Petroleum news

page 3 Q&A: Josephson eager for Obama to visit far-flung regions of Alaska

Vol. 20, No. 34 • www.PetroleumNews.com A weekly oil & gas newspaper based in Anchorage, Alaska Week of August 23, 2015 • $2.50

This week's Mining News

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page 10 Kaminak takes giant strides toward de-risking Yukon gold

www.MiningNewsNorth.com The weekly mining newspaper for Alaska and Canada's North Week of August 23, 2015

NEWS NUGGETS

Compiled by Shane Lasley

UCORE RARE METALS INC.

SuperLig Molecular Recognition Technology has successfully separated the entire suite of rare earths.

REE technology attracts another investor

Ucore Rare Metals Inc. Aug. 17 reported that a second high-net-worth US-based investor has agreed to purchase a royalty on the sale of products and services related to the processing of rare earth elements and other specialty metals and critical materials with SuperLig Molecular Recognition Technology. Ucore and Utah-based IBC Advanced Technologies formed a joint venture to develop this new method of separating rare earths using molecular recognition technology, a process designed to bind selectively with ions based on multiple parameters such as size, chemistry, and geometry. Under the terms of the JV, Ucore will retain a 60 percent interest and IBC will retain a 40 percent interest in the exclusive rights to the SuperLig MRT platform developed by IBC. The new unidentified investor has agreed to pay US$1 million payment to purchase a royalty of 5 percent of the gross sales from Ucore's first MRT installation or installations, payable until the recapture of the initial investment; and thereafter a net smelter royalty equal to 0.5 percent of the net sales from Ucore's first tier I client, which has an estimated gross revenue volume to Ucore exceeding C$50 million per year. In May, another unidentified investor paid US$4 million to purchase a royalty of 5 percent of the gross sales from Ucore's first MRT installation or installations, payable until the recapture of the initial investment; and thereafter a 2.0 percent net smelter royalty from Ucore's first tier I client. At a bench scale, the SuperLig platform has successfully separated the entire suite of rare earths. In July, Ucore contracted with IBC for the design and construction of a pilot plant that will test the molecular recognition technology for the separation of REEs at bulk scale. "The intention is for the unit to be a test mule, capable of accepting pregnant leach solution and bulk concentrates from multiple prospective REE feedstock locations around the world," Ucore President and CEO Jim McKenzie said at the time. "One high-priority source of pilot-scale test material will be the Bokan-Dotson Ridge project in Southeast Alaska."

Chandalar placer gold mine nears start

Goldrich Mining Co. Aug. 17 reported that placer gold operations at the Chandalar project in northern Alaska are expected to start this month. Overburden removal at the project began in March and through June crews had stripped 780,000 yards. Operations were expected to start earlier in the summer, but construction of ponds and completion of the wash plant has taken longer than projected. Subject to weather at the arctic project, the plant is expected to run through mid-September. The Chandalar placer mine is being developed and operated by Goldrich NyacAu Placer LLC – a 50-50 joint-venture formed between Goldrich and Alaska

see **NEWS NUGGETS** *page 10*

FREEGOLD VENTURES LTD.

The Shorty Creek property near Livengood, Alaska has long been known to host gold, copper and molybdenum mineralization. This year, Freegold Ventures Ltd. is testing the idea that an underlying porphyry copper-gold-molybdenum system is the source of the mineralization seen at surface.

EXPLORATION

Solving Shorty Creek

Freegold Ventures drilling will add pieces to Interior Alaska porphyry puzzle

By SHANE LASLEY

Mining News

Freegold Ventures Ltd. is testing the idea that a large and previously unrecognized porphyry deposit could lie beneath its Shorty Creek property in the Livengood Mining District of Interior Alaska.

Earlier this month, the exploration company raised C$1.35 million to fund a 3,000- meter drill program that could provide definitive evidence that various zones of copper, gold and molybdenum found across the 26,000-acre Shorty Creek land package are actually pieces of one porphyry copper-gold-molybdenum deposit spanning up to eight miles across.

Shorty Creek puzzle

For at least three decades, geologists have known that Shorty Creek is prospective for gold, copper and molybdenum. With the available data, the explorers concluded that the mineralization seen at surface comes from two separate sources – an intrusive-related gold system in the southern part of the property and a copper-molybdenum system to the north.

Like pieces of a puzzle, Fairbanks-based Avalon Development compiled all of the data from various historical exploration programs to reveal a bigger picture at Shorty Creek. Avalon President Curt Freeman saw what appears to be a zoned porphyry system that covers an area eight miles in diameter.

"While the interpretations of this report represent a departure from previous thinking about the Shorty Creek project area, this is the first time a single study has been able to incorporate all of the available data. Previous investigators focused on individual parts of the larger system, but did not recognize these parts as being integral pieces of a larger porphyry copper-gold-molybdenum system," Freeman wrote in a 2010 technical report.

While the picture of copper-gold-molybdenum porphyry was becoming evident, some key pieces of the puzzle were still missing. This is something Freegold has been working to rectify since acquiring the Shorty Creek property last year.

To add to mounting evidence of a hidden porphyry system, Freegold completed ground geophysics and soil sampling that blanketed both the gold and copper-molybdenum targets and the area in between.

see **SHORTY CREEK** *page 10*

Freegold Ventures drilling hopes to add pieces to an Interior Alaska porphyry puzzle known as Shorty Creek. See Mining News, page 9.

Aurora takes another turn at Hanna; Craig assigns 4 leases at prospect

The saga of the Hanna prospect continues.

Aurora Exploration LLC has acquired the four-lease prospect on the west side of Cook Inlet from independent investor Paul L. Craig, according to a recent state lease report.

The transaction gives Aurora 100 percent working interest and 82.5 percent royalty interest in the onshore leases — ADL 391618, ADL 391619, ADL 391620 and ADL 391622. The leases are located at the northern end of the west side, near the mouth of the Susitna River, nestled among the Pretty Creek unit, Otter unit, Lewis River unit, Ivan River unit and Stump Lake unit. The Alaska Department of Natural Resources approved the transaction on July 1, retroactive to the beginning of February 2015.

see **HANNA PROSPECT** *page 15*

AGDC board elects officers and gets estimates of off-take facilities costs

The Alaska Gasline Development Corp. board of directors met Aug. 13, elected officers, approved confidentiality agreement regulations to go out for public comment and got some specifics on development costs for the off-take facilities for in-state gas access from a gas pipeline from the North Slope.

The board elected John Burns, who has been chair, as chairman, Dave Cruz as vice-chair and Hugh Short as secretary-treasurer.

The proposed AGDC confidentiality regulations specify third-party information which will be protected, including financial information such as tax returns and profit-and-loss statements; proprietary business plans; trade secrets; market surveys or marketing strategy information; and information

see **AGDC BOARD** *page 15*

EXPLORATION & PRODUCTION

Approval for Shell

BSEE allowing drilling into hydrocarbons in Chukchi Sea Burger prospect

By ALAN BAILEY

Petroleum News

On Aug. 17 the federal Bureau of Safety and Environmental Enforcement said it had issued a revised drilling permit, allowing Shell to drill its Chukchi Sea Burger J well into potential hydrocarbon bearing zones.

Shell started drilling the well on July 30 using the semi-submersible drilling rig the Transocean Polar Pioneer but, in the absence of the company's capping stack, an essential item of safety equipment for drilling into oil-bearing rocks, the company's initial drilling permit prohibited drilling into hydrocarbons. The capping stack, which needs to be deployable within 24 hours at the drilling location, is housed on the icebreaker the

see **SHELL APPROVAL** *page 19*

PHOTO BY MARK FINK, COURTESY SHELL

The semi-submersible drilling rig Transocean Polar Pioneer on location in the Chukchi Sea. The rig is drilling the Burger J well as part of Shell's Chukchi Sea exploration program.

EXPLORATION & PRODUCTION

A third well for Doyon

Native corporation has decided to drill another Nenana basin exploration well

By ALAN BAILEY

Petroleum News

Doyon Ltd., the Native regional corporation for the Alaska Interior, has decided to drill a third exploration well in the Nenana basin, the corporation announced on Aug. 13. The corporation anticipates drilling the well, called the Toghotthele No. 1, during the summer of 2016. Doyon has already drilled two wells, the Nunivak No. 1 and No. 2 wells, in state leases in the central part of the basin, west of the town of Nenana. The Toghotthele well will be in the same general area, about 7 miles west of Nenana, between and about 2 miles to the north of the previous two wells.

The corporation's exploration program has included 2-D seismic surveys in the basin in 2005 and 2012, and the two Nunivak wells, one drilled in 2009 and the other drilled in 2013.

"We are very excited to begin the next phase of our exploration program," said Aaron Schutt, president and CEO of Doyon, when announcing the drilling decision. "Building on promising results from each of our earlier programs, we have substantially reduced exploration risks to a point that

see **DOYON WELL** *page 18*

GOVERNMENT

Energizing an election

Future of crude lines out of Alberta tricky high-wire act for parties

By GARY PARK

For Petroleum News

No matter who wins the Canadian election on Oct. 19, the outcome could be crucial to the future of the country's petroleum industry.

And, at this stage of the campaign, the four major parties — governing Conservatives who are seeking a fourth consecutive term in office, the poll-leading New Democratic Party, Liberals and Greens — are all staking out contrasting positions.

The question is which one makes the most compelling argument.

STEPHEN HARPER

At this stage of the campaign only two have clear-cut positions — the governing Conservatives, whose leader Prime Minister Stephen Harper unreservedly backs pipelines to get oil sands production to market and the Green Party, which is just as strongly opposed to pipelines but has no hope of winning the election, although it could influence the outcome by siphoning votes from the other three.

The leaves the New Democratic Party and the Liberals, whose positions are at best vague as they try to appease voters at both ends of the spectrum.

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GOVERNMENT

Josephson eager for Obama, Kerry visit

Anchorage Democrat says he hopes President Obama gets an up-close appreciation for state's far-flung regions, not just Anchorage

By STEVE QUINN
For Petroleum News

House Rep. Andy Josephson says the pending visit from President Barack Obama couldn't be better timed. With the recent permits awarded to Shell and the U.S.'s recent two-year appointment as chair to the Arctic Council, this is an ideal time for Obama to pay a visit most presidents have failed to do.

Once Obama and Secretary of State John Kerry have completed any possible tours of the state's Northwest and Southwest regions, state lawmakers may still have some work to be done back in Juneau for a special session on an 800-mile pipeline and LNG export facility.

Josephson, an Anchorage Democrat who serves on the House Resources Committee, gave his thoughts on each development to Petroleum News.

Petroleum News: Let's start with the latest news, this coming out of the Arctic with Shell getting its final permits. What are your thoughts on that?

Josephson: Well, it's both exciting and I am concerned about certain harm to the environment. I know that they had their cap stacking equipment fail and that was required to be fixed. That's certainly a good thing. There hasn't been any drilling into that layer of seafloor for more than 20 years I guess. This is something they have worked really hard on.

Some of us have expressed concern about Shell's and Shell's contractors record so far. I'm thinking Noble Discovery; I'm thinking permit violations, I'm thinking the grounding of the vessel in the Kodiak Archipelago. It hasn't been a smooth process, but I do wish them luck.

I think the other thing to keep in mind is that we won't see the same sort of revenue as a state had it been on land and especially on state land. It's not the same benefit to Alaska as I see it.

Petroleum News: Those revenue sharing issues are being worked on in D.C., correct? Would your thoughts change if there were a stronger revenue share?

Josephson: You know, yes they would change. I still think everyone agrees there is less risk to the environment if you're drilling on land rather than water. I saw a presentation in February or March from an industry sponsored group talking about all the preventative measures that were being taken to keep the environment clean from equipment to standards and regulations to best practices, and all sorts of things. I think the industry has to, given the Deepwater Horizon/Macondo disaster and the Exxon Valdez, the industry can't blame some of us for being somewhat suspect about it. Still, I wish them luck and I hope it's fruitful, but getting back to your question, yes my thoughts would change. Given that we have a $3.5 billion deficit, it would absolutely change my perception of it.

Petroleum News: Were you surprised given the Obama and his administration's climate change agenda?

