.S. Gulf in September with winds of 165 miles per hour causing widespread damage to offshore facilities and pipelines.

EnSCO reported net income of \$25.8 million or 17 cents per share compared to net income of \$27.8 million or 19 cents per share in last year's third quarter. Revenues were \$190.9 million vs. \$197.3 million a year earlier.

Despite storm damage to two of its rigs in the U.S. Gulf, "we are encouraged by stronger global activity levels and day rates," Carl Thorne, EnSCO's chief executive officer, said Oct. 19.

The average day rate for the company's jack-up fleet was \$54,800 during the 2004 third quarter, compared to \$48,400 in the prior year quarter. However, excluding rigs in the shipyard for contract preparation, regulatory inspection, repair and upgrades, EnSCO's fleet was 91 percent utilized compared to 94 percent in the year-ago third quarter.

Still, Thorne emphasized that the company realized improvement in day rates in all three of its major jack-up markets, with a 33 percent increase in average day rates for its North American jack-ups "being the most significant."

He also noted that all of EnSCO's North Sea jack-up rigs have returned to service, as well as the company's deepwater semi-submersible rig in the U.S. Gulf, the EnSCO 7500.

—RAY TYSON

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Business Spotlight

By PAULA EASLEY



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Judy McClellan, office manager

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Judy McClellan has worked in Alaska some 20 years, primarily in the construction industry until changing to the aviation industry six years ago. Single now, she has a married son and two grandchildren living in Anchorage. Sailing, live football, the family and travel are favorite pastimes. From experience she's learned you can't change the wind's direction, but you can adjust your sails.



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continued from page 1

TEAM

Kerr-McGee remains operator

Under the Kerr-McGee-Stone deal, Stone acquired working interests ranging from 16.67 percent to 50 percent, while Kerr-McGee remains operator and retains working interests from 50 percent to 75 percent.

In addition, Stone will participate with Kerr-McGee in at least six exploratory wells through the end of 2005. Stone committed roughly \$50 million to cover its share of costs.

The majority of the blocks covered in the agreements are in the Garden Banks and Green Canyon areas of the deepwater U.S. Gulf. Geologically deep prospects in shallower waters of the continental shelf are on leases in areas of Grand Isle, Ship Shoal, South Timbalier, Vermilion and South Marsh Island.

The agreements specifically include the Kerr-McGee-operated Essex prospect on Mississippi Canyon blocks 23, 24 and 25. Kerr-McGee retains a 65 percent working interest, while Stone acquired a 35 percent working interest in

Essex, which is currently drilling. Kerr-McGee believes the prospect holds 40 million to 150 million barrels of oil equivalent.

Kung Pao, Fawkes expected to spud this year

Kerr-McGee's Kung Pao prospect, on Garden Banks block 171, also is part of the agreement, with Kerr-McGee and Stone each holding a 50 percent working interest and Kerr-McGee serving as operator. The companies expect to spud Kung Pao in the fourth quarter of 2004. Kerr-McGee estimated the resource range at between 20 million and 100 million barrels of oil equivalent.

The Kerr-McGee-operated Fawkes prospect on Garden Banks block 303, said to contain between 25 million and 50 million barrels of oil equivalent, also is expected to spud during this year's fourth quarter. Stone acquired a 16.67 percent working interest in Fawkes, while Kerr-McGee retains a 50 percent working interest.

The Kung Pao and Fawkes prospects are potential satellite tiebacks to the Baldpate facility on Garden Banks block 260, Kerr-McGee said.

In addition to the six-well commitment, Kerr-McGee and Stone expect to participate in several other drilling opportunities during the next two years, Kerr-McGee said.

Dave Hager, Kerr-McGee's senior vice president of exploration and production, said having Stone as a partner would allow Kerr-McGee "to leverage our exploratory drilling dollars across a broad range of prospects."

David Welch, Stone's chief executive officer, said teaming up with Kerr-McGee represents a first step in diversifying away from the more conventional plays on the continental shelf.

