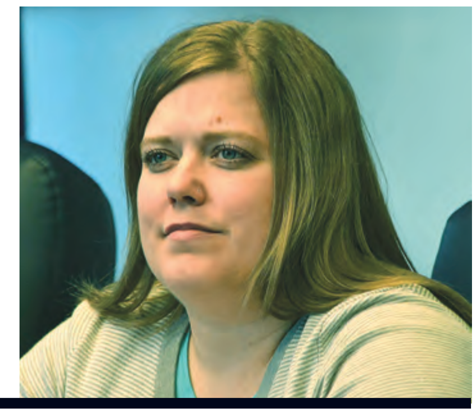
Petroleum news



page 5 Q&A: Tarr, senior on Resources, sees imbalance in oil tax system

Vol. 22, No. 6 • www.PetroleumNews.com A weekly oil & gas newspaper based in Anchorage, Alaska Week of February 5, 2017 • $2.50

This week's Mining News

NORTH OF 60 MINING news

page 6 Novagold CEO expects final Donlin Gold EIS early in 2018

www.MiningNewsNorth.com The weekly mining newspaper for Alaska and Canada's North Week of February 5, 2017

NEWS NUGGETS

Compiled by Shane Lasley

SHANE LASLEY

Lying alongside the Elliot about 70 miles north of Fairbanks, the Livengood project hosts a deposit with 15.7 million ounces of gold in 802 million metric tons of measured and indicated resource averaging 0.61 grams per metric ton gold.

Hanneman named Tower Hill CEO; $6.7M work program for Livengood

International Tower Hill Mines Ltd. Feb. 1 said it has paid the U$14.7 million payment due on certain claims associated with its Livengood gold project in Interior Alaska. Following the completion of the land payment, Tower Hill had US$7.5 million in cash, most of which the company will use to carry out a US$6.3 million work program focused largely on improving the economics of developing a mine at Livengood. In September, Tower Hill released results of an initial phase of optimization work in a pre-feasibility study for Livengood, which is about 70 road miles northwest of Fairbanks, Alaska. The mine contemplated in the PFS involves a 52,600-metric-ton-per-day mill (about half the size envisioned in a feasibility study released in 2013) that would produce 6.8 million ounces of gold over a 23-year mine life, or roughly 294,100 oz annually. This year's work program will focus on improving the mineralization and alteration models used to support the resource block model, evaluating alternative block models for production schedule opportunities, and completion of several phases of metallurgical work to better define and optimize the flowsheet and recovery parameters. The 2017 program has been designed to target those aspects that could deliver the highest increase to the project's net present value for the least expenditure. Work is also planned to advance the environmental baseline efforts needed to support future permitting. Karl Hanneman, who was previously Tower Hill's chief operating officer, has been approved by the company's board of directors to take over the role as CEO. "The board has unanimously backed Karl to be the new leader of the company and think that he is the best candidate to lead this team as ITH embarks on a work program to continue de-risking the project down an eventual permitting path," said Tower Hill Chairman Marcelo Kim. Hanneman, who has more than 35 years of Alaska-based mining industry experience, is well known and respected mining engineer in the state. Prior to joining Tower Hill, he played a key role on the team at Teck that successfully resolved significant permitting issues at the Red Dog zinc mine in Northwest Alaska. As Alaska Regional Manager for Teck, Hanneman also played a key role in the exploration, development and permitting of the Pogo gold mine in Interior Alaska. Hanneman has led or participated in a number of industry and State of Alaska sponsored organizations, including the Alaska Minerals Commission, Council of Alaska Producers,

KARL HANNEMAN

see NEWS NUGGETS page 6

SHANE LASLEY

The more than 1 million feet of drilling completed since 1988 has outlined a deposit at Pebble that hosts 56.8 billion pounds copper, 70.4 million ounces gold, 3.4 billion lbs molybdenum and 343.6 million oz silver. The Pebble Partnership now hopes to apply for permits to mine this extraordinary deposit.

PEBBLE

Pebble stars align

Trump, expected EPA treaty, improved markets bode well for Alaska project

By SHANE LASLEY

Mining News

After six tumultuous years, 2017 is shaping up to be a turnaround year for the enormous Pebble copper-gold-molybdenum project in Southwest Alaska.

"The stars that were previously askew, they seem to be lining up," Northern Dynasty CEO Ron Thiessen told Mining News.

RON THIESSEN

TOM COLLIER

This star realignment is reflected in a US$37.4 million financing the Pebble project owner closed on Jan. 26. Underwritten by a trio of renowned financiers, this financing involved the issuance of 20.24 million shares at US$1.85 per share, not bad for a company whose stock was selling for a mere US27 cents per share this time last year.

Northern Dynasty's share price enjoyed healthy gains throughout 2016, reaching US91 cents per share by early October. The election of Donald Trump, however, helped push the stock to a high of US$3.45 per share on Jan. 24.

While the election of a U.S. President focused on the economy played a major role in this meteoric rise, an upturn in metals prices and mining markets, a pending resolution of a court battle with the U.S. Environmental Protection Agency over the regulator's efforts to severely restrict the project prior to permitting, renewed interest by several global mining companies and a new strategy for finally advancing the project into permitting is fueling investors' appetite for this company that appears to have made a turn for the better.

Game changer

With roughly 56.8 billion pounds copper, 70.4 million ounces gold, 3.4 billion lbs molybdenum and 343.6 million oz silver in measured and indicated resource, Pebble is an enormous store of metals that could support a world-class mine for more than a century.

"This is a mine that has the capacity to operate 150 years," Thiessen explained.

This multi-generation deposit, however, is located in the Bristol Bay region of Alaska, famed for a sockeye salmon fishery that is a cultural and economic asset to the people that live and work in the region.

This proximity to the Bristol Bay watershed garnered staunch opposition from environmental groups, fisherman and many Alaska Natives in the area that are concerned a Pebble mine could harm the fishery.

"Regardless of federal politics, the people of Bristol Bay remain steadfast in our dedication to protecting Bristol Bay and in opposition to mines like Pebble that threaten our traditional way of life," United Tribes of Bristol Bay Executive Director Alannah Hurley said in a Jan. 24 statement.

Under the Obama administration, the opponents of Pebble enjoyed an ally in the EPA, which tested the bounds of its authority by taking regulatory action at the Pebble project before the permitting process began.

After compiling regional data and putting together some hypothetical mining scenarios for Pebble, the environmental agency decided to put strict limitations on the size of a mine that could be permitted for the enormous metals deposit.

see PEBBLE STARS page 7

Trump, expected EPA treaty, improved markets bode well for Alaska's Pebble project. Read more in the Mining News section inside.

BP: Abundance of oil resources more than matching growing demand

The 2017 edition of BP's annual Energy Outlook report, issued on Jan. 25, anticipates world oil demand continuing to grow, but at a slowing rate. At the same time, with volumes of technically recoverable oil reserves far in excess of anticipated demand out to 2035, the market conditions will likely favor low-cost producers. Natural gas demand is likely to grow steadily, with LNG supplies growing faster than supplies of pipeline gas, and with long-term LNG contract pricing likely to be increasingly indexed to spot LNG prices, the Energy Outlook predicts.

The primary forecast in the Energy Outlook relies on a base case, the future scenario that the analysts preparing the outlook see as most likely to happen. However, given the huge

see ENERGY OUTLOOK page 15

House Resources hears industry view on further oil tax credit changes

The 2017 oil tax debate is underway in the state Legislature, sparking yet another year of uncertainty for a petroleum industry already battered by low crude oil prices.

Things got underway with two days of hearings in the House Resources Committee the week of Jan. 30. The committee, chaired by Anchorage Democrats Reps. Geran Tarr and Andy Josephson, wanted to review performance of two recent changes in the state's petroleum tax code, both hotly contested.

These were Senate Bill 21, passed in 2013, and House Bill 247, passed last year. The intent is to set the stage for an effort at new changes this year, arguably to complete unfinished business from the HB 247 changes last year but also, possibly, to hike the production tax rate.

see TAX CREDITS page 11

UTILTIES

Pooling the power

Southcentral electric utilities agree to share facilities to reduce costs

By ALAN BAILEY

Petroleum News

The three Southcentral Alaska electric utilities, Chugach Electric Association, Municipal Light & Power and Matanuska Electric Association, have signed an agreement to pool the use of their power generation and transmission assets, the utilities announced on Jan. 30.

By sharing the use of generation facilities, routing the power appropriately across the transmission grid to electricity demand centers and using coordinated arrangements for the supply of natural gas to fuel the generators, the utilities will be able to make maximum use of the newest gas-fired power stations in the Southcentral section of the Railbelt grid. The result will be savings in the amount of natural gas required to generate power. The utilities say that they anticipate saving $12 million to $16 million per year in fuel, operations and maintenance costs, savings that will translate to lower electricity bills for electricity consumers.

> *The agreement now signed allows for a one-year development period, during which the utilities will complete the development of the various procedures needed for the implementation of the agreement.*

Mayor commends efforts

Anchorage Mayor Ethan Berkowitz commend-

see POWER POOLING page 16

EXPLORATION & PRODUCTION

Oil from Alaska coal

USGS, working with coal samples provided by DGGS, extracts liquid hydrocarbons

By TIM BRADNER

For Petroleum News

Scientists from the U.S. Geological Survey and Alaska's Division of Geological & Geophysical Survey have successfully extracted oil from Alaska coal samples.

DAVID LEPAIN

Coal is known as a source of methane, the main component of natural gas, but getting oil is something new.

Liquid hydrocarbons were extracted from four Alaska coal samples in tests, DGGS Director Steve Masterman told the House Resources Committee in a recent overview hearing. Each sample "generated quite a lot" of oil, Masterman said

In a Jan. 31 interview, David LePain, a DGGS petroleum geologist, said the division worked in a partnership with the USGS to do the tests using a relatively new procedure — hydrous pyrolysis — in a USGS laboratory in Lakewood, Colorado, near Denver.

Petroleum geochemists from the USGS actually conducted the hydrous pyrolysis experiments.

Few commercial laboratories in the U.S. currently have the ability to conduct hydrous pyrolysis tests, but the government lab in Colorado does have the capability and the geochemists with the expertise.

see OIL FROM COAL page 14

EXPLORATION & PRODUCTION

Small jobs at North Fork

Glacier Oil & Gas plans range of smaller development activities at field this year

By ERIC LIDJI

For Petroleum News

Glacier Oil & Gas Corp. is taking a cautious approach at the North Fork unit this year.

As it approaches its first year since emerging from bankruptcy, the independent is planning what it is calling "small ball" projects to increase production from existing wells at the onshore Cook Inlet unit in the southern Kenai Peninsula north of Homer. Those include additional compression and separation facilities, reprocessing seismic over the area and conducting workover operations to improve production at existing wells.

But drilling activities seem unlikely this year without economic changes. In a recently submitted 52nd plan of development for the unit, the company attributed its cautiousness to the persistence of low oil prices and the constrained Cook Inlet natural gas market.

> *Longer term, the company is looking at expanding the existing drilling pad to accommodate new compression and dehydration equipment, or possibly building a new drilling pad to better develop the reservoir.*

If approved, the new plan would run for a year, beginning March 31.

see NORTH FORK page 14

contents

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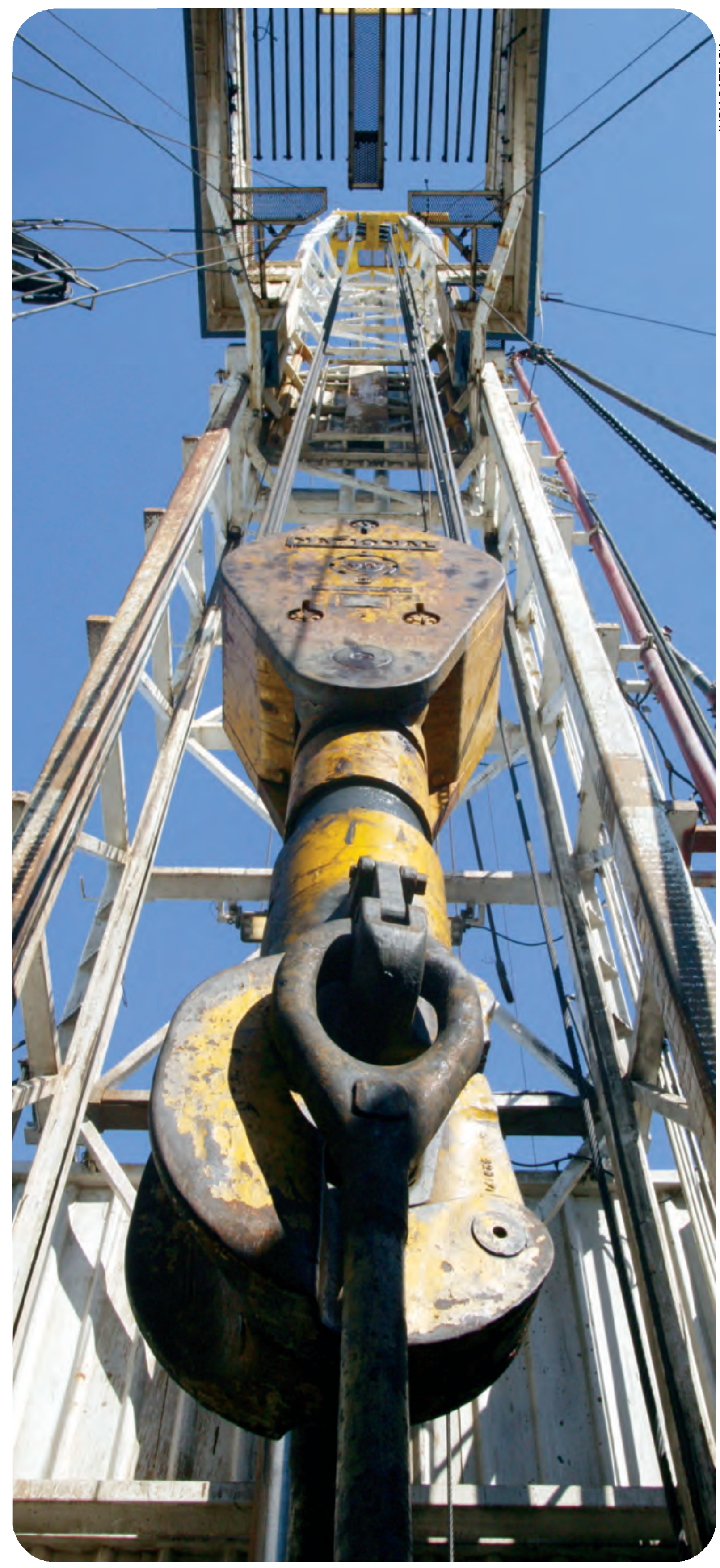
Alaska - Mackenzie Rig Report