Josephson: Yes and no. There has been criticism of that from the conservation community that he giveth with one hand and taketh with the other. There is no doubt in a purist perspective, there is a great inconsistency there. Frankly, even the Rule 111(d) EPA clean air power plan, which I've spent some time looking at, is arguably insufficient.


REP. ANDY JOSEPHSON

Although it's a precedent-setting event, historians will look at President Obama and say the 44th president understood climate change and worked hard on this issue both nationally and internationally. His goals there are a 30 percent reduction from the 2005 carbon output. Is that going to be enough? I only go down that road because if you're a real purist, you would say we've got to start living completely differently. We've got to drive electric cars and ride our bike to work.

He's a realist. So I think he sees the benefit of the economic improvement we've seen since 2008. Unemployment is down to 5 percent. I suspect he sees the oil industry's part of it. You can add that it's under this administration that for the first time in a long, long while there will be exploration efforts from the Virginia coast down to the South Carolina coast.

That wasn't something the previous administration allowed so it's been a real contrast, the two: the Clean Air initiatives and the promotion of responsible development.

Petroleum News: What do you think this decision means set against the backdrop of his coming to Alaska?

Josephson: I think a couple of things are going on. No. 1, he's got a year and a half left in his presidency. A trip to Alaska is the kind of trip you take when you have a year and a half left in your presidency. Because of the Arctic Council, there are an amazing amount of conferences from late August through September with national and international dignitaries and experts on the subject.

So it means a number of things. It was Sen. (Dan) Sullivan who expressed his real concern with Russian military development in the Arctic. This president knows that while we have climate change, we also have incredible competition because of the melting ice cap for resources there and it may be best to be a participant there rather than an observer.

see JOSEPHSON Q&A page 17

● EXPLORATION & PRODUCTION

Repsol 2013 exploration results released

Well completion reports available from AOGCC for three wells, one sidetrack, company drilled in past North Slope winter season

By KRISTEN NELSON
Petroleum News

Reports Repsol USA submitted to the Alaska Oil and Gas Conservation Commission for wells it drilled in the 2013 winter season on the North Slope have passed the 24-month confidentiality period and are now in the public record.

Two of the four wells, Qugruk No. 1 and Qugruk No. 6, were tested for oil and gas production.

The company reported that the Qugruk No. 1 flowed 395 barrels of 27 API gravity oil on a 10-hour test, the equivalent of 950 bpd over a 24-hour period. The well also flowed 110 thousand cubic feet of natural gas over 10 hours, the equivalent of 264 mcf over 24 hours.

The well was drilled some 12 miles west of Oooguruk Island in the Colville River Delta (section 28, township 13 north, range 6 east, Umiat Meridian), and reached a total vertical depth of 6,328 feet and a measured depth of 8,180 feet. Production was from the Nuiqsut formation at some 6,574 feet vertical depth. Nuiqsut is one of the producing pools at the Caelus Alaska-operated Oooguruk field.

In correspondence with its application for a permit to drill, Repsol told the commission the Qugruk No. 1 would be a vertical pilot hole to a depth of some 7,066 feet with a 1,200-foot lateral in the Nuiqsut formation. Following stimulation and a drill stem test in the lateral, the plan was to plug and abandon the well.

The Qugruk No. 1 was spud Feb. 4, 2013; it reached total depth March 26, 2013; and was plugged and abandoned April 27, 2013. The production test was April 12, 2013.

Qugruk No. 6

The Qugruk No. 6, some 5 miles east of CD-3 in the Colville River unit, had a surface in section 25, township 13 north, range 5 east, UM; the top of the well's productive horizon was in section 24, T13N, R6E, UM. The well had a measured depth of 8,650 feet and a total vertical depth of 6,455 feet.

That well produced 52.6 barrels of 37 degree API crude oil over a nine-hour test period, the equivalent of 140 bpd, and 634.8 mcf of natural gas over the test period, the equivalent of 1,692 mcf per day.

Production was from the Nechelik formation at some 6,451 feet vertical depth. Nechelik is one of the formations producing at the Fiord participating area of the Colville River Delta. Fiord is produced from CD-3.

The Qugruk No. 6 was spud Feb. 14, 2013; reached total depth March 27, 2013; and was plugged and abandoned May 1, 2013. The production test was April 13, 2013.

Paperwork in the commission's files indicates that oil from the tests at both wells was transferred to Eni, which operates the Nikaitchuq field.

Qugruk No. 3, No. 3A

Repsol also drilled the Qugruk No. 3 and No. 3A wells in the winter of 2013. These wells are some 15 miles northwest of Kuparuk River unit drill site 2M, and just east of the Colville River unit in the Colville River Delta.

The No. 3 well was spud Feb. 27, 2013, and reached a total depth of 7,500 feet March 23, 2013. In its application for abandonment Repsol said that a well log reviewed with commission staff showed two areas of potential hydrocarbon zones; the well was not tested.

The sidetrack, the No. 3A, was spud April 2, 2013, and total depth of 10,546 feet measured depth and 7,205 feet vertical depth was reached April 12; the sidetrack was plugged and abandoned May 1, 2013.

Total depth of both wells was in the Nuiqsut formation.

The 3A was shut in with the blow out preventer twice, April 14 and 21, due to gas cut mud flowing to the surface.

Repsol has been working on the North Slope since it acquired acreage in 2011 and in June reported successful testing at two 2015 wells, the Qugruk 8, which flowed 30 degree API gravity crude at rates up to 2,160 bpd and the Qugruk 301, a horizontal well, which flowed rates as high as 4,600 bpd.

Both of those wells are just east of the Colville River unit, the Qugruk 301 adjacent to the Qugruk 3 and the Qugruk 8 just south of that well.

Repsol is operator, with a 70 percent stake, in North Slope exploration prospects; 70 & 48 LLC, a subsidiary of Armstrong Oil & Gas, holds a 22.5 percent interest; GMT Exploration Co., holds 7.5 percent. ●

—A copyrighted oil and gas lease map from Mapmakers Alaska was a research tool used in preparing this story.

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CORRECTION

Value of debts misstated

An article in the Aug. 16 edition of Petroleum News ("SEC charges Miller") incorrectly listed the values of unpaid debts being claimed by creditors of Cook Inlet Energy LLC. MI-SWACO is claiming more than $478,000 and Schlumberger Technology Corp. is claiming more than $742,000. Petroleum News regrets the error.

● PIPELINES & DOWNSTREAM

Canadian election stalls XL verdict

Concern verdict prior to Oct. 19 vote could be seen as interference; XL decision at more than 2,500 days way over 478-day average

By GARY PARK
For Petroleum News

The Canadian federal election campaign is now identified as the latest hitch in the Obama administration's prolonged consideration of TransCanada's Keystone XL pipeline.

David Wilkins, a former U.S. ambassador to Canada, said delaying the verdict would give the two countries a chance to reset a relationship that has been stretched to breaking point by the issue.

He said a U.S. decision released during Canada's 11-week campaign leading to a vote on Oct. 19 could be seen as political interference.

However, Sen. John Hoeven, a North Dakota Republican, said he has heard from "credible" sources that President Barack Obama will reject the pipeline during the current congressional recess.

Erin Flanagan, an analyst with the Pembina Institute, a Calgary-based energy think tank, said XL is "something that all of our political candidates are talking about. It's something that has really been dramatized for the last number of years and so a decision from the U.S. at a key moment in the election would have very big reverberations."

Wilkins, a lawyer who has represented the Alberta government and the Canadian Association of Petroleum Producers in the U.S., said XL has become "the big gorilla" in cross-border dealings, especially between Obama and Prime Minister Stephen Harper.

Bloomberg News reported earlier in August that some U.S. government officials agree that Obama's decision could affect the tone of discussions on various issues, including Canada's position on a Trans-Pacific Partnership trade deal, Canada's on-going role in providing plans to attack the Islamic State and its program to train the Ukrainian military to tackle Russian-backed separatists in the eastern Ukraine.

Rejection expected

Despite those sensitive matters, industry and congressional sources have increasingly said they expect Obama to reject XL, ending a process that has stretched over almost seven years.

That view has been strengthened by Obama's recent moves to reduce U.S. reliance on fossil fuels, including a policy to curb carbon emissions from power plants by 32 percent over 15 years.

In addition, he is scheduled to draw greater attention to climate change later in August when he addresses a green energy summit in Las Vegas and then travels to the Alaskan Arctic to underscore the impact climate change is having in that region.

Those are also a prelude to the United Nations climate summit in Paris in December.

Defending the time being taken on XL, Obama has argued he is simply carrying out in an "ordinary way" an executive order issued in 2004 by his predecessor, President George W. Bush, requiring a presidential permit for pipelines entering the U.S.

XL an exception

But an Associated Press review of cross-border pipeline applications over the past 11 years shows that XL has become an exception.

Since April 2004, AP said the U.S. government has taken an average 478 days to approve or reject other applications, while XL has been waiting for a decision for almost 2,500 days.

The prolonged deliberations have forced TransCanada to, by some estimates, invest US$2.4 billion in the US$8 billion project, based on its assumption and those of producers in the Alberta oil sands and North Dakota Bakken that the U.S. would sooner rely on North American oil supplies than those from Venezuela, Nigeria, North Africa and the Middle East.

Obama started unveiling his personal leanings on XL at Georgetown University two years ago when he said that "allowing the Keystone pipeline to be built requires a finding that doing so would be in our nation's interest. And our national interest will be served only if this project does not significantly exacerbate the problem of carbon pollution."

He declared earlier in August that climate change is "one of the key challenges of our lifetimes" and is on that "no single country" can resolve.

However, the U.S. State Department, which provides Obama with a recommendation on which he can decide whether to issue a Presidential Permit, said in an environmental report last year that XL would be unlikely to contribute to greenhouse gas emissions in part because the oil sands would be developed regardless and the oil would be transported to markets even without XL. ●

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INTERNATIONAL

Russian moves highlight Arctic concerns

U.S. Sen. Dan Sullivan said the Russians are looking to militarize the Arctic, making it all the more important for the U.S. to have a broad Arctic strategy that includes having sufficient troops based in Alaska.

Sullivan said Aug. 17 that's why he has been critical of proposed troop reductions in Alaska as part of a cost-saving plan announced by the Army this summer.

His office said Sullivan got included in the Senate version of a defense spending bill a provision to require the U.S. secretary of defense to detail a military strategy for the Arctic. Differences between House and Senate versions have to be resolved.

Russia recently resubmitted to the United Nations a revised bid for vast territories in the Arctic. Russia made the claim under provisions of the Law of the Sea Treaty, which the U.S. has not ratified.

Sullivan does not support ratification, citing concerns that the treaty could result in the UN imposing taxes on U.S. entities. Alaska's senior U.S. senator, Lisa Murkowski, told reporters earlier in August that she strongly supported ratification and said the U.S. cannot assert its own claims or object to claims by others if it has not ratified the treaty.

"It puts us at a disadvantage," she said. Asked if there were possible workarounds, she said that was something that should be reviewed and explored.

Both Murkowski and Sullivan are Republicans.

Range of topics

The Aug. 17 news conference, held to discuss Sullivan's first months in office, featured a wide range of topics, including veterans' health care and President Barack Obama's upcoming visit to the state. Sullivan was sworn in in January, after defeating Democratic Sen. Mark Begich during a hotly contested race last year.

Sullivan plans to hold two listening sessions Aug. 24 to hear from veterans and others who have concerns with the health care provided through the U.S. Department of Veterans Affairs. The Senate Committee on Veterans' Affairs, of which Sullivan is a member, plans a field hearing in Eagle River on Aug. 25.

Veterans have expressed frustrations with the VA's implementation of a national program meant to provide veterans with timelier care closer to home. The national program was modeled in part on the VA's system in Alaska, which relied on partnerships with tribal health care facilities to help provide care. But the move to implement the national program here has raised concerns over such things as a limited number of participating doctors and low reimbursement rates.

Sullivan said he wants to hear plans from VA officials on how to move forward. VA Undersecretary for Health David Shulkin is expected to attend the meetings, Sullivan's office has said.