"This portfolio of opportunities spreads the geologic risk across the flex trend, emerging basins and the deep shelf," he said.

McMoRan-Palace to share revenues, expenses equally

The McMoRan-Palace Joint Venture will share revenues and expenses equally on McMoRan's existing inventory of deep shelf prospects, as well as with "new prospects as they are identified or acquired," McMoRan said.

McMoRan and Palace, a private com-

pany, have been jointly conducting exploration activities in the Gulf of Mexico since December 2003. The venture has drilled one non-commercial well and is currently participating in six other wells, including Dawson Deep at Garden Banks 625, Minuteman at Eugene Island blocks 212 and 213 and Deep Tern at Eugene Island block 193.

The companies said they plan a continuous acquisition and drilling effort and plan to drill at least 10 to 12 additional wells during the next six months, and hope to accelerate efforts as new opportunities arise.

Based on McMoRan's JB Mountain and Mound Point discoveries, "we are encouraged by the potential for large accumulations of hydrocarbons in the deep Miocene," McMoRan co-chairmen James Moffett and Richard Adkerson said in a joint statement.

"The joint venture and its decisions will be driven by pure economics and monies will be spent as needed, so as to most effectively maximize the economics of each prospect, without regard to fiscal year or other non economic considerations," Palace Chairman Richard Siegal said. ●

continued from page 1

GRAIL

product," he said.

The challenge, said Almao, is to find alternatives to the use of water, natural gas and diluents in the extraction and processing of bitumen.

"Canada cannot sustain for ... more than probably 20 years the use of natural gas and diluent to produce bitumen," he said.

Larter, who has done research on heavy oil in the British North Sea, said that 10 years from now he hopes the oil industry is "very, very different ... using some technologies that we've contributed to."

"What we're trying to do is essentially build the refinery in the reservoir ... but we're looking at a long-term program."

Larter said oil and gas are not needed to heat homes or power cars — what is needed is energy.

"Maybe in the very long term we burn oil inside the reservoir and produce electricity directly for fuel cells," he said.

Larter said early efforts to use chemicals to break down bitumen are already under way at a site operated by Devon Energy in northeastern Alberta.

A breakthrough there would be revolutionary, he said.

Through the facility, Devon has already gained experience in the use of steam-assisted gravity drainage technology to underpin plans for its C\$500 million Jackfish project.

—GARY PARK

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DEPTHS

ods huge thicknesses of marine sediments accumulated in this trough.

The end of the Cretaceous period about 65 million years ago marked the end of the Mesozoic era and the start of the Tertiary era. During the Tertiary the Cook Inlet area emerged from the sea to become a low landmass that gradually sank under enormous quantities of river borne sands washing down from surrounding highlands. These Tertiary sands provide the reservoirs for all of the known oil fields in the Cook Inlet basin.

Rich Nelson, a veteran petroleum geologist with several decades of experience in Alaska, told Petroleum News that the people who discovered the Swanson River field had really expected to find oil in the marine Mesozoic sediments.

“(At Swanson River) they were looking at 3,000 to 4,000 feet of Tertiary cover and then getting into Mesozoic rocks, which is where they saw the potential,” Nelson said. “What they found was almost 12,000 feet of Tertiary sediments and the oil had migrated into the lower part of those sediments.”

Very few later wells attempted to drill into Mesozoic, Nelson said.

“Historically within the basin if you got to the (Mesozoic rocks) there has been no intention of drilling into them,” he said.

What's the potential?

So why might you expect to find oil in the older rocks?

Since early in the last century people have known about oil seeps from the Jurassic and Cretaceous rocks, where these rocks outcrop along the edges of the Cook Inlet basin. In addition, there's general agreement that the characteristics of the oil in the Tertiary of the Cook Inlet indicate a source in the so-called Tuxedni group of the Middle Jurassic.

But although the oil migrated into Tertiary rocks from the Mesozoic, there's a total absence of Mesozoic gas in the Tertiary — the gas that's produced in the Cook Inlet and on the Kenai Peninsula originated from the coal seams and other organic-rich sediments in the Tertiary strata.

