



page 5 Q&A: Seaton — SB 21 lacked broad modeling; pendulum swung too far

This week's Mining News

A brighter outlook!
Economic uncertainties, industrial demand fuel recent uptick in metal prices

Kiska enjoys renewed interest; drilling planned for Copper Joe

Want More Control of Your Blasting Results?
Ask Us About Differential Energy

TITAN
Matt Budin
907-644-3966
matt.budin@tyndex.com
www.tyndex.com

DYNO
Dyno Nobel

Columnist Curt Freeman says economic uncertainties and industrial demand are fueling recent uptick in metal prices. See page 9.

Oil sands production restarting

The first of 90,000 evacuated residents are re-entering the oil sands city of Fort McMurray a month after much of their community was devastated by wildfires at the same time major producers are devising plans to restart more than 1 million barrels per day of production.

Initially, authorities are allowing about 8,000 workers back into the community and cleared seven work camps north of the city to reopen.

Syncrude Canada, shut down for the first time since it began commercial production in 1978, and Suncor Energy are leading the way in restarting operations, while Imperial Oil is on the verge of embarking on limited operations at its 194,000 bpd Kearl bitumen mine.

Suncor Chief Executive Officer Steve Williams said his com-
see SANDS PRODUCTION page 18

Point Thomson starting to appear on AOGCC production report

Point Thomson came on production April 2 and data now available show that the field averaged just 1,599 barrels per day in April. Production from the ExxonMobil-operated field has started to appear on the Alaska Oil and Gas Conservation Commission's monthly production report, which breaks out data by field and pool, but on a month-delay basis. Production from the field has appeared as part of the report published by the Department of Revenue's Tax Division, but only as a part of the total shown under Endicott. The Revenue data consolidates production by major centers and provides daily and monthly averages. The AOGCC's more detailed data, including Cook Inlet and individual North Slope fields and pools, is reported on a month-delay basis.

see POINT THOMSON page 19

NATURAL GAS

Replenishing resource

Further evidence hydrates bolstering East Barrow natural gas production

By ALAN BAILEY
Petroleum News

For several decades gas fields near Barrow, in the extreme northwest of Alaska, have provided the town with a convenient fuel supply at a stable cost. But the fields present an enigma: Despite continuing gas production, the reservoir gas pressures have not declined as would have been predicted, and the quantity of gas produced has exceeded expectations.

Could this curious phenomenon point the way towards the future development of a huge natural gas resource on the North Slope?

Scientists investigating the fields have suggested two possible explanations for the pressure maintenance in the fields. Either an influx of sub-

terrestrial water into the reservoir is bolstering the gas pressure, or methane hydrate deposits in the reservoirs are dissociating, continuously releasing methane, the primary component of natural gas, and thus continuously replenishing the gas resource in the reservoirs. Low water production from the fields tends to support the methane

see BARROW HYDRATES page 20

EXPLORATION & PRODUCTION

Caelus, BP frack on Slope

Say multi-stage fracking in tight formations could unlock large new resources

By TIM BRADNER
For Petroleum News

North Slope producers are enhancing production from tight-rock formations with multi-stage hydraulic fracturing, and it's a process that could unlock large new oil and gas resources, the companies say.

Companies have done fracturing of wells on the Slope, and in Cook Inlet, for decades. The multi-stage "frack" jobs are larger, however, although not on the scale done in the Lower 48 shale plays.

Caelus Energy has using the process for some time and has been able to boost wells initial rates from about 2,000 barrels per day to 6,000 bpd to 7,000 bpd at its Ooguruk field after fracturing,

While recovery of oil is estimated at 50 percent of 26 billion barrels of oil-in-place in the Ivishak it is only 7 percent of 2.5 billion barrels of oil-in-place in the Lisburne.

according to the company's Alaska vice president, Pat Foley. The Ooguruk well results were published in a Society of Petroleum Engineers paper and presented in a conference in Houston in late 2015.

Caelus sees the technique as a breakthrough technology in unlocking large resources locked in

see SLOPE FRACKING page 18

EXPLORATION & PRODUCTION

Light load at Beluga unit

Hilcorp plans no new wells, no rig workovers at legacy Cook Inlet field

By ERIC LIDJI
For Petroleum News

Hilcorp Alaska LLC has a light workload as it takes over the Beluga River unit.

The local subsidiary of the Texas independent is planning no wells or sidetracks and no rig workovers at the Cook Inlet field over the coming year, although the company told federal officials it might pursue such work "as the need or opportunity arises."

Instead, over the coming year the company will "conduct routine repairs and replacement of facilities as needed or required to maintain and increase field production," according to the 54th plan of development for the field, filed with the U.S. Bureau of Land Management in late April. The potential projects on the docket this year could include small pipeline

For Hilcorp, taking over the field provided another opportunity for applying economies of scale in Cook Inlet.

work, expansions to existing production facilities and the installation of additional disposal, injection or processing equipment "where necessary."

When previous operator ConocoPhillips Alaska Inc. filed the 53rd plan of development for the Beluga River unit, in May 2015, it called the legacy field "fully delineated," suggesting that drilling more wells would fail to yield a worthwhile increase in production rates. The Sterling reservoir had declined to 25 percent of its original pressure, down from 30 percent

see BELUGA UNIT page 18

contents

Petroleum News

North America's source for oil and gas news

ON THE COVER

Replenishing resource

Further evidence hydrates bolstering East Barrow natural gas production

Caelus, BP frack on Slope

Say multi-stage fracking in tight formations could unlock large new resources

Light load at Beluga unit

Hilcorp plans no new wells, no rig workovers at legacy Cook Inlet field

Oil sands production restarting

Point Thomson starting to appear on AOGCC production report

ASSOCIATIONS

14 AOGA packs them in; event big success

Alaska Oil and Gas Association's 50th anniversary and conference draws crowd; proceeds stay in the state

EXPLORATION & PRODUCTION

6 Repsol well reports become available

Data shed little light on major find from Qugruk drilling but Repsol seeks continued confidentiality for Qugruk No. 7 well

6 US drilling rig count holds steady at 404

15 Hilcorp looks to expand Cook Inlet unit

South Middle Ground Shoal would be expanded by some 11,503 acres, 3 leases; unit name would be changed to Middle Ground Shoal

FINANCE & ECONOMY

4 Dealing with the low oil price world

Oil industry managers talk about the opportunities and challenges of contracting in Alaska in today's cash-constrained environment

GOVERNMENT

5 Seaton: SB 21 lacked broad modeling

Homer Republican says pendulum swung from one side to another when Legislature switched from ACES to SB 21, calls for stability

6 Alberta launches climate plan

8 Alaska wetland mitigation costs soaring

State proposing its own program as a way to reduce costs for public, private developers, get remediation for state-owned lands

8 Murkowski asks about legacy well costs

Questions Interior Secretary Jewell on impact of 'critical mistakes' by BLM, contractors in cleaning up abandoned NPR-A wells

8 Murkowski questions proposed BLM rule

IN OTHER NEWS

13 Nuclear gains as clean energy source

New York Times: Efforts across US to bail out nuclear plants; supporters include Energy Secretary, environmentalists

INTERNATIONAL

13 Oil shipments start from Yamal Peninsula

NATURAL GAS

13 AltaGas advances LPG proposal

PIPELINES & DOWNSTREAM

15 Kinder Morgan ready to pay the price

SUBSCRIBE
to *Petroleum News*

Don't miss another issue, call: **907 522.9469**

Project Delivery for Alaska's Oil & Gas Industry

- Engineering and design
- Procurement
- Construction management
- Project Management
- Project Controls

www.nanaworleyparsons.com


NANA WorleyParsons



Alaska - Mackenzie Rig Report

Rig Owner/Rig Type Rig No. Rig Location/Activity Operator or Status

Alaska Rig Status

North Slope - Onshore

Doyon Drilling			
Dreco 1250 UE	14 (SCR/TD)	Milne Point J-28	Hilcorp
Dreco 1000 UE	16 (SCR/TD)	Standby	BP
Dreco D2000 Uebd	19 (SCR/TD)	Alpine CD5-08	ConocoPhillips
AC Mobile	25	Standby	
OIME 2000	141 (SCR/TD)	Kuparuk 2S-05	ConocoPhillips
	142	Kuparuk 3K-27	ConocoPhillips

Hilcorp Alaska LLC	Rig No.1	Milne Point	Hilcorp Alaska LLC
---------------------------	----------	-------------	--------------------

Kuukpik Drilling	5	Offshore Modification	Hilcorp
-------------------------	---	-----------------------	---------