—ASSOCIATED PRESS

● EXPLORATION & PRODUCTION

The pebble shale oil source potential

Team of geologists reports on research centered on surface outcrops of a prominent and widespread North Slope oil source rock unit

By ALAN BAILEY
Petroleum News

The pebble shale, lower Cretaceous in age, is one of an assemblage of rock units, including the Hue shale and the highly radioactive or gamma-ray zone, that forms the youngest of the major oil sources in the prolific petroleum system of Alaska's North Slope. But although the pebble shale is widespread at depth under the North Slope, surface exposure of the rock is mostly limited to the northeastern Brooks Range, adjacent the Arctic National Wildlife Refuge, according to a report published by Alaska's Division of Geological and Geophysical Services. The report documents an investigation by a team of geologists from DGGS and the University of Alaska Fairbanks of rocks from surface outcrops of the pebble shale, to better understand the rock's oil source potential in the area of those surface exposures.

Distinctive rock sequence

The report says that the pebble shale occurs directly above the Kemik sandstone, a rock that in northeastern Alaska sits on top of a major rock sequence discontinuity known as the lower Cretaceous unconformity. The highly radioactive or gamma-ray zone, generally abbreviated to HRZ or GRZ, a particularly distinctive horizon above the pebble shale, forms the base of the Hue shale. The complete assemblage of rocks is highly variable in composition but has characteristics indicating deposition on an ancient marine shelf, the DGGS report says.

When encountered in well bores the pebble shale tends to contain rounded and frosted quartz grains, together with chert and quartzite pebbles that float in a fine-grained matrix and that have given the rock its name.

But there has been some past confusion concerning whether well cores identified as coming from the pebble shale and used in oil source evaluations have, in fact, come from the pebble shale or from the Hue shale. However, the complete assemblage of Cretaceous rocks associated with the HRZ is a potential source of 28 percent of the oil in the Prudhoe Bay oil field, according to a research paper published in 2001.

Three locations

The team of geologists conducting the study now reported by DGGS investigated the pebble shale at three outcrops, one on the west side of the Canning River; one on an unnamed tributary of the Katakturuk River, inside the Arctic National Wildlife Refuge, 23 miles or so east of the Canning River; and one on Marsh Creek, about 7 miles farther east. The team collected 115 rock samples from the three locations for laboratory analysis of the organic content of the rocks, the nature of the organic material and the rocks' thermal histories. The team compared the results with a previous analysis of pebble shale samples collected from the Mikkelsen Bay State No. 1 well, to the northwest of the study area.

Unlike in the Mikkelsen well, where the total organic content of the rock scatters around a relatively constant level, the team found that in the rocks exposed at the surface the content consistently increases, upwards from the base of the rock unit. At two of the locations there is a subsequent decrease in the organic content at the top of the pebble shale. The geologists attribute these variations in organic content to factors such as changes in the sea level at the time the sediments were laid down, to changes in the sediment supply and to changes in the sub-sea ecosystem.

Reached high temperatures

An analysis of the thermal histories of the surface rock samples confirmed that the rocks had at some time in the past reached temperatures fairly high for oil generation and high enough for the generation of natural gas.

And, while the rocks in the study area contain sufficient total organic content for sourcing hydrocarbons, and while the rocks may at some time in the past have generated oil and gas, it appears that past heating of the rocks has degraded the organic material to the point where the rocks now have poor source rock potential.

It seems that the high temperatures reached in the pebble shale in the area of the surface study can be attributed to exceptionally deep past burial of the rocks, with the rock subsequently having been exhumed at the surface, the DGGS report says. ●

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● PIPELINES & DOWNSTREAM

Trans Mountain pipe hearing snubbed

37 individuals, organizations, quit process; 1,700 remain; NEB issues 145 draft conditions, including C$1.1B liability coverage

By GARY PARK

For Petroleum News

Upset by a process they have labeled as "biased, unfair, rigged and a farce," 37 individuals and organizations have decided they will no longer participate in a hearing by Canada's National Energy Board on Kinder Morgan's plan to triple capacity on its Trans Mountain bitumen pipeline.

An NEB spokeswoman said in a statement the federal regulator was disappointed that the "interveners and commenters" had passed up an opportunity to "add their voice to the record and work to influence the decision of the board."

Even so, the final round of hearings still involves about 400 interveners, who can provide evidence and testimony, and about 1,300 commenters, who can submit letters.

As if to challenge those who suggest it shows favoritism to the industry, the NEB on Aug. 12 listed 145 draft conditions it said could apply to the pipeline if it is built, including a requirement for Kinder Morgan to hold C$1.1 billion in liability coverage — C$100 million of which would have to be "ready cash" to compensate third parties for losses and damages while insurance claims were processed — and also to lay out in detail how it would offset greenhouse gas emissions associated with the construction work.

The conditions, although not intended to signal NEB approval of the application, are required to provide an outline of what could be contained in the regulator's final recommendation to the Canadian government, which is expected next year.

The NEB said more conditions could be included, depending on what surfaced during the public hearings.

In comparison, the Canadian government endorsed 209 conditions recommended by the NEB for Enbridge's Northern Gateway pipeline, including C$950 million in liability coverage.

Kinder Morgan's Canadian President Ian Anderson described the conditions as "rigorous but achievable."

The company said it intends to make further comments and seek clarification, particularly related to the timing of certain conditions and required approval processes.

The NEB spokeswoman said the board's "processes are fair and guided by legislation. We are bound by the rules of natural justice and our decisions are subject to review by the federal Court of Appeal."

The C$5.4 billion Trans Mountain project includes about 600 miles of new pipe between Edmonton, Alberta, and Metro Vancouver, raising capacity on the system to 890,000 barrels per day from 300,000 bpd and would increase tanker traffic in Port Metro Vancouver from five a month to 34.

The letter of withdrawal, which included the Wilderness Committee and the Canadian Parks and Wilderness Society, said NEB's refusal to consider evidence from experts and First Nations would result in an "unbalanced and ill-informed" hearing.

The letter of withdrawal, which included the Wilderness Committee and the Canadian Parks and Wilderness Society, said NEB's refusal to consider evidence from experts and First Nations would result in an "unbalanced and ill-informed" hearing.

It criticized the board for not hearing arguments on the pipeline's impact on climate change.

But a spokesman said the Canadian Parks and Wilderness Society would voice its concerns outside the hearing room.

Separately, Kinder Morgan said it would pull advertising in support of the Trans Mountain expansion during the Canadian election campaign until after voting on Oct. 19.

A New Democratic Party candidate seeking election in British Columbia said that if Kinder Morgan wanted to make the project an election issue it had to register with Elections Canada as a third-party advertiser subject to spending limits.

Kinder Morgan said that although there had been no contact from elections officials the company had opted not to run advertising under any format during the campaign.

"The information does not advocate for any particular party, policy or position," the company said in a statement.

However, Kinder Morgan said that a decision to end a series of advertisements had been made "due to the sensitivities around all forms of advertising."

A company spokeswoman said the advertising campaign was started almost a year ago and was designed to "engage with and provide information to as many British Columbians as possible" about Kinder Morgan's history and its safety record. ●

Contact Gary Park through publisher@petroleumnews.com

EXPLORATION & PRODUCTION

Greater Mooses Tooth still uncertain

Even though ConocoPhillips Alaska Inc. recently revised an application for a drilling permit at its Greater Mooses Tooth unit, the company said it has yet to make a final decision about whether to fund the development in the National Petroleum Reserve-Alaska.

The U.S. Bureau of Land Management recently posted notice of an application by ConocoPhillips for a permit to drill the GMT1-B2 well on federal lease AA081798.

The company originally applied for the permit in 2013 and recently revised the application to reflect the conclusions of a supplemental environmental impact statement.

In January 2015, before BLM issued its record of decision for the project, ConocoPhillips announced that it would be deferring a final investment decision on the GMT1 project because of permitting and regulatory delays and unfavorable oil prices.

While GMT1 would primarily develop oil reservoirs in the region immediately west of the Alpine field, the GMT1-B2 notice describes the proposed well as a "gas well."

ConocoPhillips has also applied for a BLM permit to drill the CD5-315 oil production well. The well is associated with the CD-5 satellite of the Alpine oil field currently under construction. The satellite involves drilling operations on state and federal lands.

—ERIC LIDJI

UTILITIES

RCA gives go ahead for FNG purchase

AIDEA now has commission approval to proceed with its takeover of the Fairbanks gas utility as part of the Interior Energy Project

By ALAN BAILEY
Petroleum News

The Regulatory Commission of Alaska said Aug. 13 that it is approving an application by the Alaska Industrial Development and Export Authority to acquire gas utility Fairbanks Natural Gas. AIDEA is in process of taking over the Fairbanks utility as part of the Interior Energy Project, a project to bring affordable energy to the city of Fairbanks and to the surrounding area of the Alaska Interior.

With Fairbanks Natural Gas holding a certificate of public convenience and necessity for supplying gas in the central part of Fairbanks, AIDEA needs permission from RCA to acquire the utility. However, since AIDEA is a political subdivision of the state of Alaska, the utility will become exempt from regulation once the AIDEA takeover is complete. After that point the AIDEA board will be responsible for setting the rates that Fairbanks Natural Gas charges its customers, with the agency using a typical rate-setting model, the commission said in its approval notice.

Reduce cost of gas

AIDEA has said that it anticipates being able to reduce the cost of gas for Fairbanks Natural Gas customers, because the agency's business costs will be lower than those of a privately owned utility. The agency also wants to use its position as utility owner to facilitate the integration of the two existing Fairbanks gas utilities, Fairbanks Natural Gas and the Interior Gas Utility. Integration would enable greater efficiency and lower costs for the distribution of gas in Fairbanks, AIDEA has said.

The eventual aim is to spin off the integrated utility, to be operated by some third party company, with AIDEA ultimately making a financial return for the state through the deal.

In its approval order, RCA said that it has reviewed the finances, the management organization and technical capabilities of both AIDEA and Fairbanks Natural Gas. The agency said that it has concluded that FNG has a strong financial position and that, given AIDEA's intent to retain the utility's existing management team, the utility will be able to continue to provide its services after the change of ownership. AIDEA is fit, willing and able

see **FNG PURCHASE** *page 13*

GOVERNMENT

EPA proposes methane emission regs

New rule for new, modified oil & gas industry equipment & gas transmission systems forms part of president's Climate Action Plan

By ALAN BAILEY
Petroleum News

The Environmental Protection Agency is proposing new regulations that would limit methane emissions from oil and gas industry operations, the agency said Aug. 18. The mandatory rules in the regulations would complement voluntary methane emissions efforts from the Methane Challenge Program that the agency proposed at the end of July and which Petroleum News reported in its Aug. 2 issue. The regulations would apply to certain types of new, modified or reconstructed equipment used in the industry.

The regulations, a key component of President Obama's Climate Action Plan, are needed to help achieve a goal of cutting methane emissions from the oil and gas sector by 40 to 45 percent from 2012 levels by 2025, EPA says.

Methane, the primary component of natural gas, is a much more potent greenhouse gas than carbon dioxide, the more common focus of the global climate change debate. Methane is processed and transported in large volumes in association with the natural gas industry, as well as being produced and used in conjunction with oil production.

Mandatory requirements

EPA says that the proposed regulations will mandate the finding and repairing of methane leaks; the capturing of natural gas from the completion of hydraulically fractured oil wells; the limiting of emissions from new and modified pneumatic pumps; and the limiting of emissions from several types of equipment used in natural gas transmission compressor stations. However, certain types of pumps, pressure relief devices and connectors used on the Alaska North Slope are exempted from routine monitoring.

see **METHANE REGS** *page 13*

NORTH OF 60 MINING news

page 10 Kaminak takes giant strides toward de-risking Yukon gold

www.MiningNewsNorth.com *The weekly mining newspaper for Alaska and Canada's North* Week of August 23, 2015

NEWS NUGGETS

Compiled by Shane Lasley

UCORE RARE METALS INC.

SuperLig Molecular Recognition Technology has successfully separated the entire suite of rare earths.

