Petroleum news

page 8 Five-nation group agrees climate change main threat to polar bears

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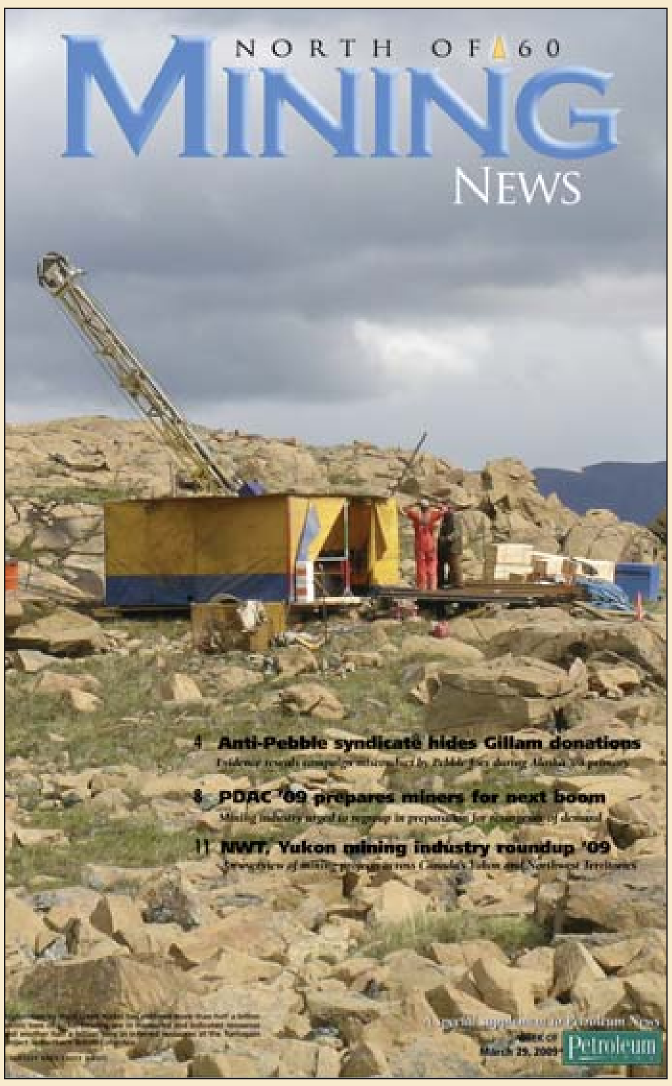
March Mining News inside



The March issue of North of 60 Mining News is enclosed

Conoco pulls out of Beaufort; gives up 41 state, federal leases

ConocoPhillips has almost entirely pulled out of the U.S. Beaufort Sea, citing the economic difficulty of developing the remote, isolated and challenging region.

Since late last year, the company has surrendered 26 leases, or 107,000 gross acres in the waters stretching off the coast of the North Slope, and allowed another 15 to expire.

"We released them because we don't believe there is hub potential in the area," Natalie Lowman, spokeswoman for ConocoPhillips Alaska, told Petroleum News in an e-mail on March 24. "Exploration within the Beaufort Sea is cost-intensive since the targets are offshore and the area is substantially segregated from existing production infrastructure."

The surrendered and expired leases cover two separate areas in the U.S. Beaufort Sea.

Most sit 15 miles off the coast of Stefansson Sound, the body of water just north of the Prudhoe Bay oil field. The other leases are farther west and much farther offshore, sitting some 40

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BREAKING NEWS

6 Eni asks for Nikaitchuq extension: Unit term ends in April; Eni asks for 2 more years; startup already pushed from '09 to '10

7 MGM posts Mackenzie gas numbers: Ellice J-27 discovery well has a mean estimate of 327 bcf; final well of year abandoned

12 Pioneer scales back Oooguruk production: Delay in water supply for EOR forces reduction, annual targets should be met

● EXPLORATION & PRODUCTION

Exploration continues

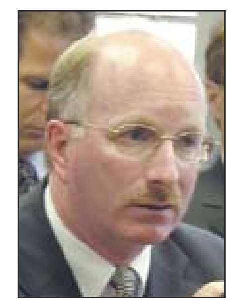
Through March, six companies in various stages of drilling on the North Slope

By ERIC LIDJI

Petroleum News

Despite some bumps and scraps, the winter exploration season is under way, with six companies in various stages of drilling on state and federal land across the North Slope.

KEVIN BANKS



MARK HANLEY

Anadarko is getting its work done in the Brooks Range Foothills by shuffling its rigs.

"The goal was always to try and get three wells finished," Anadarko spokesman Mark Hanley said on March 24. "It looks like we're going to get all the wells completed."

Anadarko is still drilling at Chandler No. 1 using the Nabors rig 105-E.

Anadarko started drilling the well last winter, but didn't finish. The company left the rig on an insulated ice pad at the site over the summer, allowing a quick start this winter.

Chandler No. 1 sits some 12 miles east of Umiat.

Using the Doyon Arctic Fox rig, Anadarko already completed Wolf Creek No. 4 this winter. The well sits 40 miles west of Umiat in the National Petroleum Reserve-Alaska.

see **EXPLORATION** *page 14*

● FINANCE & ECONOMY

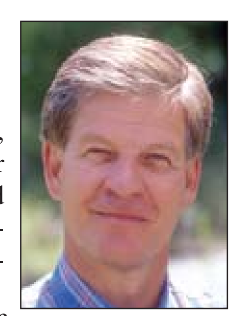
Oil sands jolted awake

Suncor, Petro-Canada merger all about oil sands; stalled projects could restart

By GARY PARK

For Petroleum News

For all the talk about a fresh-minted, globally diversified, supermajor based in Canada, the real thrust behind the merger of Suncor Energy and Petro-Canada kept breaking the surface in conference calls on March 23.



Suncor Energy CEO Rick George

In the words of Suncor Chief Executive Officer Rick George — who will carry that title into the new entity provided it gets regulatory and shareholder approval — the merger will create a huge "oil sands-centric" corporation.

"This will obviously be a company that is very focused on Canada, very focused on oil sands," he said, while paying homage to the fundamentally changed nature of Suncor by acknowledging: "We are going to look at all of the assets. Our future investments will really be tied around … return on capital, near-term cash flow and efficiencies," such as a C$300 million reduction in annual operating costs and a C$1 billion cut in capital spending by eliminating redundancies, such as duplicate upgraders and pipelines.

While breaking away from its pure-play role in the oil sands, Suncor is far from turning its back on

see **MERGER** *page 17*

● NATURAL GAS

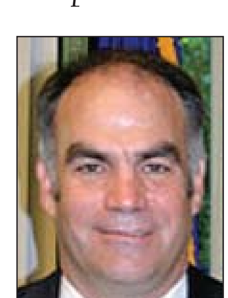
Friend or future foe?

Will L48 shale gas development help or hinder the sale of Arctic natural gas?

By ALAN BAILEY

Petroleum News

Nowadays ne'er a presentation goes by on the future of the U.S. natural gas market, without a graph depicting ever expanding production from the gas shales that form continuous gas resources under vast swaths of territory in the Lower 48 states of the United States. Gas tightly held in the shale that sourced it, as distinct from conventional natural gas that has migrated into reservoirs composed of sandstone or other porous rocks, could boost U.S. gas resources sufficiently to meet the nation's gas needs for perhaps 100 years, according to some reports.



MARK MYERS

So, does the tight gas in regional-scale rock units such as the Barnett shale in Texas, the Marcellus shale in the Appalachians and the Haynesville shale in Louisiana pose a threat to the economics of sending gas into the Lower 48 through pipelines from Arctic Alaska and northern Canada?

Not really, Mark Myers, state coordinator for the Alaska Gasline Inducement Act and former director of the U.S. Geological Survey, told Petroleum News March 24. In fact, shale gas production can provide an essential stepping stone to the future use of Arctic gas by helping expand the U.S. natural gas industry during the period prior to an Arctic gas line

see **SHALE GAS** *page 13*

contents

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

● SAFETY & ENVIRONMENT

Evolving situation at Drift River terminal

By **ALAN BAILEY**

Petroleum News

Multiple explosive eruptions at Alaska's Redoubt Volcano on the west side of Cook Inlet since March 22 have caused lahars, volcanic mudflows that is, on the flanks of the mountain, while melting of the Drift Glacier on the edge of the volcano's crater has caused major flooding in the Drift River which flows past the Chevron-operated Drift River oil terminal at the base of the volcano.

And another major eruption on March 26 caused the National Weather Service to issue a new flood alert for the river.

According to the Anchorage Daily News, over flights of the terminal on March 24 revealed that muddy water from eruption-induced river flooding had lapped over a dike at the terminal — the river level had risen by 25 feet on the morning of March 23, the Daily News report said.

But the Chevron subsidiary that operates the terminal keeps a minimum quantity of oil in the two active tanks at the terminal, to ensure that the tanks are not floated from their foundations, were the protective dikes to be breached.

But massive protective dikes have prevented flood water from reaching the terminal's tank farm. Nevertheless it appears that flooding has damaged parts of the facility outside the protected tank farm and has covered part of the terminal's airstrip with mud, according to workers who visited the terminal on the day of the over flights.

see **REDOUBT** *page 17*

● NATURAL GAS

RCA considering new natural gas pricing regulations

Regulatory Commission of Alaska has scoping document out for public comment; regulations docket to follow; standard contracts, common in Lower 48, could guide future gas supply cases

By **ERIC LIDJI**

Petroleum News

After a decade of debates over how to price Cook Inlet natural gas, state regulators are considering new regulations to govern pricing provisions in future gas supply contracts.

Those regulations could include a standardized contract setting out terms for pricing and other provisions to allow regional utilities to enter into supply arrangements with natural gas producers without requiring a hearing before the Regulatory Commission of Alaska.

"The problem, as I see it, is there is great uncertainty among public utilities and gas suppliers in trying to agree upon gas supply contracts," Commissioner Jan Wilson said during a March 25 meeting, adding the RCA might be able to alleviate that uncertainty.

"Standard form contracts" are relatively common in Lower 48 gas markets, where the abundance of buyers and sellers is conducive to short-term contracts made quickly.

But the idea could be used to encourage shorter-term contracts in Alaska, or could be modified to accommodate the longer-term contracts that are the norm here, Wilson said.

In addition to setting up a methodology for pricing gas supplies, the contract could include provisions related to other issues, like deliverability or durations, Wilson said.

"The pricing provisions are very important, but the other provisions of the contract are equally important," Wilson said.

At minimum, the contract could guide future supply cases, which have been hampered by a scarcity of information on the record, according to Commissioner Tony Price.

"We may never see somebody come in with a standard form contract with the pricing, but at least we have established something on a broad record," Price said.

Hoping for more participation

Before opening a docket to craft new regulations, the commission is putting the issue before the public, looking for a wide range of thoughts about Cook Inlet gas supplies.

The commission uses different classifications to handle different issues. A regulations docket like the type being considered allows anyone to put information on the record, as opposed to other dockets that restrict who can participate and how they can participate.

"Our knowledge of the Cook Inlet market is very small compared to the knowledge that there is out there in the community," Wilson said.

A regulations docket also does not include a "discovery" phase, where parties in a case can request information and documents from each other. Several commissioners believe not having that phase could help expand the parties willing to participate in the matter.

ConocoPhillips and Marathon, for instance, did not participate last year in a case over whether regulators should approve contracts between those companies and Enstar Natural Gas. The State of Alaska has not been a party in any supply case over the past decade.

The call for public comment will determine if a standard contract is feasible, Wilson said.

"I think getting some feedback from those people that have negotiated gas contracts, as to whether they believe that it's possible to come down with some kind of standard form contract would also be helpful," Wilson said.

More contracts on the horizon

Since coming into existence in July 1999, replacing the Alaska Public Utilities Commission, the RCA has considered four natural gas supply contracts, approving two conditionally and rejecting the other two outright.

The most recent case came last year, when Enstar sought, but failed to get commission approval for a pair of natural gas supply contracts with ConocoPhillips and Marathon.

The case stretched on for months and generated thousands of pages of documents, but Enstar ultimately had to use a back door to guarantee it would have enough gas this year.

The decision to consider new regulations came as the commission prepares for several new supply contract cases in the near future from Enstar, Chugach Electric Association and two newcomers: Homer Electric Association and Matanuska

see **PRICING** *page 4*

● NATURAL GAS

Administration provides update on AGIA

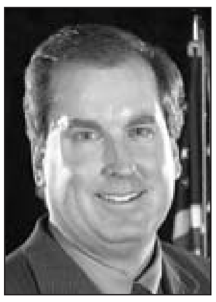
Galvin says Alaska gas viewed as game changer for shale gas, not vice versa; TransCanada holding off FERC because of cost concerns

By KRISTEN NELSON
Petroleum News

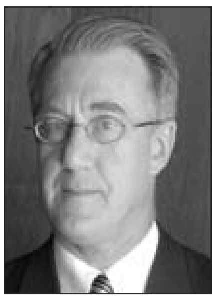
Have economic and market conditions changed since the Alaska Gasline Inducement Act was passed in 2007 and the Legislature approved granting an AGIA license to TransCanada in 2008?

That was the concern Reps. Jay Ramras, R-Fairbanks, and Craig Johnson, R-Anchorage, had in introducing House Concurrent Resolution 12.

Johnson told the House Special Committee on Energy March 19 that the resolution does not ask for a rewrite of AGIA, but asks that the administration show the Legislature that conditions haven't changed.



PAT GALVIN



FORREST CRANE

TONY PALMER

Ramras said any Fortune 500 company would require regular benchmarks and after attending the Energy Council at the beginning of March he came away "frightened for the prospects for Alaska" and wanted to "shake the trees" and get a lot of information disseminated regularly.

Commissioner of Revenue Pat Galvin said he believes the TransCanada AGIA project remains economic; Commissioner of Natural Resources Tom Irwin concurred. The commissioners shared the responsibility for the decision recommending TransCanada for the AGIA license.

Galvin said the administration is evaluating information as TransCanada proceeds with its AGIA license.

"You don't need to present a resolution," he said. "Just ask us to present information."

There is information available from the AGIA analysis, he said, and some questions can be answered by "plumbing the depths of work" already done in that $13 million analysis.

If more information is required, Galvin said the administration needs clarity so it can write a cost estimate if significant work is required.

The cost of the analysis suggested by the resolution would be substantial, he said, and would divert resources. Some analysis has been budgeted and is under way and the administration would be happy to share the results of that work, Galvin said.

Should decision be revisited?

Addressing issues raised in the resolution, Galvin said one factor would receive more weight if the evaluation were done now — the likelihood of carbon regulation has increased since last spring, he said, making the relative economics of natural gas much more favorable than alternatives, particularly coal.

That, he said would require project economics from last spring to be "significantly adjusted" and price expectations "adjusted upward."

The global downturn would impact project costs, causing costs such as steel to go down as opposed to last spring when those costs were going up.

Natural gas prices have dropped, but this project doesn't look at current prices or prices six months from now, but at where the price is expected to be 10 years from now, Galvin said.

The global market downturn and reduced energy demand is expected to last from six to 24 months and while financial markets are tight Galvin said that isn't expected to extend out five years, and five years out is when the gas pipeline project would be looking for financing.

Increased shale gas and liquefied natural gas supplies were considered in the AGIA analysis, he said.

The overall impact of changes since AGIA was passed is as likely to be positive as negative, Galvin said.

Long term, Alaska gas will most likely come in at a lower cost than shale gas or LNG, he said.

Shale gas is not a threat to Alaska gas, it's the reverse, Galvin said, relating a conversation with a shale gas investor who told him their analysis was that Alaska gas would be the big game changer for shale gas, and the question was would they be able to survive Alaska gas coming into the market, because Alaska gas was expected to set the market price.

Low tariff and an open-access pipeline are still critical for the state's long-term future, Galvin said, reminding committee members that one of the key purposes of AGIA was to provide leverage for the state in on-going discussions with producers.

Galvin said reports the state is receiving from TransCanada indicates the project is on schedule. He said the state has no current information leading it to believe the project is in any kind of trouble.

Palmer: cost and schedule

Tony Palmer, vice president Alaska development for TransCanada and president of TransCanada Alaska, told the committee that while TransCanada has no control over natural gas prices and what competitors in the marketplace will do, the company does have some measure of control over "cost and schedule. That's what we are focused on and that's what we will continue to focus on," he said.

While natural gas prices have fallen, Palmer noted that so have costs.

"There is a strong correlation in the oil and gas business between oil and gas prices and the cost of projects," he said,

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PRICING

Electric Association, which both currently buy electricity from Chugach but intend to start producing their own in the years to come.

Wilson brought up several other ideas beside the standard contract for addressing the gas supply dilemma. Those ideas range from continuing the current policy of waiting for contracts to come before the commission, to delaying commission approval of new gas supplies until a utility tries to change its rates, to seeking a legislative change to statutes.

Wilson called the standard contract idea "the most feasible at this time." ●

Contact Eric Lidji at 907-522-9469 or elidji@petroleumnews.com

● EXPLORATION & PRODUCTION

Upgrading begins at home

Legislation introduced to take oil sands bitumen in kind rather than cash, providing a catalyst for new 'value-added' upgrader projects

By GARY PARK

For Petroleum News

For the Alberta government, it is no longer a case of wistfully counting the jobs and revenues being lost as oil sands production enters the United States for upgrading and refining.

Premier Ed Stelmach once said the exports were akin to watching Alberta's topsoil being skimmed off and sent elsewhere — a situation he said was tantamount to "thinking we have a rich farm because we have cash in the bank."

To optimize oil sands development and ensure full economic value for all Albertans, the government has taken the next step in an effort to expand its role "along the value chain through upgrading and refining bitumen."

ED STELMACH

It has targeted an "ultimate portfolio mix" of one one-third bitumen sales, one-third synthetic crude oil sales and one-third sales of finished products and petrochemicals.

An essential lever in that plan involves using "bitumen royalty-in-kind transactions to facilitate and expand an Alberta bitumen market," including the establishment of a government-led organization to manage royalty-in-kind volumes and develop "value-added oil sands products."

Since last summer, the government has heard from companies interested in processing bitumen in Alberta.

But since then, as well, the whole upgrading and refining sector — globally and not least in Alberta — has been thrown into turmoil.

Seven projects dead ended

Already reeling from inflationary construction costs and the plunge in crude prices, proponents of seven projects in what is known as Upgrader Alley north of Edmonton have found themselves in a dead end.

Plans carrying an estimated price tag of C$90 billion have been cancelled or stalled, choked off by the financial liquidity crisis and scared off by concerns about looming environmental measures emanating from the U.S. administration of President Barack Obama.

Hopes of jobs for 22,000 construction workers in Upgrader Alley by 2012 and 12,000 full-time jobs have been dashed.

The only upgrader that has survived is an expansion of Shell Canada's Scotford refinery complex to handle increased volumes from its Athabasca operation.

Bitumen royalties in-kind

Against such daunting odds, the Alberta government maintains a cheerful exterior.

Finance Minister Iris Evans said "we're optimistic" the shelved projects will be revived.

To bolster that view, the government has introduced legislation to collect bitumen royalties in-kind and use those supplies to feed at least one new upgrader, which would become the catalyst for pooling the use of resources such as water, steam and electricity and triggering the provision of infrastructure.

By extension, the government believes such critical mass would also lower per-barrel construction and operating costs.

In unveiling its plans for making several amendments to energy legislation as part of taking royalties in-kind, the government said it has had about 20 expressions of interest from the industry — enough to support a formal request for proposals, likely this summer.

To entice more industry backing, the government has also indicated it may not take the full equivalent of cash royalties, which have changed under Alberta's new royalty regime that took effect Jan. 1.

Under the old system, producers paid 1 percent of their gross revenues before capital project costs were recovered and 25 percent, less operating and other costs, once payout had been achieved.

The new royalties start at about 5 percent before payout and 33 percent after that point.

Some upgraders enthusiastic

Initially, the Canadian Association of Petroleum Producers has taken a measured approach, declining to comment without seeing the expressions of interest.

But there was plenty of enthusiasm from backers of merchant upgraders, such as North West Upgrading, which has sidetracked plans for a possible 231,000-barrel-per-day upgrader to ride out the economic storm.

When the government first invited submissions, North West President Robert Pierce said the strategy would help lock down his company's supply needs and add "substantial value" to government royalties.

Joseph Doucet, a professor of energy policy at the University of Alberta, said the economies of scale make a significant contribution to lowering costs.

Kvisle argues for pipelines

Hal Kvisle, chief executive officer of TransCanada, which is in the midst of building its Keystone pipeline from the oil sands to St. Louis and the Cushing hub in Oklahoma, where a second line is planned for the Gulf Coast refineries, argued earlier in March that those who claim sending raw bitumen to the U.S. will kill upgrader projects are "clearly misguided."

"What these people are really worried about is that their upgrader projects won't make sense and they want to create impediments to somehow improve the economics of their projects," he said.

"But if they have good upgrader projects and if it makes sense to upgrade the crude in Alberta and if you can get tradesmen and contractors to build these upgraders at a reasonable cost, they will absolutely get built."

That aside, Kvisle said that long-term shipping contracts signed by TransCanada with producers do not automatically mean that raw bitumen alone will be delivered to U.S. markets.

He said the existing 18-year contracts covering raw bitumen for Keystone can easily be converted moving upgraded crude.

"The pipeline we're building is initially designed to move diluted bitumen," he said. "In the event the Alberta upgrading industry really takes off, we're more than happy to move upgraded crude. It's less viscous and we can pump more barrels a day of upgraded crude than bitumen."

Regardless of that debate, Kvisle said the order of priorities for Alberta is to increase bitumen production, then build pipelines and, finally, build upgraders, either now or in five years.

The upgrader argument

In a letter to the Edmonton Journal, Jim Sheasgreen, chairman of the Alberta Heartland Industrial Association — a coalition of municipalities trying to facilitate the expansion of Upgrader Alley — said Kvisle's dismissal of critics as "clearly misguided" ignores the "basic business arrangements and investment decisions that will be made."

"A refinery or other operation in the U.S. that wants to accept raw bitumen must make significant capital investments to process this very heavy crude.

"To justify these investments, they will require long-term contracts that guarantee a long-term supply of raw bitumen.

"So, once these deals are made, the opportunity to upgrade in Alberta will be lost forever."

Sheasgreen said Kvisle's priorities are not aligned with the vision and priorities of Alberta, which must seize the opportunity to "diversify our economy and create a new and high-tech economy for future generations by moving our resources up the value chain." ●

● LAND & LEASING

Eni asks for more time at Nikaitchuq

Company wants term of unit agreement pushed out nearly two additional years, also asks for extension on ADL 391283 timeline

By ERIC LIDJI
Petroleum News

Eni US Operating Co. Inc. wants extra time to develop the Nikaitchuq unit.

The subsidiary of Italian oil giant Eni S.p.A. recently asked the state to extend the term of the offshore unit to April 1, 2011, from the current expiration date of April 30, 2009.

The request comes a few weeks after news that Eni had suspended drilling operations at Nikaitchuq this winter, pushing the startup of the field to 2010 or later from late 2009.

Eni said it "conducted extensive reservoir evaluation, engineering studies, and economic analysis to determine if it is feasible to develop and produce the hydrocarbons discovered in the Schrader Bluff and Sag River formations within the Nikaitchuq Unit," and shared confidential "reservoir and engineering analysis, and economic studies" with the state.

Eni told the state it already "completed and or initiated" several activities at Nikaitchuq, located in the near shore waters of the Beaufort Sea, north of the Kuparuk River unit.

Those activities include:

• building onshore production and operations pads and an offshore drilling pad;
• drilling the first production well;
• starting construction of production facilities;
• starting work on the underwater cable connecting the offshore drilling pad to production pad at Oliktok Point; and
• starting work on the Vertical Support Members for an 8-inch crude oil gathering line.

Eni also said it is currently evaluating data from a 3-D seismic shoot last summer.

According to a 2007 revision of the 2004 agreement, the current term of the Nikaitchuq unit ends in April 2009 unless the state certifies a well in the unit as capable of producing in paying quantities or the commissioner of Natural Resources extends the deadline.

The commissioner cannot extend the deadline more than five years.

Extra time for ADL 391283

In addition to asking for an extension of the term of the unit agreement, Eni is also asking the state to extend the deadline for including one lease in the unit in a participating area.

The acreage contained in the lease was originally part of the Kuparuk River unit, added through expansions in the mid to late 1980s. But the Kuparuk River unit owners farmed out some of the acreage to Eni in 2007, and the state called the new lease ADL 391283.

The addition of ADL 391283 to Nikaitchuq came as part of a 2007 state decision to expand the Nikaitchuq unit to include the leases of the neighboring Tuvaaq unit.

Under the revised agreement, Eni had until Oct. 5, 2009, to commit all or some of ADL 391283 to a participating area, with any uncommitted portion contracting out of the unit.

A participating area is the portion of a unit from which production occurs. It is usually created just before a field begins sustained production.

Eni is now asking for that deadline to be pushed to Oct. 5, 2010.

Other leases in the unit have different expiration dates than ADL 391283.

The Nikaitchuq unit covers some 33,870 acres spread across 18 state oil and gas leases.

The state announced the request on March 20 and is taking comment through April 27. ●

Contact Eric Lidji at 907-522-9469 or elidji@petroleumnews.com

● GOVERNMENT

Risk assessment public comments sought

DEC plans meetings on methodology assessing Alaska's oil and gas infrastructure; National Academy of Sciences to hold workshops

By KRISTEN NELSON
Petroleum News

The Alaska Department of Environmental Conservation is asking for public comments on the approach developed to assess the health of the state's oil and gas infrastructure. Public meetings are planned for Anchorage, Fairbanks, Kenai, Barrow and Valdez prior to the close of public comments June 2.

The Alaska Risk Assessment of Oil and Gas Infrastructure released a proposed methodology designed by a team of Emerald and ABS Consulting March 20.

In addition to the DEC meetings, a peer-review panel from the National Academy of Sciences is reviewing the methodology and will schedule Alaska workshops in May to gather input.

The Alaska Risk Assessment of Oil and Gas Infrastructure released a proposed methodology designed by a team of Emerald and ABS Consulting March 20.

Ira Rosen, DEC project manager, said dates have not yet been set, but the DEC meetings will likely be held in the evening while the National Academy of Sciences workshops may be daytime panel presentations.

Development of the mathematical model to quantify risks is the focus of the first phase of the Alaska Risk Assessment, a three-year, $5 million initiative to evaluate Alaska's oil and gas infrastructure, a study begun as a result of the spills, leaks and corrosion found on the North Slope in recent years.

Risks identified, ranked

When complete, the assessment will report on the status of existing infrastructure, components, systems and hazards. DEC said the study will identify and rank risks based on consequences to state revenue, safety and the environment and will assist the state in making mitigation recommendations.

Physical infrastructure will be partitioned into segments for analysis; preliminary screening will remove segments that do not have potential to create significant consequences from further analysis.

Segments of infrastructure that have potential for significant consequences will be analyzed for both operational (equipment failures due to mechanical failures and human error) and natural hazards.

Results will be summarized as a risk profile.

The proposed risk assessment methodology will be evaluated by the state, the public and an independent third-party reviewer prior to finalization.

DEC has the lead

DEC, working in cooperation with the Petroleum Systems Integrity Office, is leading the risk assessment project.

"Finalizing the method we use to evaluate the condition of Alaska's oil and gas infrastructure is a key step in the overall assessment of this complex system," Larry Dietrick, DEC director of Spill Prevention and Response, said in a statement.

As part of the project, the state gathered input from government agencies, industry and the public in 2008. Those ideas helped shape the design of the risk assessment model. "Stakeholders now have a chance to confirm issues and concerns they identified have been included in our approach," Rosen said.

The risk assessment methodology is scheduled to be completed this summer. It will act as a framework for evaluating information on vulnerabilities and safeguards in the state's oil and gas infrastructure. The overall Alaska Risk Assessment results are expected to be published in 2010.

Copies of the methodology and more information on the project are online at www.dec.state.ak.us/spar/ipp/ara/. ●

● NATURAL GAS

MGM posts Mackenzie natural gas numbers

By GARY PARK

For Petroleum News

Canadian Arctic explorer MGM Energy has wrapped up its three-well winter drilling program disappointed, but not deterred given the resource estimates it has attached to its western Mackenzie Delta exploration work.

Backed by qualified reserves evaluators and audited by an independent reserves auditor, MGM says its Ellice J-27 discovery well has a mean estimate of 327 billion cubic feet of total contingent resources and 121 bcf of total prospective resources from the four zones that were logged.

The contingent resources are attached to two zones that were production tested and the prospective resources relate to two zones not tested.

MGM said in a statement the Aklak zone has a best estimate of gross sales gas resources of 283 bcf, ranging from a low 182 bcf to a high 442 bcf, while the Taglu zone has a best estimate of 25 bcf from a low 14 bcf to a high 48 bcf.

Of the other two zones, the best estimate of contingent resources for the lower Aklak zone is 81 bcf (a low 40 bcf and a high 168 bcf) and for the mid-Ellice zone the best estimate is 21 bcf from a low 8 bcf to a high 55 bcf.

Company 'extremely pleased'

MGM President Henry Sykes said in a release that the company is "extremely pleased" with the results of the J-27 well.

"The size of the discovery far exceeded our expectations for the entire drilling program this year."

MGM will now apply to the National Energy Board for a significant discovery license, which would give it indefinite tenure of the well based on evidence of sufficient hydrocarbons to support sustained commercial production.

The board has previously issued SDLs for the Langley K-30, Olivier H-1 and Ellice I-48 wells encountered in Taglu sands at about 1,800, 5,700 and 6,900 feet. The mean estimate of contingent gross sales gas resources is 288 bcf and the mean estimate for prospective resources is 169 bcf.

MGM said it is relinquishing about 270,000 net acres of exploration licenses in the region this year because it can retain only discovery land defined by a successful exploration well which involves an SDL application or approval.

Independent engineering report

An independent engineering report by McDaniels & Associates Consultants estimates MGM has estimated gross proved-plus-probable natural gas reserves of 800 bcf, of which 600 bcf are proved.

The company said earlier that its just-completed Ellice A-25 well on the western Mackenzie Delta is being abandoned after encountering natural gas in the Aklak formation, but apparently not in sufficient quantities for commercial development.

MGM said that having successfully completed its planned winter drilling it owns 41 percent of the Chevron-BP farm-in lands and the discoveries at Langley E-07 last year and Ellice J-27.

The company can now raise its ownership stake to 50 percent by drilling three more wells in the 2009-10 winter, but it has yet to make that commitment. ●

● GOVERNMENT

Gobert: Alberta headed for 'disaster'

By GARY PARK

For Petroleum News

Royal Dutch Shell delivered another failing grade to the royalty regime when it scaled back its net proved oil sands reserves by 114 million barrels to 997 million barrels last year ... pinning most of the blame on a government royalty ruling a year ago.

Wilf Gobert has what verges on an unassailable position, when he suggests that the Alberta government's royalty grab might eventually be seen as the "most disastrous economic decision the province has ever made."

Once a highly respected investment banker with Peters & Co. and now chairman of the Calgary Economic Development Authority, he has called on the government to almost do the unthinkable, admit a mistake and try to prevent a bad situation from becoming worse.

In the process, Gobert blamed poor advice from government officials and a suspicion within government ranks about any recommendations from oil patch leaders.

He said that 18 months after the draft royalty plan was rolled out "there is still a sense in the industry and financial community that the government doesn't get it."

"It begins, unfortunately, in the bureaucracy, which I believe has been dramatically weakened in terms of its talent over the past 10 years and as a result is making bad policy recommendations to the politicians," he said.

Gobert said the ruling government lacks the experience to appreciate that it is poorly serviced by its officials, but faced with a dramatic slide in land sales, capital spending and drilling programs, has already made three adjustments to its new royalty framework.

Analyst: lack of experience

Chris Theal, an analyst with Tristone Capital, endorsed Gobert's assessment of government officials, adding that has been reinforced by the number of changes to the royalties.

He said that when the government first issued its formulas for the new royalties, the matrix of rate and gas prices quickly became uneconomic.

Theal said the government didn't have the brainpower to "litmus test their royalty framework" and the changes are too complex for either the industry to act on or the government to enforce.

Gobert said that unless there is a decisive move to repair the damage, Alberta will face a continuing erosion of its royalties and even more budget deficits.

He noted that Alberta's gas production, which accounts for 70 percent of royalty income, has been in decline since 2000.

Gobert: Panel best hope

Gobert's best hopes lie with the government's appointment of a panel which is expected to deliver its findings on Alberta's competitiveness later this year.

He said that could provide an opportunity for admissions that mistakes have been made and for corrective measures.

In the meantime, the industry is headed downhill, making only C$2.9 million in successful bids at a land auction March 18 — the lowest return in 14 years, raising its year-to-date total to C$55.9 million, compared with C$201.72 million for the same period last year.

Royal Dutch Shell delivered another failing grade to the royalty regime when it scaled back its net proved oil sands reserves by 114 million barrels to 997 million barrels last year, according to a filing with the U.S. Securities and Exchange Commission, pinning most of the blame on a government royalty ruling a year ago. ●

● SAFETY & ENVIRONMENT

Heated global attention on polar bear

Five-nation group agrees that climate change is the main threat to the bears and agrees on continued cooperation for conservation

By ALAN BAILEY

Petroleum News

Polar bears depend on sea ice, and the extent of Arctic sea ice has been shrinking. That's the essence of the current debate about the future well-being of the magnificent, white carnivores that roam the ice floes offshore the territory of five nations that border the Arctic Ocean.

Representatives from those nations — Canada, Greenland, Norway, Russia and the United States — met in Tromso, Norway, March 17 to 19, to review the status of polar bear conservation, identify conservation strategies and discuss how to further the implementation of a 1973 international polar bear conservation agreement. That decades-old agreement was originally signed by Canada, Denmark, Norway and the then-USSR; it called for national research programs, coupled with international action and information exchanges to promote polar bear conservation. And in 2007 the nations with territory overlapping the polar bear's range decided to meet every year or two, under the terms of the 1973 agreement. That decision led to the March meeting in Tromso.

Climate change

The Tromso meeting, as a primary finding, confirmed the widely held view that climate change constitutes the main threat to polar bears, a threat linked to shrinking sea ice, the primary habitat for both the bears and the seals which form their main prey.

"The parties noted with deep concern the escalating rates and extent of changes in the Arctic induced by climate change to date and that future changes are projected to be even larger," the report from the meeting said. "The parties agreed that long-term conservation of polar bears depends upon successful mitigation of climate change."

The representatives at the meeting noted that addressing climate change requires "an effective global

response" and that it is important to communicate the polar bear predicament to those people who are negotiating strategies for addressing climate change.

"A scientific presentation (to the meeting) noted that if sea ice is reduced according to present projections, polar bears are likely to be extirpated from most of their range within this century," the meeting report said.

But habitat destruction, harvesting of bears, environmental pollution and man-made disturbance can all amplify the climate-change-induced stresses on the bears, the report said.

"The resilience of polar bear populations to climate change depends on proactive approaches and should be explored further to encourage conservation planning that is relevant both today and in the future," the report said, adding that regional monitoring of climate change and its impacts, such as the loss of sea ice and bear denning habitat, should underpin the specification of conservation strategies.

Action plans

The representatives at the meeting agreed that each nation should develop its own polar-bear action plan,

The representatives at the meeting noted that addressing climate change requires "an effective global response" and that it is important to communicate the polar bear predicament to those people who are negotiating strategies for addressing climate change.

using a process that would ultimately lead to a coordinated set of circumpolar plans. This process for plan development will include the identification of topics for inclusion in all national plans, as well as procedures for international cooperation in identifying and coordinating plan topics and contents. And the representatives agreed on the importance of considering both the traditional knowledge of aboriginal peoples and the results of scientific research when making polar bear conservation decisions.

But some factors that may heighten the stresses on the bears require immediate attention, the meeting report said. For example, there needs to be a global response to the potential effects of the long-distance flow of pollutants into the Arctic.

"The scope of these effects on polar bear populations are only partially understood, but their impacts on some populations may be significant," the report said. "… Comprehensive monitoring and research on the effects of contaminant loads in polar bears and synergistic effects of contaminants and climate change is therefore important."

The report also cited the protection of the polar bear habitat and its ecosystems as a critical component of required near-term actions. And, while praising current habitat conservation measures, the representatives at the meeting also called for expanded habitat protection.

see **POLAR BEARS** page 10

● SAFETY & ENVIRONMENT

Polar bears and the Endangered Species Act

By ALAN BAILEY
Petroleum News

The May 2008 listing of the polar bear as threatened marked a pivotal point in the use of the U.S. Endangered Species Act as a tool to address the conservation of a species whose possible demise would result from global climate change, rather than resulting from some specific action, such as overhunting or the industrial destruction of habitat.

A multiyear trend of a shrinking Arctic sea ice extent would seem to put the polar bear under threat, given the animal's dependence on the sea ice habitat to prey on seals, its main food source. And scientists place the blame for the Arctic sea ice decline on a rapid rise in global temperatures, resulting from the emission of man-made carbon dioxide and other greenhouse gases into the atmosphere.

Who is responsible?

But if atmospheric carbon dioxide is threatening the polar bear, who can be held responsible for the adverse impacts of the gas on the animals? And, given the global nature of the greenhouse gas problem, what can the United State by itself do to ameliorate the problem?

Given these issues, the U.S. Department of the Interior under the Bush administration attempted to disconnect the application of the ESA from the climate change issue by modifying some of the ESA regulations. In effect, the agency said that the polar bear's survival was threatened by climate change, while also saying that climate change could not be addressed under the ESA.

Specifically, DOI introduced changes to the regulations that apply to section 7 of the ESA, the section of the act that requires interagency consultation if some proposed activity might impact a listed species. The regulation changes took climate change out of the ESA equation by saying that individual activities that generate greenhouse gases cannot be individually linked to impacts on listed species; other changes relaxed the terms under which a government agency would need to consult with the U.S. Fish and Wildlife Service, the agency that administers polar bear conservation.

DOI, presumably conscious of the possible impact of the polar bear listing on Arctic industrial activity and subsistence hunting, also introduced a special rule that would apply to section 4(d) of the ESA, the section that mandates protective measures for a listed species. Under the special rule, the polar bear could be protected under the terms of the Marine Mammals Protection Act and the Convention on International Trade in Endangered Species, protections which already apply to polar bears and which are comparable or stricter than those in the ESA, DOI said.

After a public review period, DOI and the U.S. Department of Commerce published final rules for the ESA regulation changes on Dec. 16, 2008.

And the polar bear listing, its contentiousness heightened by the regulation changes, attracted a flood of lawsuits, some seeking tighter polar bear protections and others claiming that the polar bear listing was unwarranted.

Government change

However, the changeover to the Obama administration in January, coupled with the Democrats' control of the U.S. Congress, brought a new government perspective on environmental issues. In February Congress introduced a rider to the 2009 omnibus appropriations bill, to allow the withdrawal of both of the ESA regulation changes that had been issued in December.

Alaska Sens. Lisa Murkowski and Mark Begich tried to remove the rider from the bill, saying that Congress was, in effect, introducing regulation changes without subjecting those changes to a required public comment period, while running the risk of opening the floodgates to economically damaging environmental lawsuits.

"Withdrawal of the existing (section 7) rule could mean that any increase in carbon dioxide or any greenhouse gas, anywhere in the country could be subject to legal challenges asserting that those activities are harming a polar bear, or that there has not been sufficient consultation with the U.S Fish and Wildlife Service regarding activities that are funded, carried out or authorized by the federal government," Murkowski said.

But the rider remained in the bill.

And on March 3 President Obama issued a memo addressing the Dec. 16 regulation change that relaxed ESA section 7 interagency consulting requirements, a change that had caused much angst among many ESA supporters.

In that memo the president instructed government agencies to review the December regulation changes and, meantime, to "follow the prior longstanding consultation and concurrence practices" involving the Fish and Wildlife Service and the National Marine Fisheries Service, the two agencies responsible for administering the ESA.

The ESA "reflects one of the nation's profound commitments," Obama said. ●

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continued from page 8

POLAR BEARS

"The parties (at the meeting) also recognized that expansion of protected areas can potentially reduce the vulnerability of the polar bear populations and the ecosystems of which bears are a part," the meeting report said.

Industrial development

The meeting report commented that oil and gas industrial development takes place in areas where polar bears live.

"Industrial development continues to expand northward into areas used by polar bears," the report said. "Several areas of oil and gas interest are identified with these areas."

And the report emphasized the importance of procedures and mitigation measures to protect the bears when industrial activities are under way.

"Such measures are in use in the U.S. Beaufort Sea coast oil fields and could provide guidance for other parties," the report said.

But increasing volumes of Arctic shipping, encouraged into the region by new expanses of open water in trans-polar sea routes during the summer, could also impact the polar bears.

"Potential effects of shipping on polar bears include pollution, noise, physical disturbance related to ice-breaking and waste," the report said.

And burgeoning Arctic tourism, including polar bear viewing excursions, could result in the unintended consequences of pollution, wildlife disturbance and, perhaps, the defensive killing of bears.

"Actions to address such impacts could include limited access to sensitive habitats; competence requirements for guides; guidelines and rules for operating in polar bear areas and near polar bears; measures to reduce pollution risks; and post-trip reports of wildlife sightings and other activities from tour operators," the report said.

Increased interactions

Increased bear-human interactions resulting from growing levels of offshore activity, and from hungry bears resorting to the search for food on land, will require strategies to manage bear-human conflicts.

"Some existing strategies include active deterrence; reduction of attractants; and community education and outreach," the report said. "Expertise developed for management of other bear species should be consulted in the development of strategies specific to polar bears."

Representatives at the Tromso meeting welcomed a United States offer to lead an effort to exchange experiences in the management of bear-human interactions. Workshops on this topic are scheduled in Canada in November 2009 and in Alaska in 2010, the meeting report said.

And the five nations that met in Tromso plan to meet again in Canada in 2011 and in Russia in 2013. ●

● NATURAL GAS

Newfoundland gas beckons

Government-industry discussions could result in royalty incentives; Labrador Sea viewed as stepping stone to Greenland, Arctic

By GARY PARK

For Petroleum News

At the same time it is mourning the loss of 17 rig workers and two air crew members in the North Atlantic crash of a helicopter, the Newfoundland government is quietly readying its offshore for the next big leap.

The target is natural gas, with discoveries estimated at 10 trillion cubic feet and prospects rated at 60 tcf.

Newfoundland Energy Minister Kathy Dunderdale

Commercializing the resource has long been a dream of the government, which has indicated it will soon unveil a royalty regime that could include some strong incentives, including a possible royalty holiday, to end a 26-year lull in drilling the gas-rich Labrador Sea.

Energy Minister Kathy Dunderdale acknowledged earlier in March that getting an offshore gas industry kick-started may require the province to "do something different."

She said the industry has been given notice that the government is ready to discuss "special status" for a pioneering project by "negotiating even more favorable terms" than those contained in Newfoundland's revised energy plan which contained a formula for calculating gas royalties.

That formula proposes a basic royalty to ensure a revenue stream for the government at all stages of a project and a net royalty based on project profitability, reflecting the revenue and cost associated with projects.

Where profitability is higher, the government wants to share in those returns; where it is less or declining, the government says its take would also decline.

Goal to step up the pace

But Dunderdale indicated the government is anxious to step up the pace of activity to commercialize 4.2 tcf of discovered gas offshore Labrador and about 6 tcf offshore the island of Newfoundland.

She said a number of companies interested in developing the gas have been involved in discussions which will soon be expanded to involve the wider industry.

Dunderdale said the government is open to sharing risks by lowering royalties "when times are tough," and raising them when "return on investment is high."

She also noted that the government reserves the right to acquire a 10 percent equity stake in future oil and gas projects.

For some companies, turning the Labrador Sea into a producing basin is also a step closer to developing offshore Greenland and eventually advancing into the Arctic.

Husky Energy, Chevron, EnCana and ExxonMobil, key players in the Newfoundland offshore, also have an interest in linking Newfoundland's portion of the Labrador Sea to the Greenland side, where they all hold exploration licenses.

Husky acquiring seismic

Husky has just completed the acquisition of 4,200 miles of 2-D seismic on two blocks, where it has an 87.5 percent interest and 1,800 miles of 2-D seismic on one other block where it has a 43.75 percent stake.

As well, the company expects to resume work this year on a high-resolution aero-gravity and magnetic survey that was about three-quarters completed when bad weather forced a postponement last fall.

Husky Chief Executive Officer John Lau rates Greenland and Labrador as natural extensions of operations in Newfoundland's Jeanne d'Arc Basin, and further progress towards the Arctic.

To that end, Husky has built up a land position covering 9,000 square miles in waters between Greenland's west coast and Canada, and plans to explore Labrador in conjunction with Greenland, he said.

EnCana has 47.5 percent of two exploration licenses, with the United Kingdom's Cairn Energy holding 40 percent and Greenland's national oil company Nunaoil holding 12.5 percent.

EnCana spokeswoman Carol Howes told Petroleum News the initial subperiod for the two licenses expired at the end of 2007.

The company previously indicated that seismic data gathered from the two blocks yielded "quite positive" results.

A second exploration subperiod stretches from January 2008 to December 2009 and requires a $6 million work commitment for each license.

Once that work is completed, EnCana and its partners will decide if they want to enter the third phase, which starts in January 2010 and requires the drilling of a well and acquisition of 3-D seismic, Howes said.

Labrador Shelf comeback

The gas royalty negotiations taking place in Newfoundland reinforce signs of a comeback in the Labrador Shelf, where Husky, Chevron and Suncor Energy, along with minor participation by Vulcan Minerals and Investcan Energy, made work bids of C$186.4 million last fall to secure rights to four parcels covering 2.3 million acres.

Dunderdale concedes that the province's entire offshore is a harsh environment, underscored March 12 when a helicopter ferrying workers to the Hibernia and White Rose oil platforms crashed.

She said one of the greatest challenges is securing rigs for deepwater exploration, with operators in the emerging Orphan basin, Flemish Pass and Laurentian subbasin all grappling with that problem.

Despite the rig shortage and the downturn in gas prices, the industry remains positive about the eventual gas prospects, bolstered by technological advances and confidence that a robust market will develop in the northeastern United States.

No drilling since 1983

Michael Enachescu, a frontier exploration advisor and adjunct professor at Newfoundland's Memorial University, said earlier this year that despite Labrador's logistical difficulties, the basin posted greater exploration success than the Grand Banks and Orphan basin during the 1970s and early 1980s.

Labrador logged 26 exploration wells and two delineation holes, five of them tapping into gas in water depths of about 330 feet to 1,600 feet at a time when oil was the primary target.

Enachescu said in a report that although there has been no drilling since 1983, geoscience research, seabed investigations, speculative seismic data acquisition and environmental work have continued in the interim.

Every summer starting in 2003, Geophysical Science Inc., as well as reprocessing older data, has acquired and processed non-exclusive marine 2-D seismic lines.

The technological gains include improved understanding of avoiding iceberg scouring with undersea pipelines, which Barnes said has advanced "quite a bit" along with reduced costs.

He also noted that LNG or CNG are potential alternative methods of getting Labrador gas to market. ●

● EXPLORATION & PRODUCTION

Pioneer scales back Oooguruk production

Delay in water supply for enhanced oil recovery forces reduced production, but company says annual targets should still be met

By ERIC LIDJI

Petroleum News

Pioneer Natural Resources scaled back production at the Oooguruk unit earlier this year because of delays connected with getting a water source for enhanced oil recovery.

But Pioneer does not expect the delay to notably change the overall annual production estimates for the North Slope unit, according to company spokesman Tadd Owens.

"Production has been reduced in the near term but — based on our current water injection plan — the impact for the year should not be material," Owens said in an e-mail.

In April 2008, the Alaska Oil and Gas Conservation Commission approved the use of several sources for the injection, including water from the nearby Kuparuk River unit.

AOGCC approves the sources of water used for enhanced oil recovery to make sure the water will be compatible with the geology of the reservoir it is being injected into.

However, according to AOGCC, "due to circumstances beyond Pioneer's control," the approved water sources "will not be available for at least several additional weeks."

> *"Actively managing our wells in this manner will allow us to maximize overall recovery of the resource from Oooguruk."*
> **—Pioneer spokesman Tadd Owens**

ConocoPhillips cited maintenance work as the cause of the delay.

"The line that will deliver water to Pioneer was shut down for repairs and the water supply will be available in the next month," Natalie Lowman, spokeswoman for ConocoPhillips Alaska, said in an e-mail to Petroleum news on March 25.

Pioneer said simulations suggested the company couldn't afford to wait. The company told AOGCC "that delaying water injection will adversely impact reservoir pressure and the producing gas-oil ratio and this could reduce the near- and long-term recovery of hydrocarbons" from the two oil pools that make up the offshore Oooguruk unit.

Pioneer brought Oooguruk online last June, but quickly suspended production because of maintenance work at a Kuparuk facility owned by ConocoPhillips and used by Pioneer.

In early February, Pioneer increased the resources estimate at Oooguruk by 40 percent.

New water sources approved

In a pair of rulings on March 13 and March 20, AOGCC expanded the list of allowable water sources for injection into the Oooguruk-Kuparuk and Oooguruk-Nuiqsut pools.

"In the meantime, production from Oooguruk is being managed to ensure appropriate reservoir pressure and gas-to-oil ratios in our producing wells," Owens told Petroleum News in a March 19 e-mail. "Actively managing our wells in this manner will allow us to maximize overall recovery of the resource from Oooguruk."

Pioneer requested use of three additional water sources, two of which it described as being either "essentially the same" or "very similar" to already approved water sources.

The third source has more "dissolved solids" and is "more saline" than other approved sources, but Pioneer said simulations indicated the water would not damage the reservoir. ●

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● GOVERNMENT

Congressional delegation, governor object

Meeting requested with president to discuss Alaska's management of Arctic; Palin says request based on 'false premises'

By KRISTEN NELSON

Petroleum News

Alaska's congressional delegation and its governor have registered strong objections to a letter from 67 House Democrats, urging President Obama to make the coastal plain of the Arctic National Wildlife Refuge wilderness, suspend oil and gas exploration and leasing in the Chukchi and Beaufort seas and close additional areas of the National Petroleum Reserve-Alaska to oil and gas development.

In a March 24 letter to the president Sens. Lisa Murkowski and Mark Begich and Rep. Don Young said there are significant federal lands in Alaska and federal waters off the state's shores and requested a meeting with the president to discuss "Alaska's management of the Arctic."

"Alaska has been a good partner in the management of our natural resources on these lands and waters and has provided much to our nation in regards to energy and fisheries," the delegation said.

JUDY PATRICK

SARAH PALIN

MARK BEGICH

With climate changes in the Arctic the delegation said it has been working "proactively with federal and state agencies to determine the best way to protect this unique ecosystem." They noted that while Alaska holds a special meaning for the rest of the country, "to us, Alaska is more than just an environmental symbol. It is where we live, work and raise our families."

The delegation said they have "taken the lead in protecting the Arctic and promoting conservation efforts using the best available science. Far too often, though, talk of implementing 'science-based precautionary management' in the Arctic is in reality simply code for ignoring the scientific evidence, short-changing the process and trying to stop all commercial activity in the region."

Energy imperatives

Alaska Gov. Sarah Palin emphasized American energy security.

She said the recommendations in the letter from the 67 House Democrats "are based in a false premise that could lead to bad public policy."

"Industrial development in the Arctic is not out of control," the governor said. Arctic development is subject to "in-depth analysis under the National Environmental Policy Act, a stringent permitting process, and close oversight by state and federal officials."

The governor said ANWR is the most promising unexplored petroleum province in North America and has the potential to provide a secure source of energy for decades to come.

The recommendations would also prohibit oil and gas developments in large parts of NPR-A, set aside by Congress to further such development — and where there are already off-limit areas established.

Since there have been oil and gas lease sales in the Beaufort and Chukchi seas, a suspension of exploration activities on existing leases could raise issues of financial liability for the federal government.

Since commercial development in the Arctic is preceded by extensive studies, "... the recommendation for further studies and an independent task force becomes an excuse to keep anything from happening until sometime in the indefinite future. We are all concerned about climate change and its effects, but the people of Alaska and the nation have the ingenuity to address these issues as prudent development occurs."

Residents of the North Slope were mentioned in the letter, the governor said, but a large majority of North Slope residents support onshore oil and gas development, including the coastal plain of ANWR, because 30 years of development have shown it can be done safely and because revenues from such development help fuel the local economy. ●

continued from page 1

SHALE GAS

coming online. By assuring adequate supplies for the expanded use of natural gas, and by enabling the development of secure, home-grown, U.S. energy resources, shale gas can create a vibrant gas industry that the Arctic gas can subsequently feed into, Myers said.

"Shale gas … is our friend with respect to building capacity (for Arctic gas)," Myers said.

Increased demand

Myers sees future constraints on carbon emissions as likely to drive an increased U.S. demand for natural gas, a fuel that generates less carbon per unit of energy output than coal or oil. At the same time, an increasing world population making increased use of energy-dependent technologies will drive up worldwide energy consumption, Myers said.

Modeling of global warming indicates the need for immediate and dramatic reductions in carbon dioxide emissions and natural gas can perform a pivotal role in necessary changes in fuel use, Myers said. Overall, Myers sees the possibility of an increase in U.S. natural gas demand by perhaps 14 billion cubic feet per day as a consequence of future carbon management of energy use.

In particular, Myers sees natural gas as a preferred fuel for power generation, as well as providing major opportunities for the use of compressed natural gas or gas-driven fuel cells as alternatives to more carbon-intensive gasoline and diesel to power cars, trucks and other means of transportation.

"The transportation sector is wide open for change," Myers said.

Supply side

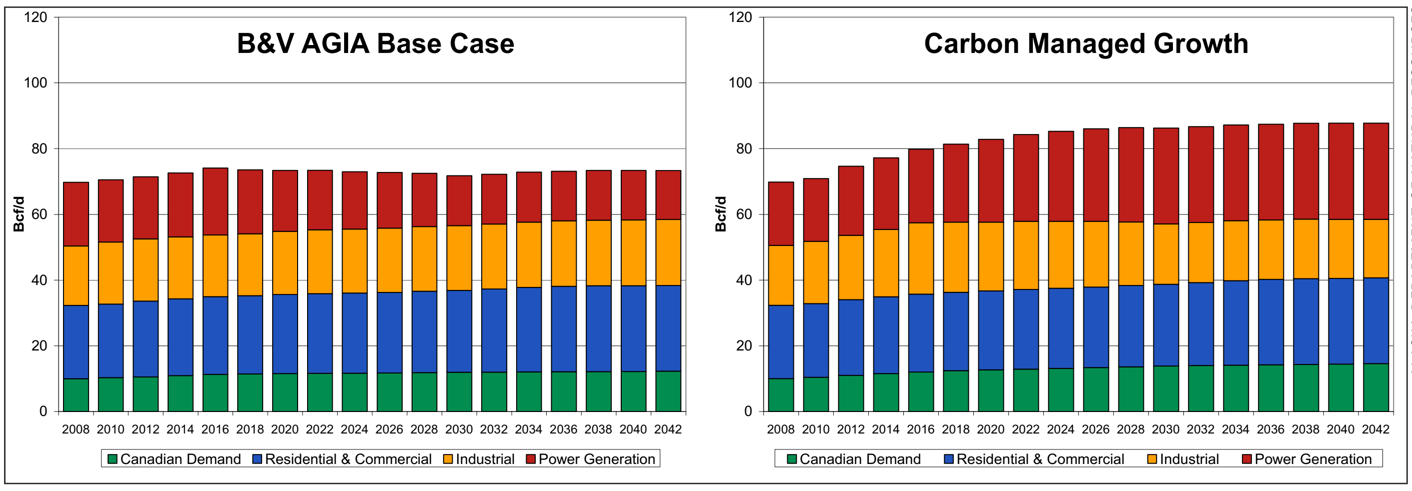
On the supply side of the gas market equation, the evolution from conventional gas production to unconventional sources such as tight gas sands, coalbed methane, shale gas and perhaps ultimately gas hydrates, much of this coupled with the use of more expensive production technologies, represents a response to increasing gas prices, as conventional supply sources deplete, Myers said. Shale-gas production has accelerated recently and now constitutes about 5 percent of domestic gas production.

"Pretty much with any petroleum resource, you produce the conventional (resource) first — it's the most economic," Myers said. "… And then at a certain point in time conventional supplies aren't adequate, so non-conventional starts playing a role."

So, conventional, legacy gas fields, with straightforward production requirements, form the low-cost end of the natural gas supply curve, while shale gas, with its need for horizontal drilling, the drilling of multiple wells to maintain production rates and the use of hydraulic reservoir fracturing, fits some distance further up the cost-of-supply continuum.

A typical horizontal well in a shale-gas basin might cost $3 million to $4 million or more to drill, compared with perhaps $1.5 million for a conventional gas well, Myers said. And, looking at the various technologies involved, most of which have been around for several years, it is difficult to see how significant new reductions in the cost of shale-gas development could be achieved, he said.

"You're looking for a spot for shale gas that requires a significant wellhead value to pay for the costs," Myers said. "… It's very price sensitive."



ALASKA DEPARTMENT OF NATURAL RESOURCES

According to an analysis by Black & Veatch, future carbon management of fuel usage could boost natural gas demand by 14 billion cubic feet per day in the United States.

Collapse in drilling

And Myers cited a current collapse in drilling activity in shale-gas fields as evidence for lack of price support for shale gas development at gas prices below the $5- to $8-per-thousand-cubic-feet range.

That would place Alaska North Slope gas on the supply curve at a cost point a little below that of shale gas, even taking into account the cost of shipping the gas all the way from the Arctic to the Lower 48, especially since there has been a decline in the costs of pipeline construction materials such as steel, Myers said. And North Slope gas resources are conventional in form, thus allowing them to flow from the gas fields at sustained high rates, with lower production costs than those of unconventional gas, he said.

And while Arctic gas could flow unhindered down a future pipeline, future shale-gas production faces several significant uncertainties relating to potential environmental concerns over the possibility of drilling a high density of multiple wells in new gas-production regions; the need for major quantities of water for reservoir stimulation in some fields; and the need for new production and transmission infrastructure, to deliver the gas to market, Myers said. Additionally, unknown variations in reservoir quality and production characteristics make estimates of recoverable gas volumes highly

see **SHALE GAS** *page 15*

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EXPLORATION

Upon finishing Wolf Creek No. 4, Anadarko moved the Arctic Fox back across the Colville River to start drilling Gubik No. 4, a follow-up to Gubik No. 3, drilled last year.

Anadarko originally intended to use Nabors rig 105-E to drill Gubik No. 4.

Multiyear search for gas

The wells are part of a multiyear search for natural gas. Anadarko is partnering on the project with Petro-Canada and BG E&P and using Arctic Slope Regional Corp. land.

In recent filings with the U.S. Securities and Exchange Commission, Petro-Canada said the Gubik No. 3 well tested at rates up to 15 million cubic feet per day of natural gas.

Although Anadarko is not yet disclosing information about the program, Hanley offered some perspective on the figure, saying, "When we do wells, and we do testing and logging, we look at a lot of things," including reservoir geology as well as total reserves.

Echoing statements he made before lawmakers in early February, Hanley said one goal of the exploration venture, aside from proving up total reserves, is to figure out a way to economically develop a known natural gas reserve spread over a vast and isolated region.

One aspect of the program is determining "total deliverability," Hanley said.

Deliverability measures the amount of natural gas a producer can call upon at any given time based on the wells in operation and the characteristics of the rocks underground.

Echoing statements he made before lawmakers in early February, Hanley said one goal of the exploration venture, aside from proving up total reserves, is to figure out a way to economically develop a known natural gas reserve spread over a vast and isolated region.

Learning the geology

In addition to measuring total volumes and flow rates of gas, exploration companies also use test wells like Gubik No. 3 to learn more about the characteristics of the geology of a reservoir, according to Kevin Banks, director of the state Division of Oil and Gas.

The flow rate figure does not provide any hint about the variety of factors that would be essential for a company to know before deciding whether to sanction development.

Those include "connectivity," the ability of oil and gas to move between underground layers of sand and rock; "porosity," the empty space in those formations able to soak up oil and gas; and "permeability," how easily oil and gas move through those rocks.

Even with a large discovery of oil or gas, less than ideal geology can increase the cost of developing a field, and therefore change the economics. Anadarko had previously said the gas in the foothills of the Brooks Range is not consolidated into one giant field, like the oil at Prudhoe Bay, but rather spread over many smaller fields dotted across the region.

If those fields end up being too small and too far apart, it will likely take additional wells to develop the region, which would in turn alter the overall economics of the program.

Anadarko wants more time to make those decisions.

The company has used 2016 as a possible date for starting production from the area.

ConocoPhillips and Chevron

Farther north in NPR-A, ConocoPhillips spud the Grandview No. 1 well on Feb. 18 and then spud the Pioneer No. 1 well on Mar. 12, drilling both wells with Doyon rig 141.

The wells are in the Greater Mooses Tooth unit, west of the Alpine field. The company said it does not have any results from the program to report yet.

ConocoPhillips is using the wells to expand on previous discoveries in the area.

In the central North Slope, Chevron appears to have finished work this winter.

In reports since mid-March, the Alaska Oil and Gas Conservation Commission lists Chevron's exploration season as "completed," but doesn't say how many wells the company ultimately drilled in its exploration venture in the White Hills prospect.

Rig reports since early February suggest Chevron drilled at least two wells this winter: Muskoxen 36-7-8 and Bluebuck 6-7-9, both located toward the northern end of prospect.

Chevron received AOGCC drilling permits for those wells in December 2008.

In January and February, the company also received AOGCC drilling permits for the Stegodon 24-6-8 and Panthera 21-6-9 wells, in the vicinity of Muskoxen and Bluebuck.

Reports from the oil patch suggest Chevron may have suspended some winter work.

Chevron has previously declined to discuss White Hills, calling it a "tight" venture.

The company drilled three wells at the White Hills prospect last winter.

White Hills is located south of the Kuparuk River unit, near the Dalton Highway.

Chevron has said it is exploring for both oil and gas at the prospect. Deputy Resources Commissioner Marty Rutherford has speculated the region is gas prone.

Indies north of Prudhoe

The area north of Prudhoe Bay has attracted independent explorers in recent years.

UltraStar is at work on the Dewline No. 1 well north of Prudhoe Bay.

Jim Weeks, managing member of UltraStar, said the well will be a tight venture, but previously described the program as a 9,900-foot well to target a prospect in the Ivishak formation and "secondary targets" in the shallower Sag River and Kuparuk formations.

UltraStar is using the Doyon Arctic Wolf rig for the project.

About seven miles west of Dewline, a four-company joint venture previously announced plans to suspend drilling work this winter as it resolves a legal dispute between partners.

The program would have included as many as three wells drilled in the coastal Gwydyr Bay area north of Prudhoe Bay, where the company has been exploring for several years.

Operator Brooks Range Petroleum Corp. is currently in mediation with partner TG World Energy Corp. over the program. A trial has been scheduled to begin on Jan. 11, 2010.

In filings with Canadian regulators, Bow Valley said it plans to focus efforts in Alaska on the Tofkat prospect near the village of Nuiqsut, and the Slugger prospect south of Point Thompson, areas where the company "considers the prospectivity to be superior."

If the case goes to trial, it would likely mean a second lost drilling season.

Bow Valley acquired

Meanwhile, a third partner in the joint venture, Calgary-based Bow Valley Energy Corp., is preparing for a meeting on April 9 where shareholders will vote on whether the company should be acquired by UK-based independent Dana Petroleum (E&P) Ltd.

The February announcement of the acquisition followed a decision by Bow Valley to consider options for the company in the wake of weakening markets and maturing debt.

Toward the end of last year, Bow Valley sold its interest in the Gwydyr Bay acreage for $2 million, but retained an interest in an oil discovery at the North Shore prospect.

The joint venture drilled North Shore No. 1 in 2007, and re-entered the well in 2008.

In filings with Canadian regulators, Bow Valley said it plans to focus efforts in Alaska on the Tofkat prospect near the village of Nuiqsut, and the Slugger prospect south of Point Thompson, areas where the company "considers the prospectivity to be superior."

Bow Valley said it has spent some $30.4 million in Alaska since arriving in 2006, including $12 million last year. In 2007 and 2008, the company received $5.3 million in tax credits from the state related to exploration activities on the North Slope.

Bow Valley still has some outstanding obligations to the joint venture, it said.

Under the terms of a 2006 agreement, Bow Valley is required to pay about 28.6 percent of the "drilling, completion and testing" costs on the next two exploration wells drilled by the joint venture in order to get a 20 percent working interest in the prospects.

Bow Valley holds a 20 percent working interest in Tofkat No. 1, drilled last winter.

As of the end of 2008, Bow Valley listed "the net book value of Alaska oil and natural gas properties" at C$9.8 million, down from C$16.1 million at the end of 2007.

The fourth partner in the joint venture is Nabors subsidiary Ramshorn Investments Inc.

On the eastern North Slope

A new development on the North Slope this winter is exploration in the east.

Denver-based independent Savant is drilling an exploration well at the Badami unit on behalf of operator BP Exploration (Alaska) and partner Arctic Slope Regional Corp.

AOGCC rig reports list Savant Alaska as "moving rig."

Farther to the east, ExxonMobil is preparing a drilling program at Point Thomson, the long-disputed state unit, but most likely will not finish drilling before the end of the season.

Exxon received an AOGCC drilling permit for PTU No. 15 on March 18.

The permit allows Exxon to drill on state lease ADL 47559. ●

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SHALE GAS

uncertain, with shale-gas development to date taking place in relatively small areas, in the "sweet spots" where production is especially favorable, Myers said.

"There's a lot of uncertainty around the (resource) numbers," Myers said. "… Possibly they're very optimistic, possibly they're not."

Alternative view

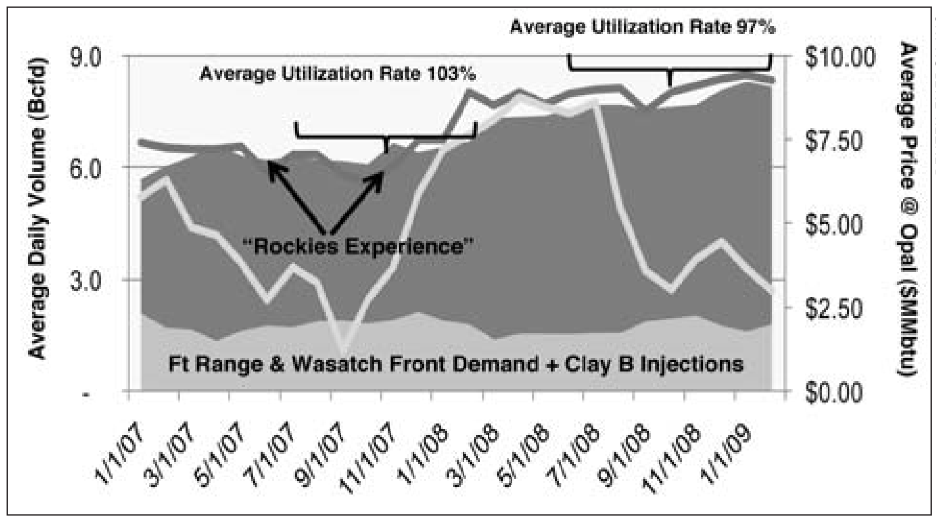
Porter Bennett, president and CEO of Bentek Energy, a consultancy firm specializing in energy market research, takes a less bullish view of future U.S. natural gas prices and a more upbeat view of shale-gas economics.

The adaption of techniques such as horizontal drilling and hydraulic fracturing to shale-gas production, propelled by the escalating natural gas prices of recent years, has opened a door to an abundance of new gas supplies in the United States, Bennett told Petroleum News March 23.

"You've had a period of sustained relatively high prices," Bennett said. "That enables producers to invest … in using horizontal drilling and fracing techniques, and also … the development of the know-how that goes with those technologies. … You've seen production just skyrocket in the last 18 months. … And it's virtually all coming from shale and tight gas, coalbed methane."

The technical innovation in unconventional gas development is disrupting the traditional gas market and, combined with the current economic recession, has led to a "perfect storm," a game-changer situation that will affect the market for years to come, Bennett said.

Bennett said that shale gas production costs vary greatly by factors such as company and production region. He said that



BENTEK ENERGY INC.

Energy market consultancy firm Bentek Energy interprets production and pipeline delivery data from the Rocky Mountain gas basin as indicating that pipeline capacity has a controlling influence over gas prices in some gas basins. Gas prices in the Rocky Mountain basin (lower line) fell a long way below Henry Hub market prices whenever total production capacity in the basin started to exceed the capacity of pipelines to deliver gas out of the region (upper line). The upswing in pipeline capacity in early 2008 resulted from a new pipeline coming online.

maturing expertise in shale gas technologies is bringing shale-gas production costs down and cited data showing major improvements in shale-gas drilling productivity over the past couple of years as one line of evidence for this phenomenon.

"These technologies are still very young," Bennett said. "They're still learning how to use this stuff (for unconventional gas)."

And established leaseholders in some of the traditional shale-gas basins are paying relatively low lease rates.

"We've done some things here at Bentek which would suggest that most of these areas can produce with prices between, say $3.50 and $5 (per mcf)," Bennett said. In fact there are producers with operational gas fields in southwestern Wyoming making money at a price of $2.50, he said.

Supply glut

And the expansion of gas supply sources is causing a glut of natural gas in the United States. That glut will persist, even as the United States recovers from recession, so that gas prices will not rebound in the way that many people are predicting, Bennett said.

"In the U.S. market … supply is growing much more rapidly than demand, so you have natural market-based depression of gas prices," Bennett said. Even using last year's pre-recession demand levels, the United States currently has too much gas, he said.

At the same time, there are capacity constraints in the pipeline systems for delivering gas to market from some gas-production areas, such as the Rocky Mountains.

"The pipeline constraints limit the ability of the region to export production at a level that is lower than the region's intrinsic ability to produce," Bennett said. And that causes downward pressure on prices in the production basin because of competition between producers for that export capacity.

But the balancing act between downward price pressure as production levels hit export pipeline capacity, and upward price pressure as subsequent cuts in drilling cause production to fall below that capacity, will constrain the price range, Bennett thinks.

"That's why prices in the Lower 48 are going to be kind of range bound in our opinion," Bennett said.

Uncertain future

However, factors such as the Obama administration's policies on future oil usage and carbon emissions could increase gas demand. That could elevate prices by a modest amount. But the increased use of gas has to happen on the "right side of the (delivery) constraint to be effective," Bennett said.

On the other hand, nobody knows what the price of gas will be in 2020, the likely timeframe for a North Slope gas line coming online.

"You can't make decisions right now with any concrete knowledge of what the market's going to look like," Bennett said.

The critical point is that people need to pay close attention to how the gas market is evolving, to evaluate how market changes will impact the gas line project, he said.

"You've got to recognize that there is at least the possibility that the Lower 48 supply situation will make the absorption of Alaska gas difficult," Bennett said. That might argue for maintaining the opportunity to export Alaska gas as LNG, to leave open the option of exporting the gas to foreign markets such as Asia, he said.

"You've got to explore both options … recognizing all the while that the market may work against you," Bennett said. ●

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UPDATE

and both have fallen.

He addressed concerns about access to capital markets and told legislators that TransCanada has raised C$5.5 billion in the past four and a half months in the capital markets.

And that, he noted, was without an $18 billion loan guarantee from the U.S. government.

Project financing won't begin until after a decision is made to proceed, about five years out, and what will matter for the project is not the state of the capital markets today, but the state of the capital markets in five years, Palmer said.

While natural gas prices are low today, forecasts for 2018 put them "north of $8 per million Btu," he said.

TransCanada is "aggressively advancing the project," and just awarded a contract to URS for the gas treatment plant pre-FEED (front-end engineering design) work, Palmer said.

Legislative concerns

Legislators had concerns about the number of employees TransCanada has in Alaska, why the company hasn't pre-filed with FERC, whether TransCanada can get gas committed to the project and whether the company has the experience to build a "$40 billion" project.

Ramras said he was told while legislators were in Washington, D.C., for the Energy Council in early March that TransCanada had an Alaska office with one person in it.

Palmer said the company has two Alaska employees, plus contractors, and said there were eight people in the office that day.

Palmer said TransCanada is on schedule to complete an open season by July of 2010, earlier than Denali. He said his understanding of the Denali project is that it plans to begin an open season by the end of 2010.

"This is not a make-work project for TransCanada," he said. "We don't think it's a make-work project for Alaska. We think you're focused on a ... successful project and that will come from low costs. That's our business; that's the way we think we succeed in the pipeline business.

"But we don't think the measure is how many people we have in our office and how big that office is."

The pre-file issue

The BP-ConocoPhillips joint venture, Denali—The Alaska Gas Pipeline, has pre-filed with the Federal Energy Regulatory Commission. Committee co-Chair Charisse Millett, R-Anchorage, said FERC told legislators who were in Washington, D.C., for the Energy Council that Denali has pre-filed, that "FERC is ramping up" on that project and that Denali has spent a lot of money to get field studies done.

She asked where TransCanada was in comparison with Denali.

Palmer said TransCanada is on schedule to complete an open season by July of 2010, earlier than Denali. He said his understanding of the Denali project is that it plans to begin an open season by the end of 2010.

On the pre-file issue, Palmer said the norm in the industry is to pre-file after an open season, not in advance.

He said FERC has made it clear it wants TransCanada to pre-file, and said the company's caution is based on its focus on cost and schedule. When you pre-file, he said, FERC retains a contractor and the contractor begins work.

If you start the process earlier, he said, "the total expenditure will be more because that's the nature of regulation."

" ... The clock runs longer and the total costs are higher," Palmer said, which is why TransCanada has "been leaning toward a more traditional model, which was post open season."

He said TransCanada is in discussions with FERC and if it can meet FERC's requirements and its own, "we may pre-file earlier than we have it in our schedule."

Palmer said the fact that TransCanada has not prefiled has not affected its schedule. "It has not affected our ability to advance the project or to hold that open season on the schedule we have indicated."

He said he hopes that "over the course of the next quarter" TransCanada can be responsive to FERC's desire to have the company pre-file.

The $40 billion issue

Millett asked if TransCanada had ever done a $40 billion project and Palmer said the company has built pipelines that are longer and more technically challenging than the Alaska gas pipeline.

"We currently have a $12 billion oil pipeline under construction, about half the cost of this project — because our estimate is $26 billion."

Co-chair Bryce Edgmon, D-Dillingham, asked about skepticism he hears on the issue of TransCanada being able to get gas committed to a line.

Palmer said TransCanada has built some 36,000 miles of pipeline without owning any of the gas, and is building a $12 billion oil pipeline which will carry "more than a million barrels of oil from some of these same (North Slope) producers. We attracted them as our customers on the same basis we propose to do here," he said.

Palmer said he has always seen skepticism from some parties until open seasons are concluded.

Edgmon also mentioned the $40 billion figure and Palmer reiterated that TransCanada's estimate is $26 billion.

"And we do think it's critical to keep that cost estimate as low as possible. That is the way you make this project go, by keeping the costs down," he said. That $26 billion translates into a tariff rate of $2.76, but "if you run it up to $40 billion you get a much higher toll."

Resolution held

Palmer said he disagrees with the premise of the resolution, "that there's somehow been a change in the gas markets to the detriment of this project; that there's somehow been a change in the financial markets to the detriment of this project: I do not agree with that premise. TransCanada does not agree with that premise.

"In fact, what I've shown you today would indicate that the economics are actually superior to what we provided in our AGIA application."

The resolution was not moved from committee. Ramras asked if the commissioners would recommend changes in the resolution that would produce quarterly reports on progress; Galvin said he would work with the resolution sponsors on changes. ●

Petroleum news

Business Spotlight

URS Corp.

COURTESY PHOTO

Priscilla Gritta, Project Assistant

URS operates in more than 30 countries and has in excess of 50,000 employees. The company provides a range of planning, engineering and architectural design; environmental, and construction; program and construction management, systems integration, operations and maintenance, and management services.

New to Alaska, Priscilla Gritta has been with URS since July 2008. She has been a service program manager with Paaridian Technologies, a part of the executive team of IEM and worked with a few organizations as executive assistant to the president. Priscilla is working on completing her degree in project management and in her spare time enjoys watching movies, spending time with friends and bowling. She is proud to be a military wife and mother of two children.

—MARTI REEVE

Weston Solutions Inc.

COURTESY PHOTO

Mark W. Goodwin, Frontier PC Manager

Weston Solutions Inc. delivers integrated, sustainable solutions for environmental restoration, property redevelopment, design-build construction, green buildings and clean energy. Dedicated to making a difference in the world, the company's 1,800 people reach out from 60 offices around the globe to build strong stakeholder relationships and produce solutions that work. Weston has been responding to clients' toughest problems for more than 50 years.

Mark Goodwin joined the team at Weston Solutions in October 2008, bringing with him 20 years' experience in the U.S. Air Force and Army, both civilian and military. He is an expert in managing change, building and leading diverse multi-disciplined teams dedicated to solving challenges. Mark has additional expertise in environmental restoration, general construction and construction management.

—MARTI REEVE

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

ADVERTISER — PAGE AD APPEARS

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

Oil Patch Bits

Rain for Rent emergency flood response

On March 10, the Fort Wayne, Ind., wastewater treatment plant faced a shutdown due to cresting floodwaters.

Rain for Rent received a phone call that evening from the Fort Wayne city engineer requesting a 30-MGD bypass system. Within the hour, the company said, Rain for Rent personnel designed a pumping system consisting of two 12-inch DV-300, four 8-inch DV-200c, and two 6-inch DV-150i power primea pumps, including hoses and fittings.


COURTESY RAIN FOR RENT

After getting authorization, the company went into emergency response mode, calling in personnel, assembling and loading equipment, sending three semi-trailer trucks to the project site. When the crew arrived, the retention pond was completely full and the river was 24 feet above flood level. Within three hours, the system was working to lower the water level. Rain for Rent supplied 12 additional pumps throughout the downtown area as backup for the city.

For more information visit www.rainforrent.com.

Schlumberger introduces rotary steerable system

Schlumberger announced March 17 the release of its new PowerDrive VorteX RT, powered rotary steerable system with wireless communicator. The new modular system combines power, speed and accuracy in addition to totally flexible bottom-hole-assembly design, the company said.

"The ability to now communicate over a drilling motor power section enhances geosteering BHA capabilities and lets you place third-party hardware anywhere on the string," said Ian Falconer, marketing manager, drilling and measurements, Schlumberger. "It it possible to fine-tune the borehole trajectory while drilling ahead at high speed. This maximizes drilling performance while directly reducing drilling costs."

The new system allows near-bit information above and below BHA components, so accurate targets can be reached in less time.

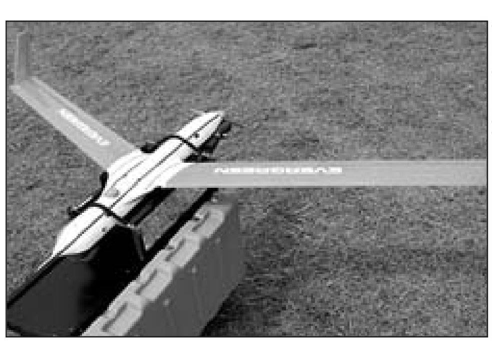
Schlumberger is the world's leading supplier of technology, integrated project management and information solutions to customers working in the oil and gas industry worldwide.

For more information visit www.SLB.com.

EUS to host summit on UAV use in oil industry

Evergreen Unmanned Systems said March 19 that it will be hosting a summit on the use of unmanned aviation vehicles (UAVs) in the petroleum industry. The summit will be held May 12-13 in McMinnville, Ore.

Topics covered will include pipeline survey requirements, marine mammal surveillance for drilling support, ice flow monitoring and costs.


COURTESY EUS

The company said Evergreen Unmanned Systems is the first commercial operator to successfully demonstrate the effective solution that UAVs can provide. The summit is the first attempt to bring the key players of the oil industry and government together to support this growing and unique field.

Evergreen Unmanned Systems is a division of Evergreen Helicopters Inc. and is an Unmanned Aircraft System service provider.

For more information contact Brian Whiteside at brian.whiteside@evergreenhelicopters.com.

Editor's note: Expanded versions of these news items will appear in the next Arctic Oil & Gas Directory, which will be released in July.

Cheaper to buy than drill

One blockbuster deal, carrying a market value estimated at C$46 billion, turned the 2009 outlook for mergers and acquisitions in the Canadian oil patch on its head.

Until March 23, the operative word in Canada's M&A and financings scene was "down," as deal-making slumped to its lowest level in five years.

The North American market went into a tailspin about mid-2008, resulting in a precipitous drop in Canadian M&As to a mere US$14.5 billion from a record US$45.5 billion in 2007, with the number of transactions falling 40 percent to a five-year low, according to a global upstream review by IHS Herold and Harrison Lovegrove.

The report showed 55 deals valued at more than US$10 million were posted in the first eight months of 2008, followed by only 10 in the final four months.

Major round possible

More of the same was being forecast until Suncor Energy and Petro-Canada pulled their surprise out of the hat.

Now analysts and industry insiders are ready for what could be a major round of consolidation.

"These generally are not one-hit wonders," Andrew Martyn, vice president at Davis-Rea told the Globe and Mail.

The underlying reason stems from the cratering of commodity prices that dragged down share prices and took a large bite out of reserve values.

Ben Dell of Sanford C. Bernstein in New York said in a report that the gap between the cost of buying assets and drilling for them is greater than ever.

He said that buying an average company, including its undeveloped reserves, now costs about US$11 per barrel — about half what it cost to explore for and

see **BUY** page 19

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MERGER

the resource.

The two companies, according to independent analyst Wilf Gobert, bring a combined 7.5 billion barrels of economic reserves to the merger (81 percent of the total from the oil sands, conventional oil and natural gas) and 26.4 billion barrels of economic-plus-contingent reserves (85 percent of the total).

Current joint oil sands production is 297,900 barrels per day, with another 243,900 bpd of conventional crude and 908 million cubic feet per day of gas (with 208,000 barrels of oil equivalent per day of conventional output derived from Petro-Canada's foreign assets).

Anchor in oil sands

Given these numbers, the indisputable conclusion is that the combined entity (which will operate corporately and trade under the name Suncor, while leaving Petro-Canada's patriotic red-and-white brand on gasoline outlets) will be deeply anchored in the oil sands.

That might be a surprise to those who were gathering around the oil sands gravesite in recent months, eager to bury a resource that had seen billions of dollars of planned investment in extraction and refining projects shelved or cancelled and was bracing for the full impact of whatever greenhouse gas measures were introduced by the U.S. and Canadian governments.

> *"I don't know if this is a marriage made in heaven or not, but what I will tell you is it certainly is a match made in Canada."*
> **—Suncor Energy CEO Rick George**

"I don't know if this is a marriage made in heaven or not, but what I will tell you is it certainly is a match made in Canada," George said.

"The oil sands is the second-largest oil basin in the world," he said. "And this is going to be more and more important. The combined company will have a position that won't be able to be duplicated by anyone."

Without indicating whether any of Petro-Canada's scattered global pieces — such as those in Libya, Syria or Trinidad and Tobago — might be sold off, George said the emphasis will be on investing in "areas that get us the highest return on capital, the near-term cash flows and the lower-risk profile that we need on a go-forward basis."

That suggests Petro-Canada's reliable producing assets making solid returns on capital will remain in the fold, used as cash cows to finance costly oil sands projects.

Early project revival possible

George even said he expects some of Suncor's stalled projects will be revived

see **MERGER** page 18

continued from page 3

REDOUBT

"Initial indications are that the dikes performed as designed," the U.S. Coast Guard said March 24. "… No (oil) release has been observed and no sheen was observed Monday afternoon by Coast Guard, ADEC and Alaska Volcano Observatory personnel on an over flight of the area."

Evacuated

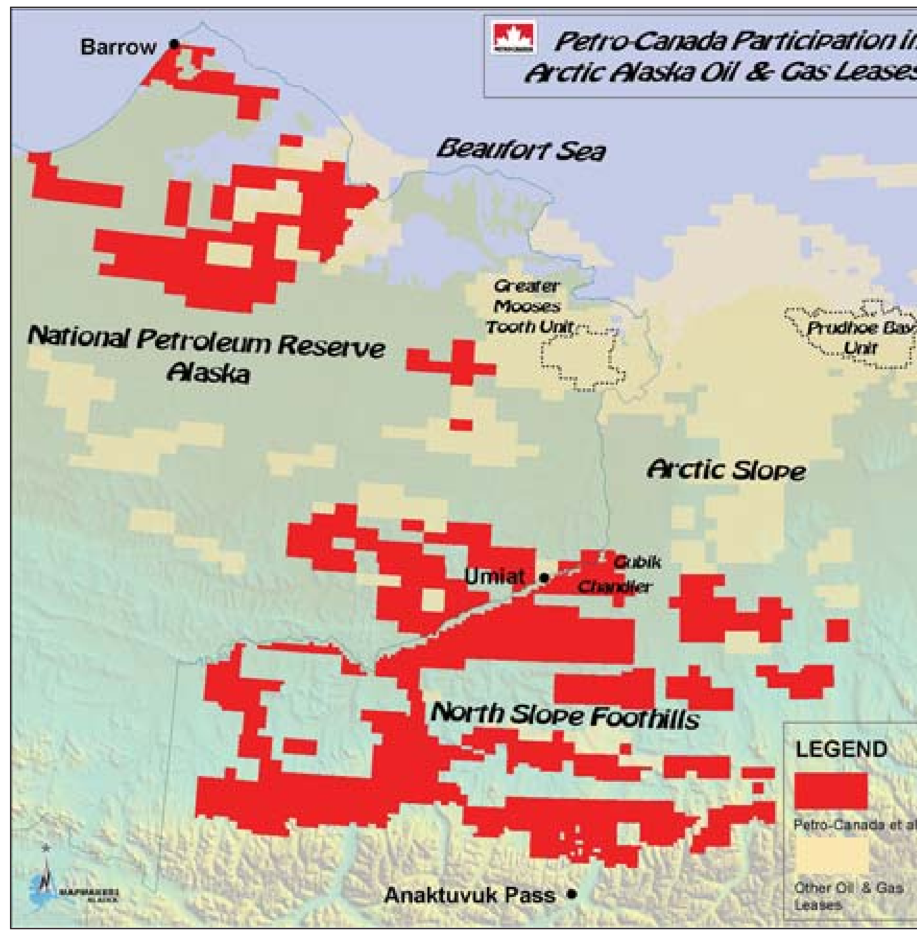
Chevron had evacuated the terminal shortly after the initial eruptions of the volcano. "The facility was shut down and the 11 personnel evacuated by helicopter Monday (March 23)," the U.S. Coast Guard said.

Terminal owner Cook Inlet Pipe Line Co. built protective dikes around the tank farm after some minor flooding occurred at the terminal, when Redoubt eruptions in 1989 and 1990 diverted the Drift River. But the Chevron subsidiary that operates the terminal keeps a minimum quantity of oil in the two active tanks at the terminal, to ensure that the tanks are not floated from their foundations, were the protective dikes to be breached.

"Each tank contains about 74,000 barrels of crude oil," the Coast Guard said.

And engineers are standing by to examine the continuing integrity of the protective dikes, with heavy equipment stationed inside the dikes to enable repair work if the flooding causes erosion of the dike structures. ●

—The Anchorage Daily News contributed to this story.



Petro-Canada major Alaska leaseholder

There is an Alaska impact from the Suncor Energy merger with Petro-Canada announced March 23.

While not an operator in the state, Petro-Canada is a major oil and gas leaseholder on both state and federal acreage in Alaska.

The company is a big player in the Brooks Range Foothills and in the National Petroleum Reserve-Alaska and is a partner with Anadarko Petroleum Corp. in drilling this winter at Gubik.

Petro-Canada came to Alaska in 2001, taking 56 tracts of 170 receiving bids in a North Slope Foothills areawide oil and gas lease sale, some 322,560 acres in the southern half of the sale area, paying almost $2.5 million.

The company's interest was in natural gas — and still is: Gubik is a gas prospect.

Mark Myers, then director of the Division of Oil and Gas, said after the 2001 sale that the state considered the foothills to be a gas province, especially in the south where the reservoir quality of the rocks made oil fields less likely.

Wells drilled on state lands in the area "all had gas shows in them," Myers said.

A spokesman for Calgary-based Petro-Canada said the purchase "is another card in our deck. We're positioning ourselves for future exploration and development and the prospect of getting gas out of Alaska to the North American market."

Petro-Canada has acquired and relinquished state oil and gas leases since 2001; its current share in state leases is 295,520 acres.

Petro-Canada has also acquired federal acreage in the state. It has 622,922 net acres in NPR-A on the western side of the North Slope, 92,807 acres in partnership with Anadarko (a one-third interest in 278,448 acres; BG is the third partner) and 530,115 acres in partnership with FEX (interests ranging from 20 percent to 50 percent in 1.24 million acres).

Staked wells in 2006

While Petro-Canada has not operated in Alaska, it staked eight well locations on NPR-A acreage in 2006, but in early 2007 announced a partnership on that NPR-A acreage with FEX as operator.

Petro-Canada began partnering with Anadarko in early 2005 for exploration in the Foothills — with Anadarko as the operator.

The Anadarko agreement involved pooling of more than 1.5 million acres of state and Arctic Slope Regional Corp. lease holdings. Petro-Canada said the two companies had a strong land position in the area, much of it contiguous, and shared a common view of the potential of the area.

Drilling that Anadarko is doing this winter at Gubik is on some of this partnership acreage.

Anadarko's Foothills land base was established in 1998 when it gained exclusive exploration rights over 3.3 million acres of ASRC land; it exercised lease rights on 1.1 million acres in 2001.

—KRISTEN NELSON

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MERGER

as early as the second quarter.

But no one is talking about a full-scale revival. After all, Suncor slashed its 2009 capital spending to C$3 billion from an original C$10 billion, suspending work on its C$20.6 billion Voyageur upgrader and a third phase of its Firebag in-situ venture, while Petro-Canada's partnership put its C$25 billion Fort Hills mine on hold.

George said Voyageur would be "an obvious one on that list."

"We expect increased investment … which will actually create more construction jobs near-term, more operating jobs in the mid- to long-term and wealth creation in Canada in terms of investment employment and taxes paid," he said.

Pointing to ExxonMobil and Royal Dutch Shell as examples of what is possible, George said those supermajors have invested through the "bottom part of the

see **MERGER** *page 19*

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MERGER

cycle and are improving their position in Canada."

"We at Suncor had two options: We could pull back (on capital spending), which we obviously did, or do something that would really strengthen our position and allow us to look at investing and coming out of this cycle stronger than ever," he said.

Analysts positive

William Lacey, an analyst with FirstEnergy Capital, said the improved financial strength Petro-Canada would bring to the Suncor balance sheet could open the way to restarting the Firebag plans in 2010 " … sooner than one would have thought."

Mike Percy, dean of business at the University of Alberta and a former member of the Alberta legislature, said the merger will create a "Northern Tiger" in the Alberta oil sands region because of the confidence shown by directors and management in the resource "as a long-term play."

Voyageur and Fort Hills are now suddenly much closer to being restarted, he said.

Lou Gagliard, J.S. Herold's senior vice president of equities, said the merger is all about the oil sands, noting that Petro-Canada — through Fort Hills, the Mackay River in-situ project and a major conversion of the company's Edmonton refinery — was on its way to becoming a "dominant oil sands company," while "Suncor has always done what Suncor does best."

"It's a good way to get around the dilemma of how you grow in a low-price environment," he said.

James Cole, senior vice president at AIC Ltd. and a "peak oil" supporter, said that if oil falls to US$30 per barrel in 2010 Suncor has a major problem on its hands.

However, the billions of dollars in capital spending cuts are potentially setting the stage for a major rise in oil prices.

But Peter Tertzakian, chief energy economist at ARC Financial, said that even though the deal is proof that bigger is better in the oil sands "it doesn't necessarily mean there will be a return to the Klondike mentality of 2007 and 2008. It means the opposite. It means you need to recognize it takes large companies with access to a lot of capital to develop these projects."

What gives an added boost to the oil sands outlook is early evidence of a downturn in costs and labor that have crippled the oil sands sector. ●

continued from page 17

BUY

develop new reserves in 2008.

"It appears the energy space is on the cusp of an M&A boom," Dell wrote, suggesting that ExxonMobil, with about US$30 billion of available cash, and other majors will be on the prowl for smaller companies to fill gaps in their exploration portfolios and ensure they have enough land to search for discoveries.

"If this isn't the time for ExxonMobil (which owns 69.6 percent of Imperial Oil, Canada's largest integrated oil company) to undertake a corporate M&A spree, then investors could be forgiven for asking what the company is exactly waiting for," he said.

M&A: Up or down?

"Consolidation makes an incredible amount of sense," said Bill Bonner, president of Brickburn Asset Management.

Canadian companies on the shopping list include the usual suspects — Nexen and Talisman Energy — both of which have attractive, but widely scattered holdings.

The Herald/Harrison Lovegrove survey showed Canadian deals accounted for less than 15 percent of the global M&A value last year, down from 30 percent in 2007 and the lowest point since 2005, with only two exceeding US$1 billion — Royal Dutch Shell's takeover of Duvernay Oil for US$5.8 billion and a US$1.3 billion all-share merger of ProEx Energy and Progress Energy Trust.

The value of oil sands-related activity plunged to US$2 billion in 2008 from US$18 billion the previous year, the report said.

On a global scale, the weighted-average proved-implied-reserve value rose to US$11.51 per barrel of oil equivalent from US$10.01 in 2007, while the worldwide transaction value for the upstream slumped to US$104 billion from US$160 billion.

Calgary-based Sayer Energy Advisors forecasts M&A activity will remain in the doldrums this year, blaming Alberta's new royalties, the dive in oil prices and the economic crisis, along with the deadline for changes to income tax treatment of Canadian royalty income trusts.

Sayer estimated the total enterprise value of Canadian deals was C$17.5 billion in 2008 compared with 2007's C$50 billion.

The firm predicts that corporate transactions will prevail this year, continuing a trend when asset deals dropped to 20 percent of total transaction value in each of the past two years.

Not many companies for sale

Sayer President Alan Tambosso says the trend is likely to extend far into 2009 given the impact on property valuations and corporate balance sheets of the credit crisis and low oil and gas prices.

He said not many public or private companies are known to be for sale or reviewing strategic alternatives to maximize shareholder value, although it is possible some are "quietly" probing alternatives in order to survive.

In a separate report, Sayer said financings declined last year to C$15.7 billion from a record C$25.5 billion in 2007, with debt financings taking the largest hit, falling 39 percent to C$8.2 billion from C$13.5 billion.

Equity financings declined 27 percent to C$7.2 billion, with issues sliding to 582 from 752, and royalty income trust unit financings dropping 86 percent to C$318 million, said Sayer analyst Ryan Ferguson Young.

He said only six initial public offerings were completed in 2008 compared with 18 in 2007, with the average size declining to C$11.7 million from C$19.2 million.

—GARY PARK

continued from page 1

CONOCO

miles north of Smith Bay, north of the National Petroleum Reserve-Alaska.

ConocoPhillips picked up the acreage in lease sales and acquisitions between 1998 and 2007. The surrendered leases had expiration dates ranging from 2012 to 2017.

The surrendered leases include the McCovey No. 1 exploration well drilled by EnCana in December 2002, and the 54-1 and 54-1-A wells drilled by Gulf Oil around 1984.

ConocoPhillips is retaining three federal leases in the waters of the Beaufort northeast of the Milne Point unit. The leases, which cover 15,000 gross acres, are the site of the Sandpiper prospect, estimated to hold between 20 million and 70 million barrels of oil.

The State of Alaska manages offshore leases within three miles of state land. The U.S. Minerals Management Service handles offshore leases in the Outer Continental Shelf.

The trend of buying and relinquishing large blocks of acreage isn't new.

ConocoPhillips, along with partners Anadarko Petroleum and Pioneer Natural Resources, dropped 300,000 acres of federal leases in NPR-A in September 2007, and another 19 federal leases south of Barrow in February 2008.

David Brown, Alaska land manager for ConocoPhillips, justified those decisions last September, saying, "It's all purely part of high-grading your portfolio: exploring, drilling a well, finding what's in it, evaluating whether you should hold it or release the acreage."

The move to surrender the Beaufort Sea acreage comes a year after ConocoPhillips spent $506 million on federal acreage in the Chukchi Sea. In September 2008, Michael Faust, offshore exploration manager for ConocoPhillips, told Petroleum News that the company prioritized the Chukchi acreage over its pre-existing portfolio of Beaufort Sea leases.

"Chukchi is definitely our offshore focus right now," Faust said.

ConocoPhillips' decision to relinquish its Beaufort Sea acreage follows Shell's recent decision to drop 33 state leases in the Alaska Peninsula and 28 federal leases across the Beaufort Sea. Shell spent $2.1 billion on acreage in the Chukchi Sea last February.

—ERIC LIDJI

NORTH OF 60 MINING NEWS

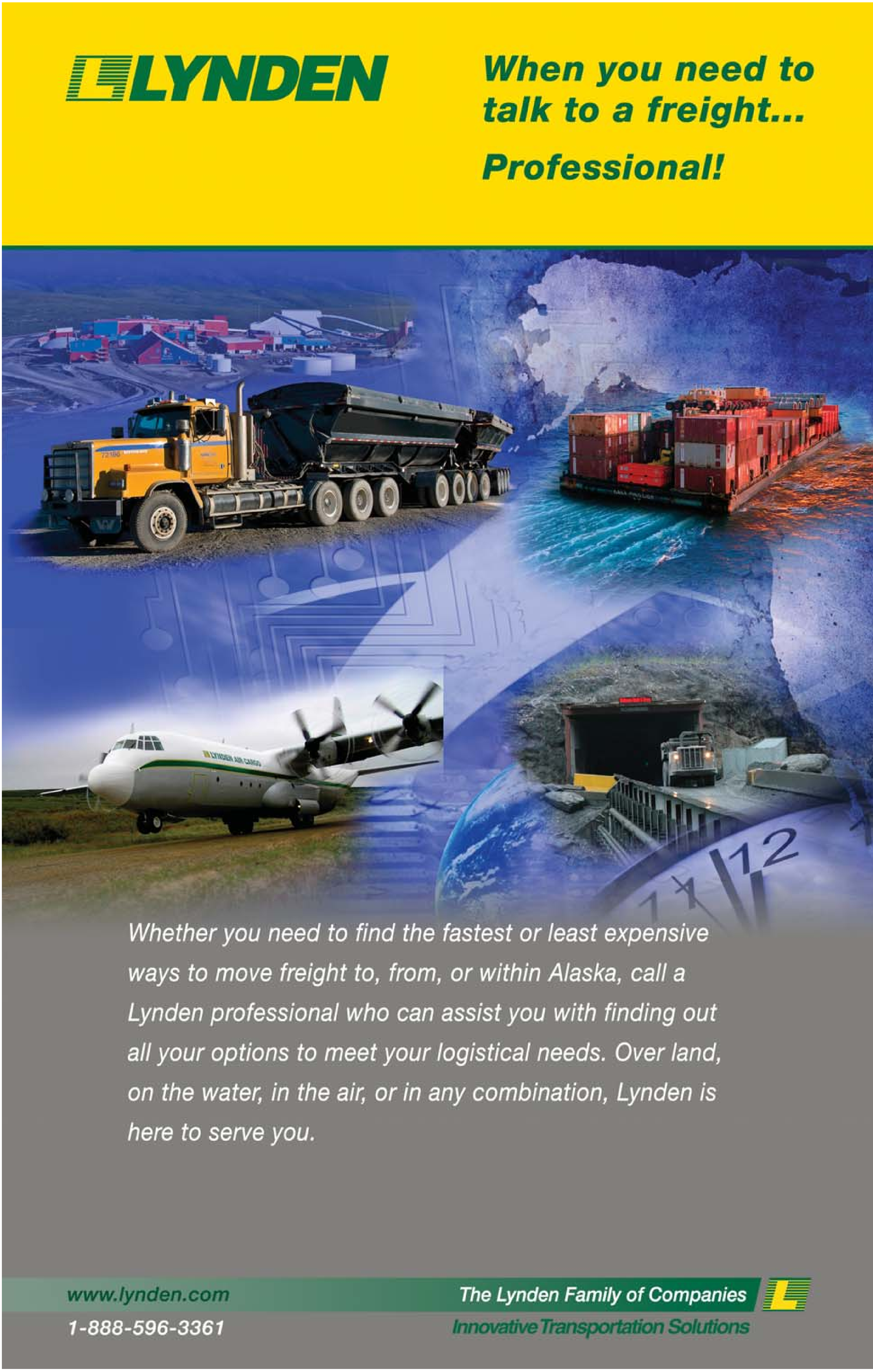
Exploration by Hard Creek Nickel has outlined more than half a billion metric tons of nickel-bearing ore in measured and indicated resources and another half a billion tons in inferred resources at the Turnagain project in northern British Columbia.

COURTESY HARD CREEK NICKEL

A special supplement to Petroleum News

WEEK OF
March 29, 2009

Petroleum news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● NUNAVUT/ALASKA

Committee Bay explorer restructures

With a consolidated name and share structure, CBR Gold plans to spend C$5 million to advance its Three Bluffs and Niblack projects

By SHANE LASLEY

Mining News

Committee Bay Resources Ltd. completed a 5-to-1 share consolidation in February. The restructured company also changed its name to CBR Gold Corp. As a result of the name change, the company began trading on the TSX Venture Exchange under the new stock symbol CBG March 2.

The newly consolidated company is currently planning to spend about C$5 million in 2009 on its two advanced exploration projects in North America; the Niblack gold-copper rich volcanogenic massive sulfide prospect on Prince of Wales Island in Southeast Alaska, and the Three Bluffs gold deposit along the 300-kilometer, or 186-mile-long Committee Bay greenstone belt in northern Nunavut.

CBR Gold President and CEO John Williamson told Mining News the company is still working out the details of its 2009 plans at Niblack and Three Bluffs.

"We have worked up all the budgets for all the different scenarios; it is just a matter of sitting down … and figuring out, in this market and investment climate: Firstly, what project? And secondly, what scope of work on each of the projects to give us the best bang for our buck in this marketplace?" Williamson explained.

Westward expansion

The primary target of the drilling at Three Bluffs this year will be to explore the area between the area of the current resource and high-grade gold discovered in a step-out hole drilled 500 meters to the west.

CBR Gold spokesman Derek Iwanaka told Mining News that "the most significant highlight of the 2008 exploration season was the high-grade discovery hole of 23.53 g/t gold over 13.59 meters, 500 meters west of the currently identified resource. This new discovery significantly increases the strike length potential of Three Bluffs and is the most important development at the project in the last three years."

According to Iwanaka, this extension in the mineralization warrants an additional 20,000 meters of infill drilling between the current resource and the new discovery.

"If drilling proves that continuity exists, we could potentially quickly add significant tonnage and increase the overall grade of the deposit," he said.

Williamson said CBR Gold is looking at spending about C$2 million on the Three Bluffs project in 2009. The junior plans to complete about 2,000 meters of drilling in the expansion area to the west of the current resource area and conduct engineering studies, advanced metallurgical studies and permitting at Three Bluffs.

One of the next steps at the Nunavut project, according to the CBR President, is to begin a bulk sampling program. Williamson said the company is currently meeting with government agencies to secure permitting for a bulk sample program.

Understanding the metallurgy

In recently completed metallurgical work, the junior studied gold recovery potential at Three Bluffs using gravity concentration, cyanide leaching and froth flotation.

Results of the studies indicate that a combination of gravity and flotation extraction would recover about 95 percent of the gold in concentrate. The tests show cyanide leaching would recover about 98 percent of the gold out of the gravity-froth concentrates, resulting in an overall recovery rate of 93 percent of gold from the property.

CBR Gold also has investigated the potential for gravity-only gold recovery at Three Bluffs and said this method has the potential to reduce operating costs. It is also likely that gravity would be used as the recovery method for a bulk test plant at the project.

Gravity gold recovery from a Knelson multi-pass test was 77.9 percent in 7.0 percent concentrate mass with 69.4 percent of the gold recovered in the initial pass containing 1.4 percent of the mass.

"These results reinforce our vision for a low-tonnage, high-grade open pit mine at Three Bluffs," said Williamson. "We are especially encouraged by the indications of high gold recovery with only a gravity circuit and anticipate that the

see **COMMITTEE BAY** *page 4*

COURTESY OF CBR GOLD CORP.

The sun sets at midnight on CBR Gold's Three Bluffs camp located on 640,000 acres the company holds along the Committee Bay greenstone belt in northern Nunavut.

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● ALASKA

Pebble cries 'foul' at opponents' antics

Partners supply APOC with evidence of wrongdoing by Alaska money manager, anti-Pebble groups during ballot initiative campaign

By SHANE LASLEY

Mining News

The Pebble Partnership, in conjunction with the Resource Development Council for Alaska, has filed a complaint with the Alaska Public Offices Commission, alleging 18 violations of Alaska campaign law.

The 20-page complaint, supported by about 200 pages of evidence, outlines a joint effort by the Renewable Resources Coalition, Alaskans for Clean Water, Americans for Job Security and Bob Gillam to conceal about $2 million in contributions from Gillam in support of Ballot Measure 4 during Alaska's 2008 primary election.

The APOC complaint marks a shift by the Pebble Partnership from defending its to efforts develop a giant mining operation in the Bristol Bay region of Southwest Alaska to going after those who may have broken the law while spending millions of dollars trying to convince Alaskans that such a mine should not be built.

"In the weeks and months following the August 2008 primary election, we received and reviewed information that warranted the complaint we submitted to the Alaska Public Offices Commission," the Pebble Partnership said in a brief statement.

"APOC is the appropriate venue for this kind of information. The complaint speaks for itself and the rest is up to the government to investigate," the partners wrote.

Evidence from disgruntled fundraiser

Much of the information to which the Pebble Partnership is referring came from Robert Kaplan, founder of Los Angeles-based Fund Raising Inc. Kaplan was apparently compelled to turn over evidence of campaign wrongdoing when the anti-Pebble groups refused to pay him for his services.

In an effort to collect an outstanding debt, Kaplan emailed Renewable Resources Coalition Chairman Richard Jameson. In the email, Kaplan told Jameson that he was owed at least $264,069 in commissions for Fund Raising's assistance with the Ballot Measure 4 campaign, but the final amounts would not be known until the Renewable Resources Coalition, Alaskans for Clean Water and the Renewable Resources Foundation reported their contributions.

It was not Jameson, but McKinley Capital Management CEO Bob Gillam, who answered Kaplan's email.

In it, Gillam wrote, "I appreciate your position but we specifically excluded funds that I contributed which includes monies to Americans for Job Security…and other monies I contributed otherwise."

ALASKA PUBLIC OFFICES COMMISSION

Pebble Limited Partnership,
acting by and through its General Partner,
Pebble Mines Corp., and
Resource Development Council,

Complainants,

vs.

Renewable Resources Coalition, Inc.,
Alaskans for Clean Water, Inc., Americans for
Job Security, Inc., and Robert Gillam,

Respondent.

APOC Case No. __________

COMPLAINT

I. SUMMARY OF VIOLATIONS

This is a complaint against Renewable Resources Coalition ("RRC"), Alaskans for Clean Water ("AFCW"), Americans for Job Security ("AJS"), and Robert Gillam (collectively "Respondents") for violation of Alaska's campaign disclosure laws. This complaint details a myriad of campaign law violations. While each violation is itself improper and punishable, the collective range and scope of the violations establishes something far more troubling. It appears that the Respondents participated in a coordinated effort to hide large campaign contributions and expenditures from public disclosure.

- RRC violated AS 15.13.040(b) by failing to register as a group and disclose its contributors.
- RRC violated AS 15.13.074 by acting as a "pass through" for Robert Gillam to make secret contributions to AFCW.
- RRC violated AS 15.13.040 and/or AS 15.13.140(b) by failing to disclose the expenditures related to the ballot initiative campaign that it coordinated with Alaskans for Clean Water and Americans for Job Security.
- RRC violated AS 15.13.040 and/or AS 15.13.140(b) by failing to report its website and email advocacy campaign, despite an express opinion letter from APOC advising that this was a reportable expenditure.
- RRC violated AS 15.13.040 and/or AS 15.13.140(b) by failing to report several radio advertisements that contain ballot initiative advocacy.

The Pebble Partnership and Resource Development Council filed a 20 page complaint with the Alaska Public Offices Commission, alleging 18 violations of Alaska campaign law by anti-Pebble advocates.

Diverting focus from Gillam

The anti-Pebble syndicate – which apparently did not want the public to view Ballot Measure 4, also known as the "Clean Water Initiative", as a proposal sponsored primarily by Gillam – hired Kaplan because of his campaign fundraising expertise.

In a March 18 email, Renewable Resources Coalition founder Art Hackney told Kaplan: "We'll need $2.5 million to get through the Initiative battle – which I expect to be on the August 26 primary ballot. Gillam needs to have half of that raised so he isn't targeted as the only funder – with a 'vested' interest since his lodge home is in the area of the proposed mine."

Hackney went on to explain to Kaplan that the anti-Pebble group "set RRC up as C6 to veil contributors."

Hackney was not the only one apparently eager to give the perception that the "Clean Water Initiative" had broad support. Scott Hed, director of Sportsman's Alliance for Alaska, asked Kaplan how his organization could help show widespread support for the anti-Pebble movement.

"Since we're attempting to show support for the Clean Water Act (sic) from many people/many places (aka "lots of people other than Bob Gillam"), how do you suggest we accomplish that?" Hed asked Kaplan in an email.

"If I take a portion of my auction proceeds, should I run that through RRC?" Hed also queried.

AJS launders Gillam's money

According to the APOC Web site, Americans for Job Security, a Virginia-based soft-money advertising organization that is not required, or willing, to disclose the source of its funding, contributed $1.6 million to the "Vote yes on 4" campaign. Much of that money, according to Pebble proponents, came from Gillam.

Hackney – an Anchorage-based political consultant whose firm, Hackney & Hackney, Inc., reportedly earned between 10 percent and 15 percent of money spent on the "Alaskans for Clean Water" campaign for handling most of the advertising – sits on the board of directors of Americans for Jobs Security .

In a March 28 email, Hackney invited Kaplan to come to Anchorage to meet with Americans for Jobs Security President Mike Dubke, Renewable Resources Coalition Chairman Jameson and Brian Kraft of Alaska's Sportsman's Lodge.

In the days leading up to the 2008 primary election, Alaskans Against the Mining Shutdown, the group opposing Ballot Measure 4, challenged the

see **COMPLAINT** *page 5*

continued from page 3

COMMITTEE BAY

scoping study will further support our view of economically viable production."

Scoping out Three Bluffs

CBR Gold said it has retained Scott Wilson Roscoe Postle Associates Inc. to complete a scoping study and supporting NI 43-101 technical report on the Three Bluffs deposit.

After an initial review of the metallurgy and the 2009 resource estimate for Three Bluffs, the consultant recommended examining two open-pit development options in the scoping study.

The first option is a 1,200-metric-ton-per-day mine-mill option with flotation and carbon-in-leach plant. The second possibility is an initial 500-tpd gravity and intense cyanide leach plant that would be expanded to a 1,200-tpd plant with flotation and CIL during year three. The second option would reduce initial startup costs at the remote deposit.

CBR Gold anticipates receiving results from the scoping study early in the second quarter of 2009.

The deposit's resource estimate, released March 2, outlined an indicated gold resource of 2.7 million metric tons grading 5.85 grams per metric ton, or 508,000 ounces, gold. The junior also estimated an inferred resource for Three Bluffs of 1.27 million metric tons grading 5.98 g/t, or 244,000 ounces of gold.

COURTESY OF CBR GOLD CORP.

The main focus of about 2,000 meters of drilling that CBR Gold has planned at its Three Bluffs property in Nunavut in 2009 is to expand the gold resource 500 meters to the west where the company intersected high-grade gold mineralization during 2008 drilling.

The 2009 revised Three Bluffs resource estimate is based on 15,673 meters of drilling in 89 holes, and includes 903 meters drilled in five holes during 2008. The company also drilled step-out holes, one of which discovered the high-grade mineralization to the west.

Underground drilling planned at Niblack

CBR Gold is also working on its exploration plans for the Niblack volcanic massive sulfide property that it acquired through a merger with Niblack Mining completed in October.

The CBR Gold President said the company is considering a C$3 million budget to advance Niblack in 2009. The current plan includes about 7,500 meters of underground drilling from the 1,000-meter tunnel within Lookout Mountain that was completed in 2008, and will target expanding the Lookout Zone at depth.

CBR Gold released an updated NI 43-101 compliant resource estimate for the polymetallic project on March 26. The new resources updates a September 2008 resource completed by Niblack Mining and includes 19 underground drill holes completed in 2008 within the Lookout mineralized zones.

CBR Gold reported an indicated resource at Niblack of 2,272,000 metric tons grading 2.42 grams per metric ton gold, 34.66 g/t silver, 1.27 percent copper and 2.36 percent zinc and an inferred resource of 1,502,000 metric tons grading 2.22 g/t gold, 34.62 g/t silver, 1.68 percent copper, and 3.43 percent zinc.

The junior is currently carrying out metallurgical and scoping studies for Niblack which it intends to use to plan and design the 2009 program at the project. The results of the metallurgical studies are expected by the end of April.

"Since acquiring the Niblack Project, the CBG team has continued to systematically compile and evaluate the project with the expressed purpose of expanding the mineral resources in order to fast-track to a production scenario," said Williamson. ●

continued from page 4

COMPLAINT

Alaskans for Clean Water campaign to reveal the source of the soft-money contributions it received.

Willis Lyford, campaign director for Alaskans Against the Mining Shutdown, said Alaskan voters deserved to know who funded the anti-mining campaign, and "we will make this request of AFCW every day between now and the election until they make full disclosure."

Lyford accused AJS of being a soft-money shadow group with questionable campaign practices.

The Alaskans for Clean Water group refused to identify the source of the Virginia organization's contributions.

The Resource Development Council and the Pebble Partnership, in their complaints to APOC, wrote that "in the context of the discussion about (Kaplan's) commissions owed on donations to Alaskans for Clean Water, the evidence strongly suggests that the Americans for Job Security donations to Alaskans for Clean Water were actually contributions of Mr. Gillam's money."

Renewable Resources efforts questioned

More than half of the complaints filed with APOC were against the Renewable Resources Coalition and its involvement in the Alaskans for Clean Water campaign. The complaints allege that the coalition violated campaign finance rules by not reporting to APOC the money and resources it used to influence the ballot measure outcome and the source of those funds.

The APOC complaint also included evidence that the coalition was also used to conceal contributions made by Gillam. The coalition reported to APOC a $150,000 contribution to pro-Ballot Measure 4 coffers, but an email to Kaplan, also sent to Gillam and Hackney, from the coalition director said the group would not be able to make the contribution unless Gillam added to its coffers.

"As you can see, unless Bob gives us $100,000, or you raise it for us, we are not in any position to donate to (Alaskans for Clean Water)," Coalition Director Jameson wrote. "Give me a call this afternoon to discuss this, and how else we might be able to help the passage of (Ballot Measure 4)."

Evidence presented to APOC indicates that Gillam responded, depositing $350,000 into the Coalition's account in early June. The Coalition then donated $150,000 to Alaskans for Clean Water two days later, retaining $200,000 to spread its own anti-Pebble message.

The evidence points to multiple instances where the Coalition directly advocated for voting for Ballot Measure 4 via Web site, email, radio, television and print advertising and mailings.

When the Coalition's support for Ballot Measure 4 is put in context, Pebble advocates said it is clear that the group's anti-Pebble and anti-mining message were intended to influence the outcome of the election and therefore should have been reported to APOC.

Gillam makes good on ultimatum

While Gillam, in an effort to portray widespread support for Ballot Measure 4, attempted to hide the extent of the money manager's support for the initiative, observers have speculated from the beginning that he was the principal financier of the anti-Pebble movement.

It is believed that Gillam's motivation for preventing development of a mine at Pebble is the beautiful wilderness home he maintains about 25 miles away from the proposed mine site. Besides a wilderness retreat, the house located on the shores of Lake Clark has been used as a meeting place for anti-Pebble planning and as a perk for big contributors to the "Yes on 4" campaign, according to documents supplied to APOC.

Alaska's mining industry has become the target of five "citizen initiatives" since Rep. Jay Ramras, R-Fairbanks, warned Alaska miners in late 2006 that Gillam aimed to bring a mining tax initiative before voters.

Ramras has said that he opposes the Pebble Project at which the initiative was aimed.

"Bob Gillam, who is a very unique individual, has a mind to assert a public ballot initiative to tax the industry depending on the industry's posture toward the Pebble mine," Ramras told the Alaska Miners Association. "That is like an ultimatum and something that you might want to consider because it would put together pretty draconian measures that would be pretty punitive to the industry."

When asked, Ramras said he thought that the miners did not take his warning seriously, and they were underestimating their adversary.

In addition to the money allegedly funneled into the campaign through hidden channels, Gillam has reported to APOC $820,000 that he spent to convince voters to approve the anti-mining legislation. ●

● GUEST COLUMN

Mining pay ranks No. 2 after oil and gas

New industry statistics reflect importance of sector's contribution to Alaska, local governments and Native corporations in 2008

By CURT FREEMAN
For Mining News

There are some new stats out from the State of Alaska that I thought you might like to see. For 2008, the Alaska mining industry accounted for 3,500 direct jobs and 5,500 indirect jobs. The industry doled out US$350 million in payroll with the average salary totaling US$82,600 per year, which is 90 percent higher than the statewide average for all sectors. Mining salaries were higher than all other sectors, except for the oil and gas sector. The industry paid US$105 million in rents, royalties, taxes and other fees to the State of Alaska and paid local governments US$15.6 million in taxes. Alaska Native corporations received US$212 million in payments from the mining industry, a 266 percent increase over the previous year. In 2008 the mining industry paid the Alaska Railroad US$18.5 million in fees for moving coal, sand and gravel, while the Alaska Industrial Development and Export Authority collected US$22 million in user fees for its facilities. The industry also paid US$1.6 million to the Alaska Mental Health Trust for rents, royalties and construction materials sales.

So, next time you hear somebody wonder out loud about what the Alaska mining industry does for them, whip a few of these numbers on them!

The author

CURT FREEMAN

The author Curt Freeman, CPG #6901, is a well-known geologist who lives in Fairbanks. He prepared this column March 20. 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

TECK COMINCO AMERICAN reported fourth-quarter and year-end 2008 results from its Red Dog mine in Northwest Alaska. In the fourth quarter, the mine produced 115,200 metric tons of zinc in concentrate and for the year the mine produced 515,200 metric tons of zinc in concentrate. Zinc ore grade for the year remained unchanged at 20.1 percent, while mill recoveries increased slightly to 84.1 percent. The mine also produced 26,100 metric tons of lead in concentrate during the fourth quarter and 122,600 metric tons of lead in concentrate for the year. Lead ore grade for the year decreased slightly to 6.1 percent, while mill recoveries increased to 67 percent. The mine posted a $71 million operating loss for the fourth quarter and a $171 million operating profit during 2008 versus a $174 million operating profit for the quarter in 2007 and an $819 million operating profit for the year in 2007. A precipitous drop in the prices of lead and zinc over the past 6 months adversely affected production revenue, while a main crusher failure affected fourth-quarter operating costs. During 2008, the mine paid partner NANA Inc. and the State of Alaska royalties of $111 million.

ZAZU METALS CORP. announced remaining drill hole results from its Lik zinc-lead-silver deposit in the western Brooks Range. Highlights include drill hole 188 with 8.28 percent zinc, 2.55 percent lead and 13.36 grams per metric ton silver over 34.9 meters; hole 192 with 6.31 percent zinc, 1.87 percent lead and 6.01 g/t silver over 23.32 meters; and hole 195 with 6.84 percent zinc, 2.52 percent lead and 45.36 g/t silver over 7.62 meters. The company also announced a US$650,000 budget for 2009 and goals for the year, including completion of an updated resource estimate, ongoing baseline collection of meteorological and environmental data, conducting a scoping study of the Delong Mts. shipping facility to determine what changes will be required in order to ship Lik ore from the site, conversion of existing federal claims at Lik to state mining claims, and incorporation of all these data into a scoping study.

PLACER GOLD CORP., formerly **ARCTIC OIL & GAS CORP.**, announced plans to finance activities at its Denali onshore gold deposit and its Norton Sound Alaska Oceanic and Nome offshore mining leases in Norton Sound near Nome. The company indicated that it is creating a new gold-backed asset that will be supported by in-ground gold reserves. At Denali, the company said it has a 400-yard-per-hour processing plant already on site. The company plans to upgrade the existing mine production equipment to a 60,000-ounce-per-year mining operation commencing in 2009-2010, with estimated gold production costs of $300 per ounce. At Norton Sound Alaska Oceanic the company said it is finalizing plans to construct a new suction-cutter gold dredge to produce 250,000 ounces in the 2010 summer season. Gold grades at this deposit are approximately 0.50 grams per cubic meter ($13.40 per cubic meter at a gold price of $835 per ounce). Gold production costs of less than $200 per ounce are anticipated. At Nome offshore leases, research of previous drilling programs conducted by Westgold and others estimated a total gold resource of approximately 3.3 million ounces within the 3-mile limit that was drill tested. The company has options over approximately 20 percent of this resource area.

NOVAGOLD RESOURCES announced year-end 2008 summaries and 2009 plans for its Donlin Creek and Rock Creek gold deposits. At Donlin Creek, the company is expecting completion of a feasibility study, including updated resource estimates, by the end of the first quarter. The company's share of the US$28 million 2009 budget at the Donlin Creek project is approximately US$14 million, part of which will be incurred in completing the feasibility study and the remainder is planned to be used for permitting activities at the project. The Rock Creek project is in care and maintenance, pending a review of whether to recommence start-up at the project. The current care and maintenance budget at Rock Creek for 2009 is approximately $7 million. The company indicated that it had no plans to recommence the start-up process at Rock Creek in 2009. In a bit of brighter news, NovaGold and Richard Garnett of previous explorer **WESTGOLD**, shared the Prospectors and Developers Association of Canada's prestigious Thayer Lindsley Award for their discovery of the Donlin Creek deposit. Congratulations NovaGold and Richard Garnett!

NORTHERN DYNASTY MINERALS LTD. announced that the **PEBBLE LIMITED PARTNERSHIP** (Northern Dynasty and partner Anglo American plc) has approved a US$59 million budget and work plan for the Pebble project for 2009, with the potential for supplemental spending up to a total of US$70 million. The focus of this effort will be to complete a pre-feasibility study and prepare the project for permitting in 2010. Pending the outcome of engineering trade-off studies currently under way, the Pebble Limited Partnership is expected to meet in August to finalize the Prefeasibility Study schedule and authorize additional program expenditures this year. Currently approved engineering, metallurgical, environmental and sociological studies are expected to be supplemented by additional engineering and site investigation activities in the latter half of 2009, including geotechnical and metallurgical drilling.

PACIFIC NORTH WEST CAPITAL CORP. announced that it had exercised the option to acquire from **ST. ANDREW GOLDFIELDS LTD.** all of the outstanding shares of **MYSTERY CREEK RESOURCES, INC.**, a wholly owned Alaskan subsidiary of St Andrew Goldfields Ltd. and owner of the Nixon Fork gold-copper mine. Pacific North West is in the process of conducting a comprehensive re-evaluation of mine reserves/resources, metallurgy, exploration targets, and mining options. An updated financial analysis of the mine also is underway. The conclusion of these studies will form the basis for a possible re-start of mining operations. Pacific North West believes the current resource is not fully explored and is reviewing the project data with the objective of outlining an exploration program to further define additional resources.

Eastern Interior

KINROSS GOLD announced year end 2008 results from its Fort Knox mine. The mine produced 77,133 ounces of gold in the fourth quarter at a cash cost of US$492 per ounce, while year-end totals were 329,105 ounces of gold produced at a cost of US$461 per ounce. While metric tons mined and milled in 2008 were up over 2007 levels, more refractory ore resulted in slightly decreased production in 2008. During the fourth quarter the mine processed 3,461,000 metric tons of ore grading 0.80 g/t gold. Mill recoveries were 81 percent for the fourth quarter. Cost of production rose 34 percent due primarily to increased commodity, labor and energy costs. The company also tabled year-end 2008 resource updates that included proven and probable reserves of 252,770,000 metric tons grading 0.47 g/t gold, equivalent to 3,807,000 ounces of gold. An additional 97,526,000 metric tons grading 0.55 g/t gold, equivalent to 1,723,000 ounces, are classified as meas-

see FREEMAN page 7

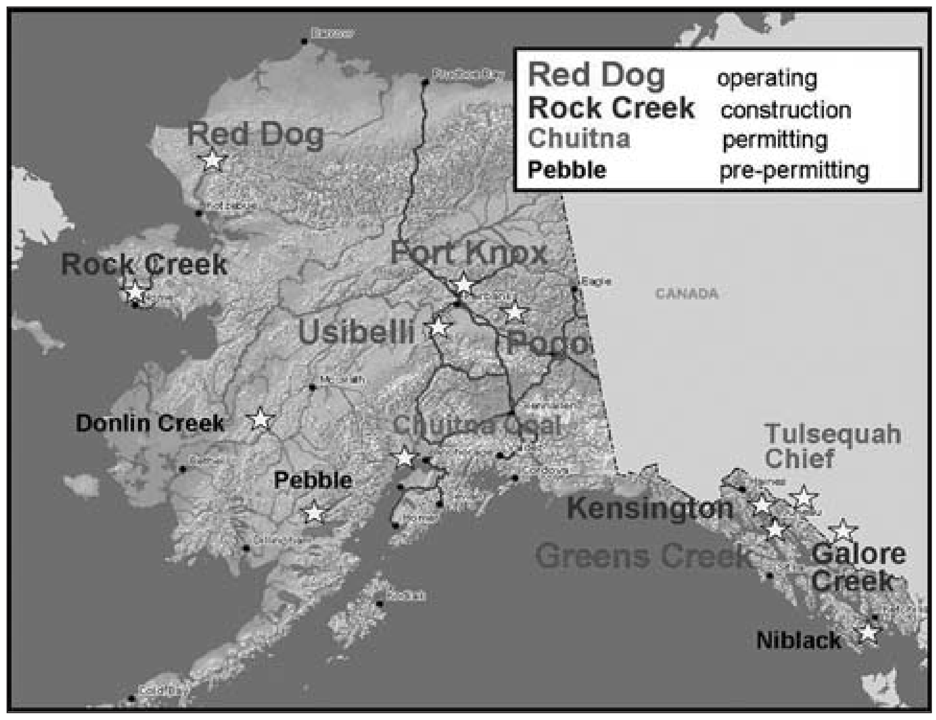
continued from page 6

FREEMAN

ured and indicated resources.

TERYL RESOURCES and JV partner **KINROSS GOLD** announced year-end 2008 exploration results and 2009 plans at their Gil gold project near Fort Knox. The 2008 exploration focused on the Sourdough Ridge and Last Chance areas. At Last Chance, 103 soil samples were collected while at Sourdough Ridge, 4,477 feet of reverse circulation drilling was completed in nine holes. Significant drill results include hole GVR08-505 which returned 20 feet grading 0.022 ounces per ton of gold, 25 feet grading 0.018 ounces/t gold, 20 feet grading 0.021 ounces/t gold, 10 feet grading 0.026 ounces/t gold and 40 feet grading 0.061 ounces/t gold. Plans for 2009 include a ground magnetometer survey on Sourdough Ridge, delineation of mineralized zones, establishing a resource base at Sourdough Ridge and expanding the existing resources at North Gil. Drill plans call for 10,000 feet of reverse circulation drilling and 6,000 feet of core drilling. Total expenditures to date at the Gil project are approximately US$7.5 million.

TECK COMINCO and joint venture partner **SUMITOMO METAL MINING** announced fourth-quarter and year-end 2008 results from the Pogo mine. The mine produced 89,000 ounces of gold in the fourth quarter and 347,000 ounces for 2008. Average grade mined in the fourth quarter was 18.2 g/t gold with mill recovery of 81 percent. Total cash operating costs for the fourth quarter were US$464 per ounce, down significantly from the US$514 per ounce operating cost in the year previous period. The mine turned a US$12.5 million profit in the fourth quarter and a 2008 profit of US$57.5 million, both of which are significant improvements over 2007 levels. Lower recoveries in the fourth quarter were due to lower recoveries in the sulfide flotation circuit. Projected 2008 production is 340,000-360,000 ounces.



INTERNATIONAL TOWER HILL MINES LTD. announced results from the first four holes drilled in 2009 at its Livengood gold project. Hole MK-RC-109 intercepted 38.1 meters grading 1.23 g/t gold, while hole MK-RC-100 intercepted 205.74 meters grading 1.43 g/t gold including 38.1 meters grading 3.08 g/t gold. Both of these holes ended in significant mineralization. Holes MK-RC-0111 and MK-RC-0112 were drilled in the northeastern portion of the higher grade Core Zone. Hole MK-RC-0112 intersected 100 meters of 1.11 g/t gold and 17 meters of 0.97 g/t gold. Hole MK-RC-0111 intersected 68 meters of 0.59 g/t gold. Hole MK-RC-0112 is significant because it confirms the presence of a second lower thrust fault that duplicates the favorable host rock section. In addition, very strong alteration and gold mineralization occur at the bottom of the hole suggesting that there may be another higher-grade center developing in this area. The company also announced plans to expand its 2009 drilling program from 16,000 to 40,000 meters of combined core and reverse circulation drilling. To date, work at the Livengood project has been adding ounces for an average cost of only US$2.50 per ounce. Not surprisingly, the "Tundra Telegraph" says that several major producing companies have expressed interest in acquiring International Tower Hill before it grows and improves the project resource base to a level where a premium will be required to purchase the company.

Southeast Alaska

HECLA MINING CO. announced year-end 2008 production results from the Greens Creek mine on Admiralty Island. The total cash cost per ounce of silver produced at Greens Creek for the year was US$3.29 per ounce with total production costs for the year of US$8.52 per ounce. The average grade of ore mined during the year was 13.68 ounces/t silver, down significantly from the average grade of 15.45 ounces/t that was mined in 2007. For the year, the mine produced 5,829,253 ounces of silver, 54,650 ounces of gold, 16,630 tons of lead and 52,055 tons of zinc. On the exploration front, underground exploration drilling in the Gallagher Zone successfully extended the mineralization in a southerly plunge over 200 feet. Surface drilling defined extensions of the mine contact rocks northeast of the current mine workings, which can be correlated for more than 2,000 feet and is still open in both directions. This target area will be drilled in 2009. Surface drilling during 2008 also confirmed the presence of mine contact rock eight miles north of the mine. During 2009, drilling will define the lower west dipping contact of the lower southwest zone and extensions to the north-west-west zone. The company also announced revised resource estimates for the mine, which include probable reserves of 8,064,700 tons grading 11.6 ounces/t silver, 0.108 ounces/t gold, 3.8 percent lead and 10.5 percent zinc; mineralized material of 789,800 tons grading 4.1 ounces/t silver, 0.063 ounces/t gold, 2.0 percent lead and 4.6 percent zinc; and other resources of 2,412,000 tons grading 11.5 ounces/t silver, 0.092 ounces/t gold, 2.7 percent lead and 6.8 percent zinc. Since 1987 Greens Creek has produced a

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● ONTARIO

PDAC offers miners feast of information

Annual convention, trade show brings world mining industry together for premium networking, learning and marketing opportunities

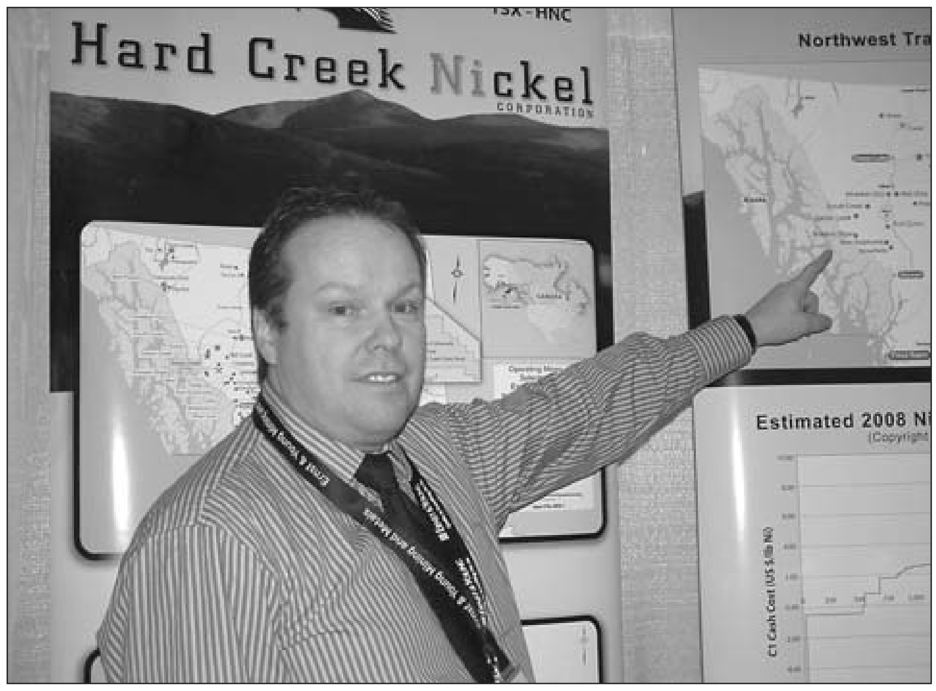
By ROSE RAGSDALE
For Mining News

TORONTO – For a first-timer, attending the 77th Prospectors and Developers Association of Canada annual International Convention, Trade Show and Investors Exchange overwhelmed, teased, tantalized and downright exhausted.

Though folks remarked that convention attendance seemed down from the record-breaking levels of recent years, one couldn't discern any slackening in the steady streams of dark-suited conventioneers pouring onto the escalators in the multistoried convention hall, or crowding into meeting rooms at neighboring hotels. Nor could one see the reduction in the folks wolfing down quick lunches at tables crammed into the lobbies outside meeting rooms and the sold-out trade show and investor exchange that boasted 1,000 booths of hopeful mining companies and service firms.

PDAC (pronounced "pee-dack"), the world's largest convention and trade show for miners and mining companies, geared up March 1-4 and wove its annual networking magic. And what a spell it was!

As a bitterly cold wind whistled through the canyons of skyscrapers in downtown Toronto, a varied and relentless pageant of presenters offered an estimated 20,000 delegates the latest information and best advice available in mining or exhorted them to take action on everything from developing strong relationships with the locals to striking better deals when raising critically needed capital. Delegates got an earful on mining history, geology, environmental practices and government regulations. And one lucky uranium miner from Saskatchewan took home a $16,000 diamond ring won in a raffle.



Hard Creek Nickel Corp. Executive Vice President Neil Froc points toward the Turnagain Project in northern British Columbia on a display map in the company's booth in the Investor Exchange at the Prospectors and Developers Association of Canada annual convention March 1 as he describes the rich mineral deposit to visitors.

ROSE RAGSDALE PHOTOS

Peregrine Diamonds Ltd. chief geologist Jennifer Pell sounded positively giddy about the future. Pell told Mining News that Peregrine recently attracted BHP Billiton to be a partner in its Chidliak diamond project on Baffin Island in Nunavut Territory, after the junior unearthed several diamond-bearing kimberlites in recent exploration. BHP is providing $9.3 million for more exploration at Chidliak this year.

More than 1,000 exhibitors

At the Investor Exchange and Exhibitor Trade Shows, mining companies, regional governments and organizations as well as contractors offered tantalizing glimpses of mining projects from Afghanistan to Australia.

At Hard Creek Nickel Corp.'s booth, Executive Vice President Neil Froc touted advantages of the Turnagain Project in northern British Columbia, but also observed that a compelling opportunity awaits developers of all of the rich mineral deposits of the region if they can convince the B.C. government and other stakeholders to extend the proposed Northwest Transmission Line, a 287-kilovolt power line along Highway 37 to Dease Lake. The Turnagain project is about 70 kilometers, or 42 miles, east of Dease Lake.

While representatives of many juniors in the Investor Exchange appeared glum and spoke of hanging on to their cash as long as possible, a lucky few like Peregrine Diamonds Ltd. chief geologist Jennifer Pell sounded positively giddy about the future. Pell told Mining News that Peregrine recently attracted BHP Billiton to be a partner in its Chidliak diamond project on Baffin Island in Nunavut Territory, after the junior unearthed several diamond-bearing kimberlites in recent exploration. BHP is providing $9.3 million for more exploration at Chidliak this year.

Unlike the Investor Exchange, exhibitors in the PDAC Trade Show hailed mostly from Canada. Among the few participants with Alaska ties were the

see **PDAC** page 9

CSA: Ideas wanted to overhaul NI 43-101 rules

In response to a disturbing mining industry trend, the Canadian Securities Administrators launched a project in January to revise National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101). The British Columbia Securities Commission is leading the project with participation from other CSA jurisdictions.

Greg Gosson, a geologist with AMEC Americas Ltd., told attendees at the 2009 Prospectors and Developers Association of Canada convention that the CSA surveyed mining companies last year and found that 16 percent of survey respondents had NI 43-101 reports that were not current, along with other areas of concern. CSA initiated the project in response to the survey results and a number of industry and regulatory concerns that have developed since it implemented NI 43-101 requirements in 2001.

Gosson said a particular difficulty centers on the definition of "current" when it comes to NI 43-101 reports.

"To be current, a report does not omit any material or scientific information about a mine project as of the date of filing," he said. "It also must be accurate, and it must match what the company is telling investors."

Some other potential areas for consideration include:

Reducing the regulatory burden of consents of qualified persons;

Reducing the qualified person's liability and responsibility for issuer disclosure;

Reassessing technical report triggers to make sure we have the right ones;

Creating broader and more flexible rules for disclosing previous resource and reserve estimates;

Fixing a few perceived disclosure irregularities, such as economic analyses of exploration targets and historical estimates and first-time disclosure of resources, reserves and preliminary assessments on Web sites and third-party reports;

Introducing a separate form of technical report for advanced mineral projects; and

Updating accepted foreign professional associations.

CSA aims to revise the NI 43-101 standards and is seeking suggestions and recommendations for improvements from the mining industry. A three-month consultation period on the rules ends in April.

Email improvement recommendations or suggestions to NI43-101@bcsc.bc.ca.

—ROSE RAGSDALE

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PDAC

State of Alaska Department of Natural Resources and Alaska Structures, a manufacturer of rugged, all-weather buildings.

Miners reminded of industry cycle

Here are some convention presentation highlights:

PDAC President Jon Baird said 2009 is the start of a new mining cycle, and this year's convention program was designed to help delegates develop skills and knowledge that will be needed as growth picks up.

"The thing I've learned after four decades is that regardless of how sharp the drop in exploration spending in one year, the mining cycle does come back," Baird told more than 800 delegates who packed the opening ceremonies. "For us, it means that while the capital markets are on pause, as they are now, we have an opportunity to prepare for the future."

Donald Coxe, chairman of Coxe Advisors and a financial advisor who first predicted the surge in demand for metals and other commodities in February 2002, was scheduled to speak at the convention but could not attend due to illness. Instead, Coxe forwarded a commentary on the state of the industry to the convention.

"Although we've had a tremendous setback, it will still prove to be the greatest commodity boom of all time," Coxe noted.

While gold has been the first investment to begin to recover after the financial sell-off, he predicted that base metals will follow.

"The people who fill this room are going to be crucial to the prosperity of the world," he wrote. He urged the industry to "regroup and reload" to get ready for the resumption of commodity demand growth.

Stephen Forrest, principal of a platinum group metals consultant based in Oxford, UK, told delegates that car exhaust catalysts account for almost half of total global PGM use, so falling auto sales have significantly weakened PGM prices from a year ago when supply disruptions caused platinum prices to spike to about US$2,000 per ounce. Current prices are about US$1,000 per ounce. Forrest said current prices are so low that most South African producers are more than 30 percent under water at current cash costs. He predicts that prices will have to rise to about US$1,600 per ounce over the next decade to avoid major mine closures.

Palladium and rhodium prices also have fallen in recent years. Rhodium slumped from about US$10,000 per ounce in mid-2008 to under $1,000 per ounce, while palladium is down to about US$200 per ounce from more than twice that level in 2008. Both metals are primarily used in car exhaust catalysts, particularly rhodium.

Forrest does see some upside in PGM markets in the years ahead. "The saving grace for PGMs lies in stronger emissions legislation rather than vehicle production, because this will lead to increased platinum loading per vehicle. PGMs are the key to higher emission controls in both conventional and hybrid cars using fuel cells," he said. Forrest also sees strong potential from environmentally friendly fuel-cell units that are being developed to power buildings and other facilities.

"We're about three to five years away from this new end use for PGMs." Forrest predicted that PGM prices could rise because of ongoing supply disruptions affecting South African producers and the rising costs of sinking deeper shafts to exploit new resources.

Focus on working with native groups

The industry downturn triggered by the global financial crisis has stalled numerous mineral projects in Canada and abroad, and is also being felt in established mining camps such as Saskatchewan's Athabasca Basin, which hosts the world's richest uranium deposits.

At a special session on aboriginal participation in the mineral industry, representatives of the Athabasca Basin Development Limited Partnership – the 2008 winner of PDAC's Skookum Jim Award for aboriginal achievement in the mineral industry – said companies servicing the uranium industry are feeling the pinch and consolidation of this sector is expected. Aboriginal employment is as high as 90 percent for some of these companies, so any resulting job losses will affect local First Nations communities.

Canada's uranium industry has long been known for its progressive approach toward providing jobs and training opportunities to aboriginals. Cameco, the world's largest uranium producer, tries to buy at least 75 percent of contracted services at its northern mine-sites from northern Saskatchewan and First Nations-controlled businesses.

The industry downturn has forced some companies to curtail development plans in Canada's North, including Canadian Royalties, which has signed an Impact Benefits Agreement with the Inuit-owned Makivik Corp. for its Nunavik nickel project in Ungava, Quebec.

Glenn Mullan of Canadian Royalties said the harsh realities of the economic crisis forced the company to suspend construction of the project until better market conditions prevail. In the meantime, the company is taking part in a multi-stakeholder effort to clean up historical abandoned exploration sites that were of longstanding concern to local communities.

"We've heard complaints about the garbage left at this sites, in some cases for as long as 50 years, since we started our community consultations in 2000 and 2001," Mullan said. "We didn't cause the problem, but decided it was time to help do something about it." As many as 600 catalogued abandoned exploration sites are now being cleaned up through a collaborative effort involving 20 public mining companies, local Inuit groups and the Quebec government. At the same time, Canadian Royalties has continued its own clean-up initiatives.

Ontario and British Columbia aboriginal groups and companies were also represented at PDAC 2009, including the Matawa First Nations, which recently signed a letter of intent with the Ontario government to develop a consultation protocol for mineral exploration and development on traditional lands. These lands include the "Ring of Fire" area where several companies are exploring significant nickel-copper, copper-zinc and chromium deposits.

In B.C., the Osoyoos First Nation negotiated an IBA with Merit Mining Corp. for the first gold mine to start operations in 15 years on its traditional territory. Unfortunately operations were suspended in late 2008 because of lower than expected grades and milling recoveries.

Author touts benefits of self-reliance

One thought-provoking speaker was Calvin Helin, author of the best-selling book, Dances with Dependency. In a presentation titled "Prospecting for New Relationships," Helin said solutions to entrenched problems within impoverished native communities can be found by embracing virtues and values of the past.

Helin cited the achievements of pre-colonial native civilizations that developed sophisticated economies, trading systems, arts and culture. Instead of maintaining the "welfare trap" that has stripped aboriginal communities of "ambition and achievement," he advocates a "contemporary reclamation" of the traditional values of self-reliance, self-sacrifice and moral leadership within a larger modern society.

Helin's views have attracted controversy as they run contrary to the views of many aboriginal leaders. "I haven't had much personal criticism because the book has been so popular," Helin said. "But there's no question that it has upset some people in the Indian industry, particularly those who make their living off the misery of aboriginals."

Helin said he isn't swayed by the criticism as he is the son of a hereditary chief on British Columbia's North Coast, a successful lawyer and entrepreneur, as well as a respected author and aboriginal leader.

He believes that resource development offers an excellent opportunity for aboriginal self-reliance in the decades ahead, particularly in light of the population boom in native communities and escalating costs to governments of sustaining these communities. Helin notes that Canada's aging population has doubled since the 1950s, whereas the native population has grown seven times and includes a much younger population in dire need of jobs and economic opportunities.

Helin says Canada could face a financial and social crisis if nothing is done to encourage aboriginal economic self-reliance. He's taking a proactive approach in this regard by facilitating and encouraging partnerships between aboriginals and mining companies, and also through trade missions to commodity-consuming nations such as China.

"Canada may be in a downturn now, but over the long-term the world will need our resources. Developing these resources is an opportunity for aboriginal people to move up the economic ladder," he added.

Sobering worries about the future

The closing speaker at PDAC 2009 Marc Faber, who publishes the monthly investment advisory Gloom Boom & Doom report, told convention attendees to watch for signs that will suggest an economic recovery is happening, including a weakening U.S. dollar, which he said would indicate liquidity returning to the rest of the world.

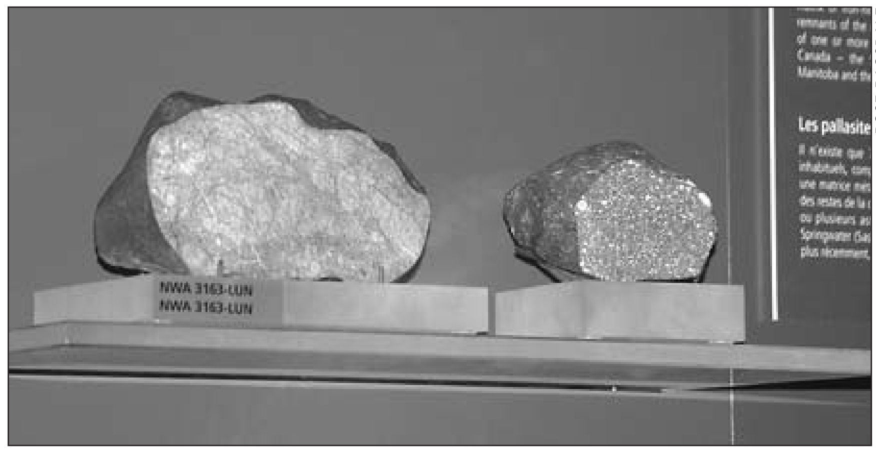
But Faber said his big worry is the likelihood that the serious economic recession or even depression that he is expecting will lead to war.

"It won't be the traditional war, it will be poison in the water systems of major cities like New York or London," he said.

He also predicted that an uptrend in commodity prices will continue once the global economy recovers.

"When the global economy recovers, inflation and interest rates are likely to increase along with rising commodity prices," he added. ●

Canadian journalists Vivian Danielson and Brenda Dalglish contributed to this report.



ROSE RAGSDALE

At the Royal Ontario Museum, meteorites and rocks from the Moon and Mars rank tops among the displays.

Toronto ranks high in metropolitan delights

A visit to Toronto is like a trip to springtime, even when the temperature is minus 10 degrees Celsius and the wind is howling worse than wintertime in Chicago.

The reason: Toronto offers the best of a big metropolitan area, such as off-Broadway shows and fabulous international cuisine, without the grime and the crime of most major cities. More than 5.2 million people live in the Toronto metropolitan area.

Not only does the downtown area sprawled along the shore of Lake Ontario offer a beehive of indoor walkways, underground shopping arcades and restaurants as well as skywalks and passages sheltered from the cold, it provides convenient and comfortable access to the city's major business attractions such as Metro Toronto Convention Centre, major financial institutions and Union Station.

Among downtown Toronto's best-kept secrets are a handful of modern hotels that have quietly opened for business within a couple of blocks of the major meeting facilities. These include Marriott's 250-room Residence Inn at 255 Wellington St., a recipient of the international lodging chain's Gold Award. Opened in 2007, this Residence Inn with its quiet, clean suites and pet- and children-friendly policies, is rated No. 1 by Trip Advisor. Not only does the hotel offer guests complimentary full breakfasts daily, it also provides light evening buffets Mondays-Wednesdays.

One of the best sightseeing bargains to be had in Toronto is the CityPass. Just as it offers discounts on admission to major tourist attractions in many of the largest U.S. metropolitan areas, the CityPass grants admission over a nine-day period to some of the best sights that Toronto has to offer. This includes the CN Tower, the world's tallest building; the Royal Ontario Museum, where meteorites and rocks from the Moon and Mars rank tops among the display; the Hockey Hall of Fame, where hockey fans can view the Stanley Cup up close and personal; Casa Loma and the Toronto Zoo.

—ROSE RAGSDALE

NORTH OF 60 MINING NEWS

Mineral Roundup in Yukon Territory

Yukon Territory has one producing mine, the Minto copper-gold-silver operation near the Yukon River north of Whitehorse. During 2008, more than 150 active hardrock exploration projects in the territory, 73 of which recording spending greater than C$100,000, and 22 posted outlays greater $1 million. Here's a look at some of the mining companies active in Yukon Territory.

ROSE RAGSDALE

The ore processing system at the Minto Mine in central Yukon Territory dumps tailings containing significant amounts of copper and gold where mine owner, Capstone Mining Co., intends to return to extract more concentrates later after mining of high-grade deposits has been completed.

Producing mines

SHERWOOD COPPER CORP., now a part of **CAPSTONE MINING CORP.**, took the Minto Mine, Yukon Territory's only producing hard rock mine, to new heights in 2008. Minto recorded impressive production results in 2008, its first full year in operation after startup in October 2007. The mine produced about 47.7 million pounds of copper, 31,000 ounces of gold and 260,000 ounces of silver in 2008, and underwent a phase 3 mill expansion to 3,200 metric tons per day. By mid-year, Minto's resource estimates, drawing on 2007 drilling results, had jumped for copper, gold and silver, 50, 40 and 38 percent, respectively. Capstone, which completed its merger with Sherwood in the fourth quarter, announced the discovery of Minto North, another high grade copper-gold zone at Minto, Feb. 4. The fifth such discovery as the mine since Sherwood acquired the project in June 2005, Minto North lies about 600 meters north-northwest of the mine's current open pit. Capstone has said it will focus in 2009 on further resource expansion at Sherwood, targeting definition drilling at the Area 118 and Ridgetop deposits in support of its plans to increase the mine's daily throughput to 4,000-5000 tpd, and on exploration drilling at the high-grade Copper Keel zone discovered in 2008. Updated mineral resource estimates for Minto, incorporating the results of a 24,000-meter, 120-hole drill program in 2008 should be completed by April 30.

Advanced development projects

YUKON ZINC CORP., after years of striving on its own to develop the rich polymetallic Wolverine Project in southeast Yukon Territory, cleared a major hurdle in mid-2008 when two well-capitalized Chinese companies bought up all of the public shares of the junior. In July, **JINDUICHENG MOLYBDENUM GROUP LTD.** and **NORTHWEST NONFERROUS INTERNATIONAL INVESTMENT COMPANY LTD**. took control of Yukon Zinc, becoming one of the largest landholders in Yukon with exploration reserves in two of Canada's emerging mining areas, the Finlayson and Rancheria districts. Wolverine has measured and indicated resources of 4.46 million metric tons grading 12.14 percent zinc, 354.8 grams per metric ton silver, 1.16 percent copper, 1.69 g/t gold and 1.58 percent lead (at US$80 cut-off). Inferred resources are 1.69 million metric tons containing 12.16 percent zinc, 385.4 g/t silver, 1.23 percent copper, 1.71 g/t gold and 1.74 percent lead (at the same cut-off). The inferred resources are in the deeper portion of the deposit and require additional in-fill drilling to improve resource confidence. Development of the fully permitted volcanic massive sulphide project is already under way and expected to continue with construction of mine infrastructure in 2009. Start up a 5,000 tpd underground mine is anticipated by the third quarter of 2010.

ALEXCO RESOURCES CORP. spent 2008 working to bring the Bellekeno deposit to production on its extensive Keno Hill silver-lead-zinc claims in central Yukon and conducting further exploration of the property, one of the world's richest silver districts. The junior tallied a resource estimate of 16 million ounces of silver for Bellekeno, completed a positive preliminary economic assessment and secured underground development and advanced exploration permits. It also drove a new access adit into the existing Bellekeno underground workings and deposit in order to drill it from underground and upgrade resources before making a production decision. The junior also entered a silver purchase agreement with **SILVER WHEATON CORP.** for $US50 million in return for 25 percent of its silver production at Bellekeno. Alexco is expected to make a production decision on Bellekeno and begin production preparations within the next few months with early 2010 targeted for startup. It also plans to identify its next production targets, continue exploration and expand its environmental services business.

WESTERN COPPER CORP. cleared the way in 2008 for final permitting of its Carmacks copper project, one of four projects it is pursing in Yukon. Located 38 kilometers, or nearly 24 miles, north-

see **YUKON ROUNDUP** page 12

continued from page 11

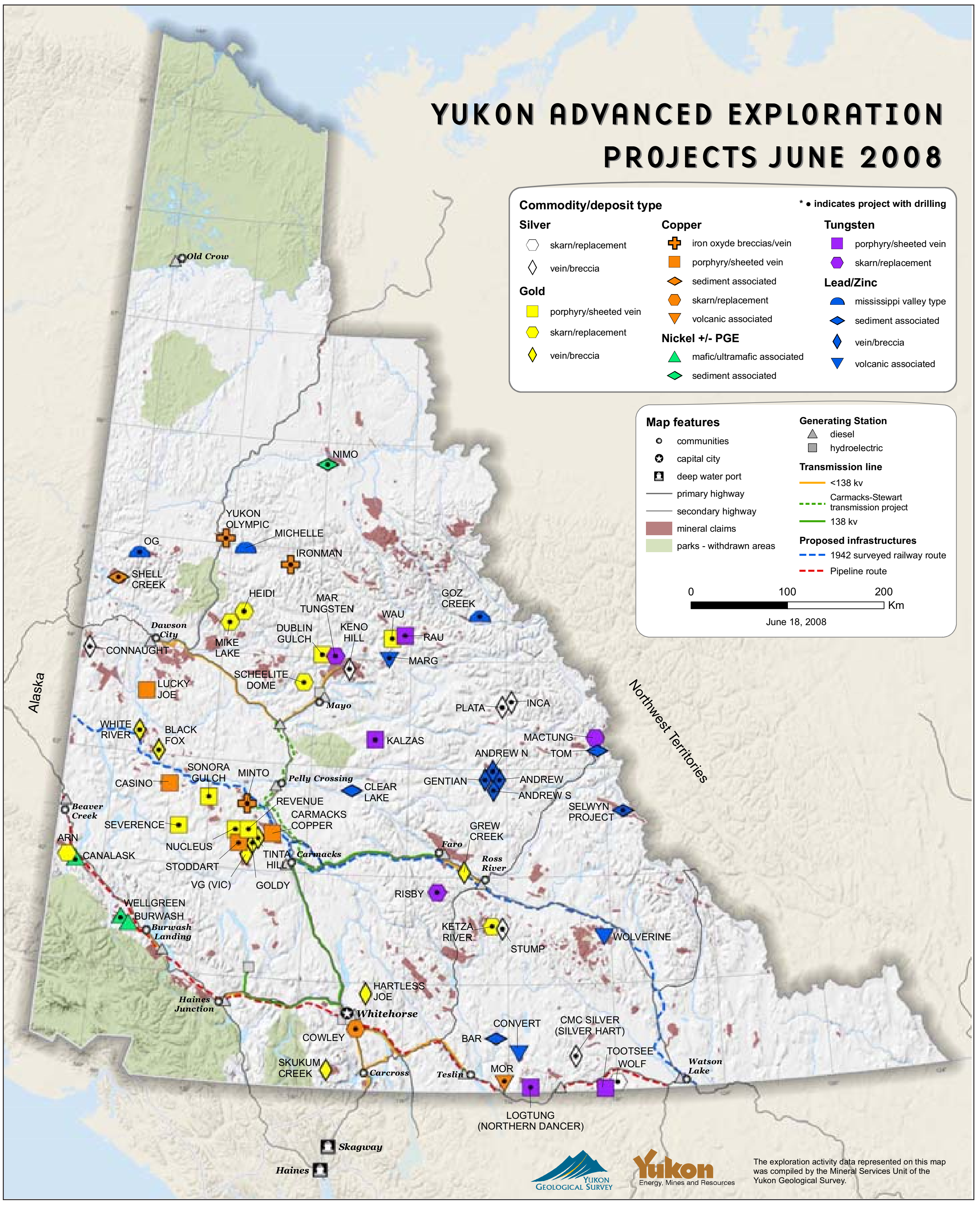
YUKON ROUNDUP

west of the town of Carmacks in central Yukon, the Carmacks project has a measured and inferred oxide resource of 12 million metric tons grading 1.07 percent copper, 0.46 g/t gold and 4.6 g/t silver. In sulphides, it has a further 4.3 million metric tons grading 0.75 percent copper, 0.22 g/t gold and 2.4 g/t silver. In December, Western Copper submitted updated applications for a quartz mining license, which allows construction to start, and a water use license, which would enable production to begin on an operation with a 6.5-year mine life. With the permits in hand, the junior is expected to make a production decision later in 2009.

CMC METALS LTD. moved ahead with permitting for the Silver Hart property located in south-central Yukon, an area that contains numerous epithermal silver-rich vein and replacement-style deposits. The 2,142- hectare, or 5,290-acre, property has 126 claims and enough known high grade silver/ zinc mineralization to support a small-scale 80-metric-ton-per day mining operation. Silver Hart can be reached via a 42-kilometer, or 26-mile, all-weather access road from the Alaska Highway 132 kilometers west of Watson Lake, B.C. CMC Metals plans to complete mine/mill development permitting, and start pre-mine production and development of the mill site and camp facilities, while continuing infill drilling on the KL, F, D and M zones, and updating an NI 43-101 resource estimate. Based on current approval schedules, mill commissioning and other work, full production could take place in 2009.

Advanced exploration projects

CASH MINERALS LTD. greeted a surge in coal prices in 2008 with an updated NI 43-101-compliant pre-feasibility study for its Division Mountain Coal Project in November. Division Mountain, located 90 kilometers, or 56 miles, north-northwest of Whitehorse, contains estimated measured mineral resources of 52.5 million metric tons of high volatile bituminous “B” coal, including 26.4 million metric tons of proven mineral reserves. Cash Minerals said the study demonstrates the economic viability of developing a mining operation that provides about 2.6 million metric tons per year of coal for export to Asia. The junior is also investigating the potential of providing the coal as feedstock for a mine-mouth power station and exporting it to China to use in Fischer-Tropsch technology to produce clean-burning alternative fuels from coal.



LARGO RESOURCES LTD., after completing extensive exploration at the Northern Dancer Project in 2008, reported an updated resource estimate for the deposit with significantly higher grades and 58 percent and 76 percent more tungsten and molybdenum, respectively, in contained pounds. Northern Dancer, formerly called Logtung, is considered one of the world’s largest undeveloped tungsten-molybdenum deposits. It is located in south-central Yukon Territory on the border with British Columbia. Though Largo said it was very satisfied with the progress it made in defining technical aspects of the project in 2008, the junior decided to defer preparing a preliminary economic assessment of the project until tungsten prices and market conditions, in general, improve.

OVERLAND RESOURCES, an Australia-based junior, made significant progress in 2008 exploring claims encompassing the Andrew Zinc Deposit in Yukon Territory’s base metal-rich Selwyn Basin in 2008. Drilling results not only confirmed the quality of the project, but also revealed the Darcy zone, a new high-grade deposit located about 600 meters southeast of the Andrew deposit. Overland has reported a resource estimate that meets Australia’s reporting guidelines for the Andrew deposit of 5.04 million metric tons at

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YUKON ROUNDUP

7.47 percent zinc, 1.72 percent lead, 5.43g/t silver & 17.43 g/t germanium with a 3 percent zinc cut-off applied. The resource estimate is currently being updated by an independent consultant. Overland also signed a strategic marketing agreement with a major metals trading house that covers all concentrates produced from the Andrew Zinc Deposit and forged cooperative agreements with the Selkirk, Nacho Nyak Dun and Kaska First Nations to assist with economic and cultural programs. The Andrew property is situated at the convergence of lands owned by the three groups.

SELWYN RESOURCES LTD. continued exploration of the world-class Selwyn Project in the Howard's Pass zinc-lead district in eastern Yukon in 2008. Since 2005, Selwyn Resources, formerly **PACIFICA RESOURCES LTD**, has spent more than $48.28 million on exploration, development and environmental programs on vast claims in both Yukon and Northwest Territories. The Selwyn Project covers 14 zinc-lead deposits strung along a strike length of 37.5 kilometers, or more than 23 miles, including the newly discovered XY West Zone. In February, Selwyn Resources reported an updated resources estimate of 154.35 million metric tons in the indicated category grading 5.35 percent zinc and 1.86 percent lead, with contained metal of 18.19 billion pounds zinc and 6.31 billion pounds lead; and 234.15 million metric tons in the inferred category grading 4.54 percent zinc and 1.41 percent lead with 23.43 billion pounds zinc and 7.28 billion pounds lead. Selwyn Resources is focused on providing detailed information for a prefeasibility study, and to support a permitting application in 2009.

STRATAGOLD CORP. completed a C$5 million 15-hole, 4,248.65-meter drill program in the Eagle Zone deposit of its Dublin Gulch Project in central Yukon in 2008 that focused on defining additional gold resources to the east and southwest of the deposit and successfully extending the known mineralization along strike to the east and southwest. **WARDROP ENGINEERING INC.** completed an updated NI 43-101 Mineral Resource estimate on the Eagle Zone Deposit in January that added 37 percent to the Indicated Resource for a total of 2.69 million ounces of gold averaging 0.849 g/t gold. The new resource estimate incorporates results from 13,057.65 meters of drilling from 2006-2008. Wardrop Engineering also recommended that **STRATAGOLD** undertake a NI 43-101 pre-feasibility study and complete additional studies. The Dublin Gulch project also hosts the Mar-Tungsten Deposit, for which Stratagold released an updated mineral resource estimate Dec. 1 that increased that deposit's indicated resource by 89 percent to 3.9 million metric tonne units of tungsten concentrate with a cut-off grade of 0.10 percent WO3. The revision also was based on drilling completed last summer, and an MTU is 1/100th of a metric ton, or about 22 pounds.

ROSE RAGSDALE

Visitors joined Overland Resources Ltd. geologists in examining an outcropping rich in zinc and lead near the newly discovered Darcy Zone at the Yukon Base Metal Project in June 2008.

ROSE RAGSDALE

Oxidized mineralization brightens the sides of mountains around the Mike Lake gold-copper project, where Dynamite Resources Ltd. is explored for gold in 2008. Mike Lake is located in the prospective Tintina Gold Belt about 25 kilometers, or 16 miles, north of the former Brewery Creek gold mine.

TAGISH LAKE GOLD CORP. continued in 2008 to move its Skukum Creek high-grade gold and silver deposit to production with exploration and development work. The Skukum Mineral District project is located 80 kilometers, or 55 miles, southwest of Whitehorse, and has estimated measured and indicated resources totaling more than 1.4 million metric tons grading 6.6 g/t gold and 153 g/t silver (using a 5 g/t gold cutoff); and inferred resources of 625,000 metric tons grading 8.9 g/t gold and 44g/t silver. Tagish Lake also began a feasibility study and entered negotiations to merge with the Chinese investment-backed **YUKON-SHAANXI MINING COMPANY INC.** The merger is expected to be completed in 2009.

WESTERN COPPER CORP. completed a pre-feasibility study for its Casino copper-gold-molybdenum project in central Yukon Territory in August and concluded that a sizable open-pit mine could economically be brought on line as early as 2014. The junior estimates that the Pebble-like porphyry deposit located 300 kilometers, or 186 miles, northwest of Whitehorse contains a huge resource base that could feed a 600-employee mining operation for 30 years.

YUKON GOLD CORP. revised its resource estimate for its Marg Project in July using a $70 per metric ton net smelter return cutoff. A volcanic massive sulphide deposit in the Tombstone Belt of Yukon Territory, Marg is estimated to contain a 7.85-million-metric-ton resource with mineable quantities of copper, zinc, lead, silver and gold. The junior has begun work on a scoping study for the project.

YUKON-NEVADA GOLD CORP. continued exploration and development of its properties in Yukon Territory in 2008, encountering more high-grade mineralization and laying groundwork for a small mining operation. The company hopes to achieve production from the Manto deposits at the historic Ketza River Mine, targeting 2010 for initial gold production and ramping up to 60,000 ounces in annual output in 2011. Ketza River has estimated measured and indicated resources of 646,000 ounces of gold and an inferred resource of 112,800 ounces. Short-term goals include completing a pre-feasibility study, making a positive mill decision; and starting a mine and mill in operation producing up to 60,000 ounces of gold per year. The junior also aims to continue exploration of the highly potential Shamrock Zone

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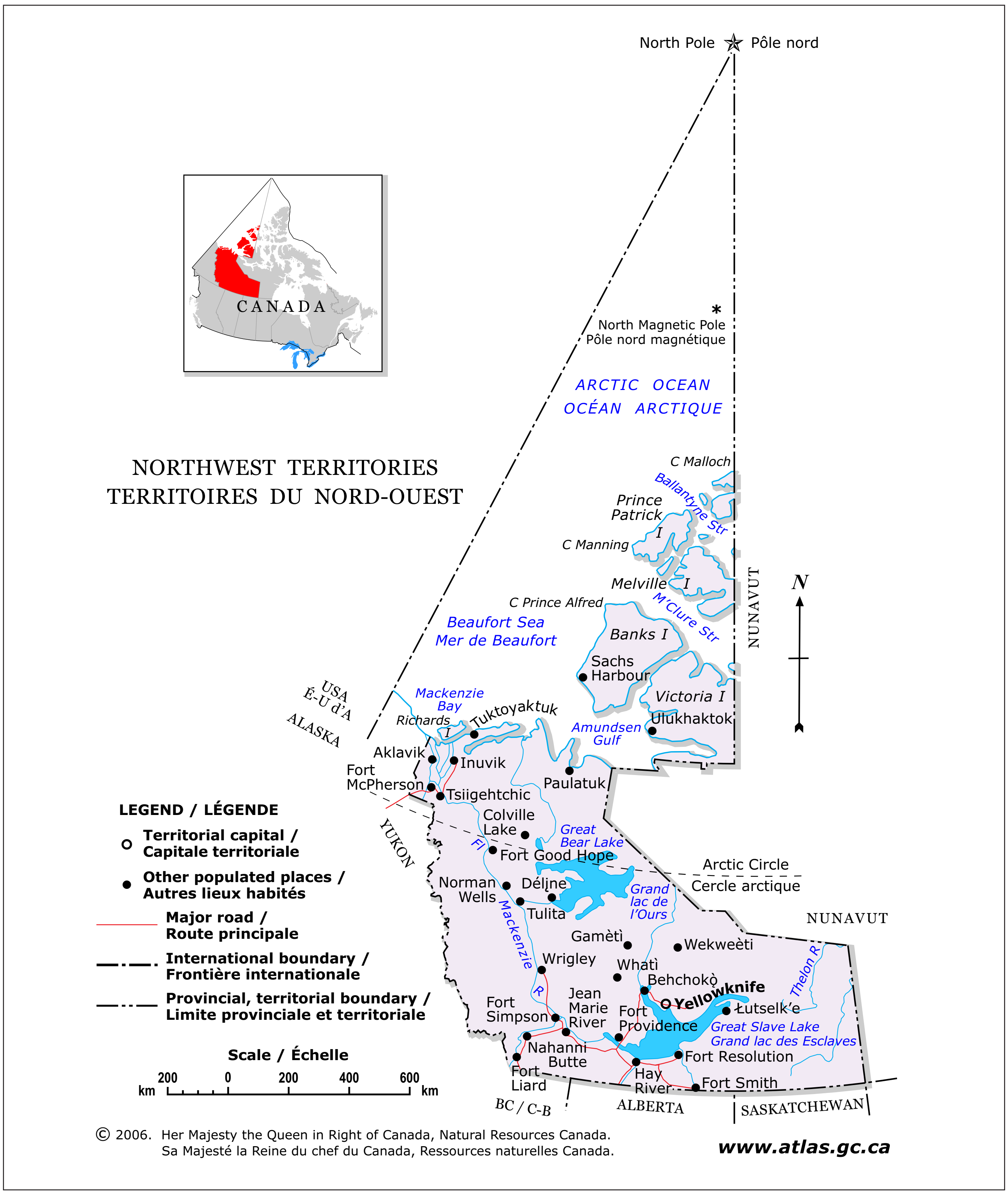
NORTH OF 60 MINING NEWS

Mineral Roundup in the Northwest Territories



The Northwest Territories has four operating mines: three diamond producers and one long-running tungsten operation. Exploration and development activity was brisk in 2008 with the most advanced projects located in the Slave Province. Here's a look at mining companies active during 2008 in the Northwest Territories:

Producing mines

BHP BILLITON DIAMONDS INC. (80 percent) and partners **C. FIPKE** (10 percent) and **S. BLUSSON** (10 percent) produced about 3.5 million carats of rough diamonds at the Ekati diamond mine in 2008, making the third consecutive year it has averaged that level of output. Located about 310 kilometers, or 192 miles, northeast of Yellowknife and 200 kilometers, or 124 miles, south of the Arctic Circle in the Northwest Territories, Ekati is Canada's first diamond mine. To date, 156 kimberlite pipes have been discovered on Ekati's claim block, and mine operations move from open-pit to underground mining. Mining continues in the Fox and Beartooth open pits and underground in the Panda and more recently, Koala pipe, from which BHP expects to recover 9.8 million carats of high-quality diamonds over 11 years. In the Ekati core zone, BHP Billiton and partners also completed reverse circulation drilling and delineation diamond drilling on the deep portions of the Misery pipe.

RIO TINTO subsidiary **DIAVIK DIAMOND MINES INC.** (60 percent), and **HARRY WINSTON DIAMOND CORP.** (40 percent), owners of the Diavik diamond mine reported 6.628 million carats for production in 2008 and on-going progress on the venture's current mine plan to begin underground mining in 2009 that will continue beyond 2020. Open pit mining at Diavik is expected to cease by 2016. Diavik is located 300 kilometers, or 186 miles, northeast of Yellowknife, and is Canada's second diamond mine. Crews mined from both ore bodies contained in the ever deepening and maturing A154 open pit during the nine months that ended Sept. 30 as well as the new, adjacent open pit. Diavik's third ore body, the A418 kimberlite pipe is coming into its own as a producer. For underground mining to begin, about 20 kilometers, or 12.4 miles, of new underground development and related surface infrastructure costing US$ 787 million will be required. Diavik Diamond Mines also took a bulk sample from the A21 kimberlite pipe using large-diameter, reverse circulation drilling. Diavik Diamond completed 7,100 meters of exploration and delineation core drilling on its lease block around the Diavik mine and discovered one new kimberlite.

DEBEERS CANADA INC. officially opened the Snap Lake Mine, Canada's first completely underground diamond mine, in July. The Snap Lake deposit, located 220 kilometers, or about 137 miles, northeast of Yellowknife, has an indicated resource of 1.4 million metric tons and an inferred resource of 25 million metric tons, with a recoverable

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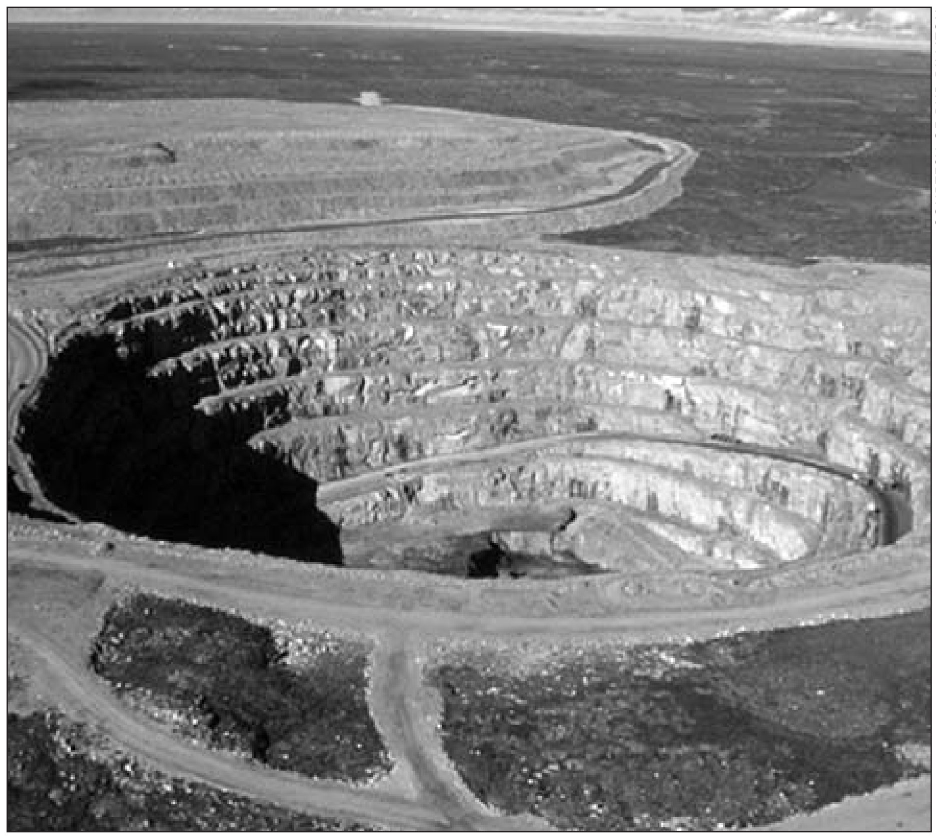
NWT ROUNDUP

grade of 1.2 carats per metric ton. The mine is expected to produce an average of 1.4 million carats of diamonds annually for more than 20 years. In February, just seven months after startup, DeBeers cut its work force at Snap Lake by 128 employees, or 22 percent, and some 90 contractors, citing poor economic conditions worldwide and the need to operate a sustainable business in 2009.

NORTH AMERICAN TUNGSTEN, owner and operator of the Cantung Mine in southern Northwest Territories about 300 kilometers northeast of Watson Lake, B.C. and near the Yukon Territory border. The company is a longtime producer of tungsten concentrate from open pit and underground mines at Cantung and is considered the largest producer of the strategic metal in the West. In 2008, N.A. Tungsten logged another year of solid output at Cantung, though the performance lagged 2007 levels. Net production totaled 272,483 metric tonne units with an average grade of 1.03 percent tungsten concentrate and recovery of 73.5 percent, compared with 286,031 MTUs in 2007, grading 1.16 percent WO3 and 74.1 percent recovery. Sales revenue slipped by C$3.2 million to C$56 million last year, and the company posted a loss for fiscal 2008 of C$11.7 million, down from C$1.2 million a year earlier. One MTU equals 22.04 lbs. Vancouver, B.C.-based N.A. Tungsten also joined two other companies in forming a new venture, **TUNDRA DIVERSIFIED INDUSTRIES LLC**, to produce and market proprietary commercial tungsten products manufactured from the tungsten concentrate produced at its mining operation. On-going definition and exploration drilling at the mine resulted in discovery and expansion of more high-grade mineralization at the lower levels of the West Extension zone of the mine. Meanwhile, infill drilling on the Mactung deposit 160 kilometers, or 99 miles, to the north continued. In February, the company announced completion of a bankable feasibility study for the Mactung deposit based on an initial 2,000-tpd underground mine with an 11-year mine life and the potential for expansion to open pit operation that could extend production by another 17 years. Mactung is estimated to contain an indicated resource of 33 million metric tons grading 0.88 percent tungsten concentrate with an additional 11.8 million metric tons grading 0.78 percent WO3 in the inferred resource category.

Advanced development projects

CANADIAN ZINC CORP. continued to advance its Prairie Creek zinc-lead-silver project on many fronts toward production in 2008. The project is located in an environmentally sensitive remote area in the Mackenzie Mountains, within the watershed of the South Nahanni River, about 170 kilometers by winter access road from the Liard Highway. It entered the environmental assessment stage in May when Canadian Zinc began to apply for the major operating permits needed for mining. A pre-feasibility study is under way that focuses on detailed process design, underground tailings disposal and mine planning and scheduling. Canadian Zinc envisions operating at 600 tpd to 1,200 tpd year-round, underground using existing infrastructure and facilities built in the 1980s that will be upgraded and enhanced to meet current environmental standards, along with improvements such as a new fuel-efficient low–emission power generation plant. The current plan calls for a mine life of 10-14 years with 220 full-time jobs. In December, Canadian Zinc decided to preserve cash in light of the recent economic downturn by terminating all activity at the Prairie Creek Mine site for the winter and is expected to maintain a minimal presence indefinitely at Prairie Creek beginning in April or May.



COURTESY OF BHP BILLITON

The Panda pit at the Ekati diamond mine in Northwest Territories is part of one of the northern territory's biggest mining success stories. Ekati has produced an average of 3.5 million carats of rough diamonds annually during the past three years.

DE BEERS CANADA INC. (51 percent) and **MOUNTAIN PROVINCE DIAMONDS INC.** (49 percent) continued development of their Gahcho Kué joint venture in 2008. Located on Kennady Lake some 300 kilometers, or 186 miles, northeast of Yellowknife, the Gahcho Kué Project consists of a cluster of three primary kimberlites with an indicated resource of about 14.4 million metric tons grading 1.64 carats per metric ton (about 23.6 million carats) and an inferred resource of about 17 million metric tons grading at 1.35 c/t (about 22.9 million carats). It is considered one of the largest diamond deposits under development worldwide. In 2008, a bulk sampling program of the deposit's Tuzo kimberlite was undertaken to recover about 1,500 carats. The first 715.6 metric tons of kimberlite yielded 2.16 carats per metric ton and a high-quality 25.13-carat diamond. The data from the carats taken in the bulk sampling, along with nearly 600 carats recovered from Tuzo in earlier years are being incorporated into a diamond revenue model for the pipe. Work in 2009 is focused on three areas of baseline data collection – caribou, hydrology and upland birds. Water quality monitoring for the cuttings containment facility and remediation work for continual improvements to the site also will continue in 2009. De Beers also told regulators last fall that it will delay submitting an environmental impact statement for the project until late 2009.

FORTUNE MINERALS INC. continued to advance its Nico cobalt-gold-bismuth project 160 kilometers, or 99 miles, northwest of Yellowknife in 2008. In May, Fortune Minerals updated a bankable feasibility study prepared for Nico in January 2007 that calculated proven and probable reserves of 21.8 million metric tons suitable for a 15-year mine life with a production rate of 4,000 metric tons of ore per day. The deposit was estimated to contain 760,000 ounces of gold, 61 million pounds of cobalt and 77 million pounds of bismuth. Using new flotation metallurgical recoveries, the updated study reported enhanced economics for the project. In early 2009, Fortune reported a 16 percent increase in the proposed mine's planned production rate due to reconfiguring mills that the company purchased and moved, along with other equipment, from the Golden Giant Mine in Hemlo, Ont. Fortune also said a pilot plant successfully proved the processing of ores from Nico into high value metal products: cobalt and bismuth cathode, gold doré and copper cement.

TAMERLANE VENTURES INC. completed confirmation drilling for a feasibility study of the Pine Point lead-zinc deposit, located on the south side of the Great Slave Lake 129 kilometers, or 80 miles, south of Yellowknife and 80 kilometers, or 50 miles, east of Hay River in 2008. The historic Pine Point Mine, the largest and most profitable zinc-lead mine in Canadian history, extracted more than 64,259,570 metric tons of ore at a grade of 7.0 percent zinc and 3.1 percent lead between 1964 and 1987. A new proven and probable reserve estimate for the property is 7.8 million metric tons grading 6.16 percent zinc and 3.01 percent lead; measured and indicated resources are 8 million metric tons grading 2.26 percent zinc and 1.13 percent lead. Tamerlane obtained permits to begin mine construction, focusing on the 1-million-metric-ton R190 deposit which has an average grade of 11.16 percent zinc and 5.49 percent lead, and drilled 5,317 meters to test 16 other previously known deposits in the area. The junior also secured a 10-year supply of low-cost hydroelectric power for the Pine Point project.

Advanced exploration projects

ALBERTA STAR DEVELOPMENT CORP. looked east of Great Bear Lake in 2008, drilling 2,348 meters over 17 holes in its search for copper, gold and uranium at its Eldorado and Contact Lake projects. The Eldorado-Contact Lake claim block is located five kilometers, or 3 miles, southeast of Port Radium. The drill-hole program followed up 2007 drilling on the Skinny Lake and K-2 target areas and tested three new target areas, K-4, Long Bay, and Gossan Island. Highlights of assay results include a 40.5-meter intercept grading 0.361 percent copper and 2.83 g/t silver in the K2 iron oxide-copper-gold target.

ARCTIC STAR DIAMOND CORP. reported a new nickel sulphide discovery near Credit Lake located 36 kilometers, or 22 miles, west of the Ekati diamond mine. The junior tested the magmatic nickel-copper-cobalt-platinum group elements, massive sulfide mineralization with 1,650 meters of drilling over 15 holes, of which 14 intersected multiple mineralized intervals per hole totaling up to 25 meters of massive, net-textured and disseminated mineralization and up to 4.95 meters of massive sulfide. Highlights of the program included a

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NWT ROUNDUP

5.1-meter intercept yielding 1.73 percent nickel, 1.75 percent copper and 0.17 percent cobalt. Arctic Star said the discovery has drill-proven sulfide intercepts over 450 meters strike length. Targets in the zone were developed from reconnaissance mapping, sampling and airborne geophysics.

AVALON RARE EARTH METALS INC., formerly **AVALON VENTURES INC.**, followed up in 2008 on encouraging exploration results from 2007 at its Thor Lake Rare Earth Elements Project in the Mackenzie Mining District of Northwest Territories in 2008. The 10,449-acre, or 4,249-hectare, property is located about 5 kilometers, or 3 miles, north of the Hearne Channel of Great Slave Lake and about 100 kilometers, or 60 miles, southeast of Yellowknife. Avalon completed a C$5.4 million, 69-hole drill program covering 14,129 meters in the Lake Zone deposit to define sufficient indicated and inferred resources on which to base a pre-feasibility-level analysis of the project. In February, Avalon reported more encouraging results in a new REE resources estimate for the Lake Zone deposit, noting the presence of enough high-grade mineralization to warrant initiation of a pre-feasibility study of the Thor Lake REE project later in 2009.

DIAMOND EXPLORATION INC., formerly **PATRICIAN DIAMONDS INC.**, drilled the Hillside kimberlite in its Doctor Lake Project about 60 kilometers, or 37 miles, north of Norman Wells in 2008 and obtained microdiamonds from a 173-kilogram sample. The results confirm that Hillside is diamond-bearing and suggest that other kimberlite targets in the project area may have good diamond potential. Hillside is the first reported diamond-bearing kimberlite discovered in the region west of Great Bear Lake.

DIAMONDEX RESOURCES LTD., a spinoff from **WINSPEAR DIAMONDS LTD.** before **DE BEERS CANADA MINING INC.** purchased Winspear and Aber Diamond's interest in the Snap Lake diamond deposit in 2000 for C$480 million, has since been focused on finding another large diamond deposit in Northwest Territories. In 2008, Diamondex followed up on a 2007 exploration program at its Lena West Project, which encompasses 3.35 million acres, and is centered about 900 kilometers, or 650 miles, northwest of Yellowknife. Since 2002, Diamondex has spent C$18.5 million on exploration at Lena West, taking 5,000 heavy mineral samples and 152,500 line-kilometers of airborne magnetics and completing 1,396 meters of diamond drilling.

GGL DIAMOND CORP. drilled for nickel in two locations in the Providence greenstone belt. The junior intersected massive to stringer pyrrhotite-pyrite mineralization in six of nine drill holes over apparent true widths of between 1 and 13 meters. It also conducted airborne geophysics and prospecting. GGL also said 114 target areas were visited and 1,165 samples were taken. Following the 2008 field exploration season, gold and VMS discoveries at the PGB property are ready for the next stage of exploration. Nickel also remains a viable target on PGB, the junior added.

NEW NADINA EXPLORATIONS (57 percent) and partners Archon Minerals (20 percent) and Chris and Jeanne Jennings (22 percent) completed 4,223 meters of drilling at their Monument Project due south of the Ekati leases, discovered four new kimberlite pipes (Bling, Trio, Gemini and Sparky) and delineated three previously known pipes. Macro-diamonds were recov-

see **NWT ROUNDUP** *page 17*

COURTESY OF NORTH AMERICAN TUNGSTEN EXPLORATION LTD

North American Tungsten Exploration Ltd.'s exploration camp at the Mactung tungsten deposit, 160 kilometers, or 99 miles, northwest of the Cantung tungsten mine in the Northwest Territories is nestled amid magestic peaks near the Yukon Territory border. An important future source of tungsten for the company, Mactung is estimated to contain an indicated resource of 33 million metric tons grading 0.88 percent tungsten concentrate with an additional 11.8 million metric tons grading 0.78 percent WO3 in the inferred resource category.

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NWT ROUNDUP

ered from Trio (16 of 106 stones from 1,015 kilograms); Bling (one of 28 stones from 38 kilograms); Gemini (eight of 147 stones from 348 kilograms); Sparky (15 of 207 stones from 412 kilograms); DD39 (three of 91 stones from 192 kilograms); and Sonja (three of 100 stones from 198 kilograms. Six micro-diamonds also were recovered from 18 kilograms in the Genie pipe. In all, New Nadina and its partners have diamond counts from nine kimberlites, and a total of 5.18 metric tons of kimberlite has so far yielded 56 diamonds larger than a 0.85-millimetre mesh. Those stones likely weigh about 1.7 carats, suggesting a sample grade of about one-third of a carat per metric ton. New **NADINA EXPLORATIONS LTD.** also said in November it would like to take a larger mini-bulk sample from Monument this spring.

SANATANA DIAMONDS INC. and **KENNECOTT CANADA EXPLORATION** discovered a new kimberlite, Dharma Uttar, on the Greenhorn Project in the northwestern NWT. The companies drilled six holes in the kimberlite. Thirteen additional magnetic anomalies were drilled using a helicopter-portable, reverse-circulation rig. The Dharma Uttar kimberlite occurs about 50 meters north of Sanatana's Dharma discovery in 2007 and the two features appear to form a kimberlite complex of dykes, sills and pipes. A 449-kilogram sample of the Dharma Uttar pipe yielded eight stones larger than 0.85 millimeters. The companies also completed ground geophysics in 2008 and Sanatana drilled 1,200 meters on 12 targets, but no kimberlites were intersected.

SNOWFIELD DEVELOPMENT CORP. and **DAVE SMITH** processed 100 metric tons in 2008 of the 500-metric-ton bulk sample of the Mud Lake kimberlite that it collected a year earlier in its Ticho Project, located on the north shore of Great Slave Lake about 55 kilometers, or 34 miles, southeast of Yellowknife. Three macro-diamonds were recovered. Two more diamonds larger than 0.4 millimeters were recovered from 154 kilograms of kimberlite core during 2008 delineation drilling on the sill extension. Snowfield and its partners also completed 2,141 meters of exploration drilling east of the Mud Lake kimberlite.

STRONGBOW EXPLORATION INC. continued to explore for nickel and copper at Thye Lake on the Nickel King property in 2008, drilling 44 holes covering 9,200 meters. Nickel King is located about 550 kilometers, or 341 miles, southeast of Yellowknife. As a result, the Main Zone has been extended by another 400 meters, bringing its total strike length to more than 2,600 meters. Notable intercepts included 12.5 meters grading 1.07 percent nickel, 0.26 percent copper and 0.041 percent cobalt and 9 meters, grading 1.16 percent nickel, 0.24 percent copper and 0.051 percent cobalt. Airborne geophysics and lake sediment sampling also were completed to the south. An NI 43-101 resource estimate for Nickel King, reported in February, included an indicated resource of 11.11 million metric tons grading 0.40 percent nickel, 0.10 copper and 0.018 cobalt, and an inferred resource of 33.06 million metric tons grading 0.36 percent nickel, 0.09 percent copper and 0.017 percent cobalt.

TYHEE DEVELOPMENT CORP. continued to advance its Yellowknife Gold Project 90 kilometers, or 66 miles, north of the city of Yellowknife in 2008. Tyhee reported measured and indicated resources for its Ormsby, Nicholas Lake and Bruce Lake zones of 14.4 million metric tons grading 3.43 grams per metric ton gold. Drilling continued in all three zones. Tyhee submitted a project description report to the Mackenzie Valley Land and Water Board outlining a combined open-pit and underground operation planned at 3,000 tpd to recover an average of 163,500 ounces of gold annually for the first seven years. Tyhee also holds several other properties stretching between the Giant Mine property and the Yellowknife project and drilled the BigSky zone north of Dwyer Lake. The 35-hole drill program extended the mineralized segment of WK shear to a strike length of 370 meters. At Clan Lake, drilling extended the Main zone by 30 meters, including intersections of 134.9 meters grading 0.81 g/t gold.

URAVAN MINERALS INC. and **CAMECO CORP.** explored for uranium in the Thelon Basin area in 2008, collecting 2,500 soil and 2,500 vegetation samples over the G, F, H, T and Edge-conductive trends of the Northern Boomerang Project. Located about 488 kilometers, or 300 miles, east of Yellowknife along the southwestern margin of the Thelon Basin, Boomerang is a joint venture in which Cameco has an option to earn 60 percent interest in the property. In September, the Mackenzie Valley Environmental Impact Review Board recommended that the Boomerang Project be rejected without an environmental impact review, citing "likely significant adverse cultural impacts on the aboriginal peoples who value the Upper Thelon River Basin." Uravan said the review board's decision effectively froze its assets and sterilized its sunk cost in the Boomerang Project.

URANIUM NORTH RESOURCES CORP. prospected and collected samples in 2008 for lithogeochemistry on its Hepburn property while exploring for uranium in the Proterozoic Hornby Bay Basin east of Great Bear Lake. The junior had collected 64 rock samples and conducted 21,000 line-kilometers of airborne geophysics on Hepburn in 2007 and completed detailed ground surveys over several targets on its Thelon UNR Property, as well as 4,250 line-kilometers of airborne geophysics surveys.

Early stage exploration projects

ALMADEN MINERALS LTD. and partners collected till samples at their ATW diamond property using sonic overburden drilling and defined a target beneath Mackay Lake. This work, plus reinterpretation of past data, resulted in plans to conduct a diamond drill program in 2009. The project is located about 29 kilometers, or 18 miles, south of the Diavik diamond mine.

AURORA RESOURCES INC. conducted soil geochemistry tests in 2008 on its Wrigley zinc-lead property located on the north end of the Camsell Range near the Mackenzie River in the Northwest Territories.

CONSOLIDATED GLOBAL DIAMOND drilled 850 meters into fine-grained pyroclastic kimberlitic rock at Courageous Lake. This material yielded micro diamonds.

EAGLE PLAINS RESOURCES and **TECK** explored for zinc and lead in the Mackenzie Mountains by conducting geochemical and ground geophysical surveys.

FREEPORT-MCMORAN COPPER AND GOLD and **KASKA MINERALS** explored for sedimentary-hosted copper deposits with silt sampling on their Keele River property west of Norman Wells.

GREAT BEAR URANIUM and **HILLCREST RESOURCES** conducted an airborne magnetics, radiometric and VLF geophysical survey over their Thelon uranium project in the Thelon Basin area.

GREAT NORTHERN MINING AND EXPLORATION followed up on till samples taken in 2007 with drilling and prospecting in 2008 for nickel and platinum group elements on claims just east of the Minto Inlier property on Victoria Island.

OLIVUT RESOURCES LTD. drilled 23 holes, 16 of which intersected kimberlite in the HOAM project areas, both near Fort Simpson and along the southern edge of Great Bear Lake. The junior discovered eight new kimberlite bodies and completed airborne magnetic and ground gravity surveys. The junior said many priority targets remain untested at HOAM and will be drilled in following programs.

SHEAR MINERALS LTD. and partners drilled 12 priority geophysical targets at Afridi Lake including the previously discovered DA1 and DA2 diamondiferous kimberlite pipes. About 175 meters of the DA1 pipe was intersected in the first drill hole. They also completed ground geophysical surveys on the property.

VIKING GOLD EXPLORATION drilled 2,689 meters over 12 holes on the Morris Lake gold property just south of the former Discovery gold mine. Ten of the 12 holes intersected the mineralized Viking Zone, extending it to a vertical depth of 210 meters.

Sources: Northwest Territories Geoscience and companies listed.

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and Silver Valley, both in the Yukon.

Early stage exploration projects

ATAC RESOURCES LTD., one of the Strategic Exploration Group, fulfilled a key part of its mission in 2008 as a mining "project generator" in Yukon Territory by making a significant gold discovery on its Rau property at the northern edge of the Tintina Gold Belt. Highlights of 2008 drill results include 46.42 meters averaging 2.92 g/t gold from hole Rau-08-16 and 78 meters grading 1.71 g/t gold from hole Rau-08-05. ATAC is considering follow-up exploration at Rau with a significant 2009 diamond drill program. In February, ATAC staked 11 more prospective properties in Yukon, bringing to 20 the number of gold projects it owns, many of which are drill ready.

COPPER RIDGE EXPLORATIONS INC. focuses on early grassroots prospects including several properties in Yukon Territory. In 2008, it advanced modest exploration programs on the Scheelite Dome gold, Borealis uranium, Lucky Joe copper-gold and Clear Lake zinc-lead and silver properties and is currently seeking partners or investors to take on further exploration. Prospector Consolidated Resources Inc. also drilled a four-hole, 500-meter program in Copper Ridge's Kalzas tungsten property in 2008 and has said it intends to complete a resource calculation in anticipation of continued drilling in 2009.

EAGLE PLAINS RESOURCES LTD., a junior with numerous properties in western Canada, joined with **BLIND CREEK RESOURCES LTD.** in 2008 to complete a 7-hole, 3,435-feet (1,047.3-meters) drill program on the silver-base metal Blende property about 65 kilometers northeast of Keno Hill in central Yukon. Assay results, announced Jan. 22, included hole BE08131 with 2.6 meters grading 12.72 percent lead and zinc and 103 g/t silver within 28.9 meters grading 5.98 percent lead and zinc and 58.2 g/t silver; and hole BE08126 with 3.4 meters grading 26.0 percent lead and zinc and 361.9 g/t silver; 14.71 percent lead and zinc and 215.7 g/t silver over 8.1 meters and 10.55 percent lead and zinc and 225.0 g/t silver over 9.9 meters.

ROSE RAGSDALE

Capstone Mining Co., formerly Sherwood Copper Corp., continues to extract copper, gold and silver concentrate from the high-grade Minto Mine in central Yukon Territory. Here trucks vehicles trundle in and out of the main pit with loads of ore bound for Minto's processing plant.

NORTHERN FREEGOLD RESOURCES LTD. is a Whitehorse-based junior that scored spectacular advancements in exploring its Freegold Mountain Project in south-central Yukon in 2008. The project, which encompasses 166 square kilometers, or 64 square miles, has more than 15 known gold occurrences, including the Nucleus Zone, one of five zones it explored in 2008. A slew of outstanding assay results have trickled in since last summer, alternately stunning and wowing the Canadian investment community. For example, Hole GRD08-073 intersected 1.23-meters (4.04 feet) averaging 206.50 g/t (6.02 oz/ton) gold within 46.96 meters (154.07 feet) grading 14.51 g/t (0.42 oz/ton) gold. The junior is still awaiting results from testing of the final 14 of 53 drill holes sample last year, and is expected to continue exploration at Freegold Mountain in 2009.

NORTHERN TIGER RESOURCES INC, completed a third consecutive season of exploration on the Sonora Gulch gold-silver-copper property (2006 and 2007 programs were conducted by its predecessor company Firestone Ventures) with 6,084 meters in 32 drill holes returning significant intercepts in the Nightmusic and Amadeus zones. In Nightmusic, Hole SG-08-27 returned a 26.6-meter intercept grading 5.0 g/t gold, 11.9 g/t silver, and 0.23 percent copper, including a 4.0-meter zone grading 25.8 g/t gold and 6.5 g/t silver; and in Amadeus, Hole SG-06-06 returned a 15.3-meter intercept grading 6.2 g/t gold and 3.0 g/t silver, including a 5.0-meter interval grading 12.2 g/t gold and 4.8 g/t silver. Soil and silt geochemical surveys also identified three significant targets and several anomalies for further exploration. Sonora Gulch is located in the heart of the Yukon's Dawson Range 40 kilometers west of the Minto mine. The junior said results of the 2008 season are currently being compiled to assist in planning the 2009 exploration program.

UNDERWORLD RESOURCES LTD., a new player in Yukon Territory, discovered two zones of gold mineralization at Golden Saddle and the Arc Zone during its 2008 drill program at its White Gold Project. The New Zealand-based junior optioned White Gold and the Black Fox property from **RYANWOOD EXPLORATION**, another well-established project generator in the Yukon. Underworld is now focused on expanding its new gold discovery.

Sources: Yukon Geological Survey and companies listed.

continued from page 7

FREEMAN

total of about 155 million ounces of silver and approximately 1 million ounces of gold and currently has more than 141 million ounces of silver reserves and resources.

UCORE URANIUM announced the discovery of additional light and heavy rare earth element mineralization at its Bokan Mountain project near Ketchikan. New assays from the Dotson zone include drill hole LM08-36 which returned 3.51 meters grading 1,797 parts per million yttrium, 2,529 ppm light rare earth elements and 1,065 ppm heavy rare earth elements and hole LM08-37 which returned 2.19 meters grading 2,505 ppm yttrium, 5,376 ppm light rare earth elements and 1,657 ppm heavy rare earth elements. In addition, rare earth element assays from the I&L zone include hole LM08-10 which returned 9.9 meters grading 993 ppm zirconium, 16,287 ppm yttrium, 1,093 ppm light rare earth elements and 8596 ppm heavy rare earth elements, hole LM08-32 which returned 6.3 meters grading 1,286 ppm zirconium, 23,490 ppm yttrium, 2,577 ppm light rare earth elements and 12,651 ppm heavy rare earth elements and hole LM08-40 which returned 4.3 meters grading 1283 ppm zirconium, 3,730 ppm yttrium, 1,296 ppm light rare earth elements and 2,368 ppm heavy rare earth elements. This rare earth element-bearing mineralization appears to be structurally continuous over 6 kilometers, or nearly 4 miles, along strike. ●

● BRITISH COLUMBIA

Junior hunkers down at Turnagain

Hard Creek Nickel aims to weather financial storm by focusing on metallurgical studies, development work at giant nickel project

By SHANE LASLEY
Mining News

In a recent message to company stakeholders, Hard Creek Nickel Corp. President Mark Jarvis, described the credit crunch, worldwide recession and collapse in commodity prices as the "perfect storm."

Though this tempest may be particularly hard on juniors exploring base metal properties, Jarvis said Hard Creek Nickel has the wherewithal and funds to prepare its giant Turnagain nickel project in northern British Columbia for smooth sailing when the markets turn around and the world once again demands nickel's stainless qualities.

He said the Vancouver B.C.-based junior began adjusting its development spending at the first signs of the storm brewing in early 2008. As a result, Hard Creek Nickel had about C$5.3 million in the bank at the end of 2008, providing the company with enough capital to continue to advance the Turnagain nickel project without raising additional funds until the end of 2010, and with a few adjustments, the junior could make the money last well into 2011.

The Turnagain project, Hard Creek Nickel's flagship property, is located about 70 kilometers east of Dease Lake. Turnagain has an estimated resource of about 580,000 metric tons of recoverable nickel, enough to produce 44 million pounds of nickel annually for 29 years.

Low cost nickel

The most recent engineering report, prepared in December 2007, estimates a base-case price of US$7.50 per pound for nickel is needed for positive economics at the Turnagain project.

Nickel, which was selling for about US$24 per pound in mid-2007, is now selling for a meager US$4.50 per pound. The dramatic price drop is attributed largely to the economic slowdown and reduced demand for stainless steel, the primary use of the base metal.

Many analysts agree with Jarvis that production cuts driven by low nickel prices coupled with increased demand spurred by economic stimulus programs in China and the United States, the top two consumers of industrial metals respectively, are keys to the recovery of nickel and other base metal prices. The infrastructure portions of the stimulus plans are expected to have the most immediate effect on nickel demand.

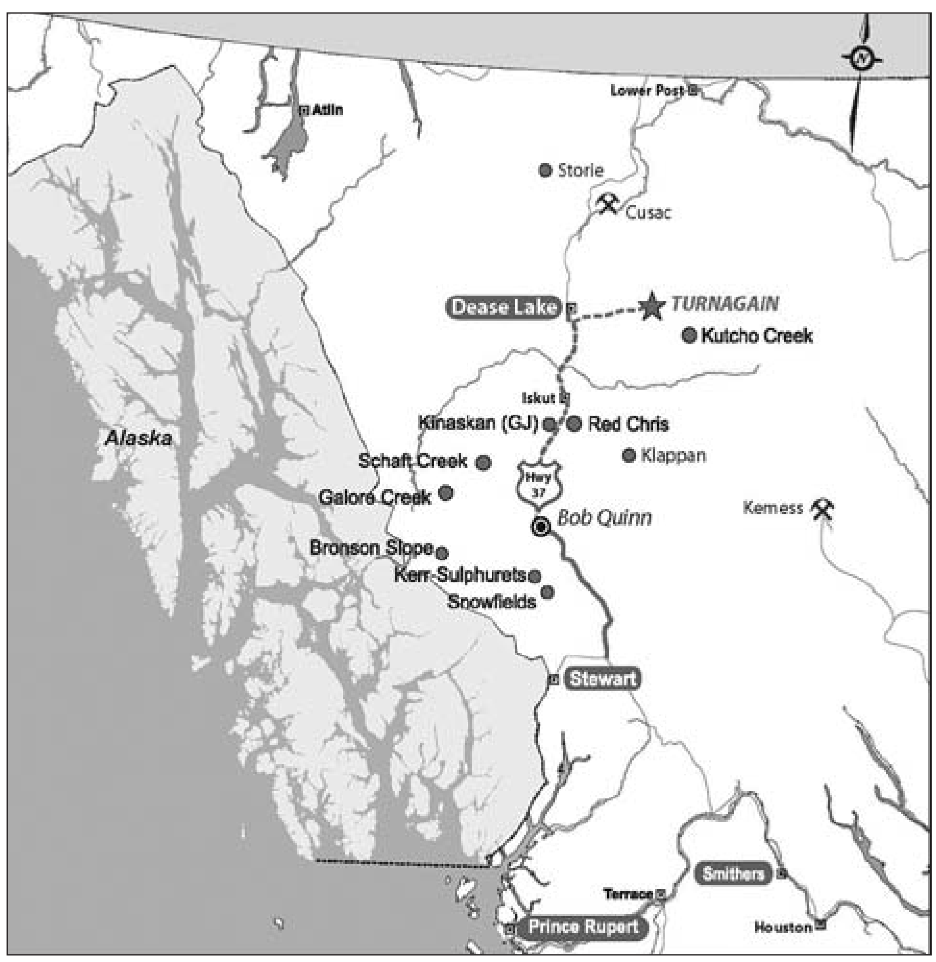
Another upside for Turnagain, according to Jarvis, is the sulfide mineralization of the nickel deposit. Jarvis said most of the large new nickel projects awaiting development are lateritic deposits, which are more difficult and expensive to process (about US$5.50 per pound) than sulfide nickel deposits like Turnagain, which average processing costs of about US$4.00 per pound.

Nickel prices need to be nearly double processing costs for mining projects to be economically feasible, he explained.

Not only does Turnagain consist of low-cost sulfide mineralization, it also boasts a .44-to-1 strip ratio. "Pretty much strip the dirt off the rock and you're in it (mineralization)," Jarvis said.

Though metal prices have fallen below the base-case price for positive economics for the project, Hard Creek Nickel plans to continue to take steps necessary to prepare the project for development when nickel prices turn again.

HARD CREEK NICKEL CORP.



Hard Creek Nickel said it will be conducting minimal field work at the Turnagain nickel project in northern British Columbia in 2009. The company will focus on metallurgical work, consultation with First Nations, continuing environmental baseline studies and other efforts important to mine planning and permitting.

No drilling in '09

Jarvis told Mining News that Hard Nickel does not plan to do any drilling at Turnagain in 2009, explaining that drilling burns up capital quickly.

"Our treasury has about C$6 million in it, but you spend that money awfully quickly when you turn a drill. We have already got more than half a billion tons in the measured, plus indicated category and another half a billion tons in the inferred category," Jarvis explained.

The company plans to use its available funds on metallurgical work, consultation with First Nations, continuing environmental baseline studies and other efforts important to mine planning and permitting.

Focused on metallurgy

In January, Hard Creek Nickel contracted Perth, Australia-based Norilsk Process Technology Pty Ltd. to determine the viability of Activox technology as the hydrometallurgical process to extract nickel and cobalt concentrate from the Turnagain deposit.

According to SGS Mineral Services, which developed the patented process, Activox is a form of pressure oxidation which operates at milder conditions of temperature and pressure than conventional pressure oxidative leaching. The milder operating conditions simplify the engineering requirements and reduce costs, yet maintain the advantages of pressure oxidation.

"Turnagain is a nickel in sulfides deposit, which means that the contained nickel can be concentrated using traditional froth flotation technology. This simple fact is the basis of our belief that the Turnagain deposit will prove competitive with lateritic nickel deposits in the long term. A major part of our budget and focus over the next year will be on optimizing mineral dressing and evaluating various low and medium temperature acid leach technologies to further upgrade the concentrate before shipping. The idea is to move farther down the cost curve and to increase our competitive advantage over the large lateritic nickel deposits," Jarvis wrote in his president's message.

First Nations negotiations

Jarvis said negotiations with First Nations in the region will be another key aspect of the company's efforts in 2009. Hard Creek Nickel plans to build on an agreement signed with the Kaska Dena in October 2008.

The parties hailed the "cornerstone agreement" as a foundation of a respectful, cooperative and progressive relationship to facilitate the development of the Turnagain project. The agreement addresses current needs in that it contains important commitments by both the Kaska Dena and Hard Creek toward environmental protection, economic opportunities and benefits, education and training.

Hard Creek is currently working toward developing a socioeconomic participation agreement with the Kaska Dena concerning development at Turnagain. This socioeconomic agreement is scheduled to be completed as part of the feasibility of the project. The explorer is also working on a memorandum of understanding with the Tahltan First Nations.

Inexpensive Highway 37 power

Hard Creek Nickel hopes to obtain inexpensive power provided by the proposed Northwest Transmission Line along Highway 37 in northern B.C. The Turnagain project is about 70 kilometers east of Dease Lake, the northern extension of the proposed 287 kilovolt power line envisioned by the B.C. government.

British Columbia Premier Gordon Campbell told attendees of the AME BC Mineral Exploration Roundup in January that potential federal government infrastructure funds could be directed to permitting and potential construction of a power line in northwest British Columbia along Highway 37.

In September, Campbell announced C$10 million for engineering, environmental assessment and Aboriginal consultation for a power line from Terrace to Bob Quinn. The Highway 37 coalition has since been working with First Nations and government agencies to extend the project review to Dease Lake.

Jarvis told Mining News that power supplied by the proposed power line will have a huge effect on the economics of a mine at Turnagain. The Hard Creek CEO said power users in B.C. currently pay about 4 Canadian cents per kilowatt-hour.

The Mining Association of British Columbia reports that a proposed 50,000-tpd operation at Turnagain would consume about 78 megawatts of power. ●

● ALASKA

Teck sets goal of maximizing Pogo output

Operator targets boosting underground production capacity to reach 2,500 tons per day at high-grade gold mine in Interior Alaska

STATE OF ALASKA

Ore from the high-grade Pogo gold mine is transported via a 2,500-foot long conveyor from the 1690 portal (where the photo was taken) to the surface mill (shown).

By SHANE LASLEY

Mining News

Teck Pogo recently briefed state and federal government agencies on its 2008 activities and provided an update of the company's plans for 2009 at the Pogo underground gold mine which it operates in Interior Alaska.

Teck Pogo operates the mine on behalf of the Pogo Joint Venture, a partnership between Sumitomo Metal Mining Co., Ltd. (51 percent), Sumitomo Corp. (9 percent) and Teck Cominco Limited (40 percent).

The company said the focus of milling in 2008 was consistency through improved operations and equipment availability. The mill processed 2,236 tons per day in 2008 for a total of 818,237 tons for the year, producing 343,296 troy ounces of gold.

In an overview of the operations, Teck explained to regulators that the Pogo Mine is a mechanical drift-and-fill underground gold mine accessed via three portals denoted by their elevation, the 1875, the 1690, and the 1525. After blasting, the ore is loaded by 3-yard and 9-yard loaders into 30-ton and 50-ton trucks and hauled to a 3,000-ton underground ore bin. The ore is then transported out of the mine on a 2,500-foot-long conveyor via the 1690 portal to a surface mill.

Underground development to maximize production

Teck informed the agencies that its underground focus in 2008 was on the development required to open up additional ore headings that are needed to reach full production rate of 2,500 tons per day. During the year, Pogo mined 882,000 tons of ore and lateral development exceeded the 14,427 feet planned for the year.

The company said efforts at the mill in 2009 will continue to focus on circuit optimization and recovery improvement. A continued focus on underground development is required to open up the additional ore headings needed to reach the operation's full production rate of 2,500 tons per day.

Teck said it is planning to mine 900,000 tons of ore and 13,500 feet of lateral development. A development contractor will remain on site throughout the year with 40-50 employees operating out of the construction camp.

Continued exploration

In 2008 Teck-Pogo carried out a surface and underground exploration drilling program at Pogo. The company said the helicopter-supported, two-rig surface drill program completed 20 holes totaling 37,449 feet. This included 18 holes (33,331 feet) drilled within the Pogo mill site lease. Crews also completed an additional 16-hole, 13,529-foot underground drill program within Pogo Mine.

In 2009 the company is planning to drill about 45 surface holes totaling 48,000 feet; this includes 35 holes of helicopter-supported drilling. The remaining 10 to 12 holes are planned to be completed from seven road-based drill sites. The underground drill plan involves about 30 holes totaling 20,000 feet.

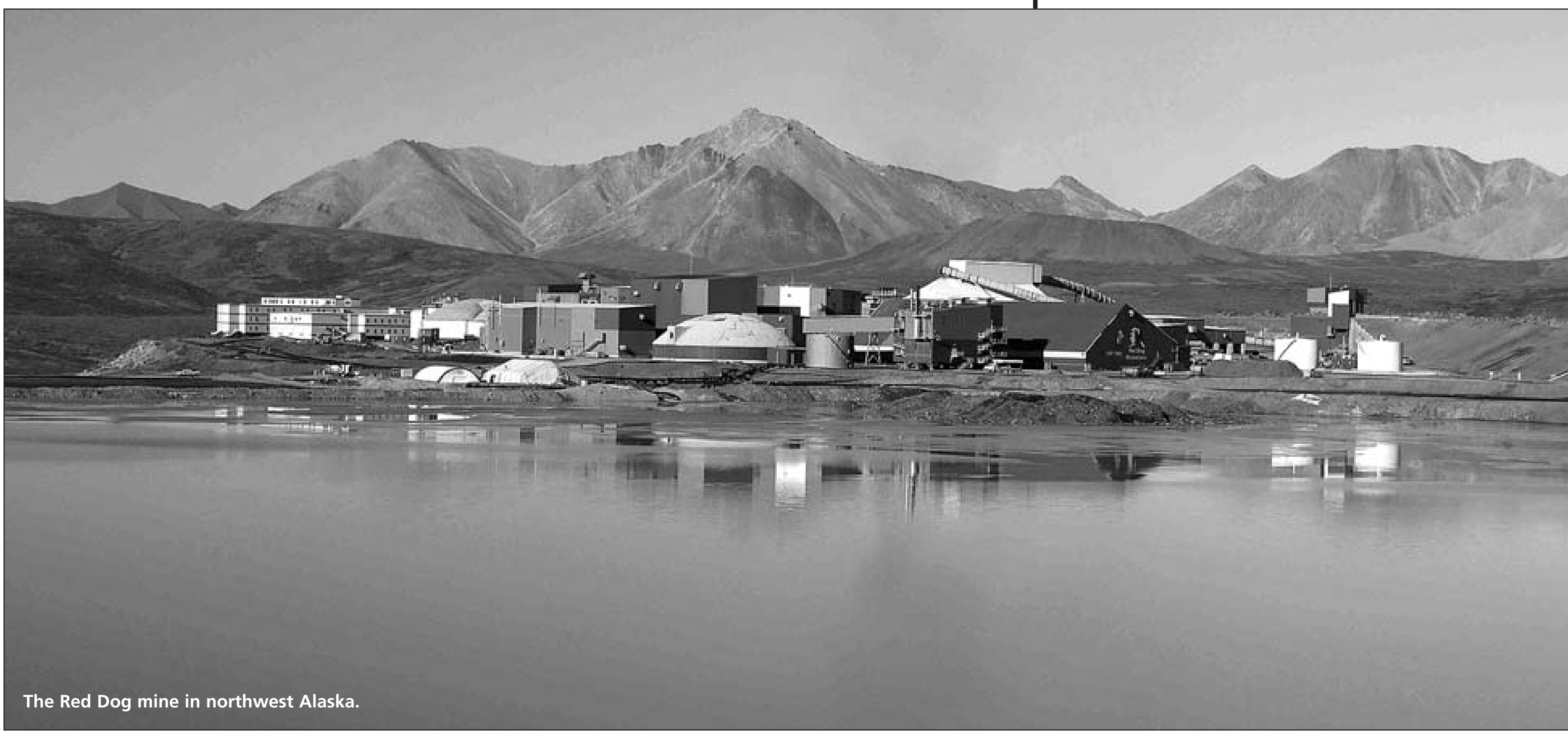
Teck said a new 85-person camp to replace temporary facilities is scheduled for construction in 2009. At year end, Teck-Pogo had 287 employees, with an additional 98 people employed by contractors in housekeeping and underground development. ●

NORTH OF 60

MINING NEWS

Companies involved in Alaska and northwestern Canada's mining industry

DIRECTORY



The Red Dog mine in northwest Alaska.

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● ALASKA

Pebble team focuses on engineering

Developers budget $59 million toward completing environmental and engineering work needed to begin permitting

By SHANE LASLEY
Mining News

The Pebble Partnership, a 50-50 venture between Northern Dynasty Minerals Ltd. and Anglo American plc, has budgeted US$59 million for starters toward completing a pre-feasibility study for the enormous copper-gold-molybdenum project in Southwest Alaska.

The partnership anticipates additional funds will be needed in 2009 but has opted to wait until engineering work advances before creating a budget for any additional funds that may be needed. Early indications are that the 2009 budget will top out at around US$70 million.

While $70 million is a robust program, it is only about half of what the partnership spent in 2008.

Pebble spokesman Mike Heatwole told Mining News that the reduced budget is due primarily to the scope of work needed at the project this year. While the 2008 program involved much more of the expensive field work needed to gather data for the engineers, in 2009 much of the scope of the work will be compiling that data for the prefeasibility study.

"The level of investment we're seeing for Pebble this year, in a period of global economic downturn, demonstrates the commitment of the Pebble Partnership to move this project forward in a timely way," Pebble CEO John Shively said. "Our work scope for the year really reflects the project's evolution from exploration to engineering and project permitting."

The pre-feasibility study, once completed, will outline the size and scope of a potential mine at Pebble and will be the basis for permitting the project.

Minimal drilling in '09

One reason the 2009 budget shrank from last year's amount is a reduction in planned drilling during the upcoming season. Heatwole said the resource drilling program will be minimal with only a few holes being drilled in the deposit this year.

As engineers develop a mine plan, drills will be moved into areas of potential development to collect geotechnical data needed to complete development plans.


ERIC LIDJI

As engineers develop a mine plan for the Pebble project, drills will be moved into areas of potential development to collect geotechnical data needed to complete development plans.

Heatwole said the current phase of engineering work will determine where many of these geotechnical holes will need to be drilled.

Building an environmental baseline document

The primary focus of the environmental program for the project will be on drafting an environmental baseline document, which will be the basis of permitting for the project.

An extensive amount of environmental data was collected in 2008. Environmental consultants are pouring over data, and once it is analyzed, it will be included in the baseline document. Heatwole said work on the baseline document is expected to continue into 2010.

The company will continue data collection on hydrology, water quality and listed species in Cook Inlet.

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—Pebble CEO John Shively

Training a local work force

The Pebble Partnership is training many of its former drill hands to help with environmental monitoring in an effort to keep its commitment to local hire. Heatwole said the company is engaging in a more robust local hire program, and employing drill helpers in other capacities as the project moves from exploration to feasibility studies.

The partners have been working with the State of Alaska and the University of Alaska to sponsor individuals who live near Pebble to participate in a core driller training program.

Heatwole said Pebble Partnership has selected eight candidates to participate in the program.

The developer also plans to expand its scholarship program to help ensure availability of a qualified work force to meet long term needs of the project. ●