Nabors Alaska Drilling			
AC Coil Hybrid	CDR-2	Kuparuk 2F-18	ConocoPhillips
Dreco 1000 UE	2-ES (SCR-TD)	Deadhorse	Available
Mid-Continental U36A	3-S	Deadhorse	Available
Oilwell 700 E	4-ES (SCR)	Deadhorse	Available
Dreco 1000 UE	7-ES (SCR/TD)	Deadhorse	Available
Dreco 1000 UE	9-ES (SCR/TD)	Deadhorse	Available
Oilwell 2000 Hercules	14-E (SCR)	Deadhorse	Available
Oilwell 2000 Hercules	16-E (SCR/TD)	Mustang location	Available
Oilwell 2000 Canrig 1050E	27-E (SCR-TD)	Deadhorse	Available
Oilwell 2000	33-E	Deadhorse	Available
Academy AC Electric CANRIG	99AC (AC-TD)	Deadhorse	Available
OIME 2000	245-E (SCR-ACTD)	Oliktok Point	ENI
Academy AC electric CANRIG	105AC (AC-TD)	Deadhorse	Available
Academy AC electric Heli-Rig	106AC (AC-TD)	Deadhorse	Available

Nordic Calista Services			
Superior 700 UE	1 (SCR/CTD)	Prudhoe Bay, Standby	BP
Superior 700 UE	2 (SCR/CTD)	Prudhoe Bay Drill Site 11, Well 12A	BP
Ideco 900	3 (SCR/TD)		Available

Parker Drilling Arctic Operating Inc.			
NOV ADS-10SD	272	Prudhoe Bay DS 18	BP
NOV ADS-10SD	273	Prudhoe Bay DSW-59	BP

North Slope - Offshore

BP			
Top Drive, supersized	Liberty rig	Inactive	BP

Doyon Drilling			
Sky top Brewster NE-12	15 (SCR/TD)	Stacked	

Nabors Alaska Drilling			
OIME 1000	19AC (AC-TD)	Oooguruk Cold Stacked	Caelus Alaska

Interior Alaska

Doyon Drilling			
TSM 7000	Arctic Fox #1	Nenana Toghothle #1	Horizon Oil

Cook Inlet Basin – Onshore

Miller Energy Resources			
Mesa 1000	Rig 37	Mobilized to North Fork to begin drilling this winter	Miller Energy Resources

All American Oilfield LLC			
IDECO H-37	AAO 111	In All American Oilfield's yard in Kenai, Alaska	Available

Aurora Well Services			
Franks 300 Srs. Explorer III	AWS 1	Stacked out west side of Cook Inlet	Available

Saxon			
TSM-850	147	Stacked	Hilcorp Alaska LLC
TSM-850	169	Stacked	Hilcorp Alaska LLC

Cook Inlet Basin – Offshore

Hilcorp Alaska LLC			
National 110	C (TD)	Platform C, Stacked	Hilcorp Alaska LLC
	Rig 51	Steelhead Platform, Stacked	Hilcorp Alaska LLC
	Rig 51	Monopod Platform, Drilling	Hilcorp Alaska LLC

Spartan Drilling			
Baker Marine ILC-Skidoff, jack-up		Spartan 151 Upper Cook Inlet KLU#1	Furie

Cook Inlet Energy			
National 1320	35	Osprey Platform, Suspended	Cook Inlet Energy

Mackenzie Rig Status

Canadian Beaufort Sea

SDC Drilling Inc.			
SSDC CANMAR Island Rig #2	SDC	Set down at Roland Bay	Available

Central Mackenzie Valley

Akita			
TSM-7000	37	Racked in Norman Well, NT	Available

The Alaska - Mackenzie Rig Report as of June 1, 2016.
Active drilling companies only listed.

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

This rig report was prepared by Marti Reeve



JUDY PATRICK

Baker Hughes North America rotary rig counts*

	May 27	May 20	Year Ago
United States	404	404	875
Canada	43	44	98
Gulf of Mexico	23	23	29

Highest/Lowest

US/Highest	4530	December 1981
US/Lowest	488	April 1999
Canada/Highest	558	January 2000
Canada/Lowest	29	April 1992

*Issued by Baker Hughes since 1944

FINANCE & ECONOMY

Dealing with the low oil price world

Oil industry managers talk about the opportunities, challenges of contracting in Alaska in today's cash-constrained environment

By ALAN BAILEY

Petroleum News

With a modern oil company dependent on a team of contracting businesses to provide the supplies and services critical to the operation of oil and gas field assets, coping with the challenges of the recent oil price downturn has required urgent action both by operating companies and by the contractors with which they engage.

On May 25 during the 50th anniversary conference of the Alaska Oil and Gas Association, some managers from companies operating in Alaska talked about how they have been working with the contracting community to address the low oil price situation.

Frank discussions

Stan Golis, Cook Inlet operations manager for Hilcorp Alaska, said that immediately after the oil price collapsed his company had sat down with its contractors for frank discussions on how to make significant reductions in the cost structure of the services that the contractors provide.

"What I appreciated was that they were responsive," Golis said. "They listened to us. We had an excellent dialogue back and forth and we understood each others' perspectives."

After making appropriate adjustments, Hilcorp continued to make money, even when the oil price dropped to \$30, he said.

Larry Burgess, health, safety and environment manager for BlueCrest Operating Alaska, commented that in the days of \$100 oil, the price of services and the cost of labor

had become inflated. Now, with companies hungry for work, goods, services and materials are much cheaper than a few years ago — the cost of pipe, for example, has dropped by 70 percent, he said.

But Burgess also emphasized the importance of ensuring that contractors continue to have viable businesses.

"If they're not making money, they're not going to do a good job," Burgess said. "They'll take shortcuts, which results in injuries."

New paradigm

JP Connelly, regional director of Alaska procurement, BP Exploration (Alaska), sees the current situation as a new paradigm, with deeper and longer commodity price cycles and a corresponding need for a long-term approach to contracting. Connelly said that, with both the oil companies and the contractors needing to focus on cost reduction, a supplier needs to "leave the sales pitch out" and, instead, focus on negotiating transparently to find a deal that the businesses on both sides of the contract can live with. It is necessary for the contractor to be open about cost structures and cost buildups so that both businesses can help each other find efficiencies and gains.

"I think that ultimately this is about sustainability," Connelly said.

"What I don't want is someone just trying to sell me something and invoice me," Golis said. "They need to understand my business. I'm looking for a long-term relationship."

An understanding of the business and a willingness to innovate can lead to improved efficiency and cost reduction. But, although innovation is important, a contractor must address the service that has been requested, and not, for the sake of innovation, skip over into some other service offering, Connelly emphasized.

"You want to stick to the script and understand the work very deeply, and then work from there," he said.

The new normal

Golis said that in "the new normal" of the oil industry, the low cost producer is going to survive.

"We have to lower our cost structure longer term to be competitive," Golis said. "We are competing against Saudi Arabia. We're working very hard through our whole supply chain to drive those costs down."

Dan Flodin, supply chain management director for Alyeska Pipeline Service Co.,

the operating company for the trans-Alaska pipeline, commented on the success that his company had seen in the first quarter of 2015, when working with the company's largest service contractors to make new agreements that have since gone into effect to see the company through the difficult times of low oil prices. That was a rewarding process that worked very well, Flodin said.

And Connelly commented on the vital role that the contractors play.

"If we're going to come out on the other side as a stronger company, it's going to be in large part thanks to our suppliers," he said.

Burgess also commented on the value of working with local Alaska contractors, who can respond quickly to changing needs or any issues that arise. The use of a local contractor had proved particularly successful during the construction of a man camp that BlueCrest required.

"I couldn't ask for better performance from the contractor," Burgess said.

The procurement process

Despite the changing world of the oil industry, it appears that the essential procurement process for engaging contractors and the basic selection criteria for those contractors have changed little. However, several managers commented on the ever-increasing importance of safety and environmental performance in contractor selection. Burgess commented that a contractor has to exceed a specified level of proven safety performance to be considered a candidate for a BlueCrest contract.

Connelly commented on the dangers associated with the working environment in the oil industry and the effort and resources that need to go into ensuring safe operations.

"We look for suppliers that value safety as really part of what they do, as opposed to something else they just have to tick the box for," Connelly said.

The absolute must haves for a contractor are experience, quality goods and, more importantly, the quality of the personnel, Burgess said.

"It doesn't matter how good your material is or your equipment ... if you've got someone out there who either doesn't care or doesn't understand the product, it's a disaster," he said. ●

Contact Alan Bailey
at abailey@petroleumnews.com



NORTHWEST LININGS & GEOTEXTILE PRODUCTS, INC.

Northwest Linings has over 41 years of experience in the Oil & Gas industry, supplying & installing geomembrane liners for tanks, pits, pads, secondary containment, landfills, and ponds. In addition, we supply geotextiles, geogrids, erosion blankets, straw logs, gabions, and other geosynthetics throughout the United States.

21000 77th Ave S
Kent, WA 98032
P: 253-872-0244
F: 253-872-0245

"Helping to Protect the Environment"

Visit us at: www.northwestlinings.com



www.PetroleumNews.com

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

ADDRESS

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

NEWS

907.522.9469
publisher@petroleumnews.com

CIRCULATION

907.522.9469
circulation@petroleumnews.com

ADVERTISING

Susan Crane • 907.770.5592
scrane@petroleumnews.com

Bonnie Yonker • 425.483.9705
byonker@petroleumnews.com

FAX FOR ALL DEPARTMENTS
907.522.9583

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



OWNER: Petroleum Newspapers of Alaska LLC (PNA)

Petroleum News (ISSN 1544-3612) • Vol. 21, No. 23 • Week of June 5, 2016

Published weekly. Address: 5441 Old Seward, #3, Anchorage, AK 99518

(Please mail ALL correspondence to:

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

Subscription prices in U.S. — \$118.00 1 year, \$216.00 2 years

Canada — \$206.00 1 year, \$375.00 2 years

Overseas (sent air mail) — \$240.00 1 year, \$436.00 2 years

"Periodicals postage paid at Anchorage, AK 99502-9986."