Nelson believes that the absence of Mesozoic gas suggests that both gas and oil accumulated in Mesozoic reservoirs long before the oil migrated into the Tertiary. The young age of the structure of some of the Tertiary reservoirs also supports that idea — the oil must have migrated into these structures many millions of years after the oil formed.

If you look at Middle Ground Shoal and McArthur River, they have structures that were probably formed in the last 3 million to 5 million years, Nelson said.

“That means that the source and those older reservoirs ... have to be buried much deeper ... 25,000 to 30,000 feet and at higher temperatures,” Nelson said.

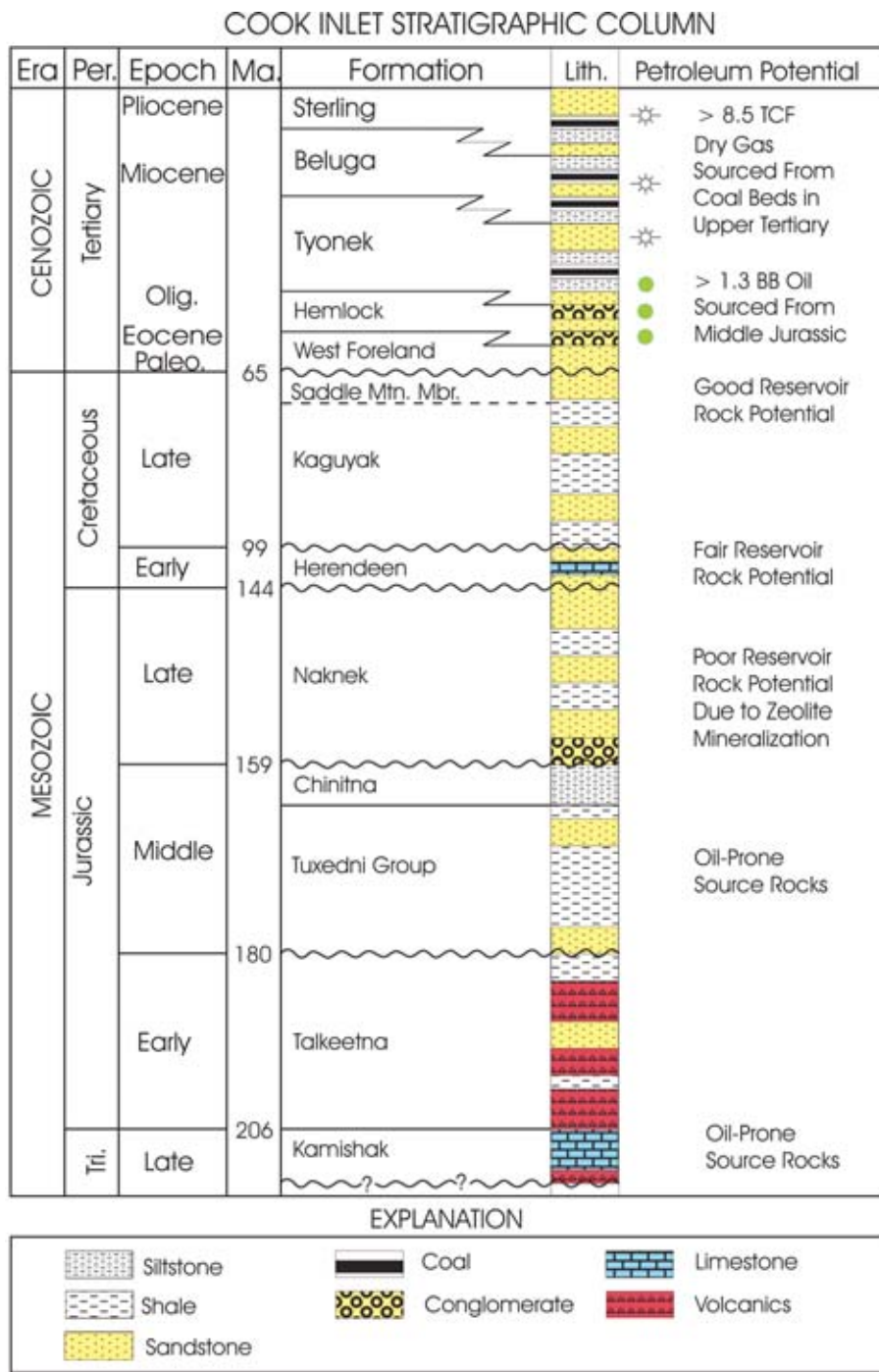
So there's a high probability that oil still lies in some of these older reservoirs, Nelson said.

