Petroleum News
Celebrating 20 years: 1996-2016

page 3 Q&A: Kelly prepping for new role as president of Alaska Senate

Vol. 21, No. 48 • www.PetroleumNews.com | A weekly oil & gas newspaper based in Anchorage, Alaska | Week of November 27, 2016 • $2.50

This week's Mining News

NORTH OF 60 MINING news

page 10 Victoria CEO McConnell eyes Eagle Gold expansion targets

www.MiningNewsNorth.com The weekly mining newspaper for Alaska and Canada's North Week of November 27, 2016

NEWS NUGGETS

Compiled by Shane Lasley

AVALON DEVELOPMENT CORP.

Peak Gold, a joint venture between Royal Gold Inc. and Contango Ore Inc., significantly expanded the Peak zones at Tetlin with a three-phase drill program that kicked off at the Interior Alaska gold property in February.

Contango Ore bolsters cash; wraps up 2016 drill program

Contango Ore Inc. Nov. 17 said it has raised US$5.3 million through the exercise of 587,500 warrants. The holders of these warrants were offered a 10 percent discount to early exercise the warrants for cash to provide the company with financial flexibility. In an unrelated transaction, 62,500 warrants were exercised in a cashless exercise at their original US$10 exercise price. "We are pleased with the large number of warrants recently exercised, which dramatically changed the company's cash position, which now exceeds US$6 million as of Nov. 17, 2016," said Contango Ore President Brad Juneau. Another 580,999 Contango Ore warrants remain outstanding. The company also reported the conclusion of the third and final phase of 2016 drilling at the Tetlin gold project near Tok, Alaska. Overall, the 2016 program at Tetlin – conducted by Peak Gold, LLC, a joint venture between Contango Ore and a wholly owned subsidiary of Royal Gold Inc. – included 20,523 meters of drilling in 118 holes. The phase-3 drill program, which included 37 holes, focused on the North Peak zone at Tetlin. The company reported results from 21 of those holes, highlights include: 5.49 meters averaging 29.53 grams per metric ton gold from a depth of 17.37 meters in hole TET16281; 14.31 meters of 11.59 g/t gold from a depth of 7.32 meter in TET16281; 25.48 meters of 18.73 g/t gold from a depth of 10.52 meters and 16.58 meters of 13.52 g/t gold from a depth of 39.12 meters of TET16289; and 14.99 meters of 11.67 g/t gold from 5.66 meters in TET16295. Contango Ore said the North Peak zone remains open to northwest and southeast, as the last holes in these directions were still in gold bearing skarn. As of 2013, the Main Peak deposit hosted 6 million metric tons of indicated resources averaging 3.46 g/t (664,112 ounces) gold, 11 g/t silver and 0.25 percent copper, or 1.2 gold-equivalent ounces. Since that time, Peak Gold has had two years of increasingly successful drilling in the Main Peak, Connector and North Peak zones. This drilling has substantially increased the footprint of the Peak zones and has encountered the highest grade gold mineralization on the property to date. "We remain encouraged by the joint venture's drilling results and technical expertise provided by Royal Gold," said Juneau. "We look forward to releasing a resource estimate of the joint venture's Alaskan gold deposit in the spring of calendar year 2017."

SEABRIDGE GOLD

Recently exposed from under the cover of a receding glacier, the Mitchell deposit at Seabridge Gold's KSM project in western British Columbia is now leaching metals and sulfides into tributaries of the Unuk River, which runs through Southeast Alaska.

TRANS-BOUNDARY MINING

Key permit for KSM

Seabridge receives Canada okay for water management upstream of Alaska

By SHANE LASLEY

Mining News

KSM, an enormous gold-copper project in northwestern British Columbia, has received a federal license for water management facilities located on Mitchell and Sulphurets creeks, tributaries of the trans-boundary Unuk River system that flows through Southeast Alaska.

"This important permit highlights the government of Canada's continued support for the environmental standards incorporated into our design of the KSM project," said Rudi Fronk, chairman and CEO, Seabridge Gold, the company that is advancing KSM.

The issuance of this permit comes on the heels of a statement of understanding aimed at strengthening British Columbia and Alaska's commitment to protect trans-boundary rivers.

"British Columbia and Alaska have a long history of working together and supporting each other, as good neighbors do," said B.C. Minister of Energy and Mines Bill Bennett. "This statement of cooperation between British Columbia and Alaska ensures we are working together effectively on trans-boundary water quality, environmental assessments and permitting for mine projects, and reporting on mine discharges, operations and closure."

Signed by Bennett, B.C. Minister of Environment Mary Polak and Alaska Lt. Gov. Byron Mallott, the agreement formalizes a mutual commitment to protect and enhance the trans-boundary environment for the benefit of both jurisdictions.

"It is another step in Alaska's commitment to open and transparent collaboration with our Canadian neighbors on the vital issue of safeguarding our precious trans-boundary watersheds that feed our people and nourish our cultures," Mallott explained.

World-class KSM

While there are a number of northwestern B.C. mineral projects situated upstream of Alaska, KSM has emerged as the largest and among the most advanced of these potential mines.

Situated about 22 miles (35 miles) upstream of the Alaska border, KSM hosts 2.2 billion metric tons of proven and probable reserves averaging 0.55 grams per metric ton (38.8 million oz.) gold, 0.21 percent (10.2 billion pounds) copper, 2.6 g/t (183 million oz.) silver, and 42.6 parts per million (207 million lbs.) molybdenum.

These reserves support a 53-year mine that would average 540,000 oz. of gold, 156 million lbs. of copper, 2.2 million oz. of silver, and 1.2 million lbs. of molybdenum annually, according to a prefeasibility study published in September.

While these reserves already support a long-lived world-class mine at KSM, the project encompasses nearly as much gold in resources not included in the mine-plan as are in the reserves.

Much of this added resource is found in Deep Kerr and Iron Cap Lower, two zones discovered after completion of the 2014 PFS.

In March, Seabridge published an updated resource estimate for Deep Kerr that includes 1.01 billion metric tons of inferred resource grading 0.53 percent (11.8 billion lbs.) copper and 0.35 g/t (11.3 million oz) gold.

Lower Iron Cap, another deep deposit, hosts 163.8 million metric tons of inferred resources averaging 0.59 g/t (3.1 million oz.) gold and 0.27 percent (961 million lbs.) copper.

Contact water

While the four deposits that are included in the current mine plan – Kerr, Sulphurets, Mitchell and Iron Cap – are in the Unuk River watershed, the processing and tailings storage facilities would be situated in an area drained by the Nass River, which runs to the south and does not cross the Alaska border.

The federal permit issued to Seabridge on Nov. 21 regulates the waters storage facility, diversion ditches and other facilities needed to manage the water as the deposits in the Unuk River drainage are developed.

These facilities would separate water which has

see KSM PERMIT page 12

Seabridge receives Canada okay for water management upstream of Alaska. Read more in North of 60 Mining News, page 9.

Doyon Nenana well not commercial; plans another 3-D seismic survey

AARON SCHUTT

The Toghotthele No. 1 exploration well that Doyon Ltd. drilled this summer in the Nenana basin was not a commercial success, Aaron Schutt, Doyon president and CEO, told the Resource Development Council's annual conference on Nov. 17. However, Doyon remains sufficiently optimistic about finding a viable gas pool, or possibly oil, in the basin to continue its exploration, despite now having drilled three wells in the basin, none of which have discovered a viable hydrocarbon resource.

see **NENANA WELL** page 19

Upbeat rating for Woodfibre

Resource industry analysts are lending weight to hopes that Woodfibre LNG will become the first project to export liquefied natural gas from Canada.

Even though the plans involve only 2.1 million metric tons a year of shipments to Asian markets, a tiny fraction of the far more than 100 million metric tons of proposals on the table, the observers have checked off a list of positives associated with the venture.

Dulles Wang, an Americas gas analyst with international consultancy Wood Mackenzie, told the Canadian Press that the timing could be "right" for Woodfibre if it can be completed in time to take advantage of new market demand expected in the early 2020s.

He said the large-scale Canadian projects are faced with

see **WOODFIBRE RATING** page 20

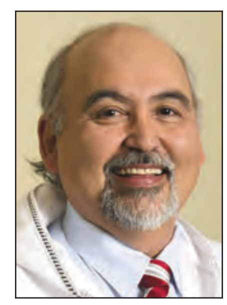
LAND & LEASING

Going for Beaufort

ASRC acquiring Shell leases to ensure continuing OCS opportunities

By ALAN BAILEY

Petroleum News



REX ROCK

Arctic Slope Regional Corp., the Alaska Native regional corporation for the North Slope, has acquired Shell's oil and gas leases in the Camden Bay region of the Beaufort Sea, Rex Rock, ASRC president and CEO, told the Resource Development Council on Nov. 16. Along with the leases, ASRC is also obtaining the information and data for the Sivulliq and Torpedo prospects that Shell had been interested in evaluating, Rock said.

Camden Bay straddles an area north of the boundary between state North Slope land and the Arctic National Wildlife Refuge. Sivulliq and Torpedo are both in the western part of the bay, approximately north of the Point Thomson field. Sivulliq, previously called Hammerhead, has a known oil pool, thought to be about 100 million to 200 million barrels in size.

Lease transfer in progress

Teresa Imm, ASRC senior vice president of resource development, told Petroleum News that the transfer of the leases to ASRC still needs government agency approval but that the terms of the sale have been finalized with Shell. With questions raised over the likelihood of

see **ASRC LEASES** page 18

LAND & LEASING

No new Arctic OCS sales

Interior takes Beaufort & Chukchi seas off five-year lease sale program

By ALAN BAILEY

Petroleum News

The U.S. Department of the Interior has removed the Alaska Arctic outer continental shelf from the final version of its new five-year OCS oil and gas lease sale plan, covering the years 2017 to 2022. The agency's draft version of the plan had included one lease sale each in the Beaufort and Chukchi seas, but those lease sales are now off the table. Interior has also decided not to offer lease sales off the Atlantic coast.

Assuming that the secretary of the Interior approves the final version of the five-year lease sale program directly after a minimum public comment period of 60 days, the new plan would become effective on July 1, 2017, Interior says.

According to assessments published by the Bureau of Ocean Energy Management, Alaska's Beaufort and Chukchi seas likely hold major oil and gas resources.

"Considering the fragile and unique Arctic ecosystem and the recent demonstrated decline in industry interest, the proposed final program does not include any lease sales in the Chukchi or Beaufort seas," Interior said in a press release accompanying the publication on Nov. 18 of a final version of the lease sale plan. "Based on consideration of the best available science and signif-

see **OCS SALES** page 20

NATURAL GAS

LNG plant for sale

Conoco selling pioneering export terminal after nearly 50 years of service

By ERIC LIDJI

For Petroleum News

ConocoPhillips Co. is marketing its pioneering Kenai LNG plant.

"The Kenai LNG Plant has played a key role in our company's history as well as the history of the Kenai Peninsula. We're proud of that history, and we are appreciative of the state's and the Peninsula community's role in the plant's success through the years," the company said in a statement on Nov. 17. "Our efforts to market the plant are consistent with our company's efforts to regularly review our assets to ensure we are optimizing our portfolio. Our current focus is on our North Slope Operations. We believe the plant is a strategic asset that that offers good opportunities for the right buyer."

Today, the Kenai LNG plant is perhaps most important as a way to expand the Cook Inlet natural gas market beyond the relatively limited needs of Southcentral and the Interior.

The announcement is the latest saga for the pioneering liquefied natural gas export terminal in Nikiski. The plant was bound for closure in 2011, only to be quickly revived in the wake of increased demand in Asia. The plant operated for six months

see **LNG PLANT** page 18

contents

Petroleum News | North America's source for oil and gas news

● GOVERNMENT

Kelly prepping for new leadership role

Fairbanks Republican begins immersing himself into pending Senate president post by spending time at RDC's annual conference

By STEVE QUINN
For Petroleum News

Most know Sen. Pete Kelly for his work on Finance committees from his 14 years collectively in the House and Senate. In January, the Fairbanks Republican will hold the title Senate president, broadening his responsibilities.

Efforts to expand outside the finance realm already began when he recently attended the Resource Development Council's recent conference.

Kelly spoke to Petroleum News about what he believe lies ahead for the Legislature, also reflecting on his new post.

Petroleum News: Obviously the budget is the major focus of the Legislature, but as it relates to resource development, what would the priorities be?

Kelly: It's a kind of not appropriate for me to be speaking too much about priorities at this point because we are going to be getting together in January to agree on that with the larger group. Obviously, whether we meet or not, the budget is a fairly daunting item that we are going to have to face. I think the idea of resource development is something we will have to face as well. Face in a good way because we have a lot of opportunity.

I think in some respects people get tired of hearing politicians and others talking about the vibrant community that Alaska can have. The catch phrases that we've heard so often can kind of ring hollow when you're in a fiscal situation that we are in now. So I'm kind of sympathetic to people who are tired of hearing that stuff. But I believe it. Having gone through the presentations at RDC it's kind of verified what many of us believe. We do have a lot of opportunities coming up and we have a lot of reason to be optimistic.

There is no question we are going to go through a lot of tough times. I know a lot of businesses are down and they are down in double-digit numbers, but they will come back. We are very fortunate there has been a shift in this country about the way it thinks just about business in general, not only because of the resources we have in the ground but also a much more friendly environment in Washington, D.C.

Petroleum News: Let's talk about Washington, D.C. President Obama just removed the Arctic from consideration for development. What are your thoughts on that?

Kelly: I don't know what it means to reverse that. All I've got from what I've read is that it's going to be more difficult to reverse what he's done. I just have a lot of high expectations and faith that the Trump administration will do everything that they can because many of the things Obama has done is just absurd on their face. Some of his acts, all they will do is cripple our economy. I just believe the Trump administration is going to pursue every avenue that we have for responsible resource development.

Petroleum News: One of those avenues that comes up every year either through resolutions in the Legislature or just in bigger picture conversations is ANWR. Do you think ANWR has a chance in these next four years?


PETE KELLY

Kelly: Well that's obviously a little bit out of my orbit. I guess if you asked me to say it had more of a chance now than it did before, I would say I would agree with that, but who knows. As you know the Senate has those goofy rules where the Senate has to have 60 or there is no actual vote. Who knows what that can mean? It's those senators thousands of miles away who pander to their environmentalist extremists in their states shutting down ANWR and having no impact on their state. That's the problem we've faced all along so I think it's still going to remain a challenge but I think we have a fighting chance now.

Petroleum News: Let's go back to your attending the RDC conference. What were your takeaways that made you bullish on the state's future for resource development?

Kelly: Well, Smith Bay (Caelus) and the finding at Armstrong's Pikka, we knew about them before RDC but it was interesting to see them on a map and hear the people who have to take the risks speak so enthusiastically about bringing those projects on line. Not only those two projects but others as well. If you look at a map on the North Slope, there is just a lot of oil up there. Those who say we are coming off an oil economy, well maybe we are but it's going to be a heck a long time before we do.

We have to make sure Alaska is in a competitive position with the rest of the world. In particular we are going to have increased competition from the Lower 48. That huge find they just made in Texas is obviously going to put Alaska in a more desperate competitive situation with our neighbors to the south as they bring that on line. Of course, the Texas find is shale oil. I honestly don't know what it's going to mean. We don't know enough about that yet to know how difficult it's going to be to bring that oil out or at what price point.

Nevertheless, you've got billions and billions of barrels of oil in the continental United States and that puts Alaska at a disadvantage when it comes time to start distributing capital dollars and who is going to develop what fields. We have to make sure we are in a position and look attractive to those who are spending those dollars.

Q AND A

Petroleum News: Have you gone to RDC every year or did you feel your new role as president warrants a broad approach this year?

Kelly: I've gone and jumped in and out of a few meetings in the past, but this is the first time that I've parked myself and sat through the presentations and network. It was very valuable. I'm glad that I went. I've been so budget focused. I've been in the Legislature for 14 years and I've been on Finance for every one of those years. I try to lift my head up long enough to get a larger picture of what's going on in the state. I don't know how successful I've been at that. I decided I needed to go out there and start absorbing information that wasn't just specifically dollars and cents.

Petroleum News: You noted that the public may be tired of hearing politicians wax poetic about our oil and gas future. Where should the public get its information, if not the politicians?

Kelly: I think they need to follow Petroleum News and Journal of Commerce. Some news outlets are so agenda driven you couldn't follow what's going on if you had to. But as far as politicians waxing poetic about our future, unfortunately sometimes when you get a microphone thrust in your face and somebody asks you a question and you kind of defer to the positive. I think after RDC maybe there is more reason to be positive. Yet I think many Alaskans are very scared and they should be if you just look at the bottom line of some of these companies. They are losing a lot of money. I think we are in a trough, but I think there is a path out of this trough. That's really all I'm trying to say.

Petroleum News: As someone who has a strong background with Finance committees, either as a member or co-chair, what would you like to hear from the industry to appreciate the investment climate, especially oil tax schemes are certain to be discussion next session?

Kelly: I'm not sure it is they who

see **KELLY Q&A** page 17

● GOVERNMENT

Administration talks opportunities at RDC

Governor, AGDC president, DNR commissioner bring positive view of North Slope developments, gas line work to annual conference

By KRISTEN NELSON

Petroleum News

The state administration put its collective foot forward with positive messages at the Resource Development Council annual conference in Anchorage Nov. 16 and 17.

Gov. Bill Walker said Nov. 16 that he's convinced the state's fiscal issue will be resolved and talked about what his administration has done to assure that oil and gas is a continuing part of Alaska's future, including pushing for an Alaskan as Interior secretary in the Trump administration, or at least a western person.

He called tax credits the biggest oil tax issue for the state and said they would have been paid off as part of the fiscal plan — but that didn't pass the Legislature, so the state paid off what was statutorily required.

On development at Greater Mooses Tooth in the National Petroleum Reserve-Alaska, Walker said the administration has been to Washington, D.C., and made calls to move forward federal approval on those projects. On federal issues he said mitigation costs extracted out of projects in Alaska makes it less likely projects will happen.

GOV. BILL WALKER

Walker mentioned a Bureau of Land Management request for what he called duplicate GMT air monitoring, and said the administration pushed back on that.

As for what the state can do to reduce project costs on the Slope, Walker said the administration has been in discussions on putting together "Deadhorse East" — perhaps a toll road built by the state on the Slope similar to the Red Dog Mine road.

Removal of Alaska from the current five-year federal outer continental leasing program was still a rumor when Walker spoke, and he said the state did everything it could to see that Alaska was left in the five-year plan, including discussions with Interior Secretary Jewell when she was in Fairbanks. The state also made nominations for the sale.

ANDY MACK

Walker called for working together collaboratively for a healthy oil and gas industry to ensure the state can be competitive with other parts of the world.

The resources team

Walker said he believes the administration has the right team in place for oil and gas development, including Department of Natural Resources Commissioner Andy Mack, John Hendrix as oil and gas advisor, DNR Deputy Commissioner Mark Wiggins and Division of Oil and Gas Director Chantal Walsh.

Mack, speaking Nov. 17, told the conference that the entire oil and gas team now has experience working projects and knowing what a private balance sheet looks like.

Mack spent four years with a private equity firm and said he looked at balance sheets in Alaska which were getting smaller month over month.

Oil has funded the state in the past and there are significant opportunities for new oil, which the state needs to protect, he said, citing work by BlueCrest, Furie and Hilcorp in Cook Inlet, by Doyon and Ahtna in the Interior, as well as numerous North Slope projects: reinvestment by BP, Armstrong's Pikka discovery, ConocoPhillips at Greater Mooses Tooth and Fiord West and Hilcorp at Milne Point.

With the change in administrations in D.C., Mack said the state has to be prepared to work for a reset on anything the outgoing administration does to prevent development.

AKLNG

Keith Meyer, president of the Alaska Gasline Development Corp., speaking Nov. 16, said he thinks it's going to be a great time to be developing an infrastructure or energy project in Alaska.

Walker said the administration has been in discussions on putting together "Deadhorse East" — perhaps a toll road built by the state on the Slope similar to the Red Dog Mine road.

Since AGDC is owned by the state it would bring the maximum value to Alaska through infrastructure development, he said.

Meyer said that while there is a current surplus of LNG as a result of developments following the 2009-11 demand pull, industry expects a return to equilibrium in the 2020s and Alaska wants to be there to meet 2023-25 demand.

KEITH MEYER

But an Alaska project has to be competitive, he said, as some 800 million tons of projects will be chasing an unserved demand of some 100 million tons in that 2020s window.

He said AGDC is targeting the end of the year to complete the transition to a state-led LNG project, but won't be doing it alone. He said the Alaska LNG project can be made attractive to infrastructure funds and infrastructure investors. The project has a proven resource and is in the neighborhood of the major Asia Pacific market.

The project is marketing itself as the neighborhood supplier, he said, and has the advantage of a direct route — the gas doesn't have to go through a third nation, and would provide seven day delivery door to door to Asia Pacific markets.

AGDC is looking at getting third-party low cost financing and a tax exemption from the federal government.

Meyer said the stable energy source an AKLNG project would provide would assist large mining projects with getting financing.

And while the project would need large investors, there would also be the opportunity, Meyer said, for Alaska investors such as Native regional corporations to participate. ●

Contact Kristen Nelson at knelson@petroleumnews.com

Petroleum news
www.PetroleumNews.com

Kay Cashman	PUBLISHER & EXECUTIVE EDITOR
Mary Mack	CEO & GENERAL MANAGER
Kristen Nelson	EDITOR-IN-CHIEF
Susan Crane	ADVERTISING DIRECTOR
Heather Yates	BOOKKEEPER
Shane Lasley	NORTH OF 60 MINING PUBLISHER
Marti Reeve	SPECIAL PUBLICATIONS DIRECTOR
Steven Merritt	PRODUCTION DIRECTOR
Alan Bailey	SENIOR STAFF WRITER
Tim Bradner	CONTRIBUTING WRITER
Eric Lidji	CONTRIBUTING WRITER
Gary Park	CONTRIBUTING WRITER (CANADA)
Steve Quinn	CONTRIBUTING WRITER
Judy Patrick Photography	CONTRACT PHOTOGRAPHER
Mapmakers Alaska	CARTOGRAPHY
Forrest Crane	CONTRACT PHOTOGRAPHER
Tom Kearney	ADVERTISING DESIGN MANAGER
Renee Garbutt	CIRCULATION MANAGER
Ashley Lindly	RESEARCH ASSOCIATE

ADDRESS
P.O. Box 231647
Anchorage, AK 99523-1647

NEWS
907.522.9469
publisher@petroleumnews.com

CIRCULATION
907.522.9469
circulation@petroleumnews.com

ADVERTISING
Susan Crane • 907.770.5592
scrane@petroleumnews.com

FAX FOR ALL DEPARTMENTS
907.522.9583

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

OWNER: Petroleum Newspapers of Alaska LLC (PNA)
Petroleum News (ISSN 1544-3612) • Vol. 21, No. 48 • Week of November 27, 2016
Published weekly. Address: 5441 Old Seward, #3, Anchorage, AK 99518
(Please mail ALL correspondence to:
P.O. Box 231647 Anchorage, AK 99523-1647)
Subscription prices in U.S. — $118.00 1 year, $216.00 2 years
Canada — $206.00 1 year, $375.00 2 years
Overseas (sent air mail) — $240.00 1 year, $436.00 2 years
"Periodicals postage paid at Anchorage, AK 99502-9986."
POSTMASTER: Send address changes to Petroleum News, P.O. Box 231647 Anchorage, AK 99523-1647.

EXPLORATION & PRODUCTION

BPXA president outlines future options

Weiss urges all to help make Alaska oil industry continue to succeed given the challenges of operating under a $50 oil price

By ALAN BAILEY

Petroleum News

In a Nov. 16 speech at the Resource Development Council's annual conference Janet Weiss, president of BP Exploration (Alaska), celebrated the past success of the Alaska oil industry while also reviewing some of the challenges that the industry faces for the future. Weiss said that Alaska needs "to be on the front foot" of a fundamental shift in the industry, with continuing low oil prices — BP is working to improve its efficiencies to be able to at least break even at $50 per barrel oil in 2017. In 2016, with interests in operations in the Prudhoe Bay field, Milne Point, Kuparuk River and Point Thomson, the company has been running a negative cash flow of $1.5 million per day, even after reducing activity on the Slope, she said.

JANET WEISS

Addressing the future challenge will require improved efficiency, the use of appropriate technologies and a fiscal environment that keeps Alaska competitive, Weiss said.

40th anniversary of Prudhoe

With next year seeing the 40th anniversary of the Prudhoe Bay field, Weiss celebrated the accomplishments already achieved in developing oil on the North Slope. Ingenious production techniques are enabling the extraction of 45 percent more oil from the Prudhoe Bay field than had originally been expected.

"It's been 40 years of challenges … but plenty of accomplishments," Weiss said.

The North Slope oil industry and the trans-Alaska pipeline have enabled the establishment of the Permanent Fund, and have enabled the state to build infrastructure and to provide services to the benefit of all Alaskans. The oil industry has brought opportunities for people across the state while also bringing prosperity to the Native communities of the North Slope.

"(The Alaska oil industry) is truly about heat, light, mobility, opportunity and, really, improved quality of life for Alaskans," Weiss said.

The Prudhoe Bay field laid the foundation for the development of other North Slope fields, including Kuparuk River, Alpine, Northstar, various satellite fields and, most recently, Point Thomson. And there is more on the horizon, with potential further significant developments at Greater Mooses Tooth, Nuna and Liberty, and with exciting major recent oil finds in Armstrong's Nanushuk prospect and Caelus Energy's Smith Bay find.

"Those are the pearls that are strung on the string of Prudhoe Bay and TAPS," Weiss said.

The fact that more companies are operating on the North Slope shows that the region is open for business — the cost structure has been changing, making more opportunities competitive sooner, she said.

But, in the world of low oil prices, the companies operating on the North Slope are working creatively to make projects that used to require an $80 oil price for viability to now work at a $50 price.

"You have to be competitive to play," Weiss said.

But, in the world of low oil prices, the companies operating on the North Slope are working creatively to make projects that used to require an $80 oil price for viability to now work at a $50 price.

Job cuts

And the industry has been shedding jobs.

BP itself has been cutting jobs over the last three years. And, while some of this has been achieved through early retirements, the most recent job losses have included millennials, a heartbreaking situation given the impacts on the families involved. Unfortunately, this pain is necessary to ensure industry sustainability, Weiss said.

Given the recent negative cash flow from BP's North Slope activities, the company is continuing to work on its efficiency and activity levels, to be at least breakeven with $50 oil in 2017 in Alaska, she said.

A fundamental shift

With a fundamental shift taking place in the oil industry, and not just a cyclical oil price change, Alaska cannot just wait for oil prices to rise. Instead, it is necessary to find options that allow the Alaska oil industry to compete at low price levels, Weiss said. And, with success, there is the potential for another 40 years of opportunities in the state, she added.

Honest debate leading to honest solutions, moving beyond defending separate positions, is needed, Weiss said.

"What kind of Alaska are we going to pass to our children," she asked. "Alaska can have a thriving and competitive oil and gas industry."

A thriving future industry will require encouragement, not discouragement, for delivering more oil through the trans-Alaska pipeline. Good policies will keep companies working on the Slope, not drive them away. It is also critical not to shorten the lives of the Prudhoe Bay and greater Kuparuk areas, the two backbone areas of the North Slope, by reducing the competitiveness of new opportunities, or by excessively penalizing field economics, Weiss said.

The focus at Prudhoe Bay is to continue to improve competitiveness through reductions in the costs of both base operations and new opportunities. That would enable an expansion of developments such as the West Sak and Sag River programs that BP has been planning, without assuming higher oil prices, Weiss said.

Economic crossroads

But with the state at an economic crossroads, given the current budget deficit, decisions taken in the coming months by elected leaders will impact life for Alaskans over the next 40 years, Weiss suggested. A failure to solve the state's current problem will increase uncertainty and exacerbate the difficulty. It is time to move beyond entrenched positions and to work the problem, she said.

And solving a problem of this type involves people coming together to establish the principles on which the desired future of Alaska can be built. Moreover, there must be dialogue to understand the ramifications of whatever choices are made, Weiss said.

Weiss also said the BP will continue to support the state's efforts to progress the potential export of Alaska liquefied natural gas. The new state-owned, utility-style commercial structure for the LNG project that the state is exploring is a key to making the project viable in a low LNG price world, she said.

Success with the Alaska LNG project could further open up exploration and development opportunities in the state for the next 40 or more years, Weiss said.

But that will require a competitive landscape and technology breakthroughs. It will also require fiscal policies that do not make the competitive uncompetitive, do not drive away companies and do not shorten the lives of our producing fields. And, with the next 40 years being the domain of the next generation, it is important to ensure responsible choices for the future well being of the industry.

"As we face a tough situation, it is about coming together with honest debate, honest dialogue, ensuring that we are thinking about more oil going down TAPS … so that we can have this 40-plus-year additional future," Weiss said. ●

Contact Alan Bailey at abailey@petroleumnews.com

NATURAL GAS

Group sues over lack of info on shipping

An environmental group is suing the Federal Railroad Administration for failing to disclose the approval process for the Alaska Railroad's application for rail shipments of liquefied natural gas.

Alaska Railroad would make the nation's first rail shipments of LNG.

The Center for Biological Diversity filed the lawsuit Nov. 21 in U.S. District Court in Washington, D.C.

Miyoko Sakashita, a senior attorney for the organization, says in a news release that the federal agency has largely ignored a February public records request seeking records or information about the hazards of carrying LNG.

The Railroad Administration in October 2015 issued a two-year permit authorizing three round-trip trains between Anchorage and Fairbanks per week. The Alaska Railroad in September sent 40-foot LNG containers between the two cities as a demonstration.

—ASSOCIATED PRESS

● EXPLORATION & PRODUCTION

Conoco sees opportunities, challenges

Company concerned about investment impact of potential oil tax changes; access to federal lands, federal permitting also issues

By KRISTEN NELSON

Petroleum News

ConocoPhillips Alaska sees both opportunities and challenges on Alaska's North Slope, Scott Jepsen, the company's vice president for external affairs and transportation, told the Resource Development Council Nov. 16 at its annual conference.

Challenges include taxes and land access, he said, and a concern that decisions the state makes will determine whether it can take advantage of opportunities, or whether those decisions will push Alaska to the back of the pack for investments for oil and gas developments.

SCOTT JEPSEN

Jepsen broke out activities since tax reform, Senate Bill 21, passed in 2013.

ConocoPhillips added two rigs to its Kuparuk fleet from 2013 to 2015 and two additional new-build rigs were delivered this year — Doyon 142 and Nabors CDR3.

For Kuparuk and Alpine combined, ConocoPhillips has five rigs working this quarter, Jepsen said, compared to three rigs in the Lower 48 for most of this year where the company has much more extensive operations.

Drill Site 2S, a new drill site at Kuparuk, came onstream a year ago with an estimated gross peak production rate of some 8,000 barrels per day and CD5 is onstream, producing 20,000 bpd, well above the estimated rate of 16,000 bpd. An 18-well addition for CD5 was approved in April, he said, based on results the company has seen so far.

Overall, North Slope production declined by less than 1 percent last year and is on track for a similar performance this year.

Safety focus

Among accomplishments Jepsen highlighted the company's focus on safety. ConocoPhillips Alaska's OSHA recordable incident rate was 0.59 in 2009, 0.67 in 2010 and 0.53 in 2011, he said, rates the company was not happy with. So it developed a program making the individual responsible for safety decisions — with some good results — and is now in line of sight to see zero incidents, he said.

The rate dropped to 0.22 in 2012, to 0.33 in 2013, 0.32 in 2014, 0.32 in 2015 and to 0.2 in 2016, putting the company on track for its safest year ever.

New opportunities

ConocoPhillips has permits for GMT1 at Greater Mooses Tooth in the National Petroleum Reserve-Alaska, and construction has started. This development is a separate accumulation from Alpine, Jepsen said. The final investment decision was in late 2015 and first oil is expected in 2018.

Permitting is underway for GMT2, but Jepsen said there are some issues with the federal Bureau of Land Management over permitting, and first oil, projected for 2020, may not happen that soon.

The GMT1 investment was some $900 million gross; GMT2 is expected to be in excess of $1 billion, he said.

Viscous oil expansion in Kuparuk is also underway with the 1H NEWS project, with gross production for the $450 million project expected at 8,000 bpd. Some facility work is starting up, he said, with first oil expected in 2018.

On the exploration side, ConocoPhillips drilled two exploration wells in 2014, acquired GMT1 seismic in 2015 and drilled three wells in NPR-A this year. One well is planned there next year, along with a seismic program.

On the drilling side, Jepsen talked about the extended reach drilling rig the company announced in October, calling it a bit of a game changer. The ERD rig is being built by Doyon and will allow development of 125 square miles from a single pad, compared to 55 square miles with current rigs.

The North Slope spend

Jepsen itemized the combined capital spend — by all companies — for the Prudhoe Bay, Kuparuk River, Alpine and Point Thomson fields from 2012 through 2016.

Some $12 billion has been sent since 2012, he said, an amount which includes the work at Point Thomson and CD5.

The gross capital spend was higher in 2016 than in 2012, the last year under the ACES tax regime, in spite of oil prices being higher in 2012 than in 2016.

AKLNG

ConocoPhillips remains optimistic about the Alaska LNG project, Jepsen said.

But the traditional approach is uneconomic at current and forecasted LNG prices. Market prices have stalled all past efforts, he said.

Success in the market will require being competitive and ConocoPhillips is supportive of the state pursuing low cost financing and tax-exempt status because those are things the company can't do. He said he couldn't say what the state's chances of success are, but if it is successful it could potentially lower the cost of the project.

State oil tax issue

On the pessimistic side, Jepsen said an increase in oil taxes would be a challenge because at oil prices below $50 the industry has negative cash flow. Revenue to the federal government is also down.

see **CONOCO OUTLOOK** *page 7*

● PIPELINES & DOWNSTREAM

Trans Mountain pipeline rift widens

Unusual public dissension from two members of Justin Trudeau's administration over upcoming Trans Mountain expansion decision

By GARY PARK
For Petroleum News

The first open rift in the year-old administration of Prime Minister Justin Trudeau involves an upcoming decision on Kinder Morgan's C$6.8 billion Trans Mountain pipeline expansion and has few parallels in the recent history of Canada.

Two government members of Parliament have spurned the usual protocol of resolving differences behind closed doors in caucus by going public with their concerns as expectations build that the Trudeau cabinet will approve a tripling of the pipeline's export capacity to 890,000 barrels per day of oil sands bitumen.

The belief that Trudeau is about to burn a large chunk of his political capital, especially in British Columbia, has been reinforced by Natural Resources Minister Jim Carr who noted that the prime minister has spoken repeatedly about his desire to reduce Canada's reliance on the United States market for Alberta's oil riches.

Carr argued that what Trudeau has said "about moving our resources sustainably ... is a sensible approach to take."

He said there is a "level of urgency" to approve new export connections beyond North America "due to sluggish economic growth."

Vancouver members speak out

Faced with a make-or-break federal cabinet decision no later than Dec. 19, the members of Parliament from the Greater Vancouver region have opted to take their own make-or-break route which could jeopardize their place in the governing Liberal Party.

Ron McKinnon said in a letter to Carr that the Trans Mountain plan is "detrimental to British Columbia and the project should not proceed," urging Carr to "listen to the collective wisdom of British Columbians."

Terry Beach told a public hearing that the area he represents "does not currently grant permission for this project to proceed."

Both MPs referred to the Liberals 2015 election platform that "government might grant permits (for major resource projects), but only communities grant permission."

Vancouver Mayor Gregor Robertson said what many others have warned about — that the activist movement behind the large and prolonged demonstrations in North Dakota against the Dakota Access pipeline is now turning its focus to Canada.

"It is undeniable that our government lacks social license to proceed with this project," said McKinnon.

He also argued Kinder Morgan should not be allowed to start construction "without better research on (the pipeline's) effect on at-risk species such as killer whales."

Former British Columbia Premier Mike Harcourt appealed earlier in November for the Canadian government to recommend a different location for the tanker terminal to handle about 34 loadings a month at the existing Burnaby facility that currently fills an average five tankers a month in the Port of Vancouver.

Nov. 19 protest

Those concerns were reflected on Nov. 19 when more than 4,000 protesters — including First Nations leaders, politicians from the municipal, provincial and federal levels, environmentalists and citizens — demonstrated in downtown Vancouver against the expansion.

Vancouver Mayor Gregor Robertson said what many others have warned about — that the activist movement behind the large and prolonged demonstrations in North Dakota against the Dakota Access pipeline is now turning its focus to Canada.

"I think you will see protests (against Trans Mountain) unlike anything you have ever seen before," Robertson said. "I think it is politically perilous."

Canada's Green Party leader Elizabeth May said that if the Trudeau government approves the pipeline "they will see such hell-raising from British Columbia that they will feel it shake the foundations of Parliament." ●

Contact Gary Park through publisher@petroleumnews.com

EXPLORATION & PRODUCTION

All tundra areas closed for travel

All four tundra areas on the North Slope remained closed to travel as of Nov. 18, according to the first seasonal report from the Alaska Department of Natural Resources.

Although recent cold weather has been pushing soil temperatures toward the target for off-road activities and temporary road construction, snow cover remains a problem.

For the purposes of monitoring tundra conditions, the Northern Regional Office of the state Division of Mining, Land and Water, in Fairbanks, divides the North Slope into four areas: Eastern Coastal, Western Coastal, Lower Foothills and Upper Foothills.

In the two coastal areas, the division requires snow depth of six inches and soil temperature of minus 5 C at 30 centimeters (approximately 1 foot). In the foothills, the division requires snow depth of nine inches and soil temperature of minus 5 C at 30 centimeters.

The required snow depths have been reached at two of the 20 monitoring North Slope stations— one in the Eastern Coastal area and one in the Western Coastal area—although "snow quality is generally poor with very low densities," according to the report.

As of the Nov. 18 Off-Road Travel Status Report, the Eastern Coastal area had an average snow depth of 5.49 inches and soil temperatures between minus 1.7 C and minus 0.1 C; the Western Coastal area had an average snow depth of 5.39 inches and soil temperatures between minus 3.6 C and 0 C; the Lower Foothills area had an average snow depth of 4.75 inches and soil temperatures between minus 2.8 C to minus 0.5 C; and the Upper Foothills area had an average snow depth of 5.20 inches and soil temperatures between minus 1.8 C to minus 0.2 C.

The required snow depths have been reached at two of the 20 monitoring North Slope stations— one in the Eastern Coastal area and one in the Western Coastal area—although "snow quality is generally poor with very low densities," according to the report.

The division expects to release its next Off-Road Travel Status Report around Dec. 5.

—ERIC LIDJI

continued from page 6

CONOCO OUTLOOK

The state's share, however, remains positive even at low prices. Jepsen showed a chart of net cash flow to industry, state and federal government. It excluded tax credits other than production tax credits.

As prices go up, the state's share goes up. The state always takes the lion's share of revenue, he said.

Jepsen called Alaska's current tax regime a reasonable balance and said if the state changes that balance it runs the risk of upsetting investment.

Federal, investment challenges

On the federal side he said access to federal lands was an issue and cited the prevalent rumor, confirmed later the same day, that President Obama would remove Arctic OCS acreage from the upcoming five-year lease sale schedule.

He said there was significant potential on the OCS, as well as in NPR-A, where some 11 million acres are unavailable for leasing.

But access isn't the only issue: Once federal acreage is secured, permitting can be lengthy and difficult, Jepsen said.

With GMT2, the federal government is developing rules and regulations as they permit GMT2 and those rules and regulations which are under development will apply to the project, he said.

The other issue is competition for investment dollars. The Lower 48 has turned into a real center of gravity for oil and gas investment, he said.

The state challenge is the fiscal gap and reaching a solution. Jepsen called making sure taxes incentivize investment a real challenge. ●

Contact Kristen Nelson at knelson@petroleumnews.com

● PIPELINES & DOWNSTREAM

British Columbia refinery idea suspended

By GARY PARK

For Petroleum News

The four-year-old dream of a North American newspaper tycoon to build a refinery on the British Columbia coast and ship diesel, jet fuel and gasoline to Asia shows signs of being jolted awake.

Less than a month after formally embarking on an environmental review of his US$22 billion proposal, David Black has suspended the process, admitting he is unable to pay the cost of the regulatory phase.

He told Postmedia his only remaining hope is to strike a deal with communities in British Columbia and First Nations to become partners in Kitimat Clean project by helping to pay for the C$5 million regulatory phase by the Canadian Environmental Assessment Agency.

"Until I get that we're just nowhere," he said, while dangling a thread of hope that an accord might be reached within three months.

For now the CEAA has suspended the work of a panel it appointed on Sept. 2 and given no indication when that work might resume.

Loan guarantee sought

Separate from the review, Black has been seeking a C$10 billion loan guarantee from the Canadian government, arguing his project offers a cleaner alternative to exporting raw bitumen from the Alberta oil sands through British Columbia ports.

The idea has been welcomed by British Columbia Premier Christy Clark as a chance to create more jobs than merely delivering the bitumen by pipeline to tanker terminals.

Officials from the B.C. and Canadian governments have also used trade missions to Asia to seek investors in Kitimat Clean and buyers for the refined products.

Black has offered no updated reports on his attempts to negotiate loans or arrange for Asian customers.

Shipment by rail

The Kitimat Clean proposal includes the use of rail rather than a pipeline to ship about 400,000 barrels per day of bitumen

Black has offered no updated reports on his attempts to negotiate loans or arrange for Asian customers.

out of Alberta and a technology to reduce carbon emissions at the refinery and pose less of a threat to the environment than a spill involving bitumen.

However, from the outset Black has encountered strong doubts that he could overcome the notoriously thin profit margins for refined products.

In addition, Michael Moore, a professor of energy economics at the University of Calgary, has argued that any Asian buyers would prefer to build their own refineries and meet their specialized needs.

Other timeouts

Also appearing to have taken a timeout are two other proposals to access Asian markets with Alberta bitumen — Pacific Future Energy, which has filed plans with federal and provincial regulators for an C$11 billion, 200,000 bpd plant and tanker terminal near Kitimat, and a First Nations-based venture by Eagle Spirit Energy to convert 1 million bpd of bitumen at an unidentified location on the British Columbia coast.

In addition, a partnership that has involved some First Nations has been exploring the idea of building a C$34 billion rail and pipeline link from Alberta to the Port of Valdez. ●

Contact Gary Park through publisher@petroleumnews.com

LAND & LEASING

State taking comments on CRU expansion

The state is considering a request to expand the Colville River unit.

ConocoPhillips Alaska Inc. initially made its request earlier this year and submitted a revised request in early November, after the Alaska Department of Natural Resources overturned a previous decision and allowed the company to acquire a package of leases formerly associated with the Tofkat unit from Brooks Range Petroleum Corp. The proposed expansion would add 21 leases covering some 9,146 acres onto the unit.

The state is taking comments on the request through Dec. 19.

As part of the request, ConocoPhillips is proposing to drill at least one exploration well in the expansion area by June 1, 2017, and could potentially develop the area by late 2024.

The company is currently permitting the Putu No. 1 well and Putu No. 1A sidetrack.

The request is technically called the "fifth expansion" of the Colville River unit, although chronologically it would be the sixth. While the company was appealing a leasing decision pertaining to the area, it also requested and received a "sixth expansion."

According to a ballot agreement included with the request, ConocoPhillips owns 100 percent working interest in the leases, although its longtime partner at the Colville River unit, Anadarko E&P Onshore LLC has the right to acquire a 22 percent minority interest.

Previous working interest owners spent more than $30 million exploring the Tofkat unit. The program included the Tofkat No. 1 well and the Tofkat No. 1A and Tofkat No. 1B sidetracks and a 3-D seismic acquisition. "The information obtained from these exploration activities led to the identification of potential hydrocarbon accumulations and additional prospects inside the Tofkat Unit Area," according to ConocoPhillips.

—ERIC LIDJI

North of 60 Mining News

page 10 Victoria CEO McConnell eyes Eagle Gold expansion targets

www.MiningNewsNorth.com *The weekly mining newspaper for Alaska and Canada's North* Week of November 27, 2016

NEWS NUGGETS

Compiled by Shane Lasley

AVALON DEVELOPMENT CORP.

Peak Gold, a joint venture between Royal Gold Inc. and Contango Ore Inc., significantly expanded the Peak zones at Tetlin with a three-phase drill program that kicked off at the Interior Alaska gold property in February.

Contango Ore bolsters cash; wraps up 2016 drill program

Contango Ore Inc. Nov. 17 said it has raised US$5.3 million through the exercise of 587,500 warrants. The holders of these warrants were offered a 10 percent discount to early exercise the warrants for cash to provide the company with financial flexibility. In an unrelated transaction, 62,500 warrants were exercised in a cashless exercise at their original US$10 exercise price. "We are pleased with the large number of warrants recently exercised, which dramatically changed the company's cash position, which now exceeds US$6 million as of Nov. 17, 2016," said Contango Ore President Brad Juneau. Another 580,999 Contango Ore warrants remain outstanding. The company also reported the conclusion of the third and final phase of 2016 drilling at the Tetlin gold project near Tok, Alaska. Overall, the 2016 program at Tetlin – conducted by Peak Gold, LLC, a joint venture between Contango Ore and a wholly owned subsidiary of Royal Gold Inc. – included 20,523 meters of drilling in 118 holes. The phase-3 drill program, which included 37 holes, focused on the North Peak zone at Tetlin. The company reported results from 21 of those holes, highlights include: 5.49 meters averaging 29.53 grams per metric ton gold from a depth of 17.37 meters in hole TET16281; 14.31 meters of 11.59 g/t gold from a depth of 7.32 meter in TET16281; 25.48 meters of 18.73 g/t gold from a depth of 10.52 meters and 16.58 meters of 13.52 g/t gold from a depth of 39.12 meters of TET16289; and 14.99 meters of 11.67 g/t gold from 5.66 meters in TET16295. Contango Ore said the North Peak zone remains open to northwest and southeast, as the last holes in these directions were still in gold bearing skarn. As of 2013, the Main Peak deposit hosted 6 million metric tons of indicated resources averaging 3.46 g/t (664,112 ounces) gold, 11 g/t silver and 0.25 percent copper, or 1.2 gold-equivalent ounces. Since that time, Peak Gold has had two years of increasingly successful drilling in the Main Peak, Connector and North Peak zones. This drilling has substantially increased the footprint of the Peak zones and has encountered the highest grade gold mineralization on the property to date. "We remain encouraged by the joint venture's drilling results and technical expertise provided by Royal Gold," said Juneau. "We look forward to releasing a resource estimate of the joint venture's Alaskan gold deposit in the spring of calendar year 2017."

SEABRIDGE GOLD INC.

Recently exposed from under the cover of a receding glacier, the Mitchell deposit at Seabridge Gold's KSM project in western British Columbia is now leaching metals and sulfides into tributaries of the Unuk River, which runs through Southeast Alaska.

TRANS-BOUNDARY MINING

Key permit for KSM

Seabridge receives Canada okay for water management upstream of Alaska

By SHANE LASLEY

Mining News

KSM, an enormous gold-copper project in northwestern British Columbia, has received a federal license for water management facilities located on Mitchell and Sulphurets creeks, tributaries of the trans-boundary Unuk River system that flows through Southeast Alaska.

"This important permit highlights the government of Canada's continued support for the environmental standards incorporated into our design of the KSM project," said Rudi Fronk, chairman and CEO, Seabridge Gold, the company that is advancing KSM.

The issuance of this permit comes on the heels of a statement of understanding aimed at strengthening British Columbia and Alaska's commitment to protect trans-boundary rivers.

"British Columbia and Alaska have a long history of working together and supporting each other, as good neighbors do," said B.C. Minister of Energy and Mines Bill Bennett. "This statement of cooperation between British Columbia and Alaska ensures we are working together effectively on trans-boundary water quality, environmental assessments and permitting for mine projects, and reporting on mine discharges, operations and closure."

Signed by Bennett, B.C. Minister of Environment Mary Polak and Alaska Lt. Gov. Byron Mallott, the agreement formalizes a mutual commitment to protect and enhance the trans-boundary environment for the benefit of both jurisdictions.

"It is another step in Alaska's commitment to open and transparent collaboration with our Canadian neighbors on the vital issue of safeguarding our precious trans-boundary watersheds that feed our people and nourish our cultures," Mallott explained.

World-class KSM

While there are a number of northwestern B.C. mineral projects situated upstream of Alaska, KSM has emerged as the largest and among the most advanced of these potential mines.

Situated about 22 miles (35 miles) upstream of the Alaska border, KSM hosts 2.2 billion metric tons of proven and probable reserves averaging 0.55 grams per metric ton (38.8 million oz.) gold, 0.21 percent (10.2 billion pounds) copper, 2.6 g/t (183 million oz.) silver, and 42.6 parts per million (207 million lbs.) molybdenum.

These reserves support a 53-year mine that would average 540,000 oz. of gold, 156 million lbs. of copper, 2.2 million oz. of silver, and 1.2 million lbs. of molybdenum annually, according to a prefeasibility study published in September.

While these reserves already support a long-lived world-class mine at KSM, the project encompasses nearly as much gold in resources not included in the mine-plan as are in the reserves.

Much of this added resource is found in Deep Kerr and Iron Cap Lower, two zones discovered after completion of the 2014 PFS.

In March, Seabridge published an updated resource estimate for Deep Kerr that includes 1.01 billion metric tons of inferred resource grading 0.53 percent (11.8 billion lbs.) copper and 0.35 g/t (11.3 million oz) gold.

Lower Iron Cap, another deep deposit, hosts 163.8 million metric tons of inferred resources averaging 0.59 g/t (3.1 million oz.) gold and 0.27 percent (961 million lbs.) copper.

Contact water

While the four deposits that are included in the current mine plan – Kerr, Sulphurets, Mitchell and Iron Cap – are in the Unuk River watershed, the processing and tailings storage facilities would be situated in an area drained by the Nass River, which runs to the south and does not cross the Alaska border.

The federal permit issued to Seabridge on Nov. 21 regulates the waters storage facility, diversion ditches and other facilities needed to manage the water as the deposits in the Unuk River drainage are developed.

These facilities would separate water which has

see **KSM PERMIT** *page 12*

NORTHERN NEIGHBORS

Compiled by Shane Lasley

Drilling shows growth for Olive-Shamrock

Victoria Gold Corp. Nov. 22 provided an update on a second phase of drilling at its Dublin Gulch project in the Yukon. This phase of drilling was designed to test for extensions to the mineralized zone at the Olive-Shamrock deposit, which was recently incorporated into a feasibility study for Eagle Gold mine project at Dublin Gulch. Victoria said the results of this phase-2 program support the expansion potential of the Olive-Shamrock deposit, particularly to the northeast. Highlights from drilling in the direction include 32 meters of 1 gram per metric ton gold in hole DG16-766C and 42 meters of 0.81 g/t gold in DG16-772C. An updated feasibility study for developing a mine at Eagle Gold envisions a 33,700-metric-tons-per-day operation encompassing two open pits, Eagle and Olive; a three-stage crushing circuit; two in-valley leach pads; and a gold recovery plant. This operation is anticipated to produce 190,000 ounces of gold annually over 10 years of mine life, based on 116 million metric tons of reserves averaging 0.67 g/t (2.66 million oz.) gold. "The recent Eagle feasibility study proved the accretive value of the Olive-Shamrock deposit when included in the Eagle mine plan," said Victoria Gold President and CEO. "These latest results demonstrate the potential growth of the Olive-Shamrock deposit. With our recent capital raise of \$4.7M, we now have greater than \$6M earmarked for exploration in 2017 and plan to continue to drill Olive-Shamrock while also testing new targets along the developing Potato Hills trend, which includes; Steiner, Nugget, Rex-Peso, and Falcon targets, amongst others."

JOHN MCCONNELL

Zonte moves in next door to Dublin Gulch

Zonte Metals Inc. Nov. 17 said it has signed a binding letter agreement to option and acquire full ownership of the McConnells Jest property, adjacent to Victoria Gold Corp.'s Dublin Gulch gold mine project in the Yukon. Sporadic exploration at McConnells Jest since 2010 has identified an intrusion related gold system that shows similarities to Dublin Gulch. Soil sampling has produced numerous multi-element anomalies, several of which correlate with discovered bedrock gold mineralization. Prospecting has successfully identified five bedrock target areas containing gold mineralization characteristic of intrusion related gold systems. Zonte said the most intriguing target, the Two-Four zone, was discovered this summer. This zone hosts a series of high density gold-bearing veins. Four additional gold zones in bedrock have been identified with limited exploration. "The McConnells Jest project is rare in that it offers the opportunity for multiple target potential and is located next to Victoria Gold's Dublin Gulch project, which hosts a global

see **NORTHERN NEIGHBORS** *page 11*

Petroleum news

North of 60 Mining News is a weekly supplement of the weekly newspaper, Petroleum News.

Shane Lasley	PUBLISHER & NEWS EDITOR
Rose Ragsdale	CONTRIBUTING EDITOR
Mary Mack	CEO & GENERAL MANAGER
Susan Crane	ADVERTISING DIRECTOR
Heather Yates	BOOKKEEPER
Marti Reeve	SPECIAL PUBLICATIONS DIRECTOR
Steven Merritt	PRODUCTION DIRECTOR
Curt Freeman	COLUMNIST
J.P. Tangen	COLUMNIST
Judy Patrick Photography	CONTRACT PHOTOGRAPHER
Forrest Crane	CONTRACT PHOTOGRAPHER
Tom Kearney	ADVERTISING DESIGN MANAGER
Renee Garbutt	CIRCULATION MANAGER
Mapmakers Alaska	CARTOGRAPHY

ADDRESS • P.O. Box 231647
Anchorage, AK 99523-1647

NEWS • 907.229.6289
publisher@miningnewsnorth.com

CIRCULATION • 907.522.9469
circulation@petroleumnews.com

ADVERTISING
Susan Crane • 907.770.5592
scrane@petroleumnews.com

FAX FOR ALL DEPARTMENTS
907.522.9583

Several of the individuals listed above are independent contractors

NORTH OF 60 MINING NEWS is a weekly supplement of Petroleum News, a weekly newspaper. To subscribe to North of 60 Mining News, call (907) 522-9469 or sign-up online at www.miningnewsnorth.com.

● OPINION

Nominate bureaucratic appointees now

Election of Donald Trump to the White House gives us the chance to make a difference by suggesting new government staffers

By J. P. TANGEN

Special to Mining News

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.

Like lots of folks, I was somewhat astounded that Secretary (Hillary) Clinton was able to snatch defeat from the jaws of victory earlier this month. Everyone, of course, expected the left coast states (except for Alaska) to fall in line, and no one could have been caught off guard when the northeast and Illinois voted true blue. Nevada might have been a little disappointing, but Colorado and New Mexico have been lost at sea for a while; and Minnesota was pretty much true to form. Florida and North Carolina were regarded as the swing states from the gitgo; but almost everyone, it seems, was pretty sure that Michigan and Wisconsin, together with Ohio and Pennsylvania would certainly go to the Democrat.

We are now confronted with a businessman at the helm, and while a fairly substantial number of leaders in the past have transitioned smoothly between the public and private sectors, for the president-elect, this will be his first venture. An ancient anecdote relates that John Kennedy, when asked why he pursued a career in politics instead of religion, related that it was because he couldn't start off as the Pope. You have to give Mr. Trump points for wanting the top job.

But now that he has won and is charged with the responsibility for staffing thousands of high level positions inside the government, the question is whether he will fill those positions with private sector players who likewise have little or no experience in the public sector. So far the indications are disappointing.

The nominees for cabinet level positions unilaterally have either been christened with the sign of the electable or have dedicated a lifetime to military service, even though they may be mavericks. My personal preference, by comparison, would be for the transition team to appoint no one to a position of authority who cannot demonstrate a history of having met a payroll.

There's nothing magic about a career in private enterprise; however, when you are charged with looking an employee in the eye and saying, "I am sorry, I know you have a family to support, but I can no longer afford to keep you here," that is where the rubber meets the road. Businesses in America arise and fail like the tides, but one characteristic that President-elect Trump has in spades, is a history of cutting people loose.

The other day, the players in the hit show Hamilton addressed Vice President-elect Mike Pence from the stage by saying that they hoped their show had inspired the new administration "to uphold our American values and work on behalf of all of us." This is exactly what President-elect Donald Trump has undertaken to do.

It is not a singular aspiration. What makes this communication ironic though, is that arguably the major difference between the Obama administration and the upcoming one mirrors the historic difference between Alexander Hamilton and Thomas Jefferson just over two centuries ago. Both were keen on making America a better place, and both were handicapped by the cards they were dealt at the time. One favored a strong central government; the other favored a federation of equal states with only limited prescribed powers vested in the national entity. They each looked at America through the same metaphorical telescope, but from different ends.

No matter where the change in the executive branch leads us, the republic will survive; but now those who have been laboring in the fields have a rare opportunity to make our voices heard.

In the mining industry in Alaska, as well as our other basic industries across the country, including the health care industry, the education industry, and millions of other businesses, large and small, the private sector has felt the crushing burden of government oversight from every rock we turn to every breath we take. While I am the first to acknowledge that one-half of the professional bureaucracy is above average, sadly the concomitant is true – the other half is not. I think that most of us are acquainted with the lower group.

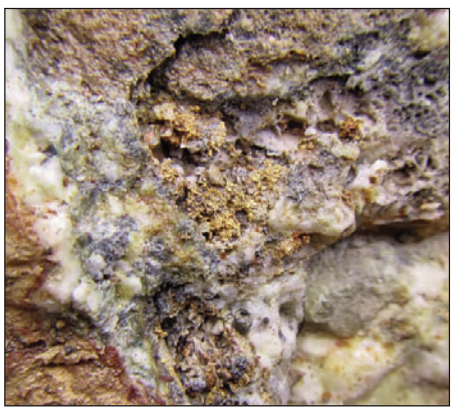
Of the thousands of federal jobs that must be filled by the new administration, we don't need more of the same; accordingly it is incumbent on us to identify qualified, private sector candidates to fill vacancies created by the change in leadership and to cause those individuals to apply for appointed federal positions. Although having previously worked in government should not be a disqualifying factor, in my view, never having had to meet a payroll should be. We just don't need regulators who don't know where money comes from telling us what the law requires.

Those who of you who want a position with the Trump Administration should get an application on file. If you don't want a position yourself but know of a perfect match for a soon-to-be-vacated job, you should nominate that individual by contacting the transition team or our congressional delegation. All too often after an election, we are left to bemoan our fate; but now, for one brief and shining moment, we have an opportunity to direct it. ●

continued from page 10

NORTHERN NEIGHBORS

resource of 6.3 million ounces of gold," said Zonte President and CEO Terry Christopher. Victoria Gold, led by CEO John McConnell, is nearing development of an open-pit operation at Dublin Gulch that is anticipated to produce 200,000 ounces of gold per year. To purchase full ownership of the neighboring McConnells Jest, Zonte must pay Bill Koe-Carson, C$150,000 over two years and issue the vendor 1.5 million common shares over three years. The claims are subject to a 3 percent net smelter return royalty, 2 percent of which can be purchased for C$2 million.



GOLDEN PREDATOR MINING CORP.

This visible gold was spotted at Jack of Spades vein at Golden Predator's 3 Aces project in the Yukon.

High-grade gold in Spades at 3 Aces

Golden Predator Mining Corp. Nov. 21 reported the discovery and expansion of high-grade gold targets at the Spades zone, one of three areas where the company has identified coarse gold in quartz veins within a 2,600-acre core area of the 3 Aces property in southeastern Yukon Territory. More than 800 grab, chip, channel and panels samples were collected within the core area over a nearly three-month program that began in August. Results from 350 of these samples have discovered two new targets areas – Seven of Spades and Queen of Spades – and expanded previous discoveries – Ace of Spades, Jack of Spades and Three of Spades. Ace of Spades is the location of a bulk sample and reverse circulation drilling carried out earlier this year. Previously reported highlights from the drilling include: 2.28 meters grading 96.78 grams per metric ton gold; 11.43 meters grading 31.89 g/t gold; and 10.36 meters of 14.3 g/t gold. Recently, Golden Predator sampled the footwall to the Ace of Spades extension vein where a zone of fractured and disrupted quartz veining was exposed. Values of 8.62, 13.4 and 3.88 g/t gold were returned from 2-meter channel samples cut across this vein. Six samples collected from the Queen of Spades target, which is located immediately northwest of Ace of Spades, returned values greater than 5 g/t gold. The highest grade sample collected at this newly discovered target returned 30.8 g/t gold. The Seven of Spades target, about 400 meters northwest of Ace of Spades, is composed of a series of flat lying stacked quartz veins, high angle quartz veins and steeply dipping fracture zones. The highest grade samples from this zone – 18.55, 17.05 and 16.8 grams per metric ton gold – were from flat lying quartz veins, two of which contained visible gold. Additional sampling Jack of Spades, situated immediately east of Ace of Spades, returned values up to 8.65 g/t gold from an extension of the previously identified set of veins. The northeast striking vein-set consists of several individual veins up to a maximum apparent thickness of 1.7 meters. The thickest vein returned 37.9 g/t gold from a panel sample and contained visible gold. Previous sampling of this vein on the lower discovery bench returned a value of 64.3 g/t gold over 1.5 meters. About 250 meters further east, trenching has extended the Three of Spades target area. Five trenches were excavated across Three of Spades. Out of 43 panel samples collected from these trenches, twenty returned values greater than 1g/t gold with a maximum value of 6.95 g/t gold. Road building, trenching and sampling of high gold-in-soil anomalies at 3 Aces will continue in the spring of 2017.

Goldstrike readies to drill Lucky Strike

Goldstrike Resources Ltd. Nov. 21 reported that a second phase of 2016 bedrock trenching program at its Lucky Strike property Yukon's White Gold District has identified drill ready targets at the property's Monte Carlo zone. The gold zone, which was discovered with trenching earlier this year, is one of five-large gold-in-soil anomalies identified at Lucky Strike. In the latest round of results, trench LS-TR-16-10 encountered 44 meters averaging 0.34 grams per metric ton gold. This work extends the strike extent of the Monte Carlo northwest by 140 meters. Goldstrike says the gold-in-soil anomalies that characterize Monte Carlo measure 1,400 by 350 meters and remains open, making them one of the largest undrilled anomalies in the White Gold District. An induced polarization geophysical survey was also conducted during the phase-2 program. This survey identifies a northwest-southeast trending geophysical anomaly which strongly coincides with the known gold mineralization seen in the mechanical trenches at Monte Carlo. Goldstrike said it is planning a maiden drill program for Monte Carlo. Further work is also being planned for two other zones at Lucky Strike, Belmont and Maverick. A soil survey conducted during the phase-2 program has doubled the previously known extent of the gold- and tellurium-in-soil anomaly at Belmont to roughly 1500 by 800 meters. Goldstrike has completed limited trenching on the fringes of Belmont and the company plans to trench the most prospective areas of this newly expanded zone in preparation for drilling. The Maverick zone, discovered during reconnaissance soil sampling along the prospective trend at Lucky Strike trend, currently measures 200 by 150 meters. Goldstrike is planning follow-up work with the goal of delineating drill targets at Maverick.

see **NORTHERN NEIGHBORS** *page 12*

continued from page 11

NORTHERN NEIGHBORS

Amarc extends loan, nabs new projects

Amarc Resources Ltd. Nov. 21 announced plans to acquire full ownership of two porphyry projects in north-central and central British Columbia. Joy, the northernmost project, is a porphyry copper-gold target about 15 kilometers (nine miles) north of Kemess district, where Northgate Minerals produced 3 million ounces of gold and 784 million pounds of copper over a 12-year period to 2010 and AuRico Metals recently announced a 628-meter intercept grading 0.53 grams per metric ton gold and 0.41 percent copper. Additionally, three past-producing silver-gold mines – Lawyers, Baker and Shasta – are a few west of Joy. Duke is about 30 kilometers (19 miles) north of the former Bell and Granisle mines in the Babine porphyry-copper district of central B.C. Operated by Noranda Minerals Inc. between 1966 and 1992, Bell and Granisle produced 1.1 billion pounds of copper, 634,000 ounces of gold and 3.5 million oz. of silver. Amarc has entered into two separate transactions – one with a company owned by director, and the other directly with Robert Dickinson, chairman of Hunter Dickinson Inc., or HDI. To acquire full working interest in the Joy and Duke projects, Amarc has agreed to pay C$492,639 in cash. In order to fund the acquisition, Amarc has signed a loan consolidation agreement with Dickinson, pursuant to which a previous two-year loan of C$1 million due Nov. 26 has been extended for three years on customary conditions and increased to C$1.5 million. The Loan remains unsecured and will bear interest at a rate of 9 percent per year. Amarc will issue 10 million three-year term common share purchase warrants with an exercise price of C8 cents per share. Amarc, which is associated with HDI, is focused on advancing Ike, a B.C. project that hosts a new porphyry copper-molybdenum discovery and at least four drill-ready porphyry copper deposit targets.

Ascot finds high-grade gold zones at Premier

Ascot Resources Ltd. Nov. 16 reported high-grade gold intercepts from an expansive drill program at its Premier property near the town of Stewart in northwest British Columbia. Highlights from the latest batch of drill results include 13.3 meters of 15.28 grams per metric ton gold in hole P16-1169; and 12.27 meters of 16.73 g/t gold in P16-1178. Both holes were drilled in a flat lying eastern extension of the Lunchroom zone which potentially links the northwest trending Lunchroom zone into the historic Glory Hole area to the east. Ascot drilled 69,123 meters in 279 holes at Premier in 2016. This expansive property encompasses the historical Premier Mine, which produced 2.1 million ounces of gold and 44.9 million oz. of silver. ●

continued from page 9

KSM PERMIT

not contacted mined material from contact water originating from disturbed areas of the mine site. The water contacted during development and mining would be diverted to a storage facility and treated before release to the watershed.

The permit was authorized under the International Rivers Improvement Act, a set of Canadian regulations that specifically address waters that flow from Canada into the United States. Environment and Climate Change Canada, the federal agency that administers such permits, authorized the KSM water permit for a 25-year term.

The downstream impacts of Seabridge's plans to handle water in the Unuk River watershed were addressed in a 2014 report by a separate federal regulator, the Canadian Environmental Assessment Agency.

"The agency is satisfied that identified mitigation measures for the project would address potential impacts in Alaska on fish; recreational and commercial fisheries and human health from changes to water quality and quantity in the Unuk River," CEAA wrote.

In fact, it is anticipated that treatment of contact water originating from disturbed areas of the mine site, especially at the Mitchell deposit, would improve downstream water quality.

The Mitchell deposit is currently oxidizing due to its recent exposure to air as a result of a subsiding glacier. This process is causing naturally occurring acid rock drainage.

Removal of the sulfur- and metal-bearing ore, along with the water management required by environmental law, is expected to stem the flow of acidic and metals-laden waters currently flowing into a tributary of the Unuk River.

"Because of the fact that once we go into the Mitchell Valley, we have to contain and treat all contact water, we predict that water quality in the Unuk River will actually improve – it is currently very poor," Brent Murphy, vice president of environmental affairs, Seabridge Gold, explained during a 2014 presentation at the Alaska Miners Association convention in Anchorage.

Attracting a partner

Before Seabridge begins mining and treating water in the Mitchell Valley, however, the company will likely need to bring in a world-class mining partner to help fund the currently estimated C$5.3 billion of capital needed to develop KSM.

Recent growth of the higher-grade Deep Kerr deposit will likely help lure in such a partner.

Seabridge foresees the use of highly efficient block cave mining as the ideal means of extracting ore from Deep Kerr. This year's drilling was targeted to expand the deposit in such a way to support such a mine plan.

"The mineralized intervals encountered in this year's drilling are effectively oriented for efficient extraction and should support an expanded rate of daily production," said Fronk.

An updated PFS that restates the mineral resources for all of the zones at KSM by employing both open-pit and block-cave mining methods is slated for completion by the end of the year.

Additionally, the study will incorporate a preliminary economic assessment that considers the inclusion of the Deep Kerr and Lower Iron Cap zones into KSM mine sequencing.

The anticipated improved economics reflected in these studies, along with holding key permits, should help Seabridge attract a partner to help fund the costs to build a world-class gold-copper project in far western B.C. ●

EXPLORATION & PRODUCTION

Variety of Slope development options

Smaller firms talk opportunities, challenges, of known accumulations, exploration at Resource Development Council conference

By KRISTEN NELSON

Petroleum News

The Resource Development Council heard from a group of smaller North Slope producers, developers and explorers Nov. 17 at its annual conference in Anchorage.

Hilcorp Alaska and Caelus Alaska are producers with known accumulations or discoveries they would like to develop; Armstrong is exploring but also in the process of developing its Pikka discovery; and Great Bear is in pure exploration mode.

Hilcorp

Hilcorp is the only one of the companies active in both Cook Inlet and on the North Slope.

David Wilkins, senior vice president for Alaska for Hilcorp, reviewed the company's activities in both basins.

Hilcorp began drilling in Cook Inlet in 2012, taking over properties previously owned by Chevron and Marathon. The company's initial job, Wilkins said, was to stabilize natural gas production in Cook Inlet. The company's drilling activity peaked at 23 wells in 2014.

DAVID WILKINS

Work is ongoing offshore — where Hilcorp produces oil — at the MacArthur River field and Granite Point and there are development drilling opportunities at the Middle Ground Shoal field based on 3-D seismic shot in 2015.

Onshore Hilcorp will drill to meet gas demands, with 45 wells drilled since 2012, and some 50 miles of new 2-D seismic completed to support future exploration, Wilkins said.

But the company's plan for 2017 is based on the economy of the day, he said, with short-term, not long-term, contracts.

On the North Slope Hilcorp is permitting the Moose Pad at Milne Point, which will allow for 76 wells and up to 15,000 barrels per day of production. Construction will begin when permits are approved with first drilling expected in 2018 and first production in 2019.

Pat Foley, senior vice president for Alaska operations, said Caelus was attracted to Alaska by the state's land and resources, and also by the fiscal regime in Senate Bill 21.

He also talked about the Innovation rig the company is commissioning at Milne Point, the lightest modular rig on the Slope capable of drilling wells on 10-foot spacing, allowing it to work in the tight quarters at Endicott and Northstar.

Hilcorp is also permitting development at Liberty, east of Prudhoe, which could add 60-70,000 bpd to the trans-Alaska oil pipeline and would have a 15-20 year life. With Liberty, we know where the oil is, the challenge is how we do it, Wilkins said.

Hilcorp is planning the Liberty development based on Northstar, which BP developed from a manmade gravel island with buried lines to shore. Northstar is one of the properties Hilcorp acquired from BP. It had first production in October 2001 and has now turned 15.

Caelus

Caelus is the other company in this group with existing North Slope production. The company is producing at Oooguruk, which it acquired from developer Pioneer Natural Resources Alaska, and is developing Nuna, which is the onshore companion to offshore Oooguruk.

Pat Foley, senior vice president for Alaska operations, said Caelus was attracted to Alaska by the state's land and resources, and also by the fiscal regime in Senate Bill 21. Caelus is the operator and has a 70 percent working interest at Oooguruk. Nuna is on hold, Foley said, but ideally will receive full funding next year with first oil in 2018.

The company recently announced a world-class discovery at Smith Bay, 125

see DEVELOPMENT OPTIONS page 14

GOVERNMENT

Reporting pipeline decommissioning costs

The federal Bureau of Safety and Environmental Enforcement has issued a new rule requiring the operators of offshore oil and gas facilities to report decommissioning costs for subsea pipelines.

In December 2015 BSEE published amended regulations requiring reporting of actual expenditures for decommissioning activities involving plugging of wells, clearing of obstructions and removal of offshore platforms and other facilities. A report is required within 120 days of the completion of each activity. The regulations also authorize BSEE to require supporting information for specific costs on a case-by-case basis.

The idea behind the cost reporting is to enable BSEE to use data about actual decommissioning costs for the estimation of future cost liabilities.

But the 2015 regulations did not require reporting of pipeline decommissioning costs — the new rule amends the regulations to add pipelines to the scope of the required reporting.

The idea behind the cost reporting is to enable BSEE to use data about actual decommissioning costs for the estimation of future cost liabilities. BSEE can then share its cost estimates with the Bureau of Ocean Energy Management, the agency that oversees plans for oil and gas development on the outer continental shelf. The estimates enable BOEM to more accurately set financial liability levels for new developments, to assure that an operator has the financial wherewithal to cover the eventual cost of facility removal, while also assuring that financial assurance requirements are not excessively high.

Inadequate financial assurance could end up causing the government to have to incur financial liabilities for the decommissioning.

—ALAN BAILEY

Interior releases second extractive report

The Department of the Interior has released its second annual report on revenues and payments associated with extractive industries, including oil and gas, on public lands. The report comes as part of the U.S. Extractive Industries Transparency Initiative, a global initiative for the public disclosure of natural resource revenues. In addition to the report, the agency has developed a redesigned interactive data portal that includes state-level datasets and contextual narrative for an improved understanding of key topics.

Following the publication of the first report in 2015, a multi-stakeholder group prioritized some key activities in 2016, including the encouragement of Alaska,

see INTERIOR REPORT page 14

GOVERNMENT

DOE seeks ideas for oil, gas research

The U.S. Department of Energy has issued a request for information, seeking input on research needs relating to gaps in oil and natural gas technologies. The agency anticipates using the information when formulating future funding opportunities for research projects.

DOE wants to find ways to eliminate the flaring and direct venting of natural gas; and to eliminate the venting of carbon dioxide generated from natural gas processing or associated with engine exhaust streams.

For unconventional oil and gas developments, DOE has field research sites and is looking for research ideas relating to the mitigation of environmental impacts; dealing with large volumes of produced water, including possibilities for the beneficial use of the water; improving hydraulic fracture diagnostics; and the understanding and avoidance of induced earthquakes.

In the interests of improved offshore oil spill prevention, DOE is seeking research possibilities into reducing oil spill risks associated with geological uncertainty; reducing oil spill risks during well operations; and reducing the risk of spills from surface and subsurface systems, and from deepwater infrastructure.

DOE wants to find ways to eliminate the flaring and direct venting of natural gas; and to eliminate the venting of carbon dioxide generated from natural gas processing or associated with engine exhaust streams. The agency is interested in the development of scalable technologies, such as gas-to-liquids technologies, for the in-field conversion of methane-rich gas to useful products. Another research possibility would involve designing improved supply chain options for the distributed processing of natural gas and carbon dioxide.

With regard to the disposal of carbon dioxide through offshore storage or through its use in offshore oil field enhanced oil recovery, DOE would like research ideas for the offshore transportation, handling and injection of carbon dioxide. With respect to enhanced oil recovery, there is scope for research into reducing the technical and economic risks associated with the technique, how to ensure the technique is considered for use prior to offshore infrastructure abandonment, and what offshore facility modifications might be considered to enable the technique's use.

—ALAN BAILEY

continued from page 13

INTERIOR REPORT

Montana and Wyoming to join the reporting program. The group also arranged the development of a dataset containing production data for federal onshore and offshore areas for calendar years 2013 to 2015.

"The release of this report and successful USEITI implementation is a significant collaborative accomplishment by civil society, industry and government to bring transparency and easy access to revenue data from the extraction of resources on public lands," said Interior Secretary Jewell. "The success of USEITI reporting not only underscores our domestic commitment to strong stewardship and accountability of natural resource revenues, but furthers President Obama's open government partnership priorities by setting a global example for the use of technology to make extractive industry data more accessible to the public owners of these resources."

According to information in the data portal, federal oil and gas revenues from Alaska in 2015 amounted to $19.6 million, $4.9 million of which came from lease bonus bids and lease rentals. Alaska oil production for 2015, from all lands, totaled to 176 million barrels.

—ALAN BAILEY

continued from page 13

DEVELOPMENT OPTIONS

miles west of the Colville River unit. The company plans to be back at Smith Bay, which it believes has the potential to produce 200,000 bpd, in 2018 to drill a deep well which will be tested. Foley said that because the oil at Smith Bay is light — from 40 to 45 degrees API gravity — it can be coaxed out of the reservoir's tight rocks.

Foley talked about the impact of recent and proposed oil tax changes, and said that compared to SB 21, the changes in House Bill 247 had already reduced the value of projects to 62 percent of what they were under SB 21, while the proposal in Senate Bill 5005, which did not pass, would have reduced that value to 15 percent compared to SB 21.

Foley said Caelus had $107 million in oil tax credits, expected to rise to $207 million when all were submitted.

Armstrong

Armstrong Energy has been in Alaska since 2001, buying leases and then bringing in partners to develop Oooguruk and Nikaitchuq before exiting with a sale to Eni. The company then brought the North Fork gas field on the Kenai Peninsula into production.

The company returned to the Slope in 2008, acquiring new acreage and ultimately bringing Repsol in as a partner and drilling 16 penetrations.

Ed Kerr, director of Armstrong Energy, said three pads are planned at the company's Pikka unit, and a central processing facility would process 120,000 bpd. The development is on Kuukpik Corp. land, and the company is working toward a surface use agreement, Kerr said. The state and Arctic Slope Regional Corp. own the subsurface.


ED KERR

An environment impact statement is needed for the project and that is underway, he said.

An estimated 750 million barrels are recoverable from the three planned pads, Kerr said, with sealift and civil and pipeline work scheduled for 2019-21, drilling and sealift delivery in 2020-21 and first production in 2022.

Two issues for the project are taxes and regulatory uncertainty, he said, warning that taxes should not be punitive, driving people away.

Commenting on how long it takes for a project in the state, Kerr said the first money went in for the project in 2008 with lease acquisition and first money won't come back to the company until 2022, a 14-year gap.

Great Bear

The company still in exploration mode is Great Bear Petroleum, which has a large lease position south of Kuparuk and Prudhoe, straddling the trans-Alaska oil pipeline and the Dalton Highway.


PAT GALVIN

Pat Galvin, Great Bear's chief commercial officer, said the biggest challenge in the area is the lack of data. While Great Bear came into the state focused on shale potential, there are also conventional plays in its acreage, and Galvin said the company has been focused on conventional oil for more than three years now.

The company drilled two stratigraphic wells in 2012 and one conventional well in 2015, but Galvin said flooding that year cut short the company's opportunity for testing. It has also acquired 3-D seismic over its acreage position.

Maps which Galvin showed identified two groups of four prospects each. He said exploration dollars are risk dollars — because exploration often fails and those dollars don't come back — making state participation critical.

He called for a stable and reliable fiscal system and said the state must fulfill its obligations in a timely manner.

Great Bear investors have put up about $80 million and the state owes Great Bear tens of millions, he said.

A stable environment is needed for operation and the state needs to find political equilibrium in the production tax system — fix it and then leave it alone, Galvin said. ●

Contact Kristen Nelson at knelson@petroleumnews.com

Petroleum news

Oil Patch Bits

Crowley joins the Clean Cargo Working Group

Crowley Maritime Corp. said recently that it has joined the Clean Cargo Working Group, a global, business-to-business initiative dedicated to reducing the environmental impacts of global goods transportation and promoting responsible shipping. Membership in the group underscores Crowley's practice of prioritizing and utilizing technology and operations that are friendly to the environment, and of joining partnerships focused on reducing vessel emissions.

"We are excited about the opportunity to join other leading cargo carriers and shippers in this collaborative, industry-shaping initiative," said Crowley's Dan Smith, environmental director. "Clean Cargo Working Group membership is an important part of our strategy to align Crowley's measurement and management of environmental performance with industry best practices and to better serve Crowley customers who are working to improve environmental performance throughout their supply chains."

Over the past 12 years, CCWG tools and protocols have become industry standards for measuring and reporting ocean container carriers' environmental performance. Crowley's membership in CCWG will provide the company an opportunity to benchmark its ocean container transportation environmental performance, and easily report on this performance to customers in a standardized, well established format. Membership will also provide Crowley the opportunity to contribute to the further development of consistent, practicable, value-added metrics and methodologies for measuring environmental performance in ocean transportation.

Editor's note: Some of these items will appear in the next Arctic Oil & Gas Directory, a full color magazine that serves as a marketing tool for Petroleum News' contracted advertisers. The next edition will be released in March.

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

continued from page 3

KELLY Q&A

should be called on the carpet. They have developed our resources. They have paid royalties. They have paid severance tax. They have paid corporate tax. They have paid property tax. They have provided thousands of jobs. They have provided billions of dollars to fund our education system, our whole state government. The money that has gone into the Permanent Fund has come from them in exchange for the resource. It was a fair trade. I'm not saying they are giving us any kind of gift. Don't get me wrong.

The point is I'm not going to call the industry on the carpet for our financial problems. We are going to have to work some things out with them, there is no question about that. The larger point is we the state of Alaska has a financial problem and we have to figure out how we fix that. We would ask them maybe to assist going forward and how we can make sure that we have a vibrant oil economy while having the oil companies participate.

Petroleum News: On the flip side, what would you need to hear from the administration on these matters?

Kelly: The problem I've had with the administration — and you know he's done a few things that are bold and I'll give him credit for boldness — but they need to take their game up a notch because some of the things that are going on in state budgeting, they just don't seem to understand. For example, we had money from the FY 16 budget and we had a debt to pay in the tax credits in the FY 16 year. We used FY 16 money to pay the FY 16 debt. He vetoed it and called it a cut to the FY 17 budget. I'm not sure if his budget people are as sophisticated as they should be on this kind of stuff. I would hope he would direct his people to sharpen their pencils a little more and get into the game. There is a little too much rhetoric about making certain industries pay, about what a cut is and what it isn't, about portraying themselves as someone who is going to cut back on operating expenses through some of the contracts — and by the way, they did follow through a number of times, don't get me wrong; it hasn't been all bad. I just want them to take their game up a notch. We just have to be on the same page about what reality is because more important than what our discussions are between the Senate and the governor's office is the people of Alaska have accurate information so they can at least have an entry level discussion about what's going on with the budget. When some of the things the administration has said, people run off in different directions thinking they have the right information, then they pressure their elected representative to do one thing or the other but the information they had in the first place is wrong, so again I just want them to take their game up a notch as to what the reality of the budget is.

Petroleum News: You've mentioned the credits. How do you think the state can pay for the credits right now?

Kelly: We have to take things a step at a time. We had $400 million to pay our debts in the FY 16 budget and it got sent back to the CBR instead of paying the debt. The CBR has a three-quarter vote attached to it. Anytime you take money out of the CBR, those who would trade their vote would trade it for more spending. So they took the $400 million and could have paid a bill, but instead sent it into the CBR where you get very poor interest. Who knows how many millions of dollars are going to be attached to that $400 million when we bring it out of the CBR. We have to have the three-quarter vote attached. I just thought that was not a very savvy move.

Petroleum News: Were you surprised it was done a second year in a row?

Kelly: You know, I don't know. Like I said, he called that a cut. It wasn't a cut. I don't know what they are doing sometimes.

Petroleum News: There will also be some pretty heavy-hitting discussions on the gas line and whether the state should move forward on something the industry has deemed uneconomic. Again, tapping into your finance background, where do you see a gas line fitting in with the fiscal plan? Are they on separate paths or does one beget the other?

Kelly: You know when we started off with oil prices higher and gas prices higher, we put in place a plan to build a gas line, then we were marching along under budget and ahead of schedule while meeting all of the statutory deadlines it was easy to associate the gas line with the fiscal future of the state. I think the gas line is so much in question now that I would reserve judgment. I would obviously defer a lot to Sen. (Cathy) Giessel because she is the Resource chair. She follows this stuff very closely. As I've said, I'm usually off on the budgetary issues and now I'll be doing the job as president.

The other thing too is — we are going to have a dispute over this right off the bat. Keith Meyer (AGDC president) was saying they have $100 million that they can spend. Most of us in the Legislature — I'll still have to verify these numbers with David Teal — most of have it at $30 million. We don't want them taking money we have appropriated for one purpose and have them spend it for other purposes. The idea of having a state-run, state-owned gas pipeline is not something we are real enthusiastic about right now, especially if AGDC thinks they are going to do it with money and we have a disagreement over how that money was appropriated. That being said, I have to do more research on whether that money is actually locked up as tight as I think it is.

Petroleum News: The industry believes this is uneconomic. Others do too. What do you need to hear from the administration that would have you willing to go forward? You may not be on Finance but you still have a vote on the floor.

Kelly: There is so much debate and discovery between us talking here and the actual push into the button that I'd be reluctant to get into that discussion. It mostly comes down to whether it's going to pencil out. If all we have is a gas line that just moves somebody else's gas to market, that doesn't thrill me that much. There is some benefit to that, don't get me wrong. But the original plan that we had looked like it was going to work pretty well and return to the state a tremendous amount of money for its budget. Just being the builder, part owner and taking so many risks — this is just 30,000 foot view of it as I see it envisioned now — I'm not that enthusiastic for what they've got going now.

I will give them every benefit of the doubt, though, as they develop this project and as they bring it to us. I want this project. I would be happy for Gov. Walker to be the one who puts this into the end zone for us, and I will help any way I can to do that. But ultimately it has to pencil out and it has to be in the best interest of the state.

Petroleum News: Let's look a little closer to home. Heating costs have always been a priority for the Interior lawmakers. What developments of note are you seeing lately?

Kelly: One of the presentations at RDC was from Doyon. The Interior gas project is very important to us but we've got to have that gas delivered at an affordable price. It's got to beat the price of fuel oil. One of the supply issues have been challenging. One of the things I've watched the most has been in the western Nenana area where Doyon is drilling for gas. If they find gas there, we are golden.

That's just a 50-mile pipeline and we should be able to pay near normal market prices. I think the Interior Gas Utility and AIDEA and other people involved are struggling with supply issues. We started this in 2012 and here it is 2016, and we hoped to have a reliable gas supply here now.

I'll give some high fives to the Parnell administration and the Legislature. We put money in the budget to build out here the infrastructure to get gas to homes when it comes, so that's a very positive thing. When we finally find the supply, we can have a fairly large portion of Fairbanks covered in a short time.

You know geology is clearly something I don't understand and the more I learn the less I know. I keep saying Godspeed to Doyon. You keep putting holes in the ground, baby.

Petroleum News: A lot of people don't know you once worked on TAPS in the 1970s. Talk about that a little.

Kelly: I was at my high school graduation and was only 17 and had gotten a job with Lynden Transport driving a truck, but my (18th) birthday was real close. I worked up north at the Fairbanks pipe yard. I was a crane rigger and heavy equipment operator in the pipe yard. I think that was the most enjoyable work I've ever done in my life.

I remember around 1975 it was about 55 below for two or three weeks solid or at least it never got warmer than 55 below. Then one day it went to 20 below. Man, it was like spring time. We all thought it was going to be spring soon and things were going to change. Then it dropped back to 55 below stayed another three weeks.

We were working 7-12s. I'd get home, go to sleep at 7:30 or 8. At 19 I was still growing and I was exhausted all the time. I'd get up and head back to the pipe yard. We had good gear, but even if you did, that energy is being leached from you all day. You had to produce energy to stay warm. I would have loved to have gone on to work in the oil fields as well, but in the time I was working I hadn't developed the skills needed at the camps. Like I said, it was some of the most rewarding work I've done. ●

Contact Steve Quinn at squinnwrite@gmail.com

continued from page 1

LNG PLANT

in 2015, liquefying 20 billion cubic feet of natural gas and delivering six cargoes. Although the facility "remains operational and ready to resume exports," according to ConocoPhillips, the company did not conduct an export program this year, "due to market conditions."

When ConocoPhillips and then-partner Marathon Oil Corp. announced plans in 2011 to mothball the plant, the Cook Inlet faced a serious supply challenge. Investment was declining, the major producers in the region were in a holding pattern, and the facility was a crucial storage site allowing utilities to meet demand during the winter cold snaps.

Over the past five years, the Cook Inlet natural gas market has changed drastically, lessening the importance of the facility on the region, albeit only to a slight degree.

Hilcorp Alaska LLC became the dominant producer in the region, increasing investment at legacy fields and securing supply contracts for much of the Southcentral utility natural gas demand through early 2018. At the same time, Enstar Natural Gas Co. LLC completed the Cook Inlet Natural Gas Storage Alaska facility, creating another option for accessing supplies during cold snaps. A collection of smaller independents such as AIX Energy LLC, BlueCrest Energy Inc., Furie Operating Alaska LLC and Glacier Oil & Gas Corp. are currently operating new or revived gas fields, making the market more diverse.

There have also been changes in the national and international LNG trade in recent years, putting the Kenai LNG facility in a different place than it occupied just five years ago.

Today, the Kenai LNG plant is perhaps most important as a way to expand the Cook Inlet natural gas market beyond the relatively limited needs of Southcentral and the Interior. In recent years, ConocoPhillips has been using the facility to export third-party shipments.

There have also been changes in the national and international LNG trade in recent years, putting the Kenai LNG facility in a different place than it occupied just five years ago.

While the Kenai LNG plant has been gradually becoming outpaced by larger facilities around the world, it remained the only LNG export facility in North America until Cheniere Energy Inc. brought the Sabine Pass LNG Terminal online in February 2016.

As of mid-October, the Federal Energy Regulatory Commission was considering six applications for LNG export terminals in the U.S. Gulf Coast and another nine in pre-filing (including the proposed Alaska LNG project). The U.S. Maritime Administration and the U.S. Coast Guard are also considering an application for a Gulf Coast export project, and two export projects have been proposed for sites in British Columbia.

Pioneering plant

The Kenai plant was pioneering when Phillips Petroleum and Marathon Oil opened the facility in 1969, just five years after British Gas commissioned the MV Methane Princess, the first purpose-built LNG tanker in the world, and recent discoveries in Algeria launched the global LNG trade. The Kenai LNG facility was a complex operation for its time, including a liquefaction plant in Alaska and a regasification plant in Japan, the two largest LNG tankers ever built at the time and the offshore Tyonek platform.

The plant initially ran on long-term contracts with two Japanese utilities, Tokyo Electric Power Co. Inc. and Tokyo Gas Co. Ltd. The first federally approved export license ran from 1969 to 1984 with a five-year extension. The second license ran from 1989 to 2004.

In recent years, export licenses have covered shorter periods of time and smaller volumes of LNG. As investment in the Cook Inlet region declined, local policymakers worried about shipping volumes overseas while utilities struggled to meet demand. In return for endorsing exports, the state required the owners of the plant to agree to several protections such as meeting local needs, increasing drilling and buying third party gas.

Even so, seeing no overseas market and scarce local supplies, ConocoPhillips allowed the license to expire in March 2013. But the state asked the company to apply for a three-year extension to help other producers in the region have a market outside of Alaska.

The company agreed and eventually received approval from U.S. Department of Energy to export as much as 40 billion cubic feet over two years. The license began in March 2014 and ended earlier this year. During that time, the company shipped five cargoes between May and September 2014 and six cargoes between May and mid-October 2015.

An April 2006 report from Stone & Webster Management Consultants Inc. estimated that the plant would reach the end of its useful life within six years "without significant investment to modernize key elements of the plant," particularly its turbines. At the time, the report estimated it would cost $300 million to prepare the plant for continued operations and $1.5 billion to expand the plant to more than double its present capacity.

The report was commissioned by the Alaska Natural Gas Development Authority and was compiled using publically available information about the plant and its components. ●

Contact Eric Lidji at ericlidji@mac.com

continued from page 1

ASRC LEASES

future lease sales for the Arctic outer continental shelf, ASRC had wanted to ensure that there are continuing OCS exploration and development options, Imm said.

The leases in question are nearing the ends of their primary terms — information on the Bureau of Ocean Energy Management's website indicates that most of the leases expire around the end of October 2017.

"We're looking at what the options are to extend the leases," Imm said. "We're working with the agencies."

Asked about the challenging economics of working on the outer continental shelf at a time of relatively low oil prices, Imm commented that ASRC had conducted sufficient due diligence prior to acquiring the Shell leases.

"We certainly know what we're getting ourselves into," Imm said, adding that, until the transfer of the leases to ASRC is completed, it is too early to talk about specific plans for lease activity.

Direct involvement

In recent years ASRC, traditionally a group of service companies, has become directly involved in Arctic oil exploration, including exploration in its own onshore land holdings. Imm said that ASRC Exploration is the Native corporation's subsidiary that is acquiring the Shell leases.

During his conference speech, Rock commented on the formation of Arctic Inupiat Offshore LLC, a company that ASRC and six North Slope villages had formed in 2014, to enable investment in Shell's Chukchi Sea exploration program. Although Shell's Chukchi program has come to an end, AIO "is still very much alive and is still very relevant," Rock said.

Speaking a couple of days before the Department of the Interior announced the withdrawal of Beaufort and Chukchi sea lease sales from the next five-year outer continental shelf lease sale program, Rock argued for the need to keep those lease sales on the table.

Community importance

Reflecting also on recent onshore oil discoveries in Arctic Alaska, Rock commented on the importance of the oil and gas industry to the people of the north.

"Oil and gas development plays an essential role in the Arctic," Rock said. "It is vital to our region, state and nation."

Rock said that he hoped that the new onshore discoveries would soon be delineated and commented that environmental groups have already promised to stop any development.

"Development on- and offshore in the Arctic must be environmentally safe and

see ASRC LEASES *page 19*

continued from page 1

NENANA WELL

On Nov. 12 the Doyon board sanctioned a new 64-square-mile 3-D seismic program in the more northerly part of the basin, Schutt said.

"We're very excited about that," Schutt said. "We expect to have our data back in late spring of 2017. We're very hopeful that the results of that will prove interesting enough to drill well number four in the basin."

The land in the Nenana basin shows much resource potential. And a significant gas find in the basin, which is just 50 miles from Fairbanks, would help solve the issue of supplying affordable, clean energy to the Alaska Interior, Schutt said.

Confidential results

Cook Inlet Region Inc. partnered with Doyon for the drilling of the Toghotthele well, with CIRI having a 45 percent interest in the project and Doyon, the operator, having a 55 percent interest. Under a confidentiality agreement with CIRI, Doyon cannot comment on the specifics of the drilling results — according to data published by the Alaska Oil and Gas Conservation Commission the well reached a vertical depth of 11,379 feet.

Schutt told reporters that, although the Toghotthele well was not commercial, the results of the drilling were very encouraging.

"If we had a well where the geology was not encouraging we would not be continuing," he said.

Schutt also commented that, with the drilling of the Toghotthele well starting on June 1, relatively early in the summer, there had been sufficient time to gather rock samples and associated data from the well. There had not been time to obtain this extent of data from Doyon's two previous Nenana basin wells, in part because the drilling had started later and in part because of difficulties that had arisen during the drilling. The drilling of the first well was impacted by a nearby forest fire, while the second well ran into drilling complications that required the drilling of a sidetrack.

Gas and oil potential

The Nenana basin, on the west side of the Parks Highway, north of the Alaska Range, contains a thick sequence of terrestrial Tertiary strata, including abundant coal seams. Although coal tends to be associated with the production of natural gas rather than oil, Doyon's previous drilling results and surface soil sampling have found evidence for the existence of both gas and liquid hydrocarbons in the basin. Gravity and magnetic data, in association with seismic data, have indicated that some sections of the basin reach depths where the subsurface temperatures would likely be conducive to oil formation.

The region that Doyon is exploring in the basin involves 400,000 acres of state leases, about 40,000 acres of Doyon-owned subsurface and some Mental Health Trust land.

The second of Doyon's Nenana wells, the Nunivak No. 2 well, drilled in 2013, encountered a significant quantity of gas over a vertical interval of about 400 feet. However, the water content of the reservoir rock was too high for commercial gas production. The gas discovered was so-called wet gas, gas containing both methane and natural gas liquids such as propane. This indicates a thermal rather than biogenic source for the hydrocarbons. Thermally generated hydrocarbons could include oil.

Focus shifting to north

There are two deep sub-basins in the Nenana basin as a whole, one in the north and one in the south. All three wells that Doyon has drilled to date have been located in a saddle area between the two sub-basins, an area into which oil and gas might have flowed from deeper levels. The recent and planned seismic surveys are focusing on the more northerly of the deep sub-basins.

Doyon has already conducted two 2-D seismic surveys in that more northerly part of the basin, one in 2012 and one earlier this year. James Mery, Doyon's vice president for lands and natural resources, has told Petroleum News that, while the 2012 survey covered a fairly broad grid, the survey conducted this year filled in detail from the earlier survey. The 3-D survey to be conducted this winter will focus on a promising area where Doyon has identified some exploration leads, with the intention of developing one or more of these leads into specific prospects that could become drilling targets, Mery said.

The region that Doyon is exploring in the basin involves 400,000 acres of state leases, about 40,000 acres of Doyon-owned subsurface and some Mental Health Trust land. This winter's seismic surveying will involve a combination of state and Doyon land, Mery said.

—ALAN BAILEY

Contact Alan Bailey at abailey@petroleumnews.com

continued from page 18

ASRC LEASES

culturally responsive, but it must be allowed to continue. That's non-negotiable," Rock said. "Slamming the door shut on opportunity does nothing to help my region or my people, either now or in the future."

As the North Slope communities have been integrated into the cash economy, the oil industry provides an economic base, on which the communities can continue their subsistence way of life. Rock also argued for government regulation that is predictable and science based, with environmentally justifiable guidelines.

"They should not be designed to prohibit our chance of economic self determination," he said.

Rock also questioned why goal setting associated with a recent Arctic agreement between Canada and the United States had not involved the Arctic people.

Risks and rewards

But when it comes to development in the Arctic, there are questions over who bears the risks and who reaps the majority of the rewards. All sides of the frontier exploration debate must participate in reasonable and meaningful conversations, to find a balance that is beneficial to all stakeholders, Rock said, adding that, as a whaling captain, he is familiar with carefully measuring the risks and rewards in embarking on an Arctic venture.

Given the ever-present risk of an Arctic oil spill, it is essential to be educated and prepared for that risk — the North Slope residents review and question every aspect of what OCS explorers are doing, Rock said.

And the formation of AIO in 2014 presented a new model for that balance of risk and reward, bringing the local people into the oil exploration decision making process.

"It was important for us to invest in the opportunity, so we had skin in the game and were a meaningful partner," Rock said. "At the same time, our financial interests in the project promised us returns on our investment."

Prior to the formation of AIO, the Arctic people had been skeptical about offshore development.

"Local involvement is key to success in the Arctic," Rock said. ●

Contact Alan Bailey at abailey@petroleumnews.com

continued from page 1

OCS SALES

icant public input, the department's analysis identified significant risks to sensitive marine resources and communities from potential new leasing in the Arctic. Moreover, due to the high costs associated with exploration and development in the Arctic and the foreseeable low projected oil prices environment, demonstrated industry interest in new leasing currently is low."

The sale program

The lease sale plan does include one scheduled sale in 2021 for the federal waters of lower Cook Inlet. The remaining 10 lease sales in the plan are all in the Gulf of Mexico. In the Gulf of Mexico, Interior is improving lease sale flexibility by offering two annual sales for the entire region, rather than one sale per year in the Western Gulf, one per year in the Central Gulf and periodic sales in the Eastern Gulf.

"The plan was informed by robust stakeholder engagement and the best available science," said Abigail Hopper, director of the Bureau of Ocean Energy Management. "The proposal makes available more than 70 percent of the economically recoverable resources, which is ample opportunity for oil and gas development to meet the nation's energy needs."

"The plan focuses lease sales in the best places — those with the highest resource potential, lowest conflict, and established infrastructure — and removes regions that are simply not right to lease," said Interior Secretary Sally Jewell. "Given the unique and challenging Arctic environment and industry's declining interest in the area, forgoing lease sales in the Arctic is the right path forward."

Alaska officials disappointed

Gov. Bill Walker has expressed his disappointment at Interior's decision over Arctic offshore drilling. In the interests of demonstrating interest in the development of oil in the Arctic offshore, the state had itself nominated areas of the Alaska Arctic outer continental shelf for inclusion in the federal lease sale program.

"Alaska supports a plan that balances subsistence concerns with our need for economic development," Walker said in a Nov. 18 statement. "There is enough opportunity and protection in the plan that it should have been an easy decision to move forward with our proposal. The state nominated the Beaufort and Chukchi seas to ensure Alaskans' interests were protected in this process. The nominations provided subsistence protection, as well as the benefits under the Outer Continental Shelf Lands Act (OCSLA). With the trans-Alaska pipeline three-quarters empty, we must spur more oil production. When Alaska became a state, the federal government mandated that we live off of our resources — but we must be able to access them."

And the Alaska congressional delegation has slammed the decision.

"President Obama is well aware that the vast majority of Alaskans want OCS development, and I am infuriated that he has once again ignored our voices to side with the factions who oppose it," said Sen. Lisa Murkowski. "We have shown that Arctic development is one of the best ways to create jobs, generate revenues, and refill the trans-Alaska pipeline. Why the president is willing to send all of those benefits overseas is beyond explanation."

"With this action, the Obama administration is once again capitulating to the demands of extreme environmental groups over Alaskans and their fellow Americans who want good-paying jobs, energy independence and a strong economy," said Sen. Dan Sullivan. "For nearly eight years this Administration has given lip service to an 'all of the above energy strategy,' when their actions say the opposite."

Environmental organizations pleased

Environmental organizations see the federal administration's decision as a vindication of their ardent opposition to offshore oil operations in the Arctic, operations which, they say, would cause irreparable damage to the fragile Arctic environment.

"This is excellent news for our oceans, from the Arctic to the Atlantic," said Jacqueline Savitz, Oceana's senior vice president for the United States "This plan means no expansion of offshore drilling in the Arctic or the Atlantic for the next five years. Oceana applauds President Obama and Secretary Jewell for their leadership in protecting our coasts from dirty and dangerous offshore drilling. Today's announcement demonstrates a commitment to prioritizing common sense, economics and science ahead of industry favoritism and politics as usual."

"Arctic Ocean oil is among the riskiest and most costly in the world and producing it will worsen the effects of climate change. Additionally this oil is not needed because there likely will be ample world oil supply available for many years, and the trans-Alaska pipeline system has enough oil throughput to operate for the next half-century," said Lois Epstein, Arctic program director for the Wilderness Society. "We are extremely grateful the administration has taken this important step to remove the risk of drilling-related spills in the near-term from species such as polar bears and bowhead whales and from Alaska's remote coastal villages that depend on the ocean for their survival."

Major resources

According to assessments published by the Bureau of Ocean Energy Management, Alaska's Beaufort and Chukchi seas likely hold major oil and gas resources. The Beaufort Sea has petroleum geology that represents an extension to the prolific onshore geology of the central North Slope. There are known oil pools on the Beaufort Sea outer continental shelf, including the Liberty field, which Hilcorp Alaska hopes to develop, and the Sivulliq prospect, which Shell targeted as part of its recent Alaska oil exploration program. The geology of the Chukchi Sea outer continental shelf also relates closely to that of the North Slope — the Chukchi shelf has the makings of a world-class petroleum province.

BOEM's latest mean estimates for undiscovered, technically recoverable oil resources are 8.22 billion barrels for the Beaufort Sea and 15.36 billion barrels for the Chukchi Sea.

But, in a world of sub-$60 oil, the economics of exploring for and developing oil and gas in the Alaska Arctic offshore are challenging, given the high cost of operating in the region. However, some areas of the Beaufort Sea benefit from being relatively near the existing North Slope oil infrastructure. The Chukchi Sea's remoteness, and its distance from the central North Slope, would require the discovery of a major oil resource and sustained, robust oil prices for economic viability.

The Cook Inlet outer continental shelf, with geology closely related to that of the prolific upper Cook Inlet, holds proven oil source rocks and potential oil reservoirs. However, the rock sequence that hosts the reservoir rocks of the producing oil and gas fields of the upper Cook Inlet is much attenuated in the lower Cook Inlet — alternative potential reservoir units within the lower Cook Inlet rock sequence have yet to be tested. ●

Contact Alan Bailey at abailey@petroleumnews.com

continued from page 1

WOODFIBRE RATING

challenging costs that put their economics at risk, along with resistance to their environmental impact.

Wang also said Woodfibre has the added benefit of being a private enterprise that can cover its estimated capital costs of C$1.6 billion internally through debt or equity issues.

The end result is that Woodfibre is better positioned than the mega-ventures to capitalize on an expected rebound in LNG prices and Asian demand over the next decade.

Dirk Lever, head of research at Calgary-based Alta Capital Corp., said the outlook for Woodfibre is strengthened by only mild opposition to the location of its liquefaction and tanker terminal a short distance north of Vancouver compared with the massive undertakings needed to support the Petronas-operated Pacific NorthWest LNG and Shell's LNG Canada plan.

Lever said he hopes Woodfibre is "the start of a trend, because we really need it. But I just remind myself it is a small deal."

He said the approval of Woodfibre is a lift for the industry because it points to a belief that "there's a market out there."

—GARY PARK

Contact Gary Park through publisher@petroleumnews.com