POSTMASTER: Send address changes to Petroleum News, P.O. Box 231647 Anchorage, AK 99523-1647.

WE KNOW PIPES, INSIDE AND OUT.

At Flowline Alaska, we've spent decades helping to keep oil flowing on the North Slope. It's a record we're proud of, and we look forward to a future where we can provide the service and support necessary to grow and expand Alaska's energy industry. Because we want to keep Alaska's oil flowing, today and tomorrow.



FLOWLINE
ALASKA, INC.

flowlinealaska.com | 907.456.4911

GOVERNMENT

Seaton: SB 21 lacked broad modeling

Homer Republican says pendulum swung from one side to another when Legislature switched from ACES to SB 21, calls for stability

By STEVE QUINN

For Petroleum News

House Rep. Paul Seaton has been on the House Resources Committee for his entire time in office: 14 years. The Homer Republican joined Republican North Pole Rep. Tammie Wilson in crafting the House's version of HB 247, which is being sorted out with in a conference committee during this special session. Seaton spoke to Petroleum News about what drove the compromise and why he believes SB 21 and chronically low oil prices have put the Legislature in a difficult position.

Petroleum News: You've been on Resources for 14 years, so as you see it what are the dynamics driving the HB 247 discussion. Is it the deficit or something more?

Seaton: What's driving this is the deficit and we recognize that SB 21 did not adequately look at low prices. When you look back at the information we got from the consultants, the range of prices estimated ran from \$80 to \$140 with \$80 being low and \$100 getting the most concentration.

People didn't want to concentrate or think about full range of prices. People found during the ACES debate that people hadn't concentrated enough on the impacts of high prices. People get stuck in a grind of the price today is what the price is going to be. Without a full analysis of where you are, you end up where we are now: really large problems at low oil prices.

Petroleum News: There's been quite a disparate view on what, if anything, should be done with the oil tax credits and even the minimum rate. What are your observations on this?

Seaton: There were different philosophical viewpoints. One was the companies are losing money so we have to do everything we can to protect them at low prices and help mitigate their losses. The other view was we have a tax system that isn't working where we could end up paying more in some cases than we receive in production tax.

It's hard to have a production tax credit when you have no production tax. The current system has the ability at low prices to generate zero production tax because the large companies can roll forward credits based on the net operating loss from the previous years to offset their tax to zero.

At a time when we are severely fiscally constrained, we could get no production tax, in fact have more liability because of cash credits paid out to the smaller companies, supporting the industry by taking only from savings.

Petroleum News: What about royalty income?

Seaton: Yes, some say can spend your royalty, but

the problem is the royalty is the ownership value of the oil, not the tax value of oil. We had created a tax credit system to receive money from oil companies from the tax and remit part of that to incentivize certain kinds of development. Having failed to analyze that fully at low prices, we found that the system did not work for the treasury. Some people say it's working for the companies or some people say it's working to keep investment going, but there were some big anomalies in the bill.

The tax credits that were allowed in the transition to roll forward at 45 percent of net operating loss combined with the exploration credit of 40 percent meant that the state on some projects would be paying 85 percent of the entire project, which is extraordinary when we get no additional value from that.

In other words, we would get value from royalty if it's ever produced and we would gain production tax if it's ever produced. But since it's new oil projects, there was a concession in there called gross value reduction, in which if it was new oil, 20 percent of the entire revenue, the gross revenue that they receive was exempt from taxation.

If it was a field that had greater than 12.5 percent royalty, then there was SB 21 language that said oh, we will give you an additional 10 percent of your gross revenue that will not be taxed. When you combine that 30 percent of the gross revenue not being taxable, there was this anomaly built into the law to use the gross value reduction and add it back into their loss so we could actually pay 100 percent or over 100 percent of the costs. That's if it happened to be a producer that had gross value reduction that would mean we would pay 100 percent of the project. We had that in Smith Bay with two wells drilled there.

I can't tell you the exact amount whether it was 85 or 100 percent, but depending on how the claims were made, it could be either one of those two situations with us not getting any ownership share of the project while investing 85 percent or more of the entire cost of the exploration, didn't make much sense to me. To some people it does.

That has gone away. The exploration credits expire this year, so we won't have that. And the 45 percent has been reduced to 35 percent because the 45 percent was transition from ACES to what we have today.

So in broad generalities there are a number of things in the tax code. We have SB 21 and combinations with previous taxes, because not everything went away and was replaced with a standalone SB 21. It was stacked on and transitioned from other taxes. All those things playing together created what some of us view as anomalies. The oil companies saw those as the way the tax law was written and so it should remain that way. They have testified against all changes to oil and gas taxes.

kind of response other than that? Their job is to look out for their interests.

Seaton: I have never said that if we have a tax code that allows 85 percent or 100 percent that somebody shouldn't use the tax code. That's our fault, not theirs. It could be theirs if they knew these things ahead of time when the discussions were taking place, which we didn't know and they kept quiet about. But they are not required to tell us when we make mistakes, either. So I don't knock any company for doing that. I'm just saying we need to clean up our system. There is no tax system that's perfect.

I mean ACES had problems. I had a bill in to modify ACES at the time Gov. Parnell was doing SB 21. I offered one (HB 51) before that to get rid of that top 25 percent bracket. Instead of modifying that system, we went to an entirely different system.

With tax systems, we've got this problem that's kind of like a pendulum that swings one way and gets overloaded then comes back and swings too far the other way. My goal is to get us a reasonable accommodation for both the industry and the resource owner, the taxing authority, which is the state of Alaska.

Petroleum News: So how did you and Rep. Wilson manage to craft something that got out of the House?

Seaton: We had to modify what we wanted to see. A very good example is we both knew taking one-third of the company's expense and giving them a tax credit for that, whether it's a cash credit or a write off was too high an amount. The original amendment, No. 12 that was offered on the floor and a tie vote 19-19, that amendment said we would no longer do credits at 35 percent, we would do them at what Gov. Parnell originally proposed, which was a 25 percent tax credit. So it was an instantaneous ramp down started next year. In those negotiations the group that Rep. Wilson represented wanted a step down approach and we worked on that. It would be a 2 percent reduction each year, so we were not really happy with where we were. But we looked at what's acceptable. How can we get there? The minority was concerned it was too slow a ramp down. They wanted a 3 percent ramp down, so the proposals were modified. It was a situation where nobody was getting what their philosophy supports.

We had three goals the whole time this discussion was taking place. One was to reduce immediate expenditures. That related to everybody agreeing July 1 getting rid of the qualified capital credits. That would be an immediate change in expenditure. The other one was to lower the long-term liability for the state.

That was done in two ways. One was reducing the rate at which you gave credits to 25 percent. The other was the credits couldn't be carried forward if you were a producer who had reached the economics of your field, and that was 15,000 barrels per day.



REP. PAUL SEATON



Petroleum News: Realistically, do you expect any

see SEATON Q&A page 17

Designed for Alaska's North Slope

- Unbeatable Quality
- Mens & Womens FRC
- Superior Technology
- Preferred Comfort
- Market-Proven Performance
- Designed in Anchorage Built in Kentucky
- NFPA 2112 Certified Fabrics

korbana.com Made in U.S.A.

Alaska Textiles

WHEN IT COMES TO SAFETY... THE PROVIDER MATTERS

- Alaska's Largest FRC Inventory
- 30,000+ Items Ready for Quick Ship
- Industry Leader
- Proven Performance

THAT'S WHY SO MANY COMPANIES CHOOSE ALASKA TEXTILES FOR THEIR FRC NEEDS

alaskatextiles.com (907) 265-4880

PERFORMANCE UNDER PRESSURE

American Marine Services Group

6000 A Street, Anchorage, AK 99518

907-562-5420

Deadhorse, AK

907-659-9010

www.amarinecorp.com • www.penco.org
alaska@amarinecorp.com

- Commercial Diving
- Marine Construction Services
- Platform Installation, Maintenance and Repair
- Pipeline Installation, Maintenance and Repair
- Underwater Certified Welding
- NDT Services
- Salvage Operations
- Vessel Support and Operations

- Environmental Services
- Oil-Spill Response, Containment and Clean-Up
- Hazardous Wastes and Contaminated Site Clean-Up and Remediation
- Petroleum Vessel Services, e.g. Fuel Transfer
- Bulk Fuel Oil Facility and Storage Tank Maintenance, Management, and Operations

Anchorage
Honolulu
Los Angeles

GOVERNMENT

Alberta launches climate plan

Alberta has introduced legislation to enact its sweeping climate-change plan amid widespread doubts that the government will achieve its most ambitious objectives.