Possible reservoirs

And geologists have identified several potential reservoir rocks within the Mesozoic.

Veteran oil and gas geologist Bob Warthen told Petroleum News that the middle Jurassic rock sequence includes sandstones and conglomerates that could act as reservoirs. There are also potential reservoirs in the Upper Jurassic and Cretaceous, Warthen said.

Warthen commented that in the southern part of the Kenai Peninsula pre-Tertiary rocks slope up under the flatter Tertiary strata.



“You could have a large stratigraphic entrapment in that area, stretching from let's say the Homer area all the way through North Fork up toward Happy Valley and that area,” Warthen said.

However, Warthen thinks that any oil in the southern Kenai Peninsula and the Lower Cook Inlet would source from an area in the southern part of the Inlet, rather than coming from the more northerly source that fed fields like Swanson River.

But any reservoir evaluation needs to take into account the possibility that deep burial of the Mesozoic rocks has degraded their reservoir characteristics. For example, rising temperatures at depth can bake and modify the rocks — a process known as metamorphism.

However, Nelson thinks that with a low thermal gradient in the Cook Inlet basin there's unlikely to be pervasive metamorphism in the Mesozoic.

“Our temperature gradient here is about one degree Fahrenheit for every 100 feet of depth,” Nelson said. “That's how you can go pretty deep into the section without really worrying about cooking it.”

Compaction of the rock at depth will reduce both the porosity, the ability of the rock to hold oil, and the permeability, the ability of the rock to allow oil to flow. But Nelson thinks that the porosity of the Jurassic sands, for example, should be quite reasonable and that fracture systems in the rock should provide permeability. Nelson cited evidence from one well that penetrated some Jurassic rock with low permeability — the drillers measured a flow rate of 850 barrels a day of salt water, presumably out of rock fractures.

Growths of secondary minerals in the rocks may prove a problem: an exploration well in the Lower Cook Inlet found mineral growths known as zeolites in Mesozoic sandstone. By blocking the gaps between pores in the rock these zeolites reduce the

permeability.

Zeolites crystallize from mineral laden water. U.S. Geological Survey geologist Les Magoon told Petroleum News that the abundance of a mineral called feldspar in the Cook Inlet sediments results in a chemical mix that's likely to create a particular type of zeolite.

“It depends on certain pressure and temperature regimes and also on feldspar-rich sandstones,” Magoon said. However, “you can't condemn the entire section based on just one well,” he said.

And Nelson doesn't think that there's any reason to assume that this type of mineral formation is especially widespread. The need for specific temperature and pressure conditions and the potential for oil to displace mineral-laden water would both limit the formation of secondary minerals, he said.

Few wells

With few wells drilled into the Cook Inlet Mesozoic, much of the debate about potential oil reservoirs remains speculation. Outside of the fields we've probably got less than 20 penetrations where we see Mesozoic within the basin and only a couple of those go very far, Nelson said.

In the early 1900s a well on the Iniskin Peninsula, on the west side of the Cook Inlet, opposite Homer, produced about 50 barrels a day of oil from the Cretaceous,

Nelson said. He also said that a well that Chevron and Richfield drilled south of Swanson River found a little oil in the top of the Cretaceous.

However, Nelson thinks that oil found in the Jurassic at Trading Bay probably flowed back into the Jurassic rocks from the Tertiary rocks.