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
Alaska Rig Status			
North Slope - Onshore			
Doyon Drilling			
Dreco 1250 UE	14 (SCR/TD)	Milne Point L-Pad Warm Stack	Hilcorp
Dreco 1000 UE	16 (SCR/TD)	Standby	
Dreco D2000 Uebd	19 (SCR/TD)	Alpine CD5-20	ConocoPhillips
AC Mobile	25	Standby	
OIME 2000	141 (SCR/TD)	Kuparuk 2M-38	ConocoPhillips
	142 (SCR/TD)	Kuparuk 1B-11	ConocoPhillips
TSM 7000	Arctic Fox #1	Prudhoe Bay Horse Shoe #1	Armstrong
Hillcorp Alaska LLC			
	Rig No.1	Milne Point	Hilcorp Alaska LLC
Nabors Alaska Drilling			
AC Coil Hybrid	CDR-2	Kuparuk 2F-18	ConocoPhillips
AC Coil	CDR-3 (CTD)	Kuparuk	ConocoPhillips
Dreco 1000 UE	2-ES (SCR-TD)	Deadhorse	Available
Mid-Continental U36A	3-S	Deadhorse	Available
Oilwell 700 E	4-ES (SCR)	Deadhorse	Available
Dreco 1000 UE	7-ES (SCR/TD)	Deadhorse	Available
Dreco 1000 UE	9-ES (SCR/TD)	Deadhorse	Available
Oilwell 2000 Hercules	14-E (SCR)	Deadhorse	Available
Oilwell 2000 Hercules	16-E (SCR/TD)	Mustang location	Available
Oilwell 2000 Canrig 1050E	27-E (SCR-TD)	Deadhorse	Available
Oilwell 2000	33-E	Deadhorse	Available
Academy AC Electric CANRIG	99AC (AC-TD)	Deadhorse	Available
OIME 2000	245-E (SCR-ACTD)	Kuparuk	Available
Academy AC electric CANRIG	105AC (AC-TD)	Deadhorse	Available
Academy AC electric Heli-Rig	106AC (AC-TD)	Deadhorse	Available
Nordic Calista Services			
Superior 700 UE	1 (SCR/CTD)		Available
Superior 700 UE	2 (SCR/CTD)	Prudhoe Bay	Available
Ideco 900	3 (SCR/TD)		Available
Parker Drilling Arctic Operating Inc.			
NOV ADS-10SD	272	Prudhoe Bay DS 18	BP
NOV ADS-10SD	273	Prudhoe Bay DSW-59	BP
North Slope - Offshore			
BP			
Top Drive, supersized	Liberty rig	Inactive	BP
Doyon Drilling			
Sky top Brewster NE-12	15 (SCR/TD)	Stacked	
Nabors Alaska Drilling			
OIME 1000	19AC (AC-TD)	Oooguruk, Cold Stacked	Caelus Alaska
Cook Inlet Basin – Onshore			
Glacier Oil & Gas			
	Rig 37	West McArthur River Unit Workover	Glacier Oil & Gas
All American Oilfield LLC			
IDECO H-37	AAO 111	In All American Oilfield's yard in Kenai, Alaska	Available
Aurora Well Services			
Franks 300 Srs. Explorer III	AWS 1	Stacked out west side of Cook Inlet	Available
Saxon			
TSM-850	147	Stacked	Hilcorp Alaska LLC
TSM-850	169	Stacked	Hilcorp Alaska LLC
Cook Inlet Basin – Offshore			
Hilcorp Alaska LLC			
National 110	C (TD)	Platform C, Stacked	Hilcorp Alaska LLC
	Rig 51	Steelhead Platform, Stacked	Hilcorp Alaska LLC
	Rig 51	Monopod Platform, Drilling	Hilcorp Alaska LLC
Spartan Drilling			
Baker Marine ILC-Skidoff, jack-up		Spartan 151, Stacked Seward	
Furie Operating Alaska			
Randolf Yost jack-up		Drilling KLU A-2	Furie
Glacier Oil & Gas			
National 1320	35	Osprey Platform, activated	Glacier Oil & Gas
Kuukpik Drilling	5	King Salmon Platform	Hilcorp Alaska LLC
Mackenzie Rig Status			
Canadian Beaufort Sea			
SDC Drilling Inc.			
SSDC CANMAR Island Rig #2	SDC	Set down at Roland Bay	Available
Central Mackenzie Valley			
Akita			
TSM-7000	37	Racked in Norman Well, NT	Available

The Alaska - Mackenzie Rig Report as of February 1, 2017.
Active drilling companies only listed.

TD = rigs equipped with top drive units WO = workover operations
CT = coiled tubing operation SCR = electric rig

This rig report was prepared by Marti Reeve



JUDY PATRICK

Baker Hughes North America rotary rig counts*

	Jan. 27	Jan. 20	Year Ago
United States	712	694	619
Canada	345	342	231
Gulf of Mexico	20	23	28

Highest/Lowest		
US/Highest	4530	December 1981
US/Lowest	404	May 2016

*Issued by Baker Hughes since 1944

The Alaska - Mackenzie Rig Report is sponsored by:

GOVERNMENT

FERC won't have a quorum after Feb. 3

President Donald Trump named Commissioner Cheryl LaFleur acting chairman of the Federal Energy Regulatory Commission Jan. 26. Former Chairman Norman Bay tendered his resignation to the president that same day, effective Feb. 3.

That will leave FERC with only two commissioners, LaFleur and Colette D. Honorable, of a five-member panel. Three commissioners are required for a quorum.

LaFleur said Jan. 27 that the commission "is working to get as many orders out as we can in the time we have left with a quorum" and added that "nominations for the three openings on the Commission would be very welcome."

She said the commission is evaluating how best to do business after Bay's departure.

U.S. Sen. Lisa Murkowski, R-Alaska, said in a statement, "FERC will need a full complement of commissioners as soon as possible so that it can tackle the important work on its busy docket."

"The Senate's challenge will be to promptly consider, without undue delay, FERC nominations once they are received. I will make it a top priority to work with President Trump and my colleagues to move nominees rapidly and to re-establish a working quorum on the Commission," she said.

Murkowski is chairman of the Committee on Energy and Natural Resources.

—KRISTEN NELSON

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● GOVERNMENT

Aurora Gas gets new bonding

Company in bankruptcy; Wells Fargo wouldn't renew existing bonding, but didn't notify Aurora, which scrambled to find new bond

By KRISTEN NELSON
Petroleum News

The Alaska Oil and Gas Conservation Commission and Aurora Gas have been working to resolve an issue with the company's bond which arose as Aurora goes through bankruptcy proceedings.

After a scramble, the company has secured new bonding, required for the company to operate wells in the state. The issue was the subject of a Jan. 19 hearing which the commission said it scheduled after it received notice from Wells Fargo Bank that after Jan. 31 Aurora would no longer be bonded.

George Pollock, manager production operations and engineering for Aurora Gas, told the commission at the hearing that Aurora learned that Wells Fargo wouldn't be extending its bond when it received an email from the commission about the hearing. He said the company was not notified by Wells Fargo that the letter of credit would not be extended nor was it informed when Wells Fargo first informed AOGCC, on Aug. 5, that the letter of credit would not be extended.

The letter of credit, established in 2002, is for $200,000, and according to its terms that amount would be paid to the commission if it notifies the bank that Aurora Gas had not complied with all the provisions of the laws of the state and rules and regulations of the commission. While the letter of credit expired in a year, by its terms it was automatically extended unless the bank has sent written notice to the commission that it elects not to renew.

Aurora notified

On Dec. 15 AOGCC Chair Cathy Foerster notified Aurora by mail that Wells Fargo had notified the commission that the existing letter of credit would not be renewed or extended. The commission is listed as the beneficiary of the letter of credit.

"AOGCC regulations prohibit well operations without a bond," Foerster said. She said the commission required proof within seven days "of the filing of a new bond to ensure that each well is drilled, operated, maintained, repaired, and abandoned and each location is cleared in accordance" with commission regulations.

Since Aurora is operating under Chapter 11 bankruptcy protection, all non-routine operating expenditures must be approved by the bankruptcy trustee in advance, Pollock told the commission in his Dec. 23 letter.

In a Dec. 23 letter to the commission Pollock said the commission formally notified it that the Wells Fargo Letter of Credit, in place since 2002, would not be extended beyond Jan. 31, 2017.

"Unfortunately, Aurora was not informed by Wells Fargo of their decision to not renew or extend the letter of credit beyond January 31, 2017. Nor was Aurora informed when the first notice of non-extension was sent to AOGCC on August 5, 2016 by RCO Legal-Alaska on behalf of Wells Fargo."

Pollock said Aurora initiated a process to ensure a new letter of credit was in place by Jan. 31, working with Northrim Bank. But Northrim decided around the first of the year not to proceed. He said Aurora was working with First National Bank of Alaska and would have the bond in place by Jan. 31.

Three things are required, he said: Closing out the existing letter of credit; providing motions for funds to set up the new bond; and a court hearing Jan. 24 for approval of the new account.

Since Aurora is operating under Chapter 11 bankruptcy protection, all non-routine operating expenditures must be approved by the bankruptcy trustee in advance, Pollock told the commission in his Dec. 23 letter.

The bankruptcy court granted a motion allowing Aurora to establish a new bond on Jan. 24 and the new bond, through First National Bank of Alaska, was in place to meet the commission's requirements. ●

Contact Kristen Nelson at knelson@petroleumnews.com

● GOVERNMENT

Tarr: Oil tax system imbalanced

Anchorage Democrat brings 4 years to House Resources Committee, the most among a group replete with newcomers, freshmen lawmakers

By STEVE QUINN
For Petroleum News

With four years' experience on the House Resources Committee, House Rep. Geran Tarr is the senior member of the committee. She and Andy Josephson serve as co-chairs welcoming six new members.

Of those five are freshman lawmakers: Vice Chair Dean Westlake; Justin Parish; Chris Birch; DeLena Johnson and George Rauscher. Only newcomer Harriett Drummond and former co-chair David Talerico serve as returning lawmakers.

So Tarr knows the learning curve is huge. She spent the past week working to help educate committee members with presentations from Tax Director Ken Alper, members from the industry and a private practice attorney.

Tarr, an Anchorage Democrat in her third term on the committee, spoke to Petroleum News about her priorities for the coming two years.

Petroleum News: Let's start with your committee: Six new members; five of them are freshmen; one of them is the vice-chair. How do you get the committee prepared for the heavy lifting in the next few years with that many new members; whereas, the Senate has a lot of veterans on its committee?

Tarr: One of the reasons we are spending this week laying the foundation with what we're calling a progress report is we recognize these are members who are new to the committee if not new to the Legislature and this will be an important opportunity for them to get critical information so they understand the status of our current oil and gas tax system, understand where the changes have been made in the recent past and what the current obligations are.

I thought one of the most important things we did was look at those different price scenarios so people can understand what a net profits system means at $40, $60, $80 and $100 because I know some people are concerned about the industry and not wanting to harm jobs. I share that same concern.

If you understand the formula, then you can understand at least in these low-price environments they still have deductions and that gives them some protection. Unfortunately, that leaves the state on the side of not having much left to tax. After your deductions at $40, you've got $1.23 left and you're taxing at 35 percent. Well, 30 cents is not going to get you very far.

I would say Rep. Westlake being from the North Slope area and having a lot of experience in public service and government, while he may not have come with the particular details in the tax system, we've been including him as much as we can in the planning and discussion.

GERAN TARR

Petroleum News: Speaking of Rep. Westlake, why did you feel it was important to give him a seat as vice chair?

Tarr: He had a strong interest. We were lucky that as we looked to fill positions, everybody was able find something that matters to their district and to their constituents as well as have some interest in their overall goals in what they want to see happen with the state. He comes from an area where the oil and gas development has been critically important for their services. He represents Barrow of course. I think it's important to have him in these conversations and I've appreciated hearing some of his living experiences.

Petroleum News: So what do you want to do with all this information you're gathering in these hearings?

Tarr: I think we have unfinished work from HB 247 last year. We didn't deal with the net operating loss credits on the North Slope. We have to figure out how we meet our obligations that we have in a way the state can afford and have a system that is sustainable going forward should we choose to retain credits. That is something we will definitely look at.

Last year's bill got characterized as a credits bill. It really was a Senate Bill 21 rewrite bill. It included hardening the floor in two ways, one of which we accomplished; it included the GVR; it included the minimum tax. The only thing that wasn't really addressed was the per barrel credit. So I thought why go into it to just say you're only going to deal with just one piece of it if there are several other pieces that we want to deal with?

Let's try to do this in a more thoughtful way. My goal, as I've said all along is we could come up with something that would provide some level of stability. If that's maybe a 5-year to 10-year time frame, I think now, especially with the Department of Revenue not doing the revenue and production really beyond five years, you are kind of aligning with where they are at. There has been a criticism of the state that the system changes too frequently.

I think that is a fair criticism. Some of those were changes requested by the industry and some of those were done by the state. If we can get to a place where we can provide something we thought looked like this is going to work at the low price and if we go to $140, are we going to feel like it works, too, rather than us lagging behind a price change.

So now we have a system that doesn't work at low prices and we are lagging behind trying to fix the problem. I would like to have something that works better at all prices and all time horizons.

Petroleum News: Have you met with industry folks? Are you getting feedback or pushback?

Tarr: We are not considering a bill just yet, so I wouldn't characterize it as either. What I'm hearing from a lot of folks in every industry is the need for a fiscal plan. I think everyone recognizes that will relieve a lot of the pressure on any given group of people. Having a good oil and gas tax regime is an important piece of that. We definitely have that in mind.

Q AND A

They recognize there is a bigger picture here and there is a lot of value getting a plan in place, and that working through changes now and understanding what's going to happen is advantageous. If you look at the two prior years with these vetoes that caused some upheaval and disruption and what I'm hearing is probably people have gotten pushed to a point that it may make sense that we need to figure this out because the lack of stability is a challenge.

Petroleum News: Have you set a schedule yet for introducing a bill?

Tarr: I think we are shooting for next week (week of Feb. 6). There are some ideas in hand but I come from an academic background so I think there is a lot of value for understanding the system and looking at it from a few different angles. I think we should operate in a way where we are not afraid of information. I think if you have something that is really good you should be able to defend it to everyone. That's what we need to have in the end. You know who we need to defend it to is the Alaska public. As I've explained to the industry folks they've got a political problem right now. You can't talk about personal income tax or cuts to a PFD if people think those dollars are going for subsidies to an industry that is well financed and doesn't need them.

Petroleum News: That industry is also not making a whole lot of money anywhere. So how do you want the public to reconcile that?

Tarr: It's hard for the public tell the difference between this cash flow and the credit problem. So they have a cash flow problem because of the oil prices. We are not privy to their investment decisions or what reserves they have. We do know they are worldwide companies — at least the big three. Even when their opportunities are as good in Alaska, there might be good opportunities elsewhere. Unfortunately the state has all its eggs in one basket.