Cleaning up Alberta's sullied environmental reputation is seen as vital by the New Democratic Party government of Premier Rachel Notley and several energy industry leaders, who are counting on the strategy to attract new investment by putting a greater emphasis on technology to reduce carbon emissions and advance renewable energy supplies.

Environment Minister Shannon Phillips said the plan will "diversify our economy, create new jobs, improve the health of Albertans and erase any doubt about our environmental record. It will also open up new markets for our products."

Critics argue that the carbon levies on transportation and heating fuels of C\$20 a metric ton in 2017 and C\$30 in 2018 will only contribute to rising unemployment and a higher cost of all goods for Albertans.

Still to come are other pieces of legislation, notably a limit of 100 million metric tons on annual carbon emissions from the oil sands.

But what troubles opponents most at this time is the decision to issue rebate checks to about 60 percent of Albertans on modest incomes to offset their annual carbon tax.

The direct extra cost of the new taxes on gasoline and heating is estimated at C\$338 a year for a couple with two children on a combined income of C\$95,000 or less. Those families will receive a check for C\$360, although indirect carbon levies are calculated at an additional C\$70 to C\$105.

In its April budget, the government calculated that it will raise C\$9.6 billion through levies on consumers and major carbon emitters over the next five years, though it insisted that money will go only to dedicated uses, such as actions that address climate change, or help small businesses or First Nations.

Greg Clark, leader of the minority Alberta Party, is not convinced that the rebates will persuade people to reduce their carbon output.

"I'm very supportive of climate action," he said. "But if the incentives aren't there, why would anybody use (less fossil fuels)? This looks more like a wealth redistribution tax than a carbon tax."

—GARY PARK

Environment Minister Shannon Phillips said the plan will "diversify our economy, create new jobs, improve the health of Albertans and erase any doubt about our environmental record. It will also open up new markets for our products."

EXPLORATION & PRODUCTION

US drilling rig count holds steady at 404

The number of rigs drilling for oil and natural gas in the U.S. held steady the week ending May 27 at 404. That number, reported by Houston oilfield services company Baker Hughes, was the same as the number for the week ending May 20, which was another all-time low amid low energy prices.

A year ago, 844 rigs were active.

Baker Hughes said 316 rigs were drilling for oil, down two from the previous week, and 87 for natural gas, up two. One was listed as miscellaneous.

Among major oil- and gas-producing states, Alaska, Kansas and North Dakota were each down one rig.

Oklahoma was up by two rigs and Louisiana was up by one rig.

The U.S. rig count peaked at 4,530 in 1981. The previous low of 488 set in 1999 was eclipsed March 11, and has continued to slide.

—PETROLEUM NEWS AND ASSOCIATED PRESS

EXPLORATION & PRODUCTION

Repsol well reports become available

Data shed little light on major find from Qugruk drilling but Repsol seeks continued confidentiality for Qugruk No. 7 well

By ALAN BAILEY

Petroleum News

Repsol E&P USA Inc.'s reports for three exploration wells that the company drilled on the North Slope in 2014 have become publicly available through the Alaska Oil and Gas Conservation Commission. The wells in question are the Qugruk Nos. 5 and 5A wells, and the Tuttu No. 1 well. Repsol also drilled the Qugruk No. 7 well in 2014, but the company has filed a request to keep the reports for that well secret beyond the normal 24-month term of confidentiality.

The reports from the Qugruk wells shed little light on the massive oil find that Repsol has reported in the area of the Qugruk drilling. A proposed development of the find is currently the subject of an environmental impact statement investigation.

According to Repsol's completion report for the Qugruk No. 5 well, no production testing was conducted in that well. The well, located in section 24, township 12 north, range 6 east, Umiat Meridian, penetrated the

According to AOGCC records, Repsol has drilled a total of 13 Qugruk wells and sidetracks, five of which remain confidential because they were drilled after 2014.

Schrader Bluff, Tuluvak and Nanushuk formations; the HRZ/Pebble shale; and the Alpine and the Nuiqsut formations before bottoming out at a vertical depth of 7,164 feet.

The report for the Qugruk No. 5A, a sidetrack to the No. 5 well, indicates that the 5A well penetrated the Kuparuk C sands and the Kingak shale, in addition to the formations penetrated by the No. 5 well. The 5A well bottomed in the Nuiqsut formation at a vertical depth of 7,010 feet. The report says that a fracking operation and flow test were attempted in the Nuiqsut near the bottom of the well but that the drilling team encountered problems with a downhole valve. Although during a clean-out of the well 5.9 barrels of oil were recovered, a second attempt at a flow test resulted in no fluid return.

According to AOGCC records, Repsol has drilled a total of 13 Qugruk wells and sidetracks, five of which remain confidential because they were drilled after 2014. In 2015 reports for four of the wells, drilled in 2013, became available. Two of these wells tested for oil and gas production: The Qugruk No. 1 flowed oil at a rate of 950 barrels per day from the Nuiqsut formation, and gas at a rate of 264 mcf per day; The Qugruk No. 6 flowed oil at 140 bpd from the Nechelik formation and gas at a rate of 1,692 mcf per day.

Repsol drilled the Tuttu No. 1 well in a completely different prospect in a lease to the south of the Prudhoe Bay unit in section 8, T10N, R11E, UM. The well penetrated the Schrader Bluff formation, the Hue shale, the Seabee formation and the Torok formation before bottoming in the HRZ at a vertical depth of 6,336 feet. There is no report of any flow testing in the well, but Repsol did conduct modular dynamic testing within what appears to be the upper part of the Schrader Bluff formation — that testing indicates the presence of oil and water. ●

Contact Alan Bailey
at abailey@petroleumnews.com



Automated Laundry Systems & Supply, an Energy Conservation Company, provides Complete Laundry Room Solutions designed for the unique needs of the petroleum and gas industries.

Products & Services

Design Consultation • Commercial & Industrial Laundry Equipment
Energy Saving Ozone Equipment • OEM Parts • Technical Service
Housekeeping Chemicals and Supplies

Partnered with Unimac, the world's leading manufacturer of on-premises laundry equipment, we provide the toughest and most innovative laundry equipment in the industry.

AUTOMATED LAUNDRY SYSTEMS & SUPPLY

5020 Fairbanks Street, Anchorage, AK 99503-7442 • Phone: 907.771.0104 • Fax: 907.561.3178
Email: sales@autolaundrysystems.com • Website: www.autolaundrysystems.com/myindustry/petroleum

THIS AIN'T TEXAS

WE'RE THE EXPERTS AT BUILDING FOR ALASKA.

Alaska's fully integrated steel fabricator, service center and coatings facility.



STEELFABAK.COM

WORLD-CLASS EXPERTISE LOCALLY DELIVERED



Valdez Marine Terminal

Safety. Integrity. Teamwork. Excellence.

For more than 100 years these values have been the foundation of our success.

Fluor is one of the world's largest publicly traded engineering, procurement, construction, maintenance, and project management companies. Since 1954, we have built some of the largest and most significant projects in the history of Alaska.

Alaska Office • 4300 B Street, Suite 210 • Anchorage, AK 99503 • 907.865.2000

Fluor.Alaska@fluor.com

FLUOR®

● GOVERNMENT

Alaska wetland mitigation costs soaring

State proposing its own program as a way to reduce costs for public, private developers, get remediation for state-owned lands

By TIM BRADNER

For Petroleum News

Wetlands mitigation costs in Alaska have soared, and that's partly because privately owned mitigation banks certified by the U.S. Army Corps of Engineers see a good money-making opportunity.

In fact, it's a money machine, critics say.

The Army Corps tells developers how many acres they need for mitigation and hand them a list of approved mitigation banks. There are just a handful of these in Alaska, so it's not a robust market.

A mitigation bank is typically organized around a piece of property that is owned by one or more landowners or has been purchased by an investor group specializing in this niche market.



SARA LONGAN

"Often times, Alaska mitigation bankers are a consortium of private landowners sometimes backed by outside mitigation investment groups," said Sara Longan, a state Department of Natural Resources official who directs DNR permitting actions.

There's no shortage of capital available for mitigation banks. "There are many for-profit investment groups and bankers nationwide," Longan said.

These are essentially private real estate transactions. Mitigation banks buy property and work with the Army Corps to certify the wetland values. When developers require compensatory mitigation, in order to comply with the Clean Water Act, they approach the available bankers and the outcome is a financial negotiation between the two parties.

Little transparency

The Corps has no role in these transactions and only gets involved in specifying how many acres and what types of land must be in the mitigation. The per-acre fee is negotiated and is private. There is little transparency.

"Mitigation banker information and specific bank mitigation costs are not typically publicly available," Longan said.

This is troubling to many Alaskans including Bill Jeffress, principal consultant with SRK Consulting, of Anchorage. No one knows where the money goes or what many of the mitigation banks use the money for, Jeffress said.

"This is almost extortion. These are private organizations and there's no public input or review by a state or federal agency," he said.

There is no mechanism for dispute resolution if the price is too high, Jeffress said.

In practice, major corporations like oil companies operating on the North Slope often just write a check to get on with their business.