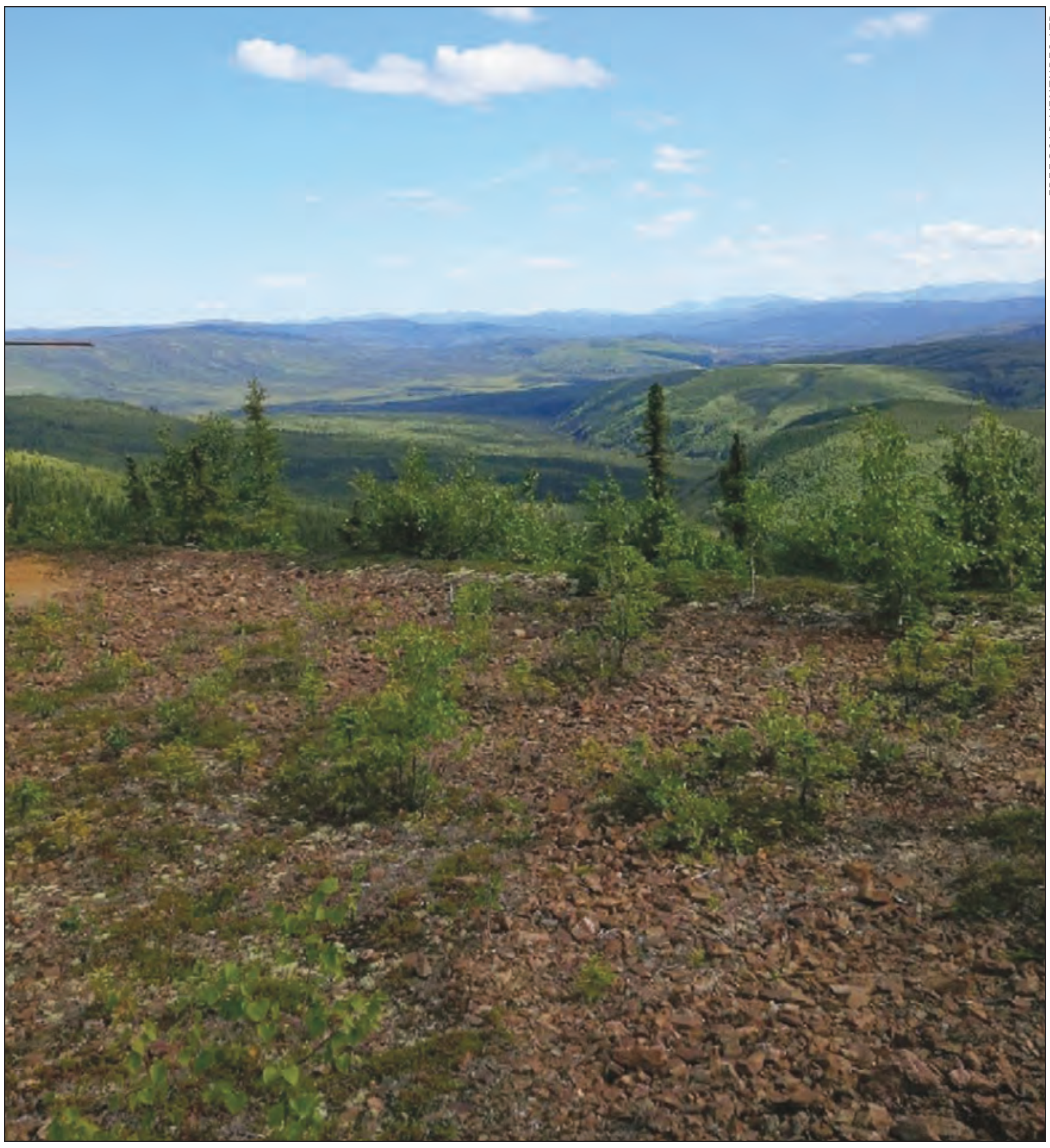
REE technology attracts another investor

Ucore Rare Metals Inc. Aug. 17 reported that a second high-net-worth US-based investor has agreed to purchase a royalty on the sale of products and services related to the processing of rare earth elements and other specialty metals and critical materials with SuperLig Molecular Recognition Technology. Ucore and Utah-based IBC Advanced Technologies formed a joint venture to develop this new method of separating rare earths using molecular recognition technology, a process designed to bind selectively with ions based on multiple parameters such as size, chemistry, and geometry. Under the terms of the JV, Ucore will retain a 60 percent interest and IBC will retain a 40 percent interest in the exclusive rights to the SuperLig MRT platform developed by IBC. The new unidentified investor has agreed to pay US$1 million payment to purchase a royalty of 5 percent of the gross sales from Ucore's first MRT installation or installations, payable until the recapture of the initial investment; and thereafter a net smelter royalty equal to 0.5 percent of the net sales from Ucore's first tier I client, which has an estimated gross revenue volume to Ucore exceeding C$50 million per year. In May, another unidentified investor paid US$4 million to purchase a royalty of 5 percent of the gross sales from Ucore's first MRT installation or installations, payable until the recapture of the initial investment; and thereafter a 2.0 percent net smelter royalty from Ucore's first tier I client. At a bench scale, the SuperLig platform has successfully separated the entire suite of rare earths. In July, Ucore contracted with IBC for the design and construction of a pilot plant that will test the molecular recognition technology for the separation of REEs at bulk scale. "The intention is for the unit to be a test mule, capable of accepting pregnant leach solution and bulk concentrates from multiple prospective REE feedstock locations around the world," Ucore President and CEO Jim McKenzie said at the time. "One high-priority source of pilot-scale test material will be the Bokan-Dotson Ridge project in Southeast Alaska."

Chandalar placer gold mine nears start

Goldrich Mining Co. Aug. 17 reported that placer gold operations at the Chandalar project in northern Alaska are expected to start this month. Overburden removal at the project began in March and through June crews had stripped 780,000 yards. Operations were expected to start earlier in the summer, but construction of ponds and completion of the wash plant has taken longer than projected. Subject to weather at the arctic project, the plant is expected to run through mid-September. The Chandalar placer mine is being developed and operated by Goldrich NyacAu Placer LLC – a 50-50 joint-venture formed between Goldrich and Alaska

see **NEWS NUGGETS** *page 10*



FREEGOLD VENTURES LTD.

The Shorty Creek property near Livengood, Alaska has long been known to host gold, copper and molybdenum mineralization. This year, Freegold Ventures Ltd. is testing the idea that an underlying porphyry copper-gold-molybdenum system is the source of the mineralization seen at surface.

EXPLORATION

Solving Shorty Creek

Freegold Ventures drilling will add pieces to Interior Alaska porphyry puzzle

By SHANE LASLEY
Mining News

Freegold Ventures Ltd. is testing the idea that a large and previously unrecognized porphyry deposit could lie beneath its Shorty Creek property in the Livengood Mining District of Interior Alaska.

Earlier this month, the exploration company raised C$1.35 million to fund a 3,000- meter drill program that could provide definitive evidence that various zones of copper, gold and molybdenum found across the 26,000-acre Shorty Creek land package are actually pieces of one porphyry copper-gold-molybdenum deposit spanning up to eight miles across.

Shorty Creek puzzle

For at least three decades, geologists have known that Shorty Creek is prospective for gold, copper and molybdenum. With the available data, the explorers concluded that the mineralization seen at surface comes from two separate sources – an intrusive-related gold system in the southern part of the property and a copper-molybdenum system to the north.

Like pieces of a puzzle, Fairbanks-based Avalon Development compiled all of the data from various historical exploration programs to reveal a bigger picture at Shorty Creek. Avalon President Curt Freeman saw what appears to be a zoned porphyry system that covers an area eight miles in diameter.

"While the interpretations of this report represent a departure from previous thinking about the Shorty Creek project area, this is the first time a single study has been able to incorporate all of the available data. Previous investigators focused on individual parts of the larger system, but did not recognize these parts as being integral pieces of a larger porphyry copper-gold-molybdenum system," Freeman wrote in a 2010 technical report.

While the picture of copper-gold-molybdenum porphyry was becoming evident, some key pieces of the puzzle were still missing. This is something Freegold has been working to rectify since acquiring the Shorty Creek property last year.

To add to mounting evidence of a hidden porphyry system, Freegold completed ground geophysics and soil sampling that blanketed both the gold and copper-molybdenum targets and the area in between.

see **SHORTY CREEK** *page 10*

NORTHERN NEIGHBORS

Compiled by Shane Lasley

Coffee takes big step toward production

Kaminak Gold Corp. Aug. 13 reported results from roughly 31,000 meters of infill drilling completed at its Coffee gold project in 2015. This confirmation drilling was undertaken on the series of parallel, north-south striking gold bearing structures that make up the Supremo deposit. According to a preliminary economic assessment completed for Coffee in 2014, the Supremo deposit contributes about 1.27 million ounces of recoverable gold at an average diluted grade of 1.13 grams of gold per metric ton in oxide resources, plus 44,000 oz at 1.64 g/t gold in transitional-oxide resources. This accounts for nearly 70 percent of the gold included in the mine plan outlined in the PEA. Drilling completed at Supremo has firmed up the existing geological interpretation providing additional confidence in the location, geometry and continuity of the mineralized lodes. This year's infill drilling is part of a larger confirmation program that started in 2014. "Our infill drilling program, which consisted of 70,000 meters, was executed on schedule and on budget in less than one year," said Kaminak President and CEO Eira Thomas. "Upgrading the confidence level of the Coffee gold resources is a big step towards de-risking Coffee as we move it through feasibility towards production." Kaminak anticipates the infill drilling will result in a high conversion rate of in-pit resources from the inferred to higher confidence indicated category. The upgraded resource will form the basis of a feasibility study for Coffee, scheduled for completion early in 2016. In addition to infill drilling, Kaminak announced results from two step-out holes at the Kona North prospect. Both holes cut gold mineralization, including 19 meters of 2.4 g/t gold in hole CFD0602. The company said this drilling has extended the strike length of Kona North to 330 meters, and the deposit remains open along strike and at depth.

KAMINAK GOLD CORP.

Five years after Kaminak Gold Corp. drilled this discovery hole at the Supremo Zone, the company is readying the Coffee gold project for a feasibility study ahead of potential development.

Drills turn at Klondike's Lone Star

Klondike Gold Corp. Aug. 18 reported the start of a 1,000-meter drill program at its Lone Star gold property about 20 kilometers (12 miles) south of Dawson City, Yukon. The company said roughly 12 holes will test various areas of quartz veining containing visible gold on the property, including the Nugget zone. Bulldozer trenching in the early 1990s and excavator trenching in 2005 have identified quartz veins containing visible gold at the Nugget zone. Limited follow-up included three diamond drill holes in 2007 which missed the target because they were drilled precisely parallel (down-dip) to the veining. Earlier this year, Ground Truth Exploration Ltd. completed roughly 1,000 meters of induced polarization along three lines spaced 50 meters apart across this target. The IP results show features attributable to southwest dipping bedrock as well as to northeast dipping quartz veining and associated fault structures along the 100-meter strike length sur-

see **NORTHERN NEIGHBORS** *page 12*

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Petroleum news

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NEWS NUGGETS

placer miner, NyacAU LLC, in 2012. In addition to supplying its placer mining expertise, NyacAU is fronting all the capital needed to get a commercial operation going at Chandalar. Through 2015, some US$27 million has been invested to develop the mine, according to Goldrich Mining's mid-year financial statement. At full capacity, the recovery plant at Chandalar is expected to process 600 cubic yards of placer material per hour, which will be realized as gravel screens and gold recovery tables are added in stages through 2016. Goldrich NyacAu Placer forecasts this operation will recover more than 130,000 ounces of placer gold over the next five years. ●

continued from page 9

SHORTY CREEK

"We were excited about the geophysics and geochemistry we did up there last year," Freegold President and CEO Kristina Walcott told Mining News.

"Last year was the first year anyone had ever done ground geophysics, and we did identify two significant, what look like very distinct, porphyry systems," she added.

On one side of the puzzle is a gold prospect known as Hill 1835.

In 1989 and 1990, 20 relatively shallow holes were drilled at this prospect. Highlights from this historical drilling include 67 meters averaging 1.21 grams per metric ton gold and 58 meters of 0.51 g/t gold from surface.

Freegold's 2014 exploration program identified gold and bismuth geophysical anomalies that correspond with a strong chargeability (induced polarization) anomaly at Hill 1835 and expanded the breadth of this target area.

While the deepest holes of the historical drilling only reached a depth of 500 feet (152 meters), many of these holes were cutting significant copper mineralization, hinting at a potential porphyry system that could be lurking below.

"It looks very much like the copper is increasing at depth," Walcott explained

Mapping has indeed found quartz porphyry in a nearby creek bank about 30 meters below the depth of the historical drilling.

By drilling to a depth of up to 300 meters, Freegold will test the idea that the historical drilling fell short of reaching a porphyry deposit underneath.

About 2,500 meters to the northwest of Hill 1835, Freegold's 2014 program identified a strong chargeability (IP) anomaly stretching across the copper-molybdenum prospect at Hill 1710. Freegold's soil sampling outlined a 2,000- by 1,000-meter area of strong copper values (up to 669 parts per million copper) with a 1,000- by 800-meter strong molybdenum (up to 235 ppm molybdenum) core.

A portion of this year's drilling will test what lies underneath this copper-molybdenum prospect.

Freegold hopes a picture of a significant porphyry system emerges from this drilling.

"There are, of course, no guarantees, but it certainly is very compelling to see ground geophysics, airborne geophysics, geochemistry and geology all in agreement," Walcott said.

Golden Summit PEA

While piecing together the Shorty Creek puzzle, Freegold continues to move ahead with a preliminary economic assessment for its Golden Summit project located less than five miles north of Kinross Gold Corp.'s Fort Knox Mine near Fairbanks.

The Dolphin-Cleary Zone at Golden Summit has an indicated resource of 79.8 million tons averaging 0.66 grams per metric ton (1.68 million ounces) gold; and an inferred resource of 248.1 million metric tons averaging 0.61 g/t (4.84 million oz) gold.

The upper 60 meters of this resource is oxidized, providing a nice layer of gold-enriched mineralization that could be placed on a heap leach pad during the early years of a mine at Golden Summit.

At a 0.2 percent cut-off, the oxide cap of the Dolphin-Cleary zone has an indicated resource of 25 million metric tons averaging 0.55 g/t (439,000 oz) gold; and an inferred resource of 16.6 million metric tons averaging 0.47 g/t (253,000 oz) gold.

Based on the extensive work it has carried out at Golden Summit, Freegold is confident that it can significantly expand this oxide resource with additional shallow drilling.

The PEA is expected to examine the potential for a standalone heap leach operation. The assessment also will include a comprehensive review of the current sulfide resource, with the idea that the mine could be scaled up to a larger milling operation in future years. ●

NORTH OF 60 MINING NEWS

Companies involved in Alaska and northwestern Canada's mining industry

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Located 25 miles northeast of Fairbanks, Fort Knox is Alaska's largest producing gold mine; during 2011, Fort Knox achieved 5 million ounces of gold produced, a modern record in Alaska mining.

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Advertiser Index

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NORTHERN NEIGHBORS

veyed. Klondike gold completed detailed representative chip sampling perpendicular to veining across 14 individual lines over 38 meters strike length of outcropping quartz veins and adjacent host rock. Of 38 chip samples collected, 13 were of wall rock and 25 were of quartz veins. Only six samples had gold values under 0.1 gram per metric ton gold, suggesting gold-enriched wall rock. Thirteen samples had values between 5 g/t and 30.5 g/t gold. One sample chip sample returned 8 g/t gold over 4.3 meters.

Gold confirmation continues at Brucejack

Pretium Resources Inc. Aug. 19 reported that results from the underground infill drill program in the Valley of the Kings at the Brucejack project in northwestern British Columbia continue to confirm the style and grade distribution of the gold mineralization. Highlights from the third batch of results include: 14.6 meters of 154.13 grams per metric ton gold in hole VU-459; 29.5 meters of 29.94 g/t gold in hole VU-463; 6.8 meters of 81.08 g/t gold in hole VU-445; 12 meters of 48.36 g/t gold in hole VU-445; and 14 meters of 47.06 g/t gold in hole VU-455. To date, results from 60 holes (10,572 meters) of the 40,000-meter infill drill program for the Valley of the Kings have been reported.

Agnico returns to drill Aura's Greyhound

Aura Silver Resources Inc. Aug. 14 reported that Agnico Eagle Mines Ltd. has begun a 1,000-meter drill program at Aura's Greyhound property in Nunavut. This drilling program will focus on the previously identified gold and silver rich zones around Aura Lake as well as the gold and base metal, copper-rich area at the Dingo zone. Agnico completed a similar-scale program at the property last year. The Greyhound property is located 32 kilometers (20 miles) south of Agnico's Meadowbank gold mine in Nunavut. In 2014, Agnico Eagle entered into an option agreement to earn an initial 51 percent interest in a portion of Greyhound by paying Aura C$250,000 and investing C$1.75 million in exploration by the end of May 2017, a stake that can be raised to 70 percent with additional expenditures. Agnico has budgeted C$500,000 for this year's 10-hole program. Drilling should be completed by the end of August or early September.●

● PIPELINES & DOWNSTREAM

Ontario says risks outweigh benefits

At issue is Energy East pipeline, which would move 1.1 million bpd of crude from Western Canada to Ontario, Quebec, New Brunswick

By GARY PARK
For Petroleum News

The prospect of pumping C$15 billion to C$19 billion into the Ontario economy over the first 20 years of TransCanada's Energy East project has failed to sway the Ontario Energy Board.

The provincial government's energy regulator argued the environmental risks of the C$12 billion pipeline, designed to deliver 1.1 million barrels per day of crude from Western Canada to refineries in Ontario, Quebec and New Brunswick and ship some beyond North America, would outweigh the potential benefits and could drive up natural gas prices.

"What we have found is there is an imbalance between the economic and environmental risks of the project and the expected benefits for Ontarians," said OEB Vice President Peter Fraser.

The OEB estimated a major spill could easily cost C$1 billion to clean up, but not before it had contaminated drinking water.

Economic benefits 'modest'

It also concluded the economic benefits, including as many as 114,000 direct and indirect jobs, were only "modest" in comparison with the downside.

"These kinds of analyses tend to focus on just the benefits of all the spending and not on the other kinds of costs associated with the project in Ontario ... for example costs related to additional emergency preparedness and other infrastructure upgrades that might be needed," Fraser said.

The report will form the basis of Ontario's position when the National Energy Board holds hearings next year on Energy East.

Ontario Energy Minister Bob Chiarelli gave an assurance that his government plans to be an "active intervener" in the approval process and "our participation will reflect the concerns of the Ontario public to the federal regulator."

In hardening its line against Energy East, Ontario joins the Quebec government — which is estimated to collect C$5.8 billion from development, construction and operation of the pipeline over the initial 20 years — in posing formidable opposition to the 2,800 mile line.

see **ENERGY BOARD** *page 15*

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METHANE REGS

The agency says that its proposed regulations would also update existing new emissions source performance standards, to address methane emissions as well as the volatile organic compounds that the standards already cover. And the regulations would require industry to reduce both volatile organic compound and methane emissions from hydraulically fractured and re-fractured oil wells. The regulations would also target reduced volatile organic compound and methane leaks from the natural gas transmission sector, while also clarifying and streamlining Clean Air Act permitting, EPA says.

EPA's proposal also includes guidelines for the reduction of volatile organic compound emissions from existing oil and gas sources in certain areas where ozone emissions exceed required standards, including in 11 mid-Atlantic and Northeast states that form what is referred to as the Ozone Transport Region. Volatile organic compounds are associated with ground-level ozone in health compromising smog, EPA says.

EPA says that it anticipates its proposed regulations driving a reduction of 340,000 to 400,000 short tons in methane emissions in 2025, a volume equivalent to 7.7 million to 9 million metric tons of carbon dioxide. In that year the emissions reductions would result in climate benefits of $120 million to $150 million, net of the costs associated with the regulations, the agency says.

As with other aspects of the Obama administration's regulatory actions over greenhouse gas emissions, the proposed EPA regulations have triggered a variety of responses.

"The EPA's proposal to curb methane emissions is unnecessary and will do more harm than good," said Sen. Lisa Murkowski, R-Alaska, chair of the U.S. Senate Energy and Natural Resources Committee. "It's in everyone's interest to reduce methane leakage. That's one of the reasons why industry has taken steps to reduce methane emissions by 38 percent since 2005 while natural gas production has vastly increased. Instead of more regulations that will only hurt production, the administration should follow the (Energy and Natural Resources) committee's lead and promote bipartisan initiatives that focus on improving our energy infrastructure, which is an important step forward to reducing methane leakage."

"Without strong action to reduce methane emissions, there is a real risk that natural gas will be seen as part of the problem, rather than as a bridge to a low-carbon future," said Andrew Logan, director of the oil and gas program at Ceres, a sustainability advocacy nonprofit organization. "We believe that the regulations announced today are therefore in the long-term interest of the industry, as well as the U.S. economy as a whole."

Comments on the proposed regulations must be filed within 60 days after the regulations have been published in the Federal Register. ●

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FNG PURCHASE

to obtain a controlling interest in Fairbanks Natural Gas — granting AIDEA's application for the takeover is "consistent with the public interest," the commission said.

Pentex acquisition

AIDEA is acquiring Fairbanks Natural Gas though the purchase of Pentex Natural Gas Co, the company that owns the Fairbanks utility, a small liquefied natural gas plant near Point MacKenzie, and a trucking operation for shipping LNG from the plant to Fairbanks. The Pentex purchase is scheduled to complete on Oct. 15. RCA, in issuing its approval order for the Fairbanks Natural Gas acquisition, has also granted a request from AIDEA for expedited processing of the approval application, prior to the closing date. The commission requires AIDEA to issue an announcement of the closing of the Pentex deal within five business days of the deal completing.

Harvest Alaska LLC, a subsidiary of Cook Inlet gas producer Hilcorp Energy, had planned to buy the LNG plant and trucking operation from Pentex, thus leaving AIDEA with ownership of just Fairbanks Natural Gas. However, the Alaska attorney general, concerned about the LNG pricing arrangements in the deal with Harvest, has said that he will not allow the sale to Harvest to proceed. In response to the attorney general's ruling, AIDEA has said that the LNG plant would be owned by AIDEA for a period of time, as part of Pentex, but that agency expects its ownership of Pentex to be temporary. ●

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● FINANCE & ECONOMY

Taqa mystery deepens

After big North American buy in, Abu Dhabi National Energy Co. has not been active; in 2013 cut capital spend, employee levels

By GARY PARK
For Petroleum News

From the outset it was a puzzle. Eight years later it is even more confusing.

There has seldom been a more aggressive expansion plan by a new arrival in the North American oil and gas industry.

Equally, there has seldom been a company to withdraw so fast into the shadows.

But that has been the short history of Taqa, officially known as the Abu Dhabi National Energy Co. based in the United Arab Emirates.

When Taqa made its grand entry into North America, declared it was ready to invest US$3 billion and went on a shopping spree in Canada, there was a lot of head scratching.

To most analysts there was no logic behind a state-controlled company from one of the cheapest, most prolific oil-producing countries in the world wanting to establish a base in Canada's high-cost upstream sector.

After all, Abu Dhabi, with only 420,000 residents, held 8 percent of the world's proved oil reserves at the time and pumped out about 3 million barrels per day.

But there was little time to speculate in 2007 when Taqa, having been approached by an "array" of Canadian and U.S. companies eager to do business with a company whose pockets were bulging, took advantage of a market meltdown to buy Northrock Resources for US$2 billion and the Canadian unit of Pioneer Resources for US$540 million.

Those deals gave Taqa a strong presence in Canada's conventional oil and gas exploration and production businesses, along with its investments in U.S. power generation through a gas-fired power station in New Jersey and a wind farm in Minnesota.

Its Calgary-based oil and gas business, according to the company's website, has proved plus probable reserves of 363.2 million barrels of oil equivalent, with total average daily output of 89,500 boe per day.

Taqa's E&P rights include 1.22 million net acres of producing land, 1.62 million acres of non-producing land and a strategic plan to realize the full potential of that base which are divided among Alberta-Saskatchewan, West Central Alberta and Southern Alberta and South West Saskatchewan, stretching into Montana, North Dakota and Wyoming.

Details spotty

But details of what Taqa has in mind have been spotty and sparse over the past couple of years, beyond word in early 2013 that it was laying off 50 of 950 employees in Canada and the U.S. to "streamline" its operations and demonstrate its ability to reduce costs and increase efficiency at a time of weak gas prices.

That accompanied company plans to reduce its capital spending in 2013 to US$500 million from US$750 million.

Taqa had earlier hinted at a waning of its interest in North America by targeting expansion in the Middle East, Asia and Africa, but not North America and certainly not the Alberta oil sands.

"Our aspirations for growth (in North America) will be focused on what we're already good at and where we have critical mass," said David Cook, head of global upstream operations before being named chief executive officer of Dong Energy at the end of 2014. "If you look at the oil sands and where Taqa is today, it's not a natural fit."

The same apparently could now be said of its other North American activities.

But Taqa flatly rejects speculation that it is pondering a merger with another government entity at a time when its share values have slipped to a near all-time low.

"Taqa confirms it is not engaged in merger discussions with any government or other entity," it said in a report to the Abu Dhabi securities exchange.

However, the rumor mill has persisted with reports of a possible takeover by ADWEA, which already holds 53.4 percent of Taqa, and Mubadala Petroleum.

Taqa has about 100,000 private United Arab Emirates shareholders, but remains 74 percent owned by the government.

Outside of North America, it also has assets in the North Sea, the Netherlands and the Kurdistan region, with overall production of 158,900 boe per day and proved plus probable reserves of 522.3 million boe. ●

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ENERGY BOARD

Fraser said the main concern expressed during 15 months of consultations with communities along the pipeline route was "the risk of an oil spill as the pipeline runs across many waterways."

"Our advice is that the existing (TransCanada natural gas pipeline in Ontario) should be rerouted" along a Canadian Pacific Railway line to avoid environmentally sensitive areas.

Natural gas prices a concern

The OEB report, despite emphatic promises by TransCanada, said Energy East could also drive up natural gas prices once an existing, underutilized line in the network is converted to carry crude.

Fraser said the OEB report, which was prepared by a University of Toronto think tank at a cost C$2.4 million, estimated that natural gas prices in Eastern Ontario would climb 11.9 percent higher than if Energy East did not proceed.

It is demanding that TransCanada update its demand, supply and price forecasts to reflect current and projected gas market conditions to ensure that "Ontario natural gas consumers do not subsidize Energy East."

Steve Baker, president of Union Gas, one of Ontario's largest utilities, said his company wanted assurances from TransCanada that the province's natural gas customers "would not bear the costs and risks related to Energy East."

Right of way

A TransCanada spokesman said the proposed right of way minimizes new land disturbance by taking advantage of the established gas line right of way.

To bolster its argument, the OEB also said First Nations and Metis people do not feel they have been adequately consulted by TransCanada.

Trevor McLeod, director of natural resources policy at the government and industry financed Canada West Foundation said Ontario's decision to use its energy regulator "to weigh in on a project squarely under federal jurisdiction changes the game for companies looking to build pipelines."

"It is unorthodox and a little bit bizarre frankly," he said. "This is a big play for the Ontario government and it's significant from a political context as the province has no jurisdiction (over a pipeline that crosses provincial borders)."

Bob Schulz, a business professor at the University of Calgary, said TransCanada has made its case that every part of Canada would receive some benefits from Energy East, "but the people in Ontario are only apparently worried about themselves." ●

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AGDC BOARD

required to be kept confidential under applicable federal or state law.

The regulations also state that contracts protecting confidentiality of information will not be treated as confidential documents.

While the regulations apply to contracts entered into after April 1, 2015, it is specified that AGDC will honor obligations under any contracts entered into prior to that date.

The regulations note that the board may meet in executive session under the state's Open Meetings Act to consider information that may or must be kept confidential and unless the board authorizes disclosure, "all directors, officers, employees and agents of the corporation participating in an executive session of the board at which information the corporation may or must keep confidential ... is considered shall preserve the confidentiality of the information."

The regulations say the board will endeavor, consistent with confidentiality agreements and applicable law, "to limit the amount of confidential information it withholds from the public and the time period for which information is kept confidential."

When the board proposes to take action on contracts, the corporation will make the entirety of any contract submitted to the board for approval available to the public at least 10 days before the board meeting, including posting on the corporation's website.

Off-take issues

The board got an update on preliminary engineering cost estimates AGDC has developed on various sized off-take facilities, allowing natural gas to be taken off the main line for in-state use.

The quantity, size and location of off-takes have not yet been determined, although the minimum number under Senate Bill 138 is five. AGDC President Dan Fauske told the board that the number of off-take points is being negotiated, and while five are required, the maximum number is subject to negotiation and as many as 20 have been discussed.

AGDC is working with the state gas team and AKLNG on the number and location of the flanges.

Engineering estimates were presented for four sizes of off-take facility, ranging from a facility which could handle up to 300 million cubic feet per day down to a size which could handle as little as 0.04 mmcf per day.

The macro size, for a volume of 80 mmcf to 330 mmcf per day, would cost $38 million. A mini size, handling from 20 mmcf to 75 mmcf per day would cost $28 million; a micro, handling 0.4 mmcf to 2 mmcf per day, $15 million; and a nano, handling 0.04 mmcf to 0.25 mmcf per day, $14 million.

The facilities would be skid mounted to get them into place.

The costs discussed are not the total cost of taking natural gas off the line for local use, because the cost of laterals, spurs, local distribution and conversions are not included in the cost estimates.

The flanges on the line to which such facilities would be attached are part of the cost of the pipeline and are installed during construction. Multiple flanges put in during construction provide the opportunity to connect in the future, the board was told, and the flanges can be used for in-put or off-take. The flanges are tied to gate valves, which are required every 20 miles by regulation, the board was told, so theoretically there could be a flange every 20 miles.

But however many flanges there are, they need to be installed during construction, as installing them after the line begins flowing gas would be costly and require shutting down the pipeline.

—KRISTEN NELSON

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HANNA PROSPECT

Even though the Hanna prospect sits among one of the denser concentrations of oil and natural gas activity in the Cook Inlet region, and has attracted the attention of both large and small players over the years, every effort to explore the leases has been thwarted.

Union Oil Company of California abandoned an exploration program at Hanna in the 1980s in light of falling commodity process. Craig first acquired the leases in 1993 through the independent Trading Bay Energy Corp. but found it difficult to raise money for Alaska exploration after Stewart Petroleum Co. filed for bankruptcy protection in 1996. Forcenergy Inc. acquired the leases in 1997 but filed for bankruptcy in 1999.

Craig acquired the leases a second time through a 2001 lease sale but once again found it difficult to organize an exploration program. A proposed deal with U.S. Petroleum Corp. fell apart in 2002 and a farmout with Pelican Hill Oil and Gas Inc. fell apart in 2005.

Aurora acquired the prospect later that year but suspended all drilling operations in late 2006 while it resolved its ongoing litigation with Enstar Natural Gas Co. In early 2009, Aurora arranged a partnership and even received an Alaska Oil and Gas Conservation Commission drilling permit for a Hanna No. 1 exploration well. This time, the delays were regulatory. The Alaska Department of Fish and Game refused to allow the company to build a drilling pad through a marshy section of the Susitna Flats Game Refuge.

The leases expired again. Craig acquired the prospect for the third time in a 2010 lease sale. Escopeta Oil & Gas Co. expressed an interest in exploring the prospect, believing it could sidestep the regulatory problems by drilling in winter. This time, Craig attached performance requirements to the leases. After two years, Escopeta had missed its deadline. In March 2013, Escopeta transferred the leases to an affiliated independent called Galena Energy Corp., which also missed the deadline. In May 2013, Galena Energy transferred the prospect to Craig. The four leases currently expire Feb. 28, 2018.

Aurora is at the beginning of a potential exploration boom. The small independent recently began permitting a wide-ranging exploration venture covering six prospects: Chickalusion, Three Mile Creek Deep, Congahbuna Lake and Nicolai Footwall on the west side of Cook Inlet and Forest Lake and West Eagle on the Kenai Peninsula.

State issues leases

In other leasing news, the state terminated lease ADL 391502 for failure to pay rent.

The lease was located in the White Hills area, among a cluster of leases operated by Great Bear Petroleum. The independent investor James A. White operated the lease.

Texaco drilled the Wolfbutton 25-6-9 well on the lease in the winter of 1988 and 1989 and Union Oil Company of California drilled and permitted several other wells nearby.

The state also formalized the Repsol E&P USA Inc.-operated Pikka unit and created eight new leases from acreage that had been segregated from the new North Slope unit.

The state also formally issued North Slope and Beaufort Sea leases to Caelus Alaska Exploration Co. LLC, the Armstrong Oil & Gas subsidiary 70 & 148 LLC and ConocoPhillips Alaska Inc. that were acquired in a pair of lease sales in November 2014.

—ERIC LIDJI

—A copyrighted oil and gas lease map from Mapmakers Alaska was a research tool used in preparing this story.

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Petroleum news

Oil Patch Bits

PESI mourns the loss of Donald Parker

DONALD PARKER

Petroleum Equipment Services Inc. announced that former Vice President of Operations Donald Parker passed away in Seattle, Washington, on June 25.

Parker was born March 23, 1946 in Laurel, Mississippi. His career started in the 1960s when he went to work on rigs in Mississippi and Louisiana. In the mid 1970s Parker began working for Christensen Diamond Products Co. He later moved to Alaska and worked as the Alaska manager for Christensen Diamond Products Co. following the completion of the trans-Alaska oil pipeline.

In 1981 Parker became involved in PDC bits the first of which was run in Cook Inlet and arrived at the rig under armed guards. He continued working for Christensen Diamond Products Co. and was located in California until 1987, returning to Alaska in 1988 to head the combined Christensen Diamond Products Co./Baker Directional, holding that position until 1992.

Late in 1992, Parker and his wife Linda moved to Georgia and ran a remodeling company until his return to Alaska to work with PESI until his retirement in 2013. During his time at PESI, the company grew tenfold. Through his efforts Parker became a leader in bit development for Alaska through PESI's drilling tools division, took part in the longest core job in Cook Inlet, the longest PDC bit run in Swanson River, the first PDC bit to drill through the conglomerate zones in Prudhoe and became a leader of the ASTECH thread protector division. "Perfect" was Parker's positive outlook motto and with that he set high goals for safety, instilling that culture with the PESI employees that continues today. Parker was also a connoisseur of fine cigars.

Motion Industries shop achieves certification

Motion Industries, a leading distributor of industrial maintenance, repair and operation replacement parts, is pleased to announce that its service center in Pensacola, Florida, has recently achieved Timken Bearing Certified Shop "Gold" Level for 2015. Associates from The Timken Co. audited the shop, located at 3131 West Navy Blvd., and presented certification signifying the shop adheres to Timken standards for bearing removal and handling, cleaning and inspection, analysis of bearing damage, bearing setting and adjustment, and bearing storage.

As part of this certification process, Timken trained Motion Pensacola shop personnel in the proper cleaning, inspection and storage of wheel bearings. By training its associates in the proper techniques and then auditing and certifying the process, Motion has indicated its confidence that the bearings returned to service are properly cleaned and inspected

see **OIL PATCH BITS** page 19

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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JOSEPHSON Q&A

So I think it's all of those things coming together. The State Department has a role in some of what the Arctic Council is working on as well and so he's being supportive of that.

Petroleum News: So how can Alaska benefit from his visit? What would you like to see as a takeaway from his visit?

Josephson: Well, on the one hand, I hope the president is given the opportunity by flying to Dillingham or flying to Kotzebue to see the length and breadth of the state, and to see its uniqueness and its scope, and from that understands that not only are we the last frontier, we are the last opportunity to get it right. By get it right, I mean melding good conservation practices with smart development. That's one thing I hope he takes from this.

I hope he has the opportunity to hear the grievances from Native Alaskans about tribal rights issues. I hope that he has an opportunity to hear about economic opportunity, both in the Arctic and elsewhere, and get a sense of where the AKLNG line would be located. Perhaps fly over the Pebble Mine sight to get a sense of what that development would look like and the impact of that development.

And so I hope all of those things happen and that he is a voice of reason and wisdom when the Arctic experts gather and have their meetings, both in terms of the balance in preserving subsistence rights and exercising caution over sensitive places like the Hannah Shoal, while at the same time indicate that he is going to flex national muscle and asset jurisdiction on places like the outer continental shelf. We need to have a role in the Arctic as an Arctic nation.

Petroleum News: The last time we spoke, you thought advancing ANWR would take some creative thinking rather than the same pursuits. Do you still feel that way?

Josephson: I don't think that's on his agenda to do a fly over but I hope that it would happen. I still believe that aside from the AKLNG plan, which is 10 years off in terms of revenue we would see from it, almost everyone agrees the only opportunity for a super giant onshore is there, in the Arctic National Wildlife Refuge. The other developments you see in places like the CD-5 and others are incremental. All the do is replace diminishing production in other legacy fields. I think there is some trepidation that he is going to make some announcement that is unfavorable to ANWR. I don't think that is going to happen.

I think it's prevented by law.

One thing we do know is that presidents on their way out want an environmental legacy. We saw that with George Bush and his designation of the seas west of Hawaii and the designation of some reserves in the area near the state of Hawaii. I think he is going to have that sensitivity. If I had the chance to speak with him, I might say that some of us who are profoundly concerned about keeping Alaska as wonderful as it was at the purchase and at statehood believe that ANWR needs to be developed. That it's in the national interest and that it can be done carefully. At the same time, I would express real concerns about Pebble mine, and my huge reservations about that.

You know when I read about Secretary (Sally) Jewel's background, you see that she is a perfect reflection of the administration in that she worked for industry. She has a background in engineering and yet she has a conservation ethic. I think that is the dichotomy you are seeing with this president.

Petroleum News: Will you have a chance to be in the same room with the president during any of the more public events?

Josephson: Gee, I hope so. I think for most of us, meeting the president is sort of a dream. We don't have a monarch. It's the closest we come to that. It can bring out a 5 year old boy in the soul. The only thing akin to that for me would be meeting a professional baseball player or other notables.

The patriot in me wants to meet the president. I've been a fan of us, mostly a supporter of his. So I'm hoping that happens. The forum of that happening, I'm not sure what it will be. There will be something Aug. 31 at the Alaska Airlines Arena. I don't know what other opportunities there would be. I know my caucus would like to bend his ear and talk to him about some of the things we care about.

Petroleum News: One of the things I know you care about as a member of resources is AKLNG. What is your understanding right now of where things stand?

Josephson: Where things stand now is there are negotiations going on. I think there has been some criticism about whether these negotiations are perfectly transparent. I think those are unfair criticisms. I don't think anyone should expect for negotiations to occur in full public view.

I was a backer of SB 138 and I remain a supporter of SB 138. I'm absolutely a supporter of the equity option. I like TransCanada and I like the folks at TransCanada. I suspect they don't like legislators to say that because it's not their preference. The evidence I've seen is pretty clear that it's a benefit to Alaska's people that we exercise that option, that we save cash flow in the out years.

It's better for the state to take over the equity share that otherwise would go to TransCanada as sort of a surrogate. What's being discussed most recently is the governor wants to make some potentially serious changes to the formula that is SB 138 where there is a 25 percent share held by foreign interests basically with our share with TransCanada being one of the 25 percent shares.

In a perfect world the state would own 51 percent of the entire project and we would do that because we would see more revenue. We could charge tariffs and so there are many different kinds of new revenue.

The problem that I have with that is twofold: is it affordable and will the industry throw up its arms and walk away. If the industry does that, what is our ability through legal forms of coercion and other forms of cajoling the industry to keep them at the table and keep them interested?

So those are my concerns. I'm a supporter of the governor and am certainly interested in what other options are out there. I also have concerns that if we revamp this too much and it sets us back then we won't see production in 2025. The potential for production is always suspect because of the already low gas prices and the international competition from places that don't need an 800-mile pipeline to tidewater.

I suppose there is nothing wrong with asking. We've all heard that sentence described about anything. That could be as true here as whether you're purchasing a pair of jeans at the department store.

Petroleum News: So you still like the framework of SB 138 but you're willing to listen to modification ideas?

Josephson: Absolutely. Some of the work that has been done by AKLNG — for example the right of way and the land purchased for the right of way — that could not possibly be based on what the final configuration of "the deal" is. That work will be continued.

Petroleum News: You talked about being OK with 51 percent of the project?

Josephson: Of course we would be an owner and regulator anyway with 25 percent. It's a different kind of ownership. When I said I was OK, I said I was OK in the abstract, but I also expressed concerned with those two points, the first being will the industry walk, will the good work that's been done since 2013 be undermined. More importantly, can the state afford this? Where will we get the cash to pay for a potential $65 billion project? To make this point clear, there is real concern about taking over the TransCanada portion of it let alone the 51 percent portion of it. I'm very intrigued by it. I'm certainly willing to listen to it. I don't want to upset the apple cart and set the project back if that's what might happen.

Petroleum News: If you're called down to Juneau for a special session, what would you like for that to accomplish?

Josephson: Principally I would like to know that we complied with deadlines that SB 138 requires. We know that one of those deadlines is on New Year's Eve day that unless we agree to extend that deadline contractually, we have to decide whether we are going to exercise our option with TransCanada.

The other things that need to be accomplished are we need to look at some of the additional agreements that are required by the overall deal to move into FEED and the final investment decision. We need to look at those agreements and really understand them better. I think all 60 of us need to be on the same page that these are the future deadlines in 2016, 2017 and 2018 before dirt is turned and we begin this project.

Part of it is there are certain things that must be done like the TransCanada equity option and there are other things that need more explication and explanation where there is a better understanding by the Legislature on where the project is and where it's going.

I don't mean to suggest the good people at AKLNG haven't done their share and their heavy lifting in making that education possible. They have absolutely done a marvelous job of making quarterly presentations and being available to legislators. However the nature of this is that you have to keep revisiting these topics. So this is kind of like learning a musical instrument. You have to rehearse and repeat because it's complicated. So I think the Legislature needs to do some of that. I would suspect we can get our work done in two weeks.

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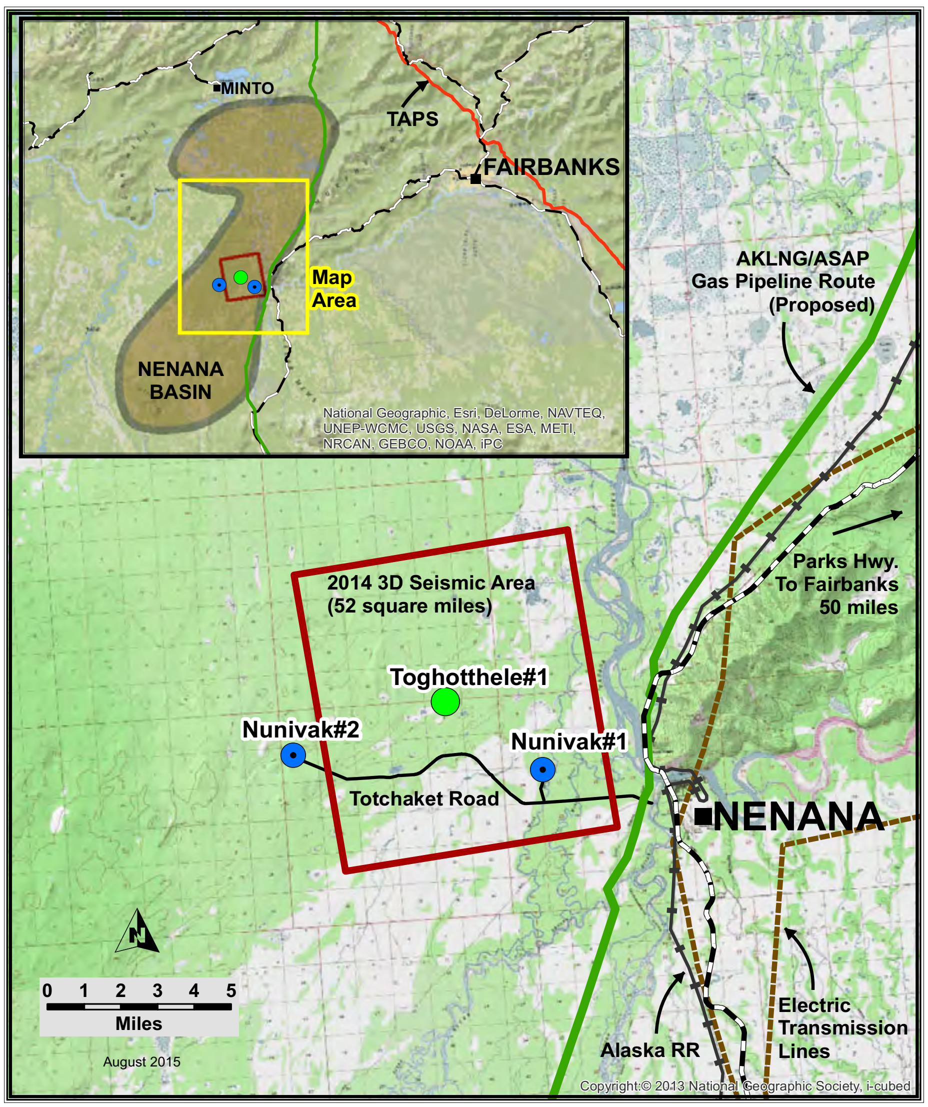
DOYON LTD.



Doyon Ltd's planned Toghotthele well lies near the two Nunivak wells that the Native corporation has previously drilled, to the west of the town of Nenana and the Nenana River.

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DOYON WELL

we estimate the chance of success for a developable gas find is one in two, and one in five for oil. An oil or gas discovery would be great news for our companies, shareholders, residents of Interior Alaska and the state."

Prospective for oil and gas

The Nenana basin, a large sediment-filled basin southwest of the city of Fairbanks, has long been thought to be prospective for natural gas. For several years Doyon has been spearheading exploration of the basin and has found evidence that the basin may hold oil as well as gas. The corporation's exploration program has included 2-D seismic surveys in the basin in 2005 and 2012, and the two Nunivak wells, one drilled in 2009 and the other drilled in 2013. A 3-D seismic survey, conducted in the winter of 2014-15, added detail to the results of previous 2-D surveys in the area of Doyon's drilling interest.

Doyon is exploring in about 400,000 acres of state of Alaska leases in the basin and owns subsurface rights to an additional 40,000 acres. The basin is particularly appealing as an exploration target because of its proximity to Alaska rail, road and power transmission routes. The basin is 60 miles from Pump Station 7 of the trans-Alaska oil pipeline, 70 road miles from oil refineries at North Pole and close to the route of a proposed major gas pipeline for exporting natural gas from the North Slope.

There are two deep sub-basins in the Nenana basin as a whole, one in the north and one in the south of the basin. Doyon has been focusing its efforts on an area between the two sub-basins, an area into which oil and gas may have flowed from deeper levels. And samples from the Nunivak wells, while not demonstrating commercial pools of hydrocarbons, have shown the existence of "wet gases" such as propane, butane and pentane, materials that form in the same way as oil, from the heating of rocks containing organic materials. Doyon has previously said that geophysical data have indicated basin depths conducive to the temperatures and pressures needed for the generation of both oil and gas.

Prospect upgraded

James Mery, Doyon vice president for lands and natural resources, has told Petroleum News that the recent 3-D survey that Doyon conducted west of Nenana confirmed the appeal of a prospect previously identified from a 2-D survey. The 3-D survey has enabled Doyon to upgrade the site to a drillable prospect, Mery said. The survey had also pointed to a second prospect and provided two leads towards other possible prospects, he said. The planned well will focus on that first prospect, an upthrown, faulted block.

"We're looking at multiple zones of interest, starting around 7,000 feet and going down a little deeper than 9,000 feet," Mery said.

Mery said that Doyon plans to use much of the infrastructure and road layout that the corporation had built for its previous drilling ventures, but that the Toghotthele well will require a short new road section, north of the existing gravel road that serviced the Nunivak wells. The service road is on the opposite side of the Nenana River from the Parks Highway: Doyon uses a barge arrangement to transfer people and equipment across the river.

Construction of the new road section will take place during the coming winter, Doyon says. Drilling operations will also require a new gravel pad.

Doyon says that "Toghotthele," the name of the new well, is the name of the local Native village corporation at Nenana. The name is Athabascan for "hill on the water," a reference to a prominent topographic feature north of Nenana, Doyon says.

see **DOYON WELL** *page 19*

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SHELL APPROVAL

M/V Fennica. The Fennica had to be repaired in Portland, Oregon, after sustaining damage near Dutch Harbor in early July — as a consequence the capping stack was not available in the Chukchi when Shell's drilling started.

Fennica in place

But, having been repaired, the Fennica is now on station in the Chukchi with the capping stack, thus enabling BSEE to allow drilling into hydrocarbons. BSEE says that it has placed its own safety inspectors on both the Polar Pioneer and Shell's other rig, the Noble Discoverer, to provide continuous oversight of operations on the rigs. Shell is exploring for oil in the Burger prospect, in 140 feet of water about 70 miles northwest of the coastal village of Wainwright.

Although Shell has two rigs in the Chukchi, restrictions associated with U.S. Fish and Wildlife authorization for the disturbance of polar bears and walruses prevent Shell from drilling more than one well at a time at Burger.

"Activities conducted offshore Alaska are being held to the highest safety, environmental protection, and emergency response standards," said BSEE Director Brian Salerno when announcing the issue of the revised drilling permit. "Now that the required well control system is in place and can be deployed, Shell will be allowed to explore into oil-bearing zones for Burger J. We will continue to monitor their work around the clock to ensure the utmost safety and environmental stewardship."

"We remain committed to operating in a safe, environmentally responsible manner and look forward to evaluating what could potentially become a national energy resource base," Shell spokeswoman Megan Baldino told Petroleum News in an Aug. 17 email.

Drilling continues

The Polar Pioneer has completed the seafloor mudline cellar for housing the Burger J well's blowout preventer and has been drilling the top section of the well.

"Today's announcement is welcome news for Alaska's economy and our nation's energy security," said Sen. Lisa Murkowski in response to the issue of the revised drilling permit. "Shell has spent years preparing to fully explore its leases in the Arctic offshore. The responsible development of those resources will create jobs and provide a badly needed long-term supply of oil for the trans-Alaska pipeline, ensuring that we continue to be a major energy supplier well into the future."

Environmental organizations remain vehemently opposed to Arctic offshore oil drilling and condemned BSEE's permitting action.

"President Obama is willing to allow the pristine Chukchi Sea to become an energy sacrifice zone and worsen climate disruption," said Marissa Knodel, climate campaigner for Friends of the Earth, in an Aug. 17 statement. "President Obama should know better — Shell has no business in our Arctic Ocean, and he will bear responsibility for the damage that Shell wreaks there." ●

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DOYON WELL

Exploration interests

Doyon also has oil and gas exploration interest in the Yukon Flats basin, a large sedimentary basin north of Fairbanks. For the time being, the corporation is focusing its exploration efforts on the Nenana basin, where there is a time limit on the duration of the state leases that Doyon currently owns, Mery said. Doyon does not face the same type of deadline in the Yukon Flats, where the Native corporation owns the subsurface lands that include its exploration targets.

Moreover, exploration success in the Nenana basin, with its proximity to infrastructure, would bode well for future exploration in the Yukon Flats, another Interior Alaska basin, Mery said.

Schutt commented on the importance of state exploration tax credits in the economics of Doyon's exploration program.

"The state has been a great partner in our efforts to create a new industry with new jobs producing new local fuels, and creating new tax bases in Interior Alaska," Schutt said. "We look forward to continuing that partnership." ●

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JOSEPHSON Q&A

> *"We need to have a role in the Arctic as an Arctic nation."*
> ***—Rep. Andy Josephson, D-Anchorage***

Petroleum News: Moving to next year's regular session, it appears you folks will be reviewing tax credits. Do you believe this needs to be revisited or is it simply a matter of the governor delaying some payments?

Josephson: No, I think it absolutely has to be revisited. On June 17th, there was a resources hearing and I had to head off to Washington with a colleague for a Medicaid conference. But I attended the hearing before on AKLNG on June 16. I heard most of the presentation and power points of the June 17th hearing. It was a vitally important hearing.

We are not anywhere near the sweet spot in terms of these credits. These credits are a creature of shifting from a gross production tax to a profit tax system so we want some credits. I think what we are going to find — and I think it will be a bipartisan consensus ultimately — that they are too generous. In 2007 they start at about $500 million in terms of credits purchased by the state and credits used against tax liability.

Now they are scheduled by 2018 to reach over $1 billion in combination. Now those aren't all going to be paid in a single calendar year but they are going to be credits that are going to be sanctioned during that period. The key thing that we need is that we've worked hard to get independents up here, and we've achieved that goal, but for the legacy fields where there are credits earned for production that would have occurred anyway and for new potential fields, we have to ask ourselves are we seeing any production out of those or are we in effect subsidizing as if we are the producer.

We are bearing so much of this risk with these credits. As was noted in the June 17 hearing, we are one of the few governments, perhaps the only government in the world, seeing less production tax than it pays out in tax credits. So I think we really need to look at these and say, what are we getting out of this? ●

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OIL PATCH BITS

and will deliver their full life potential.

"We congratulate Motion Industries Pensacola Service Shop for its commitment to meeting the high standards necessary to achieve the status of Timken Bearing Certification," said David A. Novak Jr., Timken director of service engineering and strategic projects. For more information visit www.motionindustrises.com.

AECOM hires Ortiz as a contracts and procurement lead

Lymari Ortiz has joined AECOM's Anchorage, Alaska, office as a contracts and procurement lead for the Alaska LNG Project.

LYMARI ORTIZ

Ortiz has more than 20 years of experience and specialized qualifications in project management, auditing and supply management. She is a versatile professional with diverse skills in purchasing, as well as vendor, client and executive relationships and collaboration, analysis, and management. Most recently, she performed contract compliance audits for a major oil company in Alaska.

In this role, she will be responsible for working on the Alaska LNG Project, responsible for ensuring compliance with the Alaska LNG subcontracting and procurement plan.

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ELECTION OUTCOME

The issues confronting all four leaders are two-fold — to what extent should climate-change policies determine the future of oil sands development and what stance should the Canadian government take on proposed new export pipelines.

Last election in 2011

That all represents a dramatic turnaround from the last election in 2011 when the price of oil was sitting around US$100 a barrel and seen as likely to climb even higher, while pipeline projects seemed to be destined for approval in the United States and Canada.

Now the pipelines are bogged down in disputes with First Nations, landowners and environmentalists and Alberta has elected a new government which has yet to disclose its final plans for royalties and climate-change policies.

Those topics are also inextricably tied to Canada's economic outlook.

Dan Ouimet, Western Canadian vice president for Environics Research, told the Calgary Herald it is of "critical importance for the political leaders to be speaking about these issues in a credible manner and have a cohesive plan. The research we have done bears out that Canadians care about it as well."

Positions not clear cut

But even getting a clear-cut position from the parties trying to topple Prime Minister Stephen Harper is far from easy.

NDP leader Tom Mulcair, whose party continues to make a strong showing in the polls, discovered just how difficult it is to "herd cats" when one of his star candidates, Linda McQuaig, a prominent author and indentified by Mulcair as a certain cabinet appointee if he wins, turned a brush fire into a full-scale blaze during a Canadian Broadcasting Corp. panel discussion.

She said that if Canada is to have any chance of meeting climate change targets "a lot of the oil sands oil may have to stay in the ground."

McQuaig even found herself at odds with her own p[arty, whose deputy natural resources spokesman Malcolm Allen said the NDP supports continued oil sands extraction, coupled with more rigorous oversight aimed at reducing the sector's environmental impact.

Allen said his party sets no limits on the quantity of fossil fuel extractions.

Two days later, Mulcair echoed those thoughts, while arguing that the "problem we have in Canada with regards to the development of our natural resources and getting new markets for them is called 'Stephen Harper'" who he blamed for failing to establish new climate-change policies and for mishandling pipeline negotiations.

Taking another two days to mull things over, he further clarified the NDP position by arguing that Canada needs credible, sustainable development laws before it can decided whether or not to endorse significant production increases at the oil sands.

Mulcair said legislation must include pricing carbon output into oil products and making polluters pay for what they create.

In the first leaders' TV debate, before McQuaig went public with her thoughts, Mulcair accused Harper of not doing anything about "our environmental laws, thinking somehow he could get our energy resources to market better."

Mulcair then fired a barb at the prime minister, by asking "How's that working out, Mr. Harper? None of those projects have gotten off the drawing board."

During one campaign stop, some anti-oil sands activists challenged Mulcair to reveal whether an NDP government would reject Energy East — TransCanada's proposed 1.1 million barrels per day system from Western Canada to refineries in Ontario and Quebec and an export terminal in New Brunswick — if it was "found to be incompatible with national action on climate change."

"Of course we will," he replied. "That's what the whole purpose of coming in with a new system is to make sure we take into account climate change whenever we analyze a project."

On the matter of new bitumen pipelines, Mulcair, taking a similar line to Obama, said those projects should be judged based on whether they significantly increase Canada's greenhouse gas emissions.

NDP promises cap-and-trade

The NDP under Mulcair is promising a national cap-and-trade program aimed at meeting Canada's commitments on reducing GHGs by toughening environmental reviews for pipelines to ensure they are in line with those obligations.

But the party has been vague on whether those goals will leave room for rising oil sands production.

Both Mulcair and Liberal leader Justin Trudeau (the oldest son of former Prime Minister Pierre Trudeau) have voiced their opposition to the existing federal pipeline review process, pledging that they would introduce stricter more thorough analyses of proposed energy projects.

However, Harper said McQuaig's comments disclosed "the NDP's not-hidden agendas on (oil sands) development. The NDP is consistently against the development of our resources and our economy."

Alberta's opposition Wildrose Party leader Brian Jean said McQuaig's remarks were "deeply concerning" as he called on Notley to stand up to the federal NDP, which operates separately from NDP organizations in the provinces.

Trudeau, brushing off the Harper government's commitment to reduce greenhouse gas emissions by 30 percent from 2005 levels by 2030 — only slightly behind President Barack Obama's target of a 32 percent reduction over the same period of carbon emissions from U.S. power plants — accused Harper of bungling negotiations with the U.S. government on Keystone XL.

He said Harper had "turned the oil sands into a scapegoat around the world for climate change and he's put a big target on our oil sands, which are going to be an important part of our economy for a number of years to come, although we have to get beyond them."

But whether the three leaders engage in a broader, more vigorous debate over the remaining two months of the campaign on the oil and gas industry — given that the oil sands account for only 2 percent of Canada's Gross Domestic Product — is not yet clear.

What has puzzled most observers so far is Harper's reluctance to take a hard-line stance on the bread-and-butter issues that matter most to his home province of Alberta.

He even remarked that contraction of the Canadian economy which has put the country on the brink of recession "is almost exclusively in the energy sector. The rest of the economy is growing and it is projected to grow next year and into future years."

Trudeau seized the chance to paint himself as the leader who is most concerned about Alberta's interests.

"You cannot make a choice between what's good for the environment and what's good for the economy," he said. "In the 21st Century, they go together."

But Trudeau's efforts to scratch together constituency victories in pockets across Canada is also a strategic gamble, given that strongly pro-Harper Alberta elects only 34 members of Parliament, compared with 121 in Ontario, of which 58 are in Greater Toronto.

He does not want to be seen in Ontario, Quebec and British Columbia as cozying up to Alberta if that puts him at odds with the demand for climate-change action in Canada's three largest provinces. ●

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