The industry can't be blamed for the

see TARR Q&A page 13

● GOVERNMENT

A route to affordable energy in Alaska

AEA team proposes a framework for improving the energy infrastructure outside the Railbelt to reduce cost, increase efficiency

By ALAN BAILEY
Petroleum News

The Alaska Energy Authority has published the results of the Alaska Affordable Energy Strategy project, a project to assess ways of enabling Alaska communities outside the Railbelt to obtain affordable energy. Rather than recommending a set of specific energy solutions, the agency is proposing a framework for identifying and financing energy initiatives which would lead to energy cost reductions, AEA officials told the Senate Resources Committee on Jan. 25.

The AEA Affordable Energy Strategy results from a provision within Senate Bill 138, the bill passed in 2014 authorizing the state of Alaska's involvement in the Alaska liquefied natural gas export project. The provision requires 20 percent of the revenues derived from state royalty gas, after payments to the Permanent Fund, to be channeled into initiatives for energy cost reduction in areas of the state that do not end up having access to North Slope natural gas. The bill also provided funding for the Alaska Energy Authority to develop a strategy for making energy affordable in Alaska, and to report on the results of its efforts by Jan. 1, 2017.

AEA's resulting affordable energy study only considered communities outside the Railbelt, since it is assumed that communities within the Railbelt would have some access to North Slope gas, should a North Slope gas line be built.

Cost effective solutions

The project team viewed the concept of achieving affordable energy to be equivalent to finding cost-effective energy solutions — the overall objective should be to implement the lowest cost solutions that are appropriate to the unique circumstances of a specific place at a specific time, Katie Conway, AEA government relations manager, told the Resources Committee. And, while AEA has determined that it would be difficult to dramatically reduce costs, there are plenty of opportunities for improving cost effectiveness. In addition, the project has found that energy savings through improved energy efficiency provide, in general, the most cost-effective opportunities for more affordable energy, Conway said. But, there is no one-size-fits-all solution for affordability across the study region, she commented.

Given current constraints on state spending, AEA's affordable energy strategy considers multiple sources of funding, rather than exclusively relying on public funding. In fact, the AEA team found that the tradition of state funding for projects has, in some cases, led to project development decisions based on funding availability rather than what is necessarily best for the community, AEA Chief Economist Cady Lister commented.

The affordable energy strategy can prove useful independently of the North Slope gas line, Conway said. And some of the findings could be applied within the Railbelt, she said.

Lister told the Resources Committee that the AEA recommendations are based on four pillars: the identification of cost-effective projects; obtaining financing for these projects; creating systems of accountability and sustainability for the projects; and the establishment of project funding programs. By establishing this framework, the state could help communities identify and implement projects that would lower their energy costs.

Identifying projects

The identification of cost-effective projects, the first of the four pillars, would involve the improved collection of energy-related data from a variety of sources, to enable the assessment of appropriate energy solutions. In fact, the Alaska Affordable Energy Strategy project has already assembled data into what it calls the Alaska Affordable Energy Model, a model that enables the comparison of different energy infrastructure options, to help communities and policy makers identify cost-effective projects. One idea is to continue updating this model, to help with energy infrastructure guidance, Lister said.

Another possibility would be the establishment of building energy codes that would apply to new construction or major renovations. Such codes could not only reduce costs for the users of the buildings, they could also improve health, reduce environmental degradation and reduce the cost of the power cost equalization program, or PCE, Lister said. PCE provides electricity rebates for Alaska rural residents, Lister said.

Financing projects

For the financing of projects, the second pillar of the strategy, the AEA team has suggested some ways in which various financing tools could connect investors and bankers to bankable community projects, thereby better leveraging non-state money.

As another option, the current fuel loan program, a low-cost loan program for the purchase of petroleum-based products, could perhaps be extended to include non-petroleum fuels. The AEA project also found that, in general, communities and utilities are in a position to take on more debt for cost-effective projects — one recommendation is the establishment of a Community Energy Fund for Alaska, to act as a one-stop shop for funding, to connect communities with funding sources as well as to act as a funding source itself. Under this fund, rewards could perhaps be offered for achieving required standards of project performance.

Other financing options, especially for the more urban Southeast Alaska communities, could be on-electricity-bill financing, or financing through Property Assessed Clean Energy, or PACE, a procedure for low cost loans being considered currently by the Alaska Legislature. The AEA team also recommends the stabi-

see AFFORDABLE ENERGY page 8

LAND & LEASING

No substantial new info for spring sales

The director of the Alaska Division of Oil and Gas has issued a decision of no substantial new information for the 2017 Cook Inlet and Alaska Peninsula areawide lease sales.

No date has been set for the sales, typically held in Anchorage in May.

Best interest findings for the sales date from 2009 for Cook Inlet and from 2014 for the Alaska Peninsula. The Cook Inlet finding was supplemented in 2010 and 2011; there have been decisions of no substantial new information since then for that sale. The Alaska Peninsula sale has had decisions of no substantial new information since the 2014 final finding.

The Alaska Peninsula draws limited interest, with no bids in the most recent sales in 2015 and 2016. Three tracts received bids in the 2014 sale, but none of those leases remain active.

Cook Inlet is an active exploration and production basin, but interest in sales has varied. The state received no bids for the inlet sale in 2016, the first time that has occurred in a Cook Inlet areawide sale (the state began offering areawide sales in the late 1990s).

Over the last 10 years bidding in the Cook Inlet sale has ranged from some $81,000 in 2009 to $8.2 million in 2011, when Apache Corp., which had entered the inlet the previous year, made a huge play for acreage, dominating the sale. That dollar volume was the highest since a $65 million sale in 1993, following ARCO Alaska's Sunfish discovery.

—KRISTEN NELSON

GOVERNMENT

AOGCC activity report: January 2017

•**ON JAN. 12**, the Alaska Oil and Gas Conservation Commission approved a series of rule changes governing the Middle Ground Shoal unit. As described in the Jan. 22 issue of Petroleum News, operator Hilcorp Alaska LLC requested the changes as part of its efforts to consolidate operations at the three Middle Ground Shoal fields into a single unit.

•**ON JAN. 25**, the AOGCC approved (Area Injection Order No. 3.024 Amended) a request from BP Exploration (Alaska) Inc. to continue water-alternating-gas injections at the Prudhoe Bay Unit R-11A well. The company shut in the well in 2016 after a workover operation made outer annulus pressure unmanageable. A subsequent non-state witnessed Mechanical Integrity Test convinced the commission of the integrity of the well.

•**ON JAN. 25**, the AOGCC also approved (Area Injection Order No. 24B.005 Amended) a request from BP to continue WAG (water alternating gas) injections at the PBU L-105 well. A state witnessed Mechanical Integrity Test convinced the commission of the integrity of the well.

•**ON JAN. 25**, the AOGCC provided second notice about its intention to make several changes to its regulations. The commission has scheduled a hearing on March 21.

•**ON JAN. 26**, the AOGGC approved (Docket Number: CO-16-021) a request from BP to reconsider Conservation Order No. 341F.003. The order had rejected a request from BP for a waiver of the neutron logging requirements of Conversation Order No. 341F at the Prudhoe Bay Unit 15-16C well. After the denial, BP attempted to run a neutron log on the well but "received no useful data due to tool failure," according to the AOGCC. Running the tool again, according to the AOGCC, "would be a large burden with little benefit."

•**ON JAN. 26**, the AOGCC approved a request from BP to make a gas-cap water injection pilot project at the Lisburne Oil Pool a permanent project for enhanced oil recovery at the Prudhoe Bay unit field, but added an administrative action rule for "proper oversight." According to the order, the pilot project "has shown that the concept is feasible and that overall it has increased daily production rates and should increase ultimate recovery."

The commission authorized the three-year pilot project in June 2008 and extended it for an additional five years in 2011. Over the course of the project, BP injected 22.1 million barrels of water into the PBU L5-29 well, raising reservoir pressure by some 300 psi.

Results were mixed. "Some wells saw increased production or suppressed decline and lowering of the gas oil ratio, while other wells that have seen water breakthrough have experienced decreased production due to increased water cut or production downtime associated with formation of gas hydrates," according to the commission.

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AFFORDABLE ENERGY

lization of state funding for residential weatherization, and some changes to the rules for the state's home energy rebate program, should that program be funded in the future, Lister said.

Accountability and sustainability

Recommendations around accountability and sustainability, the third recommendation pillar, revolve in particular around a system of requirements and incentives that maximize the operational life of energy infrastructures and provide for appropriate financial and management standards. Improved efficiency in business operations could save millions of dollars per year for both electricity consumers and the state while also playing into the ease of access to financing, Lister commented. In PCE communities, business operation costs represent almost half the total cost of electricity, she said.

The AEA team recommends mandated energy audits for large non-residential buildings that receive PCE, with audit findings leading to retrofits that result in net cost savings. A cost-effective regulatory system would ensure PCE-eligible utilities meet required standards. And Regulatory Commission of Alaska siting authority over generation and transmission facilities would reduce uncertainty over the regulatory approval of these facilities. Another possibility would be to set a fuel consumption reduction target for utilities, until those utilities have realized cost-effective solutions, Lister said.

Funding programs

The primary potential state funding program for the implementation of affordable energy solutions outside the Railbelt remains the 20 percent of natural gas revenues, as spelled out in Senate Bill 138, if a North Slope gas line goes into operation. However, the AEA also recommends the implementation of a universal service charge in each region of the state, to help fund cost effective energy projects in that region. The current PCE program should be continued, although, provided that the endowment basis for the PCE payments is not compromised, there may also be opportunities to use small amounts of funding from PCE for energy projects that in turn benefit PCE. The AEA team also suggests restarting funding for the Alaska Heating Assistance Program.

The team also recommends establishing a new state entity to consolidate and manage consumer energy programs, coordinating all aspects of the Alaska Affordable Energy Strategy recommendations and increasing the efficiency with which state energy programs could be delivered to communities. ●

ENVIRONMENT & SAFETY

Cleanup begins at Dakota Access encampment

By BLAKE NICHOLSON
Associated Press

Cleanup of a North Dakota encampment where opponents of the Dakota Access oil pipeline stayed for months to protest the $3.8 billion project is expected to take weeks, a leader of the tribe that organized the protest said Jan. 31.

The Standing Rock Sioux hopes to complete the work before any spring floodwaters from the Cannonball River can wash debris into the Missouri River — the very waterway pipeline opponents are working to protect. The camp has seen an exodus in recent weeks due to winter weather, pipeline work being stalled and the tribe's recent call for people to leave.

Protesters have left behind not just trash, but tents and even cars.

"There's more than anticipated, and it's under a lot of snow," Tribal Chairman Dave Archambault said. "I wouldn't say it's going to get done in days; it's going to take weeks."

The camp is close to where the Cannonball River flows into the Missouri, a water source for millions of people, including the tribe. Hundreds and sometimes thousands of people have camped there since August to protest a pipeline that they worry will threaten drinking water and Native American cultural sites.

The four-state, 1,200-mile pipeline would skirt the tribe's reservation as it carries North Dakota oil through the Dakotas and Iowa to a shipping point in Illinois. Texas-based developer Energy Transfer Partners says the pipeline is safe.

Standing Rock's environmental protection agency organized the camp cleanup with the help of the Thunder Valley Community Development Corp. from South Dakota's Pine Ridge Reservation, which has arranged for heavy equipment including front-end loaders, dump trucks and skid-steer loaders.

"We'll be here eight to 10 hours a day all week. Then we'll reassess the situation," returning next week if necessary, said Nick Tilsen, Thunder Valley's executive director.

People who still have not left the camp are helping, bringing the total on the job to about 100, said Tilsen, who is among the workers. Cost of the cleanup isn't yet known, but the tribe will use money from the $6 million in donations it has received to support its pipeline fight, Archambault said.

The tribe hasn't asked for help from the state or Morton County.

Republican Gov. Doug Burgum, who has traveled to the Standing Rock Sioux Reservation twice in the past week to be briefed about the situation, issued a statement saying the cleanup is "an important step toward addressing the safety and environmental risks posed by imminent flooding." Minor flooding of the Cannonball River is almost certain this spring in the camp area, according to the National Weather Service's first flood outlook of the season, issued Jan. 27. The next outlook, on Feb. 16, is expected to provide a clearer picture of potential flooding. ●

GOVERNMENT

AOGCC proposes 10-day comment period

The Alaska Oil and Gas Conservation Commission, which is considering revising its regulations to include a public comment period for fracking applications, has issued a revision to the proposed regulations.

Changes in the commission's regulations to allow public comment on hydraulic fracturing applications are at the request of Bob Shavelson, executive director of Cook Inletkeeper. The commission held a hearing Dec. 15; a second hearing is scheduled for March 23.

In a second notice of proposed changes in its regulations, applicable to applications for sundry approvals for stimulation by hydraulic fracturing, the commission said Jan. 25 that it would "post the application on its website. If the application contains confidential information the operator shall submit, for this posting, an additional copy of the application with all confidential information redacted."

In the proposed regulation the commission said it would accept public comments on fracking applications for 10 days.

—PETROLEUM NEWS

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AOGCC REPORT

According to BP, the project resulted in a net increase of 100 to 350 barrels of oil per day and 0.5 to 3 million stock tank barrels increase in ultimate recovery. The working interest owners had expected better results. While the program did not justify expanding the project to other wells, the companies believe it continues to be useful at PBU L5-29.

•THE AOGCC IS CONSIDERING taking enforcement action against NordAq Energy Inc. for failing to permanently abandon the Shadura No. 1 and the Tiger Eye Central No. 1 exploratory wells. The commission has scheduled a public hearing for April 4, 2017.

•THE AOGCC HAS SCHEDULED a second hearing on a request from Cook Inletkeeper Executive Director Bob Shavelson to require a public hearing for any company seeking permission to conduct hydraulic fracturing operations. The change would require the AOGCC to post such applications online. The meeting is scheduled for March 23.

•THE AOGCC HAS TENTATIVELY SCHEDULED a public hearing about a request from BlueCrest Energy Ltd. for a spacing exemption for the Hansen H-14 well and Hansen H-14L1 lateral at the Cosmopolitan unit. The company is proposing to drill the well and the lateral in the same governmental quarter sections as the existing Hansen 1AL1 and Hansen H-16 wells at the offshore Cook Inlet unit. The hearing tentatively scheduled for March 2. A member of the public must request the hearing by Feb. 14 for it to proceed.

—ERIC LIDJI

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● EXPLORATION & PRODUCTION

ANS production roughly flat from December

North Slope averaged 554,852 bpd in January, down 0.3% from December; Cook Inlet production up marginally December over November

By KRISTEN NELSON
Petroleum News

Alaska North Slope production averaged 554,852 barrels per day in January, down 0.33 percent from a December average of 556,681, a drop averaging 1,829 bpd.

The largest month-over-month decline was at BP Exploration (Alaska)-operated Lisburne, which averaged 21,899 bpd in January, down 10.9 percent from a December average of 24,587 bpd, a drop of 2,688 bpd.

Lisburne includes production from Niakuk, Point McIntyre and Raven.

Also down from December was production from the ConocoPhillips Alaska-operated Alpine field, which averaged 59,832 bpd in January, down 1.8 percent (1,095 bpd) from a December average of 60,927 bpd. Alpine volumes include satellite production from Fiord, Nanuq and Qannik.