"Everyone wants their permit and if there's a dispute the Corps will say, 'we'll just hold the permit' until things are worked out," Jeffress said. The delays make disputing an acreage fee not a realistic option.

Raising the bar

However, the high prices extracted raise the bar for all developers, like mining companies and even real estate developers near larger communities.

Jeffress also said the Corps has given latitude to the private mitigation banks to make decisions on classifying lands that affect the price of mitigation. For example, lands in the Kuparuk River oil field on the North Slope have been classified as "urban," he said, as if the land was in midtown Anchorage. That raises the price.

Similarly, land at the Red Dog Mine north of Kotzebue was classed as "rural" as if it were adjacent to a village, rather than "remote," which is actually the case at Red Dog. That classification raises the price, too.

Lack of transparency isn't the case with all organizations in the mitigation field, however. Greatland Trust, of Anchorage, is a nonprofit In-Lieu Free provider that works with developers to find acreage for mitigation. It also buys and owns some lands to gain wetlands credits, said Pat Pourchot, acting director of Greatland Trust, who is a for-

mer state Commissioner of Natural Resources.

"We're quite open about what we do and in fact we like to brag about it," Pourchot said. "We've preserved a lot of wetlands."

Not everyone is as open as Greatland Trust, however. Pourchot acknowledged that mitigation banks are private organizations, and keep their information tight, mainly because they're in the buying and selling of properties.

"We'd like to know what some of their prices are (the banks)," Pourchot said.

One organization certified to work on Slope

Not only is the market limited, with just a handful of groups in the mitigation business but there is now only one organization, The Conservation Fund, that is certified to work on the North Slope. Other banks and in-lieu providers are certified in other parts of the state.

Another problem is that because of the way the federal program is structured there are few options in finding suitable off-site acreage. The mitigation must be done in Alaska, for example, and as close to the project site as possible and preferably in the same watershed, the Army Corps says.

There's also not a lot of disturbed acreage in Alaska that can be restored as wetlands, particularly on the North Slope. Almost all of the Slope, and most of the state, is pristine.

Pristine lands can be preserved such as through a conservation easement as an alternative under the Corps program, but it isn't the agency's preference. In any event, locking up more Alaska land isn't an appealing policy outcome, said Jeffress. He would prefer to see the money used for restoring disturbed sites, where that is possible.

State proposing own program

Meanwhile, all of this is a sure-fire prescription for rising costs, which is exactly what has happened.

Ed Fogels, deputy state commissioner of Natural Resources, said the state of Alaska is now proposing its own in-lieu fee mitigation program, mainly to create mit-

see MITIGATION COSTS page 14

GOVERNMENT

Murkowski questions proposed BLM rule

U.S. Sen. Lisa Murkowski has sent a letter to the Bureau of Land Management, questioning a new rule that the bureau has proposed for developing resource management plans for federal land. Murkowski, a Republican and Alaska's senior senator, has asked BLM to drop the rule proposal. The agency manages more than 70 million acres of land in Alaska, including the National Petroleum Reserve-Alaska. The public comment period for the proposed plan ended on May 25.

BLM says that the proposed new method for plan development would enable the agency to apply best practices gleaned from land-use planning over the past 30 years. The new procedure includes a new planning assessment phase prior to the scoping of a plan, and the development of a list of potential areas of critical environmental concern during that new phase. The proposed regulations include changes to the public comment arrangements and to the rules for coordination with state and local land use plans during BLM plan development.

Disadvantage to Alaskans

Murkowski told BLM in a May 24 letter that the proposed regulations would significantly disadvantage Alaskans. The regulations would only require consistency between federal plans and state plans which have been adopted and approved. Given that Alaska's full land entitlement within the state has yet to be processed, the state cannot have approved plans for all of the land that it anticipates owning. Moreover, the proposed rule shortens the review period for identifying plan inconsistencies while shifting responsibility for identifying inconsistencies entirely to state, local and tribal entities, Murkowski wrote.

Murkowski also commented that the new regulations for designating areas of critical environmental concern could compromise the balance between environmental conservation and public land use that is encapsulated in the Alaska National Interest Lands Conservation Act, especially as, under the proposed rule, there may be no opportunity for public comment on the designated areas.

Murkowski also said that administrative boundaries within BLM for the new regulations could result in BLM officials from outside Alaska making land management decisions over lands within the state with which they are not familiar.

And, being a major federal action with extensive likely human and economic impacts, the proposed rule requires an environmental impact statement, under the terms of the National Environmental Policy Act, Murkowski said.

—ALAN BAILEY

● GOVERNMENT

Murkowski asks about legacy well costs

Questions Interior Secretary Jewell on impact of 'critical mistakes' by BLM, contractors in cleaning up abandoned NPR-A wells

By KRISTEN NELSON

Petroleum News

While the Alaska Oil and Gas Conservation Commission has been questioning the U.S. Bureau of Land Management about the actions of its contractors in cleaning up legacy wells in the National Petroleum Reserve-Alaska, Alaska's senior senator, Lisa Murkowski, is querying Department of the Interior Secretary Sally Jewell about how the costs of redoing work incorrectly done will impact amounts available for the overall cleanup.

In a May 25 letter Murkowski said she has pushed Interior "for years ... to properly remediate all 136 wells and core tests drilled in NPR-A by the U.S. Navy and the U.S. Geological Survey between 1944 and 1982." In 2013, Murkowski said, she secured \$50 million to accelerate cleanup of the legacy wells, "with the expectation those funds would be used quickly and wisely by the Department to resolve this



LISA MURKOWSKI

multi-decade catastrophe."

March and April letters from AOGCC to BLM identified violations by BLM and its contractor SolstenXP in plug and abandonment operations at Simpson Core Test 26.

An April response from BLM referred to the agency's contractor as Marsh Creek LLC and SolstenXP as Marsh Creek's subcontractor and said it had informed the contractor of omissions in procedures. The contractor implemented a corrective action plan, BLM said.

Lack of industry standards

Murkowski said in her letter that she had "received reports that BLM has not been requiring its contractors to follow industry standards, state and federal regulations, or approved procedures during the remediation process."

At Simpson Core Test 26, Murkowski said, a well "known to be cable of flow-

see LEGACY WELLS page 19



page 10 Pebble owner seeks US\$15M to advance project to permitting

NEWS NUGGETS

Compiled by Shane Lasley

Kiska enjoys renewed interest; drilling planned for Copper Joe

Kiska Metals Corp. May 31 provided an update on its portfolio of projects, including a planned drill program on its Copper Joe copper-gold-molybdenum porphyry project in Southcentral Alaska. "Kiska is excited to be entering this period of renewed interest in the resource sector with over C\$4 million of cash and marketable securities on hand, active option agreements with top-tier companies, drill-ready projects available for option, and a growing royalty portfolio," said Kiska President and CEO Grant Ewing. Copper Joe is currently under an option agreement with First Quantum Minerals. A magnetotelluric geophysical survey conducted in 2015 identified a 1,000-meter-wide anomaly that is coincident with an extensive zone of intense phyllic alteration at surface. The core of this anomaly has yet to be drilled and First Quantum has indicated that it will carry out a drilling program this summer. Kiska is also anticipating exploration at Kliyul, an early-stage gold-copper porphyry project in northern British Columbia held under an option agreement with Teck Resources Ltd. Teck has completed roughly C\$3 million at Kliyul to date and must complete roughly C\$1 million in additional exploration on the property, or make the equivalent cash payment to Kiska prior to Jan. 31, 2017 to maintain the option. Kiska's portfolio also includes six other prospective projects available for option: the Chuchi, Golden Triangle, Williams and Redton projects in British

see **NEWS NUGGETS** page 10

A brighter outlook!

Economic uncertainties, industrial demand fuel recent upturn in metal prices

By **CURT FREEMAN**
For Mining News

With metal prices stabilizing, physical stockpiles dwindling and demand again on the rise, things are beginning to look up for the beleaguered mining industry.

Gold's performance over the past several months is a case in point. The World Gold Council reported that during the first quarter, buying of exchange-traded gold funds rose to its highest level since early 2009, wiping out the deep sell-offs of 2014 and 2015 for this instrument. Uncertainties in the fiscal stability of the European, Japanese, Chinese and American economies further fueled the demand and price increases seen in the past several months.

But for most metals, including silver, copper, lead, zinc, rare earth metals and graphite, all of which are part of the Alaska mining sector, industrial demand is the key long-term driver and long-term forecasts look brighter, if not downright daunting! In the April 2016 Newsletter of the Society of Economic Geologists, authors Keenan Jennings and Richard Schodde point out that with current commodity demand increases of two percent to three percent per year, the mining sector will need to deliver 50-80 percent more metal within 20 years. Even bringing on near-mine projects that are in the pipeline moving to production will not satisfy this demand. And that does not count the inevitable mine closures that will occur as finite resources are depleted. So with the sun shining and the seasonal exploration and development clock ticking loudly, Alaska's mining industry is going back to the field in increasing numbers in anticipation of better times ahead.

