



page 12 Conoco signs gas pipeline agreement with State of Alaska

October Mining News inside



October's Mining News (Section B of this issue) contains several stories about North of 60 mineral exploration, development and production, including two pieces on Alaska's Pebble and Rock Creek prospects, the first stories in a series on the prospecting rush in the Yukon, a feature on the Kamchatka deposit that's producing platinum from Ural-Alaska complex resembling Goodnews Bay, and much, much more.

'EnCanans' get a new helmsman

FIRST GWYN MORGAN slammed the door on rampant rumors that EnCana was a takeover target for Royal Dutch Shell, one day after the big independent's shares climbed 10 percent.

Then, five days later, he slammed the door on his own career as the founding chief executive officer at EnCana, announcing he will step down on Dec. 31.

There must have been some connection between those two events?

Nothing of the sort Morgan told a news conference Oct. 25. He said the decision was essentially made during a summer of sailing — "the first time in a long time that I (have taken a lengthy vacation) and had time to



see INSIDER page 16

ALASKA

Gas explosion

Top DNR official dismissed, others quit over gas contract dispute with governor

By KRISTEN NELSON

Petroleum News Editor-in-Chief

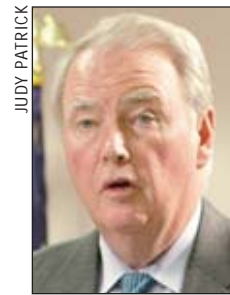
When the dust finally settled a week after Commissioner of Natural Resources Tom Irwin put gas pipeline negotiation concerns in a memo, he was out and Alaska Gov. Frank Murkowski had in hand resignations from six department officials including both deputy commissions, three directors and one of the commissioner's special assistants.

The governor named Mike Menge, his advisor on energy, mining and the environment for the last two years, to replace Irwin.

The public brouhaha started when Irwin, con-



TOM IRWIN



GOV. FRANK MURKOWSKI

cerned over the direction of the state's gas pipeline negotiations with BP, ConocoPhillips and ExxonMobil, wrote to Attorney General David Márquez Oct. 20, asking for legal clarification on a number of issues. The departments of Revenue, Natural Resources and Law are all involved in negotiating a fiscal contract for a gas pipeline project.

The governor released Irwin's memo Oct. 21 and put him on administrative leave Oct. 22.

Murkowski told an Oct. 27 press conference that he met with Irwin earlier in the day and the two agreed

see EXPLOSION page 20

CANADA

Pipeline delays costly

Report: 2-year wait for Mackenzie, Alaska, LNG projects will cost C\$58B

By GARY PARK

Petroleum News Canadian Contributing Writer

Stalling completion of the Mackenzie Gas Project, an Alaska gas pipeline through Canada and new liquefied natural gas terminals by two years could cost Canadians C\$58 billion over the 20-year period from 2006.

The estimate is contained in a report by the Canadian Energy Pipeline Association, which warns that delays will boost natural gas prices by 15 percent.

Association President David MacInnis said the two primary hold-ups are complex regulatory processes and the absence of a fiscal framework.

He told delegates to a North American Gas

"We need to ensure there are timely regulatory reviews and approvals and the fiscal environment remains attractive and competitive."

—Canadian Energy Pipeline Association President David MacInnis

Strategies conference in Calgary Oct. 24 that pipelines are part of the critical energy infrastructure that allows Canada to deliver its energy potential.

Without giving an indication when the Canadian government will rule on the two Arctic

see DELAYS page 16

ALASKA

First sale draws \$1.3M

Alaska Peninsula bidders: Shell, Hewitt in Point Moller, Nelson Lagoon area

By KRISTEN NELSON

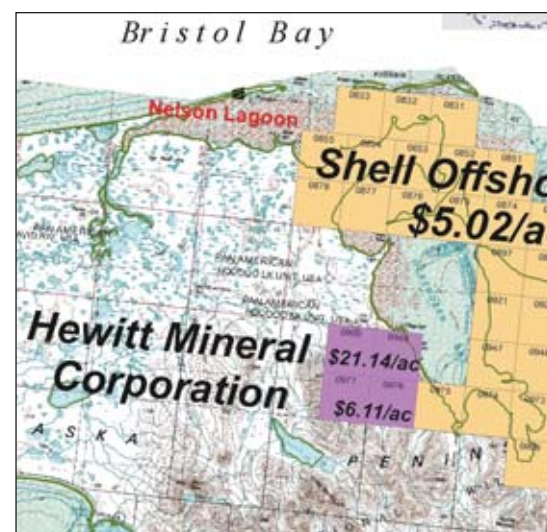
Petroleum News Editor-in-Chief

The State of Alaska's first Alaska Peninsula areawide oil and gas lease sale — the first state lease sale in the Bristol Bay area since the 1980s — drew two bidders Oct. 26, Shell Offshore Inc. and Hewitt Mineral Corp. out of Ardmore, Okla.

The state offered 1,047 tracts and received 37 bids on 37 tracts, some 213,120 acres, in the Point Moller and Nelson Lagoon area.

Mike Menge, special assistant to the governor, said prior to the sale that this was the opening of the third chapter in Alaska's oil and gas history:

see SALE page 19



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Petroleum News

A weekly oil & gas newspaper based in Anchorage, Alaska

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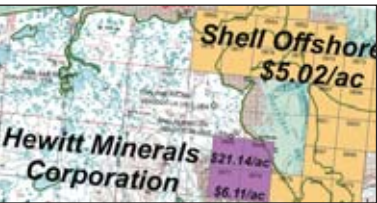
Gas explosion

Commissioner, DNR officials bail over gas contract dispute with governor



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Report: 2-year wait for Mackenzie, Alaska, LNG projects will cost C\$58 billion



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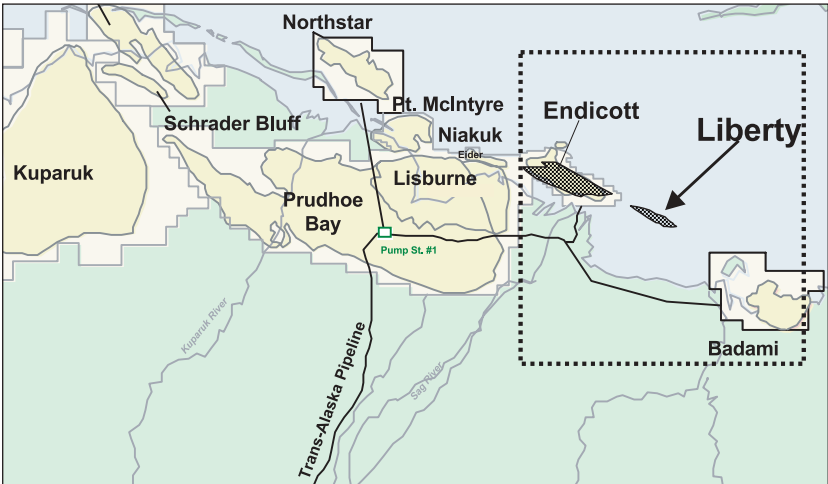
Alaska Peninsula bidders were Shell, Hewitt in Point Moller Nelson Lagoon area

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• NORTH AMERICA

MMS draws yeas and nays on 5-year plan

Five-year leasing program for offshore U.S. draws thousands of comments, warnings about America's future energy needs

By RAY TYSON

Petroleum News Contributing Writer

With the United States facing an energy supply crisis, industry and many coastal communities have lined up in support of keeping or expanding offshore oil and gas leasing in federal waters off Alaska and the Lower 48, currently 90 percent closed to drilling.

One notable exception in Alaska is the North Slope Borough, which continues to wage an already 30-year war against offshore drilling in the Arctic, in particular the Beaufort and Chukchi seas, traditional hunting grounds of the Inupiat people.

In lengthy comments submitted to the U.S. Interior Department regarding the department's proposed 2007-2012 Outer Continental Shelf leasing program, the North Slope Borough went beyond just opposing offshore lease sales in the Arctic. It asked that federal leasing be halted altogether in the Beaufort and Chukchi, until the borough is satisfied offshore projects can be brought on-line safely.

"Continuing tests of offshore oil spill response capabilities in broken ice have done nothing to increase our confidence in industry's ability to safely operate in the arctic marine environment," the borough charged.

Moreover, the North Slope Borough said it wants to make deferred areas of the Beaufort Sea permanently untouchable to federal leasing, including offshore of the Arctic National Wildlife Refuge coastal plain.

The borough also complained bitterly that it is being mistreated when it comes to national leasing moratoria and presidential withdrawals, arguing that much of the U.S. offshore remains closed to leasing, "while our arctic waters remain open."

"The biological and cultural resources of the Beaufort and Chukchi seas, including the endangered bowhead whale and unique Inupiat traditional subsistence culture, are as valuable and as sensitive to disruption as the resources contained within any of the withdrawn planning areas."

Only a few areas open to leasing

There are 26 so-called planning areas offshore United States. In addition to Alaska's North Aleutian Basin, areas subject to presidential withdrawal or moratoria through 2012 include the entire East and West coasts of the continental U.S. and most of the eastern Gulf of Mexico offshore Florida. Only a few areas in Alaska and the western and central Gulf of Mexico are currently open to OCS leasing.

Aside from various environmental groups and Alaska's Northwest Arctic Borough, which said it supported the North Slope Borough's no-leasing position in the Arctic, most of Alaska's coastal communities and local governments expressed strong support for future offshore leasing in their comments, including the Aleutians East, Kenai Peninsula and Lake and Peninsula boroughs, as well as the City of Nome and several



JUDY PATRICK

BP's Northstar oil unit in the Beaufort Sea is Alaska's only OCS producing field.

Alaska village corporations.

However, the Bristol Bay Borough told Interior it supports a continued presidential ban on drilling in Bristol Bay, home of the world's largest salmon fishery. Still, the borough said it now "strongly supports" onshore oil and gas exploration in the Bristol Bay region, "provided maximum protection be given to the fishery resources, and exploration and development be done in an environmentally safe manner."

The Alaska Oil and Gas Association, which represents the majority of energy companies operating in the state, wants all offshore areas of Alaska that are in the current plan (Beaufort and Chukchi) to be in the next five-year plan, plus areas that are under administrative withdrawal or leasing moratoria, in particular the North Aleutian Basin, the location of salmon-rich Bristol Bay.

"Bristol Bay holds great promise for oil and gas discoveries and should be included," AOGA said, urging Interior to make the 2007-2012 leasing plan "as flexible as possible, so that the federal government will be nimble in responding to changing circumstances and needs of the country."

12,000 comments received

MMS said it received about 12,000 comments from the public, environmental groups, the oil and gas industry, congress, and state, local and federal governments.

Meanwhile, in soliciting comments from the public on the next five-year plan, the U.S. Minerals

Management Service, Interior's agency in charge of offshore leasing, warned that the United States is falling further behind in domestic oil and gas production. The agency noted that daily U.S. petroleum demand is expected to grow to 27.9 million barrels in 2025 from 20 million barrels in 2003, and that net imports already have increased to about 58 percent of U.S. supply.

"An even larger share of petroleum is projected to come from overseas in future years," MMS said, adding that imports are expected to account for 68 percent of U.S. petroleum demand in 2025.

Administration supports bans

Interestingly, while MMS is supposed to take into account America's future energy requirements when preparing five-year lease schedules, the Bush administration appears to support existing bans on offshore leasing.

"Given that the presidential withdrawals bar the conduct of lease sales in those areas for the entire five-year planning period until 2012, and that most of the areas have been subject to congressional moratoria, a full analysis of these areas ... may not be necessary," MMS said.

Public comments on future MMS leasing areas included particularly strong and continued opposition from the coastal states of California, North Carolina, Georgia, Delaware, Massachusetts and Florida. Alaska

see LEASING page 16

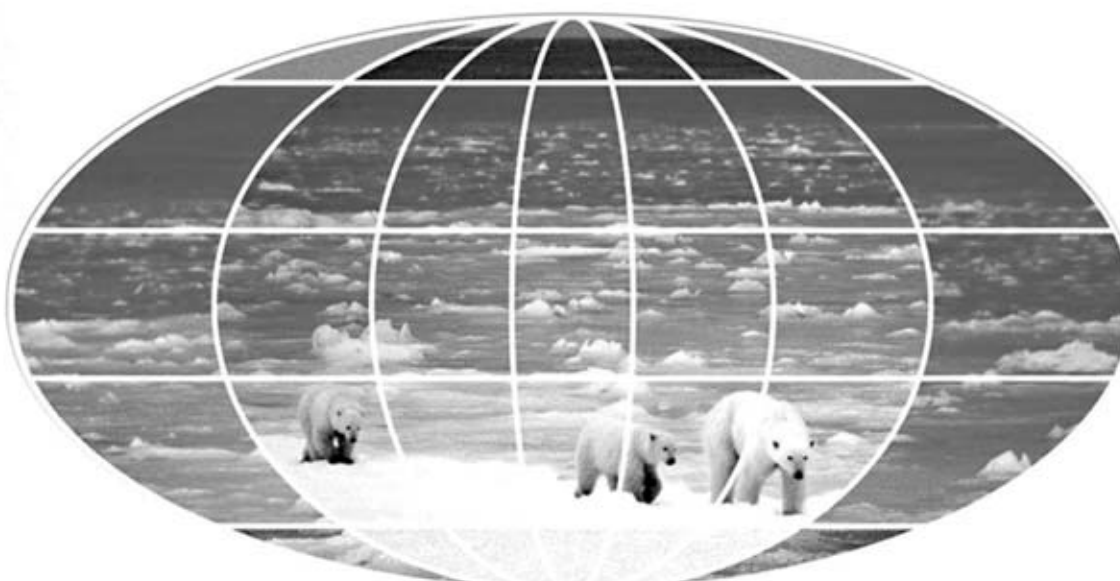
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CANADA

Curbing oil sands' gas appetite

Alberta Energy Minister Greg Melchin does not buy arguments that precious natural gas resources — especially gas from the Northwest Territories — will be wasted to foster development of his province's oil sands.

He said the combination of market forces and high commodity prices is forcing oil sands producers to look for less costly alternatives to gas.

Environmentalists have voiced concerns that all of the proposed Mackenzie Gas Project volumes of up to 1.9 billion cubic feet per day will end up in the oil sands region of northern Alberta.

Analyst and investment banker Matthew Simmons told an Ottawa meeting Oct. 18 it would be a "tragedy" to use all of the Mackenzie gas "for converting tar sands into low-quality oil. Natural gas is just too valuable."

He contended that the oil sands process consumes far more energy than it ends up producing.

Simmons took issue with those who say North America can replace Saudi Arabia's reserves with output from the oil sands.



Alberta Energy Minister Greg Melchin

see MELCHIN page 7

• CANADA

Trying to get SEC to bend on bitumen rule

Canadian bitumen producers take second stab at persuading U.S. regulator to apply 12-month price average in calculating value

BY GARY PARK

Petroleum News Canadian Contributing Writer

Canada's oil sands producers have made their second pitch to the United States Securities and Exchange Commission to broaden its "strike zone" for reporting bitumen reserves.

The Canadian Association of Petroleum Producers pleaded with the commission earlier this month to use a 12-month price average to assign a value to bitumen reserves.

The SEC disclosure rules restrict oil and gas companies listed on U.S. stock exchanges to use of the Dec. 31 commodity prices to calculate their reserves.

Because of a blip in the market, Cold Lake bitumen averaged about 50 percent of the price of West Texas Intermediate light crude, but slumped to 20 percent of WTI in the final days of 2004.

As a result, close to 2 billion barrels were effectively erased from the books of most large producers, such as EnCana, Husky Energy, ConocoPhillips, Nexen, Suncor Energy, Petro-Canada and Shell Canada, causing widespread anxiety among investors, although the multi-billion dollar projects were unaffected.

Alberta using 12-month average

Having succeeded in persuading the Alberta Securities Commission to apply the 12-month price average, the association was unable to get the SEC to follow suit.

But rather than walk away from the campaign, CAPP formed a reserves reporting task force, which argued in a new submission to the SEC that it is in the "best interest of all stakeholders that a year-end bitumen pricing methodology be established that reasonably reflects the general market conditions and is not unduly influenced by seasonal demand (or) weather driven or cataclysmic price movements."

The consulting firm of Cambridge Energy Research Associates, which is making its own case to the SEC on reserves reporting, is pondering applying an average price for the 12 months ending Sept. 30 for a full range of hydrocarbons, not just bitumen.

Dwight Barton, EnCana's team leader for reserves, told a Conference Board of Canada meeting earlier in October that separate rules for bitumen are justified because the market is relying on a variety of pricing formulas to attain an effective price posi-

tion, reflecting the fact that the bitumen market is immature and illiquid.

In addition, the bitumen market is seasonal with prices slumping late in the year because the demand for asphalt is at its lowest point.

Cold Lake averaging 51% of WTI

The consulting firm of Purvin & Gertz has calculated that bitumen from Imperial Oil's well-established Cold Lake heavy oil project has fetched an average of 51 percent of WTI prices over seven years.

In the meantime, the Alberta Securities Commission is concerned that there are no formal guidelines in the province for evaluating bitumen reserves.

David Elliott, senior petroleum evaluation geologist with the commission, told a Calgary conference in October that the regulator needs help from the industry to develop guidelines.

For now, the commission is "flying by the seat of our pants," he conceded.

Elliott said separate committees are grappling with three unconventional areas — in-situ bitumen, mined bitumen and coalbed methane — but recommendations on guidelines are a long way off.

Until then the commission endeavors to make sure disclosure documents, such as a prospectus, answer the needs of investors and contain explanatory information, he said.

Canadian standards force caution

On another front, various industry experts say Canadian standards for disclosure of oil and gas activities adopted two years ago have forced independent engineers to become too cautious in evaluating reserves.

John Wright, president of Petrobank Energy and Resources, told the conference board meeting that there is a "huge disconnect" between published evaluations and the value investors attach to those assets.

He said there is a danger of costly reserve reports missing the mark in establishing a true value of shareholder investments, just to satisfy regulators.

Chris Slubicki, senior managing director with Scotia Waterhouse, estimated that engineering audit evaluations have fallen in the range of 65-95 percent of actual market value, partly because engineering consultants have to meet tight deadlines and because market evaluations are a fast-moving target. ●

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Petroleum News and its supplement, Petroleum Directory, are owned by Petroleum Newspapers of Alaska LLC. The newspaper is published weekly. Several of the individuals listed above work for independent companies that contract services to Petroleum Newspapers of Alaska LLC or are freelance writers.

Petroleum News (ISSN 1544-3612) • Vol. 10, No. 44 • Week of October 30, 2005
Published weekly. Address: 5441 Old Seward, #3, Anchorage, AK 99518

(Please mail ALL correspondence to:

P.O. Box 231651, Anchorage, AK 99523-1651)

Subscription prices in U.S. — \$78.00 for 1 year, \$144.00 for 2 years, \$209.00 for 3 years.

Canada / Mexico — \$165.95 for 1 year, \$323.95 for 2 years, \$465.95 for 3 years.

Overseas (sent air mail) — \$200.00 for 1 year, \$380.00 for 2 years, \$545.95 for 3 years.

"Periodicals postage paid at Anchorage, AK 99502-9986."

POSTMASTER: Send address changes to Petroleum News, P.O. Box 231651 • Anchorage, AK 99523-1651.

CORRECTION

A story in the Oct. 23 issue of Petroleum News gave an incorrect production total for Badami. Since the field was re-started in September it has produced more than 40,000 gross barrels.



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• G U L F O F M E X I C O

Production loss mounts from recent hurricanes

Minerals Management Service orders inspections on reports of severe damage to Gulf of Mexico offshore platforms, pipelines

By RAY TYSON

Petroleum News Contributing Writer

Hurricanes already have taken an unprecedented toll on Gulf of Mexico oil and gas production. Worse, the shortfall continues to mount with well over half of daily production shut-in more than two months after offshore platforms and drilling rigs were evacuated ahead of the first storm. Moreover, damage caused by the hurricanes evidently was so severe federal regulators have now ordered leaseholders and operators to conduct detailed inspections of offshore production platforms, pipelines and other structures exposed to the fury of Rita and Katrina.

The cumulative shut-in oil production from Aug. 26 to Oct. 27 totaled 70.595 million barrels, or nearly 13 percent of annual Gulf oil production of roughly 547.5 million barrels, according to information furnished by the U.S. Minerals Management Service.

During the same period, the cumulative shut-in natural gas production in the Gulf totaled 359.216 billion cubic feet, or nearly 10 percent of annual Gulf gas production of about 3.65 trillion cubic feet, according to MMS.

On a daily basis, about 68 percent or 1.022 million barrels of Gulf oil production remained shut-in as of Oct. 27, while nearly 56 percent or 5.559 billion cubic feet of natural gas production remained shut-in.

Some shut-ins from Wilma

Though most of the overall production loss was caused by the one-two punch of Rita and Katrina, Hurricane Wilma, which grazed producing areas of the Gulf on its way to southern Florida, accounted for a small amount of the production shut-in, MMS said.

Meanwhile, it appears the extent of damage caused by Rita and Katrina was far greater than first suspected, leading MMS to order mandatory inspections of offshore

Meanwhile, it appears the extent of damage caused by Rita and Katrina was far greater than first suspected, leading MMS to order mandatory inspections of offshore platforms and pipelines.

platforms and pipelines.

“Begin immediately to conduct the required surveys,” MMS said in an Oct. 24 notice to leaseholders and operators. “We encourage you to inspect first the older platforms located nearest the eye center storm tracks, and then gradually inspect those platforms toward the outer limits of the described area.”

MMS said the inspection order was issued based on “the numerous reports of severe damage” to platforms both above and below the water line. Some 160 platforms were reported destroyed or heavily damaged by the storms, both Category 4 and 5 hurricanes as they swept through the major producing areas of the Gulf in August and September.

Platform surveys by May 5

Platform surveys must be finished by May 5 and repairs completed before June 1, MMS said. Monthly updates beginning Nov. 4 and ending May 5 also will be required of leaseholders and operators, the agency said.

“Make every attempt to complete the required underwater surveys before you man any of the platforms,” MMS said in its notice, adding that the agency would review initial inspection plans “and advise you concerning their acceptability.”

In addition to platforms and other offshore structures, MMS has mandated offshore pipeline inspections due to “the numerous reports of severe damage” to sub-sea pipelines along the paths of Rita and Katrina. ●

WASHINGTON, D.C.

Pombo optimistic about ANWR’s chances

Pro-development forces joined reporters on Capitol Hill Oct. 27 to give a progress report on the fight to get Congress to open the coastal plain of the Arctic National Wildlife Refuge to oil and gas drilling. (See related ANWR stories on pages 8 and 14.)

U.S. House Resources Committee Chairman Richard W. Pombo, R-Calif., led the group, which included Inupiat Eskimo leaders from inside ANWR’s borders and other North Slope communities and Chuck Harple of the International Brotherhood of Teamsters.

Pombo thanked the group for their assistance in getting ANWR energy development language included in the Resources Committee portion of House Budget Reconciliation package Oct. 26.

He also expressed confidence that the House and U.S. Senate will pass budget legislation with ANWR drilling later this fall and President Bush will sign it into law.

Harple thanked Pombo for including project labor agreement language in the bill and assured him that the resulting good jobs will mean college educations for Teamsters’ children.

Reporters asked about the concerns of the Gwich’in people, who also live within ANWR’s borders and have opposed ANWR development.

Richard Glenn of Barrow said Gwich’in interests are similar to Inupiat interests. “We have the same fears,” he said. But the Inupiat experience with oil development at Prudhoe Bay has brought running water, flush toilets and fire departments to North Slope villages without disrupting Native lifestyles, he said, along with a confidence that ANWR can be developed responsibly.



U.S. House Resources Committee Chairman Richard W. Pombo, R-Calif.

—ROSE RAGSDALE

NORTH AMERICA

Canada gains 33 rigs, U.S. down by 8: combined rig count stands at 2,041

The combined number of rotary drilling rigs operating in the United States and Canada during the week ending Oct. 21 totaled 2,041, a net increase of 25 rigs from the previous week and an increase of 435 rigs compared to the same weekly period last year, according to rig monitor Baker Hughes.

Canada’s rig count jumped by 33 to 567 compared to the prior week, and was up by 211 rigs vs. the year-ago period.

The number of rigs operating in the United States during the recent week totaled 1,474, a decrease of eight rigs from the previous week and an increase of 224 rigs a year earlier. Compared to the previous week alone, land rigs decreased by eight to total 1,365 rigs. Offshore rigs remained unchanged at 88, as well as inland water rigs at 21.

919 vertical wells

Of the total number of rigs operating in the United States during the recent week, 1,253 were drilling for natural gas and 216 for oil, while five rigs were being used for miscellaneous purposes. Of the total, 919 were vertical wells, 350 directional wells and 205 horizontal wells.

Among the leading U.S. producing states during the recent week, Louisiana’s rig count decreased by four to total 177 rigs, while Oklahoma’s decreased by two to total 154 rigs, California’s decreased by three rigs to total 24 rigs, and Alaska’s decreased by two rigs to total eight rigs. Wyoming picked up two rigs for a total of 84 rigs, while New Mexico gained two for a total of 97 rigs and Colorado gained one rig for a total of 87 rigs. Texas was unchanged with 666 rigs.

—RAY TYSON

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XTO continues to work Middle Ground Shoal

Company maintains production rates of 3,600 barrels per day by drilling more sidetracks at Cook Inlet field, platforms get upgrades

BY ALAN BAILEY

Petroleum News

XTO Energy, operator of the Middle Ground Shoal field in Alaska's Cook Inlet, sets a great example for what an independent oil company can achieve in prolonging the life of an aging oil field. Although Middle Ground Shoal first produced back in 1967 XTO has achieved almost constant production from the field since buying two state leases and the field's A and C platforms from Shell in 1998.

In March 2002 XTO Vice President Doug Schultze told Petroleum News that the company had increased field reserves by 42 percent and that reserves had "easily 10 and probably 15 years of economic life left." For the third quarter of 2005 XTO reported an average daily field production rate of 3,650 barrels of oil. That production rate compares with 3,600 barrels per day when XTO purchased the field.

"A good acquisition company must be a great development company," and XTO tries to double reserves at the properties that it buys, Kyle Hammond, XTO's top executive for Alaska, told an Alaska legislative committee in April 2004.

The Middle Ground Shoal field consists of a shallow dipping east flank and a steeply dipping west flank separated by a faulted crest. Production comes from multiple zones within the Tertiary Tyonek formation.

XTO initially focused on developing the more difficult west flank of the field — Shell had worked the east flank. The company embarked on a program of drilling



"In geologically complex reservoirs, the probability that the previous operator missed something goes up dramatically," said Kyle Hammond, XTO's top executive for Alaska.

horizontal sidetrack wells. XTO had been getting reserves of 500,000 to 1 million barrels of oil per well, Schultze said.

On the west flank, where the strata are essentially tipped on end, XTO drills directionally through the formation and then goes back and penetrates the formation again on the bottom side of the well, Hammond said.

"In geologically complex reservoirs, the probability that the previous operator missed something goes up dramatically," he said.

Platform upgrades in process, ahead

In addition to developing the west flank the company has since drilled into the east flank.

The company's published operations reviews for the third quarter of 2004 and for the first three quarters of 2005 show that XTO has drilled a total of 11 sidetrack wells, with average reserves of 750,000 barrels per well. The company drilled two sidetracks in 2004 and one sidetrack in 2005.

Although the company had planned to drill a second sidetrack in 2005, a Petroleum News source said that further drilling will not now occur until at least the spring of 2006.

Bill Popp, oil, gas and mining liaison for Kenai

From The Explorers



This is an abbreviated version of an article that will appear in The Explorers 2005 magazine, which will be released by Petroleum News at the annual RDC conference in November in Anchorage.



An XTO platform at Middle Ground Shoal in Cook Inlet

Peninsula Borough, told Petroleum News in October 2005 that new drilling from A platform is under consideration for 2006, but not yet sanctioned. Popp also said that XTO is in the process of upgrading its crew quarters on C platform and plans to make significant upgrades to safety and fire equipment on both A and C platforms during the winter of 2005-06.

XTO has also converted four wells to injectors for water flood since it purchased the field.

An Oct. 20 Web cast a company spokesperson described XTO's Alaska operations as being "on track." ●

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Natural Resource Specialist III, Range 18: Two full-time permanent positions available. Permittees are responsible for adjudication of applications for oil and gas exploration, development and production activities and facilities statewide; regular field inspections on the North Slope, Cook Inlet and elsewhere in the state; and bonding recommendations for oil and gas companies.

Natural Resource Specialist IV, Range 20: A full-time, permanent position as Lead for development of Best Interest Findings. Primary responsibilities include writing and editing; scheduling and project management are secondary.

The Permitting Section performs two major tasks for the Division of Oil & Gas: development of Best Interest Findings to determine if oil and gas lease sales and exploration licenses should proceed, including identification of appropriate environmental and socio-economic stipulations; and Permitting & Inspections, which approve and modify applications for oil & gas activities and facilities statewide, and perform inspections to ensure the stipulations of the Best Interest Findings and subsequent permits are met.

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ALASKA

MMS focus on dependable schedule

The Minerals Management Service is looking forward to more lease sales — and more production — from Alaska's outer continental shelf waters, John Goll, MMS Alaska regional director, told the Resource Development Council Oct. 6.

The agency has focused on dependable sales. "In the '90s companies really could not rely on us: Sales were delayed, cancelled or really changed," Goll said. MMS made a commitment to get back on track with its lease sales in 2002.

At that time, the Beaufort Sea and Cook Inlet were the Alaska OCS areas of most interest, but MMS also wanted to keep the Chukchi Sea, Hope basin and Norton Sound on the sale schedule — but only hold sales if there was interest.

2003 and 2005 sales in the Beaufort "were the best sales we had had since the late '80s," Goll said. The agency patterned the sales after the State of Alaska and introduced royalty relief, various rental rates and other economic incentives. A March 2007 Beaufort Sea sale is also on the current five-year schedule.

The agency had no takers for its 2004 Cook Inlet sale. Last winter, Goll said, the

see MMS page 8



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• NORTH AMERICA

Oil sands could unseat Saudi Arabia

Senator Orrin Hatch, DOE's David Conover tell D.C. forum that oil sands could make Canada world's oil giant, needed in U.S.

BY GARY PARK

Petroleum News Canadian Contributing Writer

Two authoritative U.S. voices agree that the Alberta oil sands are a key ingredient of North American energy security, which could see Canada become the world's oil powerhouse.

Republican Senator Orrin Hatch of Utah said that as global energy demand rises, the U.S. will need access to oil sands supply.

"Anyone watching what is happening up north will recognize that, before long, Canada will inevitably overtake Saudi Arabia as the world's oil giant," he told reporters after speaking at the Canadian embassy in Washington.

"It means that the United States can enjoy a new gigantic source of oil from a friendly neighbor."

To that end, he cautioned the Canadian government not to engage in "irresponsible" threats of diverting oil production from the United States to China.

"Neither of us can afford to kick the other one in the teeth," he said, referring to the annual two-way trade of C\$500 billion a year.

"Canada doesn't want to lose that," Hatch said. "We certainly don't want to lose that."

A strong advocate of closer energy ties, he appealed for cooler heads to prevail in the acrimonious softwood lumber dispute.

Canada's ambassador to the U.S., Frank McKenna said the prospect of exporting oil sands production to China has surfaced because the U.S. has challenged the constitutionality of (the North American Free Trade Agreement).

"As a matter of prudence we are simply saying that we should be ... diversifying our markets as much as we can."

Alberta Energy Minister Greg Melchin told the same forum that developing new markets for oil was a natural course to pursue after his province's beef industry was hit hard by a U.S. ban on imports.

But he agreed with Hatch that there was no point in threatening trade retaliation in one sector because of anger over Canada's treatment in another.

"I don't think you succeed ... By destroying those things that work," Melchin said.

DOE: U.S. needs oil sands

David Conover, the U.S. Department of Energy's assistant secretary for international affairs, told a live and Web cast audience from the forum that the United States can't meet its future energy needs without the oil sands.

However, before the United States can reduce its reliance on OPEC supplies, there must be answers to high labor and production costs in the oil sands and the shortage of pipeline and processing capacity must be addressed, he said.

BP Vice President Aidan Mills said the worldwide decline of benchmark light sweet crude is good news for the oil

"Further development of pipeline capacity to the U.S. Midwest is critical. The oil sands will be at risk if it is not built." —BP Vice President Aidan Mills

sands.

"But the key challenge is market access, especially to areas where it can be most competitive," he said.

"Further development of pipeline capacity to the U.S. Midwest is critical. The oil sands will be at risk if it is not built."

On the trade front, Canada's Trade Minister Jim Peterson categorically ruled out using oil and gas exports as a weapon to settle the softwood feud.

Although the United States is threatening to undermine the 11-year-old NAFTA pact by not honoring the decisions of dispute panels, there should be no attempt to link oil and gas with softwood.

Canada moving ahead on Asian trade

Even so, the Canadian government is pressing ahead with plans to open a wide trade sphere with Asia.

Transport Minister Jean Lapierre announced Oct. 21 that a C\$590 million federal "down payment" is being made to establish a Pacific Gateway in British Columbia to ease roads, rail and border bottlenecks to Asia-Pacific trade. An initial C\$190 million will be matched by the provincial government.

The plans include a new C\$170 million container terminal at Prince Rupert in northern British Columbia.

Selling the province as a hub for trans-Pacific trade is getting a further boost this month when a trade delegation of about 400 people from China's Guangdong province arrives in Vancouver to explore new investment and trade possibilities. ●

continued from page 4

MELCHIN

To those critics, Melchin told a Ziff Group North American gas conference in Calgary Oct. 24 that there is no truth in claims that the Arctic gas will all be used in the oil sands.

"With today's technology, the oil sands would require one-half to one-quarter or even less of the gas from the Mackenzie pipeline and would not require any Alaska gas," he said.

"With today's technology, the oil sands would require one-half to one-quarter of even less of the gas from the Mackenzie pipeline and would not require any Alaska gas." —Alberta Energy Minister Greg Melchin

Melchin: pilots to eliminate use of gas

Melchin noted that commercial pilot projects are working on methods to eliminate the use of gas entirely.

"Their quantity usage and efficiency is improving every year and likely, given the price of gas, will help spur further developments," he said.

Melchin said some of the alternatives to gas include the possible gasification of coke, a byproduct of oil sands mining, and the use of asphaltene in the upgrading process by the Nexen-OPTI Canada Long Lake project to produce synthetic gas.

Suncor Energy has also been exploring the use of coal and coke gasification and others are developing the means to burn bitumen in the ground.

Melchin said the Alberta government will "use all means possible" to achieve value-added results in both gas and oil sands production to ensure that the province is not seen as a mere resource extractor in the next 30 to 50 years.

A government task force is currently being assembled to tackle the broad issue, following up the work of another task force that has spent the past two years studying the upgrading of bitumen into feedstock for the petrochemical industry.

—GARY PARK



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MMS

agency asked if there was interest in the proposed May 2006 Cook Inlet sale, "and the answer at that time was no."

Instead of canceling the sale, MMS has delayed it a year, he said, and if there is interest MMS would plan for a sale in May 2007.

Special interest sales

There have been no takers so far for special interest sales in the Norton Sound area, although local communities would be interested in having natural gas.

When MMS began a program to improve lease sale participation in 2002 it began to visit company headquarters in



Last winter, John Goll said, MMS was asked if there was interest in the proposed May 2006 Cook Inlet sale, "and the answer at that time was no." Instead of canceling the sale, MMS has delayed it a year, he said.

the Lower 48 and also to attend out-of-state meetings and conferences.

MMS also released a re-evaluation of the Burger prospect in the Chukchi Sea, based on a well drilled in 1990 and on seismic data, estimating the most likely mean for the prospect at 14 trillion cubic feet of natural gas.

"So in response to this year's solicitation of interest for the Chukchi, Norton and Hope, we did get interest for a sale in the Chukchi Sea," and have announced an environmental impact statement for that sale,

which could be held either at the end of the current schedule or at the beginning of the next five-year schedule.

—PETROLEUM NEWS

• FAIRBANKS, ALASKA

AFN shelves bid to share ANWR revenues

ASRC exempt from requirement that drilling revenues from its acreage in ANWR be shared with other Native regions

THE ASSOCIATED PRESS

Participants at the Alaska Federation of Natives convention shelved a resolution calling for Congress to ensure that wealth generated by any drilling in the Arctic National Wildlife Refuge is shared by all Native regional corporations in the state.

The issue had threatened to divide Native leaders before it was dropped Oct. 22 as the convention wrapped up in Fairbanks.

The proposal circulated by the Ahtna regional corporation had been the subject of intense lobbying and closed-door caucus meetings. On Oct. 22, Ahtna chief executive Ken Johns announced he was withdrawing the resolution in the name of public unity among Natives.

"We have unity and we deal with our issues internally. That's the most important thing," Johns said.

The resolution targeted Arctic Slope Regional Corp., which acquired 92,000 acres in the ANWR coastal plain through a 1983 land trade with the federal government. Arctic Slope stands to reap billions of dollars if the area is opened to oil drilling.

ANCSA requires sharing of resource revenues

Under the Alaska Native Claims Settlement Act of 1971, revenues earned from resource development must be shared between the Native regional corporations. But the agreement about sharing resource wealth contained a loophole for corporations that trade surface land for rights to what lies under the ground.

Some regional corporations protested at the time and tried to have the deal overturned, but Arctic Slope emerged the winner in arbitration. Ahtna's resolution was expected to open old wounds between the regional corporations and arouse strong opposition from Arctic Slope.

On Oct. 22, Ahtna chief executive Ken Johns announced he was withdrawing the resolution in the name of public unity among Natives.

Ahtna, which serves 1,200 shareholders in the Glennallen area, reported a \$7.5 million loss in 2004 and sees the shared revenue — or 7(i) — money from ANWR development as a way to turn the small corporation around.

"If they do open ANWR, we think it should be subject to 7(i)," said Brenda Rebne, vice president of corporate affairs for Ahtna.

Regional corporation leaders to address issue

Some in attendance Oct. 22 said there was pressure on Ahtna not to air the issue publicly.

"We're finding there are certain things we can deal better with behind closed doors," said Tim Towarak, AFN co-chair and president of the Bering Straits Regional Corp.

Trefon Angasan, chair of the AFN resolution committee, agreed the annual convention was not the place to discuss the exemption, but said the issue will eventually have to be resolved by the regional corporation leaders.

"Kenny had a very effective strategy," Angasan said. "He raised the issue and got people thinking about it and then he dropped it before it could divide the convention."

AFN leaders said the controversy over revenue sharing will be referred to the organization's board and the Association of Regional Corporation Presidents and CEOs for possible action. They said there would also likely be private discussions with Sen. Ted Stevens, R-Alaska.

"There seemed to be a desire to change the current practice," Towarak said. ●

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• NORTH SLOPE

ConocoPhillips files for CD-5 corps permits

Company tells Corps of Engineers it now believes CD-5 reservoir will support cost of Nigliq Channel bridge; CD-6 sub economic

By KRISTEN NELSON

Petroleum News Editor-in-Chief

ConocoPhillips Alaska has told the Corps of Engineers it now believes the CD-5 Alpine satellite will support the cost of a bridge across the Nigliq Channel, but has determined CD-6 is economically marginal and may not function as a standalone project.

This is a change, the corps noted, from information provided by the company when environmental impact statement work was done in 2003 and 2004. At that time ConocoPhillips believed CD-5 would be marginal in relation to revenue generated, and would not, by itself, support construction of the Nigliq Channel bridge.

"Further testing and resulting additional information from (ConocoPhillips Alaska) suggests that the target reservoir will produce a greater economic return and CD-5 can now exist as a standalone project and can economically support the construction of the Nigliq Channel bridge," the corps said in an Oct. 25 notice.

The corps said it expects permit applications for CD-6 (the Lookout discovery) and CD-7 (the Spark discovery) "to be submitted at an unknown future date once additional planning work has been completed on those projects." The present application is for CD-5 work only, but the corps said some potential affects of CD-6 and CD-7 will have to be addressed. "Currently, CPAI has determined that the CD-6 project is economically marginal and may not function as a standalone project," while no new information has been provided on CD-7, the corps said.

Applications for gravel work, bridge construction

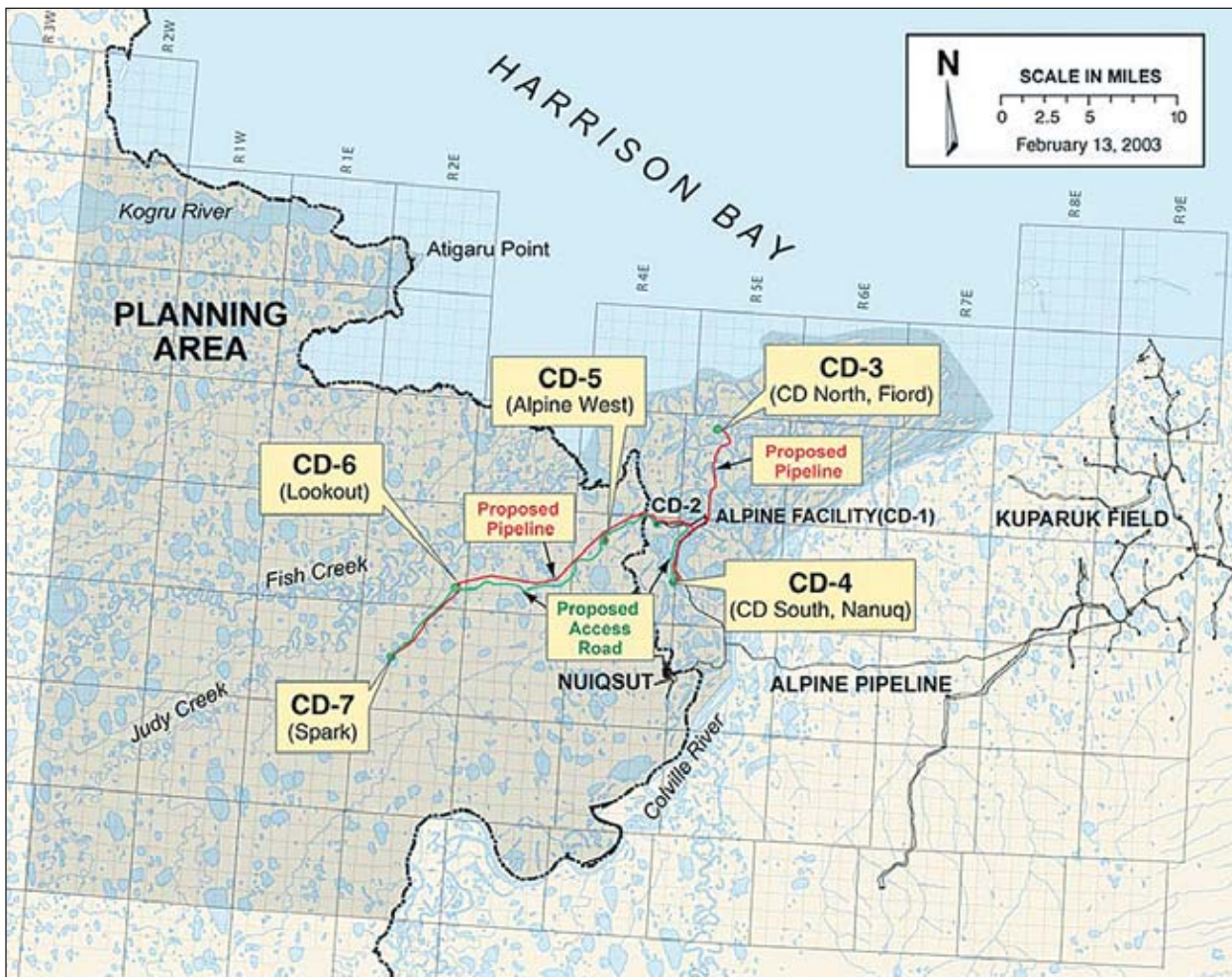
The application to the corps is for gravel work, and to the U.S. Coast Guard for a bridge permit for its CD-5 drilling pad, access road, pipelines and vertical support members and Nigliq Channel bridge.

The bridge will be a 1,250-foot, 175-ton capacity box girder-type combination vehicular and pipeline support bridge across the Nigliq Channel of the Colville River. The corps said the bridge will be used to access ConocoPhillips' proposed CD-5 satellite drill site "and possible future oil and gas projects in the National Petroleum Reserve-Alaska."

There will also be an 80-foot, 175-ton capacity bridge over an un-named paleochannel.

The entire project, including a small extension of the CD-2 pad to add a manual valve and pigging module, will cover 45.1 acres and use 532,119 cubic yards of fill.

The Bureau of Land Management, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Coast Guard and the State of Alaska did an environmental impact statement for five proposed drill sites (CD-3 through CD-7). A final EIS was issued in September 2004 and the BLM's record of decision was issued for the two satellites on BLM



Want to know more?

If you'd like to read more about satellites to the Alpine oil field on Alaska's North Slope, go to Petroleum News' web site and search for the following articles, which represent just a few of those published in the last year.

Web site: www.PetroleumNews.com

2005

- Oct. 9 Undulating horizontals planned for Nanuq
- Sept. 25 Conoco to develop West Alpine
- Aug. 28 First well completed and tested at Fiord
- Aug. 21 ConocoPhillips applies for Nanuq pool rules

2004

- Dec. 26 ConocoPhillips, Anadarko sanction first Alpine satellites
- Dec. 12 Corps issues decision on two Alpine satellites
- Sept. 5 An initial step

lands, CD-6 and CD-7, was issued in November 2004.

In August 2004 ConocoPhillips requested prioritization of permits for CD-3 and CD-4. Most permits were issued by December 2004 and construction of CD-3 and CD-4 began in January 2005.

"Further testing and resulting additional information from (ConocoPhillips Alaska) suggests that the target reservoir will produce a greater economic return and CD-5 can now exist as a standalone project and can economically support the construction of the Nigliq Channel bridge."

—Corps of Engineers

Work is expected to be completed this winter on CD-3 and CD-4.

CD-5 construction schedule

The corps said the proposed construction schedule for CD-5 has construction of the gravel access road, drill pad, bridge piers and substructure beginning the first quarter 2007. Gravel work would continue in the summer of 2007, and the bridge decking would be laid.

Vertical support members and pipelines would be installed in the first quarter of 2008; on-pad facilities would be constructed in the second and third quarters of 2008; drilling would begin in the second quarter of 2008; and production would begin in the fourth quarter of 2008. Drilling would continue for an estimated 12 to 16 months. ●

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• NORTH SLOPE

BP's Liberty: not routine slope drilling

Plan now is to develop offshore field with extended reach drilling from pad at or near Point Brower; Badami base production case

By KRISTEN NELSON

Petroleum News Editor-in-Chief

BP made a decision in August to develop its Beaufort Sea Liberty project from shore, using the extended reach drilling technology it pioneered at Wytch Farm in England in the early 1990s, a technology in which it still holds a world record.

BP has used extended reach drilling in Alaska — at Niakuk and Milne Point — but the Liberty wells will go out much farther, possibly twice as far, as BP's Niakuk Alaska record ERD well.

It's a big change in perspective, says BP Exploration (Alaska)'s Liberty development manager Daryl Luoma.

"When you look at this as an offshore project it was kind of routine North Slope drilling. And in August we made the decision to do something that's not routine North Slope drilling," he said in an Oct. 21 interview.

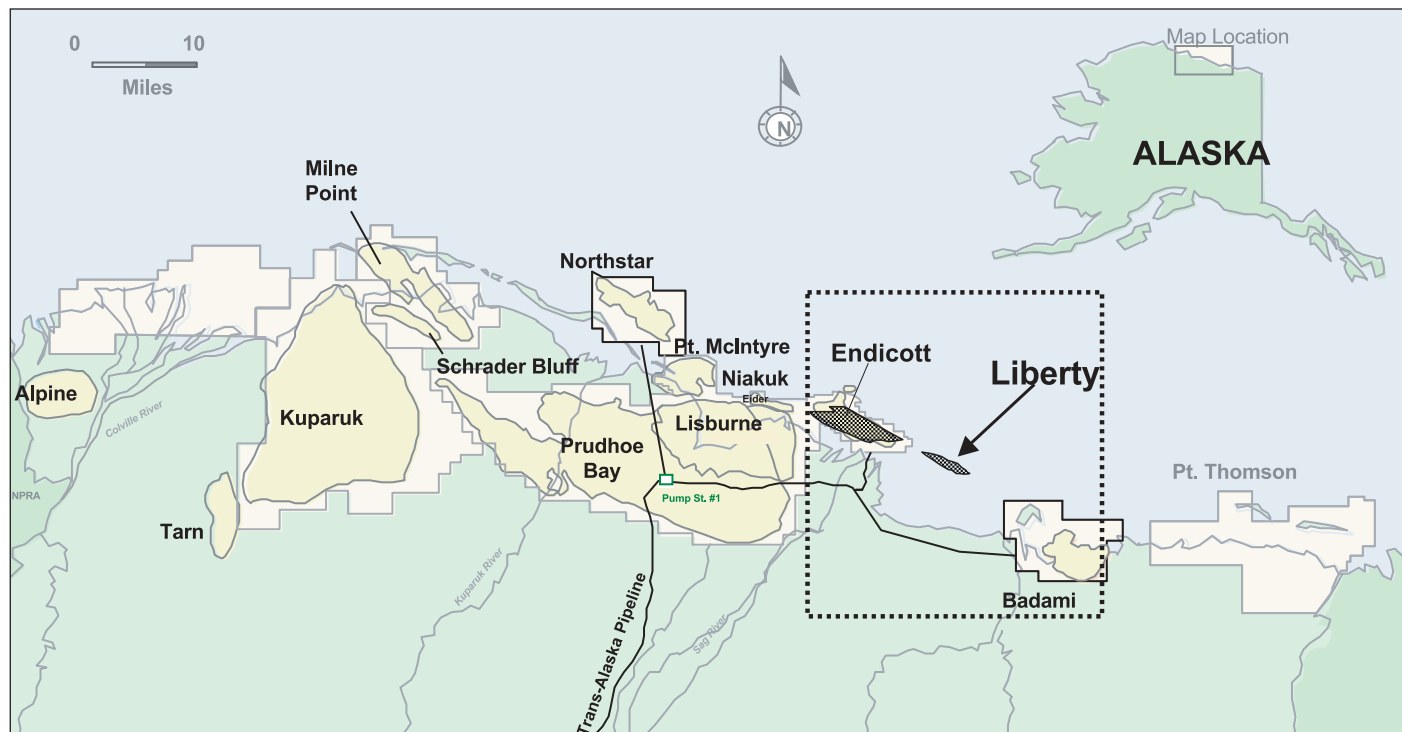
It will be a major change for slope drilling.

"Just as Prudhoe Bay and the original Arctic development were world class, this will be a world class drilling and reservoir management project," he said.

Originally BP proposed developing Liberty, which is on federal outer continental shelf acreage off the North Slope, as a Northstar twin, Luoma said, with development from an offshore island. But when



DARYL LUOMA



costs doubled at Northstar, and that project took two years longer than projected, BP decided to rethink Liberty development, and in 2002 it cancelled the project.

In 2003 and 2004, "BP reassessed the concepts for developing Liberty," and also did a lot of work with the U.S. Department of the Interior's Minerals Management Service, on whose leases Liberty is located, with the U.S. Army Corps of Engineers, the other lead agency for permitting, and with the North Slope Borough, a major stakeholder in any North Slope development.

The 2003 and 2004 work focused on refining offshore development, using existing infrastructure — either Endicott or Badami — to process the oil. Liberty

sits some five miles offshore between Endicott (some six or seven miles to the west) and Badami (some 12 miles to the east).

2005: a new charge

Luoma was brought in to manage Liberty development at the beginning of 2005. One of the requests, from both BP Exploration (Alaska) management and from "senior executives in London, was to not only understand the offshore development concepts that had been looked at, but to take a hard look at what it would take to make a development from shore work as well," he said.

In August the decision was made to develop Liberty from shore.

There were a number of factors in the August decision to develop Liberty from shore, Luoma said:

The first was BP's success at Wytch Farm, where the company also struggled with "difficult challenges to try and drill these wells from shore; difficult environmental challenges in trying to develop offshore," he said.

"We've done this before at Wytch Farm. It was challenging then; many of the

same reasons people said we couldn't do it from shore then are the same challenges people are bringing up today. We figured it out then; we'll do that now."

Another factor was that industry has progressed ERD drilling since the 1990s. "There's been tremendous progress made in terms of drilling technology, drilling best practices," he said, with much of that progress driven by BP's Wytch Farm drilling. Both BP Exploration (Alaska)'s drilling and wells manager, Gary Christman, and BP's Alaska business unit leader, Steve Marshall, were at Wytch Farm when some of the ERD wells were drilled, Luoma said.

In terms of departure length, ERD wells reached 15,000-16,000 feet in the early 1990s, and by the late 1990s were reaching 30,000-35,000-plus feet, including a Wytch Farm well which still holds the ERD record. Wytch Farm wells have a true vertical depth of about 5,000 feet and ExxonMobil at Sakhalin 1 has drilled some 8,000-9,000 foot TVD wells to the 30,000-33,000 foot range.

ERD important to BP's future

Luoma said BP also sees ERD as important to its future, with opportunities to go farther as ERD technology develops at Wytch Farm, BP's own Sakhalin interests and at Liberty.

So a third factor in the Liberty decision was the capability BP will develop at Liberty, a capability that can be used elsewhere in Alaska "to develop state lands onshore and offshore, or federal lands offshore." And the technology can be deployed around the world.

"It's an important technology," Luoma said. "It's one we're a leader in today and we see remaining a leader in that technology going out."

Safety and environment were also factors in the decision: if Liberty can be developed from onshore the footprint is reduced, and you minimize safety and environmental issues. "We can develop safely offshore: we've done it with Northstar; we're producing safely at Endicott; we could do it here." But ERD technology means BP doesn't have to go offshore at Liberty.

This technology also allows alignment with the North Slope Borough for the project.

Those factors, he said, led to the decision that "it's the right thing for BP to do

see LIBERTY page 11

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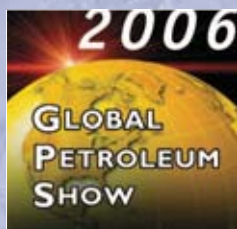
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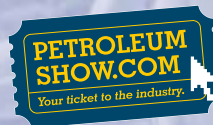


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IT ALL UNFOLDS HERE



continued from page 10

LIBERTY

on this project.”

Probably a single pad, and a road

Luoma said no final decisions have been made, but Liberty would probably be developed from a pad at Point Brower, or another location farther east. Point Brower, he said, would allow shorter wells to be drilled first, and to the northwest portion of the reservoir, which looks best based on comparison of BP’s Liberty exploration well and an earlier Shell well in the same block.

The final decision on a pad site, he said, will be made based on which “gives you the best technical chance of being successful drilling the reservoir.”

The shortest wells would be in the 23,000-foot range, the farthest in the 35,000-40,000 foot range. The number of wells hasn’t been determined. It could be as few as eight, Luoma said, or as many as 12 or 13.

The record Alaska ERD well at Niakuk is in the 19,000-plus foot range.

Early thinking is that a road would be needed to the pad, and whether or not there is a road will affect the decision on pad size, as more storage room is needed without a road. These are issues, Luoma said, that require the approval of “a number of regulatory agencies ... But to support a drilling operation like what we talked about ... we think a road probably makes sense.”

Badami the base case

The base case BP is looking at right now would use Badami as the production facility, Luoma said. At Badami both leases and facilities are 100 percent BP owned. Another option that is being assessed is



Endicott, which is BP-operated but not 100 percent BP owned. “But Endicott would have to be competitive with Badami,” he said.

The concept is that wells are drilled from a pad, the oil is produced back to the pad and three-phase production (oil, water and gas) is sent to the processing facility, where the oil is processed, the sales quality oil sent to the trans-Alaska oil pipeline and the gas is pumped back for re-injection. Water, Luoma said, would also be supplied for re-injection.

Badami facilities would have to be modified because Liberty fluids contain

carbon dioxide. Liberty is essentially the same reservoir as Endicott, he said, so the fluids are very compatible. “Endicott handles CO2 ... (with) duplex pipe ... to manage the corrosion issues.”

Compatibility with Badami fluids wouldn’t be an issue, he said, because the Badami fluids would be a small volume compared to Liberty.

Likely a new rig

Gary Christman, BP’s Alaska drilling and wells manager, said a bigger rig is needed: “The equipment we have (on the North Slope) does not have the capability

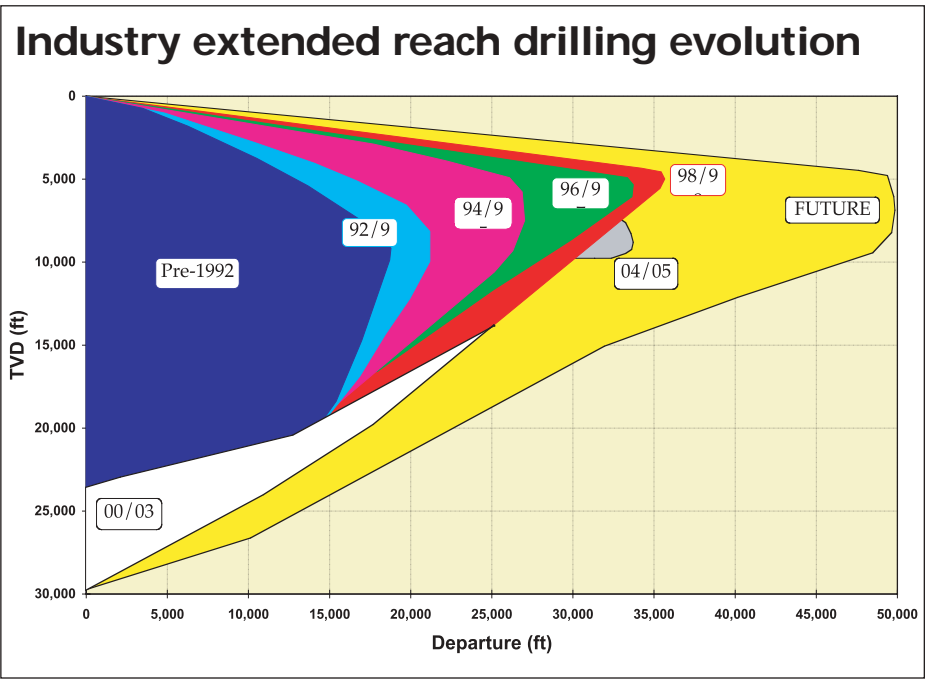
to do this work.”

A “significant modification” of an existing rig is possible, he said, but it’s likely that “for a unique opportunity like this it would be a purpose-built piece of equipment.”

Hoisting capability, pumping capability and the top drive would all need to be larger, Christman said: “Everything is bigger. It’s just super size everything we have.”

Depending on “what you look at in terms of horsepower,” Nabors Alaska Drilling’s rig 33E at Northstar is probably “the biggest piece of equipment” currently

see LIBERTY page 12



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• ALASKA

ConocoPhillips signs gas deal with state

Governor announces natural gas contract agreement; negotiations continuing with other sponsor group members BP, ExxonMobil

By KRISTEN NELSON

Petroleum News Editor-in-Chief

Calling it “one of three legs of a three-legged stool,” Alaska Gov. Frank Murkowski said at a press conference Oct. 21 that the state has “reached an agreement on the base contract terms” for a gas contract with ConocoPhillips — one of the three members of the gas sponsor group.

Jim Bowles, president of ConocoPhillips Alaska said at the press conference that he was pleased by the agreement, and noted that this has been “in the making for 30 years” and “we’re now one step closer to making an Alaska natural gas pipeline.” Bowles described the negotiations between the sponsor group — BP, ConocoPhillips and ExxonMobil — and the state as “long and difficult.”



JIM BOWLES



KEN KONRAD



GOV. FRANK MURKOWSKI

“We still have a lot of work to do,” Bowles said, noting that ConocoPhillips and the state “reached an agreement on all of the essential elements of a fiscal contract, including the six principles laid out by the governor as critical for a deal to advance.”

The governor said agreements have not yet been

reached with BP or ExxonMobil.

BP, ExxonMobil still in negotiations

Although BP has not signed off on an agreement with the state, Ken Konrad, BP Exploration (Alaska)’s gas performance unit leader, said at the press conference that a lot of progress has been made over the last 14 weeks on “a large number of issues” but there are “still a few outstanding issues that need to be finalized and negotiated.”

He said BP has agreed to a process with Jim Clark to continue negotiations.

“We’ve agreed on a process with Jim Clark, who’s leading the efforts for the state, by which ... all three companies will continue to try to finalize the agreement

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LIBERTY

on the slope, he said. In terms of measured depth the BP Liberty wells would be “almost double the total of measure depth drilled from what we have at Northstar.”

It’s “double the well-path length” and “translates into different sizing issues” that haven’t yet been calculated, he said.

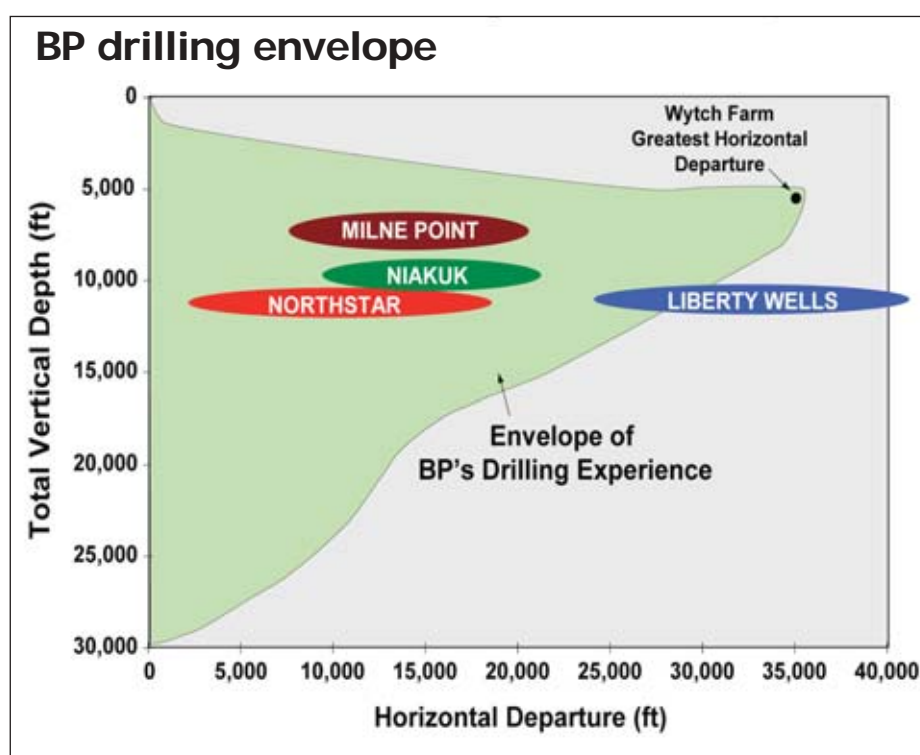
Hoisting requirements will be about twice as large as the loads at Northstar, pump capacity about three times Northstar and torque probably double. Detailed design, Christman said, will be needed before exact numbers are available, but hoisting capability would probably be 1.5 million to 2 million pounds hook load capability, up from around a 750,000 pound maximum available on the slope now.

Rig would be ‘beefier’

Such a rig wouldn’t be any taller, he said, but “it will look bigger more in the sense of beefier.”

Like most of the rigs on the slope such a rig wouldn’t be readily mobile. “It’s going to be pretty much a fixed installation that’s going to be purpose designed for Liberty, probably.” A skid-rail system would allow the rig to be moved from well to well on the pad.

The rig would probably be manufac-



tured at a major yard, hauled up in pieces and reassembled on the North Slope, Christman said. It would probably take two or two and a half years to get a rig put together and to the slope. Actual construction isn’t the issue, he said. “The issues are the engineered components. In a hot market like this it’s just getting in line for the next mud pump that’s being manufactured.”

BP is just getting its drilling team put together, Christman said, and will be working on issues like the details of what is needed in a rig.

On this kind of project you want to identify the drilling contractor “pretty early on so you can work with them on terms of finalizing design and construction,” so “there would be a pretty early tender exercise to see who we’re going to be

involved with.”

From the port to Rabbit Creek Road

The wells, some four and a half to eight miles long, would be “about like drilling from the port (of Anchorage) to Rabbit Creek Road,” Luoma said.

Compared to Wytch Farm, Liberty “may be more challenging; in other ways it may be helped,” he said. Wytch Farm wells have a true vertical depth of about 5,000 feet, while the Liberty reservoir is at 11,000 feet: “Gravity works in our favor, depth works in our favor a little bit here.”

“But it does get down to specific geology you have to drill through and there are some differences; every location is different. It’s not one size fits all,” he said.

Luoma said existing 3-D over Liberty is being re-processed now, “and it’s possible we could choose to re-shoot 3-D” to help drill the wells.

Conceptual issues in 2006

BP will work on conceptual issues for the project next year, perhaps into the early part of 2007, Luoma said.

Permits would be submitted in 2007, and that year BP would also move into engineering for the selected concept and “final engineering on exactly what that rig would look like.”

Permits would be in hand in 2008 and with permits in hand, BP would go for corporate approval of the project.

“And then we would move into the procurement, fabrication, construction (in) 2008, 2009 (and) 2010.” The rig would be built in the 2008-2009 timeframe, mobilized to the slope in 2010 and start drilling in late 2010, he said, with first production in 2011-2012.

“Not something you can easily go out and do in a year’s time. And a big piece is to work through the concept and get the regulatory approvals in place that enables the project,” he said.

The up-front regulatory work is crucial, said BP Exploration (Alaska) spokesman Daren Beaudou. “We didn’t want to jump in and do a bunch of advance engineering ... spending a lot of real dollars, until we knew where we were going to stand to a certain degree of certainty from a regulatory standpoint, and with these important stakeholders.”

For that reason, Beaudou said, there have been a lot of conversations and a lot of information sharing over the last couple of years.

“We’re an engineering organization,” he said, and usually engineering comes first and then “the permitting and the relationship stuff and we kind of reengineered the process to be the other way around.” ●

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• C A N A D A

Pressure builds on foreigners: U.S. target

Alberta government proposes tax on non-resident trust investors; Ottawa faces backlash from mutual fund, pension sectors

BY GARY PARK

Petroleum News Canadian Contributing Writer

The Alberta government would like to put a chokehold on non-resident investors — primarily Americans who have been enthusiastic players in the income trust field — to stem a loss of tax dollars from the petroleum industry.

That puts Alberta in the rare position of agreeing with the Canadian government that the trusts are due for reform.

But the federal government of Prime Minister Paul Martin is being cautioned against meddling with the trust industry that has an estimated 1 million Canadian investors, many of them either retired or close to retirement who feel their financial security is being threatened.



Alberta Energy Minister Greg Melchin

Two government Members of Parliament have written to Finance Minister Ralph Goodale urging him to disperse the storm clouds gathering over trusts, while the government grapples with the impact of trusts on the economy and ponder including changes in the 2006 budget to narrow the tax gap between trusts and conventional companies.

A federal review of the tax treatment of Canadian and foreign trust investors is scheduled for completion by Dec. 31.

Alberta considering taxation

With the debate raging, Alberta Energy Minister Greg Melchin added a fresh wrinkle by announcing that his government is considering taxing income trust distributions outside Canada.

Although Alberta would prefer that the Martin government lower taxes on corporate dividends, negating the advantages of the trust structure, he said the energy trusts are siphoning hefty corporate tax revenues to eastern Canada and the United States.

Goodale said one province — widely assumed to be Alberta — had told him it

A federal review of the tax treatment of Canadian and foreign trust investors is scheduled for completion by Dec. 31.

was forgoing C\$350 million a year in lost taxes.

Without conceding whether it was his government, Melchin described the estimate as a “plausible” figure, although he noted that Alberta benefits when investors buy trust units and the trusts put that capital to work in the oil patch.

He said Alberta is contemplating imposing a minimum tax on trusts, copying the federal government’s 15 percent withholding tax on distributions to trust investors outside Canada.

Federal assistance needed

But Melchin agreed that Alberta will not be able to levy corporate taxes outside Canada without the help of the federal government and both governments would have to take care not to violate Canada-U.S. tax treaties that set a limit on withholding taxes.

The Investment Dealers Association of Canada said it agreed with the principle underlying Alberta’s thinking, especially if it meant that any decision to tax trust distributions did not put Canadians at a disadvantage against foreign investors.

Stephen Probyn, chairman of the Canadian Association of Income Funds, said Alberta is being forced to respond to possible federal moves when his association does not believe that trusts are a threat to the Canadian economy because they divert cash flow away from capital investment.

For now mutual fund managers are troubled by the uncertainty, which has some of them accumulating cash positions while they wait for clarification from Ottawa.

Meanwhile, there are reports that investment dealers and pension plans are enlisting the help of stockbrokers across Canada to aggressively lobby Members of Parliament, explaining that the loss of C\$18 billion in the value of the Toronto Stock Exchange’s income trust index is battering retirement incomes. ●

ANCHORAGE

AOGCC to take comments on gas offtake

The Alaska Oil and Gas Conservation Commission has scheduled a Dec. 1 hearing on gas offtake rates from Prudhoe Bay.

The commission said it would take comments at the hearing on a proposed report which incorporates principles that would govern monitoring by commission staff and consultants of reservoir studies to be conducted by the Prudhoe Bay unit working interest owners and operator in anticipation of later formal proceedings to redetermine allowable gas offtake rates for the Prudhoe oil pool.

Written comments may also be submitted by the day of the hearing.

Copies of the draft report are available online at www.aogcc.alaska.gov.

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DEAL

and we look forward to doing that,” Konrad said.

As to how fast that might happen, Konrad said: “I’ve certainly been instructed by our senior management to do everything humanly possible ... to conclude negotiations as quickly as possible.”

Bloomberg reported that BP’s Chief Executive John Browne said in an Oct. 25 interview in London that the company’s negotiations on an agreement to help build the pipeline may be reaching a conclusion.

ExxonMobil also said negotiations are continuing. “The negotiations are well-advanced on this complex agreement that underpins the largest private sector energy project in the world,” Houston-based ExxonMobil spokeswoman Susan Reeves told Petroleum News by e-mail after the press conference.

“The state, BP, ConocoPhillips and ExxonMobil are in constant negotiations, and the parties are negotiating in good

faith,” she said.

“When successfully finalized, this contract will establish unprecedented commercial alignment between the State and industry.”

Governor: ‘significant milestone’

The governor said the contract with ConocoPhillips “is a significant milestone,” although additional work remains. He also said he could not discuss details of the contract due to confidentiality requirements until the state has reached agreement with all three of the producers.

“We are still continuing our negotiations with the three companies, ConocoPhillips, ExxonMobil and BP, as we continue to refine the contract,” he said.

The governor said he couldn’t share details of the agreement because negotiations were ongoing, but he said the agreement with ConocoPhillips meets the six principles he has outlined for a contract, and said the agreement provides the “maximum benefit” for Alaskans and the “maximum benefit to the treasury.” ●



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• WASHINGTON, D.C.

Senate, House panels OK ANWR exploration

Different versions of drilling provisions win berths as budget packages sail through committees; Herrera: opposition softening

By ROSE RAGSDALE

Petroleum News Contributing Writer

The drive to open the Arctic National Wildlife Refuge coastal plain to oil and gas drilling picked up momentum Oct. 26 when two congressional committees voted to include the provision in budget reconciliation legislation that Congress hopes to pass this session.

The U.S. Senate Budget Committee voted 12-10 to approve a deficit reduction package that will draw down government spending by \$39 billion over the next five years, in part by raising \$2.4 billion from the sale of energy leases in ANWR's 1.5-million-acre 1002 area.

The Deficit Reduction Omnibus Reconciliation Act of 2005 is now headed to the Senate floor in early November where it will be put to a vote after a mandatory 20 hours of debate, according to Elliott Bundy, a spokesman for U.S. Sen. Lisa Murkowski, R-Alaska.

"The senator is certainly pleased by the vote. It's another significant step in the process of getting ANWR open to drilling," Bundy said Oct. 26. "Indications are looking better and better that (ANWR drilling) will pass."

Drilling measure in broader energy bill

Less than an hour after the Budget Committee vote, the U.S. House Resources Committee approved a budget package, 24-16, that directs the Interior Department to offer leases in the Arctic

coastal plain.

Responding during the committee's final roll-call vote, U.S. Rep. Don Young, R-Alaska, yelled, "Yes, yes, yes." To which, another congressman replied: "No, no, no," when his name was called next. Widespread laughter followed the exchange.

The House bill also authorizes offshore oil and gas leasing with an opt-out provision for states that don't want it; incentives for development of the nation's estimated 1.5 trillion barrels of oil locked in shale deposits and changes in hard-rock mining rules that would raise \$150 million and modernize mining laws, according to Resources Chairman Richard W. Pombo, R-Calif.

The House Budget Committee is expected to consider the measure and other bills in its markup of budget reconciliation legislation the week of Oct. 31.

Democratic amendments defeated

Three Democratic amendments to the ANWR provision failed, along with several amendments proposed for other parts of the legislation.

Rep. Edward Markey, D-Mass., a strident opponent of ANWR drilling, sought unsuccessfully to replace the ANWR pro-



U.S. Rep. Don Young, R-Alaska



U.S. Sen. Lisa Murkowski, R-Alaska

vision with a proposal to increase fees levied on oil and gas leases on federal lands nationwide.

Republicans countered that such fee increases would increase costs for oil companies and drive them to increasingly

explore for and develop foreign sources of oil, and possibly spur litigation where the fee increases affected existing leases. The measure failed 10-21.

Another amendment offered by Rep. Ron Kind, D-Wis., sought the State of Alaska's agreement to a 50-50 split of revenues raised from ANWR leasing as a precondition for allowing drilling on the coastal plain. Kind quoted published reports that Young and Alaska Sen. Ted Stevens intend to sue the federal government for the 90-10 split in ANWR revenues the state says it was promised under the Statehood Act.

Pombo said Alaska already took the case to the U.S. Supreme Court and lost and Young assured him the state will not seek to litigate the issue again. The amendment failed 11-25.

A third amendment proposed by Rep. Raul M. Grijalva, D-Ariz., sought to require Arctic Slope Regional Corp. to share anticipated revenues it should receive from energy exploration and

Responding during the committee's final roll-call vote, U.S. Rep. Don Young, R-Alaska, yelled, "Yes, yes, yes." To which, another congressman replied: "No, no, no," when his name was called next. Widespread laughter followed the exchange.

development in ANWR with other Alaska Native groups.

Pombo argued against the amendment, saying the issue had been settled earlier in court and wasn't necessary. It failed 17-20.

More details in House bill

The Resources bill contained many of the same provisions included in a parallel but much trimmer version of ANWR-drilling language approved by the Senate Energy and Natural Resources Committee Oct. 19.

These included limiting development to 2,000 acres and requiring lawsuits over any aspect of the law or agency action to be filed within 90 days.

But the more detailed House version also would prohibit export of ANWR oil; require project labor agreements; order a lease sale offering at least 200,000 acres within 22 months of the law's enactment; and allow the Interior secretary to exclude up to 45,000 acres in "special areas" that can't be drilled.

Senate Republicans introduced separate legislation Oct. 19 with many of the same requirements rather than include them in the budget bill, hoping to avoid violating procedural rules that could kill the ANWR drilling provision on the Senate floor.

The House has no such procedural rules.

Herrera: Congress softens on new energy

Pro-ANWR lobbyist Roger Herrera said he and others working Capital Hill in recent days have noticed a discernible softening in opposition to ANWR and to new energy development. However, he can't determine whether it's due to post-Katrina concerns, high gasoline prices or polls showing the American people want new energy development, Herrera said Oct. 26.

"We've gone into 100 offices, and we've found very few diehard opponents to ANWR," Herrera said. "Conversely, the supporters are more supportive than before."

Still, the battle to open ANWR is far from over, he said.

"We've a lot of hurdles yet. It's not just plain sailing because we got through the committees," he said. Both houses are expected to vote on budget reconciliation in early November.

For example, when the House and Senate versions of the budget package get to Conference Committee, Herrera said the conferees might decide to retain the detailed House language in the bill, which could be death a sentence for the ANWR provision on the Senate floor. ●



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• ARCTIC OCEAN

Pioneering drilling in Arctic pack ice

International drilling project near the North Pole discovers evidence of warm temperatures and fresh water millions of years ago

By ALAN BAILEY

Petroleum News Staff Writer

The artificial palm tree that someone once placed on the shore of Endicott Island, off Alaska's North Slope, might not be quite as out of place as it might appear. It seems that about 55 million years ago surface temperatures in the Arctic Ocean reached about 68 degrees Fahrenheit. Not only that — about 48 million years ago the ocean basin contained fresh water.

Those were two of the findings from a well drilled near the North Pole by the 2004 Arctic coring expedition, an international initiative that formed part of what's known as the Integrated Ocean Drilling Program, Kate Moran, associate professor of ocean engineering and oceanography at the University of Rhode Island, told an Anchorage audience Oct. 14. The current ocean drilling program has evolved from the Deep Sea Drilling Project of the early 1980s and the later Ocean Drilling Program, Moran said. All of these programs have set out to enhance our understanding of the Earth through drilling into the crust beneath the deep oceans.

Determining climate changes

The main objectives of the 2004 Arctic coring expedition were to determine polar climate changes over the past 50 million to 56 million years and to obtain information about sea ice history, Moran said. Prior to the expedition Arctic Ocean data was only available for about the past 1.5 million years, she said. The expedition would require a drilling platform specifically designed for use in the Arctic ice.

"The Arctic coring expedition (involved) the first mission-specific (drilling) platform (under the Integrated Ocean Drilling Program) and it was operated by a European group that was led by the British Geological Survey," Moran said.

The idea for the expedition went back to 1991, when non-nuclear icebreakers crossed the North Pole for the first time.

"We collected by luck a beautiful, multi-channel seismic record across the (Lomonosov) Ridge," Moran said.

The Lomonosov Ridge extends across the center of the Arctic Ocean and consists of a supposed sliver of continental crust. The seismic section displayed a sequence of sedimentary strata on the ridge — these strata ought to contain vital evidence about the climatic history of the region.

Daunting challenges

Moran described how the 2004 expedition addressed the daunting challenges of drilling far inside the Arctic pack ice, close to the North Pole. To navigate through the pack ice and then drill in a moving ice sheet the team assembled a fleet consisting of the drilling ship, a large diesel-powered icebreaker and a massive Russian nuclear-powered icebreaker.

The drilling ship consisted of a small icebreaker especially fitted with a drilling derrick and helicopter deck.

"Icebreakers are the (drilling) platform of choice in the Arctic Ocean," Moran said.

The team identified several potential drilling sites, to ensure that there would be at least one site where drilling would be possible in the ice.

"If we went to one location and it was just packed with ice we would maybe have to go to a different location," Moran said.



The 2004 Arctic coring expedition's three-ship fleet navigating the Arctic ice

Drilling in the ice

One of the biggest challenges that the team faced was an inability to use standard deepwater dynamic positioning techniques in sea ice-covered ocean.

And the drilling required stationing the drilling ship on site for nine days in very heavy ice conditions. The Russian icebreaker circled the well location to disrupt the ice and prevent the moving ice sheet from shifting the drill ship. At the same time the diesel icebreaker protected the drill ship from the ice. An ice management team used radar reflectors positioned on the ice to measure ice velocities relative to the ships. Cell phone coverage on all of the ships enabled easy ship-to-ship communications.

The project involved open-hole drilling to about 400 meters below the sea floor.

"What we mainly do is send coring tools down through the center of the drill string and 100 percent core recovery is our goal," Moran said. "We reach that (goal) most of the time."

A team of paleontologists used microfossils to date the rocks in the cores.

The drilling confirmed that the Lomonosov Ridge does consist of continental crust, rather than oceanic crust. And a determination of ancient temperatures, using oxygen isotopes and other evidence from the drill cores, showed a transition at depths between 220 to 200 meters from an ancient greenhouse world of relatively high temperatures to the more icehouse Arctic world of today.

Finding the thermal maximum

Towards the bottom of the well the team found what is called the Paleo-Eocene thermal maximum, or PETM, a known high point in temperature trends about 55 million years ago. That's the point at which the surface of Arctic Ocean appears to have attained temperatures of about 68 F, showing that the whole of the Earth including the North Pole became warm at that time.

"Which is quite a bit different than what was (previously) modeled ... that there was a very large temperature gradient between the equator and the poles at that time period," Moran said.

Equally intriguing were at least two 48 million year old horizons that contained masses of well-preserved azolla plants — the oil industry uses azolla marker horizons in some Arctic drilling, Moran said. Azolla is a floating plant that lives in freshwater and the existence of azolla horizons leads to the surprising conclusion that the once-isolated Arctic Ocean basin contained relatively warm freshwater millions of years ago.

Early freeze up

Other evidence points to colder conditions in the Arctic starting about 42 million years ago, an earlier freeze-up than had previously been supposed. And the research team is in the process of reconstructing the sea ice history of the Arctic Ocean by tracing the changing characteristics of the sediments over time.

"The surprise is that ice we think was present much earlier than was thought," Moran said.

Measurements of magnetism in the well cores showed the characteristic fluctuations and reversals of the Earth's magnetic field that have been recorded in rocks of similar

age elsewhere.

"We have really good paleomagnetism," Moran said.

The discovery of the magnetic fluctuations in all but the upper few meters of the Arctic Ocean well dispels a widely held belief that the fluctuations are not clearly recorded in rocks formed under Arctic conditions.

Moran said that a publication of the expedition's initial findings should come out in January. Drill core samples will become available to the public at some time in 2006. Meantime scientists are preparing proposals for future drilling in the Chukchi or Beaufort Seas and Moran invited new ideas for drilling objectives.

"We can't go drill for oil in the program," Moran pointed out. "But certainly stratigraphic sections must be of great interest," she said.

And how do the results from the expedition help our understanding of what is happening in the modern-day Arctic?

Many scientists believe that the rapid rise in temperatures in the PETM is directly analogous to modern global warming trends. So, understanding the response of the planet to that PETM warming may shed light on the potential impact of global warming, Moran said. And scientists are particularly interested in how increased freshwater inputs to the Arctic Ocean might impact global ocean currents and temperature patterns throughout the world.

It's all food for thought — maybe one day there will be a real palm tree at Endicott.●

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INSIDER

reflect on my career.”

The significant milestones for Morgan are the 30th anniversary of his entry into the petroleum industry and his 60th birthday on Nov. 4, plus 12 years as a chief executive officer (first with Alberta Energy Co. and now with EnCana, which resulted from the merger of AEC and PanCanadian Energy).

To those who asked whether the EnCana board was instrumental in his departure, Morgan laughed and his wife Patricia Trottier said she had been startled to hear news reports that her husband had been “shoved out by the board because they’re unhappy. The date (of his resignation) is of our choosing — nobody else’s.”

But these have been volatile times for the company that has become North

America’s No. 1 gas producer and, for a while, the company with the largest market capitalization on the Toronto Stock Exchange.

Shell bid speculated

Published speculation had Royal Dutch Shell offering US\$65 a share, getting rebuffed and sweetening the deal to US\$70.

Morgan ended two days of market frenzy with an unequivocal statement that EnCana was “not aware of any takeover bid” and that no discussions had taken place with Shell.

He said the name EnCana was a blending of “energy and Canada” and his objective had been to create a flagship Canadian-headquartered energy company.

More than that, Morgan has been an unabashed Canadian nationalist.

Industry and political observers doubted the Canadian government would

ignore a foreign bid for EnCana, just as the United States government torpedoed China National Offshore Oil Corp’s attempted takeover of Unocal.

Deputy Prime Minister Anne McLellan reinforced that view by telling Parliament that the government would be concerned about the loss of a standard-bearing Canadian company.

But the Shell talk is not expected to fade. The Dutch-based company lacks a strong natural gas position in North America, which the acquisition of EnCana assets would solve in short order.

EnCana-Suncor would be C\$75B powerhouse

For those casting about for other possibilities, a merger of EnCana and Suncor Energy would create a Canadian powerhouse worth more than C\$75 billion and combining the long-term oil sands and unconventional gas resources of the two

companies.

Morgan’s own thinking is that the Shell rumors stemmed from a combination of factors, notably the “tremendous influence of hedge funds, which generally have a pretty short time frame” along with a “zest for deal-making on the street.”

“It’s amazing what can be created out of the ether,” he said.

The reins at EnCana will be handed to Chief Operating Officer Randy Eresman, who has been groomed over 25 years by Morgan.

Credited with turning EnCana into a “resource play” company, known for his attention to detail, Eresman will bring a lower-key style to the top job.

For some observers, the boldest first move he could make would be to shed part of the Morgan legacy and stop referring to employees as EnCanans.

—GARY PARK

continued from page 1

DELAYS

projects, Natural Resources Minister John McCallum said it is “fundamentally in (Canada’s) interests to have the Mackenzie project proceed expeditiously and prior to the Alaska pipeline.”

He told a House of Commons committee Oct. 26 he has been informed that the Mackenzie pipeline remains “well ahead of the Alaska pipeline in terms of timing.”

But he said Canada is still negotiating with aboriginal regions along the pipeline right of way to resolve benefits and access agreements. The Mackenzie partners are also waiting for the government to settle the fiscal terms of the pipeline.

MacInnis said Canada’s “oil and gas resources, coupled with the ability to get

them to market in a timely manner is a great source of economic advantage. If we exploit it correctly and properly, it will continue to feed the Canadian and North American economy for many decades to come.”

Project lag equals cost increases

But letting the major projects lag would spread cost increases across Canada, with Alberta consumers carrying 35 percent of the burden, followed by Ontario at 33 percent, British Columbia at 13 percent and 19 percent impacting consumers in Canada’s seven other provinces.

Residential gas consumers in Ontario would absorb 40.5 percent of that province’s cost increases, with the fuel costing an extra C\$7.8 billion, while 73.7

percent of Alberta’s impact would fall on industrial gas users.

A companion study showed that a hypothetical C\$1.52 billion, 600 mile gas pipeline — half of it in Alberta and half in British Columbia — would pump an extra C\$1.2 billion into the Canadian Gross Domestic Product.

Of that, C\$202 million would spread outside those two provinces, while the project would generate 17,384 jobs, 2,907 of them beyond Alberta and British Columbia.

C\$20 billion over next 20 years

MacInnis said the pipeline sector expects to spend C\$20 billion over the next 20 years on capital projects.

The studies commissioned by his association “show that the impact of any

delays is significant,” he said.

“We need to ensure there are timely regulatory reviews and approvals and the fiscal environment remains attractive and competitive.”

The reports said North America is facing a period of tighter oil and gas supply, driving major new investments in non-traditional resource development such as oil sands and heavy oil, Arctic gas, coalbed methane, offshore oil and imported LNG.

However, the association emphasized that complexities of planning, financing and building large pipelines can be undermined by delays in obtaining approvals and permits.

Those delays can also put the supply-demand balance in North America under stress, resulting in higher costs to consumers. ●

continued from page 3

LEASING

and the Gulf states of Texas, Louisiana and Alabama strongly support continued oil and gas leasing off their shores.

“The federal waters offshore Alaska could play a significant role in meeting future U.S. energy supply needs,” Alaska Gov. Frank Murkowski said, noting that Alaska’s OCS is estimated to contain 122 trillion cubic feet of natural gas reserves alone, plus millions of additional barrels

of oil reserves.

He added: “It is important, in light of lessons learned from the recent hurricanes on the Gulf Coast, for MMS to consider ways to diversify the sources of our nation’s oil and gas supply.”

Comments on withdrawals requested

MMS also asked for comments as to whether existing withdrawals or moratoria should be modified or expanded to include other areas in the OCS. Additionally, under the Energy Policy Act

of 2005, Congress required the Secretary of the Interior to conduct “a comprehensive inventory” of oil and gas resources beneath all waters of the OCS.

“Based upon the analysis of these factors, the secretary will decide which areas to exclude from the draft proposed program,” MMS said.

Industry was clearly irked by an MMS statement that Interior Secretary Gale Norton had already decided not to offer for lease areas in the Eastern Gulf of Mexico planning area within 100 miles of Florida’s coast.

“This position is not consistent with the five-year OCS oil and gas leasing program process (and) the MMS is required to thoroughly analyze all areas of the Eastern Gulf of Mexico for consideration,” David Trice, chief executive officer for exploration and production independent Newfield Exploration, said in comments to MMS.

Predictably, U.S. oil and gas trade organizations support expanding the OCS in the next five-year program. The American Petroleum Institute, one of industry’s strongest voices, urged MMS “to provide for as expansive an OCS leasing program as possible” in the 2007-2012 plan. API noted that the western and central Gulf of Mexico alone account for 30 percent of the U.S. domestic oil supply and 20 percent of its domestic natural gas production.

“This concentration reflects government policies that have responded to anti-development and ‘not in my backyard’ voices by largely limiting offshore exploration and production to this portion of the Gulf,” API said.

“The impacts of hurricanes Katrina and Rita, including supply disruptions that impacted Americans nationwide, underscore the need to expand domestic oil and gas supplies for all consumers.”

MMS plans to release a draft of the proposed 2007-2012 leasing plan this winter, followed by a 60-day public comment period. Next summer the agency plans to issue the proposed program and a draft of the environmental impact statement, followed by a 90-day comment period. The final program and EIS is scheduled for release in the winter of 2007, followed by a 60-day waiting period. Interior is expected to approve the final package in the spring of 2007. ●

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By PAULA EASLEY



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Scott Coon, also home-grown, graduated from the University of Alaska and recently joined the Alaska Cover-All team. He has over 13 years of sales and design experience in the industrial fabric industry and won a 2004 Industrial Fabric Association International Award of Excellence. Scott lives in Anchorage with his wife and two daughters.



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ALASKA

Tentatively scheduled Alaska lease sales

Agency	Sale and Area	Proposed Date
MHT	Northern Cook Inlet Basin	Nov. 2, 2005
DNR	North Slope Areawide	February 2006
DNR	Beaufort Sea Areawide	February 2006
BLM	NE NPR-A	2006
BLM	NW NPR-A	2006
MMS	Sale 202 Beaufort Sea	March 2007
MMS	Sale 199 Cook Inlet	May 2007
MMS	Chukchi Sea/Hope Basin	May 2007
BLM	NE NPR-A	2007
BLM	NW NPR-A	2007

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
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• N P R - A

First northwest NPR-A drilling this winter

If changes to BLM's northeast NPR-A plan approved by Secretary of Interior Gale Norton, lease sale there could occur next summer

By KRISTEN NELSON
Petroleum News Editor-in-Chief

If Secretary of the Interior Gale Norton approves the Bureau of Land Management's proposed changes in the National Petroleum Reserve-Alaska northeast area plan, BLM would hold a lease sale there this summer, BLM Alaska State Director Henri Bisson told the Alaska Support Industry Alliance Oct. 27.

The proposal to expand leasing north of Teshekpuk Lake in the northeast NPR-A has gone through a series of discussions with the North Slope Borough. "We have made changes, not significant, but changes which I think are mutually acceptable," he said.

The record of decision is being reviewed now by senior staff and attorneys in Washington. "I can't tell you when it's going to come out. I hope it will come out soon," Bisson said.

When that decision does come out, if it comes out soon and is favorable to leasing north of Teshekpuk Lake, "then I would expect we would propose to have a lease sale there next summer," he said.

Going forward, BLM plans annual combined sales in both the northeast and northwest NPR-A, he said.

"On an annual basis we'll continue to offer whatever hasn't been leased; we'll offer it every year." That way, he said, companies "will be able to build an inventory of leased acreage..."

This winter the first two wells will be drilled in northwest NPR-A. "This will further define the Barrow Arch potential to the west of existing developments," he said.

Although there is a lawsuit pending challenging the plan for the northwest area, the company has staged equipment for the work.

Bisson said BLM prevailed in district court in January on the northwest plan; an appeal was filed and oral arguments were presented at the 9th Circuit Court of Appeals in Seattle in September. He said he didn't know how soon a decision would be handed down, but the agency is hopeful it will come in November.

Energy Policy Act applies to Alaska

Bisson reviewed sections of the Energy Policy Act of 2005 which apply to Alaska, including Section 347 which allows BLM "to extend leases in NPR-A which contain a well certified as capable of producing and to renew leases for an additional 10 years at a cost of \$100 an acre if lessees can demonstrate due diligence" in exploration, he said. The difficulty with the 10-year leases in NPR-A is that a 10-year lease gives a lessee "roughly three years to explore" because it takes so long to get a prospect there into production.

That section also amends unitization requirements. "The final language on uniti-

Bisson said BLM prevailed in district court in January on the northwest plan, an appeal was filed and oral arguments were presented at the 9th Circuit Court of Appeals in Seattle in September. He said he didn't know how soon a decision would be handed down, but the agency is hopeful it will come in November.

zation represents a compromise that was reached between BLM, the state, ASRC and industry," he said. Regulations are currently being developed to incorporate changes from the energy act into the agency's current program.

Section 348 authorizes creation of the North Slope Science Initiative, "aimed at developing a unified and coordinated approach across the North Slope to inform the decision and permitting processes for oil and gas exploration and development," he said.

Gas hydrates incentives

Section 353 provides incentives for gas hydrates production, allowing "the secretary to grant royalty relief for natural gas produced from gas hydrate resources under an eligible lease." Gas hydrate production is not currently commercially viable, Bisson said, and the intent is to "provide some incentive to companies to spend the necessary research and development dollars." The potential for Alaska is huge he said, comparing known reserves of conventional natural gas of 35 trillion cubic feet to an estimated resource of 590 tcf of gas hydrates onshore, and even more offshore.

Section 349 allows the secretary to reimburse companies through royalty relief or directly for remediation work on orphaned, abandoned wells on federal lands. There are more than 100 such wells in NPR-A, Bisson said, and while the reserve pits have been capped other work remains to be done.

Last fall BLM determined that the J.W. Dalton well on the coast just east of Point Lonely was in danger of being washed out because of coastal erosion. Bisson said he got Washington to ante up \$7 million and BLM spent \$5.5 million in a month cleaning up the reserve pit and removing some 10,000 gallons of diesel from the well bore. Some 300 feet of coastline had been lost in the area last summer, he said, and water was already lapping against pilings at the site.

This summer BLM cut off the well pipe and sealed it and cleaned up the site. After storms in early September the site was basically washed away: the sealed in well head is now underwater, Bisson said, with only some of the pilings left, standing in water.

BLM began work on the south half of NPR-A planning area this summer, 9.2 million acres that the agency believes has gas potential. It also contains 40 percent of the nation's coal reserves and is currently off limits to coal leasing and mineral entry. Based on the known coal resource, Bisson said he predicts "it's probably going to be the most controversial plan we've been involved in up in the petroleum reserve." •



JUDY PATRICK

This winter the first two wells will be drilled in northwest NPR-A. "This will further define the Barrow Arch potential to the west of existing developments." —BLM Alaska State Director Henri Bisson



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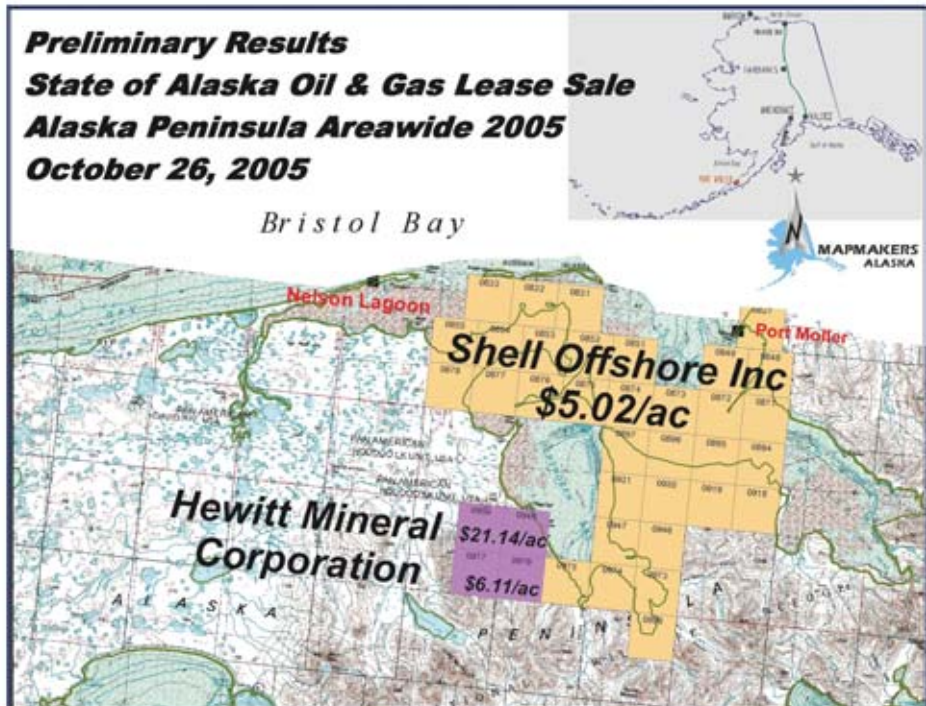


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SALE

first Cook Inlet, then the North Slope and now the Alaska Peninsula. He said the sale represented a real partnership of the state, the local area and commercial partners.

Mark Myers, director of the Alaska Division of Oil and Gas, noted after the sale that this was the first sale in the area in 22 years, “and we’re a long ways from any infrastructure, so I think it’s a good solid start in the evaluation.”

Myers said that while there weren’t a lot of takers, the area is relatively unknown. “When you look at the history of the North Slope, you might see a similar pattern — pre-Prudhoe vs. post-Prudhoe,” he said.

This will likely be the first of at least 10 annual areawide sales on the Alaska Peninsula, he said, and called the sale “a healthy indicator of industry interest in the oil and gas potential of the Alaska Peninsula.”

Shell the big bidder

Shell bid \$954,063 at the sale, a consistent \$5.02 an acre, after returning to Alaska earlier in the year with bids of more than \$44 million on Beaufort Sea federal outer continental shelf acreage.

Marcus Patterson, Shell Exploration & Production team leader for Alaska exploration, said after the sale that Shell looked at things “from a regional perspective” and focused on “the standard views that we have of the basin model.”

Patterson said the 33 tracts on which Shell bid were both onshore and offshore, about 190,000 acres.

Once the tracts are awarded, “we’ll start an evaluation program” on the acreage, he said. Shell has had several meetings on its plans in the area, “and will continue to engage the local stakeholders.”

The Division of Oil and Gas said in its preliminary results that all 33 bids submitted by Shell contained a 4 cent error in the calculation of the bid deposit. The division said it was recommending that the commissioner of the Department of Natural Resources determine the error was “due to excusable inadvertence,” allow Shell to correct the error in accordance with the division’s regulations and the sale announcement, and that the corrected bids be accepted.

Hewitt an independent

Hewitt Mineral, an independent oil and gas company, bid a total of \$313,922 for four tracts, with \$21.14 an acre on two tracts (the high per acre and total high bid of the sale, \$121,767) and \$6.11 per acre on two other tracts.

Myers said after the sale that he understood Hewitt Mineral became interested in the Alaska Peninsula sale after seeing technical data the division had at a convention in the Lower 48.

Governor: sale a success

Alaska Gov. Frank Murkowski said he sees the sale “as a tremendous success” and attributed it to efforts of former lawmaker Nels Anderson and the late Harvey Samuelsen. The governor said the men “recognized that responsible development could coexist with other activities in the region.”

The governor called the sale “just the beginning of an opportunity to bring new economic development to this region of Alaska,” and said the partnership between the state, local governments and regional organizations “to encourage new investment in this area is exciting and it is now showing results.”

The governor’s press release included comments from Nels Anderson, who said residents of “Bristol Bay have been trying to talk to every administration up until Governor Murkowski and no one was willing to do anything. Because of what the governor did in response to a request by the late Harvey Samuelsen, Jim Haynes and myself, we have a lease sale today.”

Anderson said he was looking forward to another lease sale next year and said “I hope oil companies will show even more interest.” ●

Bidders probably targeting variety of plays

In purchasing leases around Port Moller and Herendeen Bay, Shell Offshore Inc. and Hewitt Mineral Corp., the bidders at the state’s Oct. 26 areawide Alaska Peninsula lease sale, have set their sights on a section of the peninsula that has clear petroleum potential. The area lies adjacent to the deepest part of the Tertiary Bristol Bay basin and also contains prospective Mesozoic strata. The Mesozoic strata include formations that are equivalent both to the productive source rocks of the Cook Inlet and one of the major source rocks under the North Slope.

Petroleum News asked Paul Decker of Alaska’s Division of Oil and Gas for his perspectives on the lease locations.

Shell has targeted an area on the southern edge of the Bristol Bay basin that also overlaps the northern edge of an area of large compressional structures in the Mesozoic, Decker said. The leases contain Tertiary reservoir and trap possibilities involving both folding and faulting of the strata.

“People bid where they know there’s structure because you can see it in outcrop and use seismic to project it in.”

—Paul Decker, Alaska Division of Oil and Gas

Much structural interest

And although little or nothing is known about the geological structures under the waters of Port Moller and Herendeen Bay, there’s enough of structural interest in the nearby onshore areas to be fairly certain that there also are interesting structures offshore.

“People bid where they know there’s structure because you can see it in outcrop and use seismic to project it in,” Decker said.

But some of the Shell leases do encompass one large onshore Mesozoic structure, the Staniukovich anticline, that contains a major seep of thermogenic gas. This gas appears to have originated from a Mesozoic source and Decker has speculated about the possible existence of a Jurassic Naknek gas reservoir deep inside the structure.

Hewitt’s leases straddle the junction between the Mesozoic compressional structures and the edge of the pull-apart or extensional features of the Tertiary Bristol Bay basin, Decker said. The leases contain a known major anticline, exposed at the surface in Jurassic strata. So a Mesozoic play in that type of Mesozoic structure could make a good exploration target.

Differing interpretations

Differing interpretations by different geologists of the subsurface geology found in the Hoodoo Lake Unit No. 1 and Hoodoo Lake Unit No. 2 wells just to the north of the Hewitt leases lead to uncertainty about the subsurface geology of the area. However, a major fault exposed at the surface in the area of the leases indicates that the Mesozoic strata have been faulted over Tertiary strata of the Bristol Bay basin. So, there may be a play that involves drilling into Tertiary reservoirs just below the fault.

Decker also commented that there are almost certainly some interesting structures in the Mesozoic under the peninsula to the west of the new leases. But there’s a general lack of surface Mesozoic rock exposures and the companies have probably preferred areas where a bit more is known about the geology, he speculated.

—ALAN BAILEY

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EXPLOSION

Irwin should leave.

Six senior department officials then submitted their resignations: both deputy commissioners, Marty Rutherford and Dick LeFebvre and Nancy Welch, one of three special assistants in the commissioner's office; Director Mark Myers of the Oil and Gas Division; Director Bob Loeffler of the Division of Mining, Land and Water; and Office of Project Management and Permitting Director Bill Jeffress.

In letters of resignation copied to the press the six said they were resigning because of the dismissal of Irwin and the administration's position in the gas pipeline negotiations. The resignations were effective Nov. 15 "or sooner at your discretion," as Rutherford put it.

Jeffress, LeFebvre, Loeffler and Welch said they regretted resigning but had no alternative following Irwin's dismissal. "Unfortunately, I am unable to support the direction of the Administration and believe it is necessary to take this action," all said.

Letters from Rutherford and Myers were more detailed.

"I regret that I must take this action but I feel I have no alternative following the dismissal of Tom Irwin ... and the position the Administration has taken in negotiations regarding a North Slope gas pipeline," Rutherford said. "Supporting the Administration's position would require me to accept terms clearly not in the interest of the state." Rutherford, who has been with the state some 23 years, most of the last 11 as deputy commissioner, said she was proud of the work the department has done in pursuit of a natural gas pipeline and said she believes "the action I have taken today is necessary to avoid that effort going to waste."

Myers also said he had no alternative to resignation because of Irwin's dismissal and the administration's position in the gas pipeline negotiations. "Staying in this position would require me to compromise my values as to what is right, both legally and ethically, and what is in the interests of the state," said Myers, who has been with the state for more than 11 years, five as director.

"As you know," Myers told the governor, "I adamantly disagree with the Administration's current position on gasline negotiations. While I appreciate the offer to remain in my position while avoiding all work associated with gasline negotiations, I do not believe that scenario is feasible. The current negotiations have implications that permeate every aspect of the state's oil and gas interests now and into the future. I cannot continue as director and watch silently as the state's interests are undermined by creating barriers for the new oil and gas partici-

pants that are so vital to the economic future of the state."

Myers told Petroleum News after the press conference: "One point we wanted to bring forward is we're baffled that the governor is only moving forward one contract. With the TransCanada and port authority options available to him, why isn't he moving all three forward so that the Legislature and the public can consider them?"

The application from TransCanada is to build a pipeline to the Lower 48. The All Alaska Gasline Port Authority proposes a pipeline to Valdez with liquefied natural gas shipped by tanker to the West Coast. Neither of these project sponsors owns any gas.

A spokesman for TransCanada said they reached a conceptual agreement with the state last spring.

Irwin's memo

Irwin's memo, a request for legal advice addressed to Attorney General David Márquez, asked for clarification on a number of issues in the gas negotiations, beginning with whether the state can negotiate under the terms of the Alaska Stranded Gas Development Act for gas which, because of the changing natural gas market, is no longer stranded as defined under the act.

The administration has learned a lot since the negotiations began, Irwin said, and "some members of the Department of Natural Resources — myself included" want legal advice on whether the administration "is operating within the limits of current law" in its negotiations with the producers. He said the concerns "may be further complicated by any split among the Sponsor Group into individual companies and whether an individual company meets the statutory requirement to be a qualified applicant with a qualified project."

The Governor announced an agreement with one of the three project sponsors, ConocoPhillips, Oct. 21.

On the issue of whether the gas is stranded, Irwin said the governor "acknowledged in his recent speech before the State Chamber of Commerce in Valdez, that gas must now be considered 'unstranded.'"

The governor said Sept. 13: "The gas truly was stranded, because the economics weren't there to support it." Two things, he said, happened to change that: Congress passed federal enabling legislation and the price of gas increased. "But what's happened with the economics made it feasible to basically look at Alaska gas as unstranded," he told the state chamber, "and that's kind of where we are at this time and that's why this project has moved to the point where we do have three applicants that have submitted applications."

The definition section in the act (AS 43.82.900) says: "'stranded gas' means gas that is not being marketed due to prevailing costs or price conditions as determined by an

economic analysis by the commissioner for a particular project."

"My first question, then," Irwin said, "is whether this Administration is operating within the confines of current law by continuing with negotiations with the Producers under the Alaska Stranded Gas Development Act when all analyses indicate that the project as a whole — and particularly Prudhoe Bay and Point Thomson gas — does not meet the definition of 'stranded gas' contained within that Act."

The other seven concerns on which Irwin asked for legal clarification are: conflicts between the proposed contract and the state's oil and gas leases, including pressure the department is under "to endorse terms governing Point Thomson development that are inconsistent with and materially weaker than" obligations to develop the field under the unit agreement; whether the state should take the risk of committing to take all of its royalty gas in-kind without "proof or compelling evidence" that the project is dependent on that commitment; lack of modeling to support the need for fiscal support from the state over three decades of the proposed project ("I do not believe that the economic viability of the project requires the state's 'give' nor that the prospect of long-term changes to the fiscal system are necessary," Irwin said); whether proposed contract terms for events such as breach of contract concur with stranded gas act requirements; whether proposed contract terms are tied to "alteration of tax methodologies or rates on existing oil infrastructure or production," and if so, whether that is legal under the act; whether legislation the administration would propose to address some of the above concerns would allow the signing of a preliminary fiscal interest finding in advance of such legislative changes; and whether Revenue's determination that fiscal findings would not include a quantitative evaluation of alternative projects is legal under the act.

Primarily policy issues, says Márquez

In a response issued Oct. 27, Márquez said issues raised by Irwin "are largely policy questions, not legal questions, and as such are within the purview of the governor and the legislature to resolve."

As to whether there could be legal repercussions Márquez said: "The fact that you and your staff may have a different vision of what best serves the interests of the State as compared to others in the Administration does not make their judgments — or yours — on fundamental policy issues either unlawful or improper." The governor, "after considering the concerns of his advisors," is ultimately "charged with the responsibility to negotiate terms that best serve the long-term interests of the citizens of Alaska, and submit those terms for public comment and legislative review," he said.

Márquez said Pedro van Meurs has pro-

duced a number of analyses "that provide a solid basis for the Administration to determine that the gas meets the statutory definition of 'stranded gas.'" Because the Legislature must approve a contract, "whether the gas is 'stranded gas' at any particular point is not determinative." If the Legislature approves a contract, "it will have determined either that the gas is 'stranded gas,' or that whether the gas is 'stranded gas' does not matter." If the Legislature decides to go forward with a contract, Márquez said, that decision "would reflect its determination that the terms are beneficial to the State and worthy of implementation."

Issues around signing a fiscal finding, Márquez said in response, "are premised on an incorrect reading of the statutory language. The SGDA authorizes the Commissioner of Revenue, not the Commissioner of Natural Resources, to make preliminary findings."

On whether a contract can be based on future changes to statute, Márquez said the need for amendments to the stranded gas act "became clear early in the negotiation process." The act does not contemplate state ownership in the gas pipeline but once the governor made that determination, "identifying what statutory amendments would be necessary to achieve that goal is neither unlawful nor improper..." And outside the stranded gas act, both the governor and departments have "broad authority ... to consider and propose changes in state tax and royalty regimes."

As to the adequacy of proposed draft findings, Márquez said the stranded gas act does not require the commissioner of Revenue to "include a quantitative evaluation of the alternatives such as those embodied in the other applications submitted." And, he said, the stranded gas act gives authority to the administration "to decide which proposed project best promises the development of a gas pipeline and to negotiate a complete package of terms to achieve that goal ... (and) does not require the Administration to negotiate with all applicants."

As to whether proposed contract terms "materially conflict with the obligation of an oil and gas lessee" under existing leases or unit agreements, the Legislature can determine whether a conflict exists and suggest an amendment to the contract or amend the act.

On taking royalty gas in-kind, Márquez said "these issues involve complex economic, commercial, and ultimately political judgments. Other officials and experts differ with your opinion on these important questions," he said and noted that officials "have continually had a vigorous and healthy debate on all of these issues. This debate will continue if and when a proposed contract is submitted to the public, and it can be resolved by an act of the Legislature." ●

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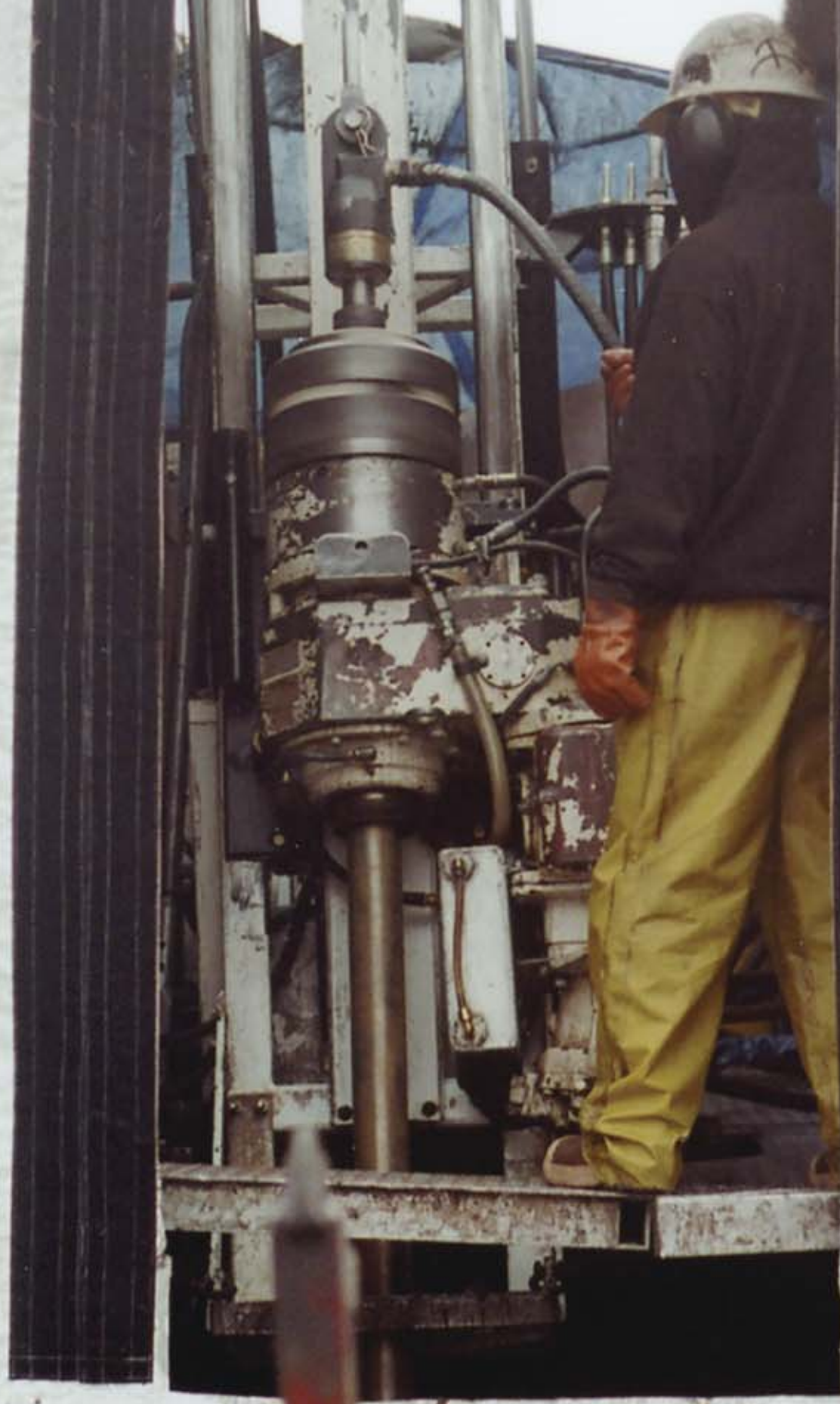


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NORTH OF 60 MINING NEWS



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A DRILLING TECHNICIAN PUTS IN A DAY'S WORK AT
THE PEBBLE PROJECT IN SOUTHWEST ALASKA

PHOTO BY STEVE SUTHERLIN

A special supplement to *Petroleum News*

WEEK OF
October 30, 2005

Petroleum
news

• J U N E A U

Big guns come out to defend Kensington

If mediation fails, Alaska hopes court will accept application to intervene in environmentalists' lawsuit against Juneau gold project

By SARAH HURST

Mining News Editor

Coeur d'Alene's Kensington gold mine near Juneau will generate \$1.9 million in mining license taxes, \$3.4 million in corporate income taxes and \$6.3 million in local property taxes over its 10-year life, the State of Alaska estimates in its motion to intervene in federal litigation over one of the project's permits. The Southeast Alaska Conservation Council, the Sierra Club and Lynn Canal Conservation filed the lawsuit against the U.S. Army Corps of Engineers and the U.S. Forest Service.

The environmentalists object to Coeur Alaska's plan to dump mine tailings into Lower Slate Lake, approved by the Corps of Engineers in their lake discharge permit. They contend that the permit violates the Clean Water Act. Juneau Mayor Bruce Botelho has invited former Alaska Attorney General Av Gross to assist in mediation with the environmental groups, which was due to begin Oct. 20.

"As a result of the diligent and exhaustive work done by the Corps of Engineers and Forest Service, as well as other federal and state agencies, we believe the Kensington project is a model of sound environmental mining practices," Kensington General Manager Tim Arnold wrote in a public message. "The project has gone through an extensive and thorough environmental review and the agencies have complied with all laws and regulations in issuing their permits."



BOB LOEFFLER



ED FOGELS

Kensington Mine dispute headed to court

A dispute involving the Kensington Mine under development near Juneau, Alaska, is headed for court after mediation failed. (See adjacent story)

Mayor Bruce Botelho said he expects a motion to be made at the Oct. 24 Juneau Assembly meeting to involve the city in the lawsuit.

Rather than dispatching an attorney, filing a friend-of-the-court brief in support of the mine may be more appropriate, Botelho said.

Intervening would commit the city to being a party in the lawsuit. But Botelho said if the city went that route, it would likely have little to contribute to the large effort. U.S. Department of Justice and Alaska Department of Law attorneys already are working the case.

"The courts don't decide cases on the basis of how many lawyers are involved," said Botelho, also a former state attorney general.

Russell Heath, executive director of the Southeast Alaska Conservation Council, said his staff will decide soon whether to proceed with a preliminary injunction or an expedited briefing schedule.

"We are going to do whatever we can to move this forward as fast as possible," Heath said.

In the meantime, Coeur officials said the company will continue to develop the mine as planned. The mine has been fully permitted by state and federal agencies.

"If done right, I believe we can have both a mine and clean water," Heath said.

Plaintiffs say the Coeur is not interested in the dry stacking method because it's too costly. But Luke Russell, director of environmental affairs for Coeur d'Alene Mines, said the company's reasons for not pursuing the above-ground method go beyond economics.

Dumping the rocks on wetlands would have more of an adverse environmental effect than depositing the waste into the lake, Russell said. Also, the method would burn more energy.

Dry stacking was reviewed during the permitting process, and state and federal agencies chose the lake as the best solution, Russell said.

Fogels: environmentalists looking for national precedent

The environmental organizations are hoping to set a national precedent, Fogels believes. If the lawsuit were to succeed, it would lead to a slippery slope where the definition of a lake would also be questioned, and prohibitions might also extend to wetlands. "We're hopeful that common sense will prevail," Fogels added.

Neil MacKinnon of Hyak Mining Co. in Juneau, which owns the Jualin mine adjacent to Kensington and has leased it to Coeur Alaska, was less restrained in his opinion of the environmentalists. "They are doing jihad against the mine," he said. "The chemical signature of the tailings that we're putting in there (Slate Lake) is better than the water that exists. I'm concerned about the perversion of Alaska politics by nongovernmental and environmental organizations that are financed by outside foundations."

Marquez: injunction would affect mine permitting

"If an injunction were to issue in this case, it would have direct, adverse effects on the state's ability to permit not only the Kensington mine, but other mine projects in the state," Attorney General David Marquez argues in the state's motion to intervene, filed Oct. 12. "Such injunction would result in significant economic losses to not only the public purse, but to the socio-economic well-being of communities and citizens affected by the mine projects. Further, an injunction would likely adversely affect and interfere with the state's statutory and regulatory duties in responsibly managing development of the state's natural resources in a way that meets applicable environmental requirements."

The Kensington project would probably be shut down before producing any gold in the event of an injunction, jeopardizing the state's economic interest in the form of taxes, jobs and more diversified local economies, Marquez continues. The interests of the federal agencies — the Corps of Engineers and the Forest Service — are not identical to those of the state, so the state should be allowed to represent its own interests, he added. "No other party could bring to this lawsuit the perspective of the state seeking to establish and preserve a stable permitting framework within which mining can proceed in Alaska," the motion says.

Juneau would also be affected

The motion was accompanied by supporting declarations from state employees Rich Hughes, Bob Loeffler and Dan Easton. Hughes, a development specialist with the Office of Mineral Development in the Department of Commerce, Community and Economic Development, gave details of the taxes and other revenues that the mining industry contributes to the State of Alaska, as well as those that the Kensington project is expected to contribute. He points out Coeur Alaska will purchase supplies within the municipality of Juneau and pay a 5 percent sales tax on the purchases, although the volume and value of supplies cannot be assessed accurately at present.

"In my experience and professional opinion, the permitting of any large mine in Alaska requires both close coordination, and a common understanding of the legal requirements, between all federal and state agencies with jurisdiction over the proposed operations," Bob Loeffler, director of DNR's Division of Mining, Land and Water, wrote in his declaration. "Without this, evaluating the environmental issues associated with these large mines and

see KENSINGTON page 5

Coeur welcomes intervention by State of Alaska

Arnold welcomed Gov. Frank Murkowski's decision that the state should intervene in the lawsuit. Idaho-based Coeur d'Alene has also asked to intervene, the company's vice president for environmental services, Luke Russell, told Mining News. "We want to make sure all the facts are brought before the court," Russell said. "We're very disappointed with the lawsuit after all the effort that the agencies and the company had made. At the moment we're continuing to construct the project on our schedule, but the lawsuit is diverting resources that would be better spent on the project."

Construction of the Kensington mine began this summer; it is due to go into production in January 2007. The lawsuit is a threat to other mining projects, too, Ed Fogels, large mine projects permitting manager at the state's Department of Natural Resources, told Mining News. Mining waste should not be treated differently than other fills, he said: regulators look at the chemistry and figure out the environmental impacts. "I don't think you can make a blanket statement that you can never put anything into a lake. You have to take it case by case," Fogels said. "The Kensington tailings are about as clean as mine tailings can get."



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Jason Devlin, Instrumentation & Controls Engineer / VECO Alaska

L N O R T H A M E R I C A

Canadians dominate Alaska mining scene

Next-door neighbor's expertise combines with state's abundant minerals resources to create enduring marriage; is main investor

By ROSE RAGSDALE

Mining News Contributing Writer

It's widely understood that Canada is Alaska's third-largest market with exports of \$242 million in 2004.

But our next-door neighbor is an even bigger source of goods and services imported to the state, \$289 million last year.

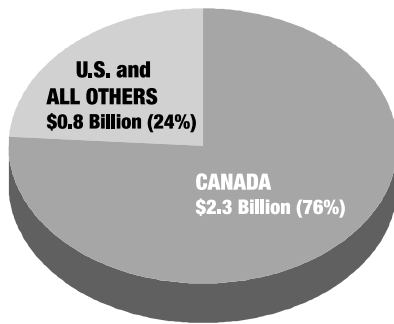
That's right. Canada accounted for 2,600 direct jobs in Alaska in 2004, while direct and indirect employment generated by Canadian enterprises totaled 7,500 positions in the state with a \$330 million payroll.

These are among findings of a new report, "Canada's Impact on Alaska," prepared for the Consulate of Canada by the McDowell Group Inc. of Juneau.

Canadian companies invest millions in oil and gas exploration, transportation, manufacturing, seafood processing, retail and tourism businesses. These ventures range from exploring the Arctic for oil and gas to crafting cold-weather products for Alaska markets to bringing nearly 1 million visitors to the state.

Alaska exports to Canada also create jobs in commercial fishing (22 percent), seafood processing (13 percent), oil and gas (4 percent), manufacturing (3 percent) and other sectors (11 percent).

Investment in Alaska's Mining Industry, 1981-2004



COURTESY CONSULATE OF CANADA

But nearly half (47 percent), of the state's exports to Canada come from the mining sector. In fact, Canada is Alaska's main source of mining investment, accounting for 76 percent of exploration and development spending in the state's mineral industry.

Between 1981 and 2004, Canadian companies spent a total of \$2.3 billion on mining exploration and development in Alaska. In 2004 alone, 27 Canadian companies sank \$156 million into more than 40 mining projects across Alaska.

Global leader in mining

"I'm not surprised. Canada is the leading investor in mining ventures in the world," said Steve Borell, executive director of the Alaska Mining Association.

"Canada has the history, tradition and understanding of mining in the investment community like no other place in the world."

Indeed. Mining in Alaska and Canada have been linked since the Klondike Gold Rush that began in the 1890s. Today, all of Alaska's major mines and mine projects have key Canadian investors and/or operators.

Red Dog Mine, the world's largest zinc mine, for example, is owned and operated by Vancouver, B.C. -based Teck Cominco. Red Dog has 480 year-round workers and pays nearly \$46 million in annual wages.

Likewise, Toronto-based Kinross Gold operates the 411-employee Fort Knox gold mine near Fairbanks.

Alaska's top mine projects, Pogo gold, Donlin Creek gold, Rock Creek gold and Pebble copper and gold, all boast Canadian developers. Teck Cominco will start up Pogo early next years with 250 workers, while Pacer Dome and NovaGold, both of Vancouver, B.C. are working to develop the 27.8-million-ounce resource at Donlin Creek.

NovaGold is also moving closer to mining the 1 million ounces of gold at Rock Creek near Nome. Another Vancouver, B.C.-based junior mining company, Northern Dynasty Minerals Ltd. is pursuing the estimated 26.5 million ounces of gold and 16.5 billion pounds of copper as well as silver and molybdenum at Pebble near Iliamna on the Alaska Peninsula.

Because of Canada's dominance in mining ventures worldwide and the considerable expertise of Canadian mining companies, Borell said the major participation of Canadians in Alaska mine project is a real benefit to the state.

"Considering all of the unrest in Third World countries, there are advantages to investing in Alaska for the Canadians such as a common culture and the same language," he said. "We welcome them. The Canadians also provide the investment money. It's an important part of the mineral industry in Alaska. Without it, it would be a sad day indeed."

The full report on Canada's impact on Alaska can be accessed at www.anchorage.gc.ca. ●

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North of 60 Mining News is a monthly supplement of the weekly newspaper, Petroleum News. It will be published in the fourth or fifth week of every month.

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• NORTH AMERICA

Teck Cominco resolves smelter strike

Management expresses hope that fences can be mended after dispute that held up zinc concentrate from Alaska's Red Dog mine

By SARAH HURST
Mining News Editor

A strike at Teck Cominco's Trail smelter that left zinc concentrate from Red Dog mine stockpiled in Vancouver has ended after almost three months. Trail, in southeast British Columbia, is one of the world's largest fully integrated zinc and lead smelting and refining complexes. It closed in mid-July because of the strike by United Steelworkers. Senior Teck Cominco managers discussed this and other issues at an investors and analysts' day in Vancouver Sept. 26.

Two local unions of the United Steelworkers, representing 1,140 smelter workers and more than 170 office and technical employees, were striking for a larger share of Teck Cominco's record profits. The smelter is vital to the economy of the city of Trail, which has a population of about 7,575. "A strike in a small town is always a large concern, with management and union having to live together and work together in a relatively small space," Teck Cominco's senior vice president for marketing and refining, Roger Brain, said at the investors' day.

"I think what we have offered financially is attractive to get this settled and hopefully that will happen over the next few weeks, but I think both sides will have a job ahead of them to repair some of the damage that has been done and



Red Dog mine in Alaska's Arctic is the world's largest zinc mine.

some of the things that get said during a difficult negotiation," Brain said. "So it will be a top priority for us and it will be a challenge in the short run."

Agreement ratified Oct. 5

The collective agreement at Trail, ratified Oct. 5, provides for wage increases of 10 percent, a 12-percent improvement in the basic pension, enhancements to a number of benefits and a C\$3,500 cash payment.

Trail produces 23 different metal and chemical products and accounts for 4 percent of the western world's zinc production, according to Brain. Red Dog mine in Alaska's Arctic is the world's largest zinc mine. About one-third of the zinc concen-

trate from Red Dog goes to Trail, with the remainder sent to smelters in Japan, Korea and Europe.

China is now the world's largest consumer of zinc, which is used to galvanize steel, Brain said. China has become a net metal importer and its demand for copper is also growing. Teck Cominco announced Sept. 23 that it would proceed with a plan to extend the mine life of the Highland Valley Copper mine near Kamloops in central British Columbia by approximately five years to September 2013.

Highland Valley mine to be extended

The new plan involves the release of additional ore from the Lornex pit and the

relocation of two in-pit crushers in the Valley pit, together with a push-back of the Valley pit wall to release 174 million tonnes of additional ore. Copper concentrate production over the remaining mine life is expected to average approximately 400,000 tonnes per year. Molybdenum production is expected to range from 3 million to 8 million tonnes per year, averaging 4.4 million pounds over the remaining mine life.

Teck Cominco is a diversified company, executives stressed, and the importance of gold should not be underestimated. Mike Lipkevich, senior vice president for mining, gave some details about the processes to be used at Pogo gold mine in Interior Alaska when it begins operations early next year. A refurbished SAG mill and ball mill will be used to crush the ore. About 60 percent of the gold will be recovered by gravity and go directly to bullion, Lipkevich said. The remaining 40 percent will be recovered by flotation and will be cyanided before it is converted into bullion.

No cyanided tailings will be dry stacked on the surface, Lipkevich said. The tailings that are produced from cyanidation, along with about 10 percent of the total ore, will be used for paste backfill underground. This means that cement will be added to the tailings to form a paste, which will be pumped underground to provide support for mining. ●

continued from page 2

KENSINGTON

deciding on permitting issues would be at best inefficient, and at worst impossible."

Dan Easton, deputy commissioner of the Department of Environmental Conservation, reiterated the same point. "In accordance with Section 401(a) of the federal Clean Water Act and Alaska law, DEC had primary responsibility for reviewing and certifying that the Corps' proposed Section 404 dredge and fill permit for the project's tailings storage facility (TSF) complied with applicable state requirements," he wrote. "DEC also had primary responsibility for reviewing and certifying that the U.S. Environmental Protection Agency's Section 402 permit for discharges from the TSF to East Fork Slate

Creek complied with applicable state requirements."

Support, opposition from residents

Some residents of southeast Alaska have expressed their opposition to the Kensington project, but it also has support from the local community. The Chilkoot Indian Association of Haines is keen for the mine to be developed, according to a letter from Bill Thomas in the Juneau Empire. "Upon detailed review of the environmental impact statement, the tribe is fully satisfied that the mine's construction and operator are in accord with the spirit of stewardship of the land," Thomas wrote. "On the other hand, SEACC and co-plaintiffs seem to be intent on halting any form of significant economic vitality in the region."

More than 50 percent of the adult

members of the Chilkoot Tribe are unemployed, Thomas added. "We cherish the thought of good jobs in our area," he wrote. "In fact, it was our area long before SEACC came to be. We as a tribe, who are part of and one with the land, do not object to the Kensington mine." Rep. Bruce Weyhrauch, R-Juneau, also supports the state's intervention in the lawsuit. "This is not a trade-off between good jobs and/or negative environmental impacts," he said in a release Oct. 4. "This mine can be developed in an environmentally responsible manner and at the same time greatly contribute to our communities."

Coeur Alaska has reported three minor spills to the state since construction of the mine began. In August two to three ounces of kerosene spilled at Comet Beach, in September about two gallons

of diesel spilled into Slate Creek Cove, and in October a core drill fell onto the beach from a forklift and spilled 2.5-3 gallons of hydraulic fluid at Slate Creek Cove. None of the spills were serious enough to trigger penalties.

The state's commitment to the Kensington project was further reinforced by the announcement in late September that the Department of Transportation and Public Facilities would pay for a 4.9-mile access road for the mine from Slate Creek Cove to the mill site on the west side of Berners Bay. DOT hopes the road will cost no more than \$1.1 million. The state also paid almost \$1 million for a 2.5-mile road to transport Kensington workers from the current north end of the Juneau road system to a ferry terminal at Cascade Point. ●

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• COLUMN

Mining news update from Curt Freeman: Discoveries reported, some properties rediscovered

With summer field results rolling in, and gold pushing \$475 per ounce, many companies are already contracting for 2006 work

As expected, results from the summer field programs have begun to roll in from all over the state. Discoveries from base and precious metals properties were reported in September and several properties previously explored in the Carter administration were rediscovered and are turning out promising results. Metals prices remain robust with gold pushing the \$475 per ounce mark. While Alaska's mining industry is still trying to catch its breath from this year, many companies already are planning their 2006 campaigns and are locking up personnel, drills and helicopters now, rather than wait until early next year when picking will be slim. The annual Alaska Miners Association convention will be held in early November in Anchorage and promises to showcase mining industry exploration, development and production activities for 2005.

Western Alaska

NOVAGOLD RESOURCES announced an update of their activities at the Rock Creek and Big Hurrah projects near Nome. Permitting is progressing on a schedule to receive the final permits necessary to start construction in the first half of 2006 while a construction decision is anticipated in first half of 2006.

The Rock Creek mine will be developed as a 7,000 tonne per day year-around, conventional open pit operation producing approximately 100,000 ounces of gold per year at estimated total cash costs of \$250-\$275 per ounce. Capital costs are estimated at between \$55 million and \$60 million. Test work has shown favorable metallurgy with more than 75 percent of the gold recoverable using gravity methods. When combined with flotation and cyanidation overall gold recovery is anticipated to be in excess of 90 percent with gold doré poured on-site. The Rock Creek deposit is defined by 43,000 meters of drilling in 516 core and rotary holes.

As part of the final mine plan, additional material from the Big Hurrah property will also be processed at the Rock Creek facility. Integrating the material from Big Hurrah has the potential to enhance the overall economics of the project.

Based on drilling the company is targeting the potential to define an initial mineralized zone at Big Hurrah that could contain 150,000 to 200,000 ounces of gold grading between 5 to 7 grams of gold per tonne beginning at surface. NovaGold's drilling in 2004 and 2005 at Big Hurrah was designed to confirm historic work and form the basis for a new resource estimate on the property. That drilling included nearly 17,750 meters (58,200 feet) in 292 core and rotary holes. A resource estimate is anticipated to be completed at Big Hurrah in the fourth quarter of 2005 for inclusion in the Rock Creek final mine plan.

Alaska newcomer **TRIEX MINERALS CORP.** has entered into an option agreement on **FULL METAL MINERALS'** Boulder Creek uranium project 160 kilometers northeast of Nome. Triex has the right to earn an initial 65 percent interest in the property by making an initial cash payment of \$75,000, completing \$1.5 million in exploration expenditures over four years and issuing up to 200,000 shares of its stock to Full Metal. Triex will have the

The author

The author Curt Freeman, CPG #6901, is a well-known geologist who lives in Fairbanks. He prepared this column Sept. 30. Freeman can be reached by mail at P.O. Box 80268, Fairbanks, AK 99708. His work phone number at Avalon Development is (907) 457-5159 and his fax is (907) 455-8069. His email is avalon@alaska.net and his web site is www.avalonalaska.com.



CURT FREEMAN

right to acquire an additional 15 percent interest in the property by issuing an additional 300,000 shares and incurring an additional \$1 million in expenditures on or before April 1, 2010.

Uranium mineralization is hosted within Tertiary-aged sandstone peripheral to a Late Cretaceous alkalic quartz monzonite intrusion. Exploration drilling between 1979 and 1981 outlined a resource of 1 million pounds of U3O8. The deposit is not fully defined and is open along strike and at depth. The average grade of the resource was reported to be 0.27 percent U3O8 and average thickness is 3 meters within a deposit area of approximately 1,000 meters long by 100 meters wide. Depths of mineralization range from surface to 120 meters.

Mapping, prospecting, grid-based soil sampling and biogeochemistry has been completed in 2005. The objective of this work is to define drill targets for the 2006 program which will focus on resource expansion via in-fill drilling to further delineate the deposit, as well as drilling along-strike to test for deposit extensions and new zones. Welcome to Alaska Triex Minerals!

NORTHERN DYNASTY MINERALS LTD announced initial results from a new discovery at its Pebble deposit near Iliamna. Core hole 5327 intercepted 2,619

feet grading 0.87 percent copper, 0.70 grams of gold per tonne and 0.028 percent molybdenum (1.45 percent copper equivalent). Included in this intersection are intervals of 605 feet grading 0.90 percent copper, 1.06 grams of gold per tonne and 0.013 percent molybdenum (1.60 percent copper equivalent) and 290 feet grading 1.08 percent copper, 1.30 grams of gold per tonne and 0.029 percent molybdenum (2.00 percent copper equivalent). Hole 5327 was drilled towards the east at a dip of 65 degrees and entered the new mineralized system at a vertical depth of 1,500 feet below surface.

The mid-point of this intercept is located 2,000 feet east of the main Pebble deposit where recent drilling has encountered the western edge of a previously undetected granodiorite intrusive known as the East Stock. Most of the holes in the East Stock are completely in the granodiorite stock below a cover of post-mineral Tertiary volcanic and sedimentary rocks. Mineralization in the East Stock extends to a much greater depth than has been drilled to the west and is continuous in most drill holes over their entire lengths below the barren Tertiary cover. The geology of these eastern holes exhibits strong potassic alteration, abundant polyphase quartz and quartz-sulfide veins, a high chalcopyrite to pyrite ratio (1:1) and abundant disseminated and vein sulfide mineralization. Mineralization in the East Stock remains open to the east, south, and north and at depth. Additional assays are pending from the project.

LIBERTY STAR GOLD CORP. announced on-going results from its Big Chunk copper-gold prospect near Iliamna. Mid-way through the season the company had completed 60 line miles of induced polarization geophysical surveys and collected 1,175 vegetation samples on 600-foot intervals over 146 miles of grid. The company has completed 5,857 feet of diamond core drilling in 15 holes.

Drilling results returned visible copper and some molybdenite-bearing intervals,

along with porphyry intrusive rocks and porphyry style alteration zones. Results are pending.

The company also announced that it had acquired an additional 476 Alaska state mining claims covering approximately 119 square miles bringing the project claim block to 1,718 Alaska state mining claims covering 421 square miles.

NOVAGOLD RESOURCES said diamond drilling has begun on its Khotol silver project 60 miles southwest of Galena. The company is planning a 1,200 meter drilling program to test high-grade silver and base metal mineralization at two areas that are defined by coincident elevated soil geochemistry and induced polarization chargeability and gravity geophysical anomalies.

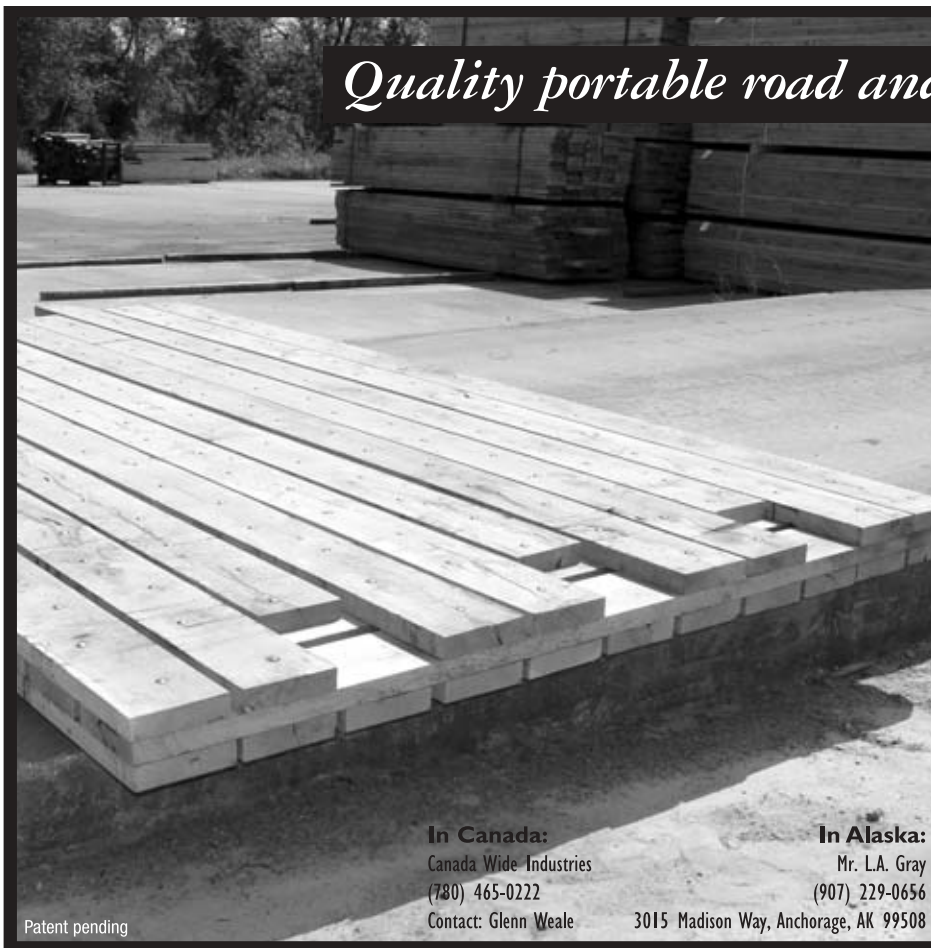
Mineralization occurs as high-grade disseminated to massive sulfide replacements along a regional dolomitic limestone-quartzite contact. Shallow holes drilled by the **ANACONDA MINING CO.** in the early 1980s in a 400 by 400 meter area include hole WP83-006 which intersected 32.0 meters grading 444 grams silver per tonne, 25.9 percent lead and 2.8 percent zinc from 24.1 meters to 56.1 meters depth, hole WP84-027 which intersected 20.1 meters grading 339 grams silver per tonne, 5.3 percent lead and 3.4 percent zinc from 107.3 to 127.4 meters depth and hole WP84-031 which intersected 11.9 meters grading 259 grams silver per tonne, 9.0 percent lead and 11.0 percent zinc from 124.4 to 136.3 meters depth. Mineralization remains open for expansion in all directions.

GEOCOM RESOURCES INC. has initiated drilling at its D claims area of the Iliamna project. The company plans to drill a minimum of two 250-meter core holes in order to accomplish its earn-in on the D claims. Additional holes will be drilled, dependent upon initial results and weather.

The size, strength, and disposition of the D claims geophysical anomaly combined with the copper and gold mineralization

see FREEMAN page 6

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Patent pending

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FREEMAN

discovered at the H claims in previous drill programs indicates a strong potential for the discovery of porphyry-style copper-gold mineralization.

TONOGOLD RESOURCES INC.

released initial results from its Nyac gold project in southwest Alaska. Data from approximately two-thirds of the 3,000 soil and 200 rock samples collected revealed anomalous gold and pathfinder elements within a six square mile area of the property. High gold in soil values ranged from 2.46 to 4.2 parts per million, along with four other samples between 1.0 and 1.8 parts per million gold and 10 additional samples between 0.5 and 1.0 parts per million gold.

Assay data revealed six areas of anomalous gold. Five of these prospects; Bonanza Ridge, Rocky Ridge, Shamrock Head, Pipe and Wallace, are within a five square mile area while the sixth prospect, Rainbow Peak, 2 miles to the northeast, covers an area of about 1 square mile.

All six prospects identified in 2005 have soil that assays over 0.5 parts per million gold and multiple returns over 1.0 parts per million. The Bonanza Ridge Prospect shows the largest and most continuous enrichment with a gold zone, defined by surface soil samples above 0.1 parts per million, over a 300 acre area.

Mineralization is hosted in altered volcanic rocks intruded by intrusive rocks which are cut by gold-bearing veins, veinlets, shears, faults and dikes. Gold is associated with highly anomalous bismuth. Gold is spatially associated with widespread sericite-chlorite-carbonate alteration and associated quartz-chlorite-calcite veins and veinlets containing pyrite, chalcopyrite, bismuthinite, molybdenite and native gold.

Eastern Interior

SELECT RESOURCES CORP.

announced initial results from its Shorty Creek copper-gold property near Livengood. The company recently completed a top-of-bedrock soil auger sampling program covering a 2.3 square kilometer portion of the project where past exploration efforts had discovered highly anomalous gold and copper mineralization. A total of 566 soil samples were collected on a 25 meter by 100 meter grid.

Initial results from 222 of these soil samples from the southern portion of the grid have returned highly anomalous gold, silver, arsenic, bismuth, antimony, tellurium and tungsten values. Anomalous gold and pathfinder elements from this grid cover an

area measuring 1,700 meters NE-SW by 900 meters NW-SE. Gold, arsenic and bismuth values are highly anomalous over the entire area of the grid from which samples have been received. Additional results are pending.

Select Resources also said it is planning to drill its Richardson gold property near Delta Junction. The program anticipates a total of several thousand feet of diamond core drilling in three or more core holes to evaluate potential gold mineralization at the Democrat Prospect and related prospective areas. Drilling will be focused along a structural zone that is interpreted as a favorable conduit for gold-mineralizing fluids. The Democrat prospect is one target along this zone for which previous drilling identified gold mineralization hosted in intrusive rocks.

CANACO RESOURCES announced results from Phase I exploration at its Hajdukovich property in the central Alaska Range. The Sneaker zone is the most advanced exploration target at Hajdukovich and is defined by several occurrences of visible gold in sheeted quartz veins which occur over a minimum 600-meter by 900-meter area. Surface sampling, mapping and prospecting at the Sneaker Zone in 2005 has confirmed the presence of high grade gold values from mineralized quartz veins, expanded the area of prospective mineralization, and identified extensions to known zones.

A total of 212 bedrock samples were collected from the Sneaker Zone of which 51, or 24 percent, assayed greater than 1.0 grams of gold per tonne and returned a high value of 122 grams of gold per tonne. While most of the gold values are attributed to veins, gold has now been identified in altered and brecciated granites and stockwork zones within the host rock to the sheeted vein systems. Three holes totaling 462 meters were drilled at the Sneaker zone however, none of these holes reached their targeted depths due to technical difficulties relating to the drill. As a result, the high-grade gold-bismuth mineralization identified at surface remains untested by drilling.

Potentially significant copper mineralization has been returned from the UPEG Saddle Zone where altered granites with disseminated sulfide mineralization returned values ranging from anomalous to 2.05 percent copper and 75 grams silver per tonne. Prospecting and sampling completed in the PW area returned bedrock gold values from silica altered schist and massive sulfide lenses ranging from 2.1 to 8.6 grams of gold per tonne and a single sample from a quartz vein grading 50.7 grams of gold per tonne. These results are indica-

tive of a prospective mineralizing system and, in response, Canaco has acquired additional ground in this area through the staking of 38 claims covering a total of 5,120 acres.

Alaska Range

NEVADA STAR RESOURCE CORP.

and joint venture partner ANGLO AMERICAN EXPLORATION (USA) announced results from the MAN Alaska copper-nickel-platinum group element project in the central Alaska Range. Diamond drilling consisted of 2,220 meters in eight diamond drill holes. It tested geophysical, geochemical and geological anomalies near exposures of sulfide showings and sulfide gossans within the Fish Lake ultramafic complex. Six of the eight holes were surveyed by down-hole electromagnetics.

Drill hole 8 was drilled to test strong multi-element geochemical anomalies associated with a sulfide gossan (1 kilometer long by 150 meters wide) in the centre of an embayment feature along the base of the Fish Lake Complex. The drill hole encountered massive iron-nickel-copper sulfide mineralization within ultramafic rock approximately 70 meters above the basal contact. Assay results include 0.97 percent nickel, 0.14 percent copper over 1 meter, including 3.22 percent nickel and 0.38 percent copper over 22 centimeters from 150 meters depth and a 2 centimeter thick massive sulfide zone calculated to contain 12 percent nickel. Drill hole 6 was drilled to test strong multi-element geochemical anomalies at the west end of the embayment feature tested by drill hole 8. Assay results include 0.27 percent nickel and 0.06 percent copper over 12 meters from 358 meters, including 0.39 percent nickel and 0.05 percent copper over 1.5 meters.

Drill hole 1 was drilled in the footwall to the Tres Equis massive sulfide showing (6.7 percent nickel, 1.0 percent copper, 1.5 grams platinum group elements per tonne) and encountered disseminated sulfide mineralization. Results include 0.31 percent nickel, 0.14 percent copper and 0.2 grams platinum group elements per tonne over 33 meters from 103 meters depth, including 0.50 percent nickel, 0.23 percent copper and 0.4 grams platinum group elements per tonne over 2 meters.

Results suggest the presence of several kilometer-scale zones of weak disseminated sulfide mineralization within the Fish Lake Complex. This low-grade mineralization could provide a vector to structural traps within which higher grade massive sulfide deposits may have formed.

In August the companies completed a follow-up program consisting of ground electromagnetics, ground magnetics, soil geochemical and geological surveys. This work was completed in order to develop and refine targets for an anticipated spring 2006 drill program

PIPER CAPITAL INC. announced that Hidefield Gold plc has elected to exercise its option to acquire up to 50 percent of the company's interest in the Golden Zone gold project in the Alaska Range. Piper currently has a 58.12 percent interest in the project and is in the process of increasing that interest to 75 percent by a combination of exploration expenditures, share issuances and cash payments. The Golden Zone mineral showings occur in fault-bounded northeast-trending zones of hydrothermal alteration associated with Cretaceous alkalic granitic rocks. The property also hosts a large number of untested or partially tested gold and gold-copper prospects.

FULL METAL MINERALS announced that assay results from seven drill holes (920 meters) at its Lucky Shot mine project in Southcentral Alaska have discovered an additional high-grade extension to historic mineralization. The Lucky Shot mine was

the largest historic gold producer in the Willow Creek mining district with reported production of 250,000 ounces of gold recovered from 1921 to 1940 at an average grade of 1.48 ounces per ton.

Drill hole C05-12 encountered 219.06 grams of gold per tonne over a 4.0 meters true width (uncut), including 1,267.52 grams of gold per tonne over a 0.66 meter true width. Hole C05-12 is a 50 meter step-out hole to the west of hole C05-09, which intersected 3.05 meters true width averaging 62.23 grams of gold per tonne. Both intersections occur approximately 200 meters up-dip from historic underground workings. All drill holes intersected the Lucky Shot shear, which is typified by strong chlorite-sericite-carbonate alteration, brecciation and silicified cataclases. Mineralization remains open for expansion to the west and south.

The company also completed surface sampling on additional mineralized structures on the property during the 2005 program. A single grab sample of mineralized material from an old dump at the Nippon Vein six kilometers east of Lucky Shot averaged 56.6 grams of gold per tonne. A channel sample within a steeply dipping fault zone south of the Nippon Vein averaged 2.69 grams of gold per tonne over 6.1 meters.

The company is planning a drill program in 2006 to fully delineate the Lucky Shot vein and complete a resource estimation for the deposit. Other targets on the property targeted for drilling in 2006 include the Nippon Vein, the Gold Bullion Shear, the Hope Vein, the DeWitt Vein and the Gold Top Vein.

Southeastern Alaska


QUATERRA RESOURCES announced that drilling had been completed at its Duke Island copper-nickel-platinum group element project near Ketchikan. The program consisted of seven diamond core holes totaling 4,500 feet. Results are pending.

BRAVO VENTURE GROUP announced results from its Woewodski Island project near Petersburg. Two gold trends were explored along the southwestern margin of the island exposing high-grade gold in narrow quartz veins in hand-dug trenches. Vein quartz, often with a distinctive blue color, was found throughout the southern and western parts of the island as rare outcrops near shoreline and as float in linear drainages extending inland.

Mineralized trends are marked by anomalous gold in soils (20 to more than 400 parts per billion), gold in streams sediment (50 to more than 300 parts per billion) and visible gold in float and rare outcrop samples. High-grade quartz float in three separate occurrences extends for over 400 meters up Blue Quartz Creek.

Follow-up hand-trenching at one of these sites (where float samples graded up to 69.5 grams of gold per tonne) revealed two narrow quartz veins containing 0.1 meter of 124 grams of gold per tonne and 0.15 meter of 17.8 grams of gold per tonne. Wallrock between the veins contained 2.75 meters of 0.1 grams of gold per tonne and a grab of wall rock adjacent to the northwest vein contained 0.5 grams of gold per tonne.


Float samples grading from 8.98 to 154.0 grams of gold per tonne are dispersed along a 35 meter section of the stream in the area of the trench. Soil sampling returned a high of 1.82 grams of gold per tonne immediately over the occurrence, while more subdued anomalies (ranging from 45 to 53 parts per billion gold) extend away from the occurrence and may reflect the trend of the veining. Follow-up exploration will include higher density grid-soil sampling, hand trenching at the main occurrences on the trend and ground magnetic geophysics. ●



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• YUKON

Yukon Territory mining exploration heats up

Prospecting rush uncovers mother lode of opportunities in Canada's True North

By ROSE RAGSDALE

Mining News Contributing Writer

Higher prices for precious and base metals, gemstones, coal and other minerals are luring explorers back to the Yukon Territory, and this resurgence in mining activity has government officials grappling with ways to encourage the miners to stay.

The number and variety of mining exploration projects under way this year bodes wells for the territory's future and for government's chances of re-awakening what many call a sleeping giant — Yukon's mining industry.

"Yukon is coming back," says Ivan Jacobsen, a stockbroker at Canaccord Capital in Whitehorse. "For a long time the territory was a 'no-fly zone' to mining companies. But when I first came here in 1975, there were eight mines going. The only one left is North American Tungsten, and it just started up again."

"Things are changing in the Yukon. The South is looking north," says Rob Harvey, general manager of Yukon Engineering Services Inc. "We are on the cusp of an economic explosion, one we expect to last, maybe for decades."

Mining Mecca

Mining activity in Yukon actually predates the arrival of Europeans. First Nations people recovered copper nuggets from the White River area in southwestern Yukon before explorers from the Hudson Bay Co. first reported fine gold on the banks of the Pelly River about 1850. Sporadic gold discoveries ensued until 1896 when prospectors found nugget gold on Rabbit Creek (renamed Bonanza) and set off the fabled Klondike gold rush that brought thousands of treasure seekers to both Yukon and Alaska.

More than 100 years later, mining is still Yukon's bread and butter.

"We see tremendous opportunities for all of us in the Yukon," Premier Dennis Fentie



Project geologist Gilles Dessureau examines mineral-rich ore samples from the Wolverine deposit being developed as the Yukon Zinc-Silver Project in southeast Yukon Territory.

told attendees at the Opportunities North 2005 conference in Whitehorse Sept. 21.

"Exploration in our oil and gas and minerals rich land is rising. This means greater revenues and the creation of new jobs ... We hope to develop sustainable and equitable industries as we go forward."

Fentie envisions his government maintaining the momentum by providing mining incentives, untangling regulatory snarls, training the labor force and using the territory's surplus hydropower to develop new mine projects.

Yukon already has settled its land claims issues with First Nations within its borders. It boasts the lowest mining taxes in Canada

and a 25 percent tax credit on eligible exploration spending. The territory is close to deepwater, ice free ports in Alaska and British Columbia and is planning to expand its power grid, which currently has 20 megawatts of surplus hydropower to sell.

The government is also building and rebuilding transportation infrastructure, including a possible railroad, with the help of funding from Ottawa, and in partnership with Alaska. These projects include mining-enhancement expansion of deepwater ports at Skagway and Haines, and studying construction of an Alaska-Canada rail link as well as the much-publicized Alaska natural gas pipeline project.

Yukon's Slumbering Giant Series

Renewed rush

With demand for base and precious metals on the rise, the territory's potential for mining activity is soaring, says Jim Kenyon, Yukon's Minister of Economic Development. "We're looking for major diversification, not just one big mine but many mines," he explains. "We had one of the biggest zinc operations in the world, the Faro Mine. It went down in late 1996-early 1997. Faro was a town of 2,000, and all of sudden it was down to 150 residents and all of them on welfare. This boom and bust cycle has been our biggest challenge."

Though small potatoes in comparison with Canada's total projected 2005 mining exploration spending of \$1.5 billion, exploration spending in Yukon gives territory officials reason to smile. Some 45 companies committed \$32 million to undertake drilling programs in Yukon this year, of which explorers earmarked \$15 million for advanced exploration in a half-dozen projects. That's a 45 percent jump from exploration spending of \$22 million in 2004 and a 146 percent leap from \$13 million in 2003.

New mining claims staked in Yukon also skyrocketed during the past two years, with 9,061 claims staked in 2004, or nearly triple the 3,571 claims staked the previous year. Overall, total claims in good standing have grown substantially in recent years to nearly 49,000, though they are still below the 1997 peak of about 73,000 claims.

Yukon's latest mining rush is bringing prospectors in search of much more than gold. Zinc, copper, molybdenum, silver, selenium, uranium and even coal are attracting savvy juniors. The action is also drawing a few wise majors, including Kennecott, Newmont, Northgate and Teck-Cominco.

Recent projects have uncovered surprisingly high-grade deposits across the territory in at least 84 areas, 13 of which contain substantial amounts of coal.

About 60 percent of recent investment has gone into gold plays, while 25 percent sought base metals, mainly zinc, copper and lead, and 15 percent went in search of gemstones, primarily emeralds.

Glittering gold

Gold exploration continues to focus on intrusion-related deposits, mainly related to mid-Cretaceous plutons in the Tombstone Gold Belt portion of the Tintina Gold Province, according to government geologists. Though this belt of gold occurrences as a whole is perceived to be at an advanced stage of exploration, the reality is quite the opposite, they say. Only six properties have received more than 5,000 meters of drilling.

Some of the more advanced gold projects include Brewery Creek mine and the Red Mountain project where exploration began in the early 1990s. StrataGold Corp. recently acquired the Dublin Gulch deposit and the Clear Creek property, two advanced properties within the belt that have numer-

see YUKON page 9



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YUKON

ous high-quality exploration targets and potential for resource expansion.

Others have expanded the search for gold in Yukon, looking for various deposit types, such as gold-rich porphyry targets in the Stewart River area south of Dawson and in the Dawson Range Mineral Belt; orogenic gold veins in the White River and surrounding areas and in the Klondike; and epithermal gold-silver mineralization at the Grew Creek deposit near Ross River.

Meanwhile, placer mining remains a vibrant part of the mining sector. More than 16.5 million ounces, or 513 tonnes, of placer gold have been produced to date in Yukon — at today’s prices that would be worth more than \$7 billion.

In 2004, about 500 people worked at 163 small, mostly family-run, placer mines mostly in the Dawson Mining District and together, produced 101,108 crude ounces of gold, or nearly double the sector’s output of 50,888 ounces the previous year.

An upsurge of placer exploration last year stemmed largely from Boulder Mining Corp.’s exploration of a prospect in the Indian River areas south of Dawson City. A total of 795 placer claims in three zones were staked on a 21-kilometer stretch of Indian River and cover 8,300 hectares.

Massive metals

Base-metal exploration also mounted a significant comeback in 2004. The Finlayson Lake Volcanogenic Massive Sulphide District was the focus of renewed exploration after a lull of several years. The largest program in the district was conducted on the Wolverine deposit by Expatriate Resources, which since has changed its name to Yukon Zinc Corp. The company, which is eyeing first production in late 2007, controls more than 725 square kilometers in the Finlayson District, including favorable host rocks for VMS deposits in Kudz Ze Kayah and Thunderstruck (the newest discovery).

“After Kudz Ze Kayah was discovered in 1994, we knew there would be others,” Yukon government geologist Michael Burke told Mining News after a visit to Yukon Zinc’s Wolverine deposit. “These types of deposits don’t occur in isolation. So we went from zero understanding to a very good understanding of the area in a decade.”

The first pass of exploration in the mid-1990s discovered four significant massive sulphide deposits, including Wolverine and Kudz Ze Kayah, totaling more than 20 million tonnes.

Burke said VMS deposits like them typically occur within a 20-kilometer-diameter area, and the Finlayson District is now believed to contain about 100 million tonnes of the mineral-rich ore.

“The deposits are bigger and the grades are better than average, but the real big day will be if a big discovery is found here. It’s a very youthful district so far,” Burke added.

Exploration for colored gemstones, mainly emeralds, is ongoing. True North Gems is conducting bulk sampling, core drilling and prospecting on the Tsa da Glisza project, in the Finlayson Lake District. Several other companies also have joined the hunt for gemstones.

Farther north, explorers are excited about a sedimentary exhalative deposit in the Selwyn Basin, which also extends westward into Alaska and hosts the giant Red Dog mine near Kotzebue. Located in the world-class zinc-lead-silver Howard’s Pass District, the SEDEX deposit is believed to contain a resource of 55 billion pounds of zinc and 20 billion pounds of lead. Yukon geologists say it likely ranks as the largest

Promising mining projects in Canada’s Yukon Territory

Mine	Developer	Location	Target	Project summary
Carmacks Cooper	Western Sliver Corp.	36 km NW/Carmacks 192 km N/Whitehorse	31-32 Mm lbs/yr cathode copper	232 mineral claims covering 4,270 hectares. Access to tidewater at Port of Skagway, Alaska. Feasibility study (1993); mine would employ 90 people. Permitting discussions are under way, awaiting higher copper prices.
Division Mountain	Cash Minerals Ltd.	90 km N-NW/ Whitehorse	1.2 Mm t/yr coal	Indicated reserves of 51 million tonnes of near-surface, high-volatile bituminous coal ideal for thermal power generation used in Asian steel-making industries. A feasibility study is set for completion this fall, followed by marketing and permitting. Estimated startup is late 2007 or early 2008.
Minto	Sherwood Copper Corp.	240 km NW/ Whitehorse	1,723 t/d ore 1.9% Cu; 0.019 oz/t Au; 0.245 oz/t Ag	Indicated resources of 5.2 million tonnes of ore containing 336 million pounds of copper, 140,000 ounces of gold and 2.2 million ounces of silver. Minto is one of the territory’s most advanced mining projects. A development decision is due in early 2006 with production startup set for early 2007.
Skukum	Tagish Lake Gold Corp.	40 km W/Carcross 80 km SW/ Whitehorse	Unspecified amount of gold and silver output	The Skukum gold-silver property covers 1,088 full or fractured quartz claims and three known deposits, containing at least 1.6 Mm tonnes of indicated, measured and inferred resources. Plans under way for a 5-year demonstration project of a low-cost, narrow-hole underground mining operation.
Red Mountain	Tintina Mines Ltd.	80 km NE/ Whitehorse	187.3 Mm tonnes molybdenum, grading 0.167% MoS2	The Red Mountain porphyry molybdenum property has a mineralized zone at least 1,500 m by 425m in area and extends to a depth of 1,125 m. The deposit includes 21.3 Mm tonnes within a high-grade core. Underground exploration is planned.
Wolverine	Yukon Zinc Corp.	130 air-km SE/ Ross River, 237 km NW/Watson Lake	51,500 t/yr zinc; 7 Mm ozs/yr silver; 35,800 ozs/yr gold; 3,500 t/yr copper; 4,800 t/yr lead; 345 t/yr selenium	The Wolverine deposit is a high-grade volcanogenic massive sulphide body est. to contain a 6.2-Mm-tonne resource in two major zones, Wolverine and Lynx, connected by a “saddle” zone. A new resource estimate is due in November and a production decision is due in early 2006.
* Abbreviations: Mm = million; t = tonnes; d = day				Source: Yukon Government and companies listed.



Yukon Minister of Economic Development Jim Kenyon says Canada’s True North is full of mineral resources just waiting to be developed. Here he is touring partially constructed mills at the Minto copper deposit near the Yukon River northwest of Carmacks

mineral deposit of its type in the world. Explorers have drilled less than half of Howard Pass’ favorable strata, suggesting its resource inventory will grow with more drilling, according to Pacific Resources Ltd., a company currently exploring the district. Published estimates indicate the district’s total resource could range up to 1 bil-

lion tonnes. This year, exploration has extended later into the autumn than ever before, Burke says. “One, two, three, four drilling programs are still going on, and Cash Minerals just started a late-season drilling program on one of its uranium targets,” Burke told Mining News Oct. 17. ●

Boosting people power

Economic prospects are on the rise in Yukon Territory as mining activity surges to the highest levels the region has seen in the past five years.

But the 483,450-square-kilometer territory, while long on potential is short on human resources. Fewer than 30,000 people reside in Yukon, an area about one-third the size of Alaska.

“This is a land where there are more moose than people, six caribou for every person and a grizzly bear for every family of five,” says Jim Kenyon, Yukon’s Minister of Economic Development. “But our population is up 12 percent, and Yukon’s capital stock is almost twice the Canadian average. Our disposable income is 37 percent higher than the Canadian average, and business investment is up 22 percent.”

Kenyon says Yukon also boasts a higher labor force participation rate of 76 percent, compared with the Canadian national average of 67 percent.

Now that Yukon has recaptured the interest of the mining industry, keeping it will be the next challenge.

“Yukon’s economic snowball is at the top of a long hill,” says John Murray, president of CH2MHill Canada. “We need to get ready for economic development before it happens. We can avoid the fate of Fort McMurray where the infrastructure was not ready for (tar sands) development.”

Yukon’s mining sector is projected to require a minimum of 1,000 jobs in the next 3-5 years, workers skilled as geologists, geoscientists, engineers, drillers, field assistants, technicians and trades.

The territory also expects to need more than 6,000 workers, from scientists to technicians, when construction of the Alaska gas pipeline gets under way.

The Yukon government aims to meet its labor challenge with education and training for the territory’s residents, especially aboriginal and rural youth, designed to address manpower shortages projected for its mining industry. It has invested more than C\$500,000 this year in the Yukon Mining Exploration Training Trust Fund, which underwrites the cost of a driller helper and resource exploration training program in addition to an initiative to prepare more trainers in mining skills.



• YUKON

Cash Minerals: Advancing on two fronts

Aggressive junior chases Yukon uranium and coal prospects into autumn with work at Lumina and Division Mountain

By ROSE RAGSDALE
Mining News Contributing Writer

Cash Minerals Ltd. launched a 6,000-meter drill program at its Lumina uranium property in the Wernecke Mountains of east-central Yukon Territory earlier in October in response to outstanding results of a summer 2005 exploration program. The summer work confirmed uranium mineralization at Lumina ranging up to 7.67 percent (153.4 pounds per ton) over 1.4 kilometers.

Cash Minerals President and CEO Basil Botha said Oct. 12 the company was so "impressed and enthusiastic" with an average grade of 1.22 percent (24.4 pounds per ton) U3O8 at Jack Flash, the property's main mineral showing, during summer 2005 sampling and radiometric prospecting that it decided to conduct the drill program right away.

A second mineral showing, Ram, 4.5 kilometers north of the Jack Flash showing, is exposed in two trenches 50 meters apart. Chip sampling across this vein by previous owners assayed 0.910 percent (18.2 pounds per ton) U3O8 over 2 meters and 0.615 percent (12.3 pounds per ton) U3O8 over 1 meter. The trenches did not fully expose the width of the vein, and it is open along strike in both directions under overburden, the company said.

"Initial work will focus on the Ram target because of available water, but ultimately numerous targets will be tested, and these of course will include Jack Flash," Botha said.

The Lumina property measures about 20 square kilometers and hosts widespread uranium enriched talus and

Yukon's Slumbering Giant Series



During a visit to the Division Mountain coal deposit Sept. 22, Basil Botha, president and chief executive of Cash Minerals Ltd., explains the potential of his company's coal and uranium prospects in Yukon Territory.

glacially dispersed boulders, the sources of which will be drilled in 2005-2006, the company said.

Cash Minerals is on target to earn up to a 75 percent interest in six uranium properties in the Yukon under option agreements with Twenty-Seven Capital Corp., Botha said.

He said Lumina and Igor, two of the company's most promising uranium properties in Yukon Territory, "are not dissimilar" to the uranium-rich Athabasca Basin in Saskatchewan.

Coal bonanza

Cash Minerals is also developing a massive coal deposit about one and a half hours northwest of

Whitehorse. The main area of exploration, Division Mountain, is about 20 kilometers west of the Klondike Highway at Braeburn and near the territory's power grid.

Botha said the company drilled five holes this year to bring 13 million tons of resource into the measured category at Division Mountain, resulting in total measure resources of 51 million tons of bituminous low-ash, low carbon coal in the 100 percent-owned deposit.

Most of the area of detailed exploration at Division Mountain lies within five coal leases which grant mining rights for a renewable 21-year term. In addition the company owns 22 Territorial Coal Exploration Licenses encompassing about 360,000 hectares of coal-bearing stratigraphy in the Division Mountain area.

"When we drilled the southernmost hole, we encountered 87 feet of coal down 180 meters, so we believe there's coal under this entire mountain," he said during a visit to the deposit Sept. 22.

Cash Minerals plans to complete a feasibility study this month or in early November for an open pit mining operation at Division Mountain in which it would extract 1.2 million tons of coal a year for export to steel manufacturers in Pacific Rim markets.

"We would move along strike and rehabilitate the land as we go," Botha said. "We would have an open pit of about 1,000 meters and backfill as we go."

Estimated startup for the mine is late 2007 or early 2008.

The company is also working with the Yukon and Alaska governments to arrange hauling the coal to the Port of Skagway to be loaded onto barges and shipped to Asia.

Botha said Cash Minerals is also considering the possibility of providing coal for a coal gasification plant. "It's early days yet, but we've been offered to become involved in a project," he said.

It takes a 3:1 ratio of coal to produce oil, he added. ●

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• S O U T H W E S T A L A S K A

Phenomenal rocks at Pebble

Quality of Northern Dynasty's Southwest Alaska copper/gold/molybdenum deposit not in question, says field geologist Moses

By STEVE SUTHERLIN

Mining News Associate Editor

Whether the Northern Dynasty Minerals Ltd. Pebble project in Southwest Alaska is economic to develop is a question for others, but Pebble field geologist Richard Moses is certain of one thing: The rocks at and around the Pebble prospect are the richest he has seen in his long career.

Questions of economic viability rest on a host of educated assumptions regarding factors such as market values of copper, gold and molybdenum over the life of the mine; the cost of transportation and transportation infrastructure to the remote site; and the cost of bringing vast amounts of electric power into the wilderness to serve the mine. The quality of the deposit, however, is a sure thing, Moses told Mining News Oct. 4 during a field visit.

At the company's field sample processing facility across the road from the Iliamna village airport, Moses is the first to inspect the core samples that arrive via helicopter from test drill rigs at the mine site in the hills 20 miles away. Moses is particularly excited about the series of core samples he saw from the company's core hole 5327 that indicated rich mineralization east of the proposed Pebble mine — 800 meters of 1.45 percent copper equivalent. "Stop and think about that, that's a half a mile — 2,613 feet — that's a huge interval," Moses told Mining News Oct. 4. "I've been in the business 30 years and that's the biggest intercept I've ever dreamed of or drilled or ever heard of — it's phenomenal."

Looking east

Moses started on the Pebble prospect in April 2004 after four years working at the Donlin Creek gold project, a 27,000 acre NovaGold Resources Inc. property located in the historic Kuskokwim Gold Belt of Southwestern Alaska. In 2004, Pebble test drill rigs were busy with a program designed to upgrade a substantial portion of the Pebble deposit's mineral resources to measured and indicated classifications, Moses said.

"We had enough drills on site to do that within the timeframe that we had to do it in, so we couldn't do other stuff until that was over," he said. Moses was anxious to test the company's hunch that there was substantial additional mineralization to the east of the Pebble deposit, he said. In 2005, he got his chance to find out. "We've drilled a total of 60,000 feet this year versus 135,000 feet last year, and of that 60,000 a little over a half of it has been in the east zone," Moses said. "Most of our hole depths over (in the east zone) have been 4,000 feet. In late 2004 some drilling was done in the east zone, but the depth was limited by the equipment on hand. Over the winter of 2004-2005, Northern Dynasty lined up drill rigs that could go beyond the 2,200 feet the crew was limited to in 2004, Moses said. "We drill two sizes of core, the bigger diameter — which is called H — to 2,200 feet," Moses said, adding that the H core is 2 7/8 inches in diameter, while the N core which can reach 4,000 feet is 2 3/8 inches in diameter. The core samples are sawed in half at Northern Dynasty's Iliamna core sample facility. One half is kept in storage at Iliamna in 10-foot intervals. The other half is bagged and shipped to the ALS Chemex prep lab in Fairbanks, and then



While most of the copper is microscopic in size, some samples are loaded with visible chalcopyrite — copper iron sulfate with a wispy veneer of gold.



Richard Moses, Northern Dynasty Pebble prospect field geologist at the Iliamna core sample facility.

on to the ALS Canada Ltd. assay lab in Vancouver, British Columbia for analysis, Moses said.

Rich rocks

Based on current prices, the pay rock Northern Dynasty is finding at Pebble is worth about \$20 per ton, however based on the long term prices the company is estimating over the life of the mine the rock is worth about \$10 per ton, Moses said. The rocks are rich, but the mine is a costly proposition and the cost of meeting

see PEBBLE page 12



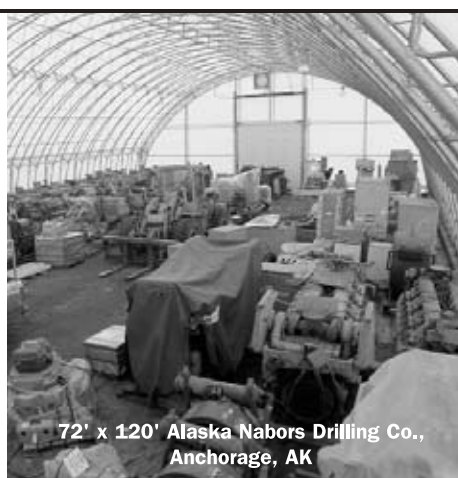
Mike Borleske, a local hire from the village of Nondalton, is responsible for sawing and properly tagging Pebble core samples for transport to the lab.



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Bigger, richer and wider

Vancouver, British Columbia-based Northern Dynasty Minerals Ltd. said assay results for two additional core holes completed on the eastern flank of its Pebble prospect near Iliamna in Southwest Alaska suggest the newly identified porphyry copper-gold system there is quite extensive.

"These new holes, combined with those announced on Sept. 21, 2005, indicate the new porphyry system hosts a substantial volume of copper-gold-molybdenum mineralized material," Ronald Thiessen, company president and CEO said in an Oct. 20 statement.

The company said its core hole 5330 was drilled on an azimuth of 060 degrees at a dip of minus 60 degrees and entered the mineralized system at a vertical depth of 1,620 feet below surface. The hole intersected 2,342 feet grading 1.36 percent copper equivalent comprising 0.99 percent copper, 0.26 grams of gold per ton and 0.036 percent molybdenum. The mid point of the intercept is 2,500 feet east of the Pebble deposit and 550 feet east of the previously announced core hole 5327.

Core hole 5331 was drilled on an azimuth of 090 degrees at a dip of minus 60 degrees and entered the mineralized system at a vertical depth of 1,260 feet below the surface, the company said, adding that the hole intersected 2,425 feet grading 0.95 percent copper equivalent, 0.55 percent copper, 0.28 grams of gold per ton and 0.040 percent molybdenum. The mid point of the hole 5331 intercept is 1,650 feet northeast of the Pebble deposit and 2,500 feet north of the previously announced hole 5327.

Both holes terminated in good grade mineralization

Both of the new holes were terminated while still in good grade mineralization due to depth limitations of the drills, the company said. The bottom 100 feet of hole 5330 grades 1.67 percent copper equivalent, 1.18 percent copper, 0.26 grams of gold per ton and 0.057 percent molybdenum. At the bottom 100 feet, hole 5331 grades 1.06 percent copper equivalent, 0.64 percent copper, 0.21 grams of gold per ton and 0.051 percent molybdenum. Northern Dynasty said it would continue to drill to substantiate that a major new porphyry mineralized system — which appears to have excellent copper, gold and molybdenum grades — has been discovered. The company said the mineralized system extends much deeper than the depths that have been drilled to the west, and mineralization is continuous in most drill holes over their entire lengths below a cover of post-mineral Tertiary volcanic and sedimentary rocks.

—STEVE SUTHERLIN



STEVE SUTHERLIN



STEVE SUTHERLIN

Above, access to the test drilling rigs at the Pebble site is by helicopter only. At left, drilling technicians at Pebble have a solitary job when the helicopter leaves to return to Iliamna.

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PEBBLE

the logistics of working carefully in the remote environment is no exception, Moses said. "We have to do everything by helicopter which makes our exploration more difficult and expensive," he said. "Everything's done by helicopter and by

shovel and rake; reclamation is all done by shovel and rake." The company is realizing promising results from the exploration, and as the crew moves east, the results are intriguing, Moses said. "The nature of the deposit makes it really exciting to work on," he said. "As a geologist you can work a lot of years and you don't see anything even approaching it, so it's very exciting in that aspect.

"Our published grade for the main deposit — depending on what cutoff you have — ranges anywhere from I think 0.55 to 0.8," he said. "My estimate is the east zone will probably double that grade — double if not more — that's a ballpark on my part, it's not scientific, it's not published." Moses said the company's present drills cannot go any deeper, but test holes have been bottoming at more than 1 percent copper equivalent. "Sooner or later we're going to have to get a bigger drill out here so we can go deeper because we're open at depth," he said. "We know it extends at least 3,500 feet below the surface, but we don't know how much farther." While the original Pebble find lies near the surface, the east zone is covered with 1,500 feet or more of barren un-mineralized rock, the company said. Just because the overburden isn't pay rock, it doesn't mean it has no value, Moses said, adding that the barren rock contains calcite, which can be used to reduce acidity for mining and in tailings. "It does have some value — not monetary value — but value to build tailings dams and stuff like that, so we log that core much more detailed than we normally would, recording pyrite content and calcium carbonate content," he said. ●

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• N O M E , A L A S K A

Rock Creek project almost ready to roll

NovaGold prepares to submit permit applications for first mine, on road system outside Nome on Alaska's Seward Peninsula

By SARAH HURST
Mining News Editor

Rock Creek will be one of Alaska's most straightforward mining projects, if all goes according to plan for Vancouver-based NovaGold Resources. The company is developing what will be its first producing mine eight miles outside Nome, and the local power utility will provide the required five to seven megawatts. The open pit mine is expected to produce 100,000 ounces of gold annually and capital costs are estimated at \$55 million to \$60 million.

"Infrastructure is excellent, certainly by Alaska standards, the road goes right from the town out to the project, in fact the State of Alaska straightened the road out for us at their own cost," NovaGold president and CEO Rick Van Nieuwenhuyse said at the Denver Gold Forum Sept. 26. "The road used to go over the hilltop and they made a nice straight road, three-mile Glacier Creek bypass road, at their own expense, that was part of the Roads to Resources program. It's a further indication that Alaska is a very good place to develop mines."

The road was funded through the Federal-Aid Highway program and cost \$3 million to build, over the 2004 and 2005 seasons. In addition to improving access to the Rock Creek project, it also removes traffic from the Nome watershed. Nome is a historic and current placer mining district, but the Seward Peninsula hasn't seen a hard rock mine since World War I. "As we've seen in other alluvial districts, once you get the first mine going, other things seem to keep popping up," Van Nieuwenhuyse said.

Company hopes for permits in early '06

NovaGold is about to submit all its permit applications and hopes to receive the permits in the first quarter of 2006. Construction of the mine is expected to take about nine months. "We are now loading up a barge, it's in Seattle, it'll be on its way to Vancouver... we've got the trucks, the loaders, the steel, the cement, all the things you need to start construction," Van Nieuwenhuyse said. "It's a free-milling ore, a combination of gravity and flotation will recover about 96 percent of the gold," he added.

"We don't foresee any huge problems

with acid mine drainage from this project," said Ed Fogels, large mine projects permitting manager at the state's Department of Natural Resources. "It's a much smaller operation than some of the others, a fraction of the size of Donlin Creek or Fort Knox. The company has done a lot of public outreach in Nome and there hasn't been a huge outcry. We're feeling pretty comfortable that the community is aware of the project."

Company working with local corporations

NovaGold has been working closely with Sitnasuak Native Corp., which owns the surface at the Rock Creek property, and Bering Straits Native Corp., which owns the sub-surface. For example, as part of the reclamation plan, NovaGold is discussing with Sitnasuak whether land should be used for recreational cabins or reindeer grazing. When the mine closes, the tailings impoundment area will be sealed with a layer of silt and overburden, the pit will become a lake and the whole area will be recontoured and revegetated.

"We've enjoyed our experience, we think the mine will benefit the company and Native corporations," Doug Nicholson, vice president and general manager of NovaGold Alaska told Mining News. "Nome is a mining community; it's got a very rich history in mining." Shareholders of the local Native corporations will be hired whenever possible, he added, suggesting that some might become geology technicians or environmental technicians. One of the few out-of-state hires for the project, Nicholson hopes, is Warren Woods, who came on board recently as Rock Creek mine manager after three years in Nevada. However, prior to that he spent eight years at Fort Knox mine near Fairbanks.

Rock Creek will employ approximately 135 skilled workers to operate the mine and mill operations. As part of the final mine plan, additional material from a satellite deposit called Big Hurrah will also be processed at the Rock Creek facility. Based on historic and NovaGold drilling, the company is targeting the potential to define an initial mineralized zone at Big Hurrah that could contain 150,000 to 200,000 ounces of gold grading five to seven grams per tonne of gold beginning at surface. ●

BRITISH COLUMBIA

Lawsuit badge of honor for Galore Creek

The Grace property in British Columbia appears so far not to contain any significant gold or copper, but its surface could still be extremely valuable to Vancouver-based NovaGold Resources. In a pre-feasibility level study for the Galore Creek mine that NovaGold expected to make public in late October, part of the 2,400-hectare Grace property may be a potential location for tailings disposal facilities. Another Vancouver company, Pioneer Metals, which owns the sub-surface rights, has upped the ante by commencing legal action against NovaGold.

Pioneer has turned to the Supreme Court of British Columbia seeking a declaration that its option agreement with NovaGold dated March 26, 2004, "is of no further force or effect, an order for the rescission of the agreement, damages for misrepresentation and for breach of fiduciary duty, punitive damages and other relief," the company said in a release Oct. 17. "Pioneer alleges that NovaGold did not properly disclose its true intentions with respect to the intended exploration and development of Pioneer's Grace project when we entered into the agreement and that NovaGold did not, in any event, abide by its terms," Pioneer's president and CEO, Stephen Sorensen, said.

"Its mineral prospects and strategic location make the Grace project a potentially valuable asset," Sorensen added. "Any use of its surface area for the containment of tailings and waste rock should be for the sole benefit of Pioneer, if and when economic mineralization has been discovered, developed and mined there."

Nova Gold: option for sub-surface rights only

NovaGold counters that the Pioneer option agreement relates to sub-surface rights only, and the surface rights rest with the Province of British Columbia. Moreover, the agreement stipulates that NovaGold should spend C\$400,000 on exploration in year one, but in fact the company has spent in excess of C\$1 million. "We're surprised by this, we had a pretty good working arrangement with them," Greg Johnson, NovaGold's vice president for corporate communications, told Mining News. "Pioneer wants us to focus on exploration and we have done that, we would have liked to find a second ore body on their land, but we have not yet found one."

Almost immediately after acquiring its interest in the Galore Creek property, NovaGold started negotiating with Pioneer and other land owners as part of the company's plan to develop the various claim blocks previously existing in the area, Johnson added. NovaGold struck a similar agreement with Copper Canyon Resources (formerly Eagle Plains Resources) to explore the nearby Copper Canyon property, and also purchased land from Silver Standard, Teck Cominco and other companies. Galore Creek is comparable in size to NovaGold's Donlin Creek project in Alaska and has the potential for a mine life of more than 20 years if developed.

The proposed tailings facility would only occupy part of the Grace claims and NovaGold would continue to explore the remaining claims, Johnson said. "To some degree we see this as fitting the expression, every good mine starts with a lawsuit, indicating in many ways that this whole situation wouldn't really be in front of us if it didn't look like we were going to be really building a world class mine at Galore," he added. NovaGold is confident that it can work through the issues with Pioneer, Johnson said.

—SARAH HURST

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• COLUMN

Mining and the law: Hope springs eternal as congressman seeks to sell units of Alaska parks

By J.P. TANGEN
For Mining News

For those who thought radicals wore their baseball caps with the bills firmly cocked to the right, a leak out of the U.S. House of Representatives Resources Committee proved that the green men and women of the environmental movement can be radical too. Draft legislation was circulated in September proposing, in part, to sell off units of the national park system. The environmentalists' response made it clear that such a move would be equivalent to plunging a dagger through their hearts.

This tidbit, buried in a draft energy bill, recommended that 16 units of the park system be sold and the receipts be used to offset the costs of other legislative proposals contained in the bill, costs that would be incurred to reinvigorate our antiquated domestic energy infrastructure.

The intriguing part of the land sales idea was that nearly half of the expendable units are in Alaska.

Stalwarts such as Jim Stratton, Alaska director for the National Parks Conservation Association, and the Sierra Club's Carl Pope were outraged. Even the local paper saw fit to pontificate against the proposal in an editorial. Of course these sacrilegious thoughts are non-starters; however, that doesn't mean that they should not be looked at.



Mining News columnist J.P. Tangen practices mining law in Anchorage, Alaska. www.jptangen.com

Units proposed for sale rarely visited

The units of the system that were proposed for sale are expensive, huge, and rarely visited. The committee draft used as its cutoff the idea that the units were visited by less than 10,000 visitors per year. The Alaska units do not even approach that number. Furthermore, it is very likely that nine out of 10 residents of Alaska could not place any of them on an outline map of the state, and probably 99 out of 100 couldn't say what unique values any one of them features.

Blocking a route to the sea

Four of the Alaska units, Bering Land Bridge, Cape Krusenstern, Kobuk Valley and Noata, are clumped together under the general name of Western Arctic National Parklands and are managed by a single superintendent. Collectively, these four units have barely 10,000 recreational visitors per year, although they do cost the taxpayers more than \$3 million annually to maintain — about \$300 per visitor. They do, however, serve at least one Luddite objective because they are roadblocks between Interior Alaska and the western sea.

Several years ago, when the Red Dog zinc mine was getting cranked up, there was a need to get ore to tidewater. The logical route was across Cape Krusenstern National Monument. Although this mine had an incredible potential to contribute to the welfare of the people of northwest Alaska, the state, and the entire nation, the National Park Service rolled up its sleeves to block the quick selection of a logical route from the mine to the dock. It took an act of Congress to obtain the needed

permits.

Any new mines in the western part of the state are likely to face the same kind of virulent opposition to road building, including railroad construction. If you take a moment to identify exactly where these four units are, you will quickly realize that, taken together, they serve a single purpose: to thwart highways to the sea.

Facts won't change any minds

For those who believe developing western Alaska is wrong, this is a fine thing. Besides, we are saving one of the last great places — an area teeming with wildlife just waiting to have their photographs taken for Sierra Club Magazine. In reality, most of the time the bulk of the area, over 18,000 square miles, is wet tundra over which one can fly for hours without seeing a wolf or a caribou or a moose or even a fox.

Now I realize that no one is going to have his mind changed by the facts. This is a national treasure secured for generations yet unborn at great personal sacrifice by the true believers during the heady days of the ANILCA wars. Proposing a retreat from the excesses of yesteryear simply is not marketable when we are talking about national parks. Even the spokesperson for Representative Pombo, who chairs the House Committee on Natural Resources, made it very clear that this language was incorporated in the draft bill only to make a point.

On the other hand, what a point it is. In the meantime, check out Congressman Tancredo's, R-Colo., quite serious proposal, H.R. 3855, to unload some of the national forest land. Look out Region X. ●

• CANADA

Mining workforce shortage hits Canada

Government funded report: Women, minorities, youth need to be encouraged to enter mining sector to replace high number of retirees

By SARAH HURST
Mining News Editor

Canada's mining industry could face a labor shortfall of more than 27,000 workers over the next 10 years — and that is the best case scenario, with no industry growth over the period, according to a report by the Mining Industry Training and Adjustment Council. "Prospecting the Future: Meeting Human Resources Challenges in the Canadian Minerals and Metals Industry" is an analysis of the situation that was published Aug. 24.

In the worst case, with high growth in Canadian mining, the workforce shortage could reach almost 71,000. Since 2002, mining GDP growth has been about twice the rate of the Canadian economy, the report says. More than 50 percent of workers in the mining industry are

aged 40 to 54, an age group that represents 39 percent of the total Canadian workforce. There is a markedly lower proportion of employees below age 30 in the sector, particularly in the skilled trades and semi-skilled mining occupations.

The Canadian mining sector's labor force expanded by 3.6 percent between 2003 and 2004, compared to an average annual growth of approximately 2 percent over the past decade. Economic indicators point to continued growth in the industry for a number of years.

"With this looming skills shortage, the career potential is great for the right people with the right skill set — particularly for skilled-trade workers, engineers and geoscientists," said the council's Executive Director Paul Hebert. "Some people continue to assume mining is pri-

see **SHORTAGE** page 16



COURTESY RIMFIRE MINERALS

The Tide property in British Columbia, a joint venture between Serengeti Resources and Rimfire Minerals, is one of the numerous exploration projects under way in Canada.

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FAIRBANKS



Jim Olmstead mines in Alaska during the summer and spends the rest of the year in Arizona, preferring not to venture east of the Mississippi.

One man and his dog set gold mining standards north of Fairbanks

An Alaska miner who takes extraordinary care of the land he leases 250 miles north of Fairbanks has won a national award from the Bureau of Land Management. “Diamond” Jim Olmstead has received the agency’s 2005 National Sustainable Mineral Development Award in the small operator category. Olmstead has been mining gold on Gold Creek, off the Dalton Highway, since 1996, where his one-person summer operation has progressed from a suction dredge to a small Case 450 tractor with a trommel and associated water pumps.

“The award recognizes his conscientious and timely reclamation that has maintained a stable channel and flood plain on the creek,” the BLM’s Alaska office said in a release Sept. 20. “Disturbances are limited to about one acre a year. Staff at BLM’s Fairbanks District Office are particularly impressed with the way Olmstead replicates the original stream channel, matching existing grade and channel widths to adjacent undisturbed areas as his operations move along. Olmstead also stockpiles organic and vegetative material from the site for re-spreading later, speeding up the revegetation of the disturbed areas.”

Olmstead could not be reached for comment because in the fall he goes to mine in Arizona, where he lives without a telephone, according to the North Pole owner of Olmstead’s Alaska mining claims, Richard Wright. “He is quite the character, he’s got a lot of personality,” said Linda Musitano from BLM’s Fairbanks office, who has visited Olmstead to ensure he is in compliance with regulations. “He stays in a little building with his dog. He looks like a backwoods miner.”

When BLM suggested to Olmstead that he could go to Washington, D.C. to receive his award, he replied that he hadn’t been east of the Mississippi since the 1960s and had no interest in going again, Musitano told Mining News.

Award recognizes rebuilding

“This award was deserved because it shows that when a miner rebuilds stream channels in a manner which provides for proper channel widths and flood plain areas, the recovery and downstream impacts are minimized,” BLM wrote. “In this case it is apparent that the miner is very familiar with the characteristics of the Gold Creek channel and flood plain in the area that he is working in. This is evident when he replicated the channel/flood plain areas in his final reclamation. The operator also shows the value of properly sizing mining equipment to the area that is being mined. He could mine with smaller equipment, but smaller equipment would limit the size of some of the larger rock which he could handle. Larger equipment would require upgraded access and cause additional on-site disturbance, which would very likely prove to be unproductive.”

“I think the size of his operation makes his reclamation more successful,” Musitano said of Olmstead. “He knows what his limit is. A lot of miners up here get in over their heads and go bankrupt.” In the past 18 months several people from the East Coast and southeastern United States have bought mining claims in Alaska as a pastime for their retirement. One man comes from New York City, spends a week or two each year mining, and hires someone else to clean up for him and do the reclamation work. “People are coming up with more money than we’re used to seeing,” Musitano said.

—SARAH HURST

ALASKA

Department staffs up for NPDES primacy; permitting should be quicker, says Kent

The State of Alaska’s Department of Environmental Conservation is confident that it will effectively assume primacy over National Pollutant Discharge Elimination System permitting, the Alaska Minerals Commission heard at its meeting in Fairbanks Sept. 28. Senate Bill 110, signed into law by Gov. Frank Murkowski in August, calls for the state’s application for primacy to be filed with the U.S. Environmental Protection Agency by June 30, 2006.

The permitting process should be quicker once DEC takes over, according to Lynn Kent, director of the department’s Division of Water, who spoke to the minerals commission. “We’re here and we’re familiar with the facilities,” she told Mining News. With primacy, Alaska’s water quality standards will be interpreted and applied by DEC staff rather than EPA. In addition, DEC is designing web-based information management systems that will automate the permit application and development processes and facilitate electronic transfer of Discharge Monitoring Report compliance data.

In order to pursue primacy the Alaska Legislature has already approved the creation of 14 new positions in Anchorage, Fairbanks and Juneau, which would bring the total number of people working in permitting and compliance to 43. The funding has been provided for seven of the new positions this year and the remaining seven from next year.

“This state is growing up, and it’s time that Alaskans assume responsibility for their own environment, and I’m very confident that DEC will be able to do that,” Greg Beischer, a member of the minerals commission, told Mining News. Beischer, who works for Bristol Environmental & Engineering Services, was elected chairman of the Anchorage branch of the Alaska Miners Association in October. He added that the minerals commission is also concerned about the Department of Natural Resources having difficulty with staffing levels.

“Good people are hard to find now,” Beischer said. “There is strong competition among Alaska mines for the available personnel, and even mines in the Lower 48 are recruiting in Alaska. If even a quarter of the potential mining and oil and gas projects proceed, the state will not be in a position to provide the needed personnel. As for DNR, compensation packages of the state will need to be competitive with those of industry to attract capable people.”

The application period for several vacant DNR positions will be timed to coincide with the Alaska Miners Association convention in November, including geologist positions and an assistant to Ed Fogels, the large mine projects permitting manager.

—SARAH HURST



GREG BEISCHER

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FAIRBANKS, ALASKA

Homer utility eyes Healy coal plant

A Homer electric cooperative is eyeing the closed Healy Clean Coal Plant as a future source of power.

The \$300 million state-owned plant, located 78 miles southwest of Fairbanks, was built in the mid 1990s to tap the Usibelli Coal Mine and demonstrate environmentally conscious coal-burning technology.

The state shut down the plant after the Golden Valley Electric Association, which tested the facility, refused to operate or buy it, saying the plant was "fatally flawed."

Now Homer Electric Association Inc. is hoping the Fairbanks-based electric cooperative's conclusions are wrong.

The Homer utility, a 20,000-member cooperative that powers the western Kenai Peninsula, agreed to manage the power plant if it passes an engineering review and facility inspection.

The utility already manages a state-owned hydroelectric station at Bradley Lake near Homer.

Four-month analysis of plant

The analysis of the idle Healy plant will be conducted over the next four months at the state's expense, said Joe Gallagher, spokesman for the Homer cooperative, which announced its plans Oct. 7.

"It's a first step," Gallagher told the Fairbanks Daily News-Miner. "There's a long way to go. Everyone is excited about getting started with this review."

The Homer utility signed an agreement with the Alaska Industrial Development and Export Authority after negotiations started in the spring, Gallagher said. The authority is the economic development arm of state government and the agency responsible for the Healy plant.

"(Homer Electric) has been through the plant," said Ron Miller, executive director of AIDEA. "The conclusion is the plant should be up and running."

Restarting the plant would involve the studies, some modifications and upgrades and would cost about \$20 million. This would be paid for by the authority, Miller told the Peninsula Clarion in Kenai.

90% of Homer Electric's power from gas

Electric utilities need a source of power to generate electricity. Currently, about 90 percent of Homer Electric's power generation comes from natural gas, Gallagher said. The rest comes from hydroelectric power.

The Homer utility is interested in selling the power to other utilities, but would use the power for its own members if needed, Gallagher said.

A spokesman for the Usibelli Coal Mine said the Homer utility's interest in the power plant is good news.

"We are ready to start delivering coal tomorrow," Steve Denton said.

The Fairbanks utility will assist Homer Electric in its investigation, said spokeswoman Corinne Bradish.

The utility backed out of negotiations with the state to buy the plant last year after its offer of \$70 million was turned down. The Fairbanks utility contends the power plant's design is faulty and its experimental technology unproven.

If the state had accepted its offer, the utility planned to retrofit the plant with traditional burners using about \$60 million in hoped-for federal funds.

"We're going to open our books and let (Homer Electric) look at everything," Bradish said. "We've always wanted nothing more than to see this plant up and running."

—THE ASSOCIATED PRESS

The state shut down the plant after the Golden Valley Electric Association, which tested the facility, refused to operate or buy it, saying the plant was "fatally flawed."

continued from page 14

SHORTAGE

marily a brute-force occupation, in fact, mining has evolved to become a highly skilled and technical industry."

Report doesn't include oil sands

The report focused on the top 10 minerals and metals by value of production in Canada: gold, nickel, potash, coal, copper, iron ore, cement, zinc, sand/gravel/stone and diamonds. The report does not include the oil sands workforce. It is based on country-wide research that includes surveys of 48 mining companies, 46 supplier and contracting companies, 694 individuals and 19 educational institutions.

The majority of the mining labor force works in Ontario (33 percent) and Quebec (27 percent), followed by British Columbia with 11 percent and Saskatchewan with 10 percent. However, the importance of the minerals and metals industry is increasing dramatically in Canada's north, the report says. Between 2003 and 2004 the Northwest Territories saw an estimated 122-percent increase in exploration expenditures, while Nunavut saw a 43-percent increase. Much of the northern growth stems from the emergence of the Canadian diamond industry. Diamond production volume increased by more than 340 percent between 2001 and 2004.

Planning for retirement should be a key priority for the mining sector, the report says, because 40 percent of employees state they intend to retire within the next 10 years, taking with them an average of 21.4 years of mining sector experience. Ramifications could include increased production costs associated with lower worker productivity among new entrants, and a potential negative impact on safety due to an influx of inexperienced workers.

Companies need to plan further ahead

Companies rarely plan more than a year ahead, but should start to do so, the report advises. They should take a more proactive approach to developing and identifying key successors to workers who will retire. They should also encourage non-traditional groups to work in the industry, the report stresses. Women accounted for only 13 percent of all mining sector employees in 2003, compared to the national average of 46.9 percent of the workforce. Women are generally not employed in coal mining and tend to be concentrated in the non-production occupations. More than 95 percent of the

workforce associated with production occupations is male.

Aboriginal employees make up approximately 4.8 percent of the mining sector workforce. This rate is much higher than in other industries and in the Canadian workforce overall, where the percentage of aboriginals is only 2.6 percent. "The minerals and metals industry has increasingly recognized the aboriginal labor force as an important human resource, especially for firms operating in remote locations," the report says. At the Ekati diamond mine in the Northwest Territories, 39 percent of the operation's 800 direct jobs are held by aboriginals.

"There is evidence that aboriginal workers are under-represented in the more highly skilled positions and are often hired for entry-level positions that do not require certification," the report says. "The lack of educational opportunities for aboriginal persons in certain regions is a contributing factor." The growing gap between the needs of industry in the north and the skills available in the local labor force could be addressed through increased emphasis on community-based or distance learning, the report suggests.

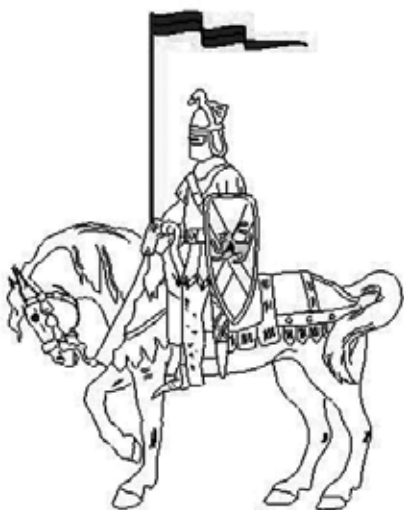
Competition for Canadian graduates

Less than 3 percent of mining sector workers are members of other visible minorities, compared with 12.6 percent in the total Canadian workforce. Potential immigrants with mining experience may be having a hard time getting into the country because the points-based system is based heavily on formal educational attainment, the report says. Another problem is the difficulty in obtaining Canadian recognition of foreign credentials.

An estimated 13,800 students will enroll in mining-related university programs over the next decade. Keeping them in Canada is another challenge. Competition for Canadian graduates is intense at the global level and many are lured away by the prospect of work in more "exotic" parts of the world, even though wages and benefits in Canada are very good, according to the report. Average weekly wages were C\$1,257.91 in coal mining 2003, and C\$1,159.50 in metal ore mining.

"Limited awareness and inaccurate perceptions about the industry are critical challenges in terms of attracting workers," the report says. "The public — particularly young people — are often not familiar with the industry. Marketing and awareness campaigns to promote the modern mining industry and improve perceptions are important."●

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● K A M C H A T K A

Kamchatka platinum deposit matches Alaska's

Alaska Miners Association visits Russian Far East mine producing platinum from Ural-Alaska complex, resembling Goodnews Bay

By SARAH HURST
Mining News Editor

The indigenous Koryak people called this place Levtyrinyvayam, meaning “there is something in the creek.” That something was a modest-looking grey metal, unusually heavy, but lacking the instant allure of the gold that could be found elsewhere in the region. Soviet geologists would later confirm that it was platinum, and the deposit became the first in the Russian Far East’s Koryak region to be developed after the break-up of the USSR.

Today KoryakGeoldobycha, KGD, boasts more than a decade of placer mining at this site near the village of Korf, with 45 metric tons of platinum produced and an estimated 15-20 more tons on the way. Few foreigners have visited, not least because of the deposit’s remote location. This August the Alaska Miners Association took a group of 13 to Korf at the invitation of KGD.

Koryakia lies to the north of the Kamchatka Peninsula, across the Bering Sea from Alaska. The weekly Magadan Airlines flight from Anchorage arrives at the city of Petropavlovsk-Kamchatsky in the south, and Korf can be reached on another domestic Russian flight. Anyone going to work at or visiting the various placer platinum sites in the area must travel the half hour or so from Korf in the Russian Far East’s workhorse, the twin-turbine Mi-8 transport helicopter with a capacity of up to 24 people.

Visitors see similarities to Aleutians

Korf, a former fishing village on a narrow spit, reminded the Alaskan visitors of the Aleutian Islands. At this outpost on the edge of nowhere, where the ramshackle houses are connected by a maze of bulky central heating pipes at roof-level, the 1,300 residents cultivate flourishing vegetable gardens and paint their fences a cheerful shade of green or pink. Some older members of the U.S. group were World War II veterans, who immediately recognized, much to their amazement, that the fences were made from interlock-



SARAH HURST



SARAH HURST

Above, Russian and U.S. equipment in action at the placer platinum mine, as seen from a helicopter. At left, Paul Layer, a geologist from the University of Alaska Fairbanks, admires the 1.2-kg platinum nugget found by KGD.

KGD began placer platinum mining here shortly after the collapse of the Soviet Union in 1991. The lode platinum mineralization occurs in a body of dunite, an ultramafic, igneous rock. In total there are around 50 platinum-bearing massifs of the Ural-Alaska type in the Koryak and Kamchatka regions. “The potential of this belt, which stretches for about 1,000 kilometers, is still unknown,” said Eugene Sidorov, a platinum expert with the Russian Academy of Science.

Company will assess hard rock sources

KGD’s next exploration goal is to further assess hard rock sources of the placer platinum that has been mined. One zone of hard rock platinum mineralization has already been tested with trenching and drilling. Levtyrinyvayam is one of five associated deposits in the district with the same hard rock source.

These Ural-Alaska complexes are so named because Russia’s Ural mountains were the main source of the world’s platinum in the 19th century, but U.S. Geological Survey work in the 1940s and a series of doctoral dissertations from Harvard, Columbia and other U.S. universities originally described the geology in detail, mainly in Alaska’s southeastern panhandle. The best-known and so far most economical platinum deposit in Alaska is Goodnews Bay, in the southwest of the state, which produced 22 metric tons of platinum in the 20th century, all from placer sources, and is geologically nearly identical to the Koryak deposit.

Based on fossil evidence, much of western Alaska originated on the eastern Asian continental margin and was sutured onto the rest of Alaska about 150 million years ago.

In more recent times the Alaska Peninsula and Aleutian Islands share the same volcanic arc succession as the Kurile-Kamchatka region of the Russian Far East.

Large nugget found in June

KGD primarily recovers platinum in the mineralogical form of isoferroplatinum, but all of the remaining platinum group elements — iridium, osmium, palladium, rhodium and ruthenium — are recovered as byproducts as well. Most of the platinum is in the form of fines or coarse, tiny pieces of isoferroplatinum no more than 30 millimeters in diameter. So it was a big surprise when one of the washing plants caught a whopping 1.2-kilogram nugget in June. The incalculably rare lump of metal fits snugly in the palm of a hand. The AMA group was able to touch, view, weigh and photograph it, as it was still being kept in a locked shed at the mine, surrounded by a fence, where the final product is handled. The big nugget will go to the Russian government, and possibly into a museum.

“I have seen larger platinum nuggets from the Urals, twice that size, in the Armory at the Kremlin, but platinum placers are rare,” said Julian Misiewicz,



SARAH HURST

The Mi-8 transport helicopter is used to fly around rural areas in the Russian Far East, as there are few small fixed-wing planes.

see KAMCHATKA page 19

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Usibelli Coal Mine is headquartered in Healy, Alaska and has 200 million tons of proven coal reserves. Usibelli produced one million tons of sub-bituminous coal this year.

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continued from page 17

KAMCHATKA

exploration manager for South Africa-based major Gold Fields' Europe and Central Asia region, who joined the Alaskans on their visit. "This is a very efficient operation with first-class equipment. It seems to be very disciplined. The tailings are stacked nicely and neatly, the water is clean, the settling ponds are well-managed and the mine isn't overloaded with people."

The mine's usual product is sorted into 15-kilogram bags, about the size of a deflated soccer ball, each worth approximately U.S. \$450,000. Employees go through a security screening process before they can work with the washed platinum. Platinum is considered a strategic resource in Russia and a bill declassifying information about platinum group metals was only passed by the Russian Duma in 2003.

Borrell: nugget trap would work

Allowing Alaskans to see the platinum mine could bring benefits. Steve Borrell, executive director of the AMA, had some advice on catching larger nuggets. "They're going to have to look at a nugget trap. Alaska miners have been doing that for a long time," he said. "Probably the best alternative is to do something right on the end of the sluice box, for example a big knife blade that comes up, catches the flow and brings it back down. They could also install metal detectors."

KGD uses two different types of washing plants, depending on the type of rock being processed. One is a large rotating tube called a trommel, which catches the platinum fines at Levtyrinyvayam. The undersized material that passes through the screen in the trommel goes to the sluice box, where it flows across a series of riffles. At another site called Ledyanoy, a short helicopter ride away, a rocker box is used for removal of larger rocks before the remaining material goes to a sluice box. An estimated 94-96 percent of the platinum is successfully recovered. The average grade is 0.28 grams per cubic metre.

Most of the mining here takes place in summer, with up to 500 people working at the peak of the season. Between December and February a skeleton team of 30 remains. In Korf, the modern, comfortable KGD office building contrasts sharply with the surrounding homes. Company officials gave a technical presentation to the AMA group after the visit to the mine sites.

Acoustic waves used for settling

The highlight came at the end, when KGD introduced marine scientist Sergei Bakharev, who has developed an experimental system of acoustic devices for use at the mine's settlement ponds.

The devices are placed on the surface of the pond and under the water, and under the impact of carefully timed acoustic waves, the clay and silt particles suspended in the pond waters concentrate into larger groups. No chemicals are involved in the process. "Tiny particles of clay are most dangerous for salmon eggs because they cover the fish eggs and gills," Bakharev said. "We connect these tiny particles to larger particles and they settle to the bottom." Birds can safely land on the settlement ponds, according to Bakharev.

The platinum placer mine is the first place in the country where this experiment is being conducted. The Alaskans were excited not only because of the implications for mines, but also the possibility of

attracting or deterring fish with the acoustic waves — specifically, fisheries management.

KGD preferred to emphasize the company's concern for the environment. "All our environmental activities are focused on the preservation of salmon," said Venyamin Zaitsev, one of the company's senior geologists. "Before any exploration or mining can take place we approve the boundaries and arrange public hearings. We listen to people's opinions and take them into account, and strictly abide by the boundaries."

KGD's operations can vie with the

Amur Artel's Kondyor deposit in the Russian Far East's Khabarovsk region for the title of world's largest platinum placer mine. Both mines have consistently produced about 3 metric tons of platinum annually. Production from the once-rich Urals deposits has dwindled in recent years, but may increase in the future if companies decide to go for the finer-grained platinum that remains there.

The various taxes applied to Russian mining companies are rather high, but a proportion of the 6.5-percent flat rate that is applied to platinum eventually returns to KGD. Out of this tax, 40 percent goes

to the Russian federal budget and 60 percent goes to the Koryakia budget. The Koryak legislature gives some of this — up to \$1 million per year — to KGD to finance exploration. KGD's total exploration budget for this year is \$3.5 million.

The AMA visit to Russia could not have been organized without the expertise of Tom Bundtzen, a Fairbanks geologist who has developed numerous contacts in the Russian Far East since his first visit in 1989. Last year the AMA toured Canadian diamond mines, and another spectacular destination is being sought for next year — offers welcome. ●




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