The BP-operated Prudhoe Bay field, the Slope's largest, was down marginally, 312,769 bpd in January, off 0.3 percent (936 bpd) from a December average of 313,705 bpd. Prudhoe production includes satellite volumes from Aurora, Borealis, Midnight Sun, Orion, Polaris, Sag River, Schrader Bluff and Ugnu, and from the Hilcorp Alaska-operated Milne Point and Northstar fields.

Information for the most recent month comes from the Alaska Department of Revenue's Tax Division which reports North Slope oil production consolidated by major production centers and provides daily production and monthly averages. More detailed data, including Cook Inlet and individual North Slope fields and pools, is reported by the Alaska Oil and Gas Conservation Commission on a month-delay basis.

AOGCC data show Milne Point averaged 21,289 bpd in December, up 6.7 percent (1,345 bpd) from a November average of 19,944 bpd, while Northstar averaged 5,693 bpd in December, up 10.8 percent (554 bpd) from a November average of 5,140 bpd. Prudhoe production as reported by the Tax Division was also up, month over month, from November of December.

Some ANS increases

Volumes shown for Endicott and Kuparuk increased from December to January.

Hilcorp-operated Endicott averaged 17,585 bpd in January, up 8.7 percent (1,410 bpd) from a December average of 16,175. Endicott includes production from Eider, Minke and Sag Delta, as well as from the Glacier Oil & Gas-operated Badami field and the ExxonMobil Production-operated Point Thomson field.

AOGCC data for Badami show the field averaged 949 bpd in December, up 4.5 percent (41 bpd) from a November average of 909 bpd, while Point Thomson averaged 6,898 bpd in December, up 295.4 percent from a November average of 1,745 bpd.

The Tax Division does not break out Point Thomson production, but daily volumes shown under Endicott for January show ranges from some 9,500 bpd to as high as more than 22,000 bpd. Prior to Point Thomson coming online last April Endicott volumes were routinely in the 8,500 to 9,500 bpd range. Point Thomson was expected to produce at some 10,000 bpd and ExxonMobil's Steve Butt said in a talk in January that production had reached more than 11,000 bpd of condensate.

Production shown for Kuparuk, operated by ConocoPhillips, averaged 142,767 bpd in January, up 1 percent (1,480 bpd) from a December average of 141,287 bpd. Kuparuk volumes include satellite production from Meltwater, Tabasco, Tarn and West Sak, as well as production from the Eni-operated Nikaitchuq field and the Caelus Alaska-operated Oooguruk field.

AOGCC data show Nikaitchuq averaged 21,289 bpd in December, down 7.8 percent (1,800 bpd) from a November average of 23,088 bpd, while Oooguruk averaged 14,355 bpd in December, down 9 percent (1,429 bpd) from a November average of 15,784 bpd.

Cook Inlet

AOGCC data show Cook Inlet crude oil production averaged 14,565 bpd in December, up marginally, 0.4 percent (30 bpd) from a November average of 14,513 bpd.

Production from Cook Inlet's smallest field, Hilcorp Alaska-operated Beaver Creek, had the largest month-to-month percentage growth, up 141.8 percent, averaging 200 bpd in December up from 83 bpd in November, an increase of 117 bpd.

Hilcorp's McArthur River, Cook Inlet's largest field, had the highest per-barrel increase in December, up 141 bpd to 4,595 bpd, an increase of 3.2 percent from 4,455 bpd in November.

Redoubt Shoal, operated by Glacier Oil & Gas, averaged 637 bpd in December, up 8.8 percent, 51 bpd, from a November average of 586 bpd.

Hilcorp's Middle Ground Shoal averaged 1,829 bpd in December, up 0.9 percent, 16 bpd, from a November average of 1,813 bpd.

Remaining Cook Inlet fields had month-over-month declines in production.

The largest was at Hilcorp's Trading Bay, which averaged 1,644 bpd in December, down 6.42 percent, 113 bpd, from a November average of 1,757 bpd.

BlueCrest's Hansen field, the Cosmopolitan project, averaged 158 bpd in December, down 3.8 percent, six bpd, from a November average of 164 bpd.

Hilcorp's Swanson River field averaged 1,901 bpd in December, down 3.1 percent, 61 bpd, from a November average of 1,961 bpd.

The Glacier Oil & Gas West McArthur River field averaged 1,145 bpd, down 3 percent, 35 bpd, from a November average of 1,180 bpd.

Hilcorp's Granite Point field averaged 2,455 bpd in December, down 2.3 percent, 59 bpd, from a November average of 2,514 bpd.

ANS crude oil production peaked in 1988 at 2.1 million bpd; Cook Inlet crude oil production peaked in 1970 at more than 227,000 bpd. ●

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UTILITIES

CEA rebuilds section of transmission line

Chugach Electric Association is rebuilding a four-mile section of the electrical transmission intertie that links Anchorage and the Kenai Peninsula, the Anchorage based utility announced Feb. 1. The section of the intertie, between mileposts 55 and 61 of the Seward Highway, was originally constructed in 1962 and is nearing the end of its useful life. As part of the rebuild, the line will be upgraded from 115-kilovolt to 230-kilovolt standards, to maintain reliability and accommodate anticipated future load growth, Chugach Electric says.

As the only electrical power connection between the Kenai Peninsula and the Anchorage region, the intertie plays a crucial role in electricity supplies along the Alaska Railbelt. The line carries power produced at the Cooper Lake and Bradley Lake hydropower facilities, and from Homer Electric's Nikiski gas-fired power station, to Anchorage.

Clearing for the construction work began in December, with construction beginning in January. The project, which involves the replacement of the existing transmission line structures and conductors, is scheduled to be completed by May, Chugach Electric says. Although the project will generate increased truck traffic on the Seward Highway, the utility does not anticipate any resulting traffic delays.

—ALAN BAILEY

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TAX CREDITS

SB 21 repealed a previous tax law put in place in 2008, an action that unleased substantial new investment on the Slope. HB 247 did surgery on a complex program of state oil and gas incentive tax credits, essentially winding down much of the program because of its costs.

The effort this year, however, is likely to focus on narrowing a provision that allows tax credits from net operating losses on the North Slope to be carried forward to future years, as well as an increase in the minimum production tax from 4 percent to 5 percent of gross revenues.

Caelus views

"If something like that were to become law our projects will never happen," Pat Foley, senior vice president for Caelus Energy, told the House committee Feb. 1. Caelus is developing projects that could add 225,000 barrels per day to North Slope production possibly as early as 2023, Foley said.

Foley's company was one of several firms making presentations to the committee. Their message was that SB 21 is working well and HB 247, passed last spring, is still fresh on the books. Lawmakers were asked not to tinker yet again.

Net operating tax loss tax credits for Cook Inlet were eliminated by HB 247 along with other tax credits, but the "NOL" credits were left intact for the North Slope and if unused in one tax year are allowed to be carried forward to future years.

The loss carry forward provision is common in net profits-type tax systems.

The issue isn't so important to the large Slope producers because with oil prices rising they are unlikely to incur operating losses. But they are important to companies like Caelus that are exploring, have made discoveries, but are not yet producing.

Caelus hopes to restart work on its "Nuna" project near the producing Oooguruk field, which Caelus operates — Nuna was paused due to low oil prices — as well as to pursue a large, new offshore discovery at Smith Bay, in state waters off the National Petroleum Reserve-Alaska.

Nuna could be producing 25,000 barrels per day by 2018, Foley said, and Smith Bay might produce as much as 200,000 barrels per day by 2023.

> *It's possible that new tax changes could get legs in the state House, which is controlled this year by a coalition of Democrats and a handful of dissident Republicans.*

Marginal economics

The ability to carry forward the tax credits, as well as up-front cash payments for some tax credits (Caelus is eligible for those) if the state funds are available, is essential to the economics of both projects, which are marginal.

Foley told the committee the tax credits are a good investment for the state. Nuna will generate an estimated $2.2 billion in total state revenues over its life, and if state tax credits total $150 million, a calculation that assumes a $70 oil price, the state will get a return of 16 or 17 times its investment over the long term, Foley said.

The return on Smith Bay could be huge — $28 billion paid to the state over the life of the project, he said. The project would also create a $6 billion payroll for workers, according to estimates. Smith Bay could have 1.8 billion to 2.5 billion barrels of recoverable oil. "It would be a new field the size of the Kuparuk River field," he said.

Caelus is also bullish about two exploration targets identified in a 350,000-acre block of leases on the eastern North Slope, and hopes to test the prospects. "The North Slope has a wonderful petroleum system, and the opportunities to make major discoveries far exceed opportunities anywhere else," Foley said.

The challenges, however, include high costs, the remoteness of new Slope discoveries — Smith Bay will require a 125-mile pipeline — challenging reservoir conditions, and the constant, it seems, uncertainties of yearly tax changes by the state.

It's possible that new tax changes could get legs in the state House, which is controlled this year by a coalition of Democrats and a handful of dissident Republicans. It's possible there will be a messy fight even in the House, though, because the majority has only 22 votes out of the 40-member chamber, a narrow margin.

House minority Republicans, who control 18 votes, are likely to oppose changing taxes again. If the minority can coax two supporting votes from the majority, which is always possible, a 20-20 split in the House would defeat a bill.

The initiative also seems dead on arrival in the state Senate, which is still controlled by Republicans.

—TIM BRADNER

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Petroleum news

Oil Patch Bits

Vivian Santiago now registered professional engineer

BELL & Assoc. is pleased to announce that Vivian Santiago has earned her Alaska professional engineer license and is now registered with the state. Santiago has successfully passed the principles and practice of engineering exam, which consisted of a morning breadth exam that broadly covered the discipline and then a more detailed afternoon depth exam of civil engineering.

VIVIAN SANTIAGO

The principles and practice of engineering examination is the second exam required to become a professional engineer in the US. Santiago passed the first exam, the fundamentals of engineering back in November of 2015. The national average of passing the civil engineering discipline exam is 68 percent, and BELL is so very proud Santiago passed on the first try!

Santiago has been a civil engineering designer at BELL for three years, and has excelled in providing accurate, organized, and well documented deliverables for BELL. She is an excellent employee and Bell values her time and hard work in all the projects that she is a part of.

Congratulations, Vivian!

Ramboll Environ and ASRC announce collaboration

During a recent signing ceremony at the Arctic Frontiers Conference in Tromsø, Norway, Ramboll Environ and Arctic Slope Regional Corp. announced an agreement to seek and evaluate opportunities to work together to provide value-added solutions to clients. Facilitated by the Arctic Economic Council, this agreement is founded upon a shared vision of collaboration that leverages the organizations' complementary strengths and conveys a commitment to sustainable development in Arctic regions and around the world.

An Alaska Native-owned and operated corporation with approximately 12,000 employees worldwide, ASRC has been the largest locally owned and operated business in Alaska for the past 22 years. ASRC operates six diverse lines of business — energy support services, petroleum refining and marketing, government services, industrial services, construction and resource development — which complement Ramboll Environ's service offerings.

"Since its start, ASRC has been guided by Iñupiaq values in actively managing its businesses, lands, resources and business relationships," said Rex A. Rock Sr., ASRC president and CEO. "We are delighted to have found a collaboration partner whose core values and commitment to sustainability resonate so closely with our own. We look forward to working together with Ramboll Environ."

Ramboll Environ brings to the collaboration a diverse suite of services, including environmental, renewable energy, health and safety, Arctic sustainable development, health sciences, climate change management, regulatory compliance assistance, due diligence, remedial design and engineering, impact assessment, ecology and sediment management, and risk and exposure assessment and management.

Fluor enters agreement with NCOC in Kazakhstan

Fluor Corp. announced that it was awarded a two-year engineering services framework agreement with North Caspian Operating Co. for conceptual studies and front-end engineering for its projects in the Caspian region.

see OIL PATCH BITS page 15

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

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

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TARR Q&A

SB 21 problem. Nobody predicted oil was going to go so low for so long. Nobody predicted the shale development was going to come on the way it did. There are factors beyond our control that affect what happens here on a day-to-day basis. The cash flow versus the credit problem: Alaskans have a real problem understanding how things are really bad if they are getting $1 billion in subsidies. These figures are too big for regular folks. If you make $50,000 a year and you're talking about billions and billions of dollars, there are so many zeros that it's hard to make it real.

Petroleum News: More than half of that $1 billion comes from vetoes these last two years. Some in your caucus would like to have that paid down, otherwise as Rep. Josephson says, you're looking at something akin to a 30-year-mortgage.

Tarr: I would like to find a way to meet those obligations. You've got a conflict between what the statute said and what our behavior was. So the statute says you've got a minimum based on a formula and that gets you to $76 million in the FY 18 budget. You've got this past behavior that was this open ended payment where it didn't matter how big the obligation was, we paid it. It was compounded by the fact that we let companies use that to get financing, so there is a ripple effect. We have to address that. It's a problem that needs to be fixed. There are lots of ways you can do it. You can set a timeline where it has to be used by a certain date. You can limit how much any company can apply to their tax liability in a given year so that you know the state's obligation is something people think is reasonably affordable.

We talked (Jan. 30) how in 2006 our credit obligation was in the $50 million range and here we've got it to the $700 million range. A combination of events led to that. You can limit which companies are eligible. Some folks question even in a situation where there is a cash flow problem with the Big Three, if those are the kind of companies that need a subsidy from the state of Alaska.

What we need to look at is what is it we are trying to get from these investments.

We should see this as critical state dollars being invested into something that should bring a benefit to the state. For me one of the really important questions, you've got 100s of millions of dollars that went to projects that are not in production. We don't have enough information — and this is something I've pushed for at least for legislators to get access to tax information — and I can't look at that number and say 50 percent of that is going to be in production so these investments seem like a good use of state dollars.

Hundreds of millions of dollars that didn't lead to production: That's a problem. Another way to get to that is you're not eligible for credits unless you have an approved plan of production. Some people have been talking about that. So there are a lot of different ways to do something that is sustainable, something that makes us an attractive place to invest. Another way to look at it is do you want to incentivize early stages of development, then once you're in production then you've got a commodity that's worth a lot, do we need to continue to subsidize you?

I think it's worth considering all these ideas and having an honest conversation. If you have something good, you should be able to defend it and say why criticisms are not valid. I hope committee members will feel like they have a voice in this project and we are taking steps to make sure they have all the information they need before we debate a complex bill.

Petroleum News: Last week you received an update on AKLNG. What were your takeaways?

Tarr: I am really, really anxious for more detail. I have been remaining patient, but we really, really need to get to a place where we can have more optimism about the future of this project. I'm seeing a lot of people I represent believing this is a not a good use of state dollars at this time. You know $100 million in this calendar year, five years ago might not have been a big deal but $100 million now has an amplified effect because every dollar is so much more important. We just haven't gotten enough information. It's been a source of frustration with me. I want to understand what's going on with the financing.

I understand when utilities invest in projects like these they want to be a very minor partner. They want a seat at the table so they can understand the pricing and know they are not getting a bad deal. I don't know how many partners you bring into a project at 3 percent, 4 percent or 5 percent equity share to get the billions of dollars that you need. I'm anxious for a lot more information and I really to study it; we need to put a lot of time into this. That's our first one this year. A few months from now we'll need another one. We said to folks at AGDC by that next update we need details.

Petroleum News: This no longer seems to be a partisan issue. It seems like parties are almost aligned with their concerns. Do you share that observation?

Tarr: I think so. Maybe some of it is politically motivated on the part of some people. What governor hasn't talked about building a natural gas pipeline? It's been every governor's dream.

For me it's completely a numbers thing. I would love for us to transition to natural gas because it's a cleaner fuel. There is no other project slated to bring $3 billion to $4 billion of revenue to the state and tens of thousands of jobs. There is no denying this would be the biggest project we take on.

At the same time, I would not support the Permanent Fund investing in it. I've been told the Permanent Fund would not invest in it. I have some level of comfort on that, but there was a proposal this summer by former Attorney General Craig Richards to get the Permanent Fund involved in buying out some of the credits. I was glad the Permanent Fund chose not to go that route.

You do need to have that savings account set aside. Look how lucky we are in that we might have the option of stabilizing our state finances with the wealth that can be generated from that fund. There are definitely points of the AKLNG project where I would say no. People are realizing the public is growing weary of it and they probably don't have a high level of confidence. This is where the political rhetoric is a problem with policy. Every governor has been saying I'm going to build a gas pipeline. You can only hear that so much before saying, that's a bunch of BS, nobody is going to build a gas pipeline.

Petroleum News: What about learning there is an office in Tokyo? That seemed to catch people off guard.

Tarr: I had asked the commissioner about that and when I learned we had previously had an individual doing work for the state, marketing our fish and other business opportunities and this person was hired to replace him, that eased my mind some. Now the fact that they moved it to AGDC, I think it's a reflection of the budget times. The governor's office is shedding staff. They think the bigger opportunity is with the gas project. What I don't want to see happen is the responsibilities of the previous person — the marketing of the fish — I don't want to see them lost or pushed aside. This is the dream scenario and the other one is reality. I don't want to see those pushed aside; otherwise I don't see it as problematic as others may.

Petroleum News: Do you think this person will have Alaska and this project's interest ahead of his country's utilities?

Tarr: From what I know of his resume, he's a professional. Someone doesn't have a multi-decade career with a corporation without understanding the boundaries of their position. If he works on contract with the state of Alaska, I expect he would stay within the legal boundaries of what he is supposed to do.

Petroleum News: One of the first things that came to your committee was ANWR resolutions. There's a sense that with the Trump administration combined with the GOP-led Congress that discussions on ANWR could advance. How are you seeing it?

Tarr: It's the vice-chair's legislation. As we work through these important issues like the oil and gas tax regime, which is going to take a lot of time, we didn't want to have everything else get pushed aside. I think what we are going to do is split some of the meetings so we can introduce some other bills. That way we'll have two things going at once, if you will.

We want to make sure we do a little more comprehensive work on some of these resource issues. I do think some people see (ANWR) as a more likely potential development. I have voted against OCS because I'm nervous about our oil spill response. What we have to keep in mind is that it would still be 10 years out. I don't want people to walk away thinking we don't have a fiscal problem because we can drill in ANWR. It still has to get through Congress and there are Republican senators who have been a no vote. ●

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NORTH FORK

North Fork produced 251.5 million cubic feet of natural gas in December 2015, down to 121.7 million cubic feet in August 2016 and back up to 168.6 million cubic feet in November 2016, according to the company.

Over the past year, Glacier has been analyzing the results of previous North Fork drilling and reprocessing approximately 20 square miles of 3-D seismic with particular attention to "specific zones of interest" between 6,000 feet and 9,000 feet. The company expects to complete the seismic reprocessing before the end of March and will use the results to determine future development activities at the unit, according to the 52nd plan of development. The company also said it is also in the process of perforating zones of interest in the NFU No. 14-25 and NFU No. 41-35 wells to increase production rates.

The company is planning a similar range of small projects for the coming year, including plugging and perforation work. Additional development drilling would be resumed, "as appropriate based on data review and market conditions." Those drilling projects could include a NFU No. 42-35A sidetrack and a NFU No. 22-26 or a NFU No. 14-26 well.

Longer term, the company is looking at expanding the existing drilling pad to accommodate new compression and dehydration equipment, or possibly building a new drilling pad to better develop the reservoir. The company is also considering development wells outside the North Fork Gas Pool No. 1 participating area, according to the plan.

As the North Fork unit approaches the sixth anniversary of its start-up in early 2011, Glacier is reporting that its wells are beginning to produce small amounts of water. The company has set downhole plugs to control water intrusion and said it plans to convert a depleted well into a Class II disposal well, but has yet to select a final candidate. The plan is the first since Miller Energy Resources Ltd. entered bankruptcy protection in October 2015 and emerged with new ownership in March 2016 as Glacier Oil & Gas.

Miller Energy subsidiary Cook Inlet Energy submitted the 51st plan of development to state officials in the middle of that process. The plan called for using Rig 37 to drill or sidetrack as many as three wells. The company planned to start by drilling the NFU No. 42-35A sidetrack followed by the new NFU No. 14-26 well. Depending on the results of those wells, the company would consider whether to drill another delineation well.

Although it emerged from bankruptcy just as the 51st plan year was beginning, Glacier "has exercised a cautious drilling program due, in part, to continuing low oil prices," the company wrote in its new plan, explaining its decision not to drill. "In addition, the local Cook Inlet gas market has become increasingly constrained as gas production is consolidated amongst fewer players, and production is increased. Simultaneously, demand for gas has lessened due to recent warmer winters and the exit of key gas users."

North Fork produced 251.5 million cubic feet of natural gas in December 2015, down to 121.7 million cubic feet in August 2016 and back up to 168.6 million cubic feet in November 2016, according to the company. The unit produced 2.18 billion cubic feet during the course of that year. The unit has six producing wells and two suspended wells. ●

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OIL FROM COAL

Coal samples from Alaska

The two agencies worked together, but LePain said he wants it to be clear that "the USGS is doing the heavy-lifting" on the project.

DGGS supplied the coal samples, with two from the Wishbone Hill area in the Matanuska Valley and two from the Healy area in the Interior, near where Usibelli Mine Inc. operates a coal mine.

All samples were from surface outcrops of coal, LePain said. Characteristics of the oil are still being analyzed by the USGS. Preliminary results may be made available later this spring at a meeting of the Pacific section of the American Association of Petroleum Geologists, he said.

What is still not understood, however, is just how oil is formed in a coal bed. Coal is formed when prehistoric plant material accumulates and is gradually buried, compressed and heated over geologic time. Oil is generally formed when marine sediments containing algae and other marine organic material settle to the sea bottom and are gradually buried and heated over time.

Some methane formed in coal occurs through a "biogenic" process caused by bacteria feeding on the compressed organic material in the coal. Oil is usually created through a "thermogenic" process caused by heat and pressure when sediments are buried at depth.

Complicated process

But oil from coal is likely to be more complicated, however. "Certain coals in Alaska, in the Holitna, Nenana, North Aleutian/Bristol Bay, Susitna, Cook Inlet and Gulf of Alaska basins, if buried deeply enough to reach the right level of thermal maturity, might have potential to generate significant quantities of liquid hydrocarbons," DGGS said in a briefing paper on the tests.

Initially, tests were first done using a process called Rock-Eval pyrolysis, a relatively simple procedure where coal samples are heated in the absence of water and measurements are taken of hydrocarbons being expelled.

But those tests did not really replicate conditions found in nature, deep underground, the white paper said. In addition the Rock-Eval pyrolysis appeared to overestimate the amount of hydrocarbons released.

To get a better picture, the science team switched to tests using hydrous pyrolysis, done with water. Hydrous pyrolysis is a time-consuming test procedure but it more closely duplicates natural conditions underground.

"Hydrocarbons generated using the 'HP' procedure more closely resemble compounds generated under natural subsurface conditions, in part by conducting the experiment in water-saturated conditions," the white paper said.

Coal samples are placed in a reactor vessel with water and heated to temperatures between 260 degrees and 365 degrees Celsius for 72 hours.

The tests did result in oil being generated and expelled from the coal.

LePain said just how the coal produces oil is still not understood. In many coal deposits the coal is interspersed with layers of shale, coaly shale. Both types of rock contain the organic material and it's uncertain whether the oil is coming from the coal or the mudstone. "It's the same type of organic material, so it's not easy to distinguish," he said.

Another mystery is just how the oil is expelled from the coal. In the case of methane, when coal seams are depressured by the withdrawal of water, a common technique in production of coal-bed methane, the gas desorbs from the coal matrix and can flow to wells.

With oil, it too appears to accumulate in pores in the coal but since there is little permeability in coal matrix (connections between pores) unlike a porous and permeable sandstone, it is difficult for the oil to flow. Also, due the chemical attraction between the coal and hydrocarbon molecules, it tends to adhere to the coal surfaces.

Oil somehow does unlock itself, however — the samples generated in the tests show that — although the mechanism is still unclear. "We don't know how to explain this right now," LePain said.

Near-term applications

While it seems unlikely that coal seams could become a source of commercial oil production in the near future, the research by DGGS and the USGS does have near-term practical applications, said Paul Decker, who heads the resource evaluation group in the state Division of Oil and Gas.

"Understanding the 'fingerprint' of this oil (which could come when the analyses of the oil samples is completed) will allow us to correlate this to conventional oil" and better understand the origins of the oil.

The most important near-term impact of these experiments could be that Alaska's coaly Interior basins, traditionally considered gas-prone, might warrant additional exploration for oil, Decker said.

The USGS is quite interested in this because a primary responsibility of the federal agency is evaluating undeveloped basins and their potential oil and gas resources. ●

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ENERGY OUTLOOK

uncertainty involved in any forecast of this type, the report also considers alternative scenarios, to test the sensitivities of different aspects of the energy forecast to different potential situations.

World economic growth

In its base case scenario, the Energy Outlook anticipates the world economy nearly doubling in the next 20 years, with an average annual growth rate of 3.4 percent in the world gross domestic product. A population growth of 1.5 billion people to nearly 8.8 billion will cause part of that growth.

Although the economic growth will cause a corresponding growth in the demand for energy, the rate of increase in energy demand is likely to slow from the average rate of 2.2 percent per year seen in the past 10 years to an average rate of 1.3 percent. That slowdown will result from a rapid fall in energy intensity, the amount of energy used per unit of GDP, as energy usage becomes more efficient.

Almost all of the growth in global energy demand will come from fast-growing emerging economies, in particular China and India, the BP analysts think. Little demand growth is expected in the developed world of the countries in the Organization for Economic Cooperation and Development. And, in parallel with the growth in energy demand, there will be a continuing gradual decarbonization of the fuel mix, as renewable energies become more competitive, the Energy Outlook says.

Growing oil demand

Demand for oil, an energy source primarily used in transportation, will continue to grow, but at a slowing rate. The Energy Outlook expects the number of cars in use to double between now and 2035. But while this increase in vehicle usage will cause an increase in demand for oil, that increase will be significantly offset by major improvements in vehicle fuel efficiency. The BP analysts also anticipate a major increase in the use of electric cars, from 1.2 million in 2015 to perhaps 100 million in 2035. An increase of this scale in electric car usage would knock a further dent in oil demand, although, with 100 million electric vehicles only representing 6 percent of the total worldwide car fleet, the impact of electric car use on oil consumption would be relatively modest. The resulting global demand for liquid fuels for car use in 2035 might then be some 23 million barrels per day.

Also of potential but unknown impact on oil demand from car use is an emerging trend toward the use of autonomous vehicles, car sharing and car ride pooling. The Energy Outlook, in addition to its base case, considers a scenario in which the move toward car sharing using efficient autonomous cars is particularly strong. In a Jan. 25 presentation on the Energy Outlook, BP Group Chief Economist Spenser Dale said that this particular scenario appeared to decrease future oil demand from car use by 2 million to 3 million barrels per day. However, this estimate does not take into account the possible impact of the lower cost and higher accessibility of car travel, Dale commented.

In another scenario, the BP analysts considered the possibility of an "electric revolution," which assumes a much heightened penetration of electric car use to, say, 300 million cars in 2035, with these cars being used for car sharing and car ride sharing. That would trigger a further significant fall in oil demand.

But, overall, the potential drop in oil demand from electric car use over the next 20 years does not appear big enough to have "huge implications" for the growth of oil demand, Dale suggested.

The BP analysts also think that by the early 2030s the dominant use of oil will transition from transportation to non-combustible uses, especially in petrochemicals.

Glut of oil reserves

Set against this future oil demand is a situation in which the quantity of proven oil reserves around the world is substantially greater than the amount of oil that the world is expected to need out to 2050 and beyond, the Energy Outlook says. Oil reserves have more than doubled over the last 35 years, with every barrel of oil consumed being replaced by two new barrels of oil discovered, the report says. Technically recoverable oil is currently estimated at some 2.6 trillion barrels, 1.7 trillion barrels of which are located in the Middle East, the Commonwealth of Independent States and North America.

This glut of oil reserves in conjunction with slowing oil demand will allow low-cost oil producers to increase their market share of oil production, the Energy Outlook suggests. In particular, the share of production coming from low cost resources in the Middle East, Russia and the best U.S. tight oil plays is likely to grow disproportionately.

Growing natural gas consumption

Meanwhile the consumption of natural gas is expected to grow steadily at a rate of about 1.6 percent per year, with shale gas production accounting for about two-thirds of the increase in gas supplies. China is expected to become the second largest shale gas producer, after the United States, by the end of the forecast period. Liquefied natural gas supplies are expected to grow rapidly, led by LNG supplies from the United States and Australia. Countries in Asia will continue to provide the largest market for LNG, but LNG demand from Europe will also increase in response to declining domestic gas production, the Energy Outlook suggests.

And, with a deep and competitive LNG market, LNG pricing in long-term supply contracts will likely be linked to spot LNG prices, anchored by U.S. gas prices, the report says.

Coal continues as a major component of the world's fuel mix. As China, in particular, switches to the greater use of natural gas, hydropower and renewable energies, global demand for coal is expected to flatten, with coal occupying a declining share of total energy production.

The use of renewable energy sources, on the other hand, will continue to climb rapidly — the Energy Outlook anticipates use of renewable energy growing from 3 percent of the energy mix in 2015 to 10 percent by 2035, with worldwide renewable energy growth being highest in China over the next 20 years. This phenomenon is likely to be linked to an expectation that electrical power is expected to account for an increasingly large proportion of the energy consumption mix.

Carbon emissions

The Energy Outlook in its base case anticipates carbon emissions from energy production and usage continuing to grow at a rate far above what is needed to achieve carbon emission goals set in the 2016 Paris agreement on climate change. However, the rate of growth is expected to be substantially lower than rates seen in the recent past, thanks to the declining energy intensity and the changing fuel mix.

The Energy Outlook assesses two scenarios in which carbon emission rates are reduced, either quickly or very quickly, through policies such as carbon pricing, and through factors such as the especially rapid adoption of electric car use. The faster of these scenarios would meet the Paris goals, Dale explained.

Under the faster of these carbon reduction scenarios, much of the carbon abatement would come from power generation. Non-fossil fuels would provide all of the growth in primary energy. Oil demand would peak and then drop slightly by 2035, the Energy Outlook indicates. But, under either of the carbon reduction scenarios, the world would need about the same quantity of oil and gas combined as it does today, meeting about half of the world's energy needs in 2035, Dale said.

However, there are many different ways of achieving carbon reductions, and the outcomes depend on policy judgments and assumptions used, Dale cautioned. Given the multitude of ways of tackling carbon emissions, the establishment of carbon pricing to encourage creativity in finding solutions, rather than the imposition of solutions through carbon-related regulation, is likely the best means of achieving carbon emissions targets, Dale suggested.

But government carbon emission policies, or lack thereof, could have a significant impact on the future fuel mix, a factor that emphasizes the uncertainty over demand for, for example, LNG or coal, Dale cautioned.

—ALAN BAILEY

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OIL PATCH BITS

NCOC operates oil and gas activities under the North Caspian Sea production sharing agreement, including Kashagan, one of the world's largest offshore oil fields located in the Kazakhstan zone of the Caspian Sea, as well as the Kalamkas, Aktoty and Kairan fields in Kazakhstan.

"Fluor is delighted to have been selected by NCOC for these important projects," said Al Collins, president of Fluor's energy and chemicals business in Europe, Africa and Middle East. "Through early involvement, we can work with our client to optimize design and construction solutions to deliver capital efficiency. We will leverage our extensive knowledge of executing oil and gas projects in Kazakhstan by applying our unique integrated solutions approach."

Engineering teams from Fluor's offices in Atyrau, Kazakhstan and Farnborough, UK will undertake the studies.

Fluor began working in Kazakhstan in 1982. Since then, the company has executed ongoing work in projects ranging from conceptual studies and front-end engineering design to mega undertakings.

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POWER POOLING

ed the utilities on their efforts.

"We ought to be very thankful for all the hard work that went into making this agreement possible," Berkowitz said. "We ought to be appreciative of the efforts that were made to build this infrastructure, to maintain this infrastructure and ensure that the people of this region have affordable and available power on demand."

"Working together to provide power to our customers in the most efficient, cost-effective manner means lower costs and improved reliability for everyone," said Lee Thibert, CEO of Chugach Electric. "This agreement represents a lot of hard work and cooperation on behalf of thousands of Alaska electric customers, and I want to thank everyone involved for the great work done."

"We are pleased to see our recent utility cooperation expanded into a more formalized agreement that can reduce costs for our members," said Tony Izzo, CEO of Matanuska Electric. "The Railbelt's new, more efficient generation suite brings significant opportunity for savings when we work together and we look forward to this new era of collaboration."

"The work of the utilities serving Anchorage demonstrates what collaborative effort can achieve and builds on our cooperative work to provide reliable, cost-effective electric service for businesses and families," said ML&P General Manager Mark Johnston.

ALAN BAILEY

Southcentral Alaska electric utility officials and the Anchorage mayor gather on Jan. 30 to announce the new power pooling agreement. Left to right: Janet Reiser, board chair of Chugach Electric Association; Mark Johnston, general manager of Municipal Light & Power; Ethan Berkowitz, Anchorage mayor; Tony Izzo, CEO of Matanuska Electric Association; and Lee Thibert, CEO of Chugach Electric Association.

Pooled use of facilities

The agreement revolves around three new state-of-the-art gas-fired generation facilities that the utilities have built in recent years: the Southcentral Power Project, jointly owned by Chugach Electric and ML&P; ML&P's Plant 2A; and Matanuska Electric's Eklutna Generation Station. The Southcentral Power Project and Plant 2A are both highly efficient combined cycle power plants — the SPP facility is already in operation, while Plant 2A is still being commissioned. Matanuska Electric's EGS facility uses gas-fueled reciprocating engines, an arrangement that enables the rapid ramping up and down of power output, to follow variations in power demand or in power output from other generation facilities.

The idea of the new agreement is to enable the best use of these new facilities, so that all three parties can obtain power at minimum cost. The agreement does not impact the ownership of the facilities — a settlement process will enable the facility owners to recoup the cost of the facility use. The utilities have for a long time been operating procedures whereby they interchange power though energy sales: The new agreement will enable a more continuous and efficient means of pooling power, thereby enabling higher levels of cost savings.

The agreement also requires the power dispatch procedures to include a plan for the use of available hydroelectric resources in the power pooling.

Development period

The agreement now signed allows for a one-year development period, during which the utilities will complete the development of the various procedures needed for the implementation of the agreement. The development period will also allow any necessary changes to be made to the computer systems used to manage the power supply system. And the utilities have made a Regulatory Commission of Alaska filing, to formally notify the commission what is happening.

Once the necessary development work has been completed, the utilities will file the agreement and associated procedures with the RCA for commission approval. Then, upon approval, the agreement will go into effect, with an initial 20-year term. Once in effect, a participant in the agreement must give 10-years notice of any intent to withdraw from the agreement.

During a press conference announcing the agreement Thibert said that consumers may see reductions in their electricity bills, perhaps by some 2 percent, and that some cost reductions could start to appear within the next few months, as improved power pooling starts to kick in. The utilities have told the RCA that during the development period for the agreement they anticipate structuring energy transactions to replicate some aspects of the new power pooling arrangements, thereby enabling the assessment and refinement of the new procedures.

Management by committee

Under the terms of the agreement, a participants committee will provide management oversight of the pooling arrangements, while an operating committee will have a technical role in developing and implementing dispatch procedures for power generation and transmission; fuel supply arrangements; and the process for the settlement of the various transactions involved in the power pooling. Each committee will have one representative and a backup from each participating utility.

The RCA has been encouraging the six utilities that operate the Railbelt electrical system to pool their resources, to the benefit of electricity consumers. This new agreement appears to be a major step in that direction. The agreement also leaves open the possibility of other utilities joining the pool — Fairbanks-based Golden Valley Electric Association has said that it has participated in work on the new pooling agreement and that it is pleased to continue working with the Southcentral utilities.

Further possibilities

Discussions involving the RCA have been targeting the potential future formation of a unified system operator, for management of the Railbelt transmission grid, and a transmission company, or transco, to operate the grid. The new agreement neither precludes nor promotes either of these possibilities. The formation of a unified system operator, to provide unified oversight of how the system works, faces controversy over its governance structure, with a range of opinions over the extent to which the oversight entity would be independent from the utilities that operate the system. The transco concept, an arrangement that could potentially enable the optimization of fees charged for grid usage and provide a mechanism for the funding of grid upgrades, has been the subject of discussions between the six Railbelt utilities, with a report on the outcome of those discussions expected soon. ●

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NORTH OF 60 MINING news

page 6 Novagold CEO expects final Donlin Gold EIS early in 2018

www.MiningNewsNorth.com The weekly mining newspaper for Alaska and Canada's North Week of February 5, 2017

NEWS NUGGETS

Compiled by Shane Lasley

SHANE LASLEY

Lying alongside the Elliot Highway about 70 miles north of Fairbanks, the Livengood project hosts a deposit with 15.7 million ounces of gold in 802 million metric tons of measured and indicated resource averaging 0.61 grams per metric ton gold.

Hanneman named Tower Hill CEO; $6.7M work program for Livengood

International Tower Hill Mines Ltd. Feb. 1 said it has paid the U$14.7 million payment due on certain claims associated with its Livengood gold project in Interior Alaska. Following the completion of the land payment, Tower Hill had US$7.5 million in cash, most of which the company will use to carry out a US$6.3 million work program focused largely on improving the economics of developing a mine at Livengood. In September, Tower Hill released results of an initial phase of optimization work in a pre-feasibility study for Livengood, which is about 70 road miles northwest of Fairbanks, Alaska. The mine contemplated in the PFS involves a 52,600-metric-ton-per-day mill (about half the size envisioned in a feasibility study released in 2013) that would produce 6.8 million ounces of gold over a 23-year mine life, or roughly 294,100 oz annually. This year's work program will focus on improving the mineralization and alteration models used to support the resource block model, evaluating alternative block models for production schedule opportunities, and completion of several phases of metallurgical work to better define and optimize the flowsheet and recovery parameters. The 2017 program has been designed to target those aspects that could deliver the highest increase to the project's net present value for the least expenditure. Work is also planned to advance the environmental baseline efforts needed to support future permitting. Karl Hanneman, who was previously Tower Hill's chief operating officer, has been approved by the company's board of directors to take over the role as CEO. "The board has unanimously backed Karl to be the new leader of the company and think that he is the best candidate to lead this team as ITH embarks on a work program to continue de-risking the project down an eventual permitting path," said Tower Hill Chairman Marcelo Kim. Hanneman, who has more than 35 years of Alaska-based mining industry experience, is well known and respected mining engineer in the state. Prior to joining Tower Hill, he played a key role on the team at Teck that successfully resolved significant permitting issues at the Red Dog zinc mine in Northwest Alaska. As Alaska Regional Manager for Teck, Hanneman also played a key role in the exploration, development and permitting of the Pogo gold mine in Interior Alaska. Hanneman has led or participated in a number of industry and State of Alaska sponsored organizations, including the Alaska Minerals Commission, Council of Alaska Producers,

KARL HANNEMAN

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SHANE LASLEY

The more than 1 million feet of drilling completed since 1988 has outlined a deposit at Pebble that hosts 56.8 billion pounds copper, 70.4 million ounces gold, 3.4 billion lbs molybdenum and 343.6 million oz silver. The Pebble Partnership now hopes to apply for permits to mine this extraordinary deposit.

PEBBLE

Pebble stars align

Trump, expected EPA treaty, improved markets bode well for Alaska project

By SHANE LASLEY

Mining News

RON THIESSEN

TOM COLLIER

After six tumultuous years, 2017 is shaping up to be a turnaround year for the enormous Pebble copper-gold-molybdenum project in Southwest Alaska.

"The stars that were previously askew, they seem to be lining up," Northern Dynasty CEO Ron Thiessen told Mining News.

This star realignment is reflected in a US$37.4 million financing the Pebble project owner closed on Jan. 26. Underwritten by a trio of renowned financiers, this financing involved the issuance of 20.24 million shares at US$1.85 per share, not bad for a company whose stock was selling for a mere US27 cents per share this time last year.

Northern Dynasty's share price enjoyed healthy gains throughout 2016, reaching US91 cents per share by early October. The election of Donald Trump, however, helped push the stock to a high of US$3.45 per share on Jan. 24.

While the election of a U.S. President focused on the economy played a major role in this meteoric rise, an upturn in metals prices and mining markets, a pending resolution of a court battle with the U.S. Environmental Protection Agency over the regulator's efforts to severely restrict the project prior to permitting, renewed interest by several global mining companies and a new strategy for finally advancing the project into permitting is fueling investors' appetite for this company that appears to have made a turn for the better.

Game changer

With roughly 56.8 billion pounds copper, 70.4 million ounces gold, 3.4 billion lbs molybdenum and 343.6 million oz silver in measured and indicated resource, Pebble is an enormous store of metals that could support a world-class mine for more than a century.

"This is a mine that has the capacity to operate 150 years," Thiessen explained.

This multi-generation deposit, however, is located in the Bristol Bay region of Alaska, famed for a sockeye salmon fishery that is a cultural and economic asset to the people that live and work in the region.

This proximity to the Bristol Bay watershed garnered staunch opposition from environmental groups, fisherman and many Alaska Natives in the area that are concerned a Pebble mine could harm the fishery.

"Regardless of federal politics, the people of Bristol Bay remain steadfast in our dedication to protecting Bristol Bay and in opposition to mines like Pebble that threaten our traditional way of life," United Tribes of Bristol Bay Executive Director Alannah Hurley said in a Jan. 24 statement.

Under the Obama administration, the opponents of Pebble enjoyed an ally in the EPA, which tested the bounds of its authority by taking regulatory action at the Pebble project before the permitting process began.

After compiling regional data and putting together some hypothetical mining scenarios for Pebble, the environmental agency decided to put strict limitations on the size of a mine that could be permitted for the enormous metals deposit.

see **PEBBLE STARS** *page 7*

NORTHERN NEIGHBORS

Compiled by Shane Lasley

TERRAX EXPLORATION

TerraX Chairman and CEO Joe Campbell (left) and Vice President of Exploration Tom Setterfield pause for a photo while prospecting the Yellowknife City Gold project. The work by this duo and the rest of the TerraX exploration team has identified numerous drill targets and prospects on an expansive land package a few miles away from the Northwest Territories capital.

TerraX triples Yellowknife City Gold

TerraX Minerals Inc. Feb. 1 said it has tripled the size of its Yellowknife City Gold project by staking 253 square kilometers (98 square miles) of mining claims adjacent to the Northwest Territories project. The company said this additional ground was staked based on extensive research completed on prospective surrounding lands over the past three years. The three new land blocks added to the Yellowknife project include: a northern extension to the Northbelt property covering prospective geology on the west side of the greenstone belt that host the historic Con and Giant gold mines; a block on the east side of the Southbelt property covering the southern extension of the prolific Campbell Shear, the source of more than 5 million ounces of gold production at the Con Mine; and a large block of ground in the Burwash sediments, which hosted four other historical mines in the area. TerraX has begun compiling the historical data on the new ground and is planning comprehensive geophysical, geochemical, mapping and prospecting surveys across these properties in 2017. This plan follows the pattern of exploration that has resulted in gold discoveries the Northbelt property and identified exciting new drill targets on the Southbelt claim block. "Since the beginning of the Yellowknife City Gold project we have pursued a goal of assembling and controlling a major Canadian gold district. The acquisition of this highly prospective new ground completes that goal and provides TerraX shareholders with additional opportunities for high-grade gold discoveries," said TerraX CEO Joseph Campbell. "We are very much looking forward to our 2017 drill campaigns, which are expected to commence shortly."

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Petroleum news

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● COLUMN

Mining deaths fall to record low in 2016

Miners expect change, but guides such as high grades, good infrastructure, rule of law and simple metallurgy to remain constant

By CURT FREEMAN
For Mining News

The author

CURT FREEMAN

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The year just past was many things for the mining industry, but one of the bright spots came from the Mine Safety and Health Administration, an agency not known for awarding happy faces or gold stars. In 2016, the mining industry experienced only 25 deaths in U.S. mines, the lowest level ever recorded. This, despite the industry having more than 330,000 miners working in 13,000 mines across the country. The leading cause of death in both coal and metal/nonmetal mines was machinery and powered haulage equipment. MSHA acknowledged that every year since 2009, injury rates in American mines have declined and death rates fell below all previous annual death rates, except in 2010 when the Big Branch coal mine disaster occurred. While zero deaths in a year is the ultimate goal, 2016 statistics drive home the point that you are safer in an operating U.S. mine than you are in your own home.

But that was last year, what can the industry, in general and Alaska in particular, expect in 2017? Virtually everyone thinks the new Trump administration will have profound impacts on the U.S. and world markets for commodities. Trouble is, talk to 10 people and you get a baker's dozen opinions on just what those impacts are going to be. Regardless of your viewpoint, however, some constants have been and will remain guides to the mining industry: high grade is preferable to low grade; good infrastructure is preferable to poor infrastructure; rule of law is preferable to rule of dictator; simple metallurgy is preferable to complex metallurgy; and local support is preferable to local opposition.

Good hunting in 2017!

Western Alaska

GRAPHITE ONE RESOURCES announced 2016 milestones and an update on 2017 plans at its Graphite Creek graphite deposit on the Seward Peninsula. The 2016 milestones included raising more than US$2.8 million in new financing, confirmation of high performance, repeatability and stability of the company's spherical graphite, all required in high-quality graphite for lithium-ion batteries, and continued testing by potential end users of exploratory grade samples of coated, spherical graphite. Millrock's plans for 2017 include completion of preliminary test work on its mineral processing circuit for producing high-grade graphite concentrate from raw ore and completion of a preliminary economic assessment by the end of January 2017. Most components of the PEA are complete, with some delays reported due to the time required to complete the company's review and approval process.

REDSTAR GOLD released final assay results from its seven-hole, 1,505-meter 2016 drill program at its Unga gold-silver project near Sand Point. Drilling has expanded high-grade gold-silver mineralization in the Shumagin zone to at least 950 meters of drilled strike length, to depths of at least 330 meters below surface. Mineralization is not constrained to a northeast-plunging shoot as previously thought. Breccia and stockwork zones widen at depth towards the southwest, indicating further expansion potential along strike on the Shumagin zone. The overall size of the system has expanded 300 meters east to Bunker Hill, and some 400 meters to the southwest of the deepest previous drill hole BM-01 drilled in the 1990s. Expansion potential exists for an additional 3 kilometers to the Orange Mountain area, another hydrothermally altered zone on the trend. Significant drill results on the Shumagin trend include hole 16SH019, with 0.9 meters grading 14.95 grams per metric ton of gold, starting at 264.6 meters depth; and hole 16SH020 with 1.15 meters grading 11.3 g/t gold starting at 270.45 meters. At the Bunker Hill zone, about 300 meters to the northeast of the Shumagin zone's Main Breccia, mineralization extends more than 200 meters in quartz-adularia-carbonate breccias identical to exposures along the Main Breccia. Significant drill results on the Shumagin trend include hole 16SH022, with 1.5 meters grading 16.97 g/t gold starting at 156.5 meters depth. The company anticipates initiating a larger drill program during the spring of 2017 to focus on expanding the Shumagin zone along strike to the southwest.

COPPERBANK RESOURCES CORP. announced that The Aleut Corporation, an Alaska Native regional corporation and the underlying property owner for the company's Pyramid and San Diego Bay projects, has agreed to take an equity position in the company. Aleut Corporation has agreed to acquire 1,687,500 shares of the company at a price of C8 cents per share. The San Diego Bay prospect is typified by 40 square kilometers of gossan, strong hydrothermal alteration and intrusive rocks consistent with porphyry systems such as the adjacent Pyramid deposit. All porphyry alteration facies have been observed at San Diego Bay, including zones of potassic, advanced argillic, phyllic and pyrite zones along with widespread areas of high-temperature clay alteration. Strongly anomalous pre-

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FREEMAN

cious and base metal values were collected by previous operators and cobbles of copper oxide mineralization have been identified by local Aleut shareholders on beaches adjacent to the alteration zone. The company believes that San Diego Bay may contain overlapping hydrothermal systems, including potential lithocaps.

Interior Alaska

FREEGOLD VENTURES LTD. provided an update for its Golden Summit project in the Fairbanks District. Earlier in 2016 the company announced the results of a preliminary economic assessment at the project. Using a US$1,300 per ounce gold price, the PEA evaluated a two-phase, 24-year open pit mine, generating two gold streams with each operating at 10,000 metric tons per day for 2,358,000 ounces of doré produced over life of mine. Processing operations for the oxide and sulfide mineralized materials are heap leach and bi-oxidation, respectively. As a follow up to the PEA, additional metallurgical work to further refine the treatment method to the sulfide material is being planned in order to further enhance the overall project economics. In particular, further oxidation treatment on all identifiable sulfide materials as well as ultra-fine grind test work will be undertaken in an effort to explore grind size versus recovery relationships. Limited drilling to delineate additional oxide resources is also being planned for 2017. A total of 717 soil samples were recently collected and have identified a gold-in-soil geochemical anomaly west of the main resource at the Dolphin deposit. Initial drilling will be focused to the north of the current mineral resource where previously completed rotary air blast drilling indicates that better grade oxide material may be present outside the current resource base. Exploration drilling also will focus on areas where the previous induced polarization/resistivity ground geophysics suggests the presence of shallow intrusive rocks to the southwest of the deposit.

INTERNATIONAL TOWER HILL MINES said it has closed a US$22 million financing for its flagship Livengood gold project. The company indicated that it intends to use the funds to complete acquisition of certain mining claims and related rights in the vicinity of the deposit, estimated at some US$14.8 million, for continuation of optimization studies to further improve and de-risk the project, for required environmental baseline studies, and for general working capital purposes.

FREEGOLD VENTURES LTD. also announced final drilling results from a seven-hole, 3,038 meters drilling program at its Shorty Creek project near Livengood. The new results are from five holes, SC1603 to 1607 (2,019.8 meters), collared on Hill 1710, located 2.5 kilometers northwest of previous drilling on Hill 1835. The Hill 1710 drilling focused on a portion of a 6,000-meter-by-1,500-meter magnetic anomaly where partial soil coverage indicates a coincident copper-molybdenum soil geochemical anomaly. To date ground geophysics and soil geochemical surveys have been conducted over only 2,500 meters of this magnetic anomaly. The holes at Hill 1710 were spaced about 400 meters apart starting on the western edge of the soil geochemical anomaly. All of the holes intersected copper and molybdenum mineralization with the copper values increasing as the drilling moved to the northeast. Coincident with the increased assay values was the increasing volume of quartz feldspar porphyry intrusive intersected in holes SC 16-06 and SC 16-07, the two most northeastern holes. Hole 16-03 was the most westerly hole drilled at Hill 1710 and returned 172.6 meters, grading 0.03 percent copper and 0.034 percent molybdenum. Hole SC 16-06 intersected quartz-feldspar porphyry with a coincident higher grade interval, including 0.11 percent copper and 0.02 percent molybdenum, while hole SC 16-07 intersected 0.11 percent copper and 0.011 percent molybdenum from surface to 159 meters depth. Four other areas of the project remain untested by drilling. These targets, including Hill 1870, Steel Creek, Hill 1890 and Quarry, possess geochemical and/or geophysical anomalies that the company hopes to drill test in the future.

ENDURANCE GOLD released additional assay results from the 2016 drill program on its Elephant Mountain gold property near Manley Hot Springs. During 2016, three diamond drill holes were completed on the South Zone and one diamond drill hole was completed on the North Zone for a total of 598 meters. At the North Zone target, rubble-crop defines a one-square-kilometer alteration zone consisting of disseminated pyrite-arsenopyrite in pervasively silicified, sericite, and clay-altered granodiorite associated with a gold-arsenic soil anomaly. This area was previously drill tested by Placer Dome Inc. and others and resulted in six drill holes over a 550 meters across and 100 meters vertical expanse returning gold values in excess of 100 parts per billion gold. Mineralization was hosted in pervasively silicified, sericite, and clay-altered granodiorite similar to alteration and mineralization observed on surface. At the North zone, hole EL16-13 was drilled in this target and intersected 150 meters of 1.5 percent pervasive disseminated pyrite and arsenopyrite-bearing quartz veinlets starting at surface. The entire length of the drill hole is in-part oxidized with the oxidation related to fractures and oxidized quartz-sulfide veinlets. Significant assays from hole EL16-13 include 0.40 g/t gold over 147.1 meters encompassing more than 48.2 meters averaging 0.63 g/t gold. Two additional holes were completed at the South zone, with hole EL16-15 returning 0.52 g/t gold over 3.04 meters encompassing1.06 meters averaging 1.13 g/t gold. This intersection is associated with one of the zones of clay gouge breccia and fault rubble. Hole EL16-16 returned 0.59 g/t gold over 2.44 meters and 0.48 g/t gold over 2.44 meters. These intersections are associated with minor pyrite and arsenopyrite associated with a quartz veinlet zone in syenomonzonite and a clay gouge zone in silicified and carbonate altered diorite and sediments. The company is recommending additional geophysics, soil geochemistry and diamond drilling for future programs.

NORTHERN EMPIRE RESOURCES CORP. said it filed a National Instrument 43-101 technical report with results from its 2016 exploration efforts at the Richardson gold project near Fairbanks. The report indicates that the recognition of associated fault zones and high-grade gold samples collected in 2016 channel sampling at the Democrat Pit present a compelling target. Geophysical re-interpretation and follow-up ground geophysical work have identified several magnetic anomalies which are coincident with known faults, gold in soil anomalies and drill-hole gold intercepts (particularly at the Shamrock area). Magnetic data appear to show an earlier structural fabric which may be related to gold mineralization. The recognition of lineations at the Democrat Pit parallel to the northwest trending Richardson lineament suggest a right-lateral sense of movement along this structure. Recommendations for 2017 include 1) expansion of the Democrat Pit exploration area by trenching north of the current Pit and collecting additional trench samples and structural data; 2) diamond drilling is recommended at the Democrat area, targeting high-grade structures away from the Democrat Pit; 3) additional trenching in the Shamrock area is recommended along with structural mapping and follow-up drilling should the trench results be positive; 4) property-wide structural mapping is highly recommended along with additional ground magnetic surveys; and 5) continued soil sampling on areas covered widely in 2016 and, along structures identified in the 2016 ground geophysics that have not already been covered by soil geochemistry.

CONTANGO ORE INC. announced final drill results from its 2016 Phase 3 drilling program at the Tetlin gold project, a joint venture with a wholly owned subsidiary of Royal Gold Inc. The partners completed 19 core holes in the 2016 phase 1 program, 62 holes in phase 2 and 37 holes in phase 3. Drilling in 2016 totaled 20,522.8 meters (67,335 feet). Significant new results from the phase 3 drilling at the North Peak zone included hole 16277, which returned 12.52 meters grading 2.56 g/t gold; hole 16278, which returned 14.05 meters grading 10.58 g/t gold; hole 16281, which returned 8.53 meters grading 22.01 g/t gold; hole 16300, which returned 15.05 meters grading 5.15 grams of g/t gold; hole 16302, which returned 22.74 meters grading 26.61 g/t gold, hole 16304, which returned 21.20 meters grading 11.86 g/t gold and an additional 22.55 meters grading 5.49 g/t gold; and hole 16305 which returned 29.54 meters grading 7.17 g/t gold. The company indicated that it plans to commence a 6,000-meter drill program in February at the Main and North Peak zones. CORE is still on-track to release a revised resource estimate later in the first quarter.

Northern Alaska

GOLDRICH MINING COMPANY and partner **NYACAU LLC** announced year-end placer gold production figures for their Chandalar mine in the southern Brooks Range. During 2016, the operation produced 10,209 ounces of raw alluvial gold, equivalent to roughly 8,200 ounces of fine gold (approx. 800 fine). Production costs totaled $961/oz., including operating costs and equipment payment costs. Total 2016 production represents a 117 percent increase over the 2015 mining season. Total revenue exceeded US$10 million. Mining expanded beyond previously outlined resources, and the company obtained permits to further expand operations in 2017. Production estimates for 2017 were not released.

Southeast Alaska

HECLA MINING COMPANY reported preliminary fourth quarter and year-end 2016 production results for its Greens Creek mine on Admiralty Island. The mine produced 9.3 million oz. of silver in 2016, the highest annual silver output since Hecla acquired 100 percent of the project in 2008. Greens Creek mine also produced 53,912 oz. of gold for the year. For the fourth quarter, 2.2 million oz. of silver and 14,415 oz. of gold were produced. Increased silver production for the year resulted from higher grades and greater recovery, and lower gold production stemmed from lower grades. The mill operated at an average of 2,229 short tons per day in 2016.

COEUR MINING INC. announced fourth quarter and year-end 2016 production results from its Kensington gold mine near Juneau. Fourth-quarter production totaled 33,688 oz. of gold, a significant increase over the 26,459 oz. of gold produced in the previous year. During the fourth quarter, the mine processed 163,410 tons of ore grading 0.22 oz./t of gold. Recovery averaged 94.4 percent. For 2016, the mine's output totaled 124,331 oz. of gold, a slight decrease from 126,266 oz. of gold produced a year earlier. For 2016, the mine processed 620,209 tons of ore, grading 0.21 oz./t gold per ton. Average recovery was 94.7 percent. Work continued on the decline into the Jualin zone. Work was 64 percent completed at year-end. Estimated 2017 total production from Kensington is 120,000-125,000 ounces of gold. ●

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Companies involved in Alaska and northwestern Canada's mining industry

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Located 25 miles northeast of Fairbanks, Fort Knox is the largest gold producing mine in Alaska. During 2016, Fort Knox celebrated two milestone events, the seven-millionth-ounce of gold produced and the 20-year anniversary of commercial operations.

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Usibelli Coal Mine is headquartered in Healy, Alaska and has 700 million tons of coal reserves. UCM produces an average of 2 million tons of sub-bituminous coal each year.

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NOVAGOLD RESOURCE INC.

As the U.S. Army Corps of Engineers closes in on finalizing the environmental impact statement for Donlin Gold, project partners Novagold Resources and Barrick Gold will update the feasibility study for this 39-million-ounce gold project with optimizations identified in recent years.

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NEWS NUGGETS

Resource Development Council, and the Alaska Miners Association. Tom Irwin, the previous CEO, is transitioning into a part-time position as senior advisor prior to his standing for election to the board at the company's annual general meeting in May. "The fundamentals of the project are compelling: one of the largest gold resources in North America that is not owned by a major, an accessible location in a stable jurisdiction, and a project that is highly leveraged to the gold price," said Hanneman. "Tom's leadership has helped build a strong foundation for progress and I am pleased to have been asked to lead the team on the continued development of this exciting investment opportunity."

DAVID LITTLE/EPC

An aerial view of the eastern edge of Alaska's Copper River Delta, the focus of an innovative deal that safeguards old-growth forests and major unmined coal reserves – while creating long-term income for the region.

Chugach trades AK coal field for California carbon credits

The Nature Conservancy Jan. 26 announced a deal that secures the sale and permanent retirement of an Alaskan coal field, while ensuring long-term income for an Alaskan Native community. The deal will see the Chugach Alaska Corp., an Alaska Native regional corporation whose traditional lands stretch along the gulf of Alaska from the Kenai Peninsula to the Alaska Panhandle, sell the rights to its Bering River coal field to New Forests, a sustainable forestry and conservation investment manager. New Forests will retire those rights by transferring them to The Nature Conservancy and the Native Conservancy land trust, while generating revenue through the California cap-and-trade carbon market. "This novel investment structure will enable Chugach to manage the Bering River coal field and regional timberlands in a manner that delivers long-term financial security for the Chugach shareholder community as well as significant climate benefits," said Brian Shillinglaw, director of New Forests' United States investment programs. Situated on the eastern edge of Alaska's Copper River delta about 50 miles southeast of Cordova, the Bering River coal field is in an ecosystem known for its glaciers, rivers, rainforest and a vast range of wildlife. As part of lands conveyed to Chugach under the Alaska Native Claims Settlement Act, the coastal Native corporation received land and mineral rights covering much of the coal field in 1983. As part of its agreement with New Forests, Chugach will actively manage and maintain the land to retain high carbon stocks in the forests in exchange for the opportunity to sell carbon credits to businesses regulated under California's greenhouse gas pollution reduction program. "As a community-owned organization, Chugach's mission is to provide meaningful opportunities and benefits to our Alaska Native shareholders and descendants today and for generations to come," said Chugach Senior Vice President of Energy and Resources Josie Hickel. "A coal sale and carbon offset project is a unique opportunity to deliver long-term, sustainable economic and financial value for our shareholders and region." The coal rights were transferred in fee to The Nature Conservancy, a nonprofit conservation organization, with a restrictive covenant against development held by the local, Native-Alaskan controlled Native Conservancy Land Trust. "This is a precedent-setting carbon conservation accomplishment," said Dune Lankard, on behalf of the Native Conservancy Land Trust. "Preserving the Bering River and Carbon Mountain watersheds not only addresses climate change in a real way, but also protects the ancestral homelands of the Chugach shareholders and maintains our vibrant subsistence and commercial fishing way of life."

Donlin Gold partners focus on permits as Corps finalizes EIS

Novagold Resources Inc. Nov. 25 said it is anticipating the environmental impact statement for the Donlin Gold project to be finalized around this time next year. The Donlin Gold Mine being considered in the EIS includes a 53,500-metric-ton-per-day mill that is expected to produce an average of 1.1 million ounces of gold annually for 27 years. During its first five years of operation, this annual average will be closer to 1.5 million oz. Donlin Gold LLC – equally owned by subsidiaries of Novagold Resources Inc. and Barrick Gold Corp. – world class gold project in 2012. The U.S. Army Corps of Engineers, the lead agency for the EIS process, has reviewed the comments submitted on a draft EIS it published late in 2015. In the fourth quarter, all the draft EIS comments were read, reviewed and separated into discrete categories such as water quality, tailings management and spill risks, mercury fate and transport, barging and socio-economics. Novagold said the Corps will determine how to address the comments, including incorporating additional information and making revisions to the EIS as appropriate. As the Corps finalizes the EIS, Donlin Gold is working towards obtaining the other permits necessary to develop a mine at the roughly 39-million-ounce gold deposit. "Throughout 2017, we will continue to work with state and federal agencies to advance issuance of all other required permits, including the water discharge permit, dam safety approvals, water use permits, fish habitat permits, and land and shoreline lease and right-of-way approvals. The level of teamwork, professionalism and dedication from all of those involved in this permitting process has been remarkable as we jointly remain focused on the end goal – successful completion of the permitting process for a truly unique asset," explained Novagold President and CEO Greg Lang. In conjunction with permitting work, Novagold and Donlin Gold are carrying out optimization studies for the potential mine. "As we approach completion of the EIS and permitting processes, the owners expect to update the feasibility study to reflect these and other changes, which may also include, among other things, third-party owner-operator agreements and other optimization possibilities," explained Lang. Novagold ended its fiscal year, Nov. 30, with US$105 million in cash and term deposits. The company said this is more than enough to last through the permitting process. In addition to its cash and investments, Novagold holds a 50 percent stake in Galore Creek, a large copper-gold project in northwestern British Columbia. "This project has the potential to be one of the largest, highest-quality, lowest-cost copper producers in Canada," Lang touted. Novagold and its Galore Creek partner, Teck Resources Ltd., continue to build on a strong relationship with the Tahltan Nation, on whose traditional territory the project is situated, and carry out technical studies of the copper-gold project. "We remain confident that these efforts will improve the value and marketability of the Galore Creek project, which we continue to plan to monetize, in whole or in part, to further strengthen our balance sheet and redeploy capital toward the development of Donlin Gold," Novagold's CEO explained. ●

The world-class copper-gold-molybdenum deposit at Pebble lies under a broad, sparsely vegetated valley at the upper reaches of the Bristol Bay watershed. This layout provides engineers with a number of options as they attempt to design a mine that is both economically feasible and environmentally sound.

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"Outside parties did a mine design that was designed to fail in every aspect and even used methods that have been outlawed in the state of Alaska for a couple of decades," Thiessen commented on the scenarios considered by EPA.

The Pebble Partnership, a company set up by Northern Dynasty to permit and potentially develop the deposit, found compelling evidence that EPA had a predetermined outcome for Pebble in mind and worked inappropriately close with anti-Pebble groups to devise and execute a plan to limit or prevent the project from entering permitting.

"I think what we have been faced with is an extraordinary attempt to usurp the normal NEPA process," Thiessen said.

NEPA, the National Environmental Policy Act, provides the framework for environmental impacts of major projects in the U.S. and is a key part of the permitting process.

In 2014, the Pebble Partnership filed a suit action in federal district court in Alaska, alleging that since as early as 2008 the EPA was maintaining an inappropriately close relationship with anti-mine groups, violating the Federal Advisory Committee Act, a law designed to keep curtail "locker room discussions" between federal agencies and private committees.

With the trial nearing its end, by October it had become apparent that EPA and Pebble Partnership would likely reach an agreement that would settle this suit outside of the courtroom before President Obama left office.

Donald Trump's successful presidential bid, however, changed the dynamics of the negotiations and the outlook for the Pebble project.

"We do think it is going to be a game changer for our project," Pebble Partnership CEO Tom Collier told Mining News.

Adjusting to Trump

Collier, who earned a reputation for having a penchant for federal environmental law and bringing adversaries together during a 40-year legal career in Washington D.C., did not expect Trump to prevail on Nov. 8.

"I put a lot of time and thought into how Pebble would move into a Clinton administration and nowhere near as much into a Trump one," the environmental law specialist admitted.

The unexpected outcome had the Pebble leadership re-evaluating the standing of the enormous copper project.

"Everybody sat back and tried to assess what exactly happened," Thiessen told Mining News.

In fact, Collier wasted no time. He said that after the Trump presidency became apparent, at around midnight Alaska time, he went right to work and was on the phone to his contacts on the U.S. East Coast by 2 a.m., 6 a.m. EST.

After adjusting to the surprise outcome, Collier believes that Trump and his cabinet choices will rein in an EPA that enjoyed expanded authority under President Obama.

"The primary question during the Obama administration was environmental overreach," he said.

This is coming from a Democrat that served as chief of staff to U.S. Department of the Interior Secretary Bruce Babbitt and was charged with managing much of the environmental policies being introduced by Vice President Al Gore.

"One of the things I felt was at the core of what we were trying to do in those days is to make sure we had support in the country for where we were going to take a particular environmental issue," Collier reflected during a Jan. 30 interview with Mining News.

He believes that federal agencies under the Obama administration pushed the limits of their authority beyond the bounds of broad public support and that played a role in landing Trump the presidency.

Message of certainty

Scott Pruitt, Trump's choice to head the EPA, is expected to seriously rein in the expanded powers of the environmental agency.

As Oklahoma's attorney general, a post he filled until being nominated as EPA administrator, Pruitt was an active fighter of EPA overreach, suing the agency he has been chosen to run on a number of occasions.

Pruitt says that, if he is approved by Congress, he will advocate for environmental protection while keeping EPA within the bounds of law.

During his confirmation hearings Pruitt shared his beliefs that EPA should focus on enforcing the environmental laws already in place and refrain from making major policy shifts that create uncertainty. He said that if companies know the rules they can allocate resources to comply with the regulations, even though they do not particularly agree with them.

"Rule of law is important to economic development; it is important to send messages of certainty; it is important so that people can plan and allocate resources," he said, answering a question posed by Sen. Dan Sullivan, R-Alaska.

The Pebble project is a prime example.

"We are the posterchild for that point. We spent over US$700 million getting ready to take a project into permitting and then we were told we couldn't go into permitting, and that was the first time the agency had done that in its entire history," Collier said.

Though settling the court case with EPA will have to wait until after Pruitt is confirmed by Congress, the Pebble CEO is hopeful that the incoming EPA administrator will reverse the previous attempt to keep Pebble out the normal permitting process.

Collier and Thiessen said they are not looking for any special consideration by Pruitt or anyone else in the Trump administration, they are just asking for their mine proposal to be vetted under a normalized permitting process.

Thiessen said the Army Corps of Engineers, which will be the lead agency during the Pebble NEPA process, is "going to go through and look at everything we do and our impacts, and determine if they are the least environmentally damaging, practical alternatives – and hold our feet to the fire."

"If we cannot demonstrate to regulators, federal and state, that we are not going to damage that fishery, we are not going to get a permit," he added.

New Pebble Partnership

The seemingly imminent lifting of the roadblock between Pebble and the NEPA permitting process opens the door for a global mining company to join Northern Dynasty in the Pebble Partnership.

As the largest undeveloped deposit of copper and gold on the planet, Pebble is an attractive target for global-scale mining companies looking to augment their future metals production.

"It is an enormously seductive project in terms of the size of the prize – what's in the ground and what that could mean for copper, gold and silver in America," Collier said.

Thiessen said Northern Dynasty is currently in advanced talks with a number of mining companies and the new Pebble partner may be a consortium of three or four of them.

While it has been assumed that no company would be willing to jump into Pebble until an acceptable agreement with EPA is finalized, Collier believes Trump's win creates a sense of urgency.

"In this game of looking at a project that has a question about permitting, the more certain the answer is to that question the more the project costs; so there is an incentive to move perhaps even earlier than a final resolution with EPA," explained the Pebble CEO.

Once the new Pebble Partnership is in place, Thiessen does not believe it will take long to advance the project into permitting.

The Northern Dynasty CEO would like to submit permit applications this year but said it will depend on the new partner(s) comfort with the proposed mine design.

"I've got to convince the major mining companies that are going to be our partners of the merits of what we are doing," he explained.

If such partners would like to have a third party engineering firm go over the design, it could take a bit longer before permitting is initiated.

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NORTHERN NEIGHBORS

Yukon, First Nations sign mining accord

Council of Yukon First Nations Jan. 25 said it has signed a memorandum of understanding with the Yukon government that outlines shared priorities and a work plan to improve the territory's mining sector. "Yukon First Nations recognize that the mining industry is an essential component to Yukon's economy," said Council of Yukon First Nations Grand Chief Peter Johnston. "This MOU will assist in providing certainty for all parties, so we can build economic prosperity for the territory." Signed at the Mineral Exploration Roundup in Vancouver, British Columbia, the agreement establishes a government-to-government relationship that enables the territorial government and First Nations chiefs to identify issues and work together to achieve concrete improvements to resolve matters related to mineral prospecting, exploration, mine development, production, reclamation, closure and post-closure management in Yukon. The First Nations and territorial governments said the renewed collaboration will foster their shared goals for environmental protection, and social and economic prosperity in the Yukon. "The Yukon government is building a relationship with First Nations based on respect and committing to achieve real results, said Yukon Minister of Energy, Mines and Resources Ranj Pillai. "This partnership is good for investment and sets Yukon apart from other jurisdictions in Canada." ●

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Thiessen indicated that the mine design that ultimately goes to permitting may be half the size of the 200,000-metric-ton-per-day operation detailed in a preliminary economic assessment published in 2011.

"We may be best served to take a more modest approach," he said.

The Northern Dynasty CEO explained that this measured start to a mine at Pebble would allow the partnership to demonstrate that it will deliver on its environmental, socio-economic and financial promises.

While major mining companies typically would like to see larger throughput at a deposit the size of Pebble, the potential project partners may share Northern Dynasty's views on the merits of easing into a mine that could be an important piece of their portfolio for decades to come.

Repositioning Pebble

With the door to the permitting process opening and potential partners in the wings, the Pebble Partnership is beginning to look at ways development of the project could be an economic engine and good neighbor to the fisherman and local residents of the Bristol Bay region, a vast expanse of Southwest Alaska about the size of Washington state.

While residents nearest the proposed mine largely support its development, those further away tend to oppose it. This disparity is generally due to the fact that residents living close to Pebble see tangible economic benefits from the development, while those further away see very little to reward to offset a perceived risk to the fishery, an important economic driver for the region.

"For years, commercial fishermen from Bristol Bay, Alaska, and the nation have spoken up saying that they do not want the world's greatest sockeye fishery harmed by Pebble," said Melanie Brown, member of Commercial Fishermen for Bristol Bay.

One of Collier's primary tasks when hired as Pebble CEO in 2014 was to find ways to reposition Pebble so that the people living and working in the region are more comfortable with having a world-class mine as a neighbor.

While the Pebble Partnership wants to talk further with the people in the region before publicizing its finalized plans to reposition Pebble, Collier and Thiessen shared with Mining News some of the concepts under consideration.

Both CEOs said some type of revenue sharing for residents and Native village corporations in the region is an important step forward.

"The good thing about Pebble is it's on state land; the bad thing about Pebble is it's on state land," Thiessen said.

He explains that other world-class deposits in Alaska, such as the Red Dog zinc mine and Donlin Gold mine project, are on Native lands. This provides the local populations with tangible benefits from the operation.

While Pebble would help to send badly needed money to state coffers and would be an extremely significant economic contributor to the Lake and Peninsula Borough, which covers the area where Pebble is located, the larger Bristol Bay region does not currently have a way to directly draw economic benefits from the rich copper-gold-molybdenum-silver deposit.

Collier said the Pebble Partnership is currently considering a profit sharing program for Bristol Bay residents and Native Village corporations.

Another major economic benefit the mine could provide to Bristol Bay residents and fishermen is low-cost power.

"We are going to make sure the power we bring in is available to all those communities," Collier vowed.

Thiessen believes the power brought into the region for a mine a Pebble could cut the cost of power across the region by as much as 80 percent, a substantial savings for Bristol Bay residents and fish processors.

Contract preference for Native companies in the region, fishery enhancements and forming an advisory council made up of renowned people in the environmental community are among other repositioning ideas the Pebble Partnership is working on.

Collier said he is eager to talk with Alaskans about some of these ideas in the near future. ●

EDITOR'S NOTE: The 10 Democrats on the Senate Environment and Public Works Committee boycotted a scheduled Feb. 1 vote to confirm Oklahoma Attorney General Scott Pruitt as administrator of the Environmental Protection Agency. With Democrats continuing to hold out on Feb. 2, the 11 Republicans on the committee voted unanimously to suspend rules requiring at least two members of the minority party to be present for a vote to be held and moved the confirmation to the full Senate floor.

–Shane Lasley, publisher