Western Alaska

GRAPHITE ONE RESOURCES INC. announced that it had produced premium grade

The author

The author Curt Freeman, CPG #6901, is a well-known geologist who lives in Fairbanks. He prepared this column May 31. Freeman can be reached by mail at P.O. Box 80268, Fairbanks, AK 99708. His work phone number at Avalon Development is (907) 457-5159 and his fax is (907) 455-8069. His email is avalon@alaska.net and his website is www.avalonalaska.com.



CURT FREEMAN

spheroidized graphite from 99.98 percent graphitic carbon from its Graphite Creek deposit. The laboratory product was created from Spheroidal, Thin, Aggregate and eXpanded graphite, with yields in the first-run trial averaging 74.6 percent. The initial results suggest that processing of STAX graphite from the project is potentially less energy intensive than conventional flake graphite recovery processes. Follow-up work on STAX graphite involved performance tests on coin cell batteries manufactured with the company's premium grade uncoated spheroidized graphite. Three of the five coin cells evidenced a first discharge capacity that approached natural graphite's theoretical maximum with results deviating by less than 1 percent and one coin cell result equaling it. Coin cell tests also demonstrated the ability of the graphite to achieve the same or similar discharge capacity in repeated subsequent charging and discharging cycles. Results from these studies are being incorporated into the company's preliminary economic analysis, due out in late June.

NOVAGOLD RESOURCES INC. said the U.S. Army Corps of Engineers had extended the draft

see **FREEMAN** page 11

Want More Control of Your Blasting Results?

Ask Us About Differential Energy

TITAN
BULK EXPLOSIVES

AE
Differential Energy

Matt Budin
907-644-3966
matt.budin@dynonobel.com
www.dynonobel.com

DYNO
Dyno Nobel

NORTHERN NEIGHBORS

Compiled by Shane Lasley



ATAC RESOURCES LTD.

Soil sampling has outlined 10-square-kilometer (2,500 acres) Airstrip gold anomaly located about five kilometers (three miles) south of the Tiger deposit in Yukon Territory. This year, Atac Resources Ltd. will expand the Airstrip anomaly and high-priority areas will receive detailed prospecting, trenching and mapping.

New PEA reveals small but robust Tiger Mine

Atac Resources Ltd. May 31 provided results of an updated preliminary economic assessment for the Tiger deposit at the western end of its Rackla Gold project, Yukon. The 2016 PEA has incorporated results of geotechnical and infill drilling conducted in 2015 and metallurgical studies completed in early 2016. Key changes to the 2014 PEA include both oxide and sulfide resources and the adoption of a simplified year-round agitated tank carbon-in-pulp leaching process. The 2014 PEA only investigated the extraction of oxide resources by means of a seasonal hybrid heap-leach and agitated tank carbon-in-leach process. Using a base case gold price of US\$1,250 per ounce, and an exchange rate of C\$1.00 equal to US78 cents, the PEA estimates a mine at Tiger would produce roughly 302,300 oz. of gold over a six-year mine life from ore averaging 3.81 grams of gold per metric ton. The pre-production capital costs for this operation is estimated to be C\$109.4 million and life-of-mine sustaining capital costs are expected to be C\$8.3 million. This operation produces an estimated after-tax net present value (5 percent discount) of C\$75.7 million and an internal rate of return of 28.2 percent after tax, with an all-in sustaining cost of US\$864/oz. of gold. "The future development of the Tiger deposit would bring critical infrastructure, including tote road access, to the Rackla Gold project. Exploration will begin shortly at the newly discovered 10 (square-kilometer) Airstrip gold anomaly and elsewhere within the Rau Trend with the objective of identifying additional nearby resources. Atac will continue to explore opportunities to advance or monetize the Tiger deposit through sole development or joint venture," said Atac President and CEO Graham Downs. "Atac remains committed to further advancing the entire Rackla Gold project, including the Carlin-type targets within the Nadaleen Trend. Drilling is scheduled to begin soon at the Orion discovery, where one of the last holes of 2015 (ARB-15-026) intersected 3.79 g/t gold over 47.24 meters."

see **NORTHERN NEIGHBORS** page 12

continued from page 9

NEWS NUGGETS

Columbia; and the Goodpaster and Hilltop projects in Alaska. Goodpaster hosts extensive gold and multi-element soil anomalies in a geological setting comparable to the nearby Pogo deposit. Kiska said it is able to leverage the barite exploration work that Baker Hughes is currently conducting at Hilltop, including surface sampling and drilling, in order to evaluate the property's gold potential.

New Alaska explorer seeks gold near Flat

Mineral Mountain Mining & Milling Co., an Idaho-based exploration company, May 25 reported the acquisition of the Iditarod Gold project located in the Kuskokwim Gold Belt of Southwest Alaska. Situated about 35 miles north of the Donlin Gold property, Iditarod Gold consists of 66 Alaska state mining claims prospective for hosting a bulk tonnage gold resource. Mineral Mountain said the property covers geochemical gold and antimony geochemical anomalies that are coincident with a large magnetic anomaly that was defined in 2010 by the Alaska Division of Geological & Geophysical Surveys in an airborne geophysical survey. The claims also encompass the Golden Ground and Nelson gold prospects and are situated upland of placer streams in the Flat region, one of Alaska's largest placer gold districts. Mineral Mountain is planning a 2016 summer field program of soil and rock chip sampling and geologic mapping on the property with the goal of identifying targets for a drill program in 2017. The 4,000-foot Flat airstrip, located about two miles southwest of the property, will be the staging area for the summer exploration program.



SHANE LASLEY

From this vantage, one can see across the breadth of the Pebble deposit. The treeless and unassuming surface blankets one of the world's largest deposits of copper, gold and molybdenum.

Northern Dynasty aims to raise funds to pay for getting Pebble beyond EPA, in permitting

Northern Dynasty Minerals Ltd. May 26 said it plans to raise up to US\$17 million to fund its multi-dimensional strategy to prevent the U.S. Environment Protection Agency's proposed pre-emptive regulatory action that would critically restrict development of the Pebble copper-gold-molybdenum project in Southwest Alaska. The offering, to be conducted by Global Securities Corp. and Industrial Alliance Securities Inc., will consist of 31,111,111 units at US45 cents apiece. Each unit will consist of one common share and one purchase warrant that is exercisable into one common share at a price of US65 cents for five years from the closing of the offering. An over-allotment of 4,666,667 units has been offered to the agents. Additionally, Northern Dynasty intends to offer an additional 2,222,222 units directly to United States "accredited investors" for additional proceeds of up to US\$1 million. The two offerings are expected to raise between US\$15 million and US\$17.1 million, depending on how much of the over-allotment is exercised. In addition to addressing EPA's pre-emptive action under the U.S. Clean Water Act, the company said the funds will be used to prepare the Pebble Project for the start of permitting under the U.S. National Environmental Policy Act; keep the Pebble project in good standing; advance a potential partner(s) transaction; and for working capital and general corporate purposes. Northern Dynasty also announced the appointment of Christian Milau and David Laing as directors. Milau is the former CEO of True Gold Mining Inc. and Laing served as the chief operating officer of that company. In April, True Gold was acquired by Endeavor Mining Corp., an intermediate gold company with five West African mines, including the Karma project developed by True Gold. Prior to joining True Gold, Milau served as executive vice president and chief financial officer of Endeavor. He also has held senior positions at New Gold Inc. and in investment banking at BNP Paribas in London. ●



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

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

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

NEWS • 907.229.6289
publisher@miningnewsnorth.com

CIRCULATION • 907.522.9469
circulation@petroleumnews.com

ADVERTISING
Susan Crane • 907.770.5592
scrane@petroleumnews.com
Bonnie Yonker • 425.483.9705
byonker@petroleumnews.com

FAX FOR ALL DEPARTMENTS
907.522.9583

Several of the individuals listed above are independent contractors

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



Pacific Rim Geological Consulting, Inc.

Mailing address:
P.O. Box 81906
Fairbanks, AK
www.pacrimgeol.com

Office: 907 458-8951
Cell: 907 388-6607
Fax: 907 458-8511

bundtzen@mosquitonet.com

Thomas K. Bundtzen, President

continued from page 9

FREEMAN

EIS public comment period for its 50 percent-owned Donlin Gold project (50 percent NOVAGOLD/50 percent BARRICK GOLD). The comment period was extended one month to May 31, in order to give stakeholders a longer period to make comments on the draft EIS. The comments will then be reviewed and responded to in the final EIS, which is expected to be published in 2017.

REDSTAR GOLD CORP. said it raised roughly \$1.1 million to be used partly for continued exploration of its Unga gold project near Sand Point. The company is currently focused on expansion of the Shumagin gold prospect located at the eastern end of the 7.5 kilometer-long Shumagin Trend. The Shumagin prospect is characterized by multi-episodic gold-silver bearing quartz-adularia-rhodochrosite breccia bodies that occur within structurally controlled dilation zones along the +1,200-meter-long Shumagin Scarp. In addition, the company is evaluating the Orange Mountain and Empire Ridge prospects, both of which are along-strike extensions to known high-grade prospects and mines and have similar geochemical signatures and structural features as the Shumagin prospect. Specific plans for 2016 were not released.

