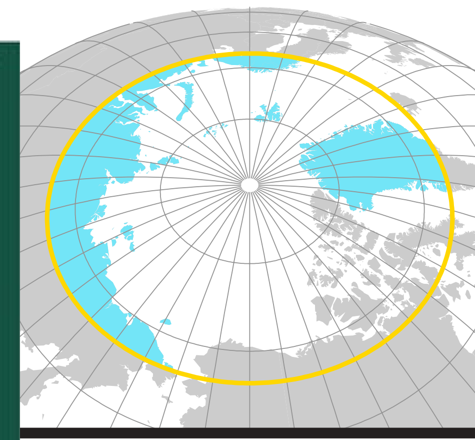
Petroleum news



page 11 Arctic Neighbors: Russia to select developers, BP recalls 60 specialists

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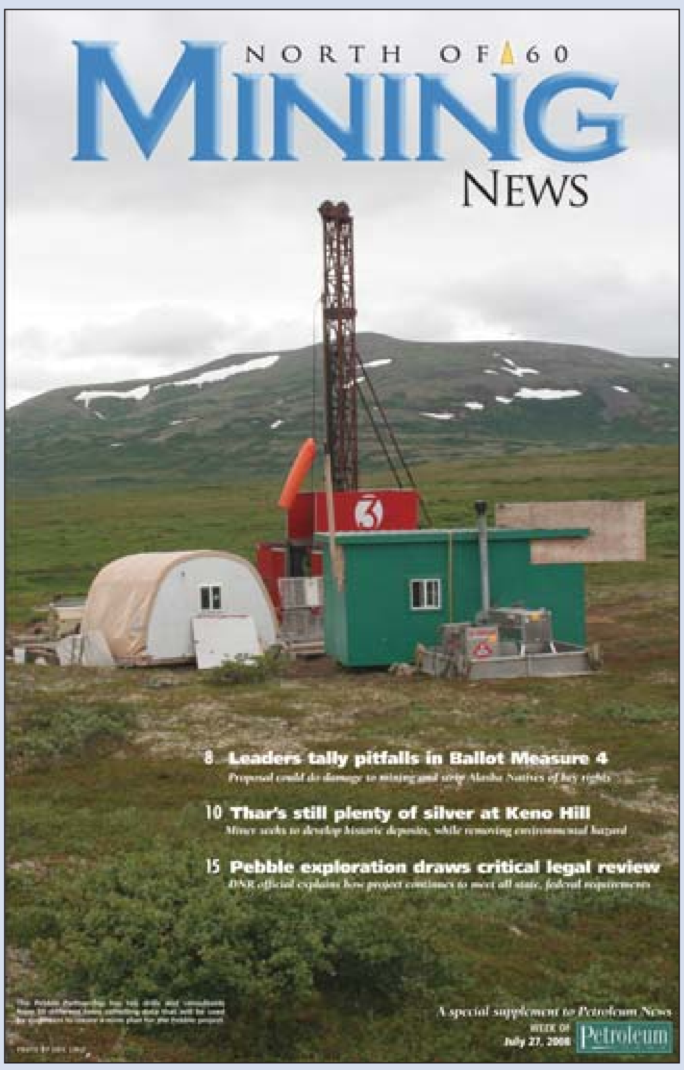
July issue of Mining News inside



Williams seeks rehearing; says FERC overlooked inequitable dismantlement fees collected from shippers by TAPS owners

Williams Alaska Petroleum Inc. is asking the Federal Energy Regulatory Commission to take another look at one aspect of its June 19 decision overturning interstate rates charged on the Trans-Alaska Pipeline System in 2005 and 2006.

The commission upheld a FERC administrative law judge's May 17, 2007, ruling that the tariffs charged shippers on the trans-Alaska oil pipeline "were not just and reasonable" and ordered limited refunds to shippers who had overpaid.

Williams, a shipper on the pipeline for 26 years, formerly owned a major Alaska refinery in North Pole. In 2004, the company sold the refinery to Flint Hills Resources Alaska LLC, another party in the tariffs case.

Williams filed a request for rehearing with the commission July 21, asking the five-member panel to reconsider its rejection of a request for a refund of one-half of the fees, plus inter-

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B R E A K I N G   N E W S

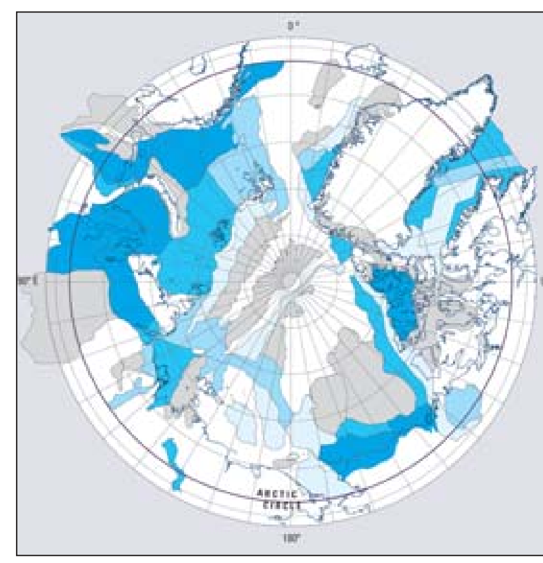
EXPLORATION & PRODUCTION

90 billion barrels

USGS estimates 90 billion barrels of oil and 1,670 tcf of gas in the Arctic

By ALAN BAILEY

Petroleum News



On July 23 the U.S. Geological Survey released the long-awaited results of its appraisal of potential Arctic oil and gas resources.

"The area north of the Arctic Circle has an estimated 90 billion barrels of undiscovered, technically recoverable oil, 1,670 trillion cubic feet of technically recoverable natural gas and 44 million barrels of technically recoverable natural gas liquids in 25 geologically defined areas thought to have potential for petroleum," USGS said in announcing the completion of its assessment. "…

see **90 BILLION** *page 22*

NATURAL GAS

TC Alaska passes House

Go with highway line, but don't forget LNG, legislators say in letter of intent

By KRISTEN NELSON

Petroleum News

The Alaska House has given the administration somewhat schizophrenic support for granting an AGIA license to TransCanada Alaska: The House voted to approve the license 24-16 on July 22, but on reconsideration July 23 the immediate effective date did not pass — and the House then voted unanimously to approve a letter of intent to accompany the bill, urging the executive branch to continue "to aid project proposals in addition to just a TransCanada pipeline into Canada."

"It is the intent of the Legislature that an AGIA license will enable and encourage an All Alaska gas line/liquefied natural gas (LNG) project within the TransCanada project," the letter said.

Since the House voted 39-1 to approve AGIA last year, the BP-ConocoPhillips Denali pipeline project has been announced, providing an alternative to an AGIA-licensed project.

Probably more important, significant increases in the price of oil and natural gas, while benefitting state government, have driven up fuel and gasoline prices paid by Alaskans, producing a call for in-state access to the state's natural gas.

The governor responded to that call by proposing an Enstar Natural Gas Co.-Alaska Natural Gas Development Authority small-diameter gas

see **AGIA LICENSE** *page 20*

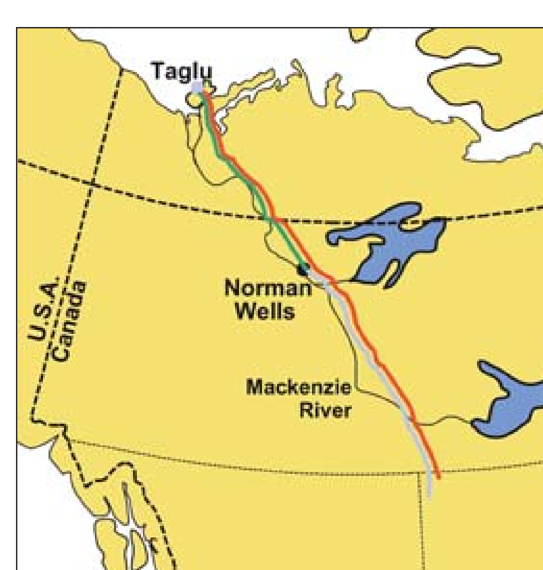
GOVERNMENT

Unshackling the Mackenzie

McCrank offers blueprint to untangle NWT's cumbersome regulatory regime

By GARY PARK

For Petroleum News



Canada's northern territories are a step closer to a simpler system to regulate development of their minerals, forestry and oil and natural gas.

A report to federal Indian Affairs and Northern Development Minister Chuck Strahl makes 22 recommendations, 18 of them directed specifically at the Northwest Territories, to overhaul a cumbersome regime that has been blamed for putting the Mackenzie Gas Project at risk.

NWT Premier Floyd Roland welcomed the proposals as "long overdue," describing the report by Neil McCrank, former chairman of the Alberta

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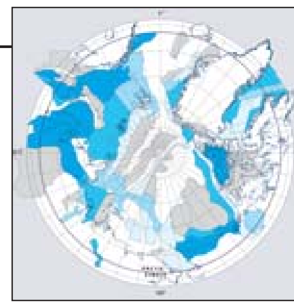

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PIPELINES & DOWNSTREAM

LAND & LEASING

Final finding out for ANS sales

Oil and gas leasing continues with 2nd round of areawide sales, annual over most prospective areas

By KRISTEN NELSON
Petroleum News

Finding oil and gas on Alaska's North Slope isn't getting any easier. The expectation is that the big oil and gas fields have been found, so remaining onshore acreage isn't likely to yield another Prudhoe Bay or Kuparuk River field, but smaller more economically challenging fields.

While the state can't change the geology, it took steps more than 10 years ago to make the oil and gas leasing step easier by offering regular areawide lease sales — sales covering broad areas, like the North Slope.

Previously the Alaska Department of Natural Resources Division of Oil and Gas offered irregular lease sales in response to industry interest in an area, complicating the process of assembling acreage over an exploration prospect.

That changed with the establishment of areawide leasing, facilitated by 1996 passage of legislation establishing that a best interest finding for a lease sale would be valid for 10 years, instead of only five. Areawide sales began on the North Slope; other areawide sale areas followed — Cook Inlet, the Beaufort Sea, the North Slope Foothills and the Alaska Peninsula.

Once a finding is written, the division can hold sales in an area for 10 years without doing a new finding. The department solicits information from the public prior to each sale and makes a determination as to whether substantial new information has become available, requiring a supplement to the most recent finding.

State began holding North Slope areawide lease sales in 1998

The change seems to have worked well for the state on the North Slope. The state completed a North Slope best interest finding in March 1998 and began holding annual areawide North Slope oil and gas lease sales that year.

In the 10 years preceding the beginning of areawide sales the state held 13 North Slope oil and gas lease sales, some quite small, bringing in $59.7 million and leasing some 1.79 million acres.

In the 10 years since, the state has held 10 areawide sales, bringing in $102.3 million and resulting in the leasing of 2.99 million acres. While increasing oil prices certainly played a role, there were big sales in the late 1990s when bidders were probably responding to increased access to acreage. The upward surge in oil prices is relatively recent, with the average price of Alaska North Slope crude oil only crossing the $30-a-barrel mark in 2004, a climb in prices which has continued with 2007 ANS prices on the West Coast averaging $71.76. The ANS West Coast price on July 23 was $127.25 a barrel, as prices come down from record-breaking highs above $145 a barrel.

Final finding out

The state has completed work on a new best interest finding, addressing North Slope areawide sales from 2008 to 2017, covering the lease sale area of some 5.1 million acres.

The final finding includes the division's response to comments it received after the preliminary best interest finding was issued in April 2007.

The Alaska Eskimo Whaling Commission requested inclusion of effects of vessel traffic on bowhead whales, noting that effects occur not just from offshore development but also from vessel traffic in support of onshore development.

The division added information on the effects of vessel traffic on bowhead whales to the finding.

The North Slope Borough's comments included a request for consistency in mitigation measures across state and federal leases, and requested that the state conduct a thorough analysis of its mitigation measures and the U.S. Department of the Interior Bureau of Land Management's mitigation measures for the National Petroleum Reserve-Alaska and align those mitigation measures where possible without sacrificing any protections — and adopt the more stringent of the mitigation measures where alignment is not possible.

The division said it was willing to consider alignment of state and federal mitigation measures but believes that the North Slope Borough, "as the requesting agency, should conduct the analysis and present specific proposals to BLM and the division for consideration."

The division said it was willing to consider alignment of state and federal mitigation measures but believes that the North Slope Borough, "as the requesting agency, should conduct the analysis and present specific proposals to BLM and the division for consideration."

Borough has health concerns

The borough also wanted the best interest finding to address a number of public health issues, including diabetes, cancer, alcohol abuse, drug abuse, suicide, domestic violence and injury rates.

"Research suggests that social pathology and other health problems may be related to the rapid cultural changes that have occurred in rural Alaska," the division said. "However, it is difficult to attribute these changes directly to oil and gas development as they also occur in many rural parts of Alaska not exposed to oil and gas development."

The borough also asked for a number of lessee-funded health studies to mitigate potential health impacts. The division said the state is developing a coordinated policy for addressing health impacts of large resource extraction projects, and said the borough received a $1.67 million grant from NPR-A impact funds to do a health impact assessment.

Until that assessment and the state's interagency process have been completed, it would be "premature to develop and impose mitigation measures," and once the state and borough have completed their work, impacts can be considered in the call for substantial new information issued each year, the division said. ●

Substantial new info for Beaufort sale

Alaska Commissioner of Natural Resources Tom Irwin said in a July 15 decision that the U.S. Fish and Wildlife Service May 15 final rule listing the polar bear as a threatened species under the Endangered Species Act constitutes substantial new information justifying a supplement to the most recent best interest finding for the Beaufort Sea areawide oil and gas lease sale.

"However, no new mitigation measure or lessee advisories are proposed," Irwin said, as existing mitigation measures and lessee advisories in the Beaufort Sea areawide 1999 oil and gas lease sale final finding "adequately address polar bears."

The supplement to the Beaufort Sea 1999 areawide finding notes the listing of the polar bear as a threatened species based on the loss of sea ice.

DNR notes that the State of Alaska has challenged the listing, maintaining that there is insufficient evidence to support a listing of the polar bear as threatened for any reason at this time. DNR has also requested information for a 2009 10-year rewrite of the Beaufort Sea areawide best interest finding.

ConocoPhillips Alaska Inc. told DNR in its comments that it supports regularly scheduled and predictable lease sales and recommended no decrease in the surface extent of sales.

The North Slope Borough asked that DNR closely consult with the borough as it develops the new best interest finding and also requested that DNR permanently remove all areas currently deferred from leasing.

—KRISTEN NELSON

GOVERNMENT

State puts modeling projects out to bid

The Alaska Department of Natural Resources has begun looking for companies to conduct modeling projects on North Slope oil and gas reservoirs.

The state is looking to spend $3 million over the next three years on up to two "term contracts," which set up a working relationship between the state and a contractor, but do not actually authorize any work up front.

The state recently completed a term contract for similar work issued in 2006.

During the regular legislative session earlier this year, state lawmakers approved a $4 million allocation for evaluating the best use of North Slope natural gas resources. The goal is to put as much gas into a pipeline as possible while still keeping gas for oil recovery.

The scope of the new contract covers that modeling effort as well as a range of other possible jobs related to geologic and engineering data.

The contract went out for bid on July 14 and will close on Aug. 5. The contract is set to begin on Aug. 25 and run through the end of June 2011.

—ERIC LIDJI

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● GOVERNMENT

Murkowski wants treaty ratified

U.S. needs to become a party to the international law of the sea treaty to stake Arctic offshore land claims, the senator says

By ALAN BAILEY
Petroleum News

U.S. Sen. Lisa Murkowski, R-Alaska, has weighed in on the debate about U.S. ratification of the international Convention on the Law of the Sea treaty.

"I believe it is very important for the United States to be a party to this treaty and be a player in the process, rather than an outsider hoping our interests are not damaged," Murkowski told a forum called "U.S. Strategy in the Arctic: Energy, Security and the Geopolitics of the High North" on July 23. The forum was sponsored by the Center for Strategic and International Studies, a public policy think tank.

Murkowski said that without treaty ratification the United States could lose out on claims for vast areas of the offshore Arctic.

"If the U.S. were to become a party to the treaty, we could lay claim to an area in the Arctic of about 450,000 square kilometers, or approximately the size of California," Murkowski said. "If we do not become a party to the treaty, our opportunity to make this claim and have the international community respect it diminishes considerably, as does our ability to prevent claims like Russia's from coming to fruition."

The Convention on the Law of the Sea consists of an international treaty establishing rules for all aspects of ocean use, including the rights of passage in or over ocean waters; the territorial sovereignty of coastal nations; the geographical limits of territorial seas and economic exclusion zones; and the environmental protection of the oceans. Provisions in the convention allow for the possible extension of a coastal nation's legally recognized continental shelf beyond the 200-mile limit of that nation's economic exclusion zone. On the continental shelf the nation would maintain sovereign rights over resource development, including oil and gas development. Consequently countries such as Russia and Canada that have ratified the convention have been scrambling to claim extended areas of continental shelf.

156 nations

Although 156 nations and entities such as the European Union have ratified the convention, the United States has not yet done so. U.S. critics of the treaty have argued that the convention undermines U.S. sovereignty and that customary international law already protects U.S. interests. Some have also expressed concern about the potential for the terms of the convention to compromise U.S. security interests.

President Bush and Sen. Ted Stevens have both expressed support for ratification.

Murkowski pointed out that Canada is planning an Arctic military training facility on the Northwest Passage and that Russia has planted a flag on the seabed at the North Pole. Russia is also building an offshore oil rig that can withstand extreme cold and pack ice, she said.

The United States, Canada, Denmark, Norway and Russia have adopted a declaration of cooperation in the Arctic that supports the Law of the Sea treaty as a legal framework, Murkowski said.

"The Arctic is truly the last frontier," Murkowski said. "It is one of the few places on earth where all the borders aren't drawn on the map yet and some of those that are, are disputed. While the anticipated claims do overlap in many cases, there exists an opportunity to address these claims and many of the other key issues in the Arctic, cooperatively and multilaterally." ●

FINANCE & ECONOMY

Denali names Muftuoglu to finance slot

MEHMET MUFTUOGLU

Denali — The Alaska Gas Pipeline LLC, said July 18 that Mehmet Muftuoglu has been named as chief financial officer.

He comes to Denali from ConocoPhillips' London office, where he managed the company's treasury services for Europe, Africa, Middle East and Former Soviet Union countries.

Before transferring to London in 2004 he worked in ConocoPhillips' treasury group in Houston, where among other things, he provided advice on issues related to the loan guarantees provided by the U.S. Congress for the Alaska gas pipeline.

Muftuoglu has a Bachelor of Science in Management and Operations Research from the Middle East Technical University in Ankara, Turkey, and an MBA from The Wharton School at the University of Pennsylvania.

—PETROLEUM NEWS

● FINANCE & ECONOMY

Oil prices boost 2Q profits for Conoco

Year-over-year net income jumps 31 percent despite declining production and rising taxes; natural gas prices fell during quarter

By ERIC LIDJI

Petroleum News

ConocoPhillips earned $700 million in Alaska in the second quarter of the year, a nearly 31 percent increase over the second quarter of 2007, the company announced on July 23.

The numbers follow a familiar story for producers in Alaska: higher commodities prices lifting profits year-over-year, despite declining production and the impact of higher taxes.

Companywide, ConocoPhillips earned $5.4 billion in net income in the second quarter.

So far this year, the company has earned $1.3 billion from its operations in Alaska.

Companywide, ConocoPhillips paid $264 million more in production taxes during the second quarter of the year than it did during the first quarter this year.

Chairman and Chief Executive Officer Jim Mulva attributed the increase mostly to a revised production tax enacted by state lawmakers in Alaska this past fall. The revision contains progressive elements that increase the tax rate with the price of oil.

Chevron, BP, ExxonMobil and Marathon all plan to release second-quarter figures later this month, but none of those companies typically break out Alaska-specific figures.

Slight dips in production

Following a larger trend within the state, ConocoPhillips continued to see declining production from both its oil and its natural gas operations in Alaska.

ConocoPhillips produced 244,000 barrels of crude oil in Alaska on average each day between April and June, down from the 254,000 bpd produced during the first quarter of the year, a 4 percent decline.

The company produced 267,000 bpd during the second quarter of last year.

JIM MULVA

Total oil production in the state averaged 710,000 bpd between April and June, down 5.3 percent from the first three months of the year.

However, that 4 percent production decline between the first and second quarter of the year was offset by a nearly 25 percent increase in the nominal price of oil.

The delivered price of Alaska North Slope crude oil averaged $118.88 over the second quarter, up from $95.47 in the first quarter and $63.26 in the second quarter of last year.

Natural gas production also dipped in the second quarter to 98 million cubic feet per day, down 2 percent from both the first quarter of this year and the second quarter of last year.

The company attributed the production declines to planned and unplanned maintenance activities, mainly in the United Kingdom, Norway, Alaska and Canada.

Gas prices on the decline

Although oil prices in Alaska rose significantly between the first and second quarter, local natural gas prices fell. Alaska North Slope crude oil is traded on world markets, whereas Cook Inlet natural gas is a more isolated market.

ConocoPhillips sold the natural gas it produced in Alaska for an average of $3.81 per thousand cubic feet in the second quarter of the year, down from the average price of $4.31 per mcf realized over the first quarter of the year. Across the Lower 48, ConocoPhillips saw an average sales price of $9.74 per mcf over the second quarter.

During the second quarter, ConocoPhillips sold 72 million cubic feet of natural gas per day from its liquefied natural gas facility in Kenai, on par with the second quarter of 2007 and up from the 63 million cubic feet sold daily during the first quarter of the year.

Although ConocoPhillips sold the same amount of LNG from the facility year-over-year, the company earned more off the product this year with an average sales price of $71.5 per mcf, up from an average price of $5.86 during the second quarter of 2007.

Exploration costs down

ConocoPhillips spent $25 million on exploration in Alaska in the second quarter of the year, down from the $32 million spent in the state in the second quarter of last year, but up from the $11 million spent in the first quarter of this year.

Depletion, depreciation and amortization costs in Alaska totaled $163 million in the second quarter of the year, down from $149 million in the first quarter and $167 million in the second quarter of last year.

No pipeline or Chukchi news

Holding firm on previous statements, Mulva said ConocoPhillips would continue with its plans to build a natural gas pipeline from the North Slope to Canada, regardless of the whether state lawmakers award a license for the project to TransCanada.

The state House recently approved the license and the vote is now before the Senate.

Mulva also said the company likely would not have any "substantive" news about drilling planning in the Chukchi Sea before next year. ●

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

F&E

Barrick tackles energy costs

Now that Barrick Gold has pulled off what it describes as an "innovative response to energy cost challenges facing the mining industry," the question being asked is whether others will follow suit.

The world's top gold producer won a bidding contest for Cadence Energy, formerly Kereco Energy, after Daylight Resources Trust abandoned its attempt to acquire the junior oil and gas producer.

Barrick has offered C$410 million cash at C$6.75 per share, while Daylight offered 0.47 of a trust unit or C$5.32 in cash for each Cadence share in a deal valued at about C$300 million.

Daylight and Cadence each have production in the Sturgeon Lake light oil pool in northern Alberta, with Cadence owning and operating the gathering facilities they share.

Cadence Chief Executive Officer Grant Fagerheim said he would not be surprised if Barrick now bids for Daylight's adjacent assets, but said he is not aware of any such discussions.

Move to offset energy needs

Cadence's production of 3,600 barrels of oil equivalent per day (70 percent high-netback light oil and natural gas liquids), with proved plus probable reserves at 18.2 million barrels, will offset about 25 percent of Barrick's energy needs, allowing it to hedge that consumption at $20 per barrel.

Analysts say the deal is the first clear move in the mining industry to reduce its exposure to high oil prices by taking control of the problem, although some have expressed concern about the ability of a mining company to manage an oil producer.

Barrick had previously taken other steps to control rising costs by investing $40 million in wind farms in Chile and signing a $200 million agreement with Yokohama Rubber to secure supply of oversized truck tires, whose prices have soared worldwide.

But so far other mining companies are keeping their intentions under wraps. Goldcorp, the world's second largest gold miner, said only that it is always on the lookout for ways to manage its costs.

—GARY PARK

● NATURAL GAS

U.S. gas line capacity rising

EIA report shows 15 bcf in new capacity added to grid in '07, mostly Rockies, Texas production

By ERIC LIDJI

Petroleum News

A pack of new expansion and construction projects completed last year added more capacity to the domestic natural gas pipeline grid than in any year in at least a decade, according to a new government report.

The 50 interstate projects brought into service in 2007 added nearly 15 billion cubic feet of daily capacity to the natural gas pipeline system covering the United States, according to a report from the Energy Information Administration, the statistical arm of the U.S. Department of Energy.

"The amount of pipeline construction activity we're seeing now and going forward for the next couple of years is really exceptional," said Damien Gaul with the EIA.

The recent upswing can be traced to a near doubling of natural gas production in Texas and the Rocky Mountain states between 1998 and 2006, even as production decreased nationally by 1 percent during that same time, according to the report.

Several of the new pipeline projects completed last year connected to new liquefied natural gas import terminals built in the Gulf of Mexico to handle overseas supplies coming to the United States by tanker.

Grid helps disperse supply

By detailing new and proposed additions to the Lower 48 pipeline grid, the report profiles the market that a large gas pipeline headed south from the North Slope of Alaska would hope to enter, a market where pipeline companies are rapidly responding to demand.

Whereas recent pipeline construction connected to new industrial facilities, much of the construction this past year connected to new gas fields under development, Gaul said.

The increase in pipeline capacity last year follows a trend going back to 2005, when the domestic grid saw year-over-year growth for the first time since 2002, a powerhouse year with nearly 13 bcf of new daily capacity added along more than 3,500 miles of pipeline.

The interstate pipeline grid currently moves more than 155 bcf of gas along 212,000 miles of pipe every day, creating what the report describes as "nearly a continental phenomenon linking most production regions, including those in Canada, to multiple market centers and associated consuming regions."

Those interconnections promote competition among different basins and allow producers to disperse large gas fields, like those on the North Slope, across the country, rather than having to flood a single nearby region with new supply, according to Gaul.

"If you didn't have a grid, it would be very difficult to find a market to take all that gas," Gaul said.

The new capacity added last year is highly regional.

The southwest and Gulf Coast region covering Texas and its four neighboring states added 7 bcf of natural gas capacity last year, the largest single year increase in at least a decade for the area.

Meanwhile, the six-state Midwest region around Chicago and the Great Lakes saw only 460 million cubic feet of new gas capacity last year, the smallest annual increase for that region since reporting began in 1998. States in the southeast saw similar slow growth.

The increase in pipeline capacity last year follows a trend going back to 2005, when the domestic grid saw year-over-year growth for the first time since 2002, a powerhouse year with nearly 13 bcf of new daily capacity added along more than 3,500 miles of pipeline.

Scope of Alaska pipelines

The report also highlights the scope and scale of several proposed projects in Alaska, not only the two competing large natural gas pipelines, but also a smaller, in-state pipeline.

As has been repeatedly claimed, either of the two proposed mainlines for connecting the North Slope to markets in the Lower 48 would most likely become the largest private construction project in North American history.

A 1,700-mile pipeline from the North Slope to Alberta would be as long as all of the new domestic pipelines brought online last year.

And at $26 billion, the low end of a broad cost range topping out around $41 billion, the Alaska gas pipeline would cost roughly as much to build as the 200 interstate pipeline projects currently in planning stages for the next three years.

But those projects, some of which are mutually exclusive, would bring an additional 103 bcf of gas online every day through 10,100 miles of pipe. By comparison, a large Alaska gas pipeline headed through Canada would carry 4.5 bcf in daily capacity, the same size as the tenth largest gas project brought online in 2007.

A big Alaska gas pipeline into Canada has long been expected to dwarf industry standards for cost, but even a relatively smaller in-state gas pipeline would rank among the largest capital projects in the industry.

At $3.3 billion or more, an 800-mile in-state gas pipeline proposed by the Enstar Natural Gas Co. and the Alaska Natural Gas Development Authority would qualify as one of the larger capital projects in the industry. The combined cost of all 50 interstate gas pipeline projects built in the Lower 48 last year totaled around $4.3 billion.

New phase of Rockies Express

The longest and most expensive of those projects, the second phase of the Rockies Express Pipeline in Wyoming, carries 750 million cubic feet of gas each day through 192 miles of pipeline at a cost of around $560 million.

As the largest pipeline built in the United States in more than 20 years, the Rockies Express will eventually run 1.8 bcf a day from Colorado to locations as far east as Pennsylvania, connecting with more than 25 existing pipelines along the way.

By establishing a new infrastructure corridor across the country, the Rockies Express provides access to new markets for producers in Colorado and Wyoming who had previously been forced to sell regionally or shut-in production, Gaul said. ●

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

● LAND & LEASING

Northeast B.C. soars to new heights

Shell's Duvernay bid, record land sales fuel speculation Montney prospects extend beyond current zones; focus shifts to gas volume

By GARY PARK
For Petroleum News

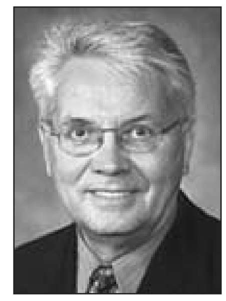
How high is up? If you want an answer to that eternal mystery keep an eye on northeastern British Columbia, where they are redefining on an almost daily basis what constitutes a red-hot resource play.

When the word "phenomenal" passes the lips of a politician, eyes tend to glaze over.

Only this time, B.C. Energy Minister Richard Neufeld has it right when he talks about the money being poured into his province, without much evidence beyond a couple of significant discoveries that the tight sands and shale gas plays of Montney and Horn River will be the bonanza that is obviously anticipated.

Two days after Royal Dutch Shell's mind-boggling C$5.9 billion takeover offer for mid-sized producer Duvernay Oil, the B.C. government disclosed another record-breaking oil and gas lease sale, which pumped another C$610 million into the provincial treasury.

That raises the year-to-date tally to C$1.58 billion, easily eclipsing the previous 12-month high of C$1.01 billion last year, and further widening the gap on Alberta, which has raised C$638 million as it struggles to overcome the negative fallout to its royalty hikes.


RICHARD NEUFELD

Neufeld said his government was "pretty pumped … about what just took place," as he weighed a host of new benchmarks, with the average price for a drilling license climbing above C$33,000 per hectare (more than C$8,000 above the May record), while lease parcels averaged almost C$25,000.

He said those investments have "never happened in North America that we are aware of. … Companies don't put up that kind of money unless they plan to do something with it."

What their intentions are won't be known until they start to reveal their identities, but that could take even more of B.C's monthly blind auctions as companies, in the words of Stephen Calderwood, a Raymond James analyst, "continue trying to capture land until there is no more."

Some close to action startled

For now, even some of those closest to the action are becoming startled by the trends.

John Dielwart, the plain-spoken chief executive officer of ARC Resources, which has one of the strongest land positions in the Montney area, said he is "very, very" surprised by the rate that land prices are rising, despite the "very prospective" nature of the region and the high degree of geologic interest it has attracted.

"Now what we all have to do is stop talking about the potential, drill a bunch of wells and start talking about the reality of what we are finding," he said.

ARC has tagged C$200 million for 2008 to delineate its Montney land position and design a new processing plant to handle 60 million cubic feet per day by 2011.

And Dielwart has estimated the trust can recover up

see **NORTHEAST B.C.** page 8

● GOVERNMENT

ISER: Different impacts for different folks

As Legislature begins consideration of $1,200 rebate, study estimates it wouldn't cover energy increases for majority of Alaskans

By KRISTEN NELSON
Petroleum News

As the Alaska Legislature began consideration of a proposal by Gov. Sarah Palin to provide a $1,200 one-time energy rebate to Alaskans, the Institute of Social and Economic Research at the University of Alaska Anchorage published a report looking at whether the proposed payments would cover increases in household energy costs.

What they found is that the impact would be regional: In Anchorage the proposed payments would cover recent increases in home-energy costs for almost all households because natural gas prices haven't increased as much as diesel.

But for about half of remote rural households, "increased home-energy costs since 2006 outweigh the proposed payments."

The authors of the report, Ben Saylor and Steve Colt, note that the numbers are only estimates because there isn't much current information on types and amounts of energy used by Alaska households.

Their estimates are based on an average $3,300 energy rebate per household and household data from the 2000 U.S. census, allowing an estimate of costs by region and income.

The bill provides that those eligible for the 2008 Permanent Fund Dividend would be eligible for the energy rebate, the House Community and Regional Affairs Committee was told by administration officials July 15.

Some 600,000 Alaskans have already qualified for the PFD and if the

On the Web

See ISER report at:
http://iser.uaa.alaska.edu/Publications/webnote/proposedenergypayment.pdf

Legislature approves the bill distribution to those individuals would be in August. Another 20,000 are expected to qualify for the PFD, and checks would be distributed to those as they qualified.

In addition, some 45,000 individuals are expected to qualify if resident in the state for six months beginning April 1. An application would be available in October.

Energy costs up 180%

With no data on differences in gasoline consumption by region, the authors estimated increased gasoline (and other motor fuel) costs at the statewide level, assuming households buy some 1,000 gallons per year.

Estimated median annual energy costs are:

- $1,800 in 2000 for home energy; $2,853 with gasoline included;
- $2,464 in 2006 for home energy; $4,652 with gasoline included; and
- $3,504 in 2008 for home energy; $7,954 with gasoline included.

The figures are not adjusted for inflation.

"Alaska households overall are paying about 70 percent more for home-energy and gasoline now than in 2006 and 180 percent more than in 2000," the authors said, based on the same energy consumption as in 2000. They acknowledge that

> *"Alaska households overall are paying about 70 percent more for home-energy and gasoline now than in 2006 and 180 percent more than in 2000."* **—Ben Saylor and Steve Colt in ISER report**

many households probably use less energy now than in 2000 because of the increased cost, but said current data is not available.

The proposed state payments would cover the increases since 2006 in home energy costs and gasoline for some 38 percent of Alaska households, but would be less than the increase for 62 percent.

Anchorage has access to natural gas, as do about half the residents of the Kenai Peninsula and the Matanuska-Susitna boroughs, and natural gas prices have not risen as far as diesel prices.

Elsewhere in Alaska most households rely on diesel and home energy costs vary by the severity of the winters, the report said. Juneau and some other places use diesel for heating but have hydro-powered electricity, reducing costs somewhat.

Results by region

Because Anchorage has natural gas, which has increased in cost less than diesel, the proposed payments would cover recent increases in home energy costs for almost all Anchorage households — not including increases in gasoline.

"For about half the remote rural households at all income levels, increased home energy costs since 2006 outweigh the proposed payments," the study found.

Elsewhere in the state, the payments would cover increased home energy costs, not including gasoline, for 70 to 90 percent of households. The report says that while it uses 2007 prices for natural gas and diesel, and those prices have increased, the point remains that diesel in remote Alaska communities is about four times more expensive than natural gas in Anchorage, on an energy-equivalent basis.

One hundred gallons of fuel oil in Bethel cost $459 in 2007; the equivalent energy from natural gas in Anchorage cost $120. ●

● FINANCE & ECONOMY

Oil tries to advance after big drop

Shifts in consumer demand and modest strength in the dollar keep prices in check, despite concerns in Nigeria; gas prices also fall

By ADAM SCHRECK

Associated Press Writer

Oil market investors tried but failed to start a rally in crude on July 24, leaving prices hovering below $125 a barrel. At the gas pump, prices continued their retreat.

The national average for a gallon of regular dropped more than a penny and a half to $4.026 a gallon, according to auto club AAA, the Oil Price Information Service and Wright Express. Retail diesel is down nearly half a cent to $4.788.

Falling prices at the filling station reflect the concern of many energy traders that the weakening U.S. economy is hurting demand. Analysts say that is helping keep oil prices from racing back higher.

Light, sweet crude for September delivery rose 12 cents to $124.56 a barrel on the New York Mercantile Exchange. The day's gains followed a sharp drop on July 23, when oil tumbled $3.98 to settle at $124.44 a barrel, its lowest finish since June 4. The delivered price of Alaska North Slope crude oil fell $4.31 on July 23 to $122.94.

In overnight trading, oil rose as high as $126.01 as some investors tried to see if the market had reached a bottom and could rebound. But the gains couldn't hold amid a growing belief that falling demand does not justify the recent high price.

Americans used 2.4 percent less fuel over the past four weeks than they did last year, the latest figures by the Energy Department's Energy Information Administration show. While that may not sound like much, industry experts say it represents a significant shift by the world's largest energy consumer. A bigger-than-expected increase in gasoline supplies only added to concerns that drivers are cutting back.

"We've grounded airplanes. People are driving less, they're trading in their SUVs," said James Cordier, president of Tampa, Fla.-based trading firms Liberty Trading Group and OptionSellers.com. "For the foreseeable future — at least for the next six to 12 months — we have demand destruction."

Cordier predicted prices could yet drop further, with oil possibly falling as low as $110 a barrel by September.

"People have changed their driving habits, and they're not going to change back anytime soon," he said.

A modestly stronger dollar helped keep prices in check on July 24, by discouraging traders who had been buying commodities as a hedge against inflation and a softer greenback.

"More than any other factor, a strong dollar would help take the air out of this market," editors at energy consultancy Cameron Hanover noted in their daily market commentary.

Investors remained on guard over a threat by Nigeria's main militant group on July 23 to destroy major pipelines in the oil exporting country within 30 days. The threat — which only weeks ago might have caused oil prices to spike — did little to push crude higher, however.

"We can only suggest that the market, finally weighed down by the specter of decreasing energy demand, may not be as responsive to geopolitical headlines as it once was," MF Global analyst Edward Meir wrote in a research note. ●

—Petroleum News contributed to this article

continued from page 7

NORTHEAST B.C.

to 70 percent from its tight formation, with hopes of booking up to 900 billion cubic feet of reserves.

But he throws in a cautionary note that although the Montney fairway is "gas charged, that doesn't mean all lands are going to support commercial projects. There are sweet spots. We have to see how much of our lands are in those spots that can support substantial development."

What can be extracted?

Doug Ashton, a vice president with AJM Petroleum Consultants, said Montney has become the "buzzword that investors want to hear right now" as gas prices rise and advances in technology raise hopes that gas can be economically extracted from the shale formations.

"The big question is how much can be extracted," Ashton said.

That answer also needs to be accompanied with commitments to invest in infrastructure, regardless of the B.C. government's offer of royalty credits to help build roads and pipelines into the remote region.

Investment dealer Peters & Co. said in a recent report that there is not enough infrastructure in place to handle the potential increase in output from the Montney formation, while the evolution of the Horn River area is in an earlier stage.

If both Montney and Horn River are successfully developed, the current spare capacity of 500 million cubic feet per day on the B.C. pipeline network could quickly disappear, the firm said.

TransCanada is moving to fill the void, announcing that, depending on the results of an open season, it could file regulatory applications in the first half of 2009 to move gas from B.C. to its Alberta hub, which has 300 million to 500 million cubic feet per day of available space.

But TransCanada Vice President Stephen Clark said the pipelines from B.C. could cost more than C$100 million to carry 1 bcf to 1.5 bcf per day.

EnCana, which hopes to produce 1 bcf per day from Montney by 2011, has been in talks with TransCanada, Alliance and Spectra Energy to ensure there is "enough takeaway capacity," said Mike Graham, president of the big independent's Canadian Foothills division.

Cool down not expected

For now, there is no reason to expect a cooling off in the frenzied pace of activity in B.C.

Shell has likely opened the door to an M&A spree as speculation intensifies that the Montney resources cover more than just the upper and lower zones that are the current focus of attention, indicating that companies are paying for all of the rights, as confidence grows that the technology is available to extract gas from the dense rock formations.

More than that, the supermajors are turning to tight gas in North America as a safer investment climate.

Shell already has 80 million cubic feet of tight gas production in the Rockies region of Canada and the U.S. (although it won't provide a geographic breakdown), while ExxonMobil and BP have invested in the resource.

Shell has been motivated to start chasing unconventional oil and gas prospects in North America after militants forced it to suspend much of its oil production in Nigeria, while Russian regulators pressed it into selling a chunk of its holdings to state gas company Gazprom. ExxonMobil bailed out of Venezuela under the threat of asset expropriation.

But acquiring Duvernay was not a bargain-basement deal for Shell, which is paying C$218,000 per flowing barrel — compared with a first-half average in Western Canada of C$60,000 — for a mid-sized producer with output of 25,000 barrels of oil equivalent per day and proved plus probable reserves of 146.2 million boe.

Shell Chief Executive Officer Jeroen van der Veer said his company's "proved track record in North American tight gas" points to the Duvernay properties — which include 450,000 net acres in B.C. and the Alberta Deep basin — becoming a "valuable part of the Shell portfolio."

Chad Friess, an analyst with UBS Securities, estimates the Duvernay lands hold 6 tcf of gas resources, or six times its entire proven reserves.

He told the Calgary Herald that "given the relatively expensive acquisition metrics, it appears clear that Shell is paying for Duvernay's unbooked upside."

The deal also fueled speculation that Shell was the probably front-and-center among successful bidders in the July sale as well as the May auction that set what was then a single-sale record of C$441 million, given that the properties on offer in July were contiguous with Duvernay land.

EnCana, Nexen, Devon Energy, Murphy Oil, Talisman Energy and ARC Resources are also rated among the contenders.

Fewer properties for sale

Because the number of properties for sale is starting to shrink, Peters & Co. is predicting the next phase in the fast-unfolding B.C. story will be the rush to mergers and acquisitions by companies with excess cash flow.

In the aftermath of the Shell-Duvernay deal companies such as Storm Exploration, Birchcliff Energy and Crew Energy, all active in B.C., posted sharp, though short-lived gains.

But they, along with Terra Energy, Canbriam Energy, Canada Energy Partners, Grey Wolf Exploration, Seaview Energy, Results Energy and Alberta Clipper could all soon find themselves either looking for joint-venture partners to explore and develop their properties or among the endangered species of junior companies unable to finance their programs. ●

● GOVERNMENT

Regional authority for Railbelt grid?

Preliminary results of AEA study point to cost savings, other benefits from central coordination of power generation, transmission

By ALAN BAILEY
Petroleum News

A study commissioned by the Alaska Energy Authority into the future operation of the Alaska Railbelt electricity grid is recommending the formation of a regional power authority.

"We're proposing … a regional entity that would coordinate operation of the grid, economic dispatch, regional resource planning and project development," Kevin Harper, a consultant with Black & Veatch, told a Railbelt Electrical Grid Authority Study technical conference in Anchorage July 10. "… Essentially, the regional entity would be responsible for all the generation and transmission aspects of delivering power to the Railbelt, and then the existing utilities would have the distribution side … of delivering the power to the customers."

Black & Veatch is carrying out the AEA study with funding from an $800,000 state appropriation. The study is seeking ways to address some major problems that the Railbelt grid is facing. However, the study is only addressing organizational and management issues relating to the grid and is not assessing what types of energy should be used for electricity generation. The purpose of the July 10 conference was both to present the preliminary study results and to seek comments on the findings from the various stakeholders in the grid.

Following the conference, AEA published a draft version of the report on its Web site on July 23.

Six utilities

Currently, six independent electric utilities and AEA own the electricity generation facilities and power transmission lines that constitute the Railbelt grid. Each utility operates as a monopoly electricity supplier within its own service area and is regulated by the Regulatory Commission of Alaska. The power transmission grid extends all the way from Seldovia in the south more than 500 miles to Delta Junction in the north; major regions in the network are connected by interties.

Harper characterized the current fragmented organization of the grid as the end result of thousands of decisions made in the past. But despite that fragmented organization, the individual utilities that operate the grid have worked together quite successfully, he said.

"There is a history of cooperative decisions," Harper said. "… The lights largely speaking have been kept on."

So, is there really a need for change?

With a peak load of about 900 megawatts, the Railbelt grid is small by U.S. standards. But the use of a single intertie line connecting each of the major regions of the grid presents some "very practical limitations" on the operation of electrical facilities, Harper said.

"It's not double circuited and it's not looped," Harper said. "… It's been described basically as a long straw as opposed to what you would typically see in the Lower 48 or other parts of the world in terms of a fully developed transmission system."

Increasing the resilience of the current interties by adding second lines and upgrading the circuits might by itself cost anywhere from $700 million to $1 billion, he said.

Cost and uncertainty

The average cost of electricity in the Railbelt is towards the higher end of the U.S. cost spectrum, Harper said. At the same time there is uncertainty regarding future gas supplies for power generation and gas is becoming more expensive. And although the power load has grown slowly and consistently over the years, there is uncertainty in the future demand profile because of possible major industrial projects such as the Pebble Mine near Iliamna.

But the existing generation facilities are aging and inefficient, with a significant proportion of those facilities scheduled for retirement in the next 15 years, Harper said. And the state enjoys a wide variety of future energy resource possibilities, including gas, coal, hydropower and wind energy.

Could a more regional organization address future risks and uncertainties more easily than six independent utilities?

"You're at an historical crossroads," Harper said. "… Decisions that are made in the next five years really will set the course for the next 50 years. It's an opportunity to build a very solid foundation for the future."

Management options

In assessing how to manage the Railbelt grid in the future, Black & Veatch considered four possible options, in addition to the way in which the grid is currently organized:

• Form a regional entity to independently manage operation of the electrical transmission grid;

• Form a regional entity to manage the grid and manage power generation for optimum regional cost and reliability;

• Form a regional power authority that would manage the grid, manage power generation, do regional energy resource planning and manage joint project development for new infrastructure; and

• Form a regional power pool that is similar to the previous option, but leaves investment decisions regarding infrastructure upgrades to individual electric utilities.

The consultants dismissed as a possibility an entity that is termed a "regional transmission organization" in some parts of the United States. This type of entity facilitates regional competition as well as carrying out the functions of a regional power authority, but typically requires a much larger scale of operation than the Alaska Railbelt grid.

And, to test the sensitivity of the analysis results to different mixes of energy resources for power generation, the consultants evaluated each of the management options in four scenarios:

• A use of a large hydropower scheme and renewables, combined with demand management through energy conservation;

• The continued use of natural gas as the primary means of power generation;

• The use of coal as the primary means of power generation; and

• A mixture of different energy resources.

For each of the scenarios, the consultants assessed the likely infrastructure requirements and then ran an economic model to project costs using the current management situation and the four alternative management options.

Cost savings

The modeling showed overall cost savings relative to the current situation for all of the alternative options, other than just regional management of the grid, for all energy scenarios. Those savings would result from factors such as more effective regional planning and the economies of scale achievable from regionally scaled power generation. The savings would be achieved even after allowing for operational costs and the capital cost of new facilities.

But it turned out that the highest net savings relative to the status quo would come from the implementation of a regional power authority, the third of the options listed above. In fact the exceptional power cost savings gained from this management option would swamp the option's relatively high administrative costs — depending on the energy scenario and method of financing, the net savings per year could be in the range $9.6 million to $38.9 million, the modeling showed.

see **AUTHORITY** page 10

On the Web

See previous Petroleum News coverage:

"Resolving Southcentral power puzzle," in Oct. 14, 2007, issue at www.petroleumnews.com/pnads/241365565.shtml

"Electric storm brewing in Railbelt," in Dec. 2, 2007, issue at www.petroleumnews.com/pnads/91683149.shtml

The Alaska Energy Authority Railbelt Electrical Grid Authority study materials are on the Alaska Energy Authority Web site at www.akenergyauthority.org/REGAHomePage.html

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AUTHORITY

And that would all translate to savings of 3.3 to 10.6 percent in the electricity bill for a typical residential consumer.

But, assuming that the Railbelt were to implement a regional power authority, what legal structure should the authority have and how should it be funded?

There are two well-proven legal structures, either of which could be used in Alaska: a private generation and transmission cooperative or a state power authority. But although the track record in the Lower 48 indicates that generation and transmission cooperatives tend to have stronger and more flexible organizations than state power authorities, the funding of infrastructure upgrades may prove to be a decisive factor in the choice of legal structure, Harper said. Depending on which energy scenario the Railbelt uses for future power generation, infrastructure costs are likely to fall in the range of $2.5 billion to $8 billion over the next 30 years, with the lower end of that range representing the continued use of natural gas as a power source, he said.

Financial capability

In fact the size of these cost projections poses the question of whether a regional authority would have the financial capability to raise sufficient money to do anything beyond continuing down the path of using natural gas fired power stations, Harper said. And could the region raise enough money to invest in the future, regardless of how the grid is organized or managed?

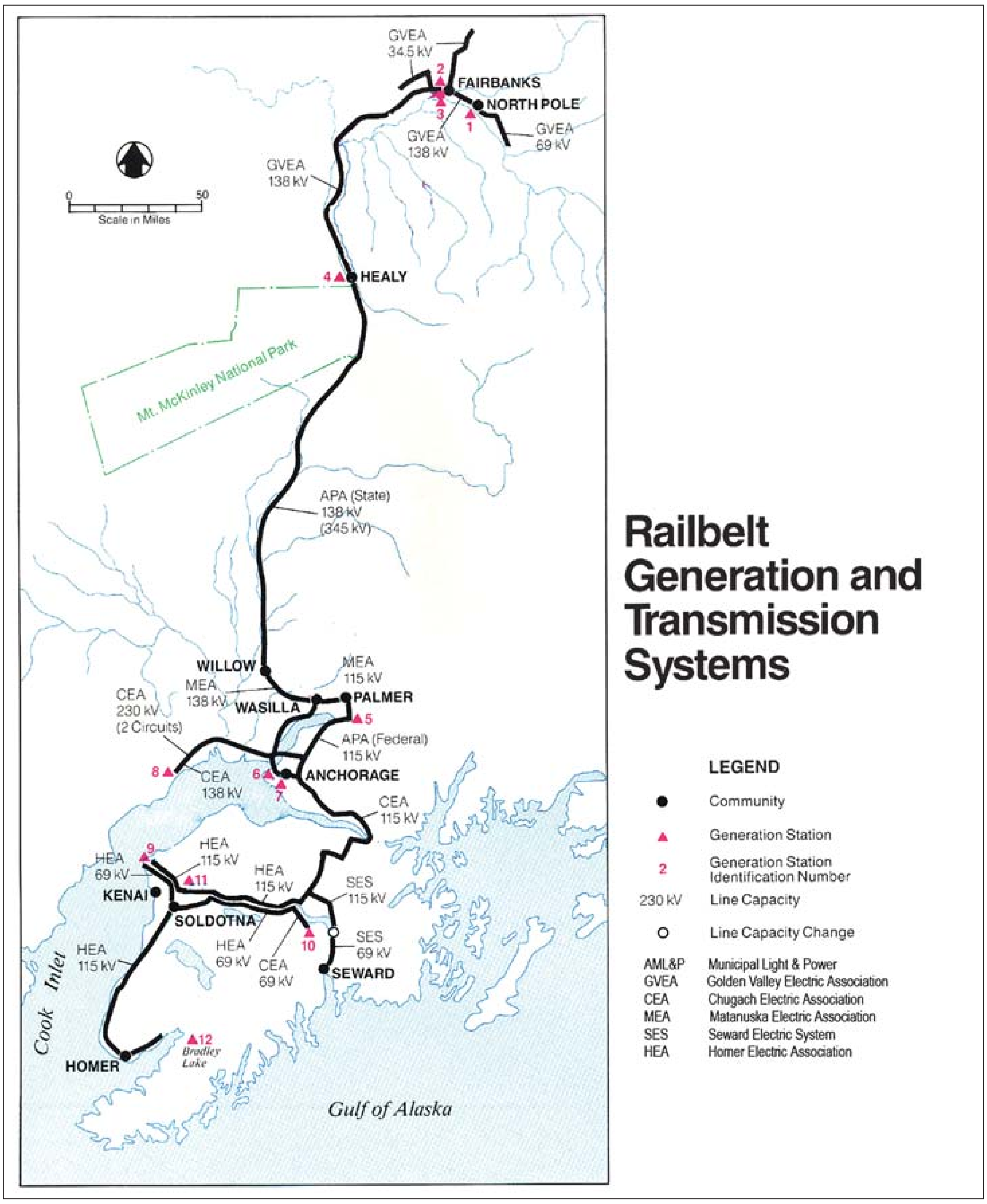
Even a mid-range cost of say $5 billion, the approximate cost of the mixed energy source scenario, represents three times the total book value of all of the current Railbelt utility electric plants, seven times the utility annual revenues, a little less than five times existing utility debt obligations and eight times utility cash reserves, Harper said.

"The reality is that in order to be able to get away from natural gas, you're talking about significant dollars. … If you can't finance it, it's going to force you to keep going with natural gas," Harper said.

And that consideration would raise the question of the need for state funding assistance, perhaps in the form of a grant or a low-interest loan.

"In terms of … impact on retail customers … financial assistance from the state has the greatest direct impact relative to other ways of reducing the cost of debt," Harper said.

The value of state assistance points to the need for a legal structure that the state favors: That structure might well turn out to be a state power authority, Harper said.



ALASKA ENERGY AUTHORITY

The single-line interties that connect the main demand centers of Alaska's Railbelt electrical grid have been described as a long straw. Upgrading the interties and the aging generating plants on the grid would require major expenditure.

And state ownership of the authority would also open the way to reducing the funding costs through the use of tax-exempt bonds, an option not available for a generation and transmission cooperative, he said.

There are mechanisms for funding a generation and transmission cooperative at preferential rates, but these mechanisms (federal Rural Utilities Service funding, for example) involve significantly more uncertainty and risk than tax exempt bonding, Harper said.

Public comment period

Following the July 23 publication of the draft report, AEA has initiated a 20-day public comment period on the report. AEA will then review comments received and plans to publish a final report on Sept. 6.

AEA project manager Jim Strandberg told Petroleum News July 22 that the authority is also starting work on an energy resource plan for the Railbelt and will complete that plan as soon as possible after completion of the Railbelt grid authority study. The energy resource plan will recommend an appropriate mix of energy sources for power generation in the Alaska Railbelt and, together with the grid authority recommendations, will form a package of recommendations that need to eventually synchronize with the overall energy plan that the state is developing.

"The whole thing has to knit together," Strandberg said. ●

Arctic future fuels present-day debate

Will climate change enable a rush for resources or make shipping conditions too hazardous? Researchers speculate in new report

By SARAH HURST

For Petroleum News

Indigenous Canadians supply Arctic water to drought-stricken Tripoli and Abu Dhabi. A Chinese frigate escorting LNG tankers from the Kara Sea across the Northern Sea Route to Beijing fires across the bow of a Japanese patrol vessel, almost triggering a Pacific war. An aging oil tanker spills nearly 500,000 barrels of crude off the coast of Iceland. These are a few of the possibilities dreamed up by a team of Arctic researchers who have produced four scenarios for the future of Arctic marine navigation.

The scenarios are described in a report prepared by the Arctic Council's Protection of the Arctic Marine Environment working group. The purpose of the report is to highlight plausible future trends and occurrences so that present-day planning decisions can be more effective. All the scenarios assume continued global climate change that results in significantly less Arctic ice cover, at least in the summer, throughout the 2030s and 2040s.

In the "Arctic Race" scenario the Arctic is rife with political and economic tensions, while its environment is despoiled by carelessness. Russia's actions in this scenario include developing the Shtokman natural gas field in the Barents Sea, signing an energy deal with China (while reducing oil and gas exports to the EU), and passing an "Arctic Development Law" to attract more qualified labor to the north, paying relocation costs, which results in poorly planned communities and congestion. With so many nations competing in the region, by 2050 experts agree that if there is going to be a world war in the 21st century, it will most likely be sparked in the open summer waters of the Arctic Ocean.

With so many nations competing in the region, by 2050 experts agree that if there is going to be a world war in the 21st century, it will most likely be sparked in the open summer waters of the Arctic Ocean.

Oversight is one option

In "Arctic Saga," Arctic resources are developed quickly but with international oversight. Populations migrate northwards to work on infrastructure projects

see **FUTURE** *page 12*

Melkoya restarts after two-month break

COURTESY EILIV LEREN/STATOILHYDRO

The Melkoya LNG plant near Hammerfest has not been operating at full capacity.

Production from Norway's Snohvit gas field resumed July 10 after extensive service work at the Melkoya liquefied natural gas plant comprising 150,000 labor hours, according to operator StatoilHydro. Melkoya began producing LNG at about 60 percent of its design capacity after a record-quick startup lasting less than nine hours and involving little flaring, the company said. Production at the plant had been shut down since May 8.

Problems with the plant's refrigeration unit were the main area of focus during the shutdown. After the initial startup last fall, several of the seawater heat exchangers in the cooling circuits were shown to be insufficiently robust to withstand the force of full production. "The difficulties are associated with parts of the refrigeration unit and they have nothing to do with the climatic conditions in Hammerfest," said Oystein Michelsen, a senior vice president with StatoilHydro.

The damaged heat exchangers were repaired during the shutdown and some

see **MELKOYA** *page 12*

OUR ARCTIC NEIGHBORS

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MELKOYA

modifications were made to pipes. Several additional metering instruments were also installed. These will be used to gain a more detailed picture of what happens inside the refrigeration unit during production. The data will be used when StatoilHydro decides this fall what is required in order to get the plant into full production.

—SARAH HURST

Russian government to select developers

Russia's President Dmitry Medvedev signed a law July 18 giving Prime Minister Vladimir Putin and his government full control over oil and gas development on the country's continental shelf. The government itself will now select companies to develop the Arctic reserves, rather than holding auctions or tenders.

"The continental shelf is our national heritage. This was done consciously to ensure rational use of the national wealth," Medvedev said in a televised meeting with Deputy Prime Minister Igor Sechin, who oversees the energy industry. Sechin is the former deputy chief of Putin's presidential staff and is chairman of Rosneft's board of directors. Medvedev was chairman of Gazprom's board of directors until he was elected president earlier this year.

According to the new law only state-owned companies with a minimum of five years' experience working on the continental shelf will be eligible to operate the projects, meaning the two majors Gazprom and Rosneft.

—SARAH HURST

BP recalls 60 specialists from Russia

British energy company BP PLC is recalling the remaining 60 engineers from its troubled TNK-BP joint venture in Russia amid a conflict with its Russian partners over strategy and control of the oil production project.

The British company said the foreign engineers have been unable to do their job since March, after problems arose with their visas.

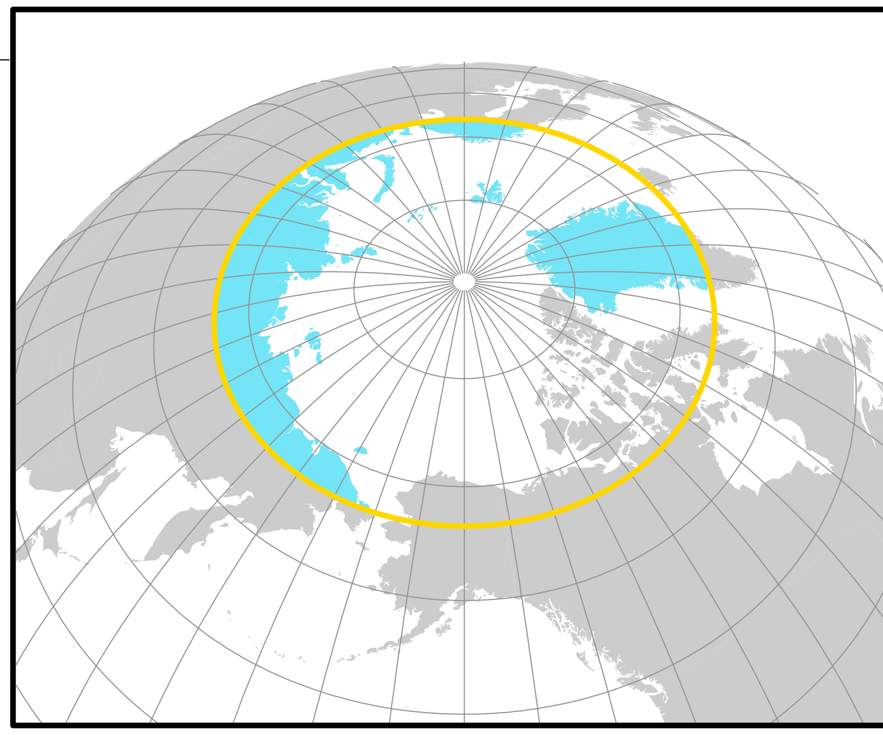
Even when their visa problems were resolved, TNK-BP's security staff refused them entry into the building, BP said in a statement. A court injunction later barred them from working.

The injunction has since been lifted, but the engineers still cannot return to work because of ongoing litigation, BP added. BP has already reassigned 88 of its engineers, bringing the total number withdrawn to 148.

In a separate case, TNK-BP CEO Robert Dudley and other foreign executives at the company have faced problems with renewing their work permits and extending their visas.

BP owns a 50 percent stake in TNK-BP, Russia's third-largest oil producer. A group of Russian billionaire shareholders controls the other 50 percent.

—THE ASSOCIATED PRESS



Seismic surveys disturb Lofoten fishermen

Seismic surveys that are currently under way in Norway's Lofoten waters in the Arctic are generating heated opposition from local politicians and the fishing industry. The mayors of all the townships in the area told Environment Minister Erik Solheim when he visited the scenic archipelago in mid-July that they were against offshore drilling for oil, the newspaper Aftenposten reported. Solheim, whose Socialist Left party also opposes drilling, said that the government had made no formal decision on the issue.

Norway's Environment Minister Erik Solheim hopes Lofoten could become a UNESCO world heritage site.

Solheim suggested that if Lofoten is added to UNESCO's list of world heritage sites, drilling would be prohibited once and for all, and that local governments should step up their efforts to win UNESCO recognition. The country's fishing industry is concerned that the seismic activities are scaring away fish stocks. "What has happened should be a reminder and a warning to all our cooperation partners that we in the future will no longer accept these kinds of methods," said Reidar Nilsen, the head of the Norwegian Fishery Association.

—SARAH HURST

continued from page 11

FUTURE

and the ports of Nanisivik, Kirkenes and Murmansk are nicknamed "Zinc City," "Cargo Town" and "Petro-burg". By early 2025, the traffic along the coast of Norway from the northwest of Russia is 20 times the volume of 2005. The Arctic becomes a hub of activity for transportation and resource development.

"Polar Lows" foresees the main events in the world economy taking place outside the Arctic. When the last polar bear dies in 2034, hardly anyone notices as they are too busy with regional conflicts to pay attention to the far north. Fragmenting ice has created increased hazards to navigation and made oil exploration and development too tricky. The Arctic's 15 minutes of fame peaked back in 2010.

In "Polar Preserve," regulation and sustainability are the key principles for international administration of the Arctic. An Arctic Preservation Treaty, signed by most of the world's nations in 2030, draws clear boundaries in the Arctic and establishes the "Polar Police." Marine activity is strictly controlled and Russia postpones development of Shtokman because it seems too risky. By the 2040s advanced green technology makes development projects more appealing and the debate about them is renewed.

For more insights into the future of the Arctic, see the full report online at http://arcticportal.org/amsa. ●

● EXPLORATION & PRODUCTION

Platforms for the Arctic offshore?

MMS report sees massive steel platforms as the most likely technology for offshore Arctic development, but there are other ideas

By ALAN BAILEY
Petroleum News

The most recent wave of oil exploration in Alaska's Beaufort and Chukchi seas has hardly left the starting block.

But the question of how to develop an offshore oil or gas discovery must figure high in any offshore exploration decision. Finding a viable and environmentally sound means of extracting product from a field located under ice-infested water miles offshore could make or break a development project.

In early 2008 the U.S. Minerals Management Service published a 365-page report on Arctic offshore development options. Prepared by IMV Projects Atlantic, the report reviews the technical feasibility of all of the various types of platform, artificial island and subsea completion technologies that might work in the Arctic waters of the U.S. Outer Continental Shelf.

Previous work on this topic dates back to the 1980s and MMS commissioned the study to obtain an up-to-date view of potential offshore technologies, MMS petroleum engineer Kyle Monkelien told Petroleum News July 23.

"We thought that it would be a good time to go back and see what's changed, what lessons have been learned from the activities and the construction that has gone on between then and now," Monkelien said.

A current perspective of feasible technologies will help MMS evaluate potential development scenarios in the OCS, especially in areas where there is oil and gas leasing interest, he said.

However, Monkelien emphasized that were a company to propose a specific offshore development MMS would initiate a rigorous review of whatever technology the company planned to use, including a review under the National Environmental Policy Act.

Past experience

In assessing the various development options, the study researchers reviewed the experience of the Northstar, Oooguruk and PanArctic Drake developments in the Alaska and Canadian Beaufort Sea. The researchers also considered offshore developments off the east coast of Canada, off Sakhalin Island, in the Caspian Sea and in the Barents Sea.

The researchers recognized that the principal factors affecting the design of Arctic offshore facilities include ice loads; the requirement for a platform or island structure to store sufficient consumable supplies for operation in an isolated location; the availability of an adequate foundation or mooring capability; the capability to protect pipelines and subsea equipment; and the practicality of transporting produced hydrocarbons from the offshore site.

And in the Beaufort and Chukchi seas ice loads are an especially important consideration in designing exploration and production structures, the report says. However, research into ice loads has indicated that these loads are likely to be significantly lower than was assessed a few decades ago.

"At the same time, advancements in structural steel research combined with these more realistic ice-load predictions led to improvements in the economic feasibility of Arctic offshore facilities," the report says.

Gravity-based structures

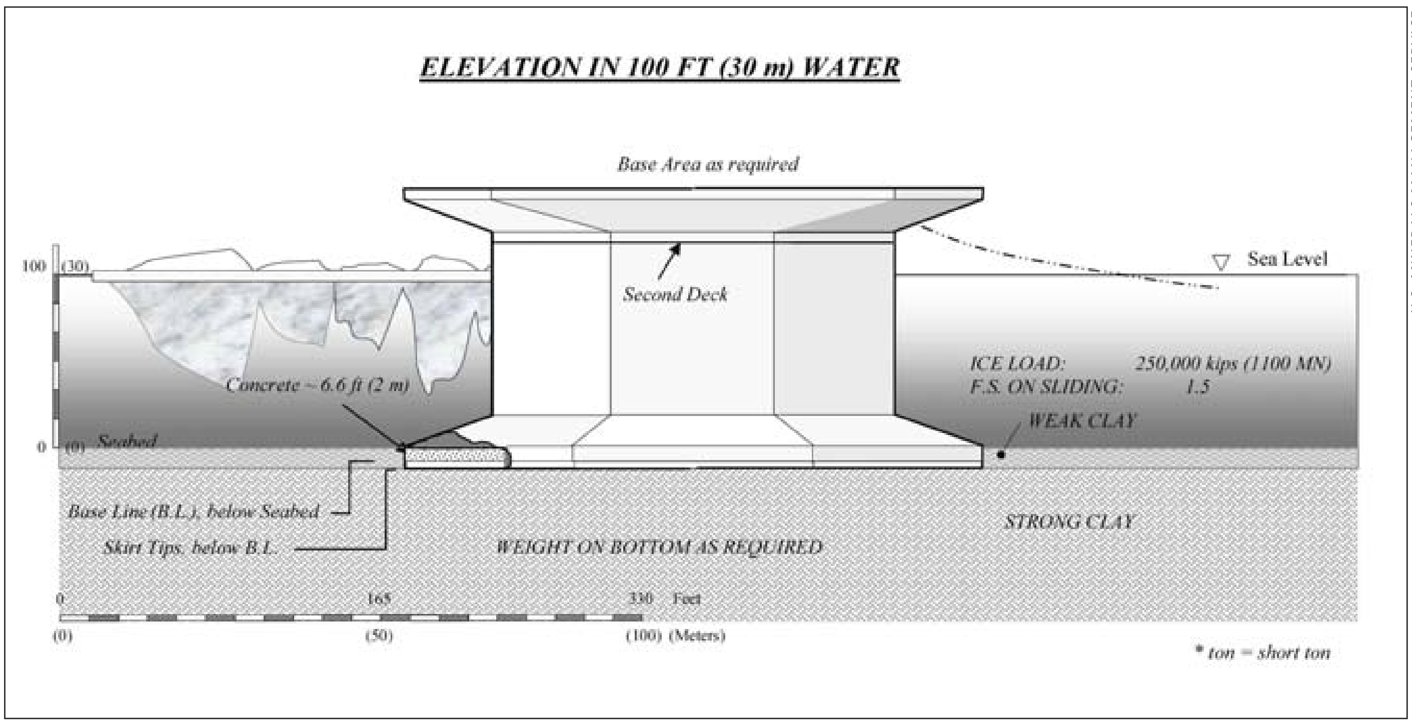
But massive gravity-based structures sitting on the seafloor remain the most likely option for oil and gas production in the challenging ice conditions of the Beaufort and Chukchi seas. And the study says that in Arctic conditions steel is likely to prove to be a more suitable construction material than concrete.

Depending on factors such as the type of sea ice and the water depth at a specific location, a variety of platform designs is possible for northern seas. Designs range from massive vertical cylinders to more tapered profiles.

The researchers found that in areas of multi-year ice, water depths of about 250 feet would likely become an upper limit for the technical feasibility of installing these structures, but that limit would go down to 200 feet where the seafloor foundation properties are weak.

"There are no known bottom-founded platform design solutions for water depths greater than 330 feet that could be deemed workable or proven for multi-year ice areas," the report says.

see PLATFORMS page 14



U.S. MINERALS MANAGEMENT SERVICE

A massive cylindrical steel platform design of a type that might be suitable for use in the Chukchi Sea

On the Web

The U.S. Minerals Management Service report, "Arctic Offshore Technology Assessment of Exploration and Production Options for Cold Regions of the U.S. Outer Continental Shelf," is on the MMS Web site at www.mms.gov/tarprojects/584.htm

FINANCE & ECONOMY

Taiwan enters Saskatchewan oil sands

CPC Corp., Taiwan's state-owned petroleum refiner and gasoline retailer, has signed a preliminary accord to invest C$788 million over the next five years to acquire and explore oil sands leases in Saskatchewan.

The pact is expected to see CPC participating in a joint venture with Saskatchewan-based Indian Oilsands Corp. to mine for bitumen, CPC said on its Web site.

Although Saskatchewan does not yet have any commercial production from the oil sands, Calgary-based Oilsands Quest is within weeks of starting a pilot project at its Axe Lake discovery, where resources are estimated at 6 billion barrels. It is targeting initial output of 30,000 barrels per day, building to 100,000 bpd, using steam injection methods to extract bitumen.

Ten First Nations could participate in acquiring land

The Indian Oilsands initiative could see participation by 10 Saskatchewan First Nations in acquiring 250,000 acres of land through a federal land entitlement program.

Indian Oilsands plans to be an active bidder at upcoming government land sales in hopes of pooling leases with the CPC partnership, setting the stage for a development strategy that would include production, upgrading and refining.

CPC is seeking partners around the world to diversify its energy supplies, but Oilsands Quest said it is more interested in linking up with a global super major that can provide engineering and management, adding it has had no dealings with CPC.

—GARY PARK

continued from page 13

PLATFORMS

In more southerly area where multi-year ice is absent, bottom-founded structures in water depths up to 500 feet might be possible.

Jacket platforms

The lighter-weight ice reinforced jacket platforms of the type deployed in the offshore fields of the upper Cook Inlet might be suitable for use in areas of the Bering Sea where there is light first-year ice and water depths are less than 200 feet, the report says.

"(And) developments in jack-up technology and the advancement of ice maintenance programs indicate that the operating range and season of jack-up exploration could potentially be extended in the Bering Sea," the report says.

Grounded ice islands have also been used successfully for exploration drilling in the nearshore waters of the Beaufort Sea, the report says. Research has found that ice islands might work for drilling in water depths up to 30 feet, or perhaps 40 feet. But unstable or unreliable landfast ice would render ice islands infeasible in the Chukchi Sea, the report says.

The use of gravel islands is another possibility in shallow water.

"Gravel islands have successfully been used in the Beaufort Sea for decades and continue to be viewed as a candidate structure for exploration and/or production in this area of the Alaska OCS," report says.

However, because no one has ever used a gravel island in the Chukchi Sea, someone would need to investigate issues relating to dynamic sea ice conditions to determine gravel island feasibility in that region. And high waves and large wave loads would be a consideration for gravel island use in the Bering Sea, the report said.

Floating structures

Although various types of floating structure such as drillships and semi-submersible platforms can be used during the summer open water season in the Arctic outer continental shelf, the only region in which a floating structure might stay on location year round might be the Bering Sea in light ice conditions. A semi-rigid floater concept, with a floating platform moored in place under tension, might operate year-round in first-year ice conditions but would need to be able to disconnect to move away in the event of high ice loads, the report said.

"Floating production systems for the Beaufort Sea, Chukchi Sea and North Bering Sea are not considered to be technically feasible, even with continuous ice management," the report said. "No floating production structures could be economically designed to stay on station with multi-year ice loads in the Beaufort and Chukchi Seas, and possibly northern Bering Sea, depending on ice conditions. Floating systems may have some merit in southern OCS areas, however."

Subsea completions

Subsea completions, in which wellheads lie at or below the seafloor and are connected to subsea pipelines, are another possibility.

"Improvements in the area of subsea facilities and processing have been made in recent years in the pursuit of resources in harsh and remote environments," the report says. "As a result of these improvements, fields requiring longer, deeper subsea tiebacks are now becoming much more technically and economically feasible. Gas tiebacks have reached 105 miles and oil tiebacks have reached 40 miles."

Depending on whether the water depth exceeds the maximum ice keel depths, the well heads may or may not need to be protected in "glory holes" in the seafloor. However, the possibility of an ice keel scouring or hitting the seafloor at the location of a well would pose limitations on what technology could be used.

And there are also some significant technical issues associated with the construction and operation of subsea pipelines in the Arctic. But pipeline designs could accommodate factors such as strudel scour, the settlement of thawing permafrost, upheaval buckling and ice gouging, the report says.

"However, pipeline burial for protection in water depths from approximately 65 to 130 feet will be a challenge given the more severe gouging in these water depths and the fact that the pipeline can likely not be installed from the ice in winter," the report says.

The report also notes that advance drilling technologies, such as extended reach drilling, present some other possible options for Arctic offshore oil and gas development. BP is in the process of developing the Liberty field in the Beaufort Sea outer continental shelf using extended reach drilling from the Endicott satellite island. ●

● FINANCE & ECONOMY

It's the market that drives oil prices

But do prices reflect supply and demand? Speculation abounds about the role of speculators in pushing prices to dizzy heights

By ALAN BAILEY
Petroleum News

There's nothing to beat a dearth of substantiating data coupled with a highly emotive issue to fuel a lively debate.

And the current debate about the role of speculators in the oil market seems no exception. Is speculation in oil futures driving the current price spike? Or are current prices an inevitable consequence of oil demand moving ahead of supply?

A July 10 survey by Public Opinion Strategies and the Mellman Group, carried out for the Air Transport Association of America, found that 80 percent of people polled believed that oil speculators are manipulating oil prices and that 70 percent of the respondents believed that oil speculators are making unfair profits by driving up the price of oil. In the published survey results, oil speculators came out on top of the blame list for high gasoline prices. Oil demand in the United States came sixth in the list, and the list did not feature rising oil demand in countries such as China and India. Nor did the blame list feature oil supply constraints as a price driver.

Political action

Politicians have made much of a "blame the speculators" movement. Multiple bills designed to curb oil speculation have jostled for attention in the corridors of Washington, D.C.

And there's been no shortage of advice for the politicians.

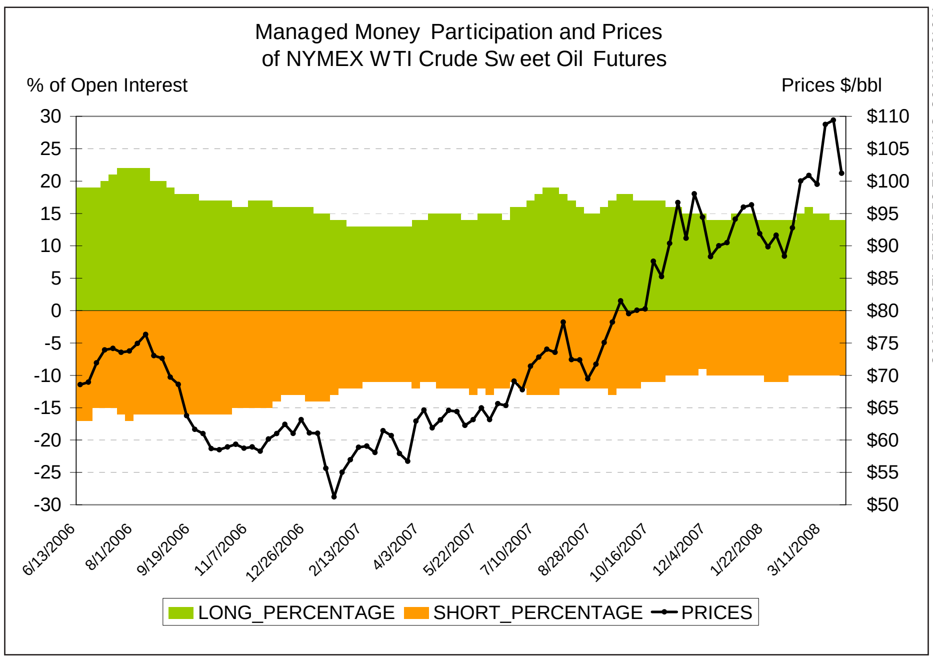
"The large purchases of crude oil futures contracts by speculators have, in effect, created an additional demand for oil, driving up the price of oil to be delivered in the future in the same manner that additional demand for the immediate delivery of a physical barrel of oil drives up the price on the spot market," said the U.S. Senate Permanent Subcommittee on Investigations in a June 2006 report.

In June 2008 legendary hedge fund manager George Soros, testifying before the U.S. Senate Commerce Committee, described the escalating oil price as a bubble that would burst when the U.S. economy goes into recession. The bubble results from institutional investment organizations such as pension funds fueling prices that are already rising as a result of high oil demand, tight oil supplies and a weak dollar, he said.

Proponents of the speculative bubble theory say that, encouraged by low margin limits, institutional investors have been riding the back of the climbing oil prices by pouring money into oil futures contracts. And just as in the recent Internet and house price bubbles, the rush to put money into these contracts has created a self-fulfilling increase in contract prices.

Not so, said Professor Craig Pirrong, expert on market manipulation and director of the Global Energy Management Institute, Bauer College of Business at the University of Houston, in testimony before the U.S. House Committee on Agriculture on July 7.

"Speculation is not the cause of high prices for energy products; the arguments advanced in support of this view are logically defective and at odds with an understanding of how the markets work," Pirrong said. "Most importantly, there is no evidence to support claims that speculation — or manipulation for that matter — is responsible for high energy prices."



COMMODITY FUTURES TRADING COMMISSION

The percentage of managed money speculator trading in the Nymex West Texas intermediate crude futures market has changed little during the run up in oil prices. Long traders are betting on oil price increases while short traders are betting on decreases.

Almost without exception, trading by financial institutions has made no contribution to the demand or supply of physical oil and, as a consequence, trading by these institutions does not distort the physical market in oil. In addition, a speculative distortion in prices would result in the accumulation of excess oil inventories. No such oil inventory accumulation has been observed, Pirrong said.

So who is right?

Price bubble?

A graph of the steeply rising oil price over the past year certainly resembles the price graphs of the upswing sides of historical asset price bubbles. And there are data indicating the operation of large numbers of speculators in oil futures, with oil futures prices tracking oil prices on the spot market.

On the other hand, the futures market provides an essential means for companies who sell or use oil to hedge the risk of future price changes. For example, by locking in a future price, an airline can gain some level of certainty around its future fuel costs. And futures trading tends to smooth out price fluctuations by anticipating impending price increases and decreases — essentially the futures encapsulate the cost of future uncertainty.

But there are two types of futures trader — hedgers and speculators. Hedgers consist of businesses that own oil to sell or that actually use oil. These businesses buy and sell futures to hedge risk. Speculators on the other hand buy and sell futures contracts to try to make money out of future price changes. Speculators "lubricate" the futures market by providing high levels of liquidity for futures trading.

The recent invective around oil prices has been directed at the speculator component of the market, with bills in Congress that aim to tighten speculator position limits and margin requirements (i.e. increase the limits on how much trading a speculator can do and how much money the trader can borrow to speculate).

CFTC: no action needed

But testimony by Jeffrey Harris, chief economist of the Commodity Futures Trading Commission, to the U.S. Senate Committee on Energy and Natural Resources on April 3 questioned the need to take any action against oil speculators. CFTC is an independent government agency that regulates commodity futures and options markets in the United States.

Harris said that although the volume of futures trading has expanded dramatically during the period of oil price increases of the past few years, the relative proportions of hedger and speculator trading has remained almost constant during that time. Moreover, speculators tend to switch between betting on price increases and betting on price decreases from one month to the next, he said. And during the price run up of the past year or so CFTC studies have consistently shown that hedgers react first to new market information, with speculators then reacting in response to what the hedgers have done, Harris said.

"Looking at the trends in the marketplace, combined with studies on herding behavior and the impact of speculators in the markets, there is little evidence that changes in speculative positions are driving up crude prices," Harris said. "Given the relative stability of the makeup of participants and their positions in the markets and the absence of evidence that speculation has caused oil price changes, it appears that fundamentals provide the best explanation for crude oil markets."

Supply and demand

That's a view put forwards in BP's 2008 Statistical Review of World Energy, published in June. That report concluded that escalating oil demand in developing countries such as India and China, coupled with worldwide supply constraints, lies behind the current oil prices. On the other hand, some economists have questioned whether the current exceptionally high prices truly reflect the relationship between oil prices and the levels of demand and supply — perhaps excessive speculator trading accounts for at least some component of the price?

And the Air Transportation Association of America, with its strong interest in fuel prices and in the importance of the oil futures market, certainly blames the speculators in a big way — ATA has launched a "stop oil speculation now" campaign.

However, before anyone starts tinkering with the futures market, they might want to pay attention to the law of unintended consequences.

"While certain targeted controls on speculation are appropriate, speculators … provide the market liquidity to allow hedgers to manage various commercial risks," Harris said. "Unnecessary limitations on the amount of speculation that an individual or entity may engage in could limit the amount of liquidity in the marketplace, the ability of hedgers to manage the risks and the information flow into the marketplace, which could in turn negatively affect the price discovery process and the hedging function of the marketplace."

Or, to put it another way, if it ain't broke don't fix it. ●

● EXPLORATION & PRODUCTION

Interior proposes lower shale royalties

Draft rules recommend rates as low as 5% as incentive for oil shale development on federal lands in Colorado, Utah, Wyoming

By DINA CAPPIELLO

Associated Press Writer

The Bush administration has proposed charging energy companies wanting to squeeze oil out of vast shale deposits in the West lower royalties than they pay for drilling on other federal lands, including offshore in the Gulf of Mexico and Alaska.

In draft rules issued July 22, the Interior Department recommended a range of royalty rates for the extraction of oil from shale on 2 million acres of public property in Colorado, Utah and Wyoming. All would be less — at least for a time — than the 12.5 percent to 18.8 percent the government currently collects from companies producing oil on and offshore.

Interior officials said the discounted rate, which would be fixed at 5 percent in one proposal, would offer an incentive for companies to develop oil shale, which can cost up to three times more to produce than traditional oil. Shale oil also contains less energy than oil, coal and wood, the Interior Department said.

"For years, the cost of extracting oil from shale exceeded the benefit, but today that calculus is changing," Interior Secretary Dirk Kempthorne told reporters July 22. "This makes oil shale a highly promising resource."

The Bush administration's action comes as Congress debates expanding domestic oil production to respond to high gasoline prices. Among the proposals being pushed are opening up more federal lands to energy production, including offshore areas currently off-limits, and forcing companies with active leases to produce on them now.

Congress blocked rules

Last year, however, Congress decided in a spending bill to prohibit the Interior Department from issuing final regulations for commercial development of oil shale.

Kempthorne said the administration could not wait for that prohibition to be lifted to issue proposed rules. "Any delay would discourage investment in research and development," he said.

Oil shale is one of the largest untapped sources of energy in the U.S. An estimated 800 billion barrels is locked up in rock in the West beneath land that is more than 70 percent publicly owned.

Environmentalists, along with Colorado's Democratic governor, Bill Ritter, accused the Bush administration of rushing to develop oil shale at "bargain basement" rates, without accounting for its various impacts. High oil and natural gas prices have already caused a black gold rush in the West, with more than 100,000 traditional oil and gas wells approved in recent years.

> *"It is basically recognition that in the beginning there has to be a lower royalty to recognize the pioneering nature of this business."* **—Glenn Vawter, executive director, National Oil Shale Association**

Ritter said July 22 that oil shale, which would not be produce oil until 2015 or 2016, would do nothing to help with high gasoline prices.

"This is a last-ditch, irresponsible attempt by the White House to issue commercial oil-shale leases, at Colorado's expense," Ritter said. "These regulations would send bargain basement royalty rates that could cost Coloradans billions of dollars."

Kate Zimmerman, a senior policy specialist with the National Wildlife Federation, said Interior's proposal did not represent a fair market value to the public.

"It's a lowball number in terms of the potential profits these guys are going to reap from oil shale," she said.

Interior offers alternatives

The current estimated production cost for shale oil ranges from about $37.75 to $65.21 a barrel, according to the Interior Department, whereas conventional onshore crude costs approximately $19.50 per barrel to harvest. The difference is that oil shale requires energy to bake the rock and pump the molten oil to the surface.

The Interior Department offered other alternatives to a fixed 5 percent royalty, which is charged as a percentage of the cost of a barrel of oil. Other suggestions included a sliding scale based on the market price of conventional oil and gas, as well as a royalty rate that would start at 5 percent and increase to 12.5 percent, depending on the level of production.

Industry representatives, who pushed for initial royalties to be lower than 12.5 percent, said that while commercial-scale production of oil shale is a decade off or more, companies need to know what to expect before investing.

"It is basically recognition that in the beginning there has to be a lower royalty to recognize the pioneering nature of this business," said Glenn Vawter, executive director of the National Oil Shale Association. ●

FINANCE & ECONOMY

Anchorage: Oil and gas industry adds 280 jobs January through May

The oil and gas industries added 280 jobs in Anchorage over the first five months of the year, according to a new review and short-term forecast of local economic conditions.

The job growth for oil and gas represents a 12 percent increase over the same period last year, according to the report, conducted by the McDowell Group and presented by the Anchorage Economic Development Corp. at its annual investors luncheon on July 23.

> *The job growth in the oil and gas industries primarily comes from increased maintenance work on existing North Slope infrastructure and continuing exploration and development programs by both the majors and a new slate of independents, according to Bill Popp, president and CEO of the Anchorage Economic Development Corp.*

In a forecast of short-term economic conditions presented back in January, the AEDC predicted Anchorage would add 1,000 jobs to the economy over the course of 2008, but through the first five months of the year Alaska's largest city has already gained 820 jobs.

Most of those increases came from the oil and gas industry and from state government, which have both surpassed expectations for the year. The air transportation sector has fallen behind predictions, while most other sectors kept pace with the forecast.

Increased maintenance work

The job growth in the oil and gas industries primarily comes from increased maintenance work on existing North Slope infrastructure and continuing exploration and development programs by both the majors and a new slate of independents, according to Bill Popp, president and CEO of the Anchorage Economic Development Corp.

Popp said rising oil prices could lead to the development of once uneconomic prospects, triggering additional hiring and spending over the coming years.

"Additionally, as planning efforts around a potential gas line development project intensify, AEDC expects further employment growth by the end of this year," Popp said.

Oil and gas jobs in Anchorage have increased every year since 2004 after falling for several consecutive years. The industries employed 3,200 people in Anchorage in 2001 and employ around 2,800 today.

—ERIC LIDJI

Petroleum news Business Spotlight

Northern Air Aviation Services

FORREST CRANE

Bob Rieth, Director of Ground Operations

Northern Air Aviation Services is a division of Northern Air Cargo. Since July 1, 2004, it has offered ground services at Ted Stevens Anchorage International Airport, Fairbanks International Airport and Deadhorse. The division provides ground services for ConocoPhillips Aviation (Shared Services) in Anchorage, Fairbanks and Deadhorse; it also provides ground services and ticket counter staffing for Frontier Airlines (Denver based) and American Airlines.

Bob Rieth joined the Northern Air Cargo team in March 1991 and after working up through the ranks, was promoted to director of ground services in 2007. He has a bachelor's degree in journalism and public communications with a minor in political science from UAA. He's a life-long Alaskan and lives in Palmer with his wife Sherry, children Robert, Danielle, and Jackie.

—PAULA EASLEY

Petroleum Equipment & Services Inc.

FORREST CRANE

Sean Morris, Sales Engineer

Petroleum Equipment & Services Inc. or PESI is a versatile company that provides oilfield services to remote areas of Alaska from major manufacturers in the Lower 48. PESI has its main office in Anchorage, with a strong sales force, and two field offices. Field offices are located in Prudhoe Bay and Kenai. PESI is pleased to announce the addition of Sean Morris to promote the award-winning Smith Bit product line in Alaska.

Sean has a Bachelor of Science degree in management and sales from Ohio University. His sales background and progressing technical knowledge of the industry are a perfect fit for Smith Bits development. Sean loves to be out camping and fishing on weekends and is a die-hard Ohio State Buckeye fan.

—PAULA EASLEY

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

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

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FEES

est, that the pipeline owners have already collected from shippers to cover the cost of removing the line when it becomes obsolete.

The 800-mile pipeline began transporting oil in 1977 and is expected to continue operating until 2034, about 25 years longer than originally envisioned. The line extends from the North Slope to an ice-free port in Valdez, and is owned by five companies, BP Exploration (Alaska) Inc., ConocoPhillips Alaska, ExxonMobil Production Co., Unocal Pipeline Co. and Koch Alaska Pipeline Co. LLC.

Williams' successor, Flint Hills, had sought a refund of $750 million, plus interest, or half of the $1.5 billion in dismantlement, removal and restoration fees, plus accrued interest, that the pipeline's owners have already collected.

The commission supported the law judge's opinion that refunds of DR&R fees would be premature, since the ultimate cost of DR&R for the pipeline hasn't been determined.

Flint Hills had argued that refunds be given to past shippers in the interest of intergenerational equity.

In a 23-page filing, Williams asked the FERC to address the principle of intergenerational equity as a basis of just and reasonable rates.

Williams also asked the commission to recognize that the Flint Hills' proposal is not really a refund as that word is generally used with respect to pipeline rates; and to realize that it isn't necessary to know the precise amount of the DR&R costs at the end of the life of the line in order to ensure equitable treatment of all of the shippers throughout the life of the pipeline.

"Unless $750 million, plus interest, is returned to shippers who paid DR&R fees during the first half of the pipeline's economic life, they will, in effect, end up subsidizing use of the pipeline by shippers during the second half," wrote Randolph L. Jones Jr. an attorney with Conner & Winters of Jackson, Wyo.

Intergenerational equity is important

To make its case for a rehearing, Williams first reminded the commission that it had upheld the law judge's finding that "the TAPS Owners have not cost justified additional collections of DR&R expense through future rates and that the DR&R expense should not be collected in the 2005 and 2006 'cost-based' rates."

"In other words, (the law judge) and the Commission have found that sufficient DR&R funds have already been collected. Accordingly, the Flint Hills proposal would not alter this finding at all by the time the TAPS (owners) have to meet their TAPS' end-of-life DR&R obligation," wrote Jones, who is counsel for Williams Alaska Petroleum.

With all of the DR&R funds already collected, and thus paid by shippers on the pipeline during the first half of its economic life, shippers during the second half of the line's economic life will not have to pay for any DR&R costs in their rates, Jones observed.

"In other words, shippers during the second half of TAPS' economic life will in effect be subsidized by shippers during the first half of TAPS' economic life," he wrote.

Williams contends that the situation violates intergenerational equity, which the commission has recognized as an important principle. Citing a 1999 FERC decision in Iroquois Gas Transmission System, Williams said the commission determined that "decommissioning costs for nuclear power plants must be reasonable based on present and reasonably foreseeable circumstances and conditions and that recovery of costs be spread equitably over today's and tomorrow's customers."

Williams also cited Boston Edison Co., a 1986 decision in which the Commission recognized "the need to levelize among generations of customers the decommissioning costs related to Commission-regulated nuclear power plants."

Such decommissioning costs for nuclear power plants are directly analogous to DR&R costs for oil pipelines, Jones wrote.

Williams paid some $50 million

As for the trans-Alaska oil pipeline, it is indisputable that the bulk of the DR&R funds were collected during the period 1984 through 1999. Since 2000, the amount of DR&R expense collected in rates has been miniscule, only about 2.4 percent of the total amount collected since 1984, according to Williams.

The company shipped petroleum products via the pipeline from 1978 through March 31, 2004, when it sold the refinery and other North Pole assets to Flint Hills, and that company became a shipper on the pipeline.

It was not until 2000 that Alpine ANS crude oil owned by Anadarko Petroleum Corp. was produced and shipped through the pipeline.

At a FERC hearing earlier, a witness for the pipeline owners estimated that the total amount of DR&R funds collected by the owners attributable to Anadarko's Alpine crude oil was about $325,000, according to Williams. By comparison, a witness for Anadarko-Tesoro testified that a rough estimate of the amount of DR&R funds collected by the pipeline owners from Williams was $50 million, the company said.

It is also obvious that the amount of DR&R funds collected by the TAPS Owners from Flint Hills during the last nine months of 2004 would be negligible, Williams added.

"Therefore, absent implementing Flint Hills' proposal, the shippers, including Williams, through 2004 have paid all of the DR&R expenses and, consequently, shippers on TAPS starting in 2005 will not have to pay any of the TAPS Owners'

DR&R costs.

"This subsidization of shippers starting in 2005 is exactly what the principle of intergenerational equity is intended to prevent, a fact and result which the Commission overlooked because it never addresses this principle in (its decision)," Jones argued.

Returning fees no true refund

Lastly, Williams argued that returning half the DR&R funds to the early shippers would not be a true refund because the pipeline owners would not be economically affected and the amount of DR&R funds needed to be collected for DR&R obligations at the end of TAPS' economic life would not be compromised.

"It does not reduce the amount of money that the TAPS (owners) ultimately will have collected in their rates prior to their incurring their DR&R obligations at the end of TAPS' life in 2034. Rather, it simply changes the time period during which the second approximately $750 million is collected," the attorney argued.

As a result, knowing the final amount of the owners' DR&R expense will not alter the facts presently known, which existing facts constitute all of the facts necessary to address the existing law judge- and Commission-proposed "intergenerational inequity," he reasoned.

"… This condition (that the amount of DR&R expense funds collected is known) will be met at the latest when the TAPS Owners file their FERC Form 6s in 2009. Therefore, there should be no regulatory or Commission impediment to the Williams' proposal being implemented in 2009 at the latest," Jones added.

The Williams attorney also proposed the following remedy:

*"Once the TAPS Owners provide the required DR&R information, all that has to be done is to take the amount of DR&R funds collected during the period 1977-2004, plus the interest deemed accrued on those funds through 2006 and divide the resulting sum by two. That resulting number of dollars represents the amount that is to be returned to the TAPS shippers during the period 1977-2006.

*"The TAPS Owners can determine the shippers on TAPS during the period 1977-2006; the total volumes shipped by each shipper and then, for each shipper, calculate the percentage of the total volume for all shippers during the period volumes represents. Each shipper would receive its percentage of the returned amount.

*"Likewise, the TAPS Owners can calculate the amount of DR&R expenses to be calculated in their tariffs during the period 2007-2034."

A FERC spokeswoman said July 22 that the commissioners are not required to act on the rehearing request within a certain time frame. Also, they can vote individually and issue an order based on the outcome or they can wait to vote together at a future meeting, she said.

—ROSE RAGSDALE

Pipeline owners ask FERC for rehearing

Owners of the trans-Alaska Pipeline System filed documents July 21-22 outlining plans to comply with a Federal Energy Regulatory Commission decision overturning interstate rates charged to shippers in 2005 and 2006.

The five owners, BP Exploration (Alaska) Inc., ConocoPhillips Alaska, ExxonMobil Production Co., Unocal Pipeline Co. and Koch Alaska Pipeline Co. LLC, also filed a rehearing request, asking the commission to reconsider three separate parts of its June 19 decision that they said raised new issues or concerns in the case.

BP Pipelines also petitioned the commission separately for a rehearing of one part of the decision.

The owners' objections center on the commission's directions to the pipeline owners to use a uniform method to establish new shipping rates. Specifically, the owners asked the commission to consider whether it made mistakes:

- By imposing a uniform rate on the owners for 2005 and 2006;
- In calculating TAPS rates for 2006 using the property balances and deferred return balances derived from the TAPS owners' December 2005 (TAPS Settlement Methodology) filings; and,
- In failing to apply the Proxy Group Policy Statement to the TAPS owners' compliance filing.

Though they complied with FERC's order, the owners said they reserved the right to object to various issues raised during the proceedings going forward.

—ROSE RAGSDALE

continued from page 1

AGIA LICENSE

pipeline to take Cook Inlet gas to Fairbanks, but ultimately — if Cook Inlet does not meet fuel needs in Fairbanks — to connect with Foothills natural gas currently being explored by Anadarko Petroleum.

The goal is to complete a small line in advance of a mainline taking North Slope gas to market, and ultimately tie the small line in with the mainline and reverse it to bring North Slope natural gas to Southcentral.

The administration has also proposed measures to help cope with the cost of fuel and gasoline, and the Legislature is debating those bills in this special session, along with its consideration of the TransCanada Alaska AGIA license.

Amendments raise issues

It's a combination which has brought a stew of emotions to the AGIA license debate, driven by issues including concerns about TransCanada vs. the producers, the proper role of government and how to get gas to Alaskans. That last issue is intertwined with the Alaska Gasline Port Authority's project to take gas to Valdez and liquefy it there for sale to Far East markets, or West Coast markets should that opportunity be available.

Amendments on the floor, all defeated, focused on some issues of concern.

The first was on whether there is enough gas for an economic line without gas from Point Thomson. There is ongoing litigation between the Point Thomson unit owners and the Department of Natural Resources after DNR terminated the unit for failure to submit a plan of development which resulted in production.

An amendment by Rep. Craig Johnson, R-Anchorage, to require resolution of the Point Thomson dispute and have Point Thomson gas committed to the project before any reimbursement could be made of qualified expenditures, was defeated 9-30.

Johnson said resolution of Point Thomson was in the hands of the administration, and that the gas needed to be available for an open season.

Rep. Paul Seaton, R-Homer, said the availability of Point Thomson gas was in the hands of the Alaska Oil and Gas Conservation Commission, not the administration.

Rep. Carl Gatto, R-Palmer, argued that the Legislature has the right to approve or disapprove the license, but not to change it.

House Majority Leader Ralph Samuels, R-Anchorage, said he had mixed feelings about the amendment, but had a legal opinion that said the Legislature, as a separate and equal body of government, could amend the bill.

The in-state gas issue

A second amendment was triggered by the need for affordable fuel in the Interior.

AGIA allows the state to support another line, as long as that line does not ship more than half a billion cubic feet a day of North Slope gas, assuring the licensee adequate North Slope gas for a pipeline to market.

An amendment by Rep. Jay Ramras, R-Fairbanks, and Johnson, defeated 15-25, would have included gas going into a line for marine export to that exception, allowing an LNG export project to be supported by the state — whatever the volume of gas — at the same time the state supported the AGIA licensee.

Ramras argued that LNG export was necessary to produce a reasonable tariff on a small line bringing natural gas to Fairbanks.

House Rules Chair John Coghill Jr., R-North Pole, said he believed the amendment would put a small in-state line in direct competition with a larger line. The capacity of half a bcf in a smaller line would be sufficient for the Railbelt, he said. The amendment doesn't get us an LNG line but would stop the larger line, he said.

Rep. Mike Kelly, R-Fairbanks, said he was very concerned about the energy situation in the Interior, but believed the TransCanada application provided for all the eventualities addressed in the last year. He said he didn't want to go back to the way things were when he got to the Legislature, with the oil companies completely running the show.

The mysterious agreement

Samuels raised the issue of what TransCanada proposed to the Murkowski administration in 2004 under the Stranded Gas Development Act, and proposed an amendment requiring that information relating to that negotiation be made public.

Seaton argued the stranded gas negotiation was a different negotiation and a different set of people. The amendment would have prevented payment of reimbursements to TransCanada until the documents were made public; he said to say that we won't make payments without documentation related to a previous negotiation was not relevant to the discussion.

Coghill said he also signed the confidentiality letter and looked at the documentation. That was another deal and another day; AGIA is a different setup, he said, urging members to vote against the amendment, which failed 17 to 23.

Monopoly — but on whose side?

Monopoly came up on both sides during the debate.

Rep. Bob Roses, R-Anchorage, said he believes granting the license is a direct path to a monopoly and doesn't get the state the best value in Canada for its gas. He said he regretted voting yes on AGIA last year, and believes it does not protect Alaska and does not let open market forces play out.

House Minority Leader Beth Kerttula, D-Juneau, said she believes the license is the way out of the monopolistic system Alaska has been living under for many years, and that the way to move forward is through an independent pipeline.

Rep. Mike Hawker, R-Anchorage, said he regrets voting for both the Stranded Gas Development Act reauthorization and for AGIA. He said both create the same problem — the administration picking a winner and backing it to the exclusion of all others. The winner, he said, will be picked by the financial markets.

Another problem with AGIA, he said, is that it doesn't build the alignment needed for a successful megaproject.

Kelly said he'd been in Juneau for three big issues — tax overhaul, AGIA and the TransCanada application — and said he agreed with all three, even though all three had powerful, articulate and influential opponents. He said what's at issue is control and agreed there's risk, and said "if we have to reset" and do it again we will, but the TransCanada application follows the process the Legislature set out and it's time to award the license.

Role of government

Samuels said he believes government is ill-equipped to pick winners in the marketplace. Where the state has control, he said, is with permitting on state lands and tax policy.

Comparing AGIA to the BP-ConocoPhillips Denali project, Seaton said Denali doesn't have the incentive to expand the line for other gas producers; the upstream owners would have to approve that expansion. It's a basin-opening project, he said, and why would the boards of upstream producers agree to spend money to open the basin?

While federal law can require expansion, you lose rolled-in rates with mandated expansions, which could make shipping gas in such an expansion uneconomic for a new shipper, he said. Through the mandatory process at the Federal Energy Regulatory Commission, Alaska is left with a monopoly pipeline producer group that would not serve the interests of Alaska, Seaton said.

As the bill came up for reconsideration July 23, Rep. David Guttenberg, R-Fairbanks, said that while the license had been compared to barley farms and a fish processing plant, the real comparison was to Prudhoe Bay, where the State of Alaska, because of incentives and tax credits, is a large investor. That project, he noted, has been a success for producers and the state.

The TransCanada Alaska AGIA license now goes to the Senate, which probably won't vote until closer to the end of the 60 days allotted under AGIA for legislative approval of a recommended license. As this issue of Petroleum News went to press the Senate's Special Committee on Energy had not yet received the House bill and had been taking testimony from the Alaska Gasline Port Authority on its proposal for an LNG project out of Valdez. ●

● EXPLORATION & PRODUCTION

GeoPetro planning Point MacKenzie well

San Francisco independent to drill for gas first at Midnight Sun prospect; confident about rig, location, looking for partners

By ERIC LIDJI

Petroleum News

A San Francisco independent plans to look for natural gas later this year around Point MacKenzie in the upper Cook Inlet.

The GeoPetro Resources Co. plans to spend as much as $5 million on an exploration venture near Point MacKenzie on the west bank of the Knik Arm, according to recent filings with the U.S. Securities and Exchange Commission.

Currently, the company has a rig and a location identified for developing the potential resource, known as the Midnight Sun prospect. Now, GeoPetro is looking for industry partners on the project, according to Eric Doshi with investor relations for the company.

"We've got all our ducks in a row... It is pretty attractive acreage for us," Doshi said.

GeoPetro describes Midnight Sun as an 11,500-acre structure. The company plans to drill an 8,000-foot well to test both the Tyonek and Hemlock formations in the area.

The company also plans to spend as much as $2 million acquiring more land in Alaska and conducting geologic and geophysical work, according to the filings.

GeoPetro arrived in Alaska in April 2005 when it bought out the Cook Inlet acreage of the Illinois-based independent Pioneer Oil Co. … Through the deal, GeoPetro assumed a complete working interest and an 81 percent net revenue interest in nearly 117,000 acres spread across Trading Bay and Point MacKenzie.

Bought Pioneer Oil leases

GeoPetro arrived in Alaska in April 2005 when it bought out the Cook Inlet acreage of the Illinois-based independent Pioneer Oil Co. for $20 an acre, or around $2.3 million.

Through the deal, GeoPetro assumed a complete working interest and an 81 percent net revenue interest in nearly 117,000 acres spread across Trading Bay and Point MacKenzie.

GeoPetro later increased its land position in the Cook Inlet by acquiring around 5,000 additional acres at Point MacKenzie from the Alaska Mental Health Trust Authority, bringing its total acreage in the state to more than 122,000.

The lease tract runs approximately from Big Lake to Point MacKenzie, bordered to the west by a block of leases owned by Pacific Energy Resources Ltd.

Through the deal with Pioneer Oil, GeoPetro has until Nov. 1, 2008 to kick-off a $2.5 million work program over three years, evaluate the well results and pay the second installment or give the leases back to Pioneer without any further liability.

GeoPetro paid the first installment of nearly $1.1 million in August 2005.

The Mental Health Trust leases expire on March 1, 2011 and the state leases expire on May 31, 2012.

The GeoPetro Resources Co. plans to spend as much as $5 million on an exploration venture near Point MacKenzie on the west bank of the Knik Arm, according to recent filings with the U.S. Securities and Exchange Commission.

CBM to conventional gas

Throughout the 1960s, several companies explored the area north of Point MacKenzie.

The Union Oil Co. of California drilled two exploration wells just south of Big Lake during the fall of 1960 and another the following year 1961, finding coal seams, but no oil or significant amounts of gas.

Moving farther south and closer to the coast, Unocal and a group of other oil companies proposed forming the Knik Arm unit a few year later, but pulled the application after drilling a well in the fall of 1963 that also failed to find commercial amounts of oil or gas.

The Atlantic-Richfield CO, the Pan American Petroleum Corp. and Gulf Oil also drilled wells in the area through the rest of the decade.

Pioneer Oil picked up the Point MacKenzie acreage during a May 2004 state lease sale in the Cook Inlet, intrigued by the possibility of developing coal bed methane. Originally GeoPetro saw a similar opportunity, enticed by coal seams between 20 and 70 feet thick.

But then the company bought and evaluated 3-D seismic data of the area.

"We saw this Midnight Sun prospect, and that overshadowed the coal bed methane," Doshi said.

GeoPetro now plans to go after the conventional gas resources in the area first and possibly return to explore the coal bed methane opportunities in the future, Doshi said.

Cook Inlet: second priority

GeoPetro has done little work on its Alaska leases to date, choosing instead to focus company resources on projects in Texas and Indonesia, and look for partners.

GeoPetro has done little work on its Alaska leases to date, choosing instead to focus company resources on projects in Texas and Indonesia, and look for partners.

However, Doshi called Alaska GeoPetro's "second priority," after the company's four producing gas wells at the Madisonville Field north of Houston.

"In terms of exploration, Alaska's the one we're most excited about," Doshi said.

GeoPetro is also pursuing projects in California, Alberta and Indonesia. The company plans to spend as much as $26.2 million on exploration companywide this year, according to the filings. ●

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

OIL COMPANY EARNINGS

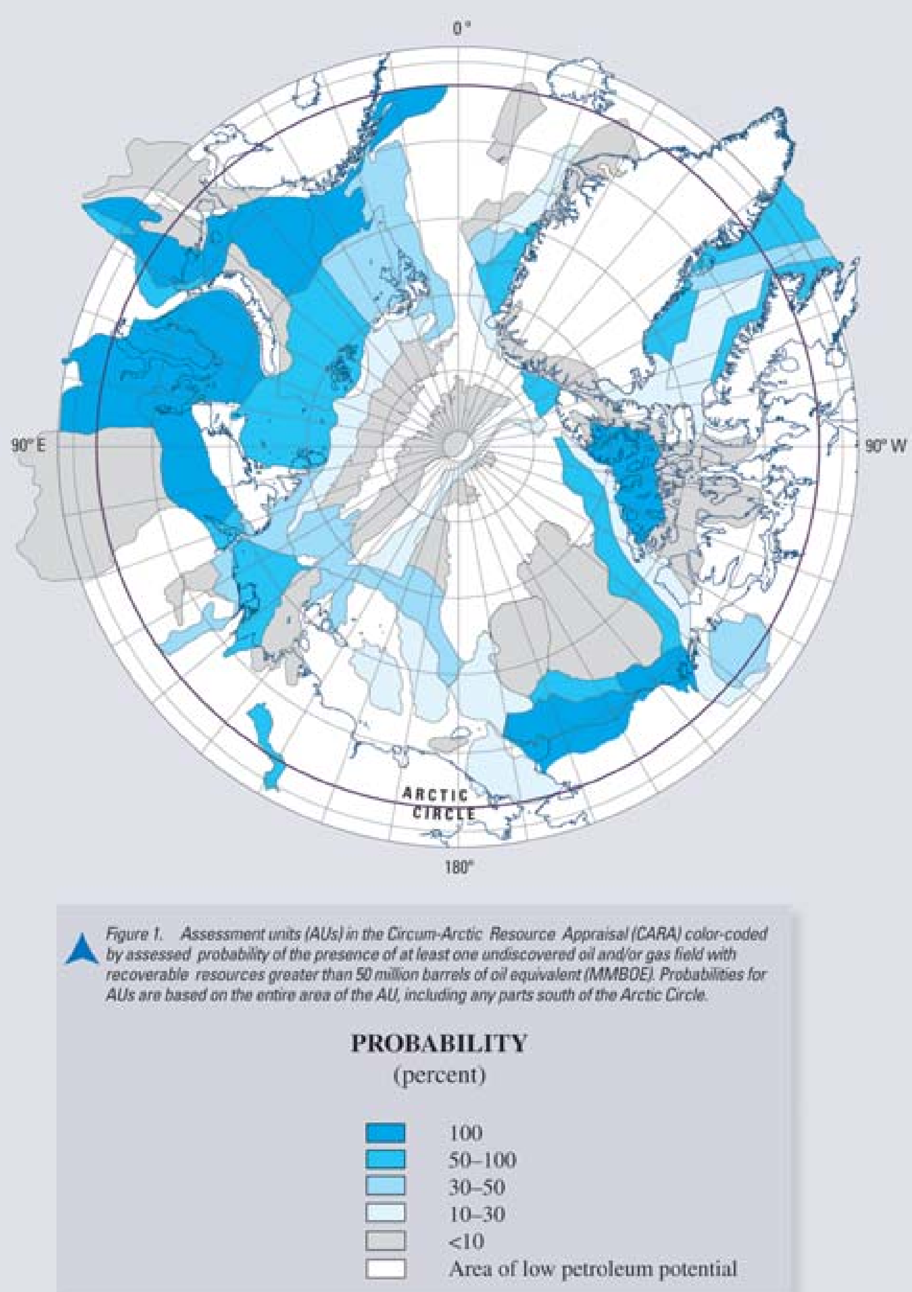
Earnings from Petroleum News Top 25

Earnings second quarter 2008 • Change from second quarter 2007
Liquids production second quarter 2008 • Change from second quarter 2007
Natural gas production second quarter 2008 • Change from second quarter 2007

Company	symbol	earnings	%	liquids	%	gas	%
ExxonMobil	XOM						
BP	BP						
RD/Shell	RDS-A						
Chevron	CVX						
Total	TOT						
ConocoPhillips	COP	$5,439	+1707	949,000*	-10	4,818*	-6
Eni	E						
StatoilHydro	STO						
Occidental	OXY	$2,297	+63	455,000	+2	825	+20
EnCana	ECA						
Can. Natural	CNQ.TO						
Anadarko	APC						
Devon	DVN						
Marathon	MRO						
Husky	HSE.TO	C$1,360	+89	256,100	-7	618	0
Talisman	TLM						
Apache	APA						
Imperial	IMO						
Suncor	SU.TO	C$829	+12	174,600	-14	226	+8
Petro-Canada	PCZ	C$1,498	+77	286,000	-3	705	-2
Nexen	NXY.TO	C$380	+3	213,600	-2	244	+13
XTO	XTO	$575	+33	66,853	+9	1,795	+35
Chesapeake	CHK						
Pioneer	PXD						
EOG	EOG						
Newfield	NFX	-$289	—	25,560	-4	486	-77
Swift	SFY						
Bow Valley	BVX.TO						

Liquids production in barrels per day. Natural gas production in millions of cubic feet per day.
** Does not include Lukoil investment*
Top companies chosen based on exploration spending and commitment to Alaska and Canada

U.S. GEOLOGICAL SURVEY



The probabilities of significant oil and gas accumulations in the USGS defined petroleum provinces of the Arctic

continued from page 1

90 BILLION

These resources account for 22 percent of the discovered technically recoverable resources in the world."

30 percent of gas worldwide

Worldwide, the estimated Arctic resources represent 13 percent of undiscovered oil, 30 percent of undiscovered natural gas and 20 percent of undiscovered natural gas liquids, with about 84 percent of the resource occurring offshore, USGS said.

"Before we can make decisions about our future use of oil and gas and related decisions about protecting endangered species, Native communities and the health of our planet, we need to know what's out there," said USGS Director Mark Myers. "With this assessment, we're providing the same information to everyone in the world so that the global community can make those difficult decisions."

USGS scientist Brenda Pierce told Petroleum News July 24 that the Arctic assessment forms part of a USGS world petroleum project. Following publication of results from that project in 2000 the agency realized that the study had only included a few Arctic basins, she said.

"The Arctic clearly was one area in which we knew we needed to focus in order to really understand the world's petroleum endowment because there is great petroleum potential in the Arctic," Pierce said. "So, for the past few years our world petroleum project has focused solely on the Arctic, gathering data, building partnerships, getting the information necessary to conduct an assessment.

Because of the scarcity of seismic and well data in many basins, the USGS scientists found worldwide analogues to the assessment units — geologic settings with similar characteristics — to estimate the probabilities of oil and gas accumulations in the Arctic basins.

Three provinces

USGS thinks that more than half the undiscovered Arctic oil resources occur in just three provinces — Arctic Alaska, the Amerasia basin and the East Greenland rift basin, with 70 percent of the gas resource occurring in the West Siberian basin, the East Barents basin and Arctic Alaska.

Arctic Alaska comes at the top of the list by a large margin in terms of potentially recoverable oil resources, with an estimate of nearly 30 billion barrels. In terms of natural gas, Russia's west Siberian basin comes out on top with an estimate of 651 tcf; the east Barents basin (the Russian side of the Barents Sea) comes up next with 317 tcf; and Arctic Alaska is third with 221 tcf.

But Donald Gautier, a member of the Arctic appraisal assessment team, cautioned that, with little drilling or seismic surveying in many of the Arctic basins, the new resource estimates are subject to considerable uncertainty.

"I would emphasize that this is a very uncertain area and these are probabilistic estimates with a great deal of uncertainty associated with them," Gautier said.

And Pierce said that, although the estimates represent oil that could be extracted using current technology, the assessment did not take into account the techni-

see **90 BILLION** *page 23*

U.S. GEOLOGICAL SURVEY

Table 1. Summary of Results of the Circum-Arctic Resource Appraisal

[MMBO, million barrels of oil; BCFG, billion cubic feet of natural gas; MMBNGL, million barrels of natural gas liquids; NQA, not quantitatively assessed. Results shown are fully risked mean estimates. For gas accumulations, all liquids are included as NGL (natural gas liquids). Provinces are listed in ranked order of total barrels of oil and oil-equivalent natural gas (BOE).]

Province Code	Province	Oil (MMBO)	Total Gas (BCFG)	NGL (MMBNGL)	BOE (MMBOE)
WSB	West Siberian Basin	3,659.88	651,498.56	20,328.69	132,571.66
AA	Arctic Alaska	29,960.94	221,397.60	5,904.97	72,765.52
EBB	East Barents Basin	7,406.49	317,557.97	1,422.28	61,755.10
EGR	East Greenland Rift Basins	8,902.13	86,180.06	8,121.57	31,387.04
YK	Yenisey-Khatanga Basin	5,583.74	99,964.26	2,675.15	24,919.61
AM	Amerasia Basin	9,723.58	56,891.21	541.69	19,747.14
WGEC	West Greenland-East Canada	7,274.40	51,818.16	1,152.59	17,063.35
LSS	Laptev Sea Shelf	3,115.57	32,562.84	867.16	9,409.87
NM	Norwegian Margin	1,437.29	32,281.01	504.73	7,322.19
BP	Barents Platform	2,055.51	26,218.67	278.71	6,704.00
EB	Eurasia Basin	1,342.15	19,475.43	520.26	5,108.31
NKB	North Kara Basins and Platforms	1,807.26	14,973.58	390.22	4,693.07
TPB	Timan-Pechora Basin	1,667.21	9,062.59	202.80	3,380.44
NGS	North Greenland Sheared Margin	1,349.80	10,207.24	273.09	3,324.09
LM	Lomonosov-Makarov	1,106.78	7,156.25	191.55	2,491.04
SB	Sverdrup Basin	851.11	8,596.36	191.20	2,475.04
LA	Lena-Anabar Basin	1,912.89	2,106.75	56.41	2,320.43
NCWF	North Chukchi-Wrangel Foreland Basin	85.99	6,065.76	106.57	1,203.52
VLK	Vilkitskii Basin	98.03	5,741.87	101.63	1,156.63
NWLS	Northwest Laptev Sea Shelf	172.24	4,488.12	119.63	1,039.90
LV	Lena-Vilyui Basin	376.86	1,335.20	35.66	635.06
ZB	Zyryanka Basin	47.82	1,505.99	40.14	338.95
ESS	East Siberian Sea Basin	19.73	618.83	10.91	133.78
HB	Hope Basin	2.47	648.17	11.37	121.87
NWC	Northwest Canada Interior Basins	23.34	305.34	15.24	89.47
MZB	Mezen' Basin	NQA	NQA	NQA	NQA
NZAA	Novaya Zemlya Basins and Admiralty Arch	NQA	NQA	NQA	NQA
TUN	Tunguska Basin	NQA	NQA	NQA	NQA
CB	Chuckhi Borderland	NQA	NQA	NQA	NQA
YF	Yukon Flats (part of Central Alaska Province)	NQA	NQA	NQA	NQA
LS	Long Strait	NQA	NQA	NQA	NQA
JMM	Jan Mayen Microcontinent	NQA	NQA	NQA	NQA
FS	Franklinian Shelf	NQA	NQA	NQA	NQA
Total		89,983.21	1,668,657.84	44,064.24	412,157.09

U.S. GEOLOGICAL SURVEY

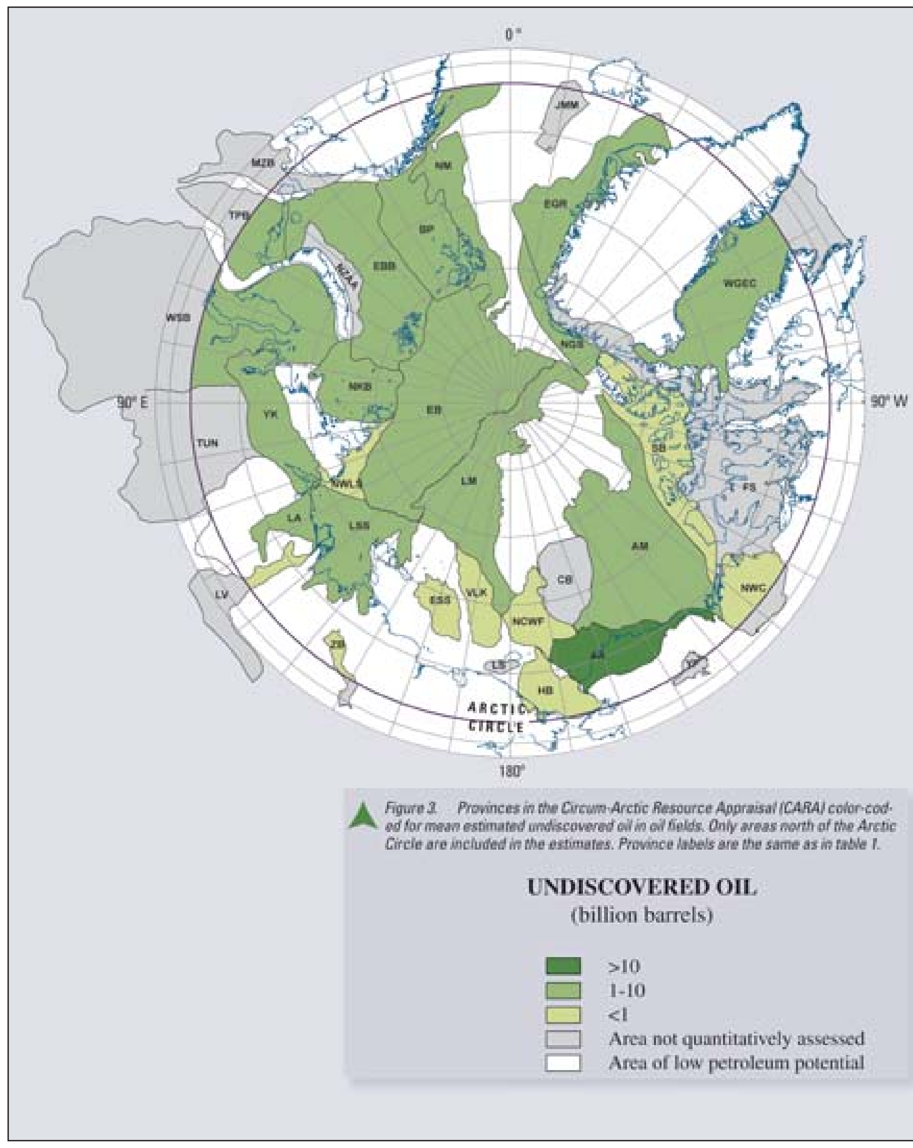


Figure 3. Provinces in the Circum-Arctic Resource Appraisal (CARA) color-coded for mean estimated undiscovered oil in oil fields. Only areas north of the Arctic Circle are included in the estimates. Province labels are the same as in table 1.

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cal difficulties of operating in deep water or sea ice.

"We assumed these resources are recoverable in sea ice and despite water depth," Pierce said.

Assessment units

USGS says that the Arctic assessment involved assembling available geologic information and then defining assessment units — mapable volumes of rocks with common geologic traits. Because of the scarcity of seismic and well data in many basins, the USGS scientists found worldwide analogues to the assessment units — geologic settings with similar characteristics — to estimate the probabilities of oil and gas accumulations in the Arctic basins. By adding the estimates for individual assessment units, the scientists could obtain an overall resource estimate for each province. The scientists also estimated likely accumulation sizes and did not assess quantitatively eight provinces where there appeared to be less than a 10 percent probability of a significant accumulation (defined as 50 million barrels of oil equivalent or more).

However, USGS has not yet published the probability distribution data that would give an indication of the level of certainty of the assessment results. Pierce told Petroleum News that USGS is still evaluating the probability distributions of the various assessment units and expects to present the results of this evaluation at the International Geological Congress in August.

Arctic Alaska

The Arctic Alaska province that figures high in the oil and gas resource estimates includes the whole of northern Alaska, most of the Chukchi Sea shelf and quite a large section of the Beaufort Sea shelf. However, USGS has included part of the Beaufort Sea shelf, as defined by bathymetry, within what USGS terms the Amerasia basin province, a province that figures in the top three for potential oil resources. The Amerasia basin province includes extensive areas of continental margin north of Alaska and along the Canadian side of the Arctic Ocean, as well as the Mackenzie Delta, USGS geologist Dave Houseknecht told Petroleum News.

USGS used geologic distinctions, rather than bathymetry or political boundaries, to define the provinces in the assessment, Houseknecht explained. As a consequence there are boundary differences between the USGS Arctic provinces and the provinces covered by some existing petroleum assessments. For example, both the Arctic Alaska province and the Amerasia basin province overlap the U.S. Minerals Management Service Beaufort shelf assessment province.

Houseknecht also stressed that, to achieve consistency across the whole of the Arctic, USGS had used very broadly defined assessment units, even in areas such as northern Alaska where USGS and MMS have published much more detailed assessments. And the 50 million-barrel cutoff point for a "significant accumulation" is relatively high.

"This should be perceived as a lower resolution look at the global Arctic," Houseknecht said.

Specific assessments such as the MMS Beaufort and Chukchi Sea assessments, and the USGS assessments of different sections of northern Alaska, provide detailed evaluations of multiple petroleum plays and the associated resource potential in the region.

"We continue to defer to the preceding assessments by MMS and USGS for the details of Arctic Alaska resource potential," Houseknecht said.

Worldwide perspective

But the figure of 22 percent of worldwide undiscovered resources from the new USGS Arctic assessment does bring into perspective the figure of 25 percent that many people have bandied about for Arctic oil and gas resources. The 25 percent figure came from an assessment of seven oil and gas basins that had been broadly described as "Arctic" in the 2000 USGS world petroleum project report, but which contained substantial tracts of land that were not, strictly speaking, within the Arctic.

On the other hand, Professor Anatoly Zolotukhin, deputy rector on international affairs at Gubkin Russian State University of Oil and Gas, said in April that the Russians have estimated that the Russian Arctic Ocean shelf by itself could hold 25 percent of the world's remaining oil and gas resources.

Of course, no one will really know how much oil and gas exists in the Arctic unless people drill holes in the ground. But whatever the real volumes are, they certainly look to be large. ●

continued from page 1

BLUEPRINT

Energy and Utilities Board, as "thorough, honest and accurate."

Strahl said the status quo is "not an option and changes are needed to fix this cumbersome and confusing regulatory regime."

He commissioned the report eight months ago in an effort to promote economic development of resources north of the 60th parallel to "maximize potential benefits of development projects" while protecting the environment.

To achieve that goal, he said the northern territories needed "predictable, effective and efficient regulatory systems."

> *The status quo is "not an option and changes are needed to fix this cumbersome and confusing regulatory regime."*
>
> **—Canadian Indian Affairs and Northern Development Minister Chuck Strahl**

NWT has number of boards

Because of aboriginal land claims and other agreements the Yukon and Nunavut territories are better positioned than the NWT to proceed in a more streamlined fashion when it comes to processing resource applications.

In the NWT a number of regional boards, stemming from various land claim settlements, all operate under different rules, creating a process that is confusing and frustrating for industry, according to Mike Vaydik of the NWT and Nunavut Chamber of Mines.

He said 17 boards regulating resource development in the NWT is "just too many when you consider there are only 42,000" people in the region.

The McCrank report presents two options to overhaul the entire regulatory regime in the NWT, taking decision-making powers away from the host of smaller boards.

One option single regulator

Strahl told reporters in Yellowknife that one route would involve opening up the land claims and doing a "stem-to-stern" change that would result in a single regulatory body for the Mackenzie Valley.

The other would see the regional boards survive, although their function would change.

The report conceded that a "fundamental restructuring would be desirable but difficult to achieve."

Strahl said that once the report is presented to the federal cabinet this fall, the government will start the process of preparing a response by year's end. He promised to consult with land claims groups before announcing any changes.

Roland said the NWT government will place the report before the next meeting of regional aboriginal leaders and consult with constituents before making a formal response.

Willard Hagen, chairman of the Mackenzie Land and Water Board, said that if the regions of the NWT want to become more progressive by attracting industry and attracting jobs and business opportunities, the role of the board is "something they will have to look at very closely." ●

Editor's note: TransCanada's proposed gas pipeline route from Alaska's North Slope to Alberta gas hub does not go through the Northwest Territories.

NORTH OF 60
MINING NEWS

8 Leaders tally pitfalls in Ballot Measure 4

Proposal could do damage to mining and strip Alaska Natives of key rights

10 Thar's still plenty of silver at Keno Hill

Miner seeks to develop historic deposits, while removing environmental hazard

15 Pebble exploration draws critical legal review

DNR official explains how project continues to meet all state, federal requirements

The Pebble Partnership has ten drills and consultants from 50 different firms collecting data that will be used by engineers to create a mine plan for the Pebble project.

PHOTO BY ERIC LIDJI

A special supplement to Petroleum News

WEEK OF
July 27, 2008

Petroleum news

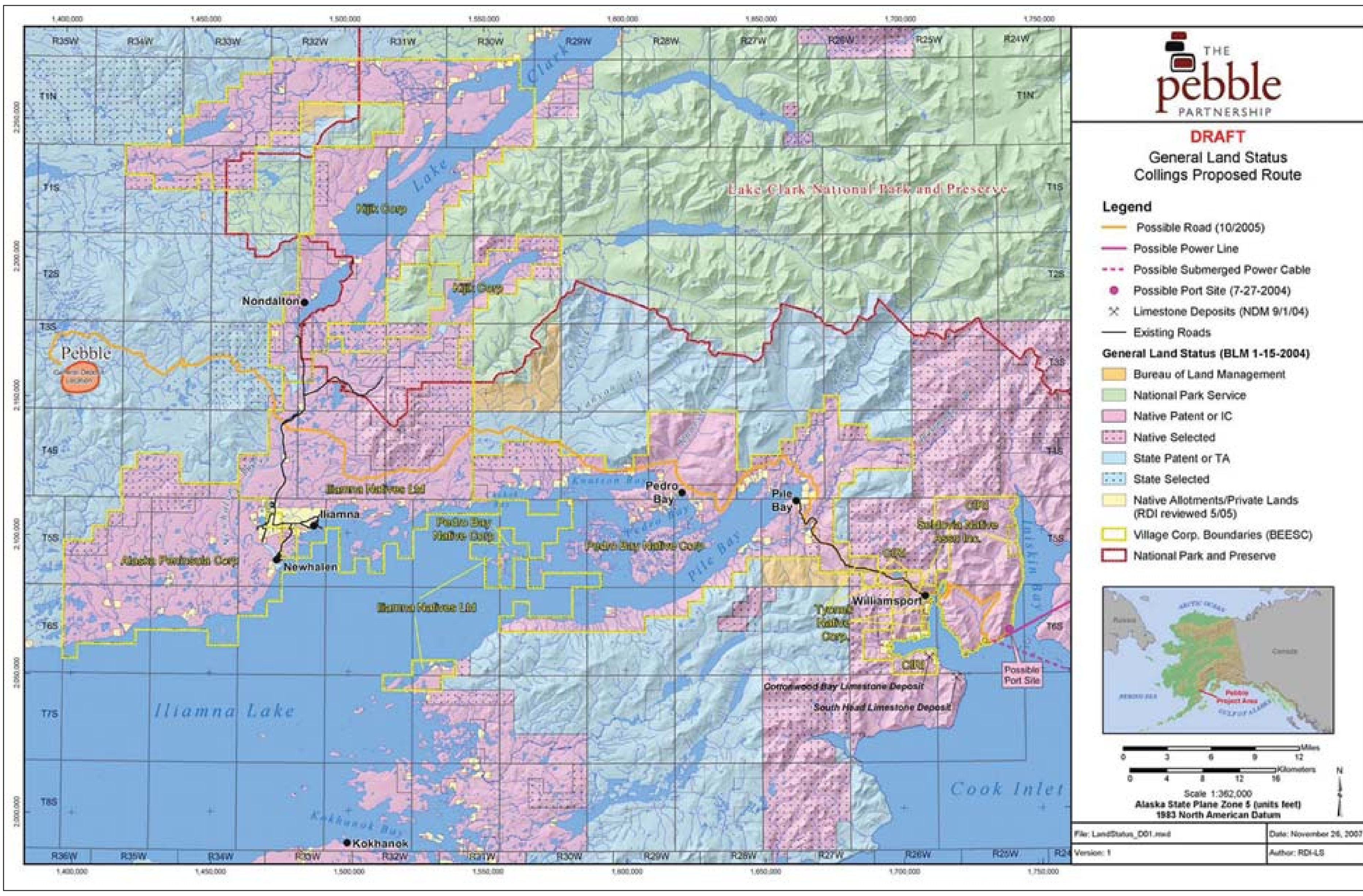

PHOTO COURTESY OF PEBBLE LIMITED PARTNERSHIP

Access to the proposed 100-mile road between Cook Inlet and the Pebble property would be controlled by Native corporations who own a majority of the land it will cross.

● ALASKA

Red and copper resources at stake

Engineers use $100 million in environmental studies, 100 miles of drilling at Pebble to design economic, environmentally safe mine

By SHANE LASLEY
Mining News

ILIAMNA — The Bristol Bay region of Southwest Alaska is the home to two world-class resources: a celebrated sockeye salmon fishery and the humongous Pebble copper-gold-molybdenum deposit. This combination offers the potential for an enduring vibrant economy.

But the challenge for owners of a proposed mine at Pebble is to create a workable development plan for the mineral resource that poses no threat to the fish resource that relies on the area's rivers and streams for its very existence.

"We realized very early on that because of where we are operating, the significance of the fisheries and wildlife resource here and the fact that this area is largely undeveloped, there is going to be very high expectations in terms of environmental protection," said Pebble spokesman Sean Magee during a July 14 tour of the project.

Pebble's owners, Northern Dynasty Minerals Ltd. and Anglo American plc, said the only way Pebble will be developed is if engineers can design a mine that is profitable, addresses the concerns and needs of local residents and ensures regulators and the public that it will protect the water and fish resources of the Bristol Bay region.

see **RESOURCES** *page 3*

ERIC LIDJI

The Pebble Partnership is aware that the mine project it proposes to build and operate near Iliamna carries with it very high expectations in terms of environmental protection, says spokesman Sean Magee

continued from page 2

RESOURCES

ERIC LIDJI

Nearly 100 miles of drill core has been analyzed and logged at Pebble. Engineers will use this information to determine the best way to mine the ore.

Focus turns toward engineering

A partnership entity formed by the owners to manage the Pebble Project, so far, has spent more than $250 million studying all aspects of the Pebble project in hopes of providing engineers with needed information for preparing a mine plan that ensures the waters and fish of Bristol Bay are protected and that returns a profit.

The focus of The Pebble Partnership Ltd. and the bulk of its spending in past years has been on environmental studies and delineating the resource at Pebble. Though drilling and environmental studies are ongoing, the company's focus this year has turned to engineering.

Magee said engineers are still working on a mine plan, and it is too early to discuss details. However, Pebble West is amenable to open-pit techniques, while the richer and much deeper Pebble East is a good candidate for underground extraction known as "block cave mining."

Block cave mining is a method in which ore is allowed to collapse due to its own weight in a controlled fashion into chutes. Block caving is usually used to mine large ore bodies that have consistently disseminated grade throughout. Currently, only about 20 operations worldwide use this procedure, Magee said.

Completion of a pre-feasibility mine plan is not expected until sometime late in 2009, but the partnership anticipates it will begin releasing preliminary plans for the public to review by next spring.

49 billion pounds of copper

While engineers are hammering out a mine plan for Pebble that economically extracts the ore in a manner that will limit the project's effect on the mine site, 10 drills are churning and consultants from 50 different firms continue to collect data about Pebble and the surrounding region.

In addition to drillers and consultants, reclamation crews are busy cleaning up and reseeding drill sites after rigs have been moved. The only evidence of their work is the lack of any sign that nearly 700 holes have been drilled on the property to date.

More than 100 miles of drill core has been recovered at Pebble, measuring 3.9 billion metric tons of ore containing 49 billion pounds of copper, 45 million ounces of gold and 2.8 billion pounds of molybdenum buried at some 1,000 feet to more than 6,000 feet below the surface. This year's drill program is designed to further delineate and expand the mineral resource at Pebble East, which is still open to the north and east.

Power and road

Power to operate a mine is another issue for engineers. Even though it is anticipated that much of the power needed will be provided by natural-gas-fired generators, engineers are studying alternate energy sources, including run-of-river power generation and wind power. Supplying an economic power source is one of the benefits the partnership hopes to bring to the residents of the region.

Another benefit that will lower costs in the region is a road from a port on Cook Inlet. Villages in the region currently must have all their groceries, building materials, fuel, and other supplies flown in. This is a major expense that is reflected by the current $7.70-per-gallon price of gasoline in Iliamna.

Some local residents are concerned about the access tourists, hunters and others would have to the region. However, the 100-mile road would most likely be closed to the public and access would be controlled by the Native corporations whose lands it will cross, Magee said.

Workforce and business development

As the Pebble project moves closer to beginning the permitting process, the company is looking at how it will recruit the workers needed to build and operate the mine. The partnership anticipates hiring nearly 2,000 workers during construction and employing 1,000 people permanently when the mine goes into operation.

In addition to the mine's work force, service and support businesses will need another 3,000 employees.

The partnership is crafting a workforce development plan that is focused on hiring local residents.

"We want as many of our employees to be from local communities as possible. It's not just good for the communities to maximize benefits, but it is good for projects for regions to own and be responsible for how they work and manage it," Magee said.

Pebble's owners are also working on a program to provide scholarships to young people in the region. This early investment will help the company fill professional positions when the mine goes into production.

Young people are already looking to Pebble as a career opportunity.

For example, Brian McNutty from Talkeetna, who recently graduated from the University of Alaska Fairbanks, is applying his graduate studies on porphyry deposits in Pebble's core shack, analyzing drill samples.

Skyler Lovelace, another young Alaskan who learned his trade at the project, works on Drill Rig #3, sending McNutty core samples from the northern edge of Pebble East.

The partnership also is focused on assisting local communities in developing businesses that will provide the support and services that a mine as large as Pebble would need. The partners will use Anglo American's expertise in this area, Magee said. Anglo has implemented similar business development programs at many of its other operations around the world.

"This project has the potential to hire directly one out of every seven people living in this entire region," Magee pointed out. "If the impacts can be limited to the mine site and (the mine) can operate three or four generations, it could make a very positive economic and social contribution to the region, one that would go on well beyond the life of the mine."

Five keys to success

To ensure that its efforts succeed at Pebble, the partnership has pledged to be guided by five core principles:

Benefit the people – Pebble is for Alaskans;

Co-exist with healthy fish, wildlife and other natural resources;

Apply the world's best and most advanced science; and

Help build sustainable communities.

At Pebble, we will listen before we act.

If the partnership sticks to these principles in developing a mine at Pebble, then the immediate region and all of Alaska will be able to benefit for generations to come from both world-class copper-gold-molybdenum and red salmon resources in Bristol Bay. ●

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● ALASKA

Coeur seeks tailings solution

Supreme Court agrees to review Ninth Circuit ruling against Lower Slate Lake tailings permit; Coeur pursues alternative plan

By SHANE LASLEY

Mining News

The U.S. Supreme Court has agreed to review a Ninth Circuit Court of Appeals ruling that invalidated tailings permits granted by federal regulators for the Kensington gold mine project in Southeast Alaska.

The appeals court ruled in May 2007 that disposal of waste generated by processing gold ore at Kensington in a nearby lake would violate the Clean Water Act and negated permits issued by the U.S. Forest Service and the U.S. Army Corps of Engineers.

Coeur Alaska Inc., developer of the mine project, appealed the decision to the high court.

The question of where to dispose of tailings from Kensington, which is located about 45 miles northwest of Juneau, has sparked a back and forth controversy between Coeur Alaska and several environmental groups. The case ended up before the Ninth Circuit when the Southeast Alaska Conservation Council and other environmental groups appealed an August 2006 ruling by the U.S. District Court of Alaska in Anchorage that upheld the mine permits.

COURTESY OF COEUR D' ALENE MINES CORP.

All the main surface facilities at Kensington are complete except the tailings facility. Coeur's goal is to permit and construct the tailing facility in time to begin production late in 2009.

Comet Beach permitting continues

Coeur Alaska, which has spent more than $230 million and has completed all of the construction for the mine other than a tailings facility, said it will not wait for a Supreme Court ruling, but instead, will continue with permitting an alternative tailings site for the project.

The company worked out a plan, in cooperation with SEACC, for storing the tailings as paste at Comet Beach, a site previously approved for dry-stack tailings.

The only difference between the current plan and the dry-stack is that cement would be added to the tailings. Because the site has been previously approved and changes to the tailings disposal plan are not significant enough to require a full environmental impact statement, regulatory agencies led by the Forest Service have recommended an environmental assessment level of review for the alternate plan.

An EA could allow permitting to be complete by this fall, several months before a review by the Supreme Court is expected, according to Coeur.

Coeur seeks quickest solution

When asked why Coeur is even pursuing a ruling by the Supreme Court when it is already pursuing a permit for an alternative tailings facility, spokesman Tony Ebersole told Mining News, "It is consistent with what we have been trying to do all along. The objective here is to try to get the mine into production. Our goal is to get it going by late next year and either one of these alternatives would allow for that."

COURTESY OF COEUR D' ALENE MINES CORP.

Kensington Gold Mine, located about 45 miles northwest of Juneau Alaska, is expected to produce 140,000 ounces of gold per year and has an initial mine life of 10 years based on current reserves.

SEACC, which opposes the Lower Slate Lake option but gave its blessing to the Comet Beach site, is dismayed that Coeur is continuing with the appeal.

Rob Cadmus, SEACC water quality and mining organizer said, "It is unfortunate that Coeur won't let go of its proposal to use a lake as a waste dump when its paste tailings plan is the best, and fastest, option for getting this mine into production in an environmentally sound way."

State convinces high court to hear case

A very small percentage of cases appealed to the Supreme Court actually make the docket. Of about 1,000 cases presented during the 2007-2008 term, the high court considered only 67 of them, the lowest number in more than 50 years, observers say.

U. S. Rep. Don Young, R-Alaska, applauded the Supreme Court's decision to review the case.

"On average, only 7 percent of certiorari petitions filed are actually heard by the Court; I think it's a great victory for Alaska that the Court saw this as a serious and important case. One of the biggest issues we have with developing our natural resources today is the extreme environmental groups who look for any possible grounds to sue and shut development down. I look forward to the Supreme Court providing an objective review of the erroneous Ninth Circuit decision that has been holding up a critical project to help grow Southeast Alaska's economy," said Young.

The State of Alaska played an instrumental role in convincing the Supreme Court to review the case. State attorneys argued that the importance of the case goes beyond Kensington. If the high court overturns the appeals court ruling, it would set a precedent with important implications for future mines in Alaska and elsewhere.

Gov. Sarah Palin said the Supreme Court's decision should provide direction on how certain federal technology standards that are in addition to state water quality standards, should be applied in determining the location of tailing impoundments for future projects.

"We need the Supreme Court to decide once and for all what the federal rules are for dealing with mine tailings," Palin said. "The federal laws have been interpreted differently by different courts at different times. The resulting uncertainty makes it more difficult for everyone involved in the permitting of mines in Alaska." ●

GUEST COLUMN

Early assays, impressive results

Early assays from the 2008 drill season reveal some impressive gold and polymetallic results; additional results expected

By CURT J FREEMAN
For Mining News

Assays are beginning to roll in from projects around Alaska with some particularly impressive results from gold exploration in the Livengood District and equally impressive polymetallic results from the Fortymile and Haines Districts. Additional results from gold, copper, base metal and uranium projects are due to come out in the near future as the bulk of Alaska's seasonal exploration programs begin to churn out their results. Although gold, silver and copper prices remain high, lead and zinc prices are down 20 percent in the last month so while our gold and silver producers are reaping the benefits of higher prices, our lead and zinc producers are suffering the slings and arrows of lower metals prices combined with skyrocketing fuel, labor and supplies prices.

Western Alaska

NOVAGOLD RESOURCES announced that is has completed the tailings storage facility and significant testing of the mill and processing facilities at its Rock Creek mine and is completing some alterations to the water recycle pond. In addition, the company has drilled 1,300 meters of the 9,000 meters of exploration drilling planned for 2008, with the goal being extension of the mine life. Adverse weather conditions and unusually high rainfall events have resulted in delays in commencement of production at Rock Creek and have required an increase in the capital construction cost by $25 million.

ALIX RESOURCES announced that it has commenced induced polarization/resistivity surveys and drilling on the Fog Lake property in southwestern Alaska. Exploration work in the early 1970s identified a 700-meter-long by 300-meter-wide soil geochemical anomaly at this site. Of the 130 soil samples in the anomalous zone, 49 contained between 100 and 18,800 parts per billion gold and 65 contained between 70 and 3200 parts per million copper. The zone is also anomalous in zinc, lead and silver. Mineralization is hosted in a package of pyritized and altered Tertiary felsic volcanic rocks. The property has never been drilled. The company has completed a 1500-meter induced polarization/resistivity geophysical survey and collared the first of two planned diamond drill holes on the $1 million 2008 exploration program. The company also indicated that it plans to complete additional geologic mapping and sampling, induced polarization/resistivity surveys and up to 800 meters of diamond drilling at its nearby KUY gold project and an identical program at is Kamishak copper-gold project.

The author

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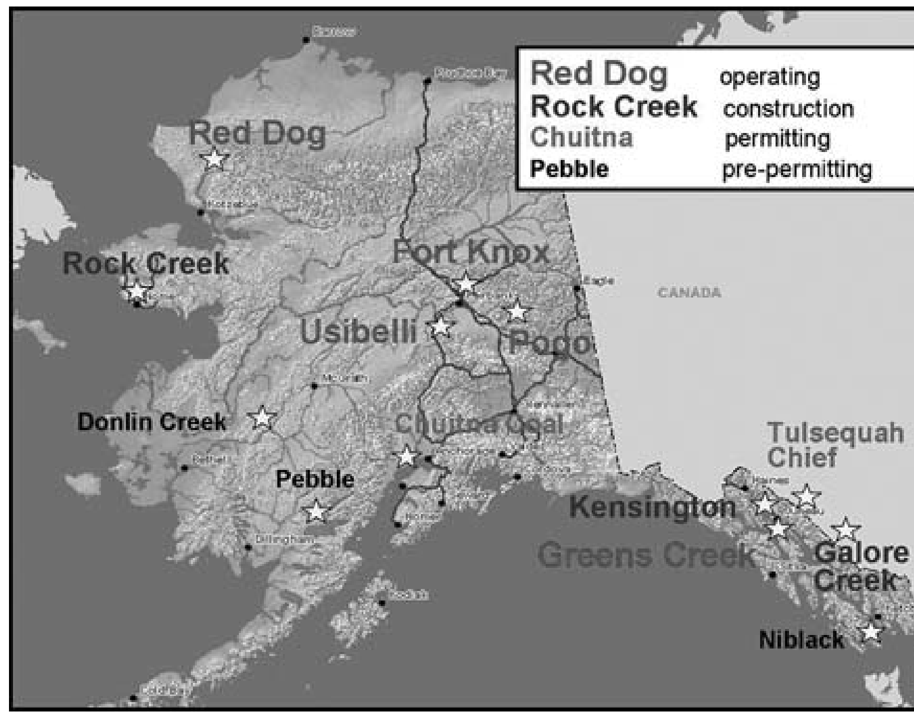
CURT FREEMAN

MILLROCK RESOURCES announced that it will proceed with an 1,800-meter core drilling program at the Bluff gold project on the Seward Peninsula. The program is designed to confirm and expand on the 505,000 ounce gold resource in the Saddle, Daniels Creek and Koyana zones that was outlined by BHP Utah Minerals in the 1980's. The property is on lands optioned from the Bering Straits Native Corp.

GEOINFORMATICS EXPLORATION INC. announced that the first drill hole in its 2008 exploration program confirmed the presence of a second mineralized porphyry system at its Whistler project. Assays from the drill hole at the newly discovered Rainmaker prospect returned 151.6 meters grading 0.37 grams per metric ton of gold, 0.18 percent copper, and 0.74 g/t silver (0.72 g/t gold-equivalent). Copper and gold mineralization is hosted in chalcopyrite and occurs as disseminated grains and within veins and fractures in an altered diorite porphyry. The zone appears to have potential to be similar in size to the previously discovered Whistler zone.

Eastern Interior

INTERNATIONAL TOWER HILL MINES announced initial drill results from the 2008 resource expansion program on its Livengood gold project. The company has received results from 7 of the 19 holes drilled to date that are part of this year's 150-hole, 45,000-meter program. Significant intersections were returned from hole MK-RC-008 which returned 202.69 meters of 1.37 g/t gold (including 30.5 meters of 4.1 g/t gold), hole MK-RC-007 which returned 59.4 meters of 1.96 g/t gold (including 4.6 meters of 13.7 g/t gold), and hole MK-RC-001 which returned 66 meters of 1.56 g/t gold (including 6.1 meters of 5.9 g/t gold). All of these intercepts were infill holes on the southern and eastern side of the Lillian zone, respectively. The western step-out hole MK-RC-005 returned 33.5 meters grading 1.63 g/t gold, including 3.1 meters of 7.3 g/t gold. The project is currently operating one reverse circulation drill and one core drill and planned to add a second reverse circulation drill rig. The 2008 drill program will test an area approximately three times the size of that previously drilled before completion of the program in December.



FULL METAL MINERALS announced superb drilling results from its LWM base metal prospect at its Fortymile project in the Fortymile District. Core drilling has identified massive carbonate-replacement mineralization over 550 meters of strike length and over 300 meters below surface. The deposit is open to expansion in all directions. At least two subparallel zones of mineralization have been encountered within dolomitized marble host rock, with the primary zone located adjacent to a fault zone. Initial drilling from 2008 included hole LWM08-29, which intersected 68.2 meters true width averaging 6.56 percent zinc, 2.47 percent lead, 0.11 percent copper and 42.7 g/t silver. This interval included continuous zones of disseminated mineralization with alternating high-grade lead- and zinc-rich intervals including 9.6 meters true width averaging 16.1 percent zinc, 4.0 meters true width averaging 20.4 percent zinc and 3.3 meters true width averaging 17.48 percent lead and 254.3 g/t silver. A week later the company announced additional results including hole LWM08-28 which returned 1.6 meters true width averaging 26.2 percent zinc, 14.3 percent lead and 246.0 g/t silver, hole LWM08-32 which returned 19.9 meters true width averaging 12.5 percent zinc, 8.1 percent, lead and 158.7 g/t silver, hole LWM08-33 which returned 7.7 meters true width averaging 12.7 percent zinc, 15.6 percent lead and 259.6 g/t silver, hole LWM08-34 which returned 3.7 meters true width averaging 17.3 percent zinc, 9.5 percent lead and 158.3 g/t silver and hole LWM08-41 which returned 3.6 meters true width averaging 4.7 percent zinc, 33.5 percent lead and 459.4 g/t silver. To date, 28 drill holes have been completed at LWM, with massive to semi-massive sphalerite-galena-chalcopyrite mineralization intersected in the majority. A 15,000-meter drill program is planned for the 2008 season. Step-out and infill holes are being completed on 50 meter centers along strike and down-dip. The company also announced that nine individual samples from holes LWM08-23, 28 and 34 were also analyzed for indium with values from these

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GUEST COLUMN

The Gods must be crazy

Apathy among mining industry workers in Alaska likely will tip scales in favor of Ballot Measure 4 in Aug. 26 primary election

By J. P. TANGEN
For Mining News

There is no other explanation for the situation we are in – the gods must be crazy. Consider this: Gasoline prices are through the roof, but Congress won't compromise a postage stamp footprint on the Arctic Ocean to tap the reserve under Kaktovik; environMENTALists, having successfully run the timber industry out of Southeast Alaska, are now bent on dragging the region's tourist industry to its knees; our Governor believes gas producers shouldn't build pipelines; and the Gillamites of Alaska are about to foreclose future major mine expansions.

These are just some of the whirlwinds that are blowing around our heels. My theory as to how all these things came about is that the gods are crazy, but perhaps there is another explanation. Maybe Americans in general and Alaskans in particular just don't care enough to become involved. I am often reminded of the difference between ham and eggs: The chicken is interested but the pig is involved. Most of us are interested, but few of us, it seems, are involved.

Mining & the law

J.P. TANGEN

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

Consider Measure 4 scheduled for the August 26 ballot. You won't vote. How do I know? Because the numbers say that primary elections have very low levels of participation. If I predict that you will be too lazy, or busy, or simply uninterested to vote on August 26, the odds are that I will be right.

Coincidentally, this primary election will take place when most of the people in the mining industry are "in the field" working their butts off, trying to make a living. The Gillamites, on the other hand, will be sitting in cushy offices preparing lawsuits against the government. They can easily squeeze in a trip to the polls over their lunch hour. We deserve the government we get, because we fail to do what is necessary to get the government we want.

Let me throw out this simple challenge: Suppose that you are "involved" and actually do vote in the primary to sink Measure 4; will that be enough?

Of course not. Not only do you have to vote against this obscenity, but you also have to be well enough informed, and, dare I say, eloquent enough to persuade your "interested" friends to vote against it, too.

What can you say to get the interested involved? Well, for one thing, you can point out that Bristol Bay fishermen every year kill one heck of a lot more fish than any mine has ever killed. You can point out that the corporations that process most of the fish caught in Alaska are as "foreign" as any mining companies that might process Alaska ore. You can mention that one good, permanent mining job is likely to pay more than 10 low-level, seasonal fishing jobs. You can point out that infrastructure, including affordable power, is a common by-product of a major mine. Think what affordable power could do for the communities in the Bristol Bay region. And you can even tell your friends that the celebrated Copper River salmon love the drainage of the historic Kennecott copper mine.

You can, but you won't. You will leave it to others to carry the water – and

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FREEMAN

assays ranging from trace to 39.8 g/t indium and averaging 16.1 g/t indium. Indium, a high tech industrial metal currently trades in the $745-per-kilogram range. The company plans to conduct more extensive analysis for indium in the future.

Alaska Range

PURE NICKEL EXPLORATION announced that a 3500-meter exploration drill program is planned for its MAN nickel–copper–platinum group element project in the central Alaska Range. The initial targets this season will be located in the Beta complex where the company has identified a number of targets. Ground and airborne geophysical surveys preceded target selection. Beta complex targets are at relatively shallow depths (300 meters or less) with one area containing Ni-Cu sulfide cropping out at surface. The company plans to drill targets located in the Alpha complex in the latter portion of the season.

Northern Alaska

GOLDRICH MINING CO. announced that its Little Squaw gold project has been put on a care and maintenance basis while the company raises capital to conduct exploration outlined in its technical reports. Independent reports suggest the project has potential to host orogenic gold deposits similar to those in Russia.

NOVAGOLD RESOURCES has announced that it intends to monetize some of its noncore assets, including the Ambler base metal project in the southern Brooks Range. The company indicated that it was willing to accept cash or marketable securities for its interest in Ambler and other noncore assets.

Southeast Alaska

COEUR D'ALENE MINES announced that the U.S. Supreme Court had agreed to review the U.S. Ninth Circuit Court of Appeals' ruling on the Kensington mine waste disposal site. A final Supreme Court decision or completion of alternative permitting plans may allow for construction to take place next year, leading to potential production in later 2009.

CONSTANTINE METAL RESOURCES announced results from the first 2008 drill hole at the Glacier Creek prospect on its Palmer massive sulfide project near Haines. Hole CMR08-11 intersected Zone I massive sulfide from 516 to 635 feet that graded 1.54 percent copper, 5.45 percent zinc, 0.45 percent lead, 0.47 g/t gold and 28.5 g/t silver. The intersection includes 86.9 feet grading 1.8 percent copper, 6.61 percent zinc, 0.62 percent lead, 0.63 g/t gold and 37.0 g/t silver that contain a 29.3 foot copper zone that averages 4.32 percent copper, 5.46 percent zinc, 0.93 g/t gold and 40.7 g/t silver. CMR08-11 intersected a second zone of sulfide mineralization from 915-985.6 feet and a third zone of sulfide mineralization from 1150.2-1197.3 feet. Assay results from the lower two zones are pending. The significant increase in thickness and copper grade in CMR08-11 suggests that the center of the system may still be at depth. A second hole (CMR08-13) from the same drill site is in progress and will test down dip from CMR08-11.

NIBLACK MINING CORP. announced resumption of underground drilling and drifting at its Niblack massive sulfide deposit on Prince of Wales Island. The drilling will be conducted from the second cross-cut approximately 742 meters from the portal, and is designed to expand the depth extent of the known zone of massive sulfide mineralization previously explored from surface. The Lookout and Mammoth zones are situated on opposite limbs of a major fold that is the focus of the underground drill program. This phase of underground drilling program contemplates up to 8,000 meters (26,000 feet) of drilling aimed at expanding the Lookout and South Lookout zones at depth. In addition, the underground exploration program contemplates over 1,000 meters of drift development.

UCORE URANIUM INC. announced updated information on its Bokan Mountain uranium and rare earth element project on Prince of Wales Island. Assays are pending from 10 diamond drill holes that have already been completed at the I&L zone. The company is planning a minimum of 6,000 meters of drilling in 2008. The objectives of the drill program include verification of previously reported uranium and rare earth element values, testing of the company's geological model, testing of previously unexplored portions of the I&L zone and determination of the depth extent of the I&L zone mineralization, especially to the southeast where radiometric data suggest extension of the mineralization along a 3 km strike length.

PURE NICKEL EXPLORATION announced that it had received its exploration drilling permits at its Salt Chuck copper–platinum group element project on Prince of Wales Island but had decided not to conduct its planned drilling this year. ●

● OPINION

A question of public trust

Shaken by recent politician corruption scandals, Alaska voters may have lost faith in the state's dedicated regulatory agencies

By ROSE RAGSDALE

For Mining News

When voters go to the polls Aug. 26, they will be asked to accept or reject Ballot Measure 4, a controversial proposal that is throwing into limbo years of progress in building up a hardrock mining industry in resource-rich Alaska.

Titled "Bill Providing For Regulation Of Water Quality (07WTR3)," the measure reads:

This bill imposes two water quality standards on new large scale metallic mineral mining operations in Alaska.

The first standard does not allow such a mining operation to release into water a toxic pollutant that will adversely affect human health or the life cycle of salmon.

The second standard does not allow such a mining operation to store mining wastes and tailings that could release sulfuric acid, other acids, dissolved metals or other toxic pollutants that could adversely affect water that is used by humans or by salmon.

The bill defines a large scale metallic mineral mining operation to mean a metallic mineral mining operation that is in excess of 640 acres in size. The bill defines toxic pollutants to include substances that will cause death and disease in humans and fish, and includes a list of substances identified as toxic pollutants under federal law.

Measure could shut down mining in Alaska

At best, this misguided, vaguely worded proposal will create costly complications for companies required to toe a very narrow line to comply with strict federal and state regulations already on the books.

At worst, Ballot Measure 4 could render every type of major mining project in Alaska impossible or impractical for miners to pursue economically. This could put thousands of Alaskans out of work and close off a promising avenue for the creation of future high-paying and rewarding jobs, especially in rural Alaska communities.

Either way, Ballot Measure 4 is generally regarded as really bad news by industry, government and legal experts throughout the state.

So why would pocketbook-conscious Alaskans with an independent streak a mile long vote for such a cockeyed proposal?

The answer is simple and obvious. It's a question of public trust.

Corruption scandal undermines public confidence

When Alaskans enter the voting booth Aug. 26, it will be just a few days shy of one year since the state was rocked by federal indictments of several state legislators. During the past year, more indictments have followed and federal officials have suggested that the job of ferreting out wrongdoers is far from over.

Alaskans have reacted by sending many new faces to Juneau.

In the coming primary, voters may be tempted to grab on to this ballot measure, seeing it as a fix-all remedy for problems with Alaska's mining regulations. These "problems" that are perceived and lamented primarily by self-serving initiative supporters who want to stop development a of mega-mine at the Pebble deposit in the Iliamna area.

But this "throw-out-the-good-with-the-bad-in favor-of-something-better" approach could backfire on Alaskans and create a host of unintended consequences.

Moreover, a vote for this proposal also constitutes a vote of "no confidence" for scores of dedicated federal and state regulators, mine employees and legal experts who call Alaska home and have every reason to protect the state's environment.

They say Ballot Measure 4 is a bad idea.

So it's really a question of who do you trust. ●

● ALASKA

Teck Cominco seeks diamonds at Darby

Indicator says partner discovered encouraging kimberlite boulders in new area of Nunavut property, now doing follow-up exploration

MINING NEWS

Indicator Minerals Inc. said its partner, Teck Cominco Ltd., has discovered kimberlite boulders in apparently a new area of the Darby Project in Nunavut.

"These are significant new discoveries because they appear to have come from a cluster that is separate and distinct from the previously identified kimberlites on the Darby Property," Dave Kelsch, vice president of exploration for Indicator Minerals, said in a July 16 statement.

"Follow-up work to identify the source of the boulders has already started and the emphasis for the remainder of the season will be to add further discoveries property wide."

Teck Cominco found two visually different types of kimberlite boulders while prospecting geophysical targets in an area where kimberlite indicator minerals, including G10 pyrope garnets, have been recovered.

Teck Cominco found two visually different types of kimberlite boulders while prospecting geophysical targets in an area where kimberlite indicator minerals, including G10 pyrope garnets, have been recovered.

In response, additional prospecting and ground geophysical surveys are currently underway in the vicinity of the new float discoveries. Indicator also said a previously announced 16,000-line-kilometer detailed helicopter-borne survey has been completed and 100 percent geophysical coverage of the Darby property has been achieved.

Nine kimberlites have been discovered at Darby, of which five have proven diamond-bearing, including the 12-hectare 'Iceberg' kimberlite. The project is currently under option to and operated by Teck Cominco.

Under the terms of the agreement, Teck Cominco can earn a 51 percent interest by spending $14 million before June 2010.

Upon formation of a joint venture, Indicator has the right to have its remaining 29 percent interest carried to production on a project loan basis. Hunter Exploration Group retains a 20 percent interest in the Darby Project.

Indicator is exploring more than 5.5 million acres of targeted ground in the Canadian arctic and has three key projects in Nunavut: Barrow, Nanuq North and Darby. ●

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TANGEN

carry the water they will. Needless to say, I would love to be proven wrong. I would love it if every single Alaska voter who makes some or all of his, or her, living from the mining industry made it a personal mission not only to vote, but also to ensure that half a dozen friends did as well.

Is this the most important issue of your lifetime? Probably not. You might be able to qualify for a position in Mongolia.

Can you make a difference? Not unless you are involved. I guess it is a tough choice between being a metaphorical chicken and a likewise metaphorical pig. On the other hand, the Gillamites are jackals, no metaphor about it.

Four out of five of you reading this column will not vote against Measure 4. The initiative will pass. Major mines across the state will not be able to expand due to their inability to obtain wastewater permits. One more major resource development industry will be shuttered.

Meanwhile, we will blame the gods. After all, they're crazy – they must be. ●

● ALASKA

Leaders voice concerns about initiative

Vaguely worded Ballot Measure 4 poses significant danger for mining, Native corporations, rural communities and Alaska economy

By SHANE LASLEY
Mining News

In a July 3 decision, the Alaska Supreme Court confirmed that the ballot initiative 07WTR3 is not an appropriation and can be placed on the ballot for the August 26 Alaska primary election.

Ballot Measure 4 is currently listed in the Division of Elections 2008 primary election media packet. According to that listing, the ballot measure facing Alaska voters will read:

Ballot Measure 4 - Bill Providing For Regulation of Water Quality (07WTR3)

This bill imposes two water quality standards on new large scale metallic mineral mining operations in Alaska.

The first standard does not allow such a mining operation to release into water a toxic pollutant that will adversely affect human health or the life cycle of salmon.

The second standard does not allow such a mining operation to store mining wastes and tailings that could release sulfuric acid, other acids, dissolved metals or other toxic pollutants that could adversely affect water that is used by humans or by salmon.

The bill defines a large scale metallic mineral mining operation to mean a metallic mineral mining operation that is in excess of 640 acres in size. The bill defines toxic pollutants to include substances that will cause death and disease in humans and fish, and includes a list of substances identified as toxic pollutants under federal law.

Alaska leaders speak out

Ballot Measure 4 is broadly written and lacks specific regulatory standards.

In a report prepared for Rep. Paul Seaton, R-Homer, regarding the ballot measure's potential effect on Alaska's current statutory and regulatory standards, Alaska Legislative Legal Services attorney Alpheus Bullard wrote: "The mining initiative is not a model of drafting clarity. The initiative's use of language creates questions as to the scope and applicability of the initiative's provisions.

"Interestingly, in representing what the initiative will do, the neutral summary may increase the chances of the initiative's legal effect being interpreted by a court in a manner not consistent with the summary's interpretation, yielding a result that might be different from either what an interpretation of the initiative's text, in isolation, might have provided or what the measure's sponsors might desire," Bullard said.

Thus, Alaska voters may be voting on a measure without knowing what effect it will have on water quality or the future of Alaska's mining industry. This lack of clarity and the potential effects the measure could have on mineral exploration, existing mines and future mines is worrying many of Alaska's business and political leaders.

COURTESY PHOTO

Wayne Stevens, president of the Alaska Chamber of Commerce, "While no one, I repeat no one, wants to see fish or water impacted. The regulatory environment in this state is very, very rigorous and very, very thorough."

SHANE LASLEY

Rosie Barr, spokeswoman for Alaska Native regional corporation NANA Inc., "If the initiatives are voted into law, we, along with other Alaskans, will never be able to develop our mineral resources."

COURTESY PHOTO

Matt Ganely, vice president, land and resources of Bering Straits Native Corp., "We see that this ballot initiative as something that could affect both current mines, obviously future mines and also could affect exploration, which in the Bering Straits region has been ongoing for 30 years on corporation land and is an economic engine in the region both for local hire and business."

Here is what some of them had to say:

Marie Greene
President of Alaska Native regional corporation NANA Inc.

"The end result of the ballot initiatives would be a shutdown in jobs, a shutdown of a rapidly growing sector of Alaska's economy and, for many communities, a shutdown of hope. These initiatives would have a devastating effect on Alaska's mining families, and be a serious economic blow to rural communities and the economy statewide."

Jason Metrokin
Vice president, shareholder and corporate relations of Bristol Bay Native Corp.

"Our board has not taken a position on Ballot Measure 4. There is a lot of media play on both sides of the issue. From our perspective, there is a lot of misunderstanding about the Clean Water Act that we are still trying to gather the facts on."

Wayne Stevens
President of the Alaska Chamber of Commerce

"The State Chamber is opposed to the ballot initiative. Our concern is the way it is presented makes it sound so innocuous. What is not stated is that each mine doesn't have just one permit, there are dozens of permits with differing dates of renewal and differing areas of authority issued by a multitude of different agencies.

While no one, I repeat no one, wants to see fish or water impacted. The regulatory environment in this state is very, very rigorous and very, very thorough. There are some wonderful success stories in our state of mine operations. Particularly, the mines impact on providing economic opportunity for citizens in communities that have historically high levels of unemployment and low rates of opportunity for jobs beyond a clerk at the post office, a clerk at the grocery store or a clerk at the gas station.

After visiting exploratory operations in past years and talking with young people who are trainees for their positions as an entrance into the mining field; the sense of pride, the sense of responsibility, and understanding that acquiring a skill set working in the mining industry provides them a ticket to work anywhere in the world and still an opportunity to live and work in their communities and participate in the traditional activities that make living in their communities so important to them and their lifestyle. At the end of the day those people do not want to see their subsistence lifestyle impacted by a poorly designed or poorly regulated mining industry.

When there is hope in a community the incidents of drug and alcohol abuse goes down. All of that myriad of social issues that come with not having a future, not having a belief that I can do something productive and provide for my family, friends, myself and still be valued in my community. There is hope when you have a job. I think that gets missed in some of these debates about the pros and cons of development."

Rosie Barr
Spokeswoman for Alaska Native regional corporation NANA Inc.

"If the initiatives are voted into law, we, along with other Alaskans, will never be able to develop our mineral resources. We have other mineral prospects located on NANA land, including the bornite deposit that our shareholders are very excited about. In the Calista Corp. region, the Donlin (Creek) Mine would most certainly be affected. Additionally, existing mines such as Red Dog would be shut down. The effects across the entire state would be absolutely devastating.

The concerns that I have heard are primarily about protection of resources such as water and fish. These protections are written into the regulations that govern mining. Mining is one of the most regulated industries in the United States, and Alaska has stringent standards that the mining industry must meet in order to begin or continue operations.

The sponsors have basically stated that they understood at the onset that these initiatives were unconstitutional, yet subjected our state to a barrage of misleading ads and attempted to create controversy where it was unnecessary. They've stated in their ads that these initiatives won't affect existing mines. Yet Alaska law states that you cannot target a specific project through the initiative or legislative process. The initiatives had to be written broadly and because of this, they will affect both existing and new mines in Alaska. We cannot allow this to happen. I am very thankful that Alaskans are speaking out, loudly and clearly, against these deceptive initiatives."

Matt Ganely
Vice president, land and resources of Bering Straits Native Corp.

"Not all of the regional corporations are involved in mineral exploration and development but those of us who are stand a chance of being pretty gravely affected. It is important to note the (Native) regional corporations as well as the Alaska Federation of Natives oppose Ballot Measure 4.

One of the things that I think people fail to understand in regards to the regional corporations and development is the requirement under section 7(i) to redistribute the income gained from any type of mineral development. This really has far ranging

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VOICES

effects. That 7(i) redistribution goes not only to the regional corporations but also to the village corporations, and it can be a fairly significant amount that can help out with operations all the way down to the village corporations.

We see that this ballot initiative as something that could affect both current mines, obviously future mines and also could affect exploration, which in the Bering Straits region has been ongoing for 30 years on corporation land and is an economic engine in the region both for local hire and business. If the initiative passes (I hope it isn't the case.), but it may affect the enthusiasm of exploration companies for working within Alaska if it looks like they cannot develop a mine because of the initiative. A lot of this boils down to the vagueness of the language in the initiative."

Will Anderson
President and CEO of Alaska Native regional corporation Koniag Inc.

As one of the Alaska Native regional corporations, Koniag benefits from the mining industry through the revenue sharing of 7(i) of the Alaska Native Claims Settlement Act. Even though we don't currently have any mining operations in our region, we benefit directly from operations in other regions, therefore any ballot initiative that limits any of the Native regional corporations from developing natural resources on ANCSA lands will have a profound effect on Koniag because it will reduce that amount of revenues being shared.

Coming from a region that is dependent on marine fisheries I certainly understand the concerns groups might have that the fisheries might be threatened, but I really have a great deal of confidence in the current system of regulations that prevent that damage. I don't see that Ballot Measure 4 provides any additional safeguards. It is obvious that it is meant to stop the Pebble Mine, but it is happening at the expense of the entire state.

I speak with a lot of our shareholders across the island (Kodiak), and I think their gut reaction is; we need to make sure we protect the fishery without really understanding that the fisheries are protected, and there are very stringent regulations in place. It almost concerns me. We need to do a better job of educating the people in our region so they understand that this isn't about protecting the fishery, it is about stopping the Pebble project. I think that really is a challenge – people react to the buzz-words, the ballot initiative, the rhetoric and the advertising without really understanding what the point of it all is."

COURTESY KONIAG INC.

Will Anderson, president and CEO of Alaska Native regional corporation Koniag Inc., "We need to do a better job of educating the people in our region so they understand that this isn't about protecting the fishery, it is about stopping the Pebble project."

Norm Phillips Jr.
President and CEO of Alaska Native regional corporation Doyon Ltd.

We think that Ballot Measure 4 will have a negative impact on our rights as a private landowner here in Alaska. We are very good stewards of those resources important to residents of Alaska – be it the salmon; be it the water; be it the land and plant life; and the people that live in rural Alaska. We take it as an insult to us that a special interest group has decided that we don't have the ability to do that. So we oppose it.

We do understand natural resource development. We understand the importance of issues that have been raised. Bristol Bay is a unique region. Pebble has the potential to be a very large project. Already in place in state statute and regulations are meaningful thresholds that mining companies must demonstrate related to the development of mineral resources and its impacts on adjoining needs. This state is not going to issue the permits to move forward on a project like this unless all of those thresholds have been addressed.

I don't think that it is a project that should be raising the concern that it is. This is a special interest – the fish down there and the opportunity to go to those lodges and enjoy that setting without having to fly over a mine site is what's driving it. I respect that! But there is a process already in place that allows the public to comment and participate.

This ballot measure does more than address that; it is very far reaching, it is very poorly worded, and as a private land owner, it raises basic land ownership rights being taken away from us without any consideration of whether we can do the job or any compensation. We are talking about compensation that is region-wide. The development of our natural resources in the Interior provides significant benefits for our rural communities."

COURTESY KENAI PENINSULA BOROUGH

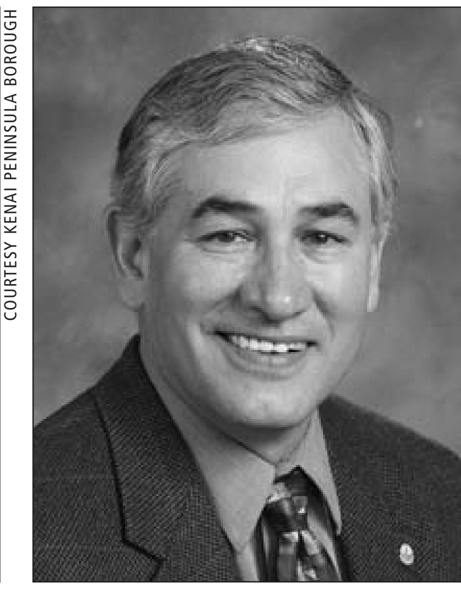
John Williams, mayor of the Kenai Peninsula Borough, "Ballot Measure 4 is aimed directly at one potential mining operation, and that is the Pebble Mine. What it does have the propensity of doing though, is affecting virtually every mining operation in the state."

John Williams
Mayor of the Kenai Peninsula Borough

"Ballot Measure 4 is aimed directly at one potential mining operation, and that is the Pebble Mine. What it does have the propensity of doing though, is affecting virtually every mining operation in the state.

What is the intent of Ballot Measure 4? We have water quality standards in Alaska right now that are some of the most stringent in the nation. The opponents of the Pebble Mine are approaching this thing from a destructive, pollution-type issue; what they are really trying to do is preserve their own lifestyle, their own way of life. The one-man force that is behind it of course is a big lodge owner who doesn't want anyone over there but him, and he has sworn to spend every dime he has – which incidentally he has made a tremendous amount of his money off of investment of the Alaska Permanent Fund in his bank. It is a one-man war for his own purpose."

The entire advertising campaign as I see it is fraught with innuendoes and falsehoods. This whole thing about the 700-foot-high dam with a gigantic lake behind it that will explode and wash out the entire countryside is all propaganda. There is so much innuendo being put out there. Albeit, it may be on both sides, but I see so much more of it from the opponents of the mine. Mining has been a traditional industry in Alaska since the beginning, and it will continue to be. Mineral extraction is our main economic force here. We are using our resources to develop our future. ●



COURTESY KENAI PENINSULA BOROUGH

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● YUKON TERRITORY

Keno Hill still promises silver payday

Historic Yukon mining district offers multiple production, reclamation opportunities, including chance to tap high-grade deposits

By ROSE RAGSDALE
For Mining News

ROSE RAGSDALE

Alexco Resource Corp. has undertaken reclamation and exploration activities in the historic Keno Hill silver mining district east of Dawson City, Yukon. Here, miners extracted 217 million ounces of silver over nearly a century before the last mine shut down in 1989.

KENO HILL – Here amid hills dusty with glacial silt in the eastern Yukon, miners have tapped rich veins of silver and gold for nearly a century, right up until silver prices tanked in the late 1980s.

In its heyday, the historic Keno Hill silver mining district boasted more than 40 producing mines and at least two bustling villages, Mayo and Keno City. Miners not only grubbed for pay dirt, they made homes in the valleys beneath the mines and raised families while extracting the gray precious metal.

In all, the district has produced more than 217 million ounces of silver, or 5.37 million tons of ore with average grades of 40.52 ounces per metric ton silver, 5.62 percent lead and 3.14 percent zinc, according to Canadian government records. Much of that production occurred during the nearly 40 or so years that the mines operated under one organization known as the United Keno Hills Mines.

Today, Alexco Resource Corp., a mining company with a branch that specializes in cleaning up environmental hazards at abandoned mines that dot the Canadian countryside, is the dominant player in the Keno district.

Alexco is tackling a host of challenges across a 25-kilometer-long expanse of old mining camps, not only exploring for new resources but also battling a substantial and recurring environmental hazard created by acid drainage from the abandoned mines.

When the last of 42 mines shut down in 1989, they were declared abandoned. In 2005, the Canadian government put the district up for sale. Seven companies bid for the properties, and Alexco won the bid acquiring 14,980 hectares, or about nearly 4,400 acres, of mining leases, quartz claims and crown grants. The area came with 35 historic mines boasting a silver resource currently estimated to exceed 1 million tons with grades averaging 31.5 oz/t silver, 3 percent lead and 2.2 percent zinc.

"Our bid addressed care and maintenance," said Robert McIntyre, vice president of business development at Alexco. "It addressed the whole site, and it addressed cleanup. We put down $10 million toward the cleanup even though the government said it is responsible for the cleanup.

In addition to winning the reclamation contract, Alexco won the right to explore the properties for possible future production.

The company is busy pursuing both opportunities at Keno Hill.

Bio-solutions may be answer

"Our goal is to mitigate the risk and unlock value," said McIntyre, during a tour of surprisingly spacious indoor offices in the old mining camp. "We're getting a handle on the clean up. We spent $750,000 in 2007 on care and maintenance. We have 3 1/2 years to get it right."

So far, the company's efforts to tame the beast at the Keno Hill mines have met with only temporary success.

"It's not easy," McIntyre said. "It killed the last two companies that tried to clean up these mines."

The problem is the highly acidic content of water draining from the abandoned mines.

"You might as well call (what we're doing) Tums® for the mountain area," McIntyre said. "We go through one ton of lime a day to boost the PH of the drainage to 7 or 8."

This neutralizes the acid but is only a temporary fix that must be continuously repeated.

Alexco is hoping that one of the technologies developed by its new environmental services subsidiary, formerly Denver-based Greenworld Science, will provide a permanent solution to the Keno Hill district's acid drainage problem.

Greenworld Science holds more than six patents for new cleanup technologies, along with other patents pending,

"We're looking for bio-solutions to reclamation," said McIntyre.

"We've got to get the mountain off the drugs," he quipped. "We need a better approach and a permanent closure plan."

Alexco also must clear away physical hazards at the old mines, including hidden shafts, some of which are 700 feet deep, company officials say.

In addition, the would-be miner must decide what should be cleaned up and what should be preserved at the mine sites.

"One man's garbage is another man's historic site," said Mike Burke, acting director of the Yukon Geological Survey. He cited the old tram lines with their 50-foot timbers that dot the landscape in the Keno Hill district as examples, saying they should be part of a historic preservation effort in the area.

Award-winning work at Brewery Creek

In this aspect of the cleanup, Alexco has an exemplary track record.

The company's senior management team, led by President and CEO Clynt Nauman, has been recognized for its award-winning reclamation and closure performance at the abandoned Brewery Creek gold mine, located in the Tombstone Mountains east of Dawson City.

The company received the Robert E. Leckie Award for Outstanding Reclamation Practices in both 1999 and 2002. In 2003, industry and government representatives also praised Alexco's work at Brewery Creek for leadership and innovation in mine reclamation technology.

At Keno Hill, Alexco can expect multiple payoffs from the cleanup effort. The Canadian government is paying for the actual reclamation work from a multibil-

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ROSE RAGSDALE

Veteran miner Robert McIntyre, who is vice president of business development at Alexco Resource Corp., pauses at a monument on Keno Hill dedicated to the memory of Alfred "Kirk" Schellinger, who staked the Keno claim in the early 1900s.

ROSE RAGSDALE

Alexco Resource Corp. has been recognized for its reclamation of the abandoned Brewery Creek Gold Mine. Today, parts of this mine site resemble a golf course.

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KENO HILL

lion-dollar public fund set aside for the purpose of cleaning up abandoned mines in Canada.

The cleanup at Keno Hill also should speed Alexco toward its ultimate goal of developing new silver production from the property.

After all, the previous mine operation closed in 1989 because of low silver prices, not a lack of resource, McIntyre points out. In fact, in one year of drilling, Alexco has doubled the known resource on the property and discovered a new silver deposit, Silver King East.

Data bonanza

Another payoff for Alexco will come from its successful acquisition of mining records on the property.

When workers were told United Keno Hill Mines had gone belly up in 1989, they stopped what they were doing, packed up their families and drove away. Or that's what appears to have happened, based on what they left behind.

Those who later entered the United Keno Hill offices reported finding half-empty coffee cups on desks and other everyday articles strewn about in the wake of an abrupt departure.

When Alexco got there, reclamation workers discovered desktop computers with intact hard drives sitting at workstations in dilapidated rooms with water dripping from the ceilings.

"We got there just in time," McIntyre recalled.

Alexco rescued what amounted to nearly 100 years of data on the district's mines.

"We found whole rooms of old drilling logs, some 6,000 records," he said. "We digitized the records and made 3-D models. It took us three years."

That amount of data would take a geologist a lifetime to analyze, said the Yukon government's Burke. "To be able to put that into a modern geological aspect and sit down around a computer for a couple of hours and get an understanding that formerly would have taken months is remarkable," he added.

Alexco's success in retrieving the Keno Hill data has propelled the company down yet another avenue of potential mine reclamation services.

"We put in a proposal with the (Canadian) government to digitize the data in the Faro vaults as well," he said. Faro was another large Yukon mine abandoned in the wake of low metals prices in the 1980s.

Exploring old ground for new resources

Exploration drilling, so far, has focused on helping Alexco gain a better understanding of the mineralization in Keno Hill and the surrounding area.

The claims held by Alexco cover 25 kilometers and more than 30 silver producing mines. Also, the company last year acquired a nearby placer gold mine, Spring Mountain, where the previous owner was producing 2,000 oz/t.

"We're focusing on Bellekeno. It had the largest amount of known resource on the property," said Chief Geologist Stan Dodd.

The Bellekeno Mine contains an inferred resource of 537,000 metric tons, containing 1,016 g/t silver, 13.5 percent lead, and 10.7 percent zinc. The resource remains open to the west and down plunge.

Geologically, the Keno Hill District is composed of sedimentary rocks that metamorphosed to quartzite and schist during several tectonic events. The main feature is pervasive faulting where fluids bubbling up from deep underground infiltrated cracks and fissures in the rocks and chemically

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KENO HILL

interacted with them to form silver mineralization, also called galena.

Dodd said one advantage for Alexco is its control over data for the whole district, which helps in being able to understand the area's geology. One reason is the district historically produced two different types of silver cons.

"We like what we see in Bellekeno, so we will spend a lot of time understanding that before we focus on the rest of the district.

Alexco released results in early July of a preliminary economic assessment of the Bellekeno deposit, which outlined a viable project with average annual production of 3.3 million ounces silver, 30.1 million pounds lead and 24.5 million pounds zinc over a 5-year mine life.

Prepared by SRK Consulting (Canada) Inc. with Wardrop Engineering responsible for metallurgy, mineral processing, infrastructure and cash flow analysis, the preliminary economic assessment used a base-case pretax net present value of $87 million at an 8 percent discount rate with a pretax internal rate of return of 55.5 percent and a payback period of

1.6 years. The base case used three-year average prices for silver, lead and zinc and the monetary exchange rate between the United States and Canada.

At current metal prices, the net present value increases to $106.7 million with an internal rate of return of 64 percent. The average Life of Mine net smelter return per metric ton of ore is C$596 against life of mine operating costs of C$206/t of ore, and the average silver production costs on a per-ounce basis, net of by-product revenue, is negative 33 cents per ounce.

To develop Bellekeno, Alexco envisions building a small-scale portable mill designed to process ore at a rate of 400 metric tons per day. This would be a more cost-effective approach for extracting concentrate from a series of small high-grade deposits, McIntyre said.

The National Instrument 43-101-compliant preliminary economic assessment projected a capital cost of C$61.2 million for a mine at Bellekeno with a payback period of 1.6 years. The estimate included C$10 million for development work already being carried out as part of current Bellekeno underground rehabilitation in preparation for advanced underground exploration and definition drilling scheduled for later this year. Another C$12.45 million in sustaining capital would be needed over the 5-year mine life.

Production at Bellekeno also is seen as a potential springboard to additional development.

Different styles of silver ore

But Alexco's geologists say they are puzzled by "metal zonation" they've encountered in the Keno Hill deposits. While some silver ore appears to be enriched with zinc, gold and lead with grades averaging 30-40 oz/t, other mineralization like that at the Lucky Queen appears to be totally different, with wire silver in ore averaging more than 80 oz/t, with intervals of more than 1,000 oz/ton.

ROSE RAGSDALE

This core shack formerly served as a curling rink for employees of the United Keno Hill Mines.

"There are lots of different styles of mineralization in the district," said Dodd.

The company has a drilling underway and plans to analyze its results later this year before beginning underground drilling in the fourth quarter.

"With the deeper ore bodies, it's more effective to test them from underground," Dodd said. "We're trying to explore the rest of the district using a systematic approach, starting with Lucky King, Husky and Silver King and then going to Hector-Calumet.

Surface exploration using two diamond drills is ongoing on target, including the historic Onek zinc-silver mine area adjacent to Bellekeno Mine, and the Lucky Queen, Keno 700, and Hector-Calumet historic mine areas.

Alexco received a mining land use permit needed to complete an advanced underground exploration program at Bellekeno, extract a bulk sample from the silver-rich Southwest Zone, and rehabilitate the historic workings in preparation for a production decision in early 2009.

The mining land use permit was secured on schedule, and a second permit, a Type B Water Use License required for mine dewatering, is proceeding as planned, the company said.

A production decision in 2009

Procon Mining and Tunneling Ltd., the contractor engaged to carry out the redevelopment, has been on site since April completing preparatory work including establishing a portal for a 650-meter decline to access the former workings, and progressing underground rehabilitation work in the former primary access way. The new decline, which will take about four months to drive, will intersect the former workings in the area of the 99 Zone, which is centrally located between the silver-lead-rich Southwest zone and the zinc-silver-rich East zone. After connecting the new decline to the former workings, the mine will be dewatered and rehabilitated as appropriate.

Underground definition and exploration drilling is expected to begin in this fall, initially focused on further defining and expanding the silver-lead mineralization outlined in the 99 and Southwest zones where surface drilling in 2007 outlined an inferred resource of 357,800 metric tons containing 1,394 g/t silver, 19.0 percent lead, and 5.5 percent zinc. A bulk sample also will be extracted from this zone to confirm metallurgical recoveries and mining conditions.

Alexco's objective is to obtain sufficient results from the advanced exploration and bulk sampling programs to make a commercial development decision on the Bellekeno Mine in early 2009.

If the project gets the green light, McIntyre said production would begin in 2010.

Between reclamation and ongoing exploration, Alexco currently employs 71 workers at the project. That number would jump to nearly 200 with startup of silver production.

A relatively rapid startup would be possible at Bellekeno because the project has been permitted twice already; Alexco has an in-house permitting group and good relations with local First Nations groups; its environmental arm knows the site well and the company has a mature understanding of the property.

Also, the abandoned mines provide extensive, if somewhat spotty, infrastructure. Some buildings on site are still habitable.

"Typically, a company at this stage would be in a wall tent and here we are, using a curling rink with a cement floor for a core shack," observed Mcintyre during the tour. ●

● YUKON TERRITORY

Junior chases Pebble-like deposit

Western Copper envisions developing Casino Project as large open-pit copper-gold-molybdenum mine with 30 years of production

By ROSE RAGSDALE
For Mining News

CARMACKS — Western Copper Corporation said its Casino copper-gold-molybdenum deposit in central Yukon Territory has the potential to be developed economically as a sizable open-pit mine.

The porphyry deposit at Casino is the latest in a long line of precious- and base-metal zones of mineralization in the area to be considered for extraction. It is considered unique among Canadian porphyry deposits, with a substantially preserved oxide gold leach cap, a well-developed supergene or near-surface, copper-enriched zone, and a hypogene, or deeper, copper-gold zone.

Geologically, it is somewhat similar to the Pebble copper-gold-molybdenum deposit in Southwest Alaska, but about one-tenth of Pebble's size, according to Yukon officials.

"Frankly, I think Casino is much better situated for development than Pebble," said Jonathan Clegg, P. Eng., vice president, engineering for Western Copper, said during a recent visit to the Carmacks copper project, a sister venture 120 kilometers, or 75 miles, to the southeast.

History of lucrative mineralization

Prospectors staked placer gold claims in the area in 1911, and placer gold production continued on and off for decades until 1985. In 1917, the Geological Survey of Canada recognized huebnerite (MNWO4) in the heavy mineral concentrates of the placer workings. A small amount of tungsten was recovered during World War II.

In 1936, silver-lead-zinc veins were discovered 3 kilometers, or about 2 miles, from the placer workings. Over the years, veins were explored and developed intermittently and a total of 372.5 metric tons of hand-cobbed argentiferous galena, assaying 3,689 g/t silver, 17.1 g/t gold, 48.3 percent lead, 5 percent zinc, 1.2 percent copper and 0.02 percent bismuth, were sent to a smelter.

Casino's porphyry potential was first noticed in 1963 and the deposit was discovered in 1969 by a Teck Cominco predecessor company, based on earlier exploration by A. Archer of Archer Cathro.

Casino also is believed to be the largest gold deposit in the Yukon, according to Mike Burke, head of mineral services at Yukon Geological Survey.

The deposit's discovery actually sparked exploration in Yukon that led to subsequent discoveries of the Minto and Carmacks Copper deposits as well as others in the 1970s, Burke said.

Gold recovery first

The pre-feasibility study estimates an initial capital cost of $2.1 billion for the project, which would produce 3.6 billion pounds of copper, 320 million pounds of molybdenum and 5.1 million ounces of gold over a 30-year mine life.

The pre-feasibility study recommends development of Casino as a conventional, electrified truck-shovel operation that initially focuses on the deposit's oxide cap as a heap leach operation to recover gold in Dore form.

"This will give us cash flow from the project before we complete the mine," Clegg said.

Casino - Yukon Territory TSX | WRN

The main sulphide deposit will be processed using a conventional concentrator to produce copper-gold and molybdenum concentrates. The mill will have a nominal production rate of 90,000 metric tons of sulphide ore per day averaged over the life of the mine, while the heap leach will nominally process up to 30,000 metric tons per day for seven years.

Including low-grade and stockpile ore, the average annual stripping ratio is estimated at 1to1 over the life of the mine and 0.7 to1 for years 1-6.

The study estimates an NI-43-101 compliant proven and probable mill ore reserve of 914 million metric tons grading 0.21 percent copper, 0.024 percent molybdenum and 0.24 g/t gold. The compliant proven and probable heap leach ore reserve is estimated at 78 million metric tons grading 0.43 g/t gold.

New infrastructure in Alaska

Of the initial capital investment, $1.56 billion would develop transportation and port infrastructure. The remaining $550 million would cover the cost of a complete mine site power plant.

Western Copper would like to ship concentrates produced at Casino to smelters in Asia, using oceangoing barges that would be loaded in Haines or Skagway. Because the volume of concentrates would be so large, a new shipping terminal likely would be constructed.

Because milling costs will be relatively high, Western Copper hopes to use a coal-fired circulatory fluidized bed boiler to be fed hopefully by a nearby source of coal.

Clegg said several coal mines, including Usibelli Coal Mine near Fairbanks, were contacted about a possible supply for the mine, but Western Copper did not get a quote from Usibelli.

He said the Alaska mine is a relatively short haul to Casino compared to some possible coal sources. A proposed rail line from Fairbanks through Yukon Territory and linking with existing rail links in southern Canada also could provide another solution.

Operating costs are estimated to be $9.72 per metric ton of sulfide ore over the life of mine, based on a 95-cent-per-kilowatt-hour estimated power rate.

Prepared by Arizona-based M3 Engineering & Technology Corp., the study indicates that development of the Casino deposit will produce a pretax internal rate of return of 20.4 percent and an undiscounted net present value of $7.5 billion, based on 100 percent equity. After-tax figures indicate an IRR of 14.9 percent and an undiscounted NPV of $4.5 billion.

The payback of initial capital investment would be achieved in 3.8 years due to significant cash flow generated by higher ore grades and plant throughput during the early years of production, according to the study.

Permitting next step

With a positive pre-feasibility study in hand, Western Copper will immediately begin permitting the Casino Project with the help of Gartner Lee, an international environmental consulting firm, Chairman and CEO Dale Corman said.

> *Western Copper would like to ship copper-gold-molybdenum concentrates produced at Casino to smelters in Asia, using oceangoing barges that would be loaded at the Port of Skagway.*
> **—Jonathan Clegg, Western Copper Corp.**

"Over the last two years, Western Copper has worked closely with the Yukon Environmental and Socio-economic Assessment Board and Yukon Energy, Mines and Resources in permitting our Carmacks project, and has found them to be fair and professional. We look forward to working with them again on the Casino Project," Corman said.

Western Copper hopes to secure initial permits for construction by 2012, and begin production of gold Dore from a heap leach in mid-2013 and production of concentrate from a sulphide mill in late 2015.

Clegg said M3 Engineering was mindful of the difficulties that developers encountered last fall with the Galore Creek copper-gold deposits in northern British Columbia and took that into consideration in preparing the pre-feasibility study. But unlike the remote Galore Creek

see CASINO page 22

● ALASKA

DNR: Pebble still on regulatory track

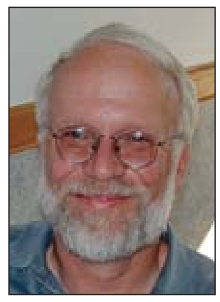
Mine project's opponents pen 'legal review' of permitting process; biologist confuses issues in criticism of state regulators

By SHANE LASLEY
Mining News

The Alaska Department of Natural Resources has come under criticism from a coalition of environmental group representatives and former state officials, who say the state agency's oversight is not enough to police the effects of exploration and possible development of the Pebble copper-gold-molybdenum deposit in the Bristol Bay Region of Southwest Alaska.

In an article titled, "Pebble Mine: Fish, minerals and testing the limits of Alaska's large mine permitting process," the group examined the adequacy of the state's large mine permitting process and found it insufficient to deal with a large metallic sulfide mine such as the proposed Pebble Project.

Published in the June 2008 edition of Alaska Law Review, the article was written by Geoffrey Parker, representing the Council to Renewable Resources Council, Trout Unlimited and Robert Gillam, Frances Raskin, a staff attorney for the environmental nonprofit Trustees for Alaska, Carol Ann Woody, a fisheries scientist who works with the Renewable Resources Coalition technical team, and Lance Trasky, a former regional supervisor of Region III of the Alaska Department of Fish and Game's Habitat Division.



Alaska Department of Natural Resources Large Mine Coordinator Tom Crafford said state agencies are confident that water quality and quantity are being protected at the Pebble project.

Questioning DNR's mission

According to the article, the lead agency for all matters relating to the exploration, development, and management of mining is required by state law to "provide for maximum use of state land consistent with the public interest."

However, DNR is more focused on managing mines than protecting fish, the authors contended.

"None of the statutes that are administered by DNR and that apply to permitting facilities related to Pebble Mine articulate clear standards for protecting fish and game, habitats, and public uses of them," they wrote.

After studying the regulations, they also concluded that DNR should assist the Alaska Department of Fish and Game in its duty to "manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state," it said.

State process consists of unrelated permits

While studying Alaska statutes concerning DNR's role, the article's authors said they found that "no statute requires DNR to approve the mine's plan of operation. Instead, the state process consists of a series of unrelated permits," they argued.

It is true that a large mine in Alaska typically can require 50 or more unrelated permits and authorizations from a minimum of eight different state and federal agencies. But the permitting process also is coordinated by DNR, which is in charge of the Plan of Operation, Reclamation and Bonding as well as permits related to many other aspects of a proposed mine.

The Alaska Department of Environmental Conservation and the U.S. Environmental Protection Agency ensure that a mine complies with strict federal and state laws governing water and air quality. ADEC also requires compliance with waste management regulations and bonding to ensure that mining operations adhere to the rules.

Dredge and fill rules are monitored by the U. S. Army Corps of Engineers. The Corps also enforces the Rivers and Harbors Act and is the lead federal agency for the protection of historical and cultural resources.

Three agencies oversee regulations concerned with the protection of fish and wildlife – the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the Alaska Department of Fish and Game. These agencies require a mine to comply with rules in at least nine different areas and issue nine or more authorizations, or permits, before a mine can be built.

The Alaska Department of Transportation, the U.S. Bureau of Land Management, the U.S. Forest Service, and the National Park Service also have regulations that a mine must adhere to before obtaining required permits.

The Alaska Department of Commerce and the Alaska Department of Law also are involved in the mine permitting process.

Thus, the Law Review article's authors are correct in concluding that no statute administered by DNR applies to "protecting fish and game, habitats, and public uses of them." However, several other federal and state agencies specialize in administering very strict regulations governing these areas.

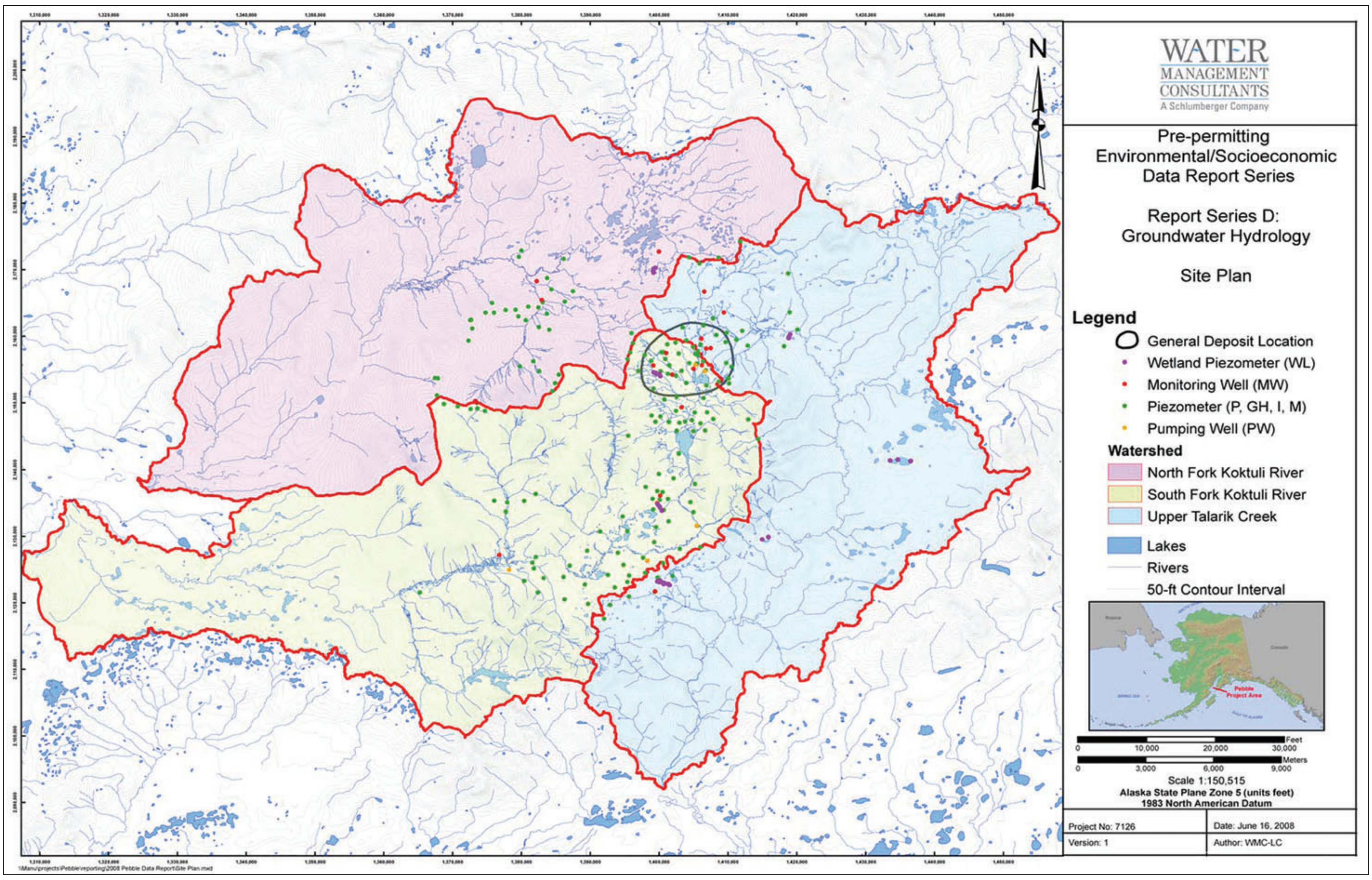
In addition, DNR regulators cannot approve any mine without the blessings of the other 12 federal and state agencies involved.

Environmental studies required

Mines that require major actions from federal agencies such as EPA, the Army Corps and BLM fall under the National Environmental Policy Act (more commonly known as NEPA). Approval for a project the size and scope of the proposed Pebble Mine would be subject to NEPA.

When NEPA action is required, a federal agency, not DNR, takes the lead role in coordinating NEPA requirements. All mines that fall under NEPA require an

see PEBBLE page 15



A study of groundwater in the Pebble area included the installation of 259 monitoring wells and piezometers at 196 sites throughout the watersheds flowing away from the deposit.

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PEBBLE

environmental assessment of the impact of the proposed operation.

For various reasons, the federal agencies also may require a more extensive environmental study of the project and submission of an environmental impact statement.

An EIS incorporates information from a broad range of environmental and social factors involved in the development of a proposed mine. A typical EIS includes information on:

Surface and groundwater hydrology
Air and water quality
Fish and aquatic habitat
Wildlife
Wetlands and land use
Socioeconomics
Cultural resources and subsistence
Recreation, safety and feasibility
Noise and visual resources
Cumulative impacts

Mine project owners often spend several years collecting information required for an EIS. Most of the data is collected by independent consultants and professionals who specialize in the various fields being studied.

Article questions integrity of EIS

In the law review article, the authors also questioned the reliability of the federal NEPA process and the integrity of environmental impact statements.

"A groundbreaking study systematically compared predicted and actual water quality at hardrock mines operating in the United States, including in Alaska," they wrote.

The 2006 report, "Comparison of predicted and actual water quality at hardrock mines: The reliability of predictions in Environmental Impact Statements," compared water quality data included in the EIS for numerous operational and post-operational mines to their actual water quality data.

However, the only Alaska mine studied was the Greens Creek Silver Mine in Southeast Alaska. The study found that over a 12-year period, the operation at Greens Creek had not affected surface or groundwater quality.

According to a 2003 EIS, groundwater quality monitoring wells monitored from 1988 to 2000 have not indicated increasing metal and sulfate levels or acidity so far. Surface water quality monitoring similarly indicates no effects on surface water quality of Greens Creek, the study said.

Two other Alaska large-scale mines – Fort Knox, a zero discharge gold mine, and Red Dog, the world's largest zinc mine, – were mentioned but were not reviewed in the study.

see **PEBBLE** *page 16*

ERIC LIDJI

The extensive exploration under way at Pebble prompted fish biologist Carol Ann Woody to question the effects drilling might have on groundwater.

continued from page 15

PEBBLE

The 2006 report seems to indicate that the DNR-led Alaska permitting process in conjunction with NEPA is a model system for permitting large mines, according to government and industry officials.

Fish biologist seeks exploration answers

Law Review article co-author Woody, a biologist, also wrote a letter to DNR Large Mine Coordinator Tom Crafford, voicing her concerns about how exploration drilling at the Pebble copper-gold-molybdenum project might affect water in the area.

"The lack of transparency around drilling at the Pebble prospect raises questions by fishery stakeholders regarding both water and fish conservation," she said.

As a fish biologist, Woody's primary concern about the exploration activities at Pebble centers on the effects that drilling might have on salmon and salmon-spawning streams in the region.

Unfamiliar with the geology at Pebble, drilling practices at the project and the dynamics of acid rock drainage, Woody said she was concerned that exploration could potentially adversely influence groundwater quality in the area.

When Woody was unable to find answers to her questions on DNR's Web site regarding how exploration drilling at the Pebble project might affect groundwater in the area, she wrote DNR seeking those answers.

In a 12-page response, Crafford gave Woody step-by-step instructions on how to find the information she was seeking. In addition, he told her that DNR files, including the Pebble Alaska Hardrock Exploration Application and Temporary Water Use Permits, are already available for public review. For Woody's convenience, Crafford also attached a copy of the 2008 Pebble application filed by the project's owners, Northern Dynasty Minerals Ltd. and Anglo American plc.

"Drilling and sampling in regions of fractured rock aquifers, like Pebble, can cause, drastic disruptions of the natural water flow system," Woody wrote in her letter to DNR, "Drilling into reactive sulfide ore, like Pebble, can cause sulfuric acid to form and thence mobilize heavy metals."

In his response, Crafford explained how Woody's view of drilling at Pebble was based on misconceptions about the geology of the Pebble deposit and its potential for acid rock drainage. He said her notion of Pebble being a "fractured rock aquifer" was inaccurate and since the bedrock is solid, disrupting the water flow was not an issue. He also explained that because of the depth of the mineralization at Pebble East – the current site of exploration drilling – the ore is not exposed to oxygen, which is necessary to create sulfuric acid.

"Not only is there ample evidence that oxidation and acidification are not issues in relation to the deep drilling at Pebble East, but it's worth noting that nearly all of the drill holes are being plugged (sealed) with either cement or bentonite slurry after completion. The few holes that aren't plugged are ones that are converted to monitoring wells or temporarily used as water sources for subsequent drilling," Crafford wrote.

Owners release environmental data

The complexities of Alaska's permitting process and misconceptions sur-

see **PEBBLE** *page 21*

ERIC LIDJI

Sean Magee, right, a spokesman for The Pebble Partnership, looks across the Pebble deposit while discussing the project with a journalist.

● YUKON TERRITORY

Green light for Carmacks copper project

Yukon regulator issues report that concludes Western Copper development needs no further environmental and socioeconomic review

By ROSE RAGSDALE
For Mining News


ROSE RAGSDALE

Jonathan Clegg, vice president, engineering for Western Copper Corp., and independent geologist Scott Casselman say the Carmacks copper project is ready for construction to begin in early 2009 and production startup in 2010.

Western Copper Corp. cleared an important hurdle July 21 in the permitting process for its Carmacks copper project 38 kilometers, or nearly 24 miles, northwest of the town of Carmacks in central Yukon.

The Executive Committee of the Yukon Environmental and Socioeconomic Assessment Board released a final screening report for the proposed Carmacks Copper Project that concluded the project may go ahead without further YESAB review.

The decision paves the way for Western Copper to obtain a quartz mining license and move ahead with its development plans, company officials said.

The Carmacks project has a measured and inferred oxide resource of 12 million metric tons grading 1.07 percent copper, 0.46 grams per metric ton gold and 4.6 g/t silver. In sulphides it has a further 4.3 Mt grading 0.75 percent copper, 0.22 g/t gold and 2.4 g/t silver.

In a feasibility study completed in May 2007, Western Copper outlined a plan for an open pit mine with a 6-year mine life (later increased to 7 years with potential for expansion) using acid heap-leach, solvent extraction and electrowinning for a final end product of London Metal Exchange grade A copper cathode.

Western Copper estimated a proven and probable resource of 10.6 Mt grading 1.04 percent copper, 0.48 g/t gold and 4.6 g/t silver.

Capital costs totaled C$144 million, with the Canadian dollar at 85 cents American. With the Canadian dollar at parity, costs would decrease to $131 million.

Environmental measures adequate

The YESAB report includes an assessment of the project's effects on soil, air, water and wildlife, as well public and worker health and safety, heritage resources and local communities. In essence, YESAB is satisfied with Western Copper's environmental plan for the project.

Jonathan Clegg, vice president, engineering for Western Copper, told Mining News June 27 that the company hopes the YESAB decision will alleviate the concerns local residents and members of area First Nations groups have expressed about potential adverse effects on nearby rivers and streams of the detoxification method proposed for the project.

Clegg said the Carmacks project is the first big venture "for YESAB to sink their teeth into."

"We'd like things to move faster, but we can't criticize how they've looked at the project," he said.

The regulatory board considered a wide range of potential impacts and addressed issues raised by First Nation governments, Yukon government, nonprofit organizations, the public and local experts in preparing the screening report.

"We've spent a lot of time on this assessment," said Stephen Mills, a member of the YESAB Executive Committee. "Closure and reclamation issues had to be reviewed in great detail. We had to be sure that the detoxification plan would prevent any toxic effluent from leaking into the Yukon River system."

Other areas of focus included the effect of local traffic from the mine, water quality, heritage resources, community dynamics and fish habitat.

"Maintaining the health and well-being of salmon and their habitat is always imperative," Mills said in a July 21 statement. "Yukoners made it very clear that the water of the Yukon River and salmon stocks are highly valued."

The report now goes to Canadian and Yukon regulators who will make a final decision on the project and issue permits.

Acid-consuming rock helps

Ironically, the likelihood of acid drainage from the Carmacks deposit is relatively low because the host rock is acid-consuming, which means water draining from the site will be somewhat neutralized by natural forces.

Western Copper plans to mine only the oxide mineralization at Carmacks, which is fairly evenly distributed over the top of a rolling hill and adjacent plateau.

The oxide cap goes down about 250 meters, and the company plans to stop short of the interface with sulphide, or acid-generating, rock below, Clegg said during a visit to the project site June 27.

The area at the bottom of the open pit will be 30 meters wide and 800 meters long, and actually will be below the level of nearby Williams Creek, he added. This means drainage from the pit would have to run uphill to reach the creek.

Western Copper's development plan also calls for using conventional acid heap leach technology that involves rinsing the heap to neutralize acid in it at the end of the mine's life.

"Our estimate is that with five years of rinsing, we could have water with a PH in the 4-5 range coming out of the heap," Clegg said. The process will include plain water and a soda ash rinse, which almost immediately neutralizes acid in the heap.

"This is not new technology, and at the end of the day, the truth will survive," said Michael Burke, acting director of the Yukon Geological Survey.

Deeper ore may be in mine's future

Western Copper may eventually choose to mine the deeper sulphide ore at Carmacks, but that would likely involve a different approach, perhaps an underground operation, said Scott Casselman, a geologist who is working on the Carmacks project as a consultant.

"Right now, most of our drilling is focused on the oxide zone, so as soon as we get into sulphides, we stop drilling," Casselman said.

Western Copper hopes to begin construction in 2009 and copper production in the late third quarter or early fourth quarter of 2010. The quartz mining license will enable construction to begin, but the company must obtain a Type A Water license to complete construction of the mine and begin copper production.●

● ALASKA

Rule violations slow Rock Creek startup

NovaGold reports second-quarter financial results; outlines changes in plan to bring small gold mine near Nome into production

By ROSE RAGSDALE
For Mining News

NovaGold Resources Inc. July 11 posted its second-quarter financial results and admitted that the company has encountered significant problems getting Rock Creek, its most advanced gold mining project, up and running.

NovaGold also outlined plans to sell some of its non-core assets, including its Ambler lead-zinc property near the Red Dog Mine in Northwest Alaska.

NovaGold said it initially budgeted about $42 million in fiscal 2008 to complete construction at the Rock Creek mine near Nome. However, significant adverse weather conditions combined with weather damage to the water recycle pond and extra work relating to storm-water pollution prevention requirements (compounded by unusually high snowfall) have resulted in extended delays starting up production at Rock Creek. Also, the junior mining company has added another $25 million to the Rock Creek construction budget. Construction at Rock Creek should be finished soon and the company said it plans to acquire additional mining equipment in the second half of 2008, expand the tailings storage facility for future production and complete additional storm-water prevention measures. These post-completion costs are expected to total about $19 million.

Rock Creek's difficulties, however, may not be over. In March NovaGold received a Notice of Violation from Alaska regulators related to a lack of preventative measures for storm-water discharges from its construction site. On June 9, the company received a further NOV and on July 7, a draft Compliance Order by Consent from the state.

NovaGold said it is cooperating with state regulators to resolve the problems, but its failure to adequately respond to the notices and compliance order could result in substantial fines, injunctive relief or other enforcement measures, which could materially affect the company's ability to operate the Rock Creek mine.

Still, NovaGold said it hopes to begin gold production at Rock Creek in 2008 at a rate of 100,000 ounces a year. Workers have completed the tailings storage facility and significant testing of the mill and processing facilities, and are currently finishing some alterations to the water recycle pond.

"State regulators have been to site for inspections and have requested some final documents and tests to fulfill permit requirements, at which point we expect the Rock

COURTESY OF NOVAGOLD RESOURCES INC.

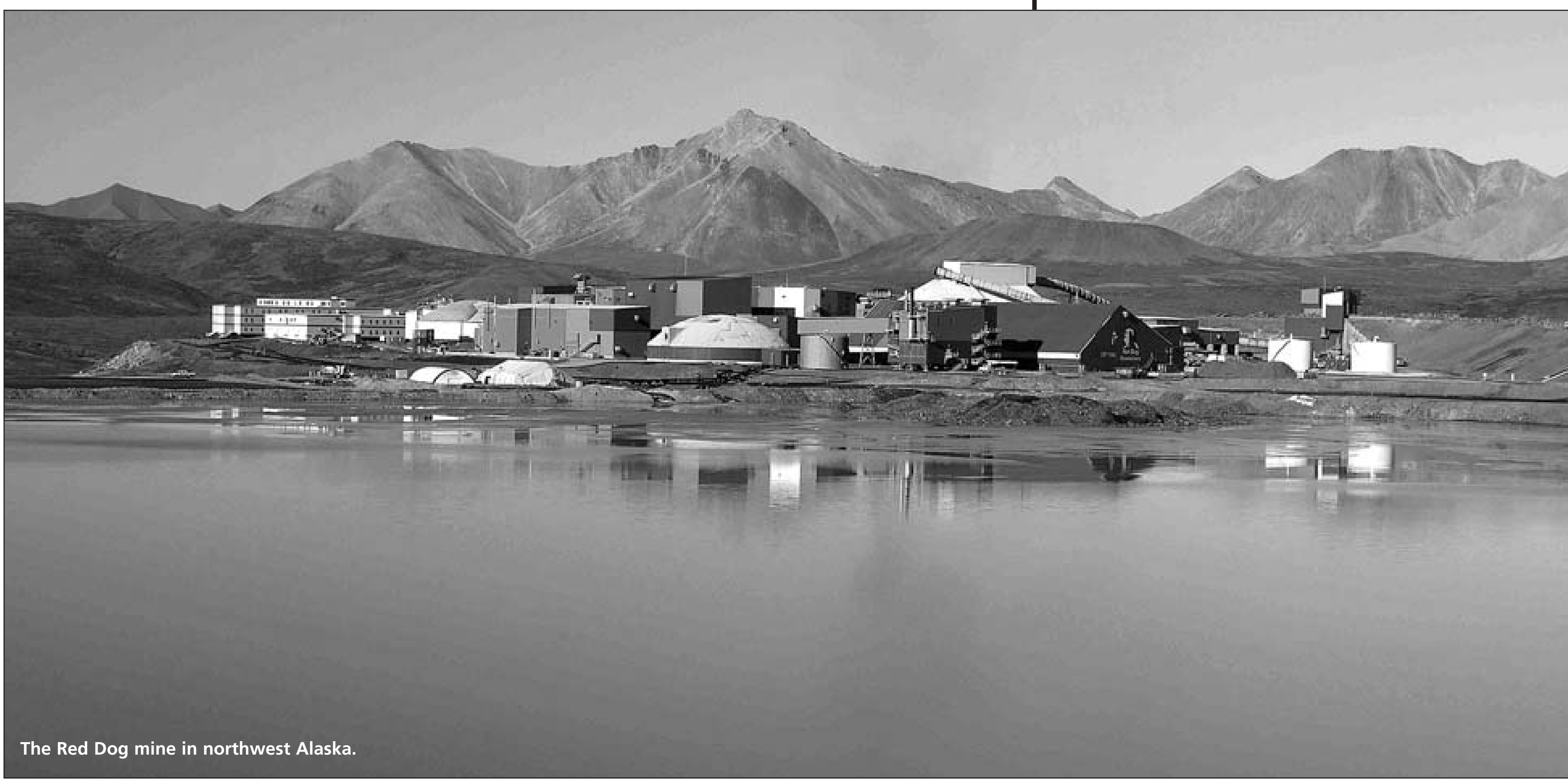
The Rock Creek Mine, owned by NovaGold Resource Inc., is nearly ready for the startup of gold production later this summer. This is an aerial view of the mine captured earlier in July.

see **ROCK CREEK** page 21

NORTH OF 60 MINING NEWS

DIRECTORY

Companies involved in Alaska and northwestern Canada's mining industry



The Red Dog mine in northwest Alaska.

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Advertiser Index

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PEBBLE

rounding the Pebble Project have caused many Alaskans concern about potential adverse effects the project might have on Bristol Bay's lucrative sockeye salmon fishery.

"We have a very attractive prospect located in a very sensitive area," said John Shively, president and CEO of the Pebble Partnership Ltd. "Everybody recognizes what the challenge is here. No matter what size or type of mine it is, you have to ensure clean water and fish protection."

For this reason, Northern Dynasty and Anglo American have spent more than $90 million collecting environmental and socio-economic data to be used in an environmental baseline document needed to obtain regulatory permits.

In May the owners began making public a series of reports based on its pre-permitting environmental and socio-economic studies.

The reports are the culmination of data collected since 2004 from 45 professional consultants studying environmental and socio-economic conditions at the Pebble property and in the entire region.

Shively said the partnership will release the data it collects with little or no analysis over a period of months rather than all at once, because of the large volume of information and strict requirements for its quality assurance and control.

Since the launch of the series in May, the partnership has released reports on meteorology, surface water hydrology, surficial geology, and groundwater hydrology. Two additional reports are scheduled for release in 2008 – trace elements in sediments and soil and groundwater and surface water quality.

The Partnership's environmental and socio-economic studies in and around the Pebble project are considered one of the most complete pre-development databases ever assembled in Alaska history. The information will be used to help design the Pebble project, facilitate project permitting, and establish a baseline for monitoring future changes.

"There's been a high degree of public interest in the work that our environmental and technical consultants have been performing in the project area over the past several years," Shively said. "And while we have always been open and willing to share the results of our work with Alaskans, the Pre-Permitting Environmental & Socio-Economic Data Report Series will formalize that process."

"We believe that an informed public can make a very positive contribution to the development of a responsible mine plan at Pebble," he added.

Since the launch of the series in May, the partnership has released reports on meteorology, surface water hydrology, surficial geology, and groundwater hydrology. Two additional reports are scheduled for release in 2008 – trace elements in sediments and soil and groundwater and surface water quality.

In 2009 the partnership will make public the results of eight more studies on trace elements in vegetation and animal tissue, fish and marine habitats, Lake Iliamna, noise and visual resources.

The partnership is also studying recreation, land and water use, wetlands, fish, aquatics and socio-economics. The companies say they will release findings of these studies in 2009 and 2010.

In addition, subsistence, traditional knowledge and cultural resource studies are under way in and around the project site, but the partnership said it considers this information proprietary to local residents and communities and will not release it to the general public.

"We believe that sharing our environmental and socio-economic data years before the onset of permitting, even before the Pebble Project is defined, will ultimately lead to more informed public input and a better project," Shively said. "The scope and quality of the environmental and scientific studies we have undertaken will be a valuable and positive legacy for this region and the state as a whole." ●

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ROCK CREEK

Creek mine will be given final authorization for production ramp up," said NovaGold President Rick Van Nieuwenhuyse in a statement.

In addition, NovaGold has filled key management positions at Rock Creek, and mine activities are moving from construction to operations.

An exploration team also has drilled 1,300 meters of 9,000 meters planned for 2008, with the goal of extending the mine life at Rock Creek and expanding the Nome Operations resource base, according to Van Nieuwenhuyse.

Update on other projects

Vancouver, B.C.-based NovaGold is co-owner of the Donlin Creek gold project in western Alaska and the Galore Creek copper project in northern British Columbia, with Barrick Gold Corp. and Teck Cominco Ltd., respectively. It is also a major investor in Vancouver, B.C.-based Alexco Resource Corp. and several other businesses.

NovaGold said exploration is ongoing at Donlin Creek, with a focus on identifying additional high-grade, high-quality ores that can increase the net present value of the project and reduce the capital payback period. Drilling completed to date in 2008 demonstrates that mineralization continues about 500 meters to the east of the current pit-constrained resource in the East Acma area. The 2008 holes are intercepting mineralization below and beyond the current pit limit and highlight the potential to increase the Donlin Creek resource base with additional infill drilling, the company said.

NovaGold provided an updated resource estimate for the project in June, incorporating the remaining 20,000 meters of 2007 drilling. Donlin Creek is now estimated to contain 31.7 million ounces of measured and indicated gold resources with an additional 4.2 million ounces of inferred gold resources, making it one of the world's largest undeveloped gold deposits.

At the Galore Creek project, Teck Cominco is paying 100 percent of the costs associated with re-engineering the project per its agreement with co-owner NovaGold. The two companies share equally the costs required to maintain the infrastructure built during the 2007 construction season, budgeted at $15 million to $20 million annually. NovaGold expects to incur additional costs related to demobilization and suspension activities at Galore Creek.

Operating unit Galore Creek Mining Corp. continues to re-engineer the Galore Creek project and expects to announce a preferred project design in the fall. A new feasibility study, scheduled for 2009, will update cost estimates for the project and may allow for the recommencement of construction, Van Nieuwenhuyse said.

NovaGold is selling some noncore assets, namely its green power business and exploration assets, including the Ambler project, for cash or marketable securities. The company is also negotiating a bank line of credit to be repaid from cash flow from the Rock Creek mine. In addition, the company said it could raise about $24 million by exercising 3.5 million warrants that it holds before Oct. 1. NovaGold said it plans to fund activities during the next year with current cash and the aforementioned transactions.

The company also said a strategic investment in Alexco Resource Corp. resulted in a net loss of $600,000 in the second quarter, compared with a net gain of $100,000 for the same period in 2007. For the six-month period ended May 31, the company recorded a net gain of $500,000 from the Alexco investment, compared to a net loss of $400,000 for the same period in 2007. At May 31, NovaGold had a pretax unrecorded gain of $12.5 million in its Alexco holdings.

Modest land and gravel sales

NovaGold reported a loss of $8 million for the second quarter, compared with $3.2 million during the same three months in 2007. The earlier period benefited from a $4.2 million gain from the sale of its shares of another company.

During the six-month period ended May 31, NovaGold reported earnings of $20.0 million, or 19 cents basic and diluted earnings per share, compared with a loss of $8.1 million during the same period in 2007. The outcome is a result of a $15.3 million gain on disposal of shares in US Gold Corp. and a $16.3 million suspension cost recovery at Galore Creek, net of related non-controlling interest, offset by the $4.2 million gain on the disposal of the Pioneer shares in 2007.

Revenues totaled $300,000 during the three-month period that ended May 31, compared with $2 million during the second quarter of 2007. NovaGold generates modest revenues from land and gravel sales and gold royalties. The decrease in revenues from the previous period relates mainly to decreased interest income due to lower average cash balances in 2008 as compared to the corresponding period in 2007, the company said.

Revenues for the six-month period ended May 31, totaled $2 million, compared with $3 million in the same period in 2007.The decrease in revenues from the previous year's results relates mainly to $1.6 million less interest income in 2008.. This was offset by $600,000 more land, gravel and gold royalty revenue in 2008. ●

NUNAVUT TERRITORY

Owner awards contract for iron project

AMEC will manage engineering and construction services, logistics planning, and procurement for C$4.1 billion Mary River mine

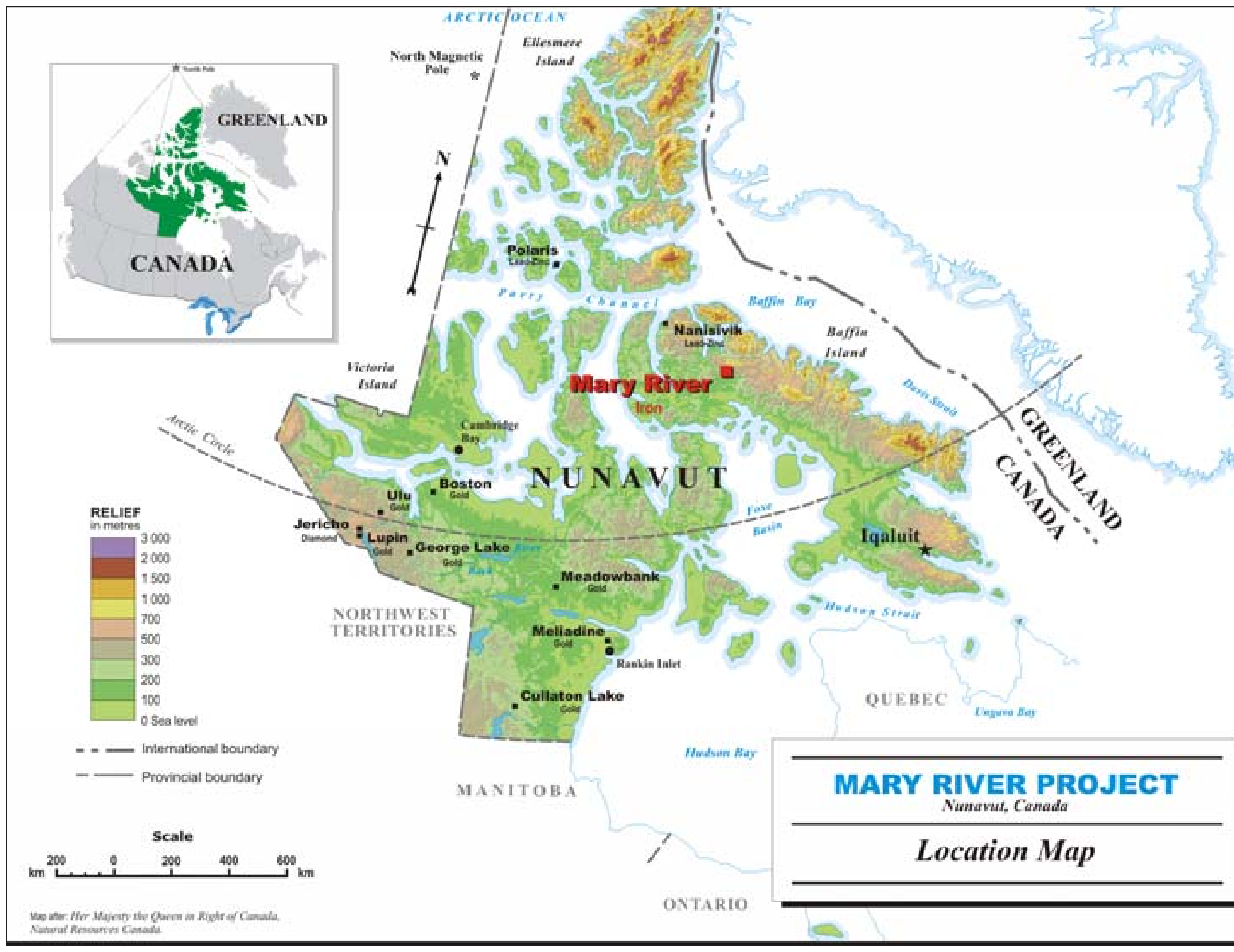
MINING NEWS

International engineering and project manager AMEC plc said it has won a C$150 million contract from Baffinland Iron Mines Corp. for the C$4.1 billion Mary River Iron Ore Project on Baffin Island, Nunavut Territory.

The contract, through which AMEC will provide engineering services, logistics planning, procurement support and construction management services for both the mine facility and export infrastructure, is scheduled to run until 2014, when the proposed Mary River mine is targeted for startup.

The high-grade Mary River property is expected to produce around 18 million metric tons of iron ore per year for at least 20 years. No processing is required other than simple crushing and screening. The massive deposit is said to contain some of the highest grade iron ore in the world.

"The appointment of AMEC as our engineering, procurement and construction management firm marks a significant milestone in advancing the Mary River project into commercial operations," Baffinland Chief Operating Officer Rod Cooper said in a statement. "AMEC brings significant expertise in large-scale Arctic mining projects, and we look forward to working with them in the development of this world-class asset."



Neil Bruce, chief operating officer of AMEC's natural resources division, said the award of the Mary River project demonstrates AMEC's core expertise of delivering in challenging environments and provides an opportunity for the consultant to work with Baffinland on the project.

AMEC plc is a $4.6 billion company that provides consulting, engineering and project management services to energy, power and process industries in more than 30 countries around the world.

Bulk sample to confirm ore quality

Baffinland, meanwhile, is moving ahead with development of the Mary River Project. In addition to hiring AMEC, the company is working to complete a definitive feasibility study for an 18 million-metric-ton-per-year mining operation and complete a scoping study for the possibility of expanding it to 30 Mt/yr, company managers told shareholders at the annual meeting June 10.

Baffinland is beginning the formal permitting process for the project this year with a development proposal and associated applications leading to submission of an environmental impact statement, and concluding its minority strategic partnering initiative.

The company is employing 275 people this summer to prepare a 250,000-metric-ton bulk sample of lump and fine iron ore for delivery to five European steel mills for production trials this fall in preparation for negotiating long-term sales contracts in early 2009.

The tests are expected to confirm the high quality of Mary River lump iron ore. The bulk sample is scheduled for shipment August through October. ●

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CASINO

Project, the Casino Project has several important advantages.

One, Western Copper anticipates lower costs of development and obtaining permits because it has a relatively simple mine plan.

"I believe having Galore Creek ahead of you, you look twice at things," he said.

In addition, M3 Engineering did not include estimates in the pre-feasibility study for:

- Benefits from converting Casino's inferred resource into the measured and indicated category and/or increasing the overall resource at Casino;
- Potential revenue from recovery of a significant silver resource at the Casino;
- Savings gained from sharing infrastructure development costs with other parties;
- Benefits from refined engineering during the feasibility study; and
- Savings from locating local sources of lime for wastewater or tailings treatment and coal for power generation. ●

● ALASKA

Full Metal finds high-tech metal deposit

Junior reports high grades of zinc, lead and silver along with showings of indium in samples from nine holes in LWM deposit

MINING NEWS

Full Metal Minerals reported assay results July 16 showing indium among metals present in the LWM deposit at its Fortymile property in East-Interior Alaska.

The Vancouver, B.C.-based junior mining company also released results from another nine holes drilled at the high-grade zinc-silver-lead-copper deposit.

Among highlights of the assay results:

LWM08-28: 1.6 meters true width averaging 26.2 percent Zinc, 14.3 percent Lead and 246.0 g/t Silver

LWM08-32: 19.9 meters true width averaging12.5 percent Zinc, 8.1 percent Lead and 158.7 g/t Silver

LWM08-33: 7.7 meters true width averaging12.7 percent Zinc, 15.6 percent Lead and 259.6 g/t Silver

LWM08-34: 3.7 meters true width averaging17.3 percent Zinc, 9.5 percent Lead and 158.3 g/t Silver

LWM08-41: 3.6 meters true width averaging 4.7 percent Zinc, 33.5 percent lead and 459.4 g/t silver

Two subparallel zones of massive carbonate-replacement mineralization have been traced over 550 meters of strike length and over 300 meters below surface. LWM is open for expansion in all directions.

Drill hole LWM08-41 is the farthest southwestern step-out hole completed to date on the property. It encountered multiple high-grade zones of both zinc-dominant and lead-dominant mineralization.

Mineralization occurs within dolomitized marble host rock, with the primary zone located adjacent to a fault zone. In the southwestern area of drilling, surface oxidation is locally variable in the upper zone. In some areas, the oxidation extends to over 200 meters below surface; the lower zone is typically less oxidized, with primary sulphide commonly located at surface. In the northeast, surface oxidation is much shallower. The thickness of mineralization can vary dramatically in CRD systems, with this variability common at LWM.

Rare metal often mined with zinc

Nine individual samples collected from three holes also were analyzed for indium, averaging 16.1 g/t.

Indium is a rare, soft, malleable and easily fusible metal that is chemically similar to aluminum or gallium but more closely resembles zinc.

Indium is about three times as abundant as silver and Canada is a leading producer. It currently trades for about $745 per kilogram and is generally mined with zinc ore.

Indium is used in many high-tech applications, primarily to form transparent electrodes from indium tin oxide in liquid crystal displays of LCD screens and solar panels. The metal is also widely used in thin-films to form lubricated layers (during World War II it was widely used to coat bearings in high-performance aircraft). It is also used for making particularly low melting point alloys, and is a component in some lead-free solders.

One unusual property of indium is that its most common isotope is slightly radioactive; it very slowly decays by beta emission to tin. This radioactivity is not considered hazardous, mainly because indium has such a long half-life, 50,000 times that of natural thorium.

China is the world's leading producer of indium (550,000 pounds in 2007), though the Teck Cominco Ltd. refinery in Trail, B.C. is the world's largest single source. The Trail refinery, which processes indium-laced zinc concentrates from Alaska, produced the lion's share of Canada's indium output of 110,000 pounds last year.

Full Metal said it will conduct more tests for indium at the Fortymile property.

The LWM discovery, the Fish oxide zinc-silver discovery, and its Oscar, Eva and Drumstick regional targets occur within an extensive trend of CRD-style prospects, the majority of which have never been drill-tested.

Also, surface exploration crews have identified new target areas and prospects during the 2008 exploration program, the company said.

Full Metal has options to earn numerous 100 percent leasehold interests within 235,376 acres of lands selected by Doyon Ltd., the Alaska Native regional corporation for the northern Interior. ●

FULL METAL MINERALS

Core samples taken by Full Metal Minerals from the LWM deposit in 2006 on the Fortymile property in eastern Alaska