“There's been at least two wells at Trading Bay that have drilled into the top of the Jurassic and produced some oil,” Nelson said. “Now whether that is oil that has come directly there from the Jurassic ... I'm a little skeptical on that because those are pretty ugly rocks.”

Magoon thinks that the Starichkof well near Homer found some oil in the Mesozoic.

“There were some turbidite sands down there in the Cretaceous that had some oil in them,” Magoon said.

And according to a Minerals Management Service report, two exploration wells in the Lower Cook Inlet encountered oil pools in Late Cretaceous strata.

However, with a wide scattering of wells offshore in the Lower Cook Inlet, Magoon is skeptical about making a major oil find south of Kalgin Island, in the middle of Cook Inlet.

“My feeling is that from south of Kalgin if there were some big oil accumulations either in the Tertiary or the Mesozoic they most likely would have been found by now, whereas in the Upper Cook Inlet the Tertiary oil has blinded everybody to the Mesozoic,” Magoon said.

Exploration challenges

So what are the challenges for anyone interested in exploring in the older rocks of the Cook Inlet?

Lack of data probably presents the biggest difficulty.

Surface Mesozoic rock exposures only occur at the edges of the basin; folding and faulting of the strata coupled with the potential for lateral changes in the nature of the rocks make estimations of the geology in the center of the basin extremely unreliable. And the shortage of wells limits well control of the subsurface geology.

A lack of detailed, deep seismic subsurface information compounds this problem: Magoon said that the relatively steep dips of the rocks in the basin and weak stratification make it difficult to shoot good seismic.

“So you don't always get the energy back that you want,” Magoon said. “The seismic data is less than clear cut.”

Warthen thinks that a shift of attention from the Cook Inlet to the North Slope following the discovery of Prudhoe Bay has limited the use of modern seismic techniques in the Inlet. And Nelson believes that modern 3-D seismic could help clarify the deep Mesozoic structures.

However, to really find out what's going on down in the Mesozoic someone's going to have to take some risk and drill a deep hole.

And Nelson feels confident that the oil's there — it's all a question of finding an economic accumulation.

“For me I can't see any alternative to it, it has to be down there,” Nelson said. ●

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long as 25 years.”

That would erode hopes of opening up a new gas frontier in Canada and bringing “huge benefit” to the North, he said.

Kvisle said the pressure is now on the Canadian government “to think of a way to resolve” the opposition by the Deh Cho First Nations and “make the (Mackenzie) project go ahead fairly quickly.”

Against that background, consultants’

reports supporting the Mackenzie Gas Project applications filed with the National Energy Board make an urgent case for developing both Mackenzie Delta and North Slope gas.

Commissioned by the Mackenzie partners, Navigant Consulting Inc. and Energy and Environmental Analysis Inc. (collectively the NCI-EEA Team) examined the long-term need for gas from the Delta and factored in the possibility of an Alaska pipeline as early as 2013.

“The addition of a large Alaska pipeline

(carrying 4 billion cubic feet per day) in the middle of the next decade does not alter the fundamental mismatch between ever-increasing gas demand and weakening gas production growth” in North America.

“While large in absolute terms, deliveries of Alaskan gas would represent less than a 5 percent increase in supplies to the overall Canadian and U.S. Lower 48 gas market, which is projected to require 88.1 billion cubic feet of gas a day in 2015 and 98.3 billion cubic feet per day in 2030,” the NCI-EEA study said. Consumption in 2002 was 68.4 billion cubic feet per day.

Consultants say markets support possible Mackenzie expansions

The overall conclusion is that Canadian and U.S. markets support a 1.2 billion cubic feet per day Mackenzie pipeline by 2009, with possible expansion in 2015 and 2020.

“The projected growth in gas demand will create a significant need for the incremental gas supplies delivered by the Mackenzie pipeline during the initial 21 years of its operations (to 2030).

“Even if demand growth is less than projected, the need for a pipeline to access Mackenzie Delta resources remains underpinned by the anticipated decline in gas supplies,” NCI-EEA said.

The consultants said the outlook is for steady growth in residential and commercial gas consumption, robust growth in gas demand for electric power generation and a large increase in gas usage for bitumen extraction, processing and related cogeneration in the Alberta oil sands.

Because of these trends, the study forecasts demand in Canada and the Lower 48 will have climbed by 16 percent or 11.1 billion cubic feet per day from 2002 to the first full year of Mackenzie deliveries in 2010, with gains of 21 percent in Canada and 15 percent in the Lower 48.

“The growth in demand is expected to outstrip gas production in traditional producing basins by a widening margin, including frontier gas resources and liquefied natural gas.

“By bringing a large incremental supply of gas to the marketplace, the Mackenzie pipeline will help fill the growing supply shortfall,” the researchers said.

Supply forecast to peak next decade

Dealing with the supply outlook, the study forecasts production in Canada and the Lower 48 will “grow only moderately

through 2030,” peaking by 2020 at 56.2 billion cubic feet per day in the Lower 48 and by 2016 in Canada at 20.9 billion cubic feet per day, giving a combined peak of 77 billion cubic feet per day in 2016, or up 14 percent from 2002.

Underlying the weakening supply is the long-term decline in the productive capacity of mature basins in the U.S. Gulf Coast, Midcontinent, San Juan and Permian Basins and the Western Canada Sedimentary basin.

The only hope, the study said, is in the Rocky Mountains and deepwater Gulf of Mexico, with other regions limited to modest gains at best.

The declines reflect the tapering off in quantity and quality of remaining producible reserves, increases in well-decline rates and lower initial productivities of newly-connected wells.

For that reason, NCI-EEA said a much greater share of gas supply will have to come from non-traditional sources from new frontiers in the Mackenzie Delta, Rocky Mountain region, deepwater Gulf of Mexico and Eastern Canada offshore, which the study concludes will have to meet 23 percent of demand in 2010, compared with 15 percent in 2002.

In addition, LNG imports are projected to soar to 26.8 billion cubic feet per day by 2030, meeting 31 percent of the Lower 48 consumption.

By 2030, the Western Canadian Sedimentary basin is forecast to have fallen below 10 billion cubic feet per day from 13 billion in 2009, although export pipeline capacity from the basin will be 15.4 billion cubic feet per day.

Demand close to 100 bcf per day by 2030

NCI-EEA said the gas demand in Canada and the Lower 48 will reach close to 100 billion cubic feet per day by 2030, including industrial at 30.2 billion, power generation at 27.7 billion, residential 20.2 billion, commercial 14.2 billion and other 6.9 billion.

However, after 2025, the study projects power generation demand will decline because of increased competition from coal, oil and, to a lesser degree, renewable energy.

Although NCI-EEA views the market environment for Mackenzie gas as “positive,” it cautions there are risks and uncertainties, principally:

- A slowing of heavy oil and oil sands production in Alberta, or greater use of coal for meeting projected fuel requirements, thus reducing the market’s capacity to absorb Mackenzie production.

- More rapid expansion of gas production in general could meet a larger share of future demand.

- Increased gas output in Alberta — if coalbed methane production builds more rapidly than assumed and is coupled with markedly slower growth in oil sands gas demand — which could open up capacity on pipelines within Alberta or on major export pipelines from the province. Higher utilization of existing capacity could reduce the amount of spare capacity available to deliver Mackenzie gas to major markets.

- Overbuilding of LNG capacity could lower gas prices and lessen the capacity of U.S. and Canadian markets to absorb Mackenzie volumes.

- Higher gas prices relative to oil and coal could encourage more rapid development of lower-cost energy supplies, such as coal, perhaps facilitated by technological advances.

- Changes in Canadian and U.S. energy policies to promote alternative sources, cutting into the need for Mackenzie gas. Initiatives could include a renewed focus on nuclear power, promotion of cleaner coal-combustion technologies and renewable energy portfolio standards, all or any of which could lower the need for gas-fired power generation. ●

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