Interior Alaska

KINROSS GOLD posted first-quarter 2016 results from its Fort Knox mine near Fairbanks. The mine produced 87,800 ounces of gold at a cash cost of \$708 per ounce versus 82,673 oz. at a cash cost of \$672/oz. in the year-previous period. The mine's production increase resulted from significantly higher heap leach loadings. The mill treated 3,246,000 metric tons of ore grading 0.66 grams per metric ton gold with a mill recovery of 81 percent. The heap leach saw additions of 7,495,000 metric tons of ore grading 0.26 g/t gold. The heap leach tonnage was more than double the year-previous period's production. As the mine approached the 20th anniversary of its first gold pour in December 1996, a couple of facts about the mine might interest you. For starters, Fort Knox will easily pass its 20th anniversary even though it went into production with a 10-year mine life. In 2016 it will pour its 7 millionth ounce of gold, this from an initial recoverable reserve of less than 4 million oz. The mine has processed more than 435 million tons of ore through its mill and heap leach facilities. Rolling stock at the mine consumes about 45,000 gallons of diesel fuel per day. On the safety side, the administration group, which includes the exploration and mine geology group, has not had a lost time accident since 2005, while mill maintenance has not had a lost time incident since 2003. The mine also has contributed funds to more than 99 area nonprofit organizations, including its second \$1 million commitment to the University of Alaska.

FREGOLD VENTURES LTD. said it has closed its previously announced public offering and raised more than \$7.2 million for continued exploration of its Golden Summit gold project in the Fairbanks District and its Shorty Creek copper-gold project in the Livengood-Tolovana district. Specific plans for the two projects were not released.

CONTANGO ORE INC. announced drill results from its first-ever Phase 1 winter drilling program at the Tetlin project, a joint venture with a wholly

"But for most metals, including silver, copper, lead, zinc, rare earth metals and graphite, all of which are part of the Alaska mining sector, industrial demand is the key long-term driver and long-term forecasts look brighter, if not downright daunting!"

—Curt Freeman, columnist

owned subsidiary of **ROYAL GOLD INC.** Significant results from the North Peak zone included hole 16192, which returned 13.27 meters grading 49.194 g/t gold, and hole 16206, which returned 43.43 meters grading 3.611 g/t gold. In the West Peak zone, hole 16208 returned 19.99 meters grading 2.822 g/t gold and hole 16209 cut 6.25 meters grading 4.863 g/t gold. In the newly discovered Connector zone, some 200 meters distant from the nearest known mineralization, hole 16210 returned 43.96 meters grading 3.275 g/t gold and an additional 3.77 meters grading 2.614 g/t gold. The company indicated that the Phase 1 effort extended the Peak zone to the west and southwest and expanded mineralization at North Peak zone. The company indicated that phase 1 drilling suggests the Main Peak and North Peak zones may be part of a single larger system that remains open to expansion. The company also said a phase 2 summer program was being planned to follow up previous results.

Alaska Range

USIBELLI COAL MINE announced the retirement of Bill Brophy, the public face of Usibelli for the past 15 years. Bill was the kind of ambassador that every company wishes it had, informed, upbeat, unassuming and unflappable in a position that calls for all of those skills and then some. I am personally indebted to Bill for the continuing flow of information he sent me for this column over the years. No matter what I needed, Bill came through with facts and figures that let everyone know what an important place Usibelli occupies in the Alaska mining industry. So thank you and best wishes, Bill!

BRAZIL RESOURCES INC. reported an initial mineral resource estimate for the Island Mountain deposit, one of sev-

eral porphyry centers identified on its Whistler project in the Alaska Range. At a 0.3 g/t gold equivalent cut-off, the new resource estimate at Island Mountain includes an indicated resource of 25.75 million metric tons grading 0.53 g/t gold, 1.16 grams-per-metric-ton silver and 0.06 percent copper (0.54 g/t gold equivalent and 444,000 gold equiv. oz.). The deposit also contains an inferred resource of 69.23 million metric tons grading 0.51 g/t gold, 1.07 g/t silver and 0.06 percent copper (0.51 g/t gold equiv. and 1.133 million gold equiv. oz.). The resource is based on 12,668 meters of drilling in 34 holes on the southwest slope of Island Mountain. The deposit is up to 400 meters in width and has been drilled over a strike length of 300 meters to a depth of 450 meters. Mineralization remains open to depth and to the north where surface mapping, geochemistry and geophysics have identified coincident hydrothermal breccia, multi-element geochemical anomalies and magnetic anomalies for an additional 400 meters. Gold-copper mineralization is hosted by intrusive and hydrothermal breccia associated with strong sodic-calcic alteration. Gold-only mineralization is hosted by diorite porphyry with vein and disseminated pyrrhotite.

BRAZIL RESOURCES INC. also announced an initial mineral resource estimate for the Raintree West deposit, another of the porphyry centers identi-

fied on its Whistler project in the Alaska Range. At a 0.6 g/t gold equivalent cut-off below the 100-meter elevation, the new resource estimate at Raintree West includes an inferred resource of 51.76 million metric tons grading 0.68 g/t gold, 3.74 g/t silver and 0.10 percent copper (0.86 g/t gold equiv. and 1.428 million gold equiv. oz.). At a 0.3 g/t gold equiv. cut-off above the 250-meter elevation, the deposit also contains an inferred resource of 31.68 million metric tons grading 0.40 g/t gold, 5.39 g/t silver and 0.06 percent copper (0.55 g/t gold equiv. and 563,000 gold equiv. oz.). The resource is based on 7,078 meters of drilling in 14 holes. The deposit is up to 400 meters in width and has been drilled over a strike length of 500 meters to a depth of 700 meters. The deposit is open along strike to the north and south, and at depth. Gold-copper mineralization is associated with quartz, plus magnetite stockwork zones hosted in potassic-altered diorite intrusive rocks.

Northern Alaska

NOVACOPPER INC. posted an updated resource estimate for the Bornite deposit at the Upper Kobuk Mineral project, a partnership with **NANA INC.** At a base case 0.50 percent copper cutoff grade, the Bornite deposit is estimated to contain in-pit indicated resources of 40.5

see FREEMAN page 12

PROVIDING GENERAL CONTRACTOR SERVICES TO THE MINING INDUSTRY



BUILDING ALASKA ONE OUNCE AT A TIME

CONAM CONSTRUCTION COMPANY
A QUANTA SERVICES COMPANY

301 W. Northern Lights Blvd., Suite 300 Anchorage, AK 99503 · (907) 278-6600 · www.conamco.com

GOLD ISN'T THE ONLY THING WORTH ITS WEIGHT.



NORTH OF 60 MINING NEWS

The weekly mining newspaper for Alaska and Canada's North.

Subscribe today!
MININGNEWSNORTH.COM

continued from page 10

NORTHERN NEIGHBORS

Netherlands-based Nordgold agrees to pay more to buy out Northquest

Northquest Ltd. May 26 said it has agreed to accept an increased offer by Nordgold to buy all of the Northquest shares the Netherlands-based gold producer does not already own. In April, Nordgold, which already owns more than half of Northquest's outstanding shares, offered to buy all of the remaining shares at C25.3 cents each. Northquest countered with an offer of C26 cents per share, which has been accepted by Nordgold. The Northquest board of directors has recommended that shareholders accept the increased offer and tender their shares. Concurrent with entering into a support agreement, each of the directors and officers of Northquest entered into lock-up agreements with Nordgold to tender all common shares beneficially owned by them, or over which they exercise control. Additionally, Northquest has agreed to accelerate the expiry date of all options to acquire common shares such that all options shall have been exercised or shall have terminated by the expiry time of the offer. Northquest also has agreed to attempt to convince the holders of outstanding in-the-money warrants to exercise

such warrants in accordance with their terms. Jon North has resigned as a director of Northquest but will continue to act as president and CEO of the company. Upon receipt of TSX Venture Exchange approval, Northquest will obtain the resignations of two of the four remaining directors and shall appoint Nordgold's nominees as directors of the company. The first business day following the expiry date of the offering (June 15), Northquest will offer the resignations of North as CEO and any directors Nordgold may request. Nordgold is a Netherlands-based gold producer with operations in Russia, Kazakhstan and western Africa. Northquest's primary asset is the Pistol Bay gold property in Nunavut, an extensive land package blankets a 90-kilometer (55 miles) west-trending series of surface gold occurrences and zones. Based on 69 holes drilled, the Vickers zone at Pistol Bay hosts 7.79 million metric tons of inferred resource averaging 2.95 g/t (739,000 ounces) gold, according to a maiden resource published in April. In addition to the initial resource, the technical report also describes in 16 other gold occurrences on the Pistol Bay property for which there has been a minor amount of drilling.

Darnley Bay options zinc-rich Clear Lake project from Yukon prospector

Darnley Bay Resources Ltd. May 24 reported that it

The deposit consists of three elongated lenses, five to 30 meters thick and 450 meters in length that extend at least 300 meters down dip.

has entered into an agreement to acquire the Clear Lake zinc-lead-silver deposit in the Yukon Territory from Bernie Kreft. Located roughly 225 kilometers (140 miles) north of Whitehorse this 2,479-hectare (6,125 acres) project is linked to the North Klondike Highway via a winter road to Pelly Crossing, roughly 65 kilometers (40 miles) to the west. Extensive exploration work has been carried out by a number of previous operators, including 18,219 meters of drilling in 71 holes. An NI 43-101 technical report prepared by SRK Consulting in 2010 estimates that the deposit at Clear Lake contains an inferred mineral resource of 7.65 million metric tons grading 7.65 percent zinc, 1.08 percent lead and 22 grams per metric ton silver. The deposit consists of three elongated lenses, five to 30 meters thick and 450 meters in length that extend at least 300 meters down dip. Clear Lake is a sedimentary exhalative massive sulfide deposit occurring in Devonian- to Mississippian-aged shale. Recent geophysical work has identified three untested anomalies with similarities to the Clear Lake deposit, one of which is associated with a zinc-rich gossan. ●

continued from page 11

FREEMAN

million metric tons at 1.02 percent copper for 913 million pounds of contained copper. At a base case 0.50 percent copper cutoff grade, the deposit is estimated to contain in-pit inferred resources of 84.1 million metric tons at 0.95 percent copper for 1.8 billion pounds of contained copper. At a base case 1.50 percent copper cutoff grade, the deposit is estimated to contain below-pit inferred resources of 57.8 million metric tons at 2.89 percent copper for 3.7 billion

pounds of contained copper. Overall, contained copper in indicated resources has increased from 334 million to 913 million pounds, a 173 percent increase in contained metal over the previous 2014 resource estimate. The latest estimate was based on 235 diamond drill holes, totaling 78,745 meters of drilling. The deposit remains open to expansion to the north and northeast. The Lower Reef and South Reef mineralization is open over a one-kilometer-wide front along the north end of the deposit, while to the southwest, the South Reef mineralization is open over a 200-meter-wide front along the south end of the deposit.

Mineralization in the Ruby Creek zone occurs as two discrete stratabound lenses: a Lower Reef which outcrops and dips approximately 10-15 degrees to the northeast and an Upper Reef lying more than 150 meters above the Lower Reef stratigraphy and which includes a small high-grade zone historically referred to as the No.1 Orebody. Mineralization is hosted by Devonian-age carbonate rocks containing broad zones of dolomite alteration and associated sulfide mineralization including bornite, chalcopyrite, and chalcocite occurring as disseminations and vein stockworks as well as crackle and mosaic breccia fillings which locally grade to massive to semi-massive replacement bodies.

at the 9A zone, and 13.8 feet grading 16.11 oz./t silver, 0.29 oz./t gold, 9.96 percent zinc and 4.76 percent lead at the East zone.

CONSTANTINE METAL RESOURCES LTD. announced that a budget of \$3.7 million has been approved by its partner **DOWA METALS & MINING CO. LTD.** for the Palmer project near Haines. This year's planned program will focus on a drilling to test resource potential of the volcanogenic massive sulfide deposit within a three-kilometer radius of existing mineral resources at the RW and South Wall zones. Initial work will include 1,700 meters of drilling with potential for additional follow-up drilling. The company's efforts also will include, subject to receipt of permits, road building to the mineral resource area, environmental, geotechnical and engineering studies to evaluate a potential exploration drift for the purpose of continued drill expansion and drill definition on the deeper portion of the existing resource, continued community engagement efforts and environmental baseline work in the region. Dowa is in the fourth year of an agreement with Constantine and has spent roughly \$16.2 million on the project. Dowa must spend \$22 million in order to earn a 49 percent interest in the project and has indicated its intent to do so by Dec. 31.

UCORE RARE METALS posted an update on the commissioning of the SuperLig®-One rare earth element separation pilot plant. The first tranche of pregnant leach solution derived from the company's Bokan-Dotson Ridge project in Alaska has been subjected to a series of tests, the most recent of which was removal of scandium, a valuable rare earth element used in advanced fuel cell applications and for making high strength aluminum alloys for aerospace applications. The process recovered more than 99 percent of the available scandium with the scandium product purity at greater than 99 percent. The scandium recovery process did not deplete other rare earth metals, which remained in the pregnant leach solution for subsequent recovery. The next step in the recovery process will be separation of the light and heavy rare earth elements into two groups, after which the heavy and light groups will be further separated into individual element concentrates. ●

Southeast Alaska

HECLA MINING reported updated first-quarter 2016 production results for its Greens Creek mine on Admiralty Island. The mine produced 2,458,276 oz. of silver and 15,981 oz. of gold, which represent a 21 percent and 4.9 percent increase, respectively, over silver and gold production levels during the year-previous period. The mine also produced 5,087 tons of lead and 14,611 tons of zinc. Average grades mined include 15.17 oz./t silver, 0.11 oz./t gold, 3.05 percent lead and 8.13 percent zinc. Higher throughput and recoveries contributed to increased silver and gold production, with silver additionally benefiting from grades that were about two oz. per ton higher than anticipated and which are expected to moderate as the year progresses. The mill operated at an average of 2,252 tons per day in the first quarter. The cash cost per oz. silver increased to \$3.96 from \$3.23 a year earlier due to a \$4.29/oz. decline in by-product revenues as a result of lower gold, zinc and lead prices. These declines were partially offset by higher silver production. On the exploration front, definition drilling is refining the resources of the NWW, 5250 and Deep 200 South zones for conversion to reserves, and exploration drilling of the 9A zone expanded the resource along the projected trends. Highlights from exploration drilling include 10 feet grading 64.31 ounces per ton silver, 3.22 percent zinc and 1.5 percent lead at the North West zone, 7.1 feet grading 15.26 oz./t silver, 0.11 oz./t gold, 8.77 percent zinc and 3.97 percent lead and 13.7 feet grading 20.43 oz./t silver, 0.09 oz./t gold, 16.24 percent zinc and 5.21 percent lead



Coal means business

The coal industry sustains hundreds of jobs in Alaska, and tens of millions in related payroll helps support local businesses. Usibelli Coal Mine does business with 400 suppliers and service providers in Alaska. Coal contributes to Alaska's economic vitality – and as the most abundant energy resource in the state, **we can depend on coal for centuries.**



INTERNATIONAL

Oil shipments start from Yamal Peninsula

The first shipment of oil from the Arctic Gate terminal, offshore the Yamal Peninsula in the Russian Arctic, has taken place, Russian oil and gas company Gazprom said May 25. The oil was delivered to the terminal through a 100-kilometer pipeline from Novoportovskoye oil and condensate field in the southeast of the peninsula. Gazprom said that President Vladimir Putin gave the formal command via a video call to start loading the first tanker.

The terminal is placed 3.5 kilometers offshore because at the shore the sea is too shallow to accommodate tanker traffic. Gazprom says that the terminal will enable the delivery of oil to European customers year-round via the Northern Sea Route, a route around Russia's Arctic coast kept open, as necessary, by icebreakers.

Gazprom says that the equipment at the terminal is fully automated and is protected from hydraulic shocks. Zero discharge technology will prevent pollution of the surrounding bay, the company says. A concrete shell protects the subsea pipeline connecting the terminal to a tank farm on the coast.

"Gazprom is systematically exploring the Russian Arctic. We are successfully extracting oil from the Prirazlomnoye field, Russia's only hydrocarbon production project on the Arctic shelf. A one-of-a-kind gas production center in the Yamal Peninsula is in full swing. Today, we are creating a new oil province on top of the gas center," said Alexey Miller, chairman of the Gazprom management committee, when announcing the Arctic Gate terminal startup.

—ALAN BAILEY

NATURAL GAS

AltaGas advances LPG proposal

AltaGas, a Calgary-based energy utility, is closing in on a final investment decision this year to proceed with the latest addition to its liquefied petroleum gas business.

It has reached a preliminary agreement on key terms with Japan's Astomos Energy to sell at least 50 percent of the 1.2 million metric tons a year it plans to export from the Ridley Island propane export terminal near Prince Rupert.

The project is expected to cost up to C\$500 million and, subject to environmental and other approvals, is scheduled to start commercial operations in 2018.

AltaGas said the terminal is "one of the key building blocks of our strategy to build out natural gas processing and liquids separation capacity" in the Montney gas formation of northern British Columbia and Alberta.

It said market diversity, including sales outlets beyond North America, is a "key step forward" for Canadian gas producers.

AltaGas already owns gas processing facilities in British Columbia and Alberta, including production of LPG, and is part owner and operator of a similar LPG export terminal in Ferndale, Washington.

One of largest LPG players

Astomos is owned 51 percent by Idemitsu Kosan and 49 percent by Mitsubishi.

It is one of the largest LPG players in the world, handling in excess of 10 million metric tons a year.

It operates 21 very large gas carriers and a top market share in both sales and imports to Japan, along with significant market share across Asia.

Propane from gas producers will be shipped to the Ridley Island facility on the existing Canadian National Railways network, which is expected to offload 50 to 60 rail cars a day and to deliver propane to Asia on 20 to 30 tankers per year.

The application is being reviewed by the Canadian Environmental Assