Petroleum news

page 5 Brooks Range, AVCG pick up third partner, a Calgary independent

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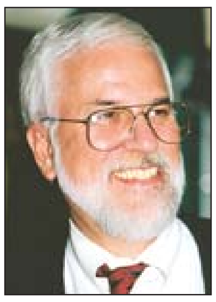
NATURAL GAS

Boyd on gas tax

Former state oil and gas director says reserves tax built on false premise

By KRISTEN NELSON

Petroleum News



KEN BOYD

Ken Boyd, former director of the Alaska Division of Oil and Gas, told Petroleum News Oct. 17 that the gas reserves tax is "a bad idea … built on a false premise."

You hear a lot about a gas line being a dream for 30 years, he said, "which is just nonsense."

When the gas cap was discovered at Prudhoe Bay, it "surprised the original lessees." BP ended up with the flank acreage and a lot of the oil while ARCO and Exxon ended up with a lot of the gas, and of course they would have liked to have sold that gas early on, Boyd said. But the trans-Alaska oil pipeline was difficult enough, requiring a tie-breaking vote by Vice President Spiro Agnew to get North Slope oil to market.

And 30 years ago, gas "was not the commodity of choice that it is today. … Gas has become a fuel of choice."

But in the 1970s, 1980s and through much of the 1990s, gas was $2 or less per thousand cubic feet. Building the pipeline wasn't going to work at that price, he said.

"Gas prices have not been high enough to even consider doing this until … relatively recently," he said.

see **BOYD** *page 18*

EXPLORATION & PRODUCTION

Husky bucks sands trend

Brings Tucker in on time, under budget; $500M budgeted, cost estimated at $470M

By GARY PARK

For Petroleum News

Husky Energy is causing some serious head-scratching among its peers and analysts as it gears up for initial production from its Tucker oil sands operation — a project completed on time and, more significantly, under budget.

The first barrel of oil is expected in November, formally launching a 35-year operating life that will have peak output of 30,000 barrels per day and total production of 350 million barrels.

It turns Husky into a fully integrated oil sands player, employing its production, upgrading and marketing elements.

The final costs are estimated at C$470 million, beating the original budget by C$30 million — an apparent mystery to analysts who quizzed John Lau during a conference call to squeeze an answer from the Husky chief executive officer.

The final costs are estimated at C$470 million, beating the original budget by C$30 million — an apparent mystery to analysts who quizzed John Lau during a conference call to squeeze an answer from the Husky chief executive officer.

Lau, who suggested that the capital costs of

see **HUSKY** *page 17*

LAND & LEASING

$3.2 million from two sales

Nine bidders at second 2006 Beaufort Sea, North Slope state lease sales

By KRISTEN NELSON

Petroleum News

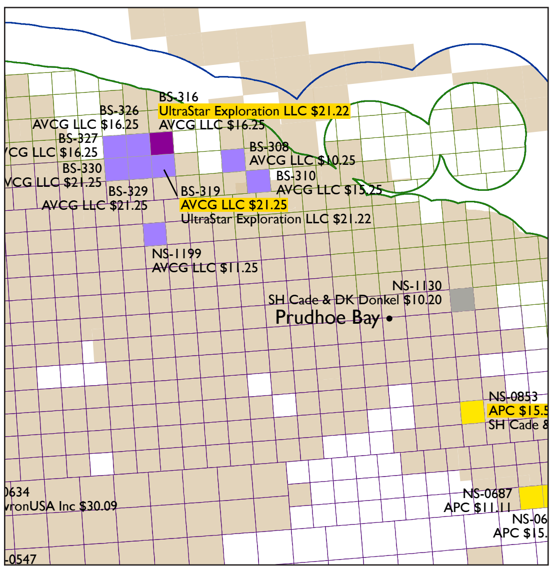
The state's areawide Beaufort Sea and North Slope oil and gas lease sales brought in $3.2 million from eight bidders or bidding groups when bids were read Oct. 25 in Anchorage.

Sales North Slope 2006A and Beaufort Sea 2006A are actually the second sales in those areas this year; the 2005 sales were deferred to March 2006 so that the state could focus on its first Alaska Peninsula areawide sale.

Those sales brought in almost $31 million.

Bill Van Dyke, acting director of the Division of Oil and Gas, said after the sale that considering there were lease sales held just six months ago on the same acreage, it was a good sale and he was pleased to see

see **SALES** *page 19*



See full map on page 20

Miners convention starts Nov. 2

The October issue of North of 60 Mining News is inside. It will be available at the Alaska Miners Association's 2006 annual convention and trade show on Nov. 2-3 and 6-11 at the Sheraton Anchorage Hotel. For more information, visit www.alaskaminers.org or call 907 563-9229.

EnCana top banana in Calgary; There Danny goes again

FOR 40 YEARS, downtown Calgary has suffered from an edifice complex as the city's historic core has been turned into a concrete jungle.

It started with the Calgary Tower, once the towering landmark of the inner city, and continued through a series of boom years in the 1970s and 1980s as one skyscraper after another seemingly sprouted overnight, most of them singularly ordinary.

Developers were out to make a fast dollar and tenants didn't have time for architectural niceties.

Only a handful of the head office towers rose above mediocrity.

Then came EnCana, which has never been known for its

see **INSIDER** *page 17*

BREAKING NEWS

11 Rutter's Glennallen well test a bust: Company will bring a drill rig back to Copper River basin gas well in the spring

13 Shell's C$7.7B bid no slam-dunk: Buying out Canadian assets could force firm to dig deeper, wants to align decision-making

20 Shell plans 4 Beaufort wells: Two wells at Siv Ullig, two at another location north of Alaska's Camden Bay

contents

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

● NATURAL GAS

Sitting pretty in the Northwest

Oregon, Washington, Idaho, British Columbia sit between prolific gas producing areas; supplied for rest of decade and beyond

By GARY PARK
For Petroleum News

The Northwest of the United States and Canada embraces some of the most enticing scenery and the best economic opportunities of anywhere in the world, spreading as it does over Oregon, Washington, Idaho and British Columbia.

As if that isn't enough, it has something else most of North America can envy.

Positioned between two of the continent's most prolific production areas — the Western Canada Sedimentary Basin and the U.S. Intermountain West — it apparently has little to worry about on the natural gas supply front over the rest of this decade and probably beyond.

By most estimates the two basins have estimated remaining proven reserves of 85 trillion cubic feet and an ultimate resource potential of more than 500 tcf.

Combined annual production from the two regions is forecast to grow by 11 percent over the next four years to almost 27 billion cubic feet per day, 75 percent coming from Colorado, Wyoming and Utah and 25 percent from Canada. Volumes of that order are comfortably ahead of the region's demand.

Gas association says market in good health

As a result, the market is in "relatively good health," says the Northwest Gas Association, whose members include six gas utilities and three transmission pipeline systems.

That's a change from much of North America, where new production capability is struggling to keep pace with growing consumption, the association said.

NORTHWEST GAS ASSOCIATION

Table 1. Projected Demand through 2011 - Average Annual & Cumulative

	Low Growth Case		Base (expected) Case		High Growth Case	
	Average Annual	Cumulative	Average Annual	Cumulative	Average Annual	Cumulative
TOTAL	1.0%	4.1%	2.1%	8.1%	2.7%	10.2%
Residential	1.9%	7.3%	3.2%	11.9%	4.2%	15.2%
Commercial	1.3%	4.9%	2.5%	9.3%	3.1%	11.5%
Industrial	0.0%	0.1%	0.5%	2.0%	0.6%	2.4%
Generation	1.1%	4.1%	2.6%	9.7%	3.2%	11.9%

In its 2006 annual report, which covers market conditions through 2011, the association forecasts that demand will grow by 2.1 percent a year, for a combined 8.1 percent, with the bulk of the increase generated by residential and commercial customers.

The findings contained one significant shift from previous years.

Demand by gas-fired electrical generation facilities, which has driven past projections, has gone into retreat in anticipation of a sharp drop in demand in the face of volatile gas prices.

As well, demand for gas-generated power has dropped in areas with ready access to hydropower and with significant alternative energy developments, especially wind.

"Expected demand growth among residential/commercial consumers is powering overall growth," the report said. "This partly reflects a growth in the number of consumers — due to an expanding economy and population — as well as the higher cost of alternative energy sources, such as electricity and oil."

Demand by gas-fired electrical generation facilities, which has driven past projections, has gone into retreat in anticipation of a sharp drop in demand in the face of volatile gas prices.

Although the association does not expect gas prices will ever return to lows of prior decades, it said the Pacific Northwest "continues to benefit from lower prices than other regions and gas continues to be a good value relative to other energy options, particularly for heating."

Industrial demand eroded

On the industrial front, some economic hiccups and the surge in commodity prices over recent years saw demand in that sector erode by one-third during the 1999-2004 period.

While industrial demand is still proportionally larger than other customer groups, the margin is shrinking and demand growth is much slower than the other groups.

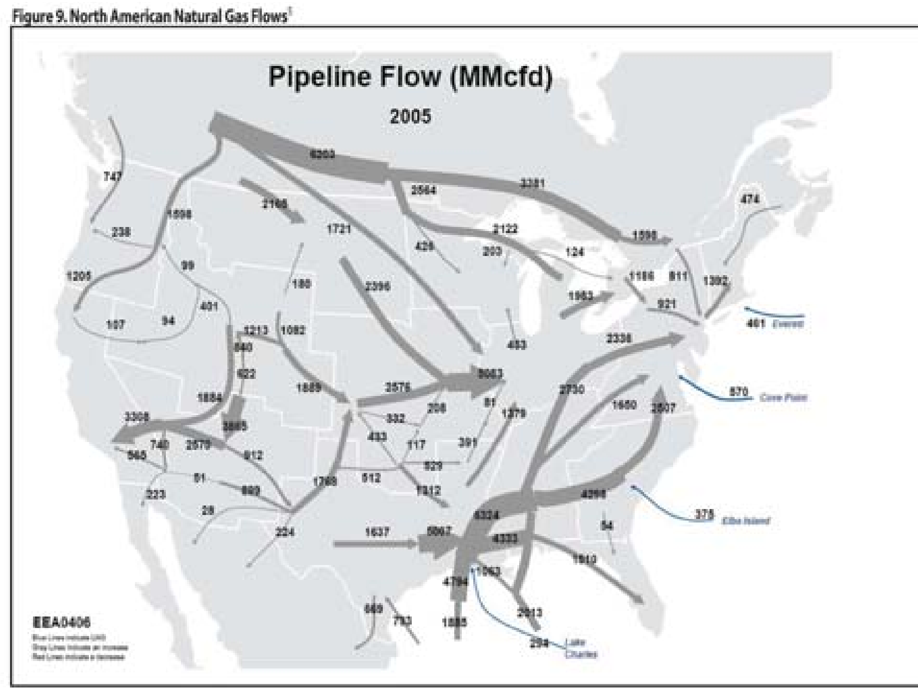
But there are some smudges on the horizon, the association said:

• A drilling rig shortfall, short-term personnel shortages and barriers to drilling offshore or on federal lands could hinder a larger degree of development in major production areas.

• Rapidly escalating finding and development costs, land access restrictions and regulatory hurdles will add to competition from imported liquefied natural gas. LNG is currently imported to the U.S. from 12 countries which together have an annual export capacity of 7 tcf, the report said.

• Other regions are increasingly competing for gas from Western Canada and the Intermountain West basins, especially as pipelines currently planned or under construction — including the 1.8 billion cubic feet per day Rockies Express system — are brought into service, linking the region with the U.S. Midwest and Northeast. ●

Figure 9. North American Natural Gas Flows[1]



NORTHWEST GAS ASSOCIATION

● GOVERNMENT

OPEC gets sharp rebuff from Canada

By GARY PARK

For Petroleum News

Canada's energy industry is based on free-market principles. The Organization of Petroleum Exporting Countries is a price-fixing cartel.

And never the twain shall meet, the two leading Canadian energy ministers said Oct. 23. They delivered a sharp rebuff to overtures from OPEC President Edmund Daukoru, who made a case for closer cooperation between non-aligned producers and OPEC's 11 members to maintain the market strength needed to support "high unit cost" production such as the Alberta oil sands.

"Canada could well get to the point where they will have to begin to listen to what OPEC is saying … and maybe, God knows, even a common dialogue with OPEC," he told reporters in Calgary.

Canada currently produces 2.5 million barrels per day, including 1 million bpd from the oil sands, and is the leading exporter of crude to the United States, putting it among the world's top 10 producers. Output could grow to 4.5 million bpd over the next decade, moving Canada to No. 4 behind Saudi Arabia, Russia and the United States.

Analysts believe OPEC is anxious to bring more official and unofficial member countries into its fold to take greater control over prices after reeling from a 25 percent decline this year.

Daukoru, who is also Nigeria's oil minister, said "everybody has a vested interest in price stability that is not excessive, but also allows forward investment.

"This is where producers of whatever persuasion, whether inside OPEC or outside OPEC, have a common interest," he said.

Daukoru said OPEC already has open discussions with China, the European Union and Russia, noting that Russia regularly attends OPEC meetings as an observer — a role the Alberta government has filled in the past.

In addition to meeting with industry leaders, Daukoru and a delegation from Nigeria visited the Syncrude Canada oil sands operation in northeastern Alberta, although they insisted their trip to the oil sands was for information purposes and not with an eye on investing in the resource.

Analyst: OPEC 'snooping' in oil sands

Vince Lauerman, a global energy analyst with the Canadian Energy Research Institute, told the Calgary Herald that Daukoru's oil sands stop is part of OPEC's "snooping around" to get a better idea what kind of non-OPEC competition the cartel will face over the next several years and decide whether it should be concerned about losing market share.

Daukoru held a private meeting with Alberta Energy Minister Greg Melchin, who told reporters there is merit in sharing information, but whether that ever leads to more formal contacts is "not necessarily our concern."

A spokesman for Melchin's department said that even if Alberta were interested in a role in OPEC, the absence of a state-owned production monopoly would prevent the province from ever imposing a quota.

Any kind of formal ties are not in the cards, the spokesman said.

Canada's Natural Resources Minister Gary Lunn said talking with OPEC is possible, joining the cartel is not.

"Canada will not even consider joining OPEC," he said. "Our whole energy industry is based on free-market principles and we will not stray from that. If there is merit to having discussions, absolutely." he said. "Canada is always on the lookout for new markets around the world, but" any that we pursue "will be based on free market principles." ●

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● LAND & LEASING

Brooks Range picks up third partner

AVCG and its operating subsidiary snag Calgary-based independent, Bow Valley, for North Slope acreage and exploration program

By KAY CASHMAN
Petroleum News

Alaska Venture Capital Group and its operating subsidiary Brooks Range Petroleum have acquired a third partner for their North Slope oil and gas acreage.

Calgary-based Bow Valley Energy Ltd. said Oct. 23 that it has signed a joint venture agreement with AVCG and Brooks Range under which it will participate in this winter's exploration program and "pay 28 percent of specified capital expenditures in exchange for a 20 percent working interest in lands owned by AVCG."

ROBERT G. MOFFAT

JUDY PATRICK

KEN THOMPSON

Bow Valley said it has also agreed to pay certain capital costs previously incurred by AVCG.

Robert G. Moffat, president and chief executive officer of Bow Valley, said the joint venture "is a first step in establishing Alaska as a major production and revenue contributor to Bow Valley's operations."

Bow Valley is the third joint venture partner to sign on with Brooks Range and its parent company in the last year.

TG World Energy and Ramshorn Investments, an affiliate of Nabors Industries, were the first two.

In an email to Petroleum News on Oct. 24 AVCG managing director Ken Thompson explained the financial arrangement between all the partners. He said, "Our partners — TG World Energy, Ramshorn Investments and Bow Valley Energy — through the promotes they pay will pick up most, but not all, of the consortium group's exploration expenses on items like seismic and exploration drilling for at least the next four exploration wells. AVCG/Brooks Range Petroleum will generally pay an average 25 percent share or so in new oil and gas lease purchase amounts. Brook Range Petroleum's share of seismic and exploration drilling for the next three winter seasons is nominal compared to the total. However, for the development phase of any discovery, AVCG will have a 20-30 percent share in oil reserves and production and in development costs, with working interest in development varying across the different prospect areas."

$41.3 million exploration budget

Thompson said Brooks Range was "fully funded for exploration for the next three years. Upon discovery, depending on the discovery size, AVCG may have to obtain additional investment funding for development. Some energy investment firms have voiced interest already when we're successful."

Bow Valley said the "co-venturers have approved a budget of US$41.3 million for 2006 and calendar year 2007, which encompasses the cost of drilling two wells and acquiring seismic. A third well may be drilled if conditions permit." (See North Slope exploration update on page 10 of the Oct. 22 edition of Petroleum News.)

In its Oct. 23 press release, Bow Valley, an independent oil and gas producers with operations in western Canada and the U.K. sector of the North Sea, noted that its farm-in acreage on the North Slope acreage is "in close proximity" to major producing oil fields such as Prudhoe Bay.

"Participation in this joint venture represents a major initiative to expand the company's business into new international jurisdictions," Moffat said. "Alaska is a politically stable jurisdiction, it has an attractive fiscal regime and there is significant exploration potential remaining within close proximity to existing infrastructure. We believe this opportunity is similar to the offshore U.K. where the company has been extremely successful in establishing a significant production base by pursuing smaller opportunities that are no longer considered material to the established major oil companies operating in the area."

Established in 1996, Bow Valley's current U.K North Sea production is about 700 boe per day. In western Canada the company's output is approximately 1,700 barrels of oil equivalent per day.

Bow Valley has another 1,000 boe per day of "predominantly natural gas potential behind pipe which can be tied-in between now and early in the new year" in western Canada, Moffat said.

On Oct. 23, Bow Valley said it had closed a US$150 million debt facility with the Bank of Scotland that would fund its share of capital expenditures to develop four U.K. North Sea fields at Enoch, Blane, Chestnut and Ettrick. The facility was also expected to cover ongoing capital requirements for the U.K. North Sea Kyle field and some exploration.

Moffat said the four projects were expected to yield 7,950 net boe per day over the next 18 months.

Bow Valley's web site is www.bvenergy.com. ●

Editor's note: See lease sale story on page 1 for latest news on AVCG (new leases not included in acreage listed in the above story).

NEW PLAYER

Bow Valley Energy Ltd.

Company profile on Sedar web site (www.sedar.com)

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Head Office Address: 1200, 333 - 7th Avenue S.W.Calgary, AlbertaT2P 2Z1
Contact Name: Robert G. Moffat

Telephone Number: 403 232-0292
Fax Number: 403 232-8920
Date of Formation: June 27, 1996
Governing Jurisdiction: Alberta
Industry Classification: junior natural resource - oil and gas
CUSIP Number: 101906
Financial Year-End: Dec. 31
Short Form Prospectus Issuer: Yes
Reporting Jurisdictions: British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland
Stock Exchange: TSX
Stock Symbol: BVX
Auditor: PricewaterhouseCoopers LLP
Transfer Agent: Valiant Trust Company
Size of Issuer (Assets): $25,000,001 to $100,000,000

Note: Sedar (System for Electronic Document Analysis and Retrieval) is the system used for electronically filing most securities related information with the Canadian securities regulatory authorities. Filing with SEDAR started Jan. 1, 1997, and is now mandatory for most reporting issuers in Canada.

NATURAL GAS

State responds to gas contract comments

The preliminary best interest findings and determination on the fiscal contract between the State of Alaska and BP Exploration (Alaska), ConocoPhillips Alaska and ExxonMobil Alaska Production were released in May, along with the contract, and on Oct. 20 the state released its response to public comments received during the public comment period.

Commissioner of Revenue Bill Corbus said the public process was initially set for 45 days and extended to 75 days. The state received 2,169 submissions, of which 1,385 or 65 percent favored the contract and 609, 29 percent, opposed it.

Corbus said the department continues to work on the interim fiscal interest finding and the limited liability corporation pieces of the contract process and expects to release those documents in mid-November.

He said that after going through the public comments, the administration continues "to hold that the gas on the North Slope is stranded." If there was a gas pipeline the gas would not be stranded, Corbus said.

"The public process reconfirms the administration's belief that the original contract that we issued was good for Alaska and finally that we must as a state proceed expeditiously with a gas line and move Alaska from an oil- to a gas-based economy."

Release of these public process documents was required under the Stranded Gas Development Act, he said, and the administration believes it is good public process to give the public a response.

Interim finding will include LLC document

The interim fiscal finding will be released in November "because it is going to add to the preliminary interest finding everything that has occurred since then and will provide a successor administration a document … they can go to, to find out everything

see **COMMENTS** *page 8*

● EXPLORATION & PRODUCTION

Paramount makes bold Arctic move

Joins Chevron Canada-BP Canada Energy partnership, takes on operator role for 11 wells and seismic shoot over four years

By GARY PARK
For Petroleum News

Paramount Resources, a junior Canadian E&P company, has made a bold move from the middle-ranks to the forefront of Arctic operations by entering a comprehensive, areawide farm-in with Chevron Canada and BP Canada Energy in the Mackenzie Delta.

Backed by 27 years in Canada's Far North, Paramount not only took advantage of the Chevron-BP offer of a farm-in on two Exploration Licenses and two concession blocks covering more than 1 million acres, it took on the operator role.

In return it is eligible for a 50 percent interest in the properties by drilling 11 wells and shooting a specified amount of 3-D seismic over four years.

It won't waste any time getting involved in the new partnership as drilling proceeds on the two wells already planned by Chevron and BP.

Equipment was barged to Inuvik, Northwest Territories, earlier in October and drilling is expected to start in January, the first wells by the partners since the Olivier H-01 and 2H-01 wells in the 2004-05 winter.

Once the drilling commitments have been satisfied in full, Paramount qualifies for a 50 percent interest in previous Chevron-BP discoveries at Langley K-30, Olivier H-01 and Ellice I-48 in the Delta.

Paramount's board of directors has approved in principle a plan to spin out the northern interests in the Delta and Colville Hills areas into a newly created publicly traded company that would initially be owned by Paramount and its shareholders.

The company said the Delta farm-in agreement provides an "outstanding window of opportunity."

Chevron says its interest hasn't cooled

Although Chevron is relinquishing its operator role that should not be interpreted as a cooling of interest in the Mackenzie Delta region or a sign that the company is uncertain about prospects of the Mackenzie Gas Project proceeding, company spokesman Dave Pommer told Petroleum News. He said Chevron is unchanged in its view that Mackenzie Delta gas will be needed in North America.

Adding Paramount to the mix gives the partnership "the potential to expand the territory we can actually cover." He said the deal is an "expression of faith" on the long-term prospects for the region and confidence that the Mackenzie pipeline will be built.

Paramount, in addition to producing gas from the Fort Liard area of the lower Northwest Territories, has been one of the most consistent believers in the potential of Canada's northern prospects.

Two years ago it reported "very positive" results from its joint-venture with Apache Canada which drilled three gas exploration wells in the Colville Hills of the Central Mackenzie Valley and just a month ago it was bullish about results from the Cameron Hills.

"We've had virtually no declines in production since we brought (Cameron Hills) on three or four years ago," Paramount President and Chief Operating Officer Jim Riddell told an investment symposium.

"There are 17 or 18 different wells and every one of them has produced or tested oil or gas, so there are virtually no dry holes up in the area," he said, adding his company had booked 2 million to 3 million barrels of oil reserves at the property, while suspecting there could be 10 times that number.

Paramount has participated in 10 wells

Over the years, Paramount has spent C$80 million on properties covering 1.48 million acres (about 950,000 acres net), participating in 10 wells, of which 8 have been cased and 2 have been abandoned.

An independent evaluation prepared by McDaniel & Associates Consultants for Paramount estimates the company's Nogha C-49 discovery at Colville Lake has raw gas resources ranging from 56 billion cubic feet to 182 billion cubic feet.

The C-49 and Nogha M-17 discovery wells have been production tested at 8.6 million cubic feet per day.

An evaluation prepared for Mackenzie Gas Project regulatory hearings has rated the undiscovered resource potential of the Colville Lake Cambrian sandstone at 8.6 trillion cubic feet over an area of 13 million acres.

But Paramount is moving up a notch is entering the Chevron-BP partnership, facing costs that reportedly average about C$30 million a well.

However, the prospects are enticing, with the Langley and Ellice wells testing at rates of 18 million and 34 million cubic feet per day. Production tests at Olivier are still under wraps.

Chevron, as operator, has filed an application with regulators to obtain a Significant Discovery License at Langley and is preparing applications for licenses for Ellice and Olivier to extend the leases indefinitely based on evidence of hydrocarbon accumulations that are sufficient to support sustained production.

For all of Paramount's apparently bullish view of the north, the upcoming winter will scarcely be a frenzy of activity in the Northwest Territories.

Other NWT focus geophysical

In other operations, the focus is more on geophysical programs.

• Husky Energy is starting evaluation of 135 miles of 2-D seismic shot in the third quarter in the Summit Creek area, where it drilled last winter and logged an oil and gas discovery. It has just received approval for a 7,000 mile airborne gravity survey, but drilling plans have been deferred until the 2007-08 winter, giving it time to incorporate the new seismic data into prospect mapping.

• Talisman Energy, as operator, may conduct a 2-D seismic shoot this winter over property acquired with Devon Canada, but a well will have to wait another year. The joint venture bid C$54 million in work commitments to secure exploration licenses covering 841,000 acres, where Devon has already conducted 1,200 square miles of gravity survey.

• Little-known Kodiak Energy is expected to invest C$5 million on seismic work this winter to acquire 2-D seismic on a 200,000 acres exploration license in the Grandview Hills area of the Mackenzie River Valley. Under a farm-in deal with Thunder Energy, Kodiak can earn a 12.5 percent working interest if it completes the work by mid-2007. In addition, Kodiak has a farm-in agreement with Dual Exploration to drill two test wells in the 2007-08 winter on the Peel Plateau area northwest of Norman Wells.

The other test of interest in the north hangs on whether EnCana and Anadarko attract buyers for their vast holdings, covering a range of significant discovery and exploration licenses. ●

PIPELINES & DOWNSTREAM

Agrium shuts down Keani plants Oct. 23

Agrium said Oct. 20 that its Kenai nitrogen facility would shut down Oct. 23 "due to lack of gas supply and will not likely restart until some time in early 2007."

The company said the shutdown will result "in higher fixed cost charges in the fourth quarter."

Agrium spokeswoman Lisa Parker told Petroleum News Oct. 20 that this extended shutdown will not lead to a workforce reduction.

Maintenance will be done while the plants are down and Agrium will be operating some equipment which will need to be monitored. She said Agrium has been working with employees over the last couple of months on options for taking voluntary leave during the shutdown.

Parker also said that the Alaska Department of Labor has offered great support to Agrium's employees in the last year and a half.

—KRISTEN NELSON

● NATURAL GAS

The answer is unconventional

Study says Canada must turn to coalbed methane, tight gas, shale gas, gas hydrates to meet domestic, U.S. demands by 2025

By GARY PARK

For Petroleum News

If Canada is to meet its domestic gas needs and maintain current levels of exports to the United States by 2025 there is a crucial need for a "coordinated and aggressive effort" by industry and government to exploit unconventional technologies, says a new study.

The Petroleum Technology Alliance of Canada, an industry-wide association which collaborates on research and development, said that requires a 25 percent increase in current production to 7.5 trillion cubic feet a year (20.5 billion cubic feet per day), with about 40 percent coming from unconventional sources — coalbed methane, tight gas, shale gas and gas hydrates.

Meeting the target requires an "integrated strategy comprised of an appropriate fiscal and regulatory environment, sustained funding for advanced research, development and demonstration and the proactive deployment and application of technology," said the report, entitled Filling the Gap.

Underscoring the urgent need for action, the report notes that Canada exports half of its current daily output of 16.4 bcf per day, but, as a result of long-term declines, conventional gas production will be able to meet only domestic needs in 2025. Even if proposals to develop Mackenzie Delta and Beaufort Sea gas are realized, known conventional resources will go into decline over the next decade, PTAC said.

Canadian output could slide to 5.3 tcf in 2020

A recent Natural Resources Canada paper forecast Canada's gas output could slide to about 5.3 tcf a year in 2020.

But PTAC conceded that resorting to unconventional production poses significant challenges to handle concerns about disruptions to existing land use, the visual impact from relatively dense well spacing and protection of fresh water supplies.

However, the study noted that the U.S. has shown the way after its conventional output peaked in the 1980s.

The unconventional gas sector is now responsible for about 30 percent of total U.S. domestic gas supply, with help coming in the early years from government incentives.

The one alternative against which unconventional gas will compete based on associated supply costs is imported liquefied natural gas, PTAC said.

"However, considerations such as security of supply and a desire to keep existing natural gas infrastructure filled by domestic production makes foreign offshore supplies less desirable for Canada," the study said.

At the same time, access to that infrastructure will give unconventional gas a competitive edge that may overcome the anticipated higher production costs, PTAC said.

The importance of gas in the Canada economy was underscored by study estimates that current production is equivalent to about 3 million barrels per day of oil on an equivalent energy basis and represents 3 to 4 percent of Canada's gross domestic product.

The report contains proposals for funding and organizing joint government-industry research and development.

Study recommends technological advances

It recommends that governments look for ways to promote technological advances in the industry and more complete resource extraction and calls for the establishment of assured and stable funding for unconventional gas research and field development.

The study said that conventional gas has been the mainstay of Canada's gas supply because it requires relatively modest costs for well completions and gathering.

In contrast, unconventional gas may need significant technical expenditures to unlock the gas from the reservoir, including artificial stimulation to gain and maintain production.

But the roadmap points to the vast prize available in the four unconventional resources, estimating combined gas-in-place at more than 4,000 tcf compared with the ultimate potential for remaining conventional gas at 370 tcf (145 tcf in the Western Canada Sedimentary Basin, 116 tcf in northern Canada, 90 tcf in the East Coast offshore, 17 tcf on the West Coast and 2 tcf in Ontario and the Maritime provinces).

The breakdown for unconventional gas-in-place lists the lowest estimate for gas hydrates at 1,540 tcf, tight gas at 1,500 tcf, shale gas at 550 tcf and coalbed methane at 539 tcf.

But the report notes that Canada's National Research Council has calculated hydrate-based gas-in-place at anywhere from 1,540 tcf to 28,500 tcf, pointing to a much lower understanding of the resource and the technology that is necessary

"As industry gains more knowledge of unconventional gas recovery technology and its application, a similar 'ultimate potential' estimate for unconventional gas will be determined, but is expected to be very significant," the report said. ●

LAND & LEASING

Kerr-McGee needs Nikaitchuq easement

Kerr-McGee, now part of Anadarko Petroleum, has applied to Alaska's Division of Oil and Gas to modify the easement for the Nikaitchuq field development to accommodate wellbore areas between the field production pad at Oliktok Point and Kerr-McGee's Beaufort Sea leases. The Nikaitchuq development involves directional drilling from Oliktok Point to offshore targets — the wellbores require an easement to pass through the ConocoPhillips-operated Kuparuk River Unit.

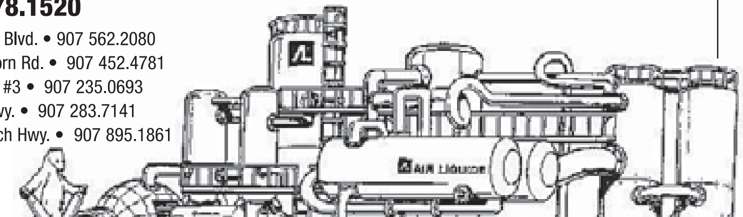
In its easement extension application Kerr McGee said that it proposes starting the drilling of two wells in November 2006, with full development involving the drilling of an additional seven wells. The maximum flow rate for any well is estimated at 2,000 barrels per day with artificial lift, the company says.

Following Anadarko's takeover of Kerr-McGee in August people speculated about the future of the Nikaitchuq project. But in September Anadarko's Alaska spokesman Mark Hanley told Petroleum News that Kerr-McGee's planned winter drilling program would proceed.

Approval of field development will likely depend on the results from the two initial wells. Kerr-McGee's U.S. Army Corps of Engineers permit and unit paperwork describe the future development of three production islands, which would each have about 50 wells. The islands would be in the shallow waters of the Beaufort Sea, south of the protective natural barrier islands.

Discovered in 2004, at its peak Nikaitchuq is expected to produce 60,000 barrels of oil (and small amounts of natural gas) per day from two formations, the Schrader Bluff and the Sag. The field, which is thought to hold between 100 million and 200 million recoverable barrels of oil, is expected to produce for 30 years.

—ALAN BAILEY



PIPELINES & DOWNSTREAM

Alyeska schedules short shutdowns

Alyeska Pipeline Service Co. said Oct. 23 that a scheduled shutdown Oct. 21 to test new and existing equipment as a part of its strategic reconfiguration will be followed by another short shutdown Oct. 26, with as many as four additional shutdowns planned, each expected to last approximately three and a half hours.

Alyeska's strategic reconfiguration is a modernization project to reduce infrastructure and simplify operations and maintenance by electrifying and automating control systems at Pump Stations 1, 3, 4 and 9.

The shutdowns are in preparation for the startup of the new system.

Alyeska spokesman Mike Heatwole said the company is "testing our control system so it will be ready to go when we start up our first station" under strategic reconfiguration.

Pump Station 9 will be the first, Heatwole said, and the current plan is to start it up in early December. He said Alyeska "will run it under the new configuration for a couple of months and apply any lessons learned" on the remaining stations in 2007.

During the Oct. 21 shutdown workers evaluated Alyeska's safety, integrity, pressure, protection system and remote gate valve control functions between Pump Stations 4 and 8. Alyeska said this equipment works in concert to help promote communications between the valves and the operations control center.

There are 178 valves on the trans-Alaska pipeline system controlling flow through the 48-inch mainline pipe. Most of the valves are environmental safeguards ensuring safe operating and limiting the potential size of spills.

—KRISTEN NELSON

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COMMENTS

that this administration accomplished and that will give them a platform to go forward and hopefully to consummate a gas line contract," he said.

Corbus said the release in November will not be a final finding, but an interim finding. This administration will not issue a final finding, he said.

The interim interest finding will include the administration's "recommendations for changes to the contract that will include an LLC document." The limited liability corporation pieces of the contract are almost complete, Corbus said.

Steve Porter, deputy commissioner of Revenue, said the administration has "come a long way" with an LLC document, but "there's still a number of provisions that we're trying to wrap up with the sponsor group."

Porter said there will be a number of issues left unresolved in the interim fiscal finding, but what will be included will be "what the state believes it could agree to as a participant" in the gas pipeline. He said an operator has not been named. "We think that the operator-of-the-pipeline question will be one that will be resolved in the future between the parties after we have agreement as to who's participating."

"We think that the LLC will be formed simultaneously with the decision on the operator," he said.

Porter said some 95 percent of the LLC document "are terms and provisions have been agreed to by the sponsor group" so it will provide the public with a "template of what an LLC agreement would look like and what the state's participation in that LLC would be." He said certain voting provisions "critical to decision making" are still outstanding, along with some less critical issues.

—KRISTEN NELSON

● LAND & LEASING

Thomson owners offer $20M, 20,000 acres

Point Thomson unit operator ExxonMobil Production proposes 5-year plan of development with a Thomson Sand reservoir well

By KRISTEN NELSON

Petroleum News

The long-simmering disagreement between the State of Alaska and the Point Thomson unit owners over development of the field might — or might not — be moving toward resolution.

The state has been trying to get the owners to develop the eastern North Slope high-pressure condensate reservoir for some three decades, with negotiations centered around state approval of plans of development and periodic expansions and contractions of the unit's acreage. Central to the problem is the lack of a pipeline to move oil to the trans-Alaska pipeline and lack of a gas pipeline from the North Slope.

Negotiations broke down in September 2005.

Mark Myers, then director of the Division of Oil and Gas in the Alaska Department of Natural Resources, found the unit in default because the proposed 22nd plan of development failed to meet regulatory requirements to "provide for the reasonable delineation and timely development of the hydrocarbon accumulations in the unit area."

The unit operator, ExxonMobil Production, was given 90 days to "cure the default" with an acceptable plan which included development activities, sanctioning of a commercial Point Thomson unit development by Oct. 1, 2006, and plans for beginning of commercial production by Oct. 1, 2009.

The original "cure" date of Dec. 29, 2005, went away after DNR Commissioner Tom Irwin was fired in a dispute with the administration of Gov. Frank Murkowski over negotiations for a gas fiscal contract and Myers and other top DNR officials quit in protest. Mike Menge, the new DNR commissioner, extended the date because of the gas fiscal contract negotiations. Point Thomson gas is necessary for development of a North Slope gas pipeline project.

The final date, Oct. 20, was set to coincide with what would have been the end of a third 2006 legislative special session to consider ratification of the fiscal contract between the state and project proponents BP, ConocoPhillips and ExxonMobil. That special session never occurred. On Oct. 18, Richard Owen, Alaska production manager for ExxonMobil Production, the Point Thomson unit operator, wrote to Menge proposing a resolution of "all matters" associated with the 2002 expansion-contraction agreement.

20,000 acres would be surrendered

The Point Thomson unit owners are proposing to surrender 20,000 acres and pay the state $20 million to resolve issues around required wells and development of the unit which were part of the 2002 expansion-contraction agreement.

They have also proposed a new plan of development to replace the plan the state rejected last year.

The unit has been operating under annual plans. The new proposal is for a five-year plan and includes a well to be drilled into the Thomson Sand reservoir in 2009-10, or a $40 million payment to the state if the well is not drilled, unless the owners are "prevented from drilling the well for reasons of force majeure or permitting delays on timely submitted permit applications."

Owen told Menge that the obligations the unit owners undertook in the 2002 unit expansion "were based on a gas injection development" at Point Thomson. "In 2004, a gas injection development was determined to not be commercially viable." Since then, Owen said, the Point Thomson working interest owners "have been actively pursuing a gas sales development" for Point Thomson.

Owen said the Nov. 10, 2005, extension to the obligations in the 2002 expansion-contract decision was based on the expectation that a fiscal contract for a North Slope gas pipeline project would be approved, resolving the expansion decision obligations. Since it now appears the Legislature will not approve the contract before the Oct. 20 deadline in the current extension, Owen said Oct. 18, payment of $20 million and surrendering the 20,000 expansion acres is proposed, along with a new plan of development, which, he said, includes "significant commitments" by the Point Thomson working interest owners.

The Point Thomson owners are requesting a five-year term for the new plan of development, from October 2005 (the last date on which there was an approved plan) through September 2010.

Extent of hearing an issue

The Department of Natural Resources has a Point Thomson hearing scheduled for Nov. 13 and said the commissioner will have no response to the proposal until the process of gathering information, holding a hearing and considering all the evidence in the matter is complete.

Exxon had suggested in a Sept. 29 letter to Menge that the Nov. 13 hearing "be limited to the submittal of information on any cure Exxon decides to offer."

Menge demurred.

"Be advised," he wrote Owen on Oct. 3, "the hearing is not so limited."

Menge said the hearing would cover both the appeal from the Oct. 27, 2005, plan of development decision and the proposed cure and written submittals due Nov. 3 "should also address both the appeal from the default decision and the proposed cure."

Surrendered acreage mainly west, south

The acreage the unit owners propose to surrender is primarily on the west and

see POINT THOMSON page 15

● GOVERNMENT

Usibelli's coalbed methane project blocked

Denali Borough Assembly passes ordinance banning gas exploration on 40% of proposed license area, kills coalbed methane project

By SARAH HURST
For Petroleum News

No mining company in Alaska is more an integral part of its community than Usibelli is in Healy. The family-owned company has been mining coal near this small town south of Fairbanks since 1943, when Emil Usibelli began operations with a used bulldozer and a used logging truck. Usibelli continuously reclaims the land it has mined and donates to numerous local causes, including the expansion of the museum at the University of Alaska Fairbanks, which recently named part of its fine arts gallery in honor of Rose Berry, Emil Usibelli's wife.


STEVE DENTON

But the mining company's good record hasn't helped it much in its efforts to explore for coalbed methane in Interior Alaska.

Usibelli filed an application for gas-only exploration in April 2004 with Alaska's Department of Natural Resources.

In August 2005, DNR's Division of Oil and Gas published a preliminary best interest finding. Mark Myers, who was director of the division at the time (and is now director of the U.S. Geological Survey) found that "the potential benefits of the Healy Basin Exploration License, as conditioned, outweigh the possible adverse impacts, and that the exploration license will best serve the interests of the State of Alaska."

The state should have issued a final best interest finding by the end of 2005, following a public comment period, but the process has ground to a halt.

A nonprofit organization called Denali Citizens Council has been fighting Usibelli's proposal, inspired by the success of a similar campaign against coalbed methane development in Southcentral Alaska's Matanuska-Susitna Borough. DCC struck a major blow against Usibelli in mid-September 2006, when the Denali Borough Assembly passed an ordinance that bans any gas exploration or development activity on about 40 percent of the proposed license area.

"I think this is a very classic case of a small group of people who are not going to be persuaded, that has managed to gain the ear of enough assembly members," said Usibelli's vice president for business development, Steve Denton. "Very little of the area they've closed off has potential for coalbed methane exploration, because that's probably going to be in the deeper part of the basin. It's a totally unexplored basin and our chances of success are pretty low. It's going to be small fields, whatever it is," he added.

The company has requested the state to put the license application on hold until the local issues can be resolved.

The 208,630-acre area that Usibelli would like to explore is on state land and some of it is adjacent to Denali National Park. DCC argues that there are concerns about the possible contamination of drinking water and surface water, potentially explosive build-ups of gas in homes and businesses, noise from industrial machinery and insufficient reclamation bonding.

"On the positive side, some surface landowners have received benefits from coalbed methane by way of payments for infrastructure siting, construction of roads or driveways where they needed them, irrigation water, and severance tax revenues to help pay for local services," DCC says on its Web site.

Had been negotiating with borough

The licensing fee that the state would receive for the project is $1 per acre, Myers pointed out in the preliminary best interest finding.

"The potential for additional revenue from rentals, royalties and taxes is unpredictable because no one knows what reserves may be found in the area," he said.

Usibelli would have to describe efforts to minimize impacts on local communities in its plan of operations and submit a copy of the plan of operations to all surface owners whose property is located within half a mile of work activities.

Impacts on water and air quality would be regulated by existing legislation.

Before the ordinance was passed, Usibelli had been negotiating with the Denali Borough Assembly for a year to try and find a solution to the impasse.

"We will continue to try and work through the assembly," Denton said. "The state hasn't shown any strength in dealing with these contentious local issues."

Advice for new governor

Denton's advice to the new governor of Alaska?

"I would say that they need to vigorously defend the state's rights as a subsurface owner of resources. These local governments condemning state resources has gotten really out of hand." ●

NATURAL GAS

Aurora Gas pulls west side inlet rig

Aurora Gas has suspended drilling for the season and released Alaska Well Service rig 1.

The company's president, Scott Pfoff, said in an Oct. 23 statement that the company had hoped to drill at least two additional development wells in 2006, but released the rig due to geologic risk and commercial uncertainties.

He said the company had mixed results from its 2006 drilling and workover program in Cook Inlet.

The company said in the spring that its oil exploration well, Endeavour 1, at Anchor Point on the Kenai Peninsula was not commercial. AWS rig 1 was then moved to the west side to drill Long Lake 2, a natural gas exploration well, and to do a well workover program. Long Lake 2 was drilled to a measured depth of 3,842 feet and subsequently plugged and abandoned as a dry hole.

The company spent much of the season focused on recompletions and workovers with moderate success on recompletions of the Nicolai Creek 1B, Lone Creek 1, Mobil Moquawkie 1 and Nicolai Creek 9. Results are being evaluated from an acid stimulation of the Three Mile Creek 2.

Commercial uncertainty in mix

"This has been a tough year for Aurora Gas," Pfoff said. "Geologic complexity, the high-cost environment in which Aurora operates and recent commercial uncertainty have all combined in a perfect storm effect to paralyze the company's efforts to prove up additional reserves and deliverability in Cook Inlet. We understand and accept the geologic risks, and we are constantly striving to reduce costs, but when commercial uncertainty was thrown into the mix, we had no choice but to defer further activities in our core area of operations on the west side of Cook Inlet."

Pfoff said Aurora Gas tried to exercise its contractual right to suspend deliveries of natural gas to Enstar Natural Gas Co. "at prices that are far below what is economic." Enstar resisted and is litigating, he said.

"We see no incentive to continue the search for gas until this issue can be resolved; and if the issue is not resolved in Aurora's favor, the result will be no further exploration and development by Aurora Gas in our core area of operations."

Focus might shift to oil

Pfoff told Petroleum News earlier in October that further drilling this year was at risk because of commercial uncertainty (see story in Oct. 22 issue of Petroleum News).

"There is a certain amount of irony involved; everyone fears the shortage of gas this coming winter, yet Aurora Gas had no choice but to release the rig and suspend further drilling," Pfoff said Oct. 23.

He said Aurora Gas will continue to explore in Cook Inlet.

"We have other opportunities and prospects that we can pursue."

Pfoff said the company hopes to conduct additional three-dimensional seismic work this winter "and we are optimistically planning a work program for 2007 including another wildcat exploration well for oil. My guess is that most of the work will either be oil-focused or focused on natural gas opportunities in new areas of Cook Inlet.

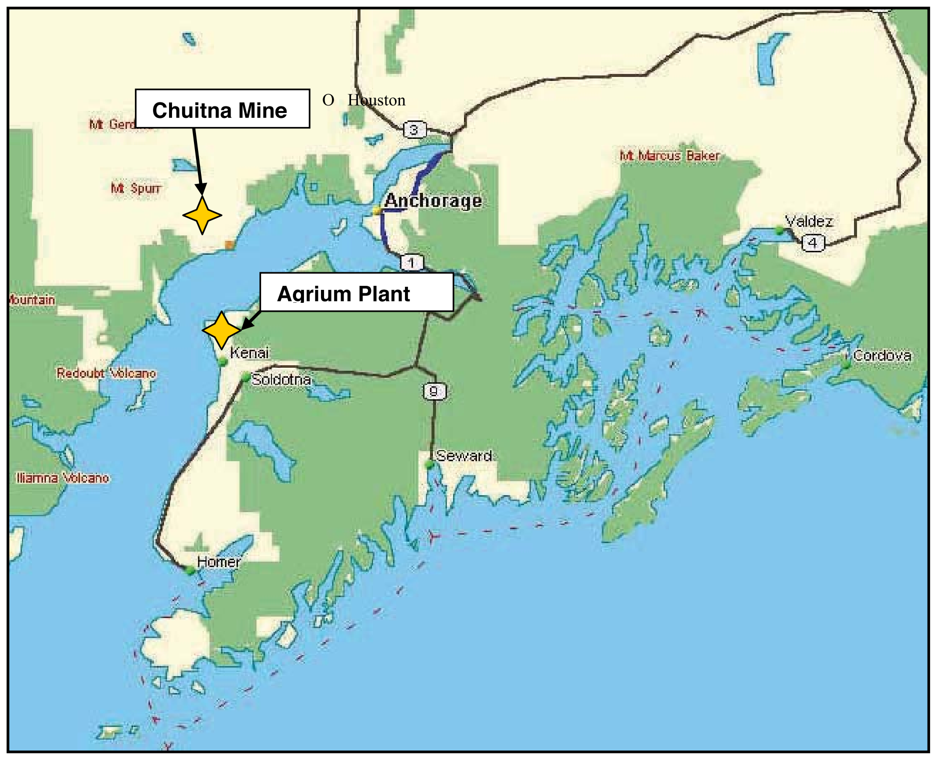
—KRISTEN NELSON

● ALTERNATE ENERGY

Coal gasification options in Alaska

DOE/SAIC studying coal gasification at Nikiski and coal to liquids at Healy; Nikiski plant looks marginally economic

By ALAN BAILEY
Petroleum News



In the portfolio of possibilities for the development of Alaska energy resources, coal gasification has taken a prominent position in the past year.

In November 2005 Agrium announced its Blue Sky project, to use coal gasification as an alternative to natural gas to feed its fertilizer plant at Nikiski on the Kenai Peninsula — in August the company announced that it was progressing to phase two of that project. And Alaska Natural Resources-to-Liquids, with funding from the Alaska Industrial Development and Export Authority and from Chinese Petroleum Corp., is embarking on a feasibility study for a coal-to-liquids plant near the undeveloped Beluga coal field on the west side of the Cook Inlet.

Coal gasification, as envisaged at the Agrium plant, involves combining coal at very high temperatures with pure oxygen, separated from air, to produce hydrogen and carbon dioxide. The hydrogen together with nitrogen, also separated from air, would form feedstock for generating ammonia and urea in the fertilizer plant.

In a coal-to-liquids plant, the coal gasification products, known as syngas, are passed through what's known as a Fischer-Tropsch reactor to string the syngas components into long-chain, waxy hydrocarbons. The wax is cracked into a series of shorter-chain hydrocarbons, to form syncrude. Syncrude consists predominantly of diesel fuel, kerosene and paraffin waxes.

Coal-to-liquids plants have been operating in South Africa for several decades. And in Alaska, BP's Nikiski prototype gas-to-liquids plant uses similar technology, with natural gas rather than coal forming the feedstock for the production of the syngas.

Feasibility study

In parallel with the Agrium and Alaska Natural Resources-to-Liquids initiatives, Science International Applications Corp. has been conducting an Alaska coal gasification feasibility study for the National Energy Technology Laboratory, a part of the U.S. Department of Energy. NETL wanted to investigate the potential for operating what is known as an integrated gasification combined cycle (or IGCC) plant in conjunction with the Beluga coal field. An IGCC plant uses the products of coal gasification to generate electricity through a combination of gas and steam turbines; the IGCC technology is more efficient than a conventional coal-fired power station and produces less solid waste.

Robert Chaney, a senior analyst with SAIC, reviewed some of the findings of the DOE/SAIC feasibility study at the October meeting of the Alaska section of the American Society of Mechanical Engineers.

Chaney explained that, with a study already in progress for a coal-to-liquids plant at the Beluga coal field and Agrium moving ahead with its coal gasification proposal, the project team decided to look at some different perspectives on applying coal gasification in Alaska.

"We decided, at DOE's request, to look at the Agrium plant as a site for a gasification system based on a combined cycle plant design — Agrium is looking at it a little bit differently," Chaney said. "Then, in the second phase (of the study), because of these plants that are being developed here in the Cook Inlet region, we decided to look at a plant at the Usibelli coal mine in Healy."

The Agrium plant

Chaney said that the type of coal available for the Agrium plant narrows the selection of available designs of gasification plants to two models — a Shell model and a ConocoPhillips model. Since Agrium is already investigating the feasibility of using the Shell model, the DOE/SAIC project elected to investigate the ConocoPhillips model.

And SAIC looked at electric power generation within the plant using IGCC gas and steam turbines, rather than the conventional fluidized-bed coal combustion power plant of Agrium's preliminary design. An IGCC plant running in conjunction with the coal gasifier for the fertilizer plant would develop a total power output of about 254 megawatts. The industrial facility itself would consume about 191 megawatts of that power, Chaney said.

SAIC looked at two potential sources of coal for the Agrium plant — Usibelli's Healy coal mine and the Chuitna coal project in the Beluga coal field.

"We have 44 megawatts left to sell to the grid," he said. A previous study had indicated that the Southcentral Alaska grid could, without major modification, absorb up to 70 megawatts of power from Nikiski, he said.

But, with an estimated cost of \$1.6 billion for the combined coal gasification and electrical generation plant, the development of the Nikiski plant would not come cheap.

Two sources of coal

SAIC looked at two potential sources of coal for the Agrium plant — Usibelli's Healy coal mine and the Chuitna coal project in the Beluga coal field.

The Healy coal mine has been in production for many years but the Chuitna project is still under development. Both coal fields contain very similar sub-bituminous coal with a high moisture content and very low sulfur content. Those attributes make the coal excellent for gasification, especially as the moisture would contribute to the gasification process, Chaney explained. However, a relatively short barge route between the west side of the Cook Inlet and Nikiski would favor bringing coal from Chuitna — coal from Healy would have to be barged from railroad depots in either Anchorage or Seward.

SAIC looked at the potential factory-gate price of coal from the two sources. Chaney said that both mines quoted costs at the mine in the range of \$1.10 to \$1.25 per million British thermal units. But after factoring in the transportation costs, Usibelli coal shipped via Seward turned out to be the most expensive, at \$2.58 to \$2.73 per million Btu. Coal from Chuitna might cost \$1.84 to \$1.99 per million Btu.

11.1 percent internal rate of return

SAIC ran an economic model for the plant, using a mid-range coal price of \$35 per metric ton (approximately \$2.11 per million Btu), coupled with published expected average prices for ammonia and urea. Using the estimated capital cost of the plant; an assumed annual operation and maintenance cost of 8 percent of the capital cost; and a contingency of 25 percent for cost overruns, the internal rate of return for the project came out at 11.1 percent, with a payback year (the year by which revenues would have paid for development costs) of 2023.

Those economics look feasible but marginal.

"Most investors look for something greater than 15 percent," Chaney said.

But the rate of return is particularly sensitive to changes in the capital cost of the plant; the plant availability when in operation; and the prices of the urea and ammonia products. So, finding ways to trim that capital cost could significantly improve the viability of the project, as would finding good product prices.

see **COAL GASIFICATION** *page 12*

continued from page 10

COAL GASIFICATION

Negotiating a relatively low coal price would obviously also improve the project economics.

Coal gasification generates large volumes of carbon dioxide. So another way of increasing the project rate of return would be to use the carbon dioxide for enhanced oil recovery in the Cook Inlet oil fields. The study reported that more than 300 million barrels of additional oil might be recovered from the oil fields using carbon dioxide, thus adding significant value to the carbon dioxide from the gasification plant.

"Enhanced oil recovery is a well known technology — there are over 70 oil fields that have used carbon dioxide," Chaney said, adding as an example that a coal gasification plant in North Dakota pipes carbon dioxide more than 50 miles to the Canadian Weyburn oil field for enhanced oil recovery there.

Healy coal to liquids

In the second phase of the DOE/SAIC study the SAIC analysts are investigating the feasibility of building and operating a coal-to-liquids plant at Usibelli's coal mine near Healy. The plant would use 4 million tons per year of coal from a new section of the mine at Emma Creek to generate 14,640 barrels per day of syncrude liquids, Chaney said. The plant might also sell 42.5 megawatts of electrical power into the electricity grid.

The liquids would be shipped to Fairbanks by railroad in tank cars for distribution to Alaska refineries — the potential for refining low-sulfur diesel from the products is particularly appealing.

"The preliminary indications are that

In the second phase of the DOE/SAIC study the SAIC analysts are investigating the feasibility of building and operating a coal-to-liquids plant at Usibelli's coal mine near Healy.

the refineries would be interested in buying this," Chaney said.

But the project team has yet to finalize its analysis of the Healy gas-to-liquids concept.

Cook Inlet pipelines

Also in phase two of the study SAIC has been evaluating the potential to lay two pipelines under Cook Inlet to transport coal gasification products from the proposed Beluga coal-to-liquids plant to Nikiski; one pipeline would carry carbon dioxide and the other pipeline would carry a mixture of hydrogen and nitrogen. Under this concept, products from the Beluga plant, rather than a coal gasification plant at Nikiski, would form the feedstock for the Agrium fertilizer plant.

Preliminary results of this study suggest that electricity to power the massive compressors required for the pipelines would account for as much as 70 percent of the operation and maintenance costs of the system, thus making the price of electricity a critical factor in project feasibility, Chaney said.

In addition, transporting the coal gasification products under Cook Inlet would require 32-inch and 16-inch pipelines — the feasibility of laying these pipelines represents a significant unknown.

"Most of the pipelines that are in the Cook Inlet … are 10-inch or less," Chaney said. "Just the logistics of laying them (the large-diameter pipelines) from a barge is a big deal."●

EXPLORATION & PRODUCTION

Perf Drill test fails; drill rig coming in spring

Rutter and Wilbanks' Perf Drill test at its Ahtna No. 119 gas exploration well near Glennallen in the Copper River basin didn't work.

"They got stuck again. … They couldn't make the Perf Drill work; they couldn't get more than 3 or 4 feet out into the formation," Bill Rutter III told Petroleum News Oct. 26. "It was an expensive experiment and it didn't work. We're coming back in the spring with a drill rig."

The Texas-based independent started drilling the 7,500 foot well in February 2005.

But drilling was hampered when the company encountered extremely high pressures in the well bore. To alleviate the pressure the drillers had to use heavy mud to complete drilling, which damaged the formation.

"We ended up drilling most of that well with 20 pound mud." Rutter said.

This past fall the company went back in to test the well using a Cad Pressure Central snubbing unit. The company was hoping the Perf Drill could get through the casing to where it thinks the reservoir is, some 10-12 feet past the reservoir damage.

—KAY CASHMAN

Shell to head joint development of three Lower Tertiary fields in Gulf

Shell Offshore and its partners in three Lower Tertiary discoveries in "ultra-deepwater" Gulf of Mexico have decided to combine the fields — Great White, Tobago and Slivertip — into a single hub development located in Alaminos Canyon, with first production "around the turn of the decade," Shell said Oct. 26.

The project is called the Perdido Regional Development and will be designed to process daily 100,000 barrels of oil and 200 million cubic feet of natural gas, Shell said, noting that the hub or "spar" installation would be moored in about 8,000 feet of water.

The concept for regional development includes a common processing hub in Alaminos Canyon Block 857 near the Great White discovery that incorporates "drilling capability and functionality" to gather, process and export production within a 30-mile radius of the facility, Shell said.

The regional concept also would reduce costs and lower risk, plus reduce the number and size of the facilities and operations, the company added.

However, Shell did not say whether production from the three fields would be transported ashore via pipeline or by ocean tanker.

"This geologic setting is different from what has previously been produced in the Gulf of Mexico and will establish the first production from the Lower Tertiary (Paleogene) play in the Gulf of Mexico," said Marvin Odum, Shell's executive vice president, E&P Americas. Shell is the project operator with a 35 percent interest, followed by Chevron with a 37.5 percent stake and BP with a 27.5 percent interest.

—RAY TYSON

● LAND & LEASING

Startup still jazzed about Alaska

Fast-moving True North Energy completes acquisition of 33,000-acre Cook Inlet, North Slope lease portfolio; woos potential partners

By ROSE RAGSDALE
For Petroleum News

Six months after blowing into Alaska's oil patch, a whirlwind startup out of Houston, Texas, is closing in on completion of its first lease acquisitions and making aggressive plans for the future.

The fledgling enterprise aimed to close in October on the acquisition of 22,917 acres in Cook Inlet onshore and offshore oil and gas leases and 10,000 acres of leases onshore and offshore 10 miles east of the North Slope's Prudhoe Bay oil field. The leases formerly belonged to a host of small investors who are longtime players in Alaska's oil and gas industry.

Massimiliano Pozzoni, who acquired the startup in January and changed its name to True North Energy Corp. in March, now serves as chairman and chief financial officer.

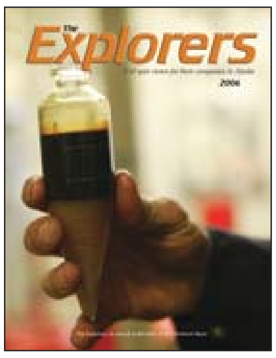
Drawing on Pozzoni's background as an investment banker, True North Energy also raised capital with private placements and joined others in Lower 48 gas exploration.

In June, Pozzoni brought in John Folnovic, a 25-year veteran of northwestern Canada's oil and gas industry, as True North Energy's president and CEO.

Pozzoni and Folnovic aim to secure and develop a large portfolio of oil and gas properties in Alaska. The strategy calls for making big plays in Alaska and joining others in low-risk drilling ventures in Louisiana, Texas and Oklahoma.

True North Energy told the Securities and Exchange Commission in September that it intends to spend $1.5 million during 2006 and 2007 on exploration and development activities such as seismic data acquisition, additional lease acquisition, technical studies and participating in joint venture development and exploration drilling.

"We do not anticipate any drilling on our Alaska properties over the next 12 months. Our primary effort in Alaska will be to acquire additional seismic data, conduct additional technical evaluation of our Alaska leases and to find compatible partners by selling down our 100 percent working interest to reduce our risk level and financial exposure," the company said in a 10QSB filing Sept. 14.



This article is from The Explorers magazine, an annual publication produced by Petroleum News and released at the yearly Resource Development Council for Alaska conference in Anchorage in November. For more information on RDC's conference go to http://www.akrdc.org/membership/events/conference/2006/

Geologist: Harriet Point looks good

Chief among True North Energy's current plays in Cook Inlet is the Harriet Point prospect, 17,166 acres in contiguous parcels covering onshore and offshore areas along the western coastline of Cook Inlet's Redoubt Bay.

A recent geological and geophysical assessment of the resource potential of Harriet Point shows the prospect has 400 million to 1,600 million barrels of oil in place and recoverable crude of 180 million to 700 million barrels.

Geologist H. Jerry Hodgden of Golden, Colo.-based Hodgden and Associates prepared the assessment for True North Energy, updating earlier work he did for Danco International in the 1980s. Hodgden's interest in Alaska dates back to the 1950s and his actual exploration activities in the state date from work on the Lorainne Prospect at the north end of Cook Inlet in the 1970s. He also explored the Goodnews Bay Platinum Project with a partner for 10 years in the 1980s and early 1990s.

After scrutinizing Danco's Alaska holdings, Hodgden said he identified two prospects in the package that he liked very much, Redoubt Shoal and Harriet Point. He sold ownership interest in Harriet Point that he acquired from Danco to True North Energy earlier this year, but still owns an overriding royalty interest in the prospect.

"As you know, Redoubt Shoal is now producing, but I liked Harriet Point the best," Hodgden told Petroleum News Oct. 17.

Hodgden said further seismic studies conducted by independent consultants Klipping and Associates in Denver and Boulder showed "a pretty good anticlinal feature."

"Harriet Point has a triple threat aspect — it sits on the shoreline with accumulation within reach of directional drilling, and it's shallow. It not only has strong potential for Hemlock and West Foreland, but the Tyonek formation looks pretty good too," he said.

"This initial assessment of the Harriet Point Prospect, although limited in scope, is very encouraging and presents an excellent high reward-high risk exploratory opportunity for us," Folnovic said.

He said the company would procure additional seismic data for further analysis and eventually would like to drill a shore-based well to test the prospect at a depth of 4,600 feet.

Wanted: JV partners

The company also owns the North and South Beluga prospects totaling 5,811 acres. Adjacent to the mature Beluga River gas field owned by Chevron, ConocoPhillips and Municipal Light & Power of Anchorage, these tracts could yield additional gas reserves.

On the North Slope, the company purchased four 2,500-acre parcels (leases) onshore and offshore adjacent to the BP-operated Duck Island production unit.

True North Energy said it is continuing discussions with potential joint venture partners in Alaska and will continue to review other acreage for possible acquisition in Texas, Louisiana, Alaska and Canada. ●

FINANCE & ECONOMY

Shell's C$7.7 billion bid no slam-dunk

Buying out Canadian assets could force Royal Dutch Shell to dig deeper; parent company wants to align Canadian decision-making

By GARY PARK
For Petroleum News

Royal Dutch Shell, still reeling from its 2004 reserves accounting scandal, is in a hurry to rearrange some of its global operations.

It may be in too much of a hurry.

A year after a complex merger of Shell Transport and Trading and Royal Dutch Petroleum — the two companies that have been the foundation of Royal Dutch Shell for 100 years — it swooped in Oct. 23 with a C$7.7 billion offer for the 22 percent of Shell Canada shares it doesn't already own.

If it pulls off the deal, it will take complete control of billions of barrels of oil sands deposits in Alberta and remove a decision-making obstacle.

Linda Cook, Shell Canada chief executive officer for 12 months from mid-2003 and Shell's global executive director, reportedly told other managers last year that she had been stalled by having to deal with the Canadian subsidiary's 10 directors, seven of whom are independent.

"Under the current structure, Shell Canada develops its own strategy for its own shareholders which may not always be aligned with our global strategy at Royal Dutch Shell," Jeroen van der Veer, chief executive officer at Shell, told a conference call Oct. 23.

"We see opportunities with a simplified North American organization and this will facilitate both upstream and downstream. In Shell Canada's positions in the Canadian oil sands, it makes this region a top growth asset in Royal Dutch Shell's portfolio."

He said it will take the use of Shell's downstream assets in the United States (where it owns or has interests in six refineries in the Gulf Coast and California with combined capacity of 1.2 million barrels per day) to fully unlock the oil sands value.

Shell now paying attention to Canadian assets

It is only in recent times that the parent group started paying close attention to the Canadian assets, notably after the significant downsizing of its reserves.

Entering 2006, rumors that Shell was about to buy out the minority shareholders pushed Shell Canada shares to record highs, which persisted through January when they peaked at C$47.19.

Since then they have wilted, sliding back to a 52-week low of C$28.90 in August and struggling to remain above C$30, mirroring the dive in oil and natural gas prices.

In this weakened environment, the parent company made its long-anticipated move, putting an offer of C$40 a share on the table.

The same day 24.4 million shares changed hands — 40 times the average — as shares closed at C$42.55, up 30 percent, in a clear signal that the market expects an improved offer will be tabled.

Shell Canada Chief Executive Officer Clive Mather said a special committee of his board will take a "number of weeks at a minimum" to complete a valuation process.

Shell said only that it won't proceed unless it has at least 50 percent support from minority shareholders.

Market expects price to rise

Len Racioppo, president of Jarislowsky Fraser, which controls 29.5 million of Shell Canada's 825.5 million shares, doubted that the initial offer would survive.

He said the parent company was "clearly being opportunistic," taking advantage of the slump in commodity prices and Shell Canada's disclosure that the next phase of its oil sands expansion could overshoot estimates by 50 percent.

Garey Aitken, portfolio manager at Bissett Asset Management, which controls 3.7 million Shell Canada shares said the C$40 bid is not sufficient.

"There is a lot of hidden asset value here," he said.

Glenn MacNeill, vice president investments at Sentry Select Capital, which owns 100,000 shares, is counting on a "little more juice" to reflect the more upbeat view of oil's future prices.

The word on the street is that anything under C$46 could see the deal collapse and even Shell Chief Financial Officer Peter Voser, while insisting the offer was "full and fair," conceded the market will determine the price of the deal.

Shell would have foothold in every major play

Bringing the Canadian holdings under one umbrella would give Shell a foothold in every major Canadian play.

It would have access to billions of barrels in Alberta's three oil sands plays (Athabasca, Cold Lake and Peace River) as well as a leading position in the untested carbonate formations; 11.4 percent of the Mackenzie Gas Project; a key role in the deep gas plays of the Alberta Foothills; and a 31.3 percent stake in the Sable gas project offshore Nova Scotia. Van der Veer said the Canadian unit, which accounts for about 6 percent of group production, will expand that contribution as the oil sands business grows and Shell brings into play its proprietary technology to exploit both the oil sands and oil shales in Colorado.

John Hofmeister, head of Shell's U.S. unit, said the mining and in-situ technologies developed in Canada and the U.S. have prospects in China, Jordan and other parts of the world, including Colorado, the Peace River region of northwestern Alberta and Venezuela.

He said that given the minority shareholdings in Canada it is not technology that could be shared.

Bringing those elements together holds promise for all of the oil sands, where the Shell Canada-operated Athabasca project produces 155,000 bpd (93,000 bpd net) and hopes to add 100,000 bpd by 2015, although the latest cost estimates point to a possible 50 percent rise to C$12.8 billion.

But that hasn't deterred the Calgary-based unit from setting its sights on 550,000 bpd from the oil sands by 2020.

In addition to Athabasca, it has ambitious plans for the Peace River area following its C$2.4 billion takeover of BlackRock Ventures, a deal that lays the groundwork for a possible 100,000 bpd operation.

The disappearance of Shell Canada would also remove a muddy situation that arose early this year when Shell E&P in the Americas, operating through newly created subsidiary Sure Northern Energy, surfaced as the surprise buyer of parcels in the limestone deposits where Shell hopes to apply its new enhanced oil recovery technologies.

Sure Northern spent C$590 million acquiring almost 300,000 acres in the Grosmont formation and is now drilling appraisal wells to better evaluate the holdings. ●

Open season declared on oil sands majors

The grab for control of Shell Canada could bring more of Canada's largest oil and gas companies into play as global majors look for a slice of the oil sands action.

In addition to Royal Dutch Shell's hunger for assets in Alberta, BP and Marathon have dangled their U.S. refineries in an apparent desire to participate in the upstream, while ConocoPhillips set a precedent in forming a joint venture with EnCana to both develop and process bitumen deposits.

Now that the international powerhouses are no longer under pressure to maintain Canadian subsidiaries for political reasons and Canadian governments show little appetite for meddling in the free market, analysts think most of the major oil sands players are takeout targets.

UBS Securities said the Shell move could trigger bidding for companies such as Suncor Energy, Canadian Natural Resources, Nexen and EnCana.

It said Shell may have kicked off "widespread consolidation in the Canadian oils as majors seek to position themselves with large, low-risk resources."

Kim Shannon, president of Sionna Investment Managers, added more big names to the list — the Syncrude Canada consortium which is the world's largest source of synthetic crude; Imperial Oil, Canada's largest oil and gas company which is 69.6 percent owned by ExxonMobil; and Canadian Oil Sands Trust, which owns about one-third of Syncrude.

"Symbolic for all Canadian oil companies, the trading has begun," said Shannon.

By way of indicating that no company is off the table, other analysts have added Husky Energy, 71 percent controlled by Hong Kong billionaire Li Ka-shing, to the list.

One of the first to topple could be Western Oil Sands, which owns 20 percent of Shell Canada's Athabasca project.

It has been touted as a takeout candidate since summer after infuriating its shareholder base by announcing plans to spend US$45 million over four years exploring for oil in Iraq's Kurdistan region.

Breaking away from its pure oil sands base and entering such a volatile part of the world set off rumors that activist shareholders are looking to overthrow Western's management.

—GARY PARK

● LAND & LEASING

Central Gulf Lease Sale 201 canceled

Department of Interior halts all offshore oil and gas lease sales to assess hurricane damage, industry impacts on Louisiana's coast

By RAY TYSON
For Petroleum News

There will be no more oil and gas lease sales in federal waters of the Gulf of Mexico until an Environmental Impact Statement is prepared that takes into account the effects of hurricanes Katrina and Rita on coastal areas of Louisiana, according to an Oct. 24 out-of-court settlement between the State of Louisiana and the U.S. Department of the Interior.

The settlement resulted in the immediate cancellation of the traditional Central Gulf of Mexico lease sale held in March. It's also believed to be the first time a U.S. Gulf lease sale was canceled due to environmental concerns.

Louisiana Gov. Kathleen Blanco, in a press conference televised on the Internet, hailed the settlement as a clear victory for Louisiana and states' rights.

"For the first time in the history of Louisiana we have proven that when it comes to oil and gas development off our coast, it is no longer business as usual," Blanco said.

The governor said that a "complete" EIS, to be prepared by the U.S. Minerals Management Service, would include the "cumulative impacts" of offshore leasing activity on Louisiana's coastal zone, in addition to hurricane damage that she said turned 217 square miles of Louisiana's coast into open water.

"As I have said many times before this fight is not with the oil and gas industry," Blanco said. "It is with the federal government. It's abundantly clear that a lot has changed on our coast and all of those changes must be considered by MMS."

Louisiana filed against feds in July

The State of Louisiana filed suit against the federal government in July, attempting to stop Western Gulf of Mexico Lease Sale 200, held in August, on the grounds that MMS failed to properly assess hurricane damage before going ahead with the sale. A federal judge allowed the sale to proceed and scheduled a November trial on the merits of the case.

As a result of the out-of-court settlement reached ahead of the trial, Louisiana agreed to dismiss its lawsuit, and the U.S. Interior Department agreed to halt further leasing in the Gulf of Mexico until a more thorough EIS could be prepared.

MMS canceled Central Gulf of Mexico Lease 201, the last sale in the agency's current five-year leasing program, and moved it into the proposed 2007-2012 leasing plan. Tracts from Sale 201 are expected to be rolled into Central Gulf Lease Sale 205 proposed for September. The new five-year leasing program likely will be approved next spring.

Under the agreement, Louisiana forgoes any challenge to Interior issuing leases to companies for blocks they acquired in Western Gulf Lease Sale 200, which generated a surprising $340.9 million in high bids from the 62 companies that participated in the sale. MMS believes that development of these leases could result in production of 136-to 252 million barrels of oil and 0.810-to 1.440 trillion cubic feet of natural gas.

"Resolving this dispute by agreement rather than litigation benefits our nation's energy security by assuring we can move ahead on the leases issued in Lease Sale 200," said Steve Allred, Interior's assistant secretary for land and minerals management. "The agreement also sets the next five-year lease program on the right track."

State says it will have approval

But until MMS has completed its environmental analysis, no exploration plan will be allowed on Sale 200 leases "until each plan reflects an appropriate environmental analysis and (is) approved by the state," Blanco said.

However, Interior's interpretation of this stipulation says nothing about Sale 200 exploration plans requiring state approval. "Louisiana also forgoes any challenge under the National Environmental Policy Act to Interior's approval of exploration plans for the Lease Sale 200 parcels, provided Interior has completed an environmental assessment during a period of time specified in the agreement."

Regardless, Interior said it would continue with the preparation and completion of a NEPA EIS for all 11 sales proposed in the 2007-2012 lease program, and that it would take into account the impact of Katrina and Rita on Louisiana's wetlands and infrastructure. Under the agreement, Interior pledged not to offer any new leases off Louisiana's coast before it issues the "Record of Decision" on the new EIS.

Thousands of miles of pipeline are said to crisscross the state's coast, delivering nearly one-third of the U.S. oil and gas supply.

"Our disappearing wetlands protect these critical resources, and our nation's economic and energy security depends on Louisiana," Blanco said. "These storms have strengthened our resolve as a people and have renewed the idea that a restored and protected Louisiana coast is fundamental to our future."

A thorough environmental assessment of Louisiana's coastal zone also would prove that additional federal money is desperately needed for coastal restoration, Blanco said, noting that 82 percent of Louisiana voters already have approved a ballot measure dedicating "every penny" the state receives from offshore revenue sharing to coastal protection and restoration.

"Some continue to ask me if this lawsuit is really about money, if it is really about oil and gas revenues," the governor added. "This lawsuit and this agreement are about states' rights and ensuring that the federal government abandons its 'business-as-usual' approach and recognize the serious impacts to Louisiana's coast from offshore oil and gas leasing." ●

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POINT THOMSON

south of the Point Thomson unit, along with some acreage on the northeastern corner. Twenty tracts are involved, only four of them complete surrenders, ranging from 637 acres to 2,560 acres in size. The remaining tracts involve partial surrenders from 240 acres to 2,143 acres.

Some of the acreage proposed for surrender is in expansion areas, although only a portion of the 2002 expansion area would be surrendered under the Exxon proposal. Some areas of the pre-2002 unit on the west, south and northeast are offered for surrender. Large areas were added to the unit in 2002 on the north and northwest and only portions of those tracts are on the surrender list.

Owners working with AOGCC

In a summary of work performed since Oct. 1, 2005, Exxon said the Point Thomson owners initiated the process of applying for pool rules from the Alaska Oil and Gas Conservation Commission. The owners and AOGCC "agreed to a protocol for the sharing of confidential data with the agency" in April, and in May, a comprehensive Point Thomson review was held for the AOGCC and its consultants. Exxon said the review included previous gas-injection development study efforts and introduced the owners' work "to assemble a worldwide database of potential Point Thomson analogue reservoirs."

In the proposed 2005-2010 plan, Exxon said the owners would continue to share confidential technical data with AOGCC in a data room. Once that process is completed, the owners will submit "a request for approval of a conservation order to authorize the desired gas offtake rate from the Thomson Sand reservoir."

Exxon also said that, while prior studies found "stand-alone gas injection or Brookian development were not commercially viable" and "other studies concluded that neither gas storage nor gas injection followed by gas sales was commercially viable," the petroleum production tax passed by the Legislature in August "and other changes in market conditions and other potential issues could affect the commercial viability of alternate development scenarios either positively or negatively."

Screening studies are planned to evaluate the impact of the changes and to determine if more detailed work is warranted. ●

FINANCE & ECONOMY

EnCana readies Arctic, African sales

EnCana expects to add "several hundred million dollars" to its war chest either later this year or early in 2007 from the sale of the latest batch of non-core assets it has put on the block — natural gas discoveries and a grab-bag of other assets in northern Canada and oil finds in the central African nation of Chad.

John Brannan, managing director of frontier and international new ventures, said Oct. 25 that a data room should be opened toward the end of December for prospective buyers.

The pick of the Arctic assets is EnCana's role in the Umiak discoveries, estimated at 200 billion to 300 billion cubic feet, representing an important ancillary source of gas for the Mackenzie Gas Project.

In addition, the package includes two exploration licenses and one significant discovery license in the Mackenzie Delta/Beaufort Sea region, plus various non-operated interests in 14 significant discovery licenses.

Also on the table are interests in 19 significant discovery licenses and one production license in the remote Arctic Islands.

Chad offers some oil discoveries — one rated at 50 million barrels and three of 150 million barrels.

—GARY PARK

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

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Business Spotlight

FORRERST CRANE

Karen Perrier, Project Administration/Controls Manager

H.C. Price Co.

H.C. Price is an EPC heavy mechanical and electrical contractor specializing in pipeline construction and maintenance, electrical power/process facilities and infrastructure installations statewide. Large pipeline and oilfield projects have gained H.C. Price the reputation of a pipeline company, but Price has equally been successful in large infrastructure projects and continues to branch out in those markets.

Karen Perrier's field assignments have included several oil-related pipeline and module installations, the Bradley Lake Hydro plant, the Healy Clean Coal Project and the Fort Greely Missile Defense project. At home in Anchorage, she enjoys backcountry skiing and hiking in Chugach State Park. In addition to touring Alaska whenever possible, she has traveled extensively in Europe, Australia, New Zealand and Canada.

FORRERST CRANE

Paula Dawson, Contracts Admin/Safety and Compliance Officer

American Marine Corp.

American Marine Corp. provides specialty marine contracting and commercial diving and vessel support to government and the private sector. The company's professional staff is skilled at pile driving, underwater pipelines and outfalls, marina construction, salvage projects, pier and wharf construction, dredging and waterfront facility repair. Offices are in Alaska, Hawaii, and California.

Paula Dawson joined American Marine in Anchorage two years ago after living at Lake Louise for seven years. She has an accounting background and worked in that field and as office manager at AMC until July 2005 when she was promoted to her present position. Paula is active in AGC, the Alliance and Girl Scouts of America. She's an avid outdoorswoman with a 6-year old daughter, Katelyn.

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HUSKY

C$15,000 per flowing barrel "is the lowest ever" in the oil sands, coyly attributed the success to project management.

"We carried out detailed front-end engineering," he said. "That was the first step. We have a very good execution team."

He could afford to be understated when rival companies are being swamped by spiraling costs.

Shell Canada warned during the summer that the next phase of its expansion could overshoot forecasts by 75 percent.

Husky moving ahead with Sunrise

Husky is wasting no time taking advantage of whatever skills it has accumulated by pressing ahead with front-end engineering design — due to be completed within a year — for its Sunrise project which is intended to recover 3.2 billion barrels after coming on stream in 2010-2012, grow to 200,000 bpd by 2014 and potentially expand to 300,000 bpd.

To take even greater cost control of Sunrise — although a formal estimate has yet to be released — Husky is contemplating building its own drilling and completion rigs.

It is expected to announce later this year where it will process the raw bitumen into synthetic crude, indicating it may locate the plant in the United States or Asia to avoid Alberta's high construction costs.

Lau has said Husky will likely form a joint venture with a major U.S. company, which could bring BP or Marathon into the picture.

Andrew Potter, an analyst with UBS in Calgary, said he believes that like the recent EnCana-ConocoPhillips joint production/upgrading venture, Husky's "downstream solution will offer robust economics versus the majority of Alberta's oil sands projects."

Company also working on Saleski, Caribou

Not content to confine itself to Sunrise, Husky is also working on the best bitumen recovery process for its Saleski and Caribou leases.

Its Saleski holdings now cover 240,000 acres and 24.1 billion barrels of original oil in place, while at Caribou, 44 well locations have been identified for a winter program.

While Husky pushes ahead, other operators seem to be at odds over the economic threshold for oil sands development.

Shell Canada Chief Executive Officer Clive Mather believes the expansion of his company's Athabasca facility would be viable with oil prices at only US$30 per barrel.

But Nexen counterpart Charlie Fischer put the break-even point at US$45 per barrel because of the scramble to find construction labor, equipment and materials. ●

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INSIDER

self-effacing modesty as it claimed top rung among Canadian-based oil and gas producers, then grabbed No. 1 spot among North American gas producers, and once led all Canadian corporations with its market cap.

After 16 months of intense secrecy, EnCana took the wraps off its new 59-storey tower earlier in October, eclipsing rival Petro-Canada, which has held top spot for a couple of decades at 52 floors.

Dubbed The Bow by EnCana — both because of the building's shape and its proximity to the Bow River that flows across the northern fringe of downtown — the steel- and glass-clad structure will cost C$850 million to C$1 billion, contain 1.7 million square feet of rentable office space, 200,000 square feet of retail and cultural space and three floors with sky gardens.

Construction is expected to start next summer and take three years, with final occupancy set for 2011.

EnCana Chief Executive Officer Randy Eresman said the "dramatic new office tower will be a premier Calgary workplace, one that will enhance staff recruitment and retention while creating an energetic urban village in our city's core."

He said The Bow reflects the growing importance of Calgary and Alberta "from a business and cultural perspective."

Calgary Mayor Dave Bronconnier raved about the design as "truly leading-edge architecture. … You won't see another building like this in North America."

But the wags wasted no time putting their label on the building.

Attracted by the curved design of the building they're calling it the EnCana Banana.

—GARY PARK

There Danny goes again

DANNY WILLIAMS, THE PREMIER of Newfoundland, doesn't seem happy unless he is waging war with the Canadian government … and causing misgivings in the petroleum industry.

DANNY WILLIAMS

Over the last couple of years, the pit-bull leader has ordered Canadian flags to be removed from Newfoundland government buildings in a feud over offshore royalties, gone to the mat with former prime minister Paul Martin and grumped when the new government of Stephen Harper refused to play ball in his campaign for legislation imposing fixed deadlines on the development of his province's offshore oil and gas resources.

Even Williams concedes his latest meeting with Harper was "heated" when he tried to convince Harper of the need for "fallow field" legislation.

Harper: Canada won't meddle in free market

Harper had previously said his government would not meddle in the free market when Williams tried to enlist Ottawa's help in his battle with Chevron, ExxonMobil, Petro-Canada and Norsk Hydro over the Hebron oil project.

The partners finally abandoned the venture when Williams demanded a 4.9 percent equity stake and enhanced royalties.

The premier has tried every negotiating trick at his disposal to persuade the Harper government to introduce "use or lose it" legislation to bring the Hebron project back to life.

Harper rejected that approach six months ago, declaring that the impasse was strictly a commercial matter and should be resolved through negotiation.

He said that adopting the Williams' strategy would undermine Canada's reputation for providing a "stable investment climate" and could result in costly lawsuits.

Williams, in a rare concession, acknowledged earlier in October that Newfoundland could not impose "use or lose it" legislation and agreed with Harper that the Hebron partners could have sued under the North American Free Trade Agreement if his government resorted to retroactive legislation to strip them equity in the project.

Williams: informal Hebron talks have occurred

He also disclosed that the two sides have held informal talks which he hopes will produce an agreement and allow Hebron to proceed. (A Chevron Canada spokesman said there has been no change in Hebron's status).

While holding out hope that a deal is possible, Williams still locked horns with Harper, when the prime minister visited Newfoundland Oct. 16. Starting out as the genial host, Williams led a standing ovation for Harper when the prime minister spoke enthusiastically about Newfoundland's energy future.

At the same time, Harper drew the line at any legislative moves to force oil companies to develop oil and gas discoveries by a set deadline or risk having their assets expropriated.

Later, when the two leaders met in private, Williams said the simmering disagreement boiled over.

Harper had nothing to say publicly after the meeting, but Williams went on a full offensive, accusing the Harper administration of being too close to the oil industry.

Williams: oil lobby close to federal government

He told the Globe and Mail that he believes the "oil lobby is very, very close" to the federal government.

"They have a significant voice in this government," he said, referring to the government's power base in Alberta. "As a result, they've dissuaded them from acting."

A federal spokeswoman said she understood that Williams' argument was tied to retroactive legislation, which "we won't consider."

She said there was no discussion on any forward-looking solutions.

Williams said the federal-provincial agreement that governs offshore development in his region makes Atlantic Canada the only jurisdiction in the world that cannot impose penalties when the industry refuses to develop resources.

He objected to the future of Newfoundland's oil and gas assets hinging on a "decision from a boardroom in Houston."

Also in Williams' sights is the deepwater Orphan Basin, where Chevron (50 percent operator), Shell Canada (20 percent), ExxonMobil (15 percent) and Imperial Oil (15 percent) are currently drilling a wildcat well in almost 8,000 feet of water — a C$140 million gamble that it can unlock the first of four pools which some analysts believe could hold upwards of 885 million barrels each.

Ian Kilgour, Shell Canada's senior vice president of exploration and production, said recently that results from the Great Barasway well should be known before the end of 2006.

Even if they aren't favorable that would not put an end to the consortium's exploration program, he said.

—GARY PARK

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BOYD

Dream a few years old

Boyd said he thinks the real "dream of a gas line" is just a few years old. He dates it from the state's first Brooks Range Foothills areawide lease sale in 2001 when EnCana, then Alberta Energy, and Anadarko leased in the Foothills, known to be a gas-prone province. "This was for gas, this was not an oil play," Boyd said.

The state took in $9.8 million in bonus bids and a number of players took multi-million-dollar positions, including Petro-Canada (56 tracts, $2.47 million); Anadarko and Alberta Energy, now EnCana (36 tracts, $2.19 million), Burlington Resources (32 tracts, $1.99 million) and Unocal (18 tracts at $3 million).

"And I could see — anybody could see — that the future here is gas. And it is.

"But the past wasn't gas."

The premise of the gas reserves tax, that "we've waited for so long and the companies are dragging their feet," is "just plain false," Boyd said, "a false foundation on which to build a really bad piece of public policy."

Then there is the claim that the tax is an incentive.

"It's not an incentive. It's obviously a barrier," Boyd said.

"It will immediately generate lawsuits. And it should because it's unfair in the way it's applied and I think ultimately the outcome is just more delay."

AOGCC studying gas sale

The Alaska Oil and Gas Conservation Commission is studying the Prudhoe Bay reservoir to see what the result would be of an early gas sale on the amount of oil that can be recovered. "If you blow down — or if you sell the gas out of Prudhoe — how much oil is left behind?" The commission can't look at economics, Boyd said, but only at how much oil would physically be left behind or "wasted" by a gas sale. Gas is recycled at Prudhoe to maintain reservoir pressure and allow the production of more oil, an estimated 3 billion barrels to date.

"What I don't know is, what is the threshold for that decision, in other words, how much oil will the AOGCC say you can leave behind?" If they're not considering economics, will they say you can you leave any oil behind?

AOGCC will talk in terms of volumes, Boyd said, but "I think it may be up to some other agency," perhaps the Division of Oil and Gas, to make an economic determination.

And the solution may be to start with gas from some other reservoir.

"Maybe you shouldn't do Prudhoe gas first" but perhaps the 8 trillion cubic feet at Point Thomson or maybe undiscovered and undeveloped gas in the Foothills, he said. That would give Prudhoe the time to recycle its gas to produce oil.

The proposed tax presents a timing issue, Boyd said. You could have the AOGCC saying "you can't sell gas from Prudhoe because we say so, and the state passes a law that says if you don't produce gas right now we're going to tax you on it. … It seems to me you create a train wreck and how does the industry — or how does any reasonable company — react to a state that is that schizophrenic?"

And where does a reserves tax lead? "When do you start taxing Foothills gas in the ground? If you have no pipeline, do you tax it anyway, just because you can?" And if companies aren't producing acreage, would the state take that acreage away?

"Where does it lead? It's not a good thing. It's a terrible precedent. It's just not a good thing to do."

But, he said, having a reserves tax as a tool, "as something the state is allowed to do, for future use, might not be inappropriate." If at some point in the future companies "really were holding back on doing something that was absolutely clearly economic," a reserves tax might be a good tool for the state to have.

"So having a tool available in the future doesn't bother me. But just applying this now sort of blindly is, to me, is absolutely inappropriate."

Gas does need to move

Boyd said he doesn't think the companies are stalling.

"On the other hand, I think the state has to be pretty careful in getting the gas moving because I really do believe … that LNG is going to become a real player in this country."

There are places like Qatar with hundreds of times more gas at tidewater than Alaska has, "and of course they're going to want to sell their gas and … they're going to do it as LNG." If the market for liquefied natural gas grows, that gas could tie up the market, creating a problem for Alaska gas.

"I think Alaska gas needs to get established into the Chicago, into the Midwest market, get the long-term contracts going. And I think that has to happen relatively

You could have the AOGCC saying "you can't sell gas from Prudhoe because we say so, and the state passes a law that says if you don't produce gas right now we're going to tax you on it. … It seems to me you create a train wreck and how does the industry — or how does any reasonable company — react to a state that is that schizophrenic?" **—Ken Boyd, former director of the Alaska Division of Oil and Gas**

soon," Boyd said.

"And this tax won't support that in any way, shape or form."

It's not your gas

Boyd said another thing he hears is that the gas is ours: "It's my gas; I've heard that a thousand, thousand, thousand times."

"And really: it's not your gas.

"It was your land. And the gas and oil were underneath it. You chose, through your elected representatives, over time to lease that land so the companies could develop it for the oil and gas.

"And they've done so."

The state does own roughly 12.5 percent of the gas, its royalty share from state leases, "so we can do what we want" with 12.5 percent, Boyd said. "But we said to the companies that they will do this work for us and the idea that … some people don't think they're doing a good job and we're going to tax them and that will somehow benefit us is crazy," he said.

Boyd said he thinks the state will have "to work hard to make a good deal for this project." He said he thinks the state "has to take a hard look at the ownership of the pipeline" and whether the state really wants "to take all of its gas, both tax and royalty, in kind."

The populist appeal

Boyd said he thinks "bringing some of these initiatives to the public … abrogates the responsibility of the representative government" that the people have "in a sense hired" by voting for them to represent us. Those elected representatives have the opportunity "to be briefed, be in these committee hearings and listen to all these things." To then turn around, at the end of that, and say "well, I'm going back and ask the public" is "well and good, but that shouldn't be binding on anything. Because quite frankly the people just don't have the time to research all these issues."

That, he said, is the job of the Legislature.

"To throw it in the laps of the people as though now the people have spoken has a populist ring to it, but in reality it's failed public policy: it's an abrogation of responsibility."

Boyd said the state has important questions to address before a gas pipeline project can be approved, questions such as: should the state be a pipeline owner; should it take its royalty and tax gas in kind, rather than in value; and should contract provisions last for 30 years?

"And I don't think a reserves tax is going to help answer the important questions to actually build a gas pipeline; it's just going to stop the gas pipeline." ●

ISER: outcome of reserves tax 'ambiguous and risky'

A study of the reserves tax ballot initiative by Professor of Economics Scott Goldsmith of the University of Alaska Anchorage Institute of Social and Economic Research concluded that the effects of the tax on stimulating natural gas production "are ambiguous and risky."

The reserves tax burden "would fall on both oil and gas production — present and future," Goldsmith said in the study, published Oct. 23 and funded by the Harold E. Pomeroy Public Policy Research Endowment.

The reserves tax provides a "modest" incentive, "particularly considering the limited capacity of individual leaseholders to influence a project timeline. At the same time, the financial burden that it adds to the production of North Slope oil and gas could be several billion dollars. There is great potential risk that it would not work as proposed by supporters."

Goldsmith said the objective of the initiative, to move North Slope gas to market as quickly as possible, would be better served by "(a) policy that helps reduce project cost and uncertainty without adversely impacting other elements of North Slope petroleum economics," especially since "both the economy and state revenues will continue to be highly dependent on an economically healthy petroleum industry for many years to come."

The analysis suggested "the initiative is likely to be a cost burden without speeding up development" and could "also have other unintended consequences, not quantifiable in dollars."

There are also issues that haven't been adequately addressed, including: how the terms of the initiative will be interpreted; how will individual leaseholders respond; how are court fights likely to turn out and how long are they likely to take; how would the initiative affect Alaska's business environment; and how would the state budget be affected y unpredictable revenues from the initiative?

The study is available online at http://www.iser.uaa.alaska.edu/.

—KRISTEN NELSON

● EXPLORATION & PRODUCTION

Shell plans 4 Beaufort wells in '07

Two wells at Siv Ullig and two at another location north of Camden Bay; seismic planned for the Chukchi and Beaufort

By ALAN BAILEY

Petroleum News

Shell is moving ahead with its exploration plans for the northern Alaska outer continental shelf.

At the National Marine Fisheries Service's annual Arctic Open Water Peer Review Meeting on Oct. 24 Shell Operations Manager Paul Smith said that Shell plans to drill four wells in the U.S. Beaufort Sea during the 2007 open water season.

"The new thing we're doing in 2007 will be drilling activities," Smith said. "We have four wells planned for the Camden Bay area."

Smith said that two of the wells will be at the Siv Ullig field (previously known as Hammerhead) and two of the wells will be some distance to the east of Siv Ullig, at a location named Olympia.

Using two drillships, two icebreakers

The drillship Kulluk that Shell purchased in 2006 will drill two of the wells.

And Shell is bringing in another drillship, the Discoverer, to drill the other two wells.

The Discoverer, which is being refurbished with a reinforced hull, will enter the Beaufort Sea at the beginning of the drilling season and will leave the region again at the end of the season, Smith said. The drilling season will likely last from early July to early November, depending on the ice conditions.

Two icebreakers, the Vladimir Ignatyuk and the Kilabuk, will support the drillships.

Shell also plans to shoot seismic in both the Chukchi and Beaufort seas in 2007. The company's plans for the seismic surveys are similar to its 2006 plans — start surveying in the Chukchi in July, move into the Beaufort when ice conditions permit and then return to the Chukchi later in the season. And, as with last year's program, Shell is contracting WesternGeco's MV Gilavar for the seismic work.

In practice, it proved impossible to conduct the Beaufort seismic work in the 2006 season because of an exceptionally large amount of sea ice in the region.

"We hoped to get into the Beaufort in 2006 but we were unable to," Smith said.

The Beaufort Sea ice also limited the amount of site surveying that Shell was able to accomplish in 2006. So the company plans to continue with this surveying activity in 2007, looking for features such as shallow water hazards. The company is also planning to drill some 400-foot deep boreholes, to obtain soil strength data for sea floor. The company will use that data in evaluating the design, cost and feasibility of future offshore oil facilities, Smith said.

Smith also said that, time permitting in the 2007 open water season, Shell will drill some well cellars, in preparation for the following year's drilling program.

Smith stressed that in developing its plans for 2007 Shell will be talking to the North Slope communities and the Alaska Eskimo Whaling Commission. All offshore work will be done in accordance with the terms of a conflict avoidance agreement with the North Slope whalers, he said.

ConocoPhillips headed back to Chukchi

Michael Faust from ConocoPhillips said that his company is still formulating its plans for the 2007 open water season. But the company hopes to carry out seismic data acquisition in both the Chukchi and Beaufort seas.

Although ConocoPhillips has carried out seismic surveys in the Chukchi Sea in 2006, the company had not been able to obtain as much data as it had hoped because of problems with sea ice, Faust said.

"We definitely want to go back into the Chukchi Sea," Faust said.

As in the 2006 season, ConocoPhillips will contract with WesternGeco to use the M.V. Western Patriot for the seismic work.

Faust said that the details of what the company does in the Beaufort Sea will depend to some extent on the results of the March Minerals Management Service Beaufort Sea lease sale (ConocoPhillips elected not to conduct any seismic operations in the Beaufort Sea in 2006 because of concerns about the impact on wildlife of multiple surveys in the same area at the same time).

Shell to research winter seismic possibilities

In response to concerns about the potential impact of offshore seismic surveying on subsistence hunting, Shell is going to research possible techniques for seismic data acquisition from the sea ice during the winter.

"We've decided to do a research project and go out and see if there's a way to do it," Smith said. The company has a contract with Veritas to do this during the coming winter, Smith said.

Veritas will be hiring a substantial number of people from the North Slope and establishing a camp of about 120 people about a half-mile offshore the West Dock at Prudhoe Bay, Smith said. The experimental survey will take place about 12 miles offshore. The research team will try a variety of sound sources, including vibrators and a small air gun, in conjunction with receivers both deployed on the ice and hung below the ice. ●

continued from page 1

SALES

companies still interested in the acreage.

"Given it's only been six months, there hasn't been that much acreage turn over," he said.

He also said the companies "are starting to understand the new tax system, the PPT (petroleum profits tax), and realize that projects where there's new spend for exploration and new spend for development, under the PPT their project economics are really enhanced, relative to the old ELF, because of all the credits they get."

The PPT "really helps with these new projects, and that's what it was designed to do," Van Dyke said.

Beaufort draws 15 bids on 13 tracts

AVCG, the only company to bid in both sales, had a total of $836,800 in apparent high bids, 26 percent of the total $3.2 million.

AVCG dominated the Beaufort Sea sale with high bids of $630,400, 92 percent of the $684,723.20 bid in the sale. AVCG took 12 tracts.

Van Dyke said the division received 15 bids on 13 tracts, some 33,280 acres, in the Beaufort Sea sale.

AVCG lost one tract to UltraStar Exploration which took a single tract in the sale for $54,323.20.

AVCG outbid UltraStar by 3 cents an acre on the second of two tracts in the sale with competing bids, tract 319, which had a bid of $21.22 an acre from UltraStar and $21.25 an acre from AVCG.

The AVCG tracts are in two blocks: eight are northwest of tracts the company holds at Gwydyr Bay offshore the Prudhoe Bay and Milne Point units and four are off the northwest corner of the Colville River unit.

The UltraStar tract is in the block northwest of Gwydyr Bay.

North Slope sale draws $2.5 million

The North Slope areawide sale had apparent high bids of $2,530,534.40. Van Dyke said the state received 53 bids on 44 tracts, some 177,280 acres.

Seven bidders or bidding groups participated in the North Slope sale.

Chevron USA bid the most in the North Slope sale, $636,883.20 for five tracts, 25 percent of high bids in the sale.

A bidding partnership of J. Andrew Bachner, 85 percent, Keith C. Forsgren 10 percent and David G. Feddersen 5 percent, took 12 tracts for $486,092.80, 19.2 percent of the North Slope total high bids.

Anadarko Petroleum took nine tracts for $413,804.80, 16.4 percent of the sale total.

Talisman Energy's FEX LP took seven tracts for $410,054.40, 16.2 percent of the sale total.

AVCG took six tracts for $206,400, 8.2 percent of the sale total.

Samuel H. Cade 75 percent and Daniel K. Donkel 25 percent took four tracts for $202,368, 8 percent of the sale total.

ConocoPhillips Alaska took a single lease for $174,931.20, 6.9 percent of the sale total.

A lot of filling in

A lot of the leasing appeared to be filling in around prospects where companies already held acreage, although Bachner, Forsgren and Feddersen took a sizeable new block, as did FEX.

Anadarko took acreage in two areas: adjacent to the southeast corner of the National Petroleum Reserve-Alaska, adjacent to the Gubik wells (four tracts), and on the eastern side of the slope adjacent to its Jacob's Ladder unit, one tract on the north of the unit and four tracts on the south.

AVCG took one tract on the northern edge of the Prudhoe Bay unit and five tracts near the eastern border of NPR-A, one of which is adjacent to a substantial block of existing AVCG leases.

Bachner, Forsgren and Feddersen took a block of 12 tracts — all they bid on, six with competing bidders — adjacent to NPR-A south of Nuiqsut. AVCG bid on six of the leases Bachner, Forsgren and Feddersen won, and ConocoPhillips Alaska bid on two, making this the most contested area in the sale.

Cade and Donkel took one tract on the eastern edge of the Prudhoe Bay unit and three tracts near the southeastern corner of the lease sale area, adjacent to the Forest Kemik 1 well.

ConocoPhillips Alaska paid the top per-acre amount in either sale, $30.37, a total of $174.931.20 for tract 368, adjacent to three tracts for which the company paid comparable prices, ranging from $27.38 to $31.16 an acre, in the March 2006 North Slope areawide sale. Tract 368 is in the southwest corner of this block of four tracts; BP's Ekvik 1 well is in the block on the northeast corner.

Chevron took five tracts in the area where — bidding then as Union Oil of California — it took 48 tracts in the March sale. Three of the new tracts contain old exploration wells: tract 544 Texaco 32-7-8 Wolfbutton; tract 629 Unocal Ruby St. 1; and tract 634, ARCO Toolik Fed 3.

FEX, which has extensive state acreage in Harrison Bay and a large presence in NPR-A, took its first onshore state acreage on the North Slope, a block of seven leases west of the trans-Alaska oil pipeline including the old Atlantic Richfield Susie 1 well. ●

LAND & LEASING

MMS issues proposal for next Beaufort Sea lease sale

The U.S. Minerals Management Service announced its proposal for its next Beaufort Sea oil and gas lease sale, scheduled for March 2007, on Oct. 26.

The proposed notice outlines the terms of Beaufort Sea Sale 202, and describes the proposed sale area, economic incentives, and requirements for protecting the human, coastal and marine environment.

The sale area includes approximately 1,877 blocks encompassing about 9.7 million acres that extend from the Canadian border on the east to near Barrow on the west, but exclude offshore areas near Barrow and Kaktovik used by the Inupiat for bowhead whale subsistence hunts.

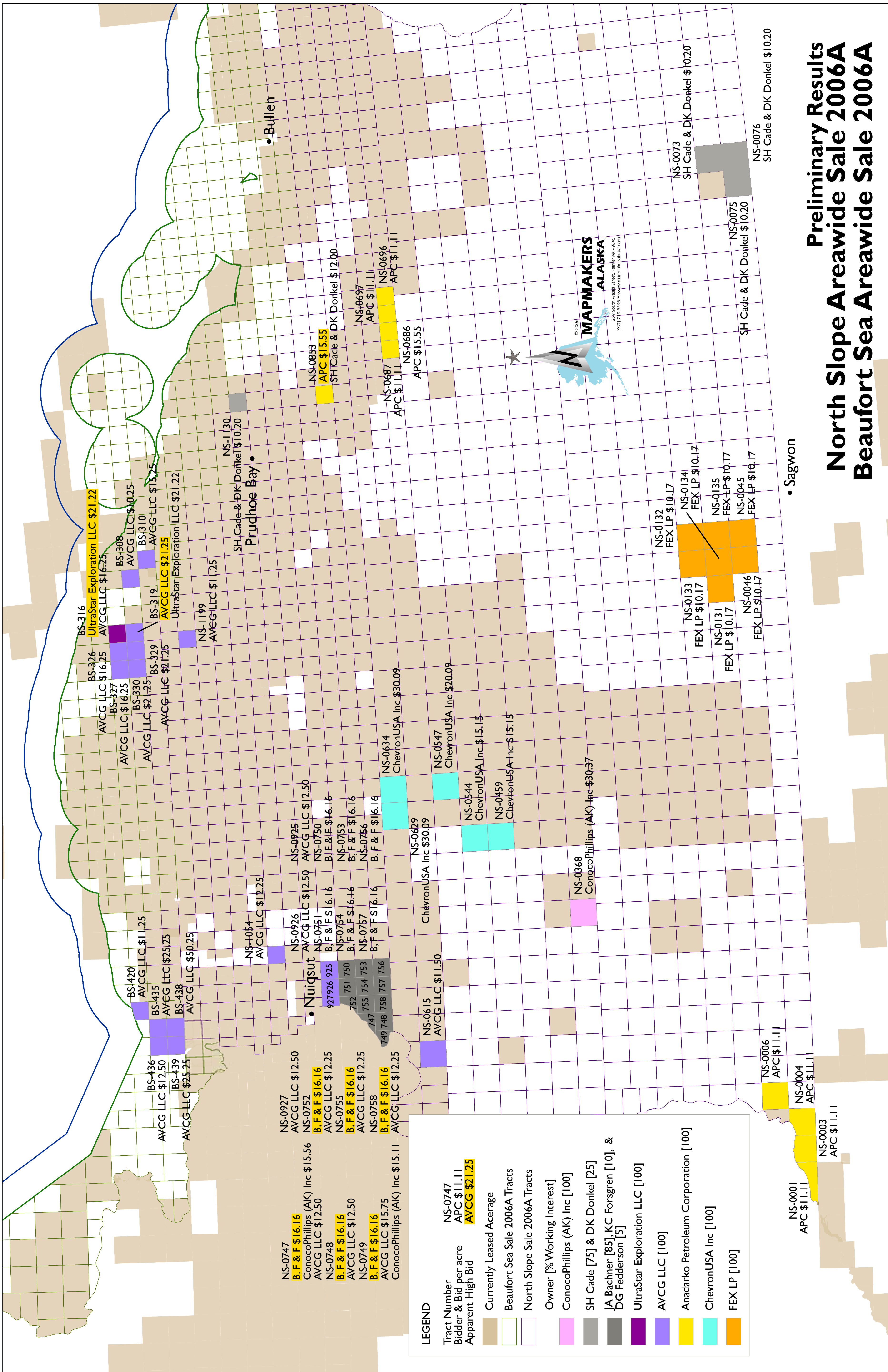
Throughout the sale area MMS said it will require offshore oil and gas activities be "coordinated with the Inupiat whalers during their subsistence hunt."

MMS developed six other lease stipulations to help minimize effects to the environment and to the Inupiat people from any development of the area's oil and gas resources. The stipulations include site-specific bowhead whale monitoring, consultation with local subsistence communities, booming for fuel transfers, and lighting requirements for protection of spectacled and Steller's eiders.

The proposed notice also includes proposed royalty suspensions on the production of oil and condensate, subject to price thresholds. The information is available online at www.mms.gov/alaska.

MMS estimates that the Beaufort Sea could contain about 7 billion barrels of oil and 32 trillion cubic feet of natural gas (mean estimate of conventionally recoverable resources).

Editor's note: Watch for the full story in the Nov. 5 issue of Petroleum News.


Preliminary Results
North Slope Areawide Sale 2006A
Beaufort Sea Areawide Sale 2006A
LEGEND
Tract Number
Bidder & Bid per acre
Apparent High Bid
NS-0747
APC $11.11
AVCG $21.25
Currently Leased Acreage
Beaufort Sea Sale 2006A Tracts
North Slope Sale 2006A Tracts
Owner [% Working Interest]
ConocoPhillips (AK) Inc [100]
SH Cade [75] & DK Donkel [25]
JA Bachner [85], KC Forsgren [10], & DG Fedderson [5]
UltraStar Exploration LLC [100]
AVCG LLC [100]
Anadarko Petroleum Corporation [100]
ChevronUSA Inc [100]
FEX LP [100]
MAPMAKERS ALASKA
Bullen
Prudhoe Bay
Nuiqsut
Sagwon
BS-316
UltraStar Exploration LLC $21.22
AVCG LLC $16.25
BS-308
AVCG LLC $10.25
BS-310
AVCG LLC $15.25
BS-319
AVCG LLC $21.25
UltraStar Exploration LLC $21.22
BS-326
AVCG LLC $16.25
BS-327
AVCG LLC $16.25
BS-330
AVCG LLC $21.25
BS-329
AVCG LLC $21.25
BS-420
AVCG LLC $11.25
BS-435
AVCG LLC $25.25
BS-438
AVCG LLC $50.25
BS-436
AVCG LLC $12.50
BS-439
AVCG LLC $25.25
NS-1199
AVCG LLC $11.25
NS-1130
SH Cade & DK Donkel $10.20
NS-1054
AVCG LLC $12.25
NS-0853
APC $15.55
SH Cade & DK Donkel $12.00
NS-0697
APC $11.11
NS-0696
APC $11.11
NS-0686
APC $15.55
NS-0687
APC $11.11
NS-0926
AVCG LLC $12.50
NS-0925
AVCG LLC $12.50
NS-0751
B, F & F $16.16
NS-0750
B, F & F $16.16
NS-0754
B, F & F $16.16
NS-0753
B, F & F $16.16
NS-0757
B, F & F $16.16
NS-0756
B, F & F $16.16
NS-0634
ChevronUSA Inc $30.09
NS-0629
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NS-0547
ChevronUSA Inc $20.09
NS-0544
ChevronUSA Inc $15.15
NS-0459
ChevronUSA Inc $15.15
NS-0368
ConocoPhillips (AK) Inc $30.37
NS-0615
AVCG LLC $11.50
NS-0927
AVCG LLC $12.50
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AVCG LLC $12.25
NS-0755
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AVCG LLC $12.25
NS-0758
B, F & F $16.16
AVCG LLC $12.25
NS-0747
B, F & F $16.16
ConocoPhillips (AK) Inc $15.56
AVCG LLC $12.50
NS-0748
B, F & F $16.16
AVCG LLC $12.50
NS-0749
B, F & F $16.16
AVCG LLC $15.75
ConocoPhillips (AK) Inc $15.11
NS-0132
FEX LP $10.17
NS-0134
FEX LP $10.17
NS-0135
FEX LP $10.17
NS-0045
FEX LP $10.17
NS-0133
FEX LP $10.17
NS-0131
FEX LP $10.17
NS-0046
FEX LP $10.17
NS-0073
SH Cade & DK Donkel $10.20
NS-0076
SH Cade & DK Donkel $10.20
NS-0075
SH Cade & DK Donkel $10.20
NS-0006
APC $11.11
NS-0004
APC $11.11
NS-0003
APC $11.11
NS-0001
APC $11.11

NORTH OF 60
MINING NEWS

DRILLERS WORK AT THE COPPER FOX METALS SCHAFT CREEK COPPER-GOLD-MOLYBDENUM-SILVER PROJECT IN BRITISH COLUMBIA
SARAH HURST PHOTO

A special supplement to Petroleum News
WEEK OF
October 29, 2006
Petroleum news

● SOUTHEAST ALASKA

SARAH HURST

Wrangell geologist Mark Robinson, one of the founders of Olympic Resources, shows visitors the core shack

Southeast Alaskans follow clues in forest

Local investors partner with Vancouver-based junior to explore historic prospects on Woewodski Island near Wrangell

By SARAH HURST
For Mining News

A century ago, gold fever rampaged across Alaska and miners could be found everywhere from the beaches of Nome to the mountains of Juneau. Today there's been another outbreak of the symptoms. Explorers' boots are again trudging through some of the most inaccessible parts of the state, following in the footsteps of their pioneer predecessors. One such location is Woewodski Island in southeast Alaska, where enterprising local people have teamed up to finance the search for valuable minerals.

Woewodski Island is a 45-minute boat ride from Wrangell, a town of about 2,300 located 155 miles south of Juneau. Wrangell itself was a chaotic mining community in the late 19th century, when prospectors swarmed through on their way to the Cassiar and the Klondike. This history is celebrated in the town's brand new museum, an essential stop for the cruise ship passengers who pour in every summer. Outside the museum, children sell chunky garnets that are embedded in pieces of rock like cherries in a cake. They bring these from the famous Garnet Ledge, which is owned by the Boy Scouts of the region. Only children are permitted to chip out the garnets without the payment of a fee.

On Woewodski Island itself, gold was found at the Hattie prospect in 1901. There was about 500 feet of underground workings at this prospect on the west side of the island, but it didn't prove economic to mine. At the Helen S prospect in the northwest, though, a company called Olympic Mining erected a 20 stamp mill and mined gold there from 1904 to 1915. Heavy piston-like vertical rods called "stamps" dropped repeatedly on the quartz ore, crushing it to powder. At least 650 feet of underground workings were driven on this property.

A group from the Alaska Miners Association visited Wrangell and Woewodski Island in August during their tour of mining properties in southeast Alaska and British Columbia. The host for this visit was Mark Robinson, a geologist who owns a shipyard in Wrangell. He led the group around the small exploration camp on Woewodski Island, which consists of a comfortable two-storey cabin and a core shack by the shore. The dense Tongass rainforest covers large parts of the island with western hemlock, Sitka spruce, yellow cedar and red cedar. Old mining equipment lies rusting in the forest, and a 100-foot shaft from the early 20th century is cordoned off by a rope.

Robinson is one of a handful of people with professional expertise who work at the property when they have the chance. The owner of the claims is a private company, Olympic Resources, which was formed in the mid-1990s and recently partnered with Vancouver-based junior Bravo Venture Group to advance the project. Residents of Wrangell and the nearby town of Petersburg invested in Olympic Resources: in the first year the price was set at 1,300 shares for $1,000, then 1,250 shares for $1,000, then 1,200 shares for $1,000. Many of these investors are elderly and can't assist physically with the exploration work, but extra hands are always needed.

Olympic Resources and Bravo are focusing much of their attention on the Mad Dog prospect, which is probably not a gold deposit but does contain "small, but world-class numbers" of lead and zinc, according to Robinson. There is also a possibility that gold could be found. "You don't want to make the mistake of saying this is a non-prospective area when you're just looking at the lead and zinc," Robinson said. The distinctive blue quartz veins in the south and west of the island are another tantalizing prospect, which do contain gold and resemble the vein deposits at Kensington, near Juneau, where an underground mine is currently being constructed.

By itself, Olympic Resources has already raised and spent about $1 million on Woewodski Island, and Robinson hopes that Bravo will find a major to provide further financial support. "The farther you go into these things, it really gets expensive," he said. ●

● GUEST COLUMN

After 20-year delay, mining claimant may soon start down the long road to justice

By J.P. TANGEN
Guest Columnist

Few people, I think, have any real sense as to how much of a burden the federal government places on those who seek to develop minerals on the public domain and in the national forests. In Alaska, although there are vast deposits of valuable minerals in the ground, and although it is relatively easy to locate a mining claim, that is only the beginning of the job.

Because of statehood selections and selections made by Native corporations pursuant to the Alaska Native Claims Settlement Act, nearly one half of the state has been foreclosed to mineral entry under the General Mining Law. The Alaska National Interest Lands Conservation Act set aside an additional 108 million acres. While these withdrawals were subject to "valid existing rights," that, oftentimes, is scant comfort.

Mining & the law

J.P. TANGEN

The author, J.P. Tangen has been practicing mining law in Alaska since 1975. He can be reached at jpt@jptangen.com or visit his Web site at www.jptangen.com. His opinions do not necessarily reflect those of the publishers of Mining News and Petroleum News.

One recent matter I was involved with, I think, illustrates the point. The holder of a block of mining claims in Southeast Alaska sought to bring the claims to patent many years ago. The paperwork was complete in the 1980s, and after a few false steps, the govern-

see TANGEN page 19

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● INTERIOR ALASKA

Entrepreneur answers call of the wild

Gold-seeking couple in Chicken captures national hardrock mining award; incorporates tourism business into reclamation vision

By ROSE RAGSDALE
For Mining News

When a University of Alaska Fairbanks professor moonlighting as a consultant asked student Mike Busby to drive out to a gold mine north of the city, Busby had no idea the day trip would change his life.

It turned out the mine was looking for workers and hired Busby on the spot. That opportunity in the mid-1970s thrust Busby into a gold mining career in Interior Alaska that has lasted for 30 years. Along the way, Busby met his wife, Lou, and raised two children.

In 1990, the Busbys began mining a site about 180 miles east of Fairbanks on Chicken Creek, first as lessees on mining claims, and since 1998, on patented claims they own.

Sixteen years later, the Busbys have grabbed the national spotlight as winner of the federal government's national 2006 Hardrock Mineral Award for Reclamation and Sustainable Development in the small operator category. The distinction, bestowed annually since 2003 by the Bureau of Land Management, is one of four national awards that the agency presents to recognize outstanding efforts to implement the principles of sustainable development.

This is the second consecutive year that an Alaska firm has won the award in small operator category, which recognizes achievements in environmental stewardship of operators with fewer than 15 employees. Last year, "Diamond" Jim Olmstead, who has mined gold on Gold Creek off the Dalton Highway since 1996, won the honor.

Similar to the U.S. Department of Interior's awards for excellence in coal mining reclamation, the hardrock mining awards recognize industrial and metallic minerals firms as well as sand and gravel operators.

Sustainable mineral development is a concept the United States and 192 other countries adopted to balance environmental, economic, and social considerations in planning for mining operations.

Coeur Alaska Inc.'s Kensington Gold Mine in Juneau won the 2006 award in the community outreach and economic security category, Meridian Gold's Beartrack Mine Project near Salmon, Idaho, snagged the environmental award and Idarado Mining Co., a subsidiary of Newmont Mining Co., near Telluride, Colo., picked up the mineral director's honor.

Model operation

The Busbys, doing business as GeoQuest and Chicken Gold Co. at the Chicken Creek Mine in Chicken, Alaska, stood out this year among contenders for the small operator award as an "example of the use of Best Management Practices by a small operator," BLM said in a statement.

Their efforts emphasized principles of environmental stewardship and economic sustainability, the agency said.

"Like the Hardrock Environmental Award, this award recognizes operators who have demonstrated continuous or repeated efforts to successfully meet or exceed federal, state or local reclamation requirements," BLM said.

COURTESY CHICKEN GOLD CO.

The Busbys, doing business as GeoQuest and Chicken Gold Co. at the Chicken Creek Mine in Chicken, Alaska, stood out this year among contenders for the small operator award as an "example of the use of Best Management Practices by a small operator," BLM said in a statement.

"The Busbys view their mining operation as a temporary use of the land. Their goal was to conduct a surface mining operation that would retain a diverse landscape, minimize post-mining erosion, protect the surface-water hydrology and preserve greenbelts and wildlife habitat within the mine footprint," the agency said.

The couple segregated and stockpiled all excavated materials while they were mining the site to use in its reclamation and designed and built a zero-discharge water recycling system that can function throughout the planned mine life. By doing this, GeoQuest and Chicken Gold Co. minimized the impact of their operations on the environment, BLM said.

Public invited

The Busbys' success is evident by the large number of annual visitors to the post-mine development known as the Chicken Gold Camp & Outpost. Due to careful and well-planned reclamation, visitors have no idea that any mining has ever been conducted on the land, BLM said.

PHOTOS COURTESY CHICKEN GOLD CO.

This series of photos shows reclamation efforts from 2000 to 2004 that turned part of the mine into a campground.

During the active mining operation, the public also was encouraged to view the mine. To facilitate safe access, the company identified public trails with signs to direct foot traffic and explain the operations. More public involvement has been encouraged through creation of a gold-panning facility with material supplied from the mine and instruction provided for novice panners, the agency added.

Mike Busby said the award reflects a lifetime spent doing the things that he and his wife love.

"I kind of stumbled into the mining business. I'd been involved in mining in Alaska and the Yukon Territory for several years before I started mining in the Chicken area," he said in a recent interview. "I was an anthropologist by training, but I was drawn to mining by the romantic lure of exploring the wilderness for gold."

see **RECLAMATION** *page 6*

● SOUTHCENTRAL ALASKA

Options open for Chuitna coal project

Scoping meetings provide wide-ranging suggestions for EPA to consider as it prepares supplemental environmental impact statement

By SARAH HURST

For Mining News

Members of the public, particularly Native Alaskans, have made a wide variety of comments about the Chuitna coal project that is being proposed for the Cook Inlet area. Following a series of scoping meetings this summer, the U.S. Environmental Protection Agency published a summary of public responses in October. The responses will be used to help prepare a supplemental environmental impact statement, which should be published in draft form by spring 2007.

A plan to develop the Beluga coal field, 45 miles west of Anchorage, was originally put forward in the 1990s and evaluated in an environmental impact statement. The project did not go ahead, and the latest proposal from developer PacRim Coal is substantially different from the first one, so the EPA decided that a supplemental EIS is necessary. The Beluga field contains about 1 billion metric tons of subbituminous coal and the life of the mine could be at least 25 years, according to PacRim Coal.

The Native village of Tyonek asked to be included in the project consultation process in February 2006, and after receiving that request the EPA contacted nine other potentially affected tribes in the Cook Inlet area, inviting them to participate. The EPA also received 370 "action alert" letters about the project, representing 78 percent of all the comments received during scoping. An "action alert" is a form letter with text that can be edited or added to by the individual writer. These letters were treated by the EPA as individual submittals. Many of them were from non-Alaska residents, who made up 35 percent of all the comments submitted.

Some comments outside scope of project or agency authority

Some comments were eliminated from consideration in the SEIS because they addressed issues that were outside the scope of the project, or the EPA's authority, such as numerous questions about the project's contribution to global warming, a request for the EPA to take action to reduce the country's need for electricity, and a suggestion that the government should provide loan incentives to power plants to remove pollutants.

Specific comments that were eliminated included: "Armory Lovins and the Rocky Mountain Energy Institute should be hired as consultants to bring an energy plant to this country"; "The devastation of coal mines in Kentucky caused (sic) should not be repeated in Alaska"; "Burning animal fat should be considered an alternative to burning coal as a fuel source"; "Keep Alaska beautiful for visitors and recreation"; and "The recent British Petroleum pipeline leak demonstrates the potential to damage the Alaskan ecosystem."

EPA considering alternatives

This still leaves the EPA with a large number of very relevant comments, some of which have already helped to identify potential alternatives to the components of PacRim's proposed project. The EPA will be considering an alternative power line route along the access road from Beluga to Ladd Landing, alternatives to the location of the dock facility and bulkhead and dock design, alternative locations for the workers' camp, road and conveyor system to avoid impacts to wetlands, an alternative conveyor system design and alternatives to reduce the project's footprint to mitigate impacts to wildlife and fish habitat.

PacRim proposes a coal storage facility with a capacity of 500,000 metric tons to be located at the logistics site, with minimal storage at the mine. The EPA will also look at the alternative suggested in the original EIS — a facility with a capacity of 1.1 million tons located at the port site and 50,000 tons of storage capacity at the mine — as well as another alternative, a smaller capacity facility at the logistics site and a larger facility at the mine.

The logistics site in the current proposal would be at Ladd Landing, and would include a coal export facility for loading ocean-going coal transport ships. PacRim envisages constructing a bulkhead at Ladd. The EPA will also consider the alternative in the original EIS, which was a barge landing on the beach, and another alternative — using the existing Tyonek dock. PacRim also plans to construct a coal transport conveyor with an annual throughput capacity of 15 million metric tons, the same option that was in the original EIS. The EPA will now also consider transporting the coal by truck or rail.

Subsistence, air quality concerns

At their scoping meetings, representatives of the EPA, other government agencies and PacRim Coal answered questions from local people. For example, according to the scoping response summary, the following answer was given to a question about whether blasting and explosives would be used in the mining operation: "Limited blasting supplies will be present at the mining area. Blasting of overburden and coal is not planned and only minor blasting supplies (are) required for fracturing large boulders in a portion of the overburden or to break large lumps of coal that may plug the chutes of the truck dump."

Brenda Trefon, a tribal environmental specialist with the Kenaitze Tribe, asked whether there would be an onsite power plant, suggested that the project was a way to try to get power to the Pebble mine, and asked if fishermen would be compensated for losses incurred due to the project. Native representatives from Tyonek said that the tribe's biggest concern was the drainage from Lone Creek to the Chuit River, an important resource for fishing and subsistence, and expressed concern about coal dust possibly causing asthma. "Tribal members do not want their lifestyle to change. They value the peace, quiet and food resources," local people said, according to the EPA's response summary. ●

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RECLAMATION

Spice of life

That was 27 years ago, but the small miner's lifestyle charmed the Busbys, especially Mike.

Today, the Busbys' May-October operation encompasses a national historic site, a tourism business, an operating mine and the old Pedro Gold Dredge on Chicken Creek. They spend the off-season in Homer.

Mining at Chicken Creek requires work in numerous disciplines, including geology, hydrology, plumbing, welding and more recently, history and stewardship of the land, Busby said.

"I like the variety and the outdoor environment. Otherwise, I don't think I would have stayed with it," said the Colorado native who came to Alaska in 1972.

The operation also presents tough logistical challenges. The nearest supply stop, Tok, is 78 road miles away, and Fairbanks, the nearest city, is a 300-mile trek one way.

"We supply our own electricity and water. We have no telephones, and we bring in everything from food for the café to our fuel," Busby said.

Expansion under way

This season, the Busbys employed three full-time workers and one part-timer to run the tourist camp and expand the facilities.

"We are currently adding … showers and cabins for visitors who don't have RVs and expanding the café," Busby said. "And we're doing a remodel on the dredge to accommodate tours and we're adding historic pieces to the park."

While gold production varies greatly from year to year at GeoQuest, Busby said the bulk of the operation's income comes from mining.

"It pays for the tourism business," he said. "Our livelihood until four years ago was entirely from mining. I'd say we're a sizable 'Mom and Pop.' " ●

● INTERIOR ALASKA

Fort Knox keeps it clean, safe, efficient

In its last years of production, the Fairbanks gold mine is making improvements aimed at increasing profits, maintaining standards

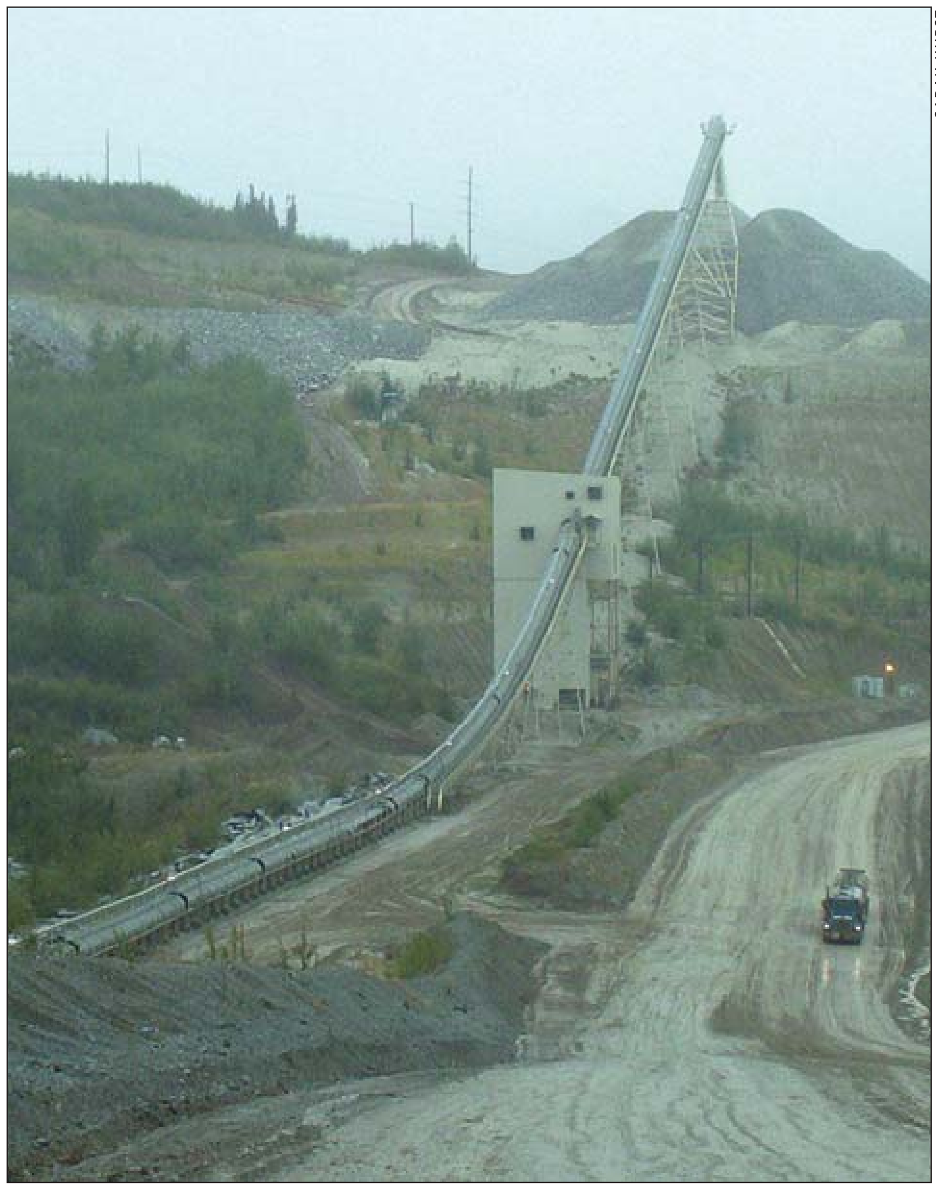
By SARAH HURST
For Mining News

Out of an average 157,800 tons of rock, with the assistance of 30 tons of explosives, 6.7 tons of lime and 20,506 gallons of diesel fuel, Fort Knox mine produces 900 ounces of gold per day. Trucks with giant tires that cost $10,000 each carry 150 tons of ore to the crusher every three minutes. The ore comes out of a pit that is 1,100 feet deep and will be a mile long and half a mile wide by the time mining comes to an end in 2010. The mine operates 24/7, 365 days a year and its electricity bill is $1.9 million per month.

Recovering the precious gold from these vast quantities of rock is big business in all senses.

It's expensive, it can be very profitable when the price of gold is high and it carves out a whole new landscape in this patch of Interior Alaska. Like all mines in the state, Fort Knox is expected to uphold the highest standards of environmental responsibility; but perhaps even more so than the rest, because it is only a few miles by road from Fairbanks, and everything the mine does can be closely scrutinized by the city's residents.

The ore at Fort Knox is "exceptionally clean," Delbert Parr, the mine's environmental manager, told Mining News. If it weren't for slightly elevated levels of arsenic and antimony (0.03-0.04 parts per million and 0.06-0.08 parts per million respectively), the water in the tailings facility would almost meet drinking water standards, he added. Levels of cyanide are also extremely low, according to Parr: in the summer the cyanide is almost nonexistent due to the effect of sunlight, and in winter it climbs to three or four parts per million. The mine's permits allow the level of cyanide to reach 10 parts per million. If necessary, the mill can use a cyanide destruction process, but this is rarely required and involves putting copper, sulfate and nitrates into the water which ideally should not be in there.


SARAH HURST

Ore is transported half a mile by conveyor belt from the crusher to the stockpile

Computerized dispatch system installed in 2005

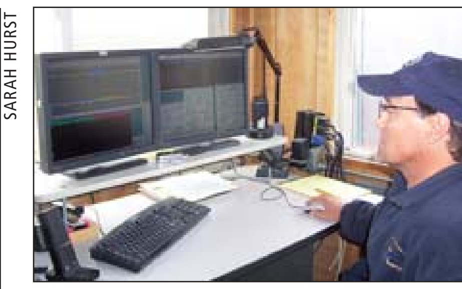
The mining process itself has been improved with the installation of a computerized dispatch system in 2005, which cost about $1 million and was developed by Tucson-based Modular Mining Systems. About 16 to 20 employees, some of whom were formerly truck drivers, have now been trained as dispatchers. The system has resulted in a roughly 10 percent improvement in efficiency, as the computer now assigns trucks to routes, ensuring that they are filled with rock at almost all times, instead of waiting in line. The computer also knows what all the truck drivers are doing, from talking to a supervisor to refueling to taking a bathroom break. At the same time as the computerization, Fort Knox also purchased nine new haul trucks, a shovel, a grader and two loaders.

The trucks dump ore into the primary crusher, which reduces the rock from up to 60 inches to less than six inches. The crusher is a huge rotating bell-shaped mantle lined with manganese steel that gets harder the more it wears, and can work for four months before being changed out.

A Tramac hydraulic hammer is controlled by the crusher operator and can move or break up oversized rocks. The crushed rock is then transported up a half-mile conveyor belt to the stockpile, and from there onto another conveyor belt that takes it into the mill. Crusher operators have to climb 187 stairs up to the conveyor belt's drive tower and then walk its entire length regularly for inspections.


SARAH HURST

This gold bar produced for mine guests is about one-third the size of a typical 900-ounce bar, which is the amount Fort Knox produces each day.


SARAH HURST

Randy Wood, a truck driver at Fort Knox, is now trained to operate the new computerized dispatch system.

Mine achieved 1 million manhours without lost-time accident

Fort Knox recently achieved 1 million manhours without a lost-time accident, for the fourth time since operations began in 1997, according to Bob Taylor, the mine's acting general manager. Taylor, who is Toronto-based Kinross Gold's vice president for North American operations, took the Fort Knox position temporarily after John Wild resigned May 1.

While Fort Knox is planning for the construction of a heap leach facility, which could enable the mine to recover more of the remaining gold at a lower price, reclamation and closure of the mine is also looming closer.

The pit, which is dewatered during operations, will be allowed to flood naturally, forming a 150-acre lake. The waste rock dumps will be graded and revegetated to create a rolling-type topography. The tailings impoundment will be a mixture of shallow open water and wetlands habitat.

"The water in the tailings will be pumped to the pit and replaced with clean run-off," Parr said. "Within a couple of cycles the water will clean up." Reclaiming the heap leach pad should also be fairly straightforward, Parr believes. He has closed three heap leach facilities already, including at the nearby Ryan Lode, which was acquired by Kinross but never mined by the company. Kinross also operates Round Mountain mine in Nevada, one of the largest heap leach mines in the country. ●

● NUNAVUT

Nunavut could see two gold mines by ’08

Cumberland Resources, Miramar Mining received recommendations from the Nunavut Impact Review Board to proceed with projects

By SARAH HURST
For Mining News

Two Vancouver-based mining companies are forging ahead with gold projects in Nunavut, and if all goes according to plan they could both be in production by 2008. Cumberland Resources and Miramar Mining have seen their stock prices leap from under $2 a year ago to around $5 today thanks to endorsement from the Nunavut Impact Review Board. The mainly indigenous residents of Canada’s far northern territory have expressed enthusiasm for new mining projects, as long as stringent environmental conditions are adhered to.

After receiving a positive recommendation from the NIRB at the end of August, the board of Cumberland Resources approved a production decision for the Meadowbank gold project. Meadowbank, an open pit project, is located 70 kilometers north of the hamlet of Baker Lake and is forecast to produce an average of 330,000 ounces of gold per year over an eight-year mine life, creating over 300 full-time jobs. The NIRB’s recommendation is conditional on the project abiding by a list of 86 terms and conditions stipulated to protect the local wildlife and ecosystem.

COURTESY BRIAN MCGRATH, GEOLOGIST, CUMBERLAND RESOURCES LTD.

COURTESY BRIAN MCGRATH, CUMBERLAND RESOURCES LTD.

Above, Drilling at Cumberland Resources’ Meadowbank project has identified new targets. At left, The Meadowbank core splitting team. These four have a combined total of more than 40 years experience in mineral exploration in the Baker Lake area. Clockwise from upper left: Daniel Aqigaaq, Alec Amitnaq, Charlie Amauyak, Marcel Utatnaq. Charlie is from Chesterfield Inlet, the rest from Baker Lake.

Meadowbank has seasonal ocean access

Infrastructure is always a major issue in Nunavut, but the Meadowbank project is in a favorable position. There is seasonal ocean access to the site via a 250-kilometer corridor from Baker Lake through Chesterfield Inlet. Ships and barges can use this route for two-and-a-half to three months of the year, and there is also air access, with several scheduled flights into Baker Lake daily. The mine will have its own 4,800-foot airstrip, long enough to accommodate a C-130 Hercules cargo aircraft.

In addition, Cumberland will build a 112-kilometer conventional all-weather access road, rather than an ice road, which many northern projects rely on.

Baker Lake has a population of about 1,600 and 90 percent of them are Inuit. Unemployment in the community ranges from 50 to 60 percent, Cumberland’s President and CEO Kerry Curtis told the Denver Gold Forum Sept. 25. “We get a lot of support from the community, we know a lot of people here, we’ve had 10 years to get to know them, and them us, so the support from the community has been tremendous,” Curtis said.

Three open pit designs within five-kilometer radius

“One of Meadowbank’s big advantages is the amount of reserves that are hosted closely together,” Curtis continued. “We have three open pit designs, namely the Goose Island open pit, the Portage open pit and Vault, all of which are within a five-kilometer radius. We have lots of other exploration targets that we haven’t fully explored yet, we have other deposits up to the north which aren’t in the feasibility study, so there’s lots of resource and reserve growth remaining here.”

The Meadowbank property encompasses an entire greenstone belt covering 35,000 hectares. Greenstone is named for the green hue imparted by the chlorite minerals within the rocks. The belts often contain ore deposits of gold, silver, copper, zinc and lead. Much of Meadowbank is surrounded by shallow water, and Cumberland plans to build dikes using open pit material, as has been done at Diavik diamond mine in the Northwest Territories.

Cumberland has been drilling in an area known as the Cannu Zone this year, and the company has also discovered a promising target called Goose South, south of the Goose Island deposit. “What I can tell you is everything we see at Goose South is exactly the same as what we see at Goose Island itself,” Curtis said. Cumberland will continue its exploration drilling in that area next year.

Work began in 1995

Since Cumberland began work at Meadowbank in 1995, the company has taken its estimated gold resources from 200,000 ounces to 3.8 million ounces, at a cost of C$50 million, which includes the

see **NUNAVUT** page 9

● BRITISH COLUMBIA

Copper Fox thrives in Canadian wilderness

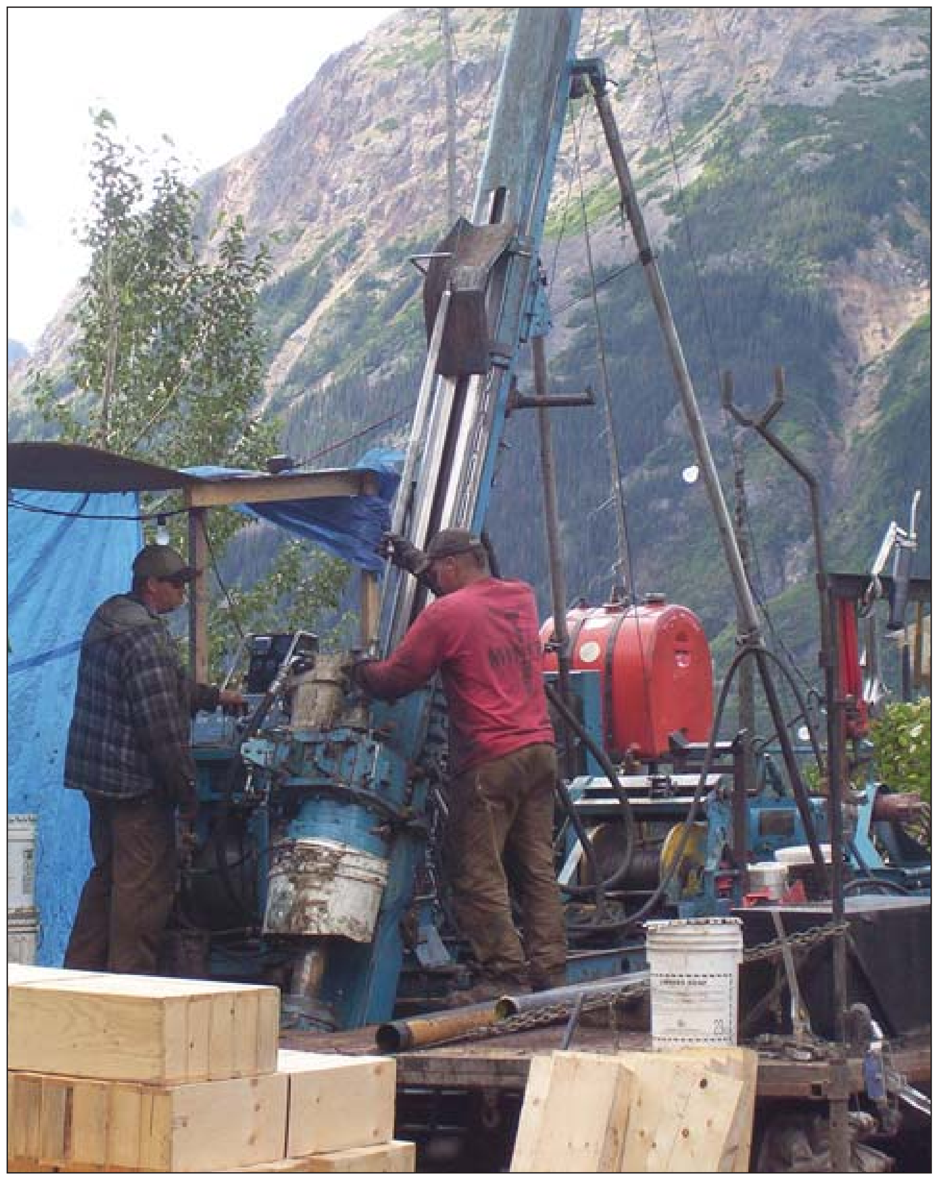
Schaft Creek project in British Columbia moves toward development as company initiates environmental assessment process

By SARAH HURST
For Mining News

In the race to develop new mines in British Columbia, Calgary-based Copper Fox Metals is jostling its way to the front of the pack. In August the company started the environmental assessment process for its Schaft Creek copper-gold-molybdenum-silver project, filing a preliminary report with the provincial government. In September Copper Fox completed $5 million in expenditures at the property, enabling it to acquire a 70 percent ownership share from Teck Cominco, in accordance with an option agreement signed in 2002.

A group from the Alaska Miners Association visited Schaft Creek this summer during a whirlwind tour of properties in southeast Alaska and northwest British Columbia. Drilling was in progress and rows of core samples were laid out on tables in the sun. Like other projects in this mountainous region, Schaft Creek can only be reached by air at present, and building a road would be one of the main challenges if a mine were permitted.

Unlike the more advanced Galore Creek project in the same area, which can only accommodate helicopters, fixed-wing planes can land at Schaft Creek's wide-open airstrip, delivering supplies and personnel once a week in the field season. The Cessna Caravans that do this job are considerably cheaper than helicopters. Another advantage at Schaft Creek is that the location only receives about three or four feet of snow in winter, compared with up to 60 feet at Barrick's Eskay Creek gold mine.



SARAH HURST

Hy-Tech drillers rarely get a chance to admire the view as they take care of their heavy machinery

One drill rig working

There was one drill rig working at Schaft Creek this year: Copper Fox had hoped that operator Hy-Tech would bring a second one, but no crew was available because of the intense demand for drillers at the moment. A bulldozer hauled the drill rig up a muddy trail, assisted by a winch in the steepest places. In this otherwise tranquil setting, the two-man crew does a noisy, arduous job, lifting heavy machinery and avoiding the water that gushes out every time they pull a length of core up from the ground. They don't talk much, but when they have a free moment they sit in their greasy clothes and light up a cigarette, swatting away the mosquitoes.

Down at the camp, the peace is only disturbed by the arrival of an aircraft, the grating sound of a saw cutting through core, or the tap of a hammer. Young people from the Tahltan First Nation do much of the work under the supervision of a few geologists. Michael Day, a Tahltan, is only 17, which is the perfect age, according to geologist Peter Fischer. In their 20s, assistants are likely to get distracted by "sexy kitchen girls," he thinks. Certainly the food at this camp is seductive; it's surprising to be offered yam casserole at a mining camp instead of the usual steak and ribs.

Mine could have 15-year life

There is no doubt that Schaft Creek hosts a considerable resource. The silvery-gray molybdenite gleams in the core samples and, as it is supposed to, turns into a paste-like substance when rubbed between the fingers. Using only 8 percent of the resource at Schaft Creek, an open pit mine could produce 145,000 ounces of gold and 62,000 metric tons of copper annually for 15 years, according to Copper Fox. Up to 70,000 metric tons of ore would be mined per day. But as with most projects in remote locations, the construction of infrastructure is the key, and only a feasibility study will determine whether Schaft Creek can be economic.

Copper Fox is looking at four options for the mine access road that would connect to Highway 37, all of which must negotiate creeks, rivers and mountains.

One alternative, known as "Mess Creek via More Creek", requires several bridges. The "Ball Creek/Arctic Lake" alternative entails constructing 10 kilometers of road within Mount Edziza Provincial Park. "The Arctic Lake plateau is a high elevation bar-

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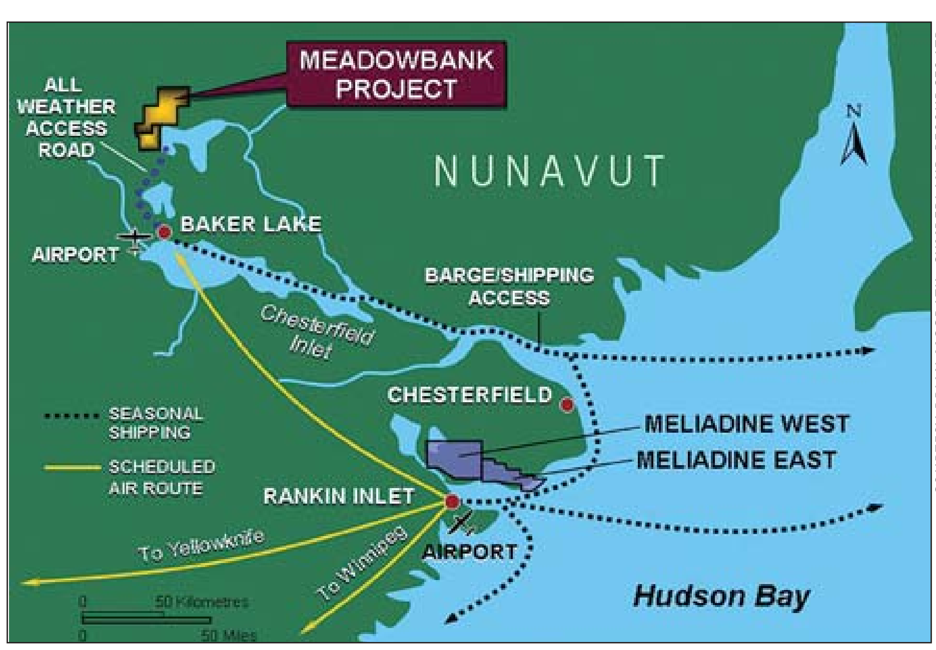
NUNAVUT

feasibility study and due diligence. The project has been "very, very cost-effective," according to Curtis. This summer Cumberland commenced construction of a fuel pad for a fuel storage tank and started procuring equipment and supplies for the construction of the road. After federal approval of the NIRB's recommendation, Meadowbank should be issued a project certificate and the final permits can be obtained. The construction cost of the mine is expected to be around C$313 million, and production is planned for late 2008 or early 2009.

Hope Bay farther north

Miramar Mining's Hope Bay project is another greenbelt property, located farther north than Meadowbank — 700 kilometers northeast of Yellowknife. There is access to the site from the Arctic Ocean and the MacKenzie River for 12 weeks of the year, July through September, making it relatively cheap for Miramar to ship in bulk supplies. Hope Bay currently comprises three deposits called Doris, Boston and Madrid. Miramar received the project certificate for Doris North from the NIRB Sept. 15, and the company is now applying for permits.

In early September Miramar signed an Inuit Impact and Benefit Agreement with the Kitikmeot Inuit Association, which provides for local employment, training and



COURTESY BRIAN MCGRATH, CUMBERLAND RESOURCES LTD.

business opportunities arising from construction and operation of the Doris North project to be made available to the Inuit of the Kitikmeot region. The agreement also outlines the special considerations and compensation that Miramar will provide for Inuit regarding traditional, social and cultural matters, and effects on Inuit water rights. The signing ceremony in Cambridge Bay was attended by 250 guests, including federal MPs and the premier of Nunavut, Paul Okalik.

Miramar will build one infrastructure center with one mill and processing center for all the ore that comes from the existing deposits and any new deposits that the company discovers, the company's president and CEO, Tony Walsh, told the Denver Gold Forum Sept. 25. The project will start with a two-year, high-grade, high cash-generating operation at Doris North. Miramar hopes to commence production at Doris North in mid-2008. The capital cost for Doris North is estimated to be under C$40 million.

Phase one tailings facility big enough for phase two

"High grade means low cash costs, but what really drives this particular phase is that it generates over C$100 million of free cash after payback of capital, so it gives us significant cash for the much larger phase two and pays for capital such as the jetty, the road, the airstrip and the camp, which will go into phase two," Walsh said. "And most importantly, the tailings facility that we're permitting for phase one is big enough for phase two and in Canada permitting of tailings is the most difficult part of the regulatory process, so it should make phase two a lot easier."

In phase two, Miramar is considering two options: a 6,000 ton-per-day underground operation producing 300,000 to 400,000 ounces a year at Boston, Doris Central and Madrid, or a 15,000 ton-per-day large open pit operation producing 600,000 to 800,000 ounces a year at Madrid, with underground operations at Boston and Doris Central. The company is aiming to complete engineering work by the end of this year, to analyze the returns for the two options and determine which would be most profitable. Feasibility work on the chosen option will begin next year.

"This year we have a huge program under way, we're going to spend more than C$30 million, we're doing more than 75,000 meters of drilling," Walsh said. "We have six drill rigs going right now with major drilling, just hired another drill crew, we go up to seven (and) we'll be drilling to the end of October. We're also 21 days behind at the assay lab, they're kind of overwhelmed, so we'll have results coming out all the way through mid-December." Miramar is working closely with its second-largest shareholder, mining giant Newmont, which owns 9.9 percent of the company. ●

SARAH HURST

Michael Day, 17, is a Tahltan who assists the geologists at Schaft Creek

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SCHAFT CREEK

ren area that may be prone to white-out conditions and present certain operability safety concerns," Copper Fox said in the project description it submitted to the British Columbia Environmental Assessment Office.

Any road to Highway 37 would be about 80 kilometers long, but if the Galore Creek project goes ahead, the distance from Schaft Creek to that mine's access road would only be about 30 kilometers.

Like access, power also an issue

Another question that has to be answered is how to provide electricity. Generating power on site would be expensive, but connecting to the hydro-electric power grid could mitigate capital costs, according to Copper Fox. The estimated cost of developing the Schaft Creek project ranges from C$400 million to C$600 million.

Hecla Mining drilled at Schaft Creek between 1968 and 1977, before selling its interest in the property to Teck (now Teck Cominco) in 1978. Teck Cominco continued drilling and doing other exploration work until 2002, when it optioned Schaft Creek to Copper Fox.

If Copper Fox completes a positive bankable feasibility study, Teck Cominco may exercise a back-in right within 120 days, earning an interest in the property that is proportionate to the amount it decides to spend. Schaft Creek is Copper Fox's only property, and it will need a partner like Teck Cominco if a mine on this scale is to be built. ●

● BRITISH COLUMBIA

RDN still waiting to hit its home run

Rimfire Minerals and Northgate Minerals seek VMS deposit like Barrick's Eskay Creek in same area of northwest British Columbia

By SARAH HURST
For Mining News

If a company has explored a property for three years and not found any economic mineralization, it will often cut its losses and find a new place to go. The RDN property in northwest British Columbia is in its third consecutive year of exploration. Assay results from this season's drilling could determine whether or not two Vancouver-based companies, Rimfire Minerals and Northgate Minerals, invest any more of their time and money here.

Rimfire is a junior mining company with exploration properties in Alaska, the Yukon, British Columbia and Nevada. Northgate is the operator of the Kemess South open pit gold-copper mine in north-central British Columbia and the owner of an underground gold exploration property, Young-Davidson, in northern Ontario.

A group from the Alaska Miners Association visited RDN in August and was treated to a geological presentation by project consultant Murray Jones, as well as a delectable spread of chocolate-covered strawberries and éclairs prepared by the camp cook. As yet, there is no sugar-coating on the RDN property itself, but Jones hasn't given up hope. "There's still some real mystery out there in terms of what the rocks are doing. We know the target is small," he said. "A home run to Northgate on this property would be a sniff that there is something more going on here."

RDN close to Eskay Creek gold mine

RDN is close to Barrick's Eskay Creek gold mine and there are signs that some areas on the property are geologically similar to Eskay Creek. "Eskay Creek has a very small footprint," Jones said. "You don't find a sign of it more than a few meters from the deposit." More sleuthing is required to find a VMS (volcanogenic massive sulfide) deposit like Eskay Creek than to find a porphyry deposit, for example, Jones added.

SARAH HURST

Geologist Murray Jones with Equity Engineering describes exploration work at the RDN property

"Massive sulfide bodies form good conductors and show up well on geophysical surveys, but so do graphitic sediments, so that can get confusing," Jones said. Northgate spent $125,000 on an airborne geophysical survey at RDN this year, focusing on an area of the property known as Arctic. The remainder of an exploration budget of C$1 million was spent on drilling four holes totaling 1,350 meters, with one rig. "You don't get a lot of work for $1 million in this area," Jones said. "If I had more money I would definitely close the spacing and do more mapping."

Exploration in 2005 showed that the rhyolites — igneous volcanic rocks — at Arctic were very similar geochemically to those that host the Eskay Creek deposit, including being the same age. A previous exploration program at RDN in 1989-92 focused on gold-rich quartz sulfide veins. At Eskay Creek, such high-grade veins were the target of exploration for 50 years prior to the discovery of the stratiform ore bodies, according to Rimfire. It remains to be seen whether investors will maintain their interest in RDN for another half-century. ●

SARAH HURST

Rimfire and Northgate hope that this year's core samples from RDN will provide a sniff of gold

● BRITISH COLUMBIA

B.C. brings back Britannia Mine site

Federal government promises new funding to help public-private partnership remediate polluted ecosystem; revive local economy

By ROSE RAGSDALE
For Mining News

As public and private interests in British Columbia move forward with cleaning up and reclaiming the old Britannia Mine site, Canada's Natural Resources Minister Gary Lunn has weighed in with additional support.

Lunn attended the opening Sept. 29 of the mine's renovated concentrator mill, now part of the BC Museum of Mining. Earlier, he told members of the Association for Mineral Exploration British Columbia at a breakfast meeting in Vancouver that he would instruct Natural Resources Canada to contribute another C$5 million in federal funding to the redevelopment effort underway at the Britannia mine.

"This is a project that is important for the mining industry, where we can showcase what we do, that we can continue to grow," Lunn said.

He referred to a partnership the B.C. provincial government has forged with private interests to transform the abandoned and polluted mine site at Britannia Mountain into a healthy residential and commercial center.

The initiative's foundation is the Britannia Remediation Project, in which the B.C. government set out to correct acid rock drainage accelerated during 70 years of copper mining. The goal was to stop the pollution and reclaim the contaminated watershed of Howe Sound.

Macdonald Development Corp., meanwhile, purchased the company town adjacent to the mine in 2003 and is working with the provincial government to develop the area. Town residents were allowed to purchase their homes, and many did so in November 2005, becoming the first individual land owners in the town's history.


COURTESY NATURAL RESOURCES CANADA

A new water treatment plant, left, is a key part of remediation of the polluted Britannia Mine site, where acid rock drainage has seriously damaged the environment. The white multilevel concentrator mill, right, dominates the town at the base of Britannia Mountain, where the mine is located. The mill, a Canadian historic landmark, got a facelift recently with new exterior cladding and windows. Courtesy of B.C. Ministry of Agriculture and Lands.

Mine helped economy

Copper was accidentally discovered at Britannia Mountain in 1888, but it was 1904 before the mine shipped its first ore. By 1929, the Britannia mine was the largest copper producer in the British Commonwealth. During the next 10 years, the mine also began to produce zinc and pyrite. Copper prices rose again during World War II, and in 1946, the growing operation was unionized and had its first strike.

Low copper prices and the lure of the city life eventually saw Britannia Mine Co. reduced to seven employees, and in 1959, to bankruptcy. Its assets were taken over by the Howe Sound Co.

In 1963, Anaconda Mining Co. bought the property. A new ore zone and new contract for the miners led to

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BRITANNIA

robust production for the next 11 years. Some 300 employees produced an annual average of 60,000 tons of concentrate.

Eventually, rising operating costs and taxes took their toll, and the Britannia Mines shut down in 1974.

A year later, the BC Museum of Mining opened to the public at the mine site.

In 1989, Canada declared the mine a national historic site. The designation recognized the Britannia's important contribution to the country's economy by producing vast quantities of copper ore for nearly 70 years, Canadian officials said.

Mill becomes national landmark

They also singled out the concentrator mill with its 18,000-plus windows as a building of historic and architectural importance. Completed in 1923, the gravity-fed mill was highly innovative, particularly in its use of bulk froth flotation. During the life of the mines, more than 60,000 people of many cultures and backgrounds worked and made their homes in the area. Today, it is the last remaining example of the gravity-fed concentrator mills that characterized early hardrock mining operations in Canada.

B.C. tackles pollution issues

Over the decades, the area around Britannia Beach became extremely polluted and gained a reputation as one of the most notoriously contaminated, historic mining operations in North America.

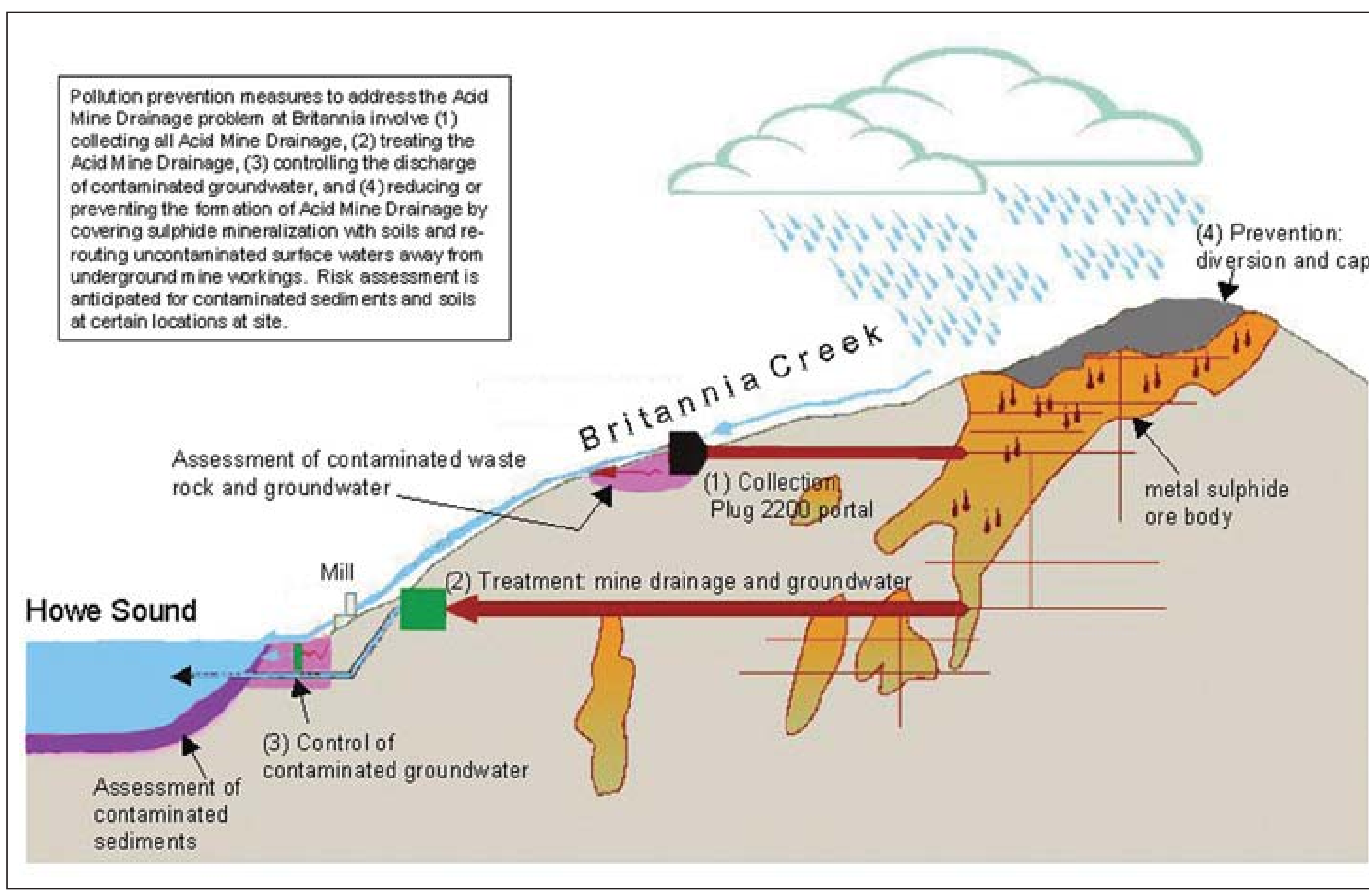
Water in Britannia Creek is extremely clear and transparent, suggesting a pristine environment. Yet the clear water is actually an indication that no living creatures can survive in it and it is not potable.

Runoff and rainwater that flow through the mine's abandoned tunnels combined with oxygen and the high sulphide content of waste rock to create a condition called acid rock drainage.

ARD is caused by a chemical reaction, which results in highly acidic runoff containing large concentrations of dissolved metals such as copper, cadmium, iron and zinc. The polluted water flowed directly into Howe Sound via Jane and Britannia creeks. As much as 450 kilograms of copper was entering Howe Sound daily.

COURTESY NATURAL RESOURCES CANADA

A view of beautiful, but polluted Howe Sound, from the top of Britannia Mountain where a succession of companies mined vast quantities of copper during most of the 20th Century.



COURTESY NATURAL RESOURCES CANADA

Bringing Britannia back

In 2000, the B.C. government negotiated an agreement with the remnant companies of the original mine owners. The companies paid C$30 million into a remediation fund in exchange for not being held liable for the environmental damage.

Golder Associates became project manager and helped develop and implement the remediation plan, said Barry Azevedo, managing engineer for the B.C. Ministry of Agriculture and Lands.

The provincial government began a major study to determine the best way to clean up the site. The University of British Columbia also joined the original mine owner, Copper Beach Estates Ltd., in installing a research laboratory at the 2200 Level of the mine that would allow university researchers to design earth plugs to seal mine adits for extremely long periods of time.

The facility was installed in December 2001 and has had the "spin-off" benefit of eliminating all pollution flowing into Jane and Britannia creeks and hence, into the surface waters of Howe Sound.

Runoff and rainwater is treated in a high-density sludge treatment plant built under terms of a private-public partnership arrangement between British Columbia and Epcor Ltd., a water treatment company based in Edmonton, Alberta. It began operation in November 2005.

Since start-up of the water treatment plant, pollution from the mine site is under control, B.C. officials say.

The next stage of remediation will involve cleaning up outlying areas, Azevedo said. "We're also doing environmental monitoring because we are leaving a fair bit of (the pollution) in the ground," he said in October. "The plan is to be finished next year, but we may need to do additional work."

Preparing for the Olympics

Today, Britannia Beach, a 30-minute drive north of Vancouver, has been converted from a derelict mine site into a sustainable community. Development, including 100 new homes, is taking place, and the commercial area is set for expansion into a tourist village with boutiques and shops on a mining theme.

Highway improvements and waterfront development are also underway in preparation for the Winter Olympics in 2010 in nearby Whistler, B.C.

Britannia Development Corp. is also promoting refurbishment of the mine's buildings as a historical interpretative center.

The C$5 million that Lunn committed to securing will advance the project, Azevedo said.

"It's what we hoped for. By doing remediation, investment would come, and it's working," he added. ●

● NORTH AMERICA

Teck Cominco tackles Alaska, B.C. challenges

Icy conditions, poor weather slow zinc shipments from Red Dog; labor union OKs new agreement at copper, molybdenum mine

By ROSE RAGSDALE

For Mining News

Teck Cominco revised its sales advisory to customers and investors in September, saying ice and poor weather conditions delayed shipments from its Red Dog zinc, lead mine, which is located about 50 miles above the Arctic Circle.

The shipping delays adversely affected the company's third-quarter results, cutting anticipated sales nearly 30 percent, or by 50,000 tonnes, Teck Cominco said Sept. 26. The company said its sales of zinc in concentrate from Red Dog, the world's largest zinc mine, would drop to 125,000 tonnes for the three-month period ended Sept. 30, compared with a previously announced estimate of 175,000 tonnes.

Teck Cominco's fourth-quarter sales, however, were expected to get a boost from the shipping delays, and come in 25,000 tonnes ahead of earlier estimates, the company added.

Due to large quantities of ice in Kotzebue Sound, Red Dog got a late start by two weeks on its annual shipping season, which typically runs for 100 days between July and October. Bad weather also reduced ship availability and further delayed certain shipments, Teck Cominco said.

In addition, a high proportion of early shipments from Red Dog in the third quarter went to Vancouver to supply the Trail metal operations, thereby reducing shipments to third-party customers in Europe and the Far East. Typically, about 25 percent of Red Dog's zinc output is shipped to the Trail smelter.

Assuming satisfactory shipping performance in the fourth quarter, Teck Cominco said its sales tonnage during the final three months of 2006 is expected to be about 225,000 tonnes, up 25,000 tonnes from an earlier estimate.

Another 25,000 tonnes of sales originally expected in the second half of 2006 will be deferred to the first quarter of 2007, the company said.

Teck Cominco still expects to ship about 550,000 tonnes of zinc in concentrate during the 2006 shipping season, representing substantially all concentrate inventory at the mine.

The company also said production at all of its base metal operations was substantially as expected during the third quarter. The company plans to release its third quarter 2006 financial results Oct. 30, after markets close.

No strike at B.C.'s Highland Valley mine

Separately, Teck Cominco announced Oct. 14 ratification of a collective bargaining agreement with Local 7619 of the United Steelworkers at the Highland Valley Copper mine in south-central British Columbia near Kamloops. The parties reached a tentative agreement Sept. 30 with the help of a mediator, narrowly averting a strike set for midnight when the union's former contract expired.

During the ensuing seven to 10 days, 800 workers at the copper, molybdenum mine approved the new five-year contract, which extends from Oct. 1 to Sept. 30, 2011. The union had served Teck Cominco with a strike notice Sept. 26, and Highland Valley operations had been shut down. Full production was expected to be restored by Oct. 17, the company said.

Due to large quantities of ice in Kotzebue Sound, Red Dog got a late start by two weeks on its annual shipping season, which typically runs for 100 days between July and October.

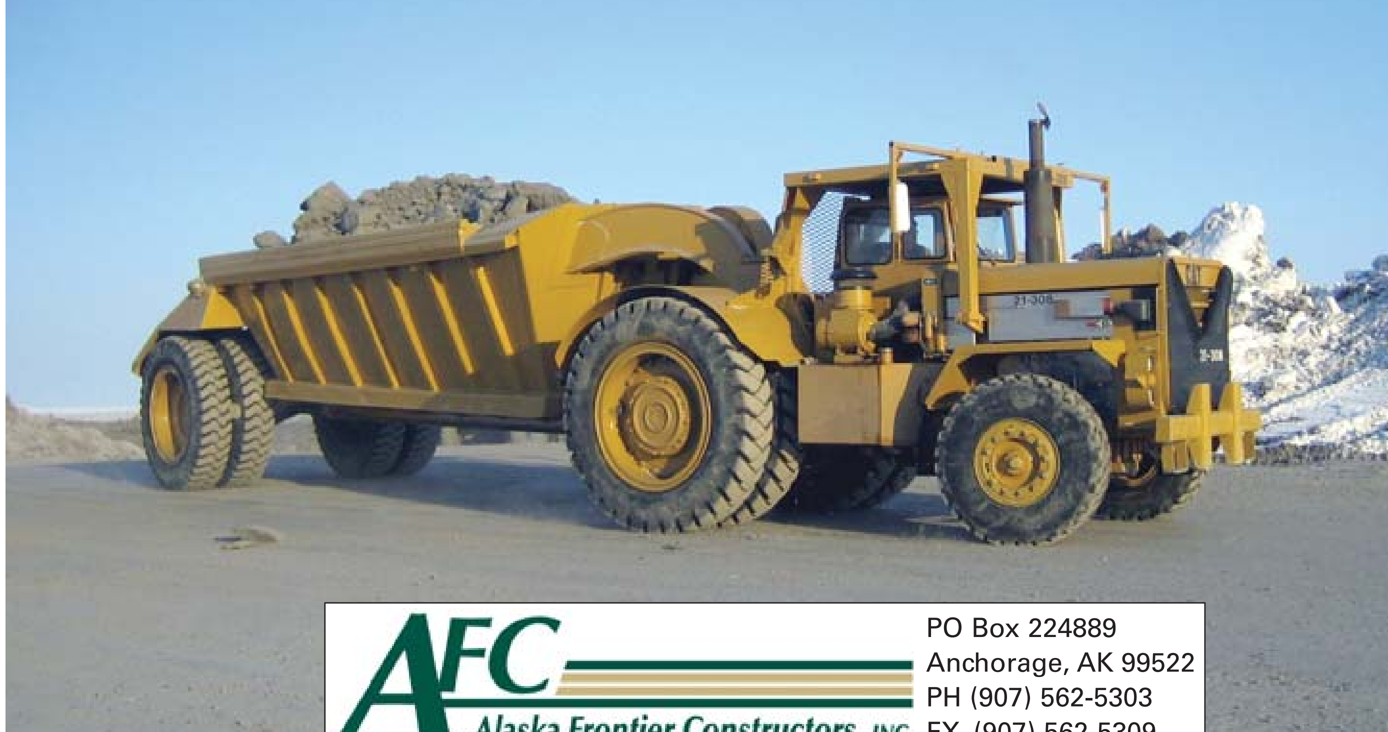
One of the largest copper mining and concentrate operations in the world, Highland Valley is now undergoing a C$40 million expansion which will extend mine life to 2013. The mine's output of copper concentrates is expected to average 400,000 tonnes annually for the remainder of mine life.

Steve Hunt, the union's director in western Canada said late Oct. 13 that worker solidarity and tough bargaining by the union led to a solid collective agreement, with major increases to wages and benefits.

The five-year collective agreement features annual across-the-board wage increases of 4 percent, along with other wage concessions. On Oct. 1, 2010, the top wage will be C$38.91 per hour.

Retiring employees will receive increased defined pension benefits. To help achieve higher future retirement benefits, the workers will steer future copper production bonuses (copper prices have risen by 300 percent in the last three years) into the pension plan. If copper prices remain above C$1.27, the copper bonus will add an additional C$1.50 to C$2 to the pension base in each year of the deal, the union said.

Other improvements include post-retirement medical benefits for members and their families. ●



● SOUTHWEST ALASKA

Pebble will face determined dam busters

Permitting the largest dam in North America for proposed Alaska copper-gold mine will be a lengthy and controversial process

By SARAH HURST
For Mining News

Nothing's been built yet, but Vancouver-based Northern Dynasty has already opened the floodgates to a torrent of discussion of the enormous dams the company proposes for the Pebble project. One of the tailings dams would reach an ultimate height of 740 feet and would be at least 4.3 miles long. The largest dam in North America, the Grand Coulee Dam in Washington, is 550 feet tall and almost a mile long.

Northern Dynasty had already come under fire before it submitted the proposal for five dams to Alaska's Department of Natural Resources. The Renewable Resources Coalition, a nonprofit organization that is devoting strenuous efforts to oppose the Pebble project, published a report that responded negatively to Northern Dynasty's revised water rights application, also submitted by the company to DNR recently.

The report is "a cynical attempt to masquerade anti-development politics as science," said Northern Dynasty's COO, Bruce Jenkins. "In its rush to judgment, the RRC didn't even see fit to look at the information contained in our most recent submission," he added. "More to the point, they're reviewing these preliminary applications as if they are intended to fully describe the copper mine that Northern Dynasty is proposing to build at Pebble. This is a patently false premise upon which to assess these documents, and the RRC and its consultant have taken the opportunity to reach unfounded conclusions that are calculated to mislead and alarm Alaskans."

Report by Coble Geophysical Services

Homer-based Coble Geophysical Services wrote the 4 1/2-page report for the RRC. The report asserted that the proposed diversions of surface water and groundwater from the Upper Talarik will create dry riverbeds, eliminating Sockeye spawning and Coho rearing habitat. "If sufficient water is not diverted to submerge tailings ... oxidation of mining waste can become a serious problem," the report also said. "Contaminated reservoir water discharged to the Tailings Storage Facility Reservoir could flow underground from the South Fork Koktuli Watershed into the Upper Talarik Creek Watershed," it added.

The true costs of reclamation of the Pebble project may never be quantified, the report went on. "The remote location makes regulation more expensive and difficult, even if the fees are addressed during the mine's life through water rights fees," it said. "Problems obviously can occur after ceasing water use. It is hard to predict who will regulate mine reclamation activity so far into the future (50 years). The state of Alaska does not generally plan that far ahead."

Northern Dynasty: $42 million on environmental studies

"We have invested more than $42 million on environmental studies to date in order to establish the scientific foundation necessary to design a mine that can operate safely while preserving clean water, healthy fisheries and other natural values that Alaskans value," Northern Dynasty's Jenkins said. "We will continue in those efforts with the goal of submitting a comprehensive mine plan proposal in 2008 for the review and scrutiny of government agencies and the people of Alaska."

Mining companies routinely file for water rights, according to Tom Crafford, large mine permitting manager at DNR, but it is unusual to file so far in advance of the mine permit applications, he said. Northern Dynasty has asked DNR to postpone its review of the water rights application until the other mine permit applications are submitted. The company expects the permitting process to take around three years, starting in 2008.

Engineering and environmental consulting company Knight Piésold produced the tailings facility documents that formed part of Northern Dynasty's water application. The possible sites for the two tailings impoundments that are considered the least environmentally sensitive are a tributary of the upper South Fork Koktuli River area, a tributary of the North Fork Koktuli River, and along the upper reaches of the South Fork Koktuli River Basin, immediately adjacent to the proposed open pit mine development.

Pebble dams will have to meet state guidelines

Charles Cobb, the dam safety specialist at DNR, will be responsible for ensuring that the Pebble dams adhere to a 230-page set of state guidelines. For a project of this magnitude he will form a design review board, with specialists in geotechnical, hydrological and structural engineering, Cobb told Mining News. "It's really old-school engineering," he said. "The Hoover Dam is an exceptionally safe dam, so the concept of building a safe dam is nothing new."

Seismic studies that Northern Dynasty must undertake will determine what size of earthquake the dams should be able to withstand, depending on the faults in that particular area of the Bristol Bay region. Even if there is a major earthquake, the dams won't fail catastrophically; more likely there will be deformation of the structures, Cobb said. The largest dam in Alaska at present, the tailings dam at Fort Knox gold mine near Fairbanks, was "completely unaffected" by the magnitude 7.9 earthquake that ruptured the Denali fault in November 2002, he added. That dam is over 4,000 feet long and 320 feet high.

Overseeing tailings facility when mine closes another issue

Another issue for Northern Dynasty and DNR to deal with is how to oversee the tailings facility when the mine closes. This is a pressing question for Fort Knox, too, since that mine is due to close within the next few years. So far the mine has provided $1 million to maintain the tailings dam after closure, according to Cobb, but a decision hasn't been taken as to whether the state or the mining company, Kinross, will be responsible for looking after the money. Red Dog lead-zinc mine in Alaska's Arctic also has a tailings facility that will require dam maintenance and water treatment in perpetuity.

The failure rate for tailings dams is statistically higher than for water dams, according to the State of Alaska's guidelines for cooperation with the Alaska Dam Safety Program. The guidelines illustrate this point with a quote from "Tailings Dam Failures — the Human Factor" by Alan H. Gipson, written in 2003. "When compared to water dams the current failure rate of

see PEBBLE DAM page 16

Public opinion stacks up for, against Pebble

In the Democratic primary election in the Bristol Bay region, Rep. Carl Moses lost to challenger Bryce Edgmon in a dramatic coin toss Sept. 25 after a recount and a decision in Alaska's Supreme Court gave the candidates 767 votes each. Moses had served for 22 years in the Alaska legislature, but the Pebble project was the biggest issue in this election. Moses called for residents of the region to keep an open mind about the project, while Edgmon strongly opposed it.

In the Alaska governor's election, the two leading candidates took different stances. Republican candidate Sarah Palin's agent told the Renewable Resources Coalition that she was undecided about Pebble. Her oldest daughter's name is Bristol, her husband was born and raised in the Bristol Bay region and they fish there every summer. Palin's heart is in Bristol Bay, her agent said. "We do know of the proposed size of the footprint and I don't blame residents for being extremely apprehensive about it," the agent added. "We need to see the full proposal from NDM. We should not support a project that risks one resource over another." Palin is committed to supporting job opportunities in rural Alaska, the agent said.

TONY KNOWLES

SARAH PALIN

Democratic candidate Tony Knowles is opposed to the Pebble project. "The Alaska Constitution requires that development of Alaska's resource wealth be consistent with the public interest and provide maximum benefit to all Alaskans," he told the RRC. "This project does neither. An open pit mine at the headwaters of the most productive commercial salmon fishery in the world would be like a stake through the heart of Bristol Bay. It is not consistent with the public interest, would not provide maximum benefit to all Alaskans and threatens a renewable resource that sustains Alaskans both culturally and economically."

Bristol Bay Native Association opposes mining

The Bristol Bay Native Association's board of directors passed a resolution Sept. 29 "opposing all large scale mining in the Bristol Bay Region until studies unequivocally prove there will be no net loss to subsistence, commercial and sports users." The BBNA is an Alaska Native non-profit corporation and tribal consortium serving 31

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● GUEST COLUMN

Mining news summary: Industry fall, winter programs include trenching, drilling, bulk sampling, mine construction

Normally at this time of year the mining industry's seasonal peak of activity is over and the paucity of news coming from the bush is a function of the dwindling volume of work going on out there. While there has been the anticipated lull in mining results released to the public in the last month, I can almost hear the deep, slow collective inhalation of breath being taken by the industry as it catches its second wind and launches an unusually diverse series of fall and winter programs. These efforts span the gamut from trenching and drilling to bulk sampling and mine construction and are spread out all over the state. Read on but remember, there is a lot more to come in 2006!

The author


CURT FREEMAN

The author Curt Freeman, CPG #6901, is a well-known geologist who lives in Fairbanks. He prepared this column Oct. 19. 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.

Western Alaska

Somehow **TECK-COMINCO'S** second quarter results (released in late July) escaped my attention so to set matters straight (and keep George Cole from hammering me), here is the dope. The Red Dog mine saw continued strong operating profits in the second quarter of 2006 as a result of strong zinc and lead prices. Operating profit was $102 million vs. an operating profit of $9 million in the same period in 2005. For the quarter, the mine generated 132,220 tonnes of zinc and 23,000 tonnes of lead in concentrate vs. 134,400 and 23,700 tonnes of zinc and lead, respectively, in the second quarter of 2005.

The mine sold 58,300 tonnes of zinc and no lead during the second quarter. Average zinc and lead grade mined was 20.4 percent and 5.9 percent vs. 21.7 percent and 5.5 percent, respectively, in the second quarter of 2005. Mill throughput of 780,000 tonnes in the second quarter was significantly up from the 741,000 tonnes milled in the second quarter 2005.

A delay in shipping concentrates due to inclement weather in the third quarter prompted the company to downgrade shipment estimates by 50,000 tonnes in the third quarter. The company still plans to ship 550,000 tonnes of concentrate during the 2006 shipping season.

NOVAGOLD RESOURCES and **BARRICK GOLD CORP.** continued their fight over the latter's $1.53 billion hostile corporate takeover offer which was extended in late September and is due to expire again in late October.

In the mean time, the initial results from 2006 drilling at Donlin Creek include hole DC06-1114 with three mineralized intervals totaling 117 meters grading 4.10 grams of gold per tonne, hole DC06-1115 with seven mineralized intervals totaling 104 meters grading 5.01 grams of gold per tonne, hole DC06-1144 with 10 mineralized intervals totaling 194 meters grading 3.64 grams of gold per tonne, hole DC06-1243 with seven mineralized intervals totaling 136 meters grading 3.95 grams of gold per tonne, and hole DC06-1259 with six mineralized intervals totaling 87 meters grading 4.58 grams of gold per tonne.

Drill hole DC06-1144, which starts within the edge of the resource pit, has intercepted new mineralization outside of previous pit boundaries and extends the Acma zone to the east. Through mid-September just over 56,500 meters of drilling had been completed on the approved 80,000 meter 2006 drilling campaign.

NovaGold Resources also announced that SRK Consulting has completed an independent preliminary economic assessment of the Donlin Creek project. The study was based on a conventional open-pit mining operation milling 60,000 tonnes of ore per day with the potential to produce on average 1.4 million ounces of gold per year over the 22-year life of the project.

For the first seven years the mine would produce 1.885 million ounces of gold per year at a cash cost of $223 per ounce. Average life of mine cash cost was estimated at $276 per ounce. At the base case $500 per ounce of gold, SRK estimates a net present value at a 5 percent discount rate of slightly over $1 billion with a payback of capital costs in less than 5 years.

ANDOVER VENTURES also announced that it has completed four step-out HQ core holes at the "Big Pig" target on its Bulk Gold project north of Nome. Two of the holes intersected sulfide mineralization consistent with mineralization encountered by a previous exploration company in a vertical core hole drilled in 2000 which assayed 0.5 grams of gold per tonne over 14.6 meters. Core from the 2006 drill holes contained disseminated pyrite, arsenopyrite and/or stibnite and suggest the Big Pig target appears to be a northwesterly dipping, stratiform zone that is open in three directions. Assays are pending.

BRETT RESOURCES announced results of the core drilling project completed in August at its Sleitat Mountain tin project in southwest Alaska. The five holes all reached their target depths and all but one encountered substantial thickness of better than 0.2 percent tin, including 104 meters of 0.24 percent tin and 6.48 grams of silver per tonne and 66 meters of 0.29 percent tin and 14.10 grams of silver per tonne.

Limited drilling was targeted at replicating results from previous drilling with 2006 results indicating a close correlation with tin and a more variable range of silver values. The north-south fence of holes verified that the main greisen alteration zone is mineralized with 0.2-0.3 percent tin and better than 6 grams silver, for a minimum of 100 meters in width. Mineralization extends to a depth of 150 meters and along strike for at least 250 meters.

Eastern Interior

TERYL RESOURCES has commenced drilling at its Gil project in the Fairbanks District. The initial drill program will consist of 2,000 feet of drilling in three drill holes to test a new gold target located by integrating previous geological and geochemical with recently acquired geophysical data. Results are pending.

LINUX GOLD CORP. has located six new geophysical targets on the Fish Creek property near Fairbanks. The targets were generated by recent electromagnetic and magnetic surveys and include conductive gradients at depth or along a structure suggestive of areas of higher fracture density, magnetic highs with good depth extent that are interpreted as intrusives and linear magnetic highs that may be calc-silicate horizons similar to those that host the nearby Gil deposit.

FREEGOLD VENTURES LTD. has begun 2,500 feet of new trenching designed to further extend the strike length and identify other possible parallel structures at the Cleary Hill mine prospect on its Golden Summit project near Fairbanks. Following completion of trenching, the company plans to take a 10,000-ton bulk sample from the highest-grade areas identified by trenching. Each structure mined in the bulk-sampling program will be segregated into separate stockpiles, crushed and sampled to obtain representative head-grade values. Following sampling, the mineralized material will be processed using gravity techniques.

INTERNATIONAL TOWER HILL MINES LTD. announced the acquisition of an additional 28 square kilometers of land bordering its Livengood gold project. Following this acquisition, the company immediately began a 2,500 meter core drilling program designed to test the project's bulk tonnage potential. The main bulk tonnage target on the Livengood property has been defined by a series of soil and rock surveys conducted over the past 15 years, which collectively define a mineralized area of approximately five square kilometers.

Gold mineralization is associated with multiple stage quartz veining associated with pyrite, arsenopyrite, stibnite and trace elements indicative of a large, high level gold system. Vein and associated disseminated mineralization are best developed within a volcano-sedimentary rock package that lies in the lower plate of a major thrust sequence and is spatially and possibly

see FREEMAN page 16

continued from page 14

PEBBLE DAM

tailings facilities is unacceptable," Gipson wrote. "In my view the primary reason for the failure rate is that owners, engineers, designers and operators are not performing their work in accordance with the standards of practice that should be followed. Utilizing knowledgeable experienced professionals for policy setting, planning, design, construction and operation of tailings facilities ... can lead to the goal of zero failures."

In November 2004 a tailings dam collapsed during reclamation work at Teck Cominco's closed Pinchi Lake mercury mine in British Columbia. The accident released between 6,000 and 8,000 cubic meters of rock, dirt and waste water into Pinchi Lake. As a result, the Tl'azt'en First Nation announced a moratorium on new mining on its traditional territory. The impact to Pinchi Lake was "minor and very short term," according to Teck Cominco. ●

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OPINION

tribes in the Bristol Bay region.

"The BBNA Board of Directors believes that large scale mining carries too many risks to our existing resource-based economy and way of life, and that the Bristol Bay Region is better served by economic development based on renewable resources," the resolution said. It expresses concern about the impacts to "the largest wild commercial salmon fishery in the world, a world class sports fishery, and the resources our people have relied on for thousands of years for subsistence."

An association of eight village Native corporations, Nunumta Aulukestai (Caretakers of Our Land), has also passed a resolution calling on state and federal leaders to protect the Bristol Bay region from foreign mining companies. In addition, five Bristol Bay tribes responded to Northern Dynasty's application for water rights by writing to DNR asking the agency to place a five-year moratorium on accepting future applications for water withdrawals for large mining projects, and to establish a protected fish and wildlife resource area in the Nushagak-Mulchatna and Kvichak drainages, including the area subject to Northern Dynasty's applications.

Northern Dynasty received a boost from 19 commercial and subsistence fishermen from the Bristol Bay region in the form of a letter dated Sept. 6 that supported the mining company's request for people to withhold their decisions until the permit applications have been filed. "The Pebble Mine project near Iliamna can provide an alternative way to earn income for the local people," the letter said.

"That mineral development could bring lower costs of transportation and energy to the Bristol Bay in the future," the fishermen continued. "However, it must be done safely without harm to the fish and wildlife of the area. Salmon can never be negotiated away. Constant vigilance must be taken so that the salmon will not be harmed. ... There is a media campaign to stop the process before the studies are complete. We feel that due process must be exercised. NDM must be given an opportunity to complete its studies."

—SARAH HURST

continued from page 15

FREEMAN

genetically associated with a 90 million year old dike and sill complex. The 10-year renewable lease agreement requires International Tower Hill to make yearly lease payments starting at $75,000 per year, meet yearly work commitments starting at $100,000 per year and pay a 2-5 percent net smelter return royalty on production.

TECK COMINCO announced that production from the Pogo gold mine was 15,000 ounces in the second quarter of 2006. Mine operating costs are not being published since the operation has not yet reached full scale production.

FULL METAL MINERALS announced that the first drill hole at the LWM prospect on its Fortymile project encountered a significant interval of massive sulfides. Hole LWM06-01 intercepted 12.1 meters grading 110.9 grams of silver per tonne, 0.32 percent copper, 4 percent lead and 11.6 percent zinc including 6.6 meters grading 200.8 grams of silver per tonne, 0.56 percent copper, 7.2 percent lead and 19.3 percent zinc. Mineralization consisted of coarse grained, banded massive pyrite, chalcopyrite, sphalerite and galena hosted within brecciated and locally silicified argillite. Diamond drilling targeted a gravity high identified during a ground-based survey, coinciding with a multi-element soil anomaly. Two additional drill holes were completed at LWM, and further assays are pending.

Alaska Range

FULL METAL MINERALS announced additional drilling results from its Lucky Shot project in Southcentral Alaska. The most recent assay results include hole C06-37 which returned 1.73 meters true width averaging 29.5 grams of gold per tonne, hole C06-32 which returned 0.91 meters true width averaging 22.3 grams of gold per tonne and hole C06-36 which returned 1.99 meters true width averaging 11.8 grams of gold per tonne.

Holes C06-32 to 34 are the westernmost holes drilled to-date at Lucky Shot. In this area, late brittle faulting has down-dropped the Lucky Shot shear to the north, extending the up-dip potential of the structure. Coarse visible gold mineralization is evident in these holes, and the shear remains open for expansion to the west. To-date, 61 of 90 planned core holes have been completed on the Lucky Shot shear during the 2006 season.

Northern Alaska

LITTLE SQUAW GOLD MINING announced initial drill results on its Little Squaw project in the Brooks Range. Results are in for 12 of 39 drill holes completed on the project in September. High grade exploration potential is indicated by results in holes SUM 7, 8, 9 and 10 at the Summit prospect, which returned values from 3.24 to 9.05 grams of gold per tonne including a 5-foot intercept of 16.15 grams of gold per tonne in hole SUM 8. Drilling on the Little Squaw vein returned values up to 25 feet grading 4.21 grams of gold per tonne including 5 feet grading 10.75 grams of gold per tonne. All drill holes that penetrated their targets at the Summit and Little Squaw prospects contain gold mineralization. Assay results confirm continuity of gold mineralization to at least 200 feet below surface. The drilling and the systematic surface soil and rock sampling confirm that individual gold-bearing quartz veins and shear zones persist over several thousand feet of strike length.

SILVERADO GOLD MINES announced that recent drilling on a portion of the Slisco Bench, located on the Hammond River portion of its Nolan project has intercepted high grade placer gold mineralization. A total of 39 drill holes were completed at Slisco Bench during the summer 2006 exploration program. To date, 20 out of 39 drill holes at Slisco Bench have been processed and analyzed for placer gold. Out of these 20, 11 drill holes show visible gold with values ranging from 0.009 to 0.495 ounces of gold per cubic yard.

Southeast Alaska

BRAVO VENTURE GROUP has begun a trenching program at its Woewodski Island project in Southeast Alaska. The next phase of work will utilize mechanical trenching to help identify drill targets in a number of areas including where earlier surface sampling returned gold assays of up to 489.1 grams of gold per tonne (14.3 ounces of gold per tonne) from surface subcrop and float samples.

FULL METAL MINERALS announced acquisition of the Mount Andrew copper-gold project in southeast Alaska. The company can earn a 100 percent interest in the project from Mount Andrew Mining Co. by expending $800,000 in exploration over four years, and paying $210,000 in cash over four years. Upon commercial production, the owner will receive a 2 percent net smelter return royalty which increases to 4 percent after the fifth year of production. The Mount Andrew mine was discovered in 1989 and produced copper, silver and gold. The company began a six-hole, 600 meter core drilling program immediately after signing the deal.

Other

For those of you who have not heard, Alaska's **MARK MYERS** has been named as the new director of the **U.S GEOLOGICAL SURVEY**. Mark was former state geologist, director of the Division of Oil and Gas and director of the Division of Geological and Geophysical Surveys. His new staff of 10,000 has annual budgets in excess of $1 billion. Congratulation Mark! ●

NORTH OF 60

MINING NEWS

Companies involved in Alaska and northwestern Canada's mining industry

DIRECTORY

The Red Dog mine in northwest Alaska.

Mining Companies

Fairbanks Gold Mining/Fort Knox Gold Mine
Fairbanks, AK 99707
Contact: Lorna Shaw, community affairs director
Phone: (907) 488-4653 • Fax: (907) 490-2250
Email: lshaw@kinross.com
Web site: www.kinross.com
Located 25 miles northeast of Fairbanks, Fort Knox is Alaska's largest operating gold mine, producing 340,000 ounces of gold in 2004.

Rimfire Minerals Corp.
Vancover, BC V6C 1G8 Canada
Contact: Lisa May, Mkt. Coordinator
Phone: (604) 669-6660
Fax: (604) 669-0898
Email: lisam#rimfire.bc.ca
Web site: www.rimfire.bc.ca
Gold and silver projects in Alaska, Yukon, BC and Nevada. Preferred partner of senior mining firms. Partnered with the world's three largest gold producers.

Usibelli Coal Mine
Fairbanks, AK 99701
Contact: Bill Brophy, vp cust. relations
Phone: (907) 452-2625 • Fax: (907) 451-6543
Email: info@usibelli.com • Web site: www.usibelli.com
Other Office
P. O. Box 1000 • Healy, AK 99743
Phone: (907) 683-2226
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.

Service, Supply & Equipment

Ace Transport
Anchorage, AK 99502
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TANGEN

ment agency that had jurisdiction over the land in question did a “validity determination”; that is to say, a “mineral examiner” went to the property, examined the outcropping of ore on the claim, examined the drill core, and reviewed the applicant’s mining plan.

After several years of contemplating the “validity” of the claim, the government agent cleared three of the claims for patent and declared that, with regard to the rest of the claims, there wasn’t sufficient evidence of quality or quantity of mineralization to justify a reasonably prudent miner to expend his time and resources developing the deposit with a reasonable expectation of making a profit. Accordingly, the rest of the claims were declared “invalid.”

First appeal to administrative law judge

Once a federal mining claim is declared invalid by a mineral examiner, the claimant has the right to appeal the agency’s decision. The appeal, however, doesn’t go to the courts; it goes, instead, to an administrative law judge who determines whether the government has made out a prima facie case of invalidity. If the judge rules it has, the claimant can then present evidence to show where the government went wrong.

In this case, the mineral in question was “magnetite,” a kind of iron ore characterized by its magnetic properties. Magnetite is defined in the field through the use of a “magnetometer.” Nowadays, magnetometry is an advanced science, and magnetometers are precision instruments. According to one expert, the relation of a positive magnetometer reading and the presence of magnetite is one to one. In other words, magnetometers are 100 percent accurate.

So here we have a government mineral examiner, who, the evidence established, had no experience whatsoever with magnetite or magnetometry, arrayed against an expert on magnetometry and a well-qualified expert in the economics of mining and mineral recovery. The testimony was one-sided. The evidence included a photograph of the mineral examiner standing in front of an outcropping on the claim. The government’s argument was that it was in isolated pod and that, by the use of a “rule of thumb,” drill intercepts of magnetite at depth could not be associated with the outcropping of magnetite on the surface. Not surprisingly, the administrative law judge found for the government. Mining claims are rarely found to be valid if the mineral examiner thinks otherwise.

Next step board of appeals

Ironically, the area in question has been selected by an Alaska Native regional corporation, so at the conclusion of the mining contest, it may be conveyed to that corporation, which will then have the right, and possibly the inclination, to mine it.

Following an administrative hearing such as this, the losing party has the right to take its disagreement with the finding to the Department of the Interior Board of Land Appeals. The IBLA is an appellate body within the department that reviews administrative rulings and decides whether the administrative law judge erred. It is very likely that the IBLA will spend another 18 months or more to reach a decision. Only at that point, after nearly 30 years inside the administrative process, will the claim owner have the right to a day in court. See: United States v. Newman, AA-24795, Sept. 29, 2006. ●

A message from the publisher

Oct. 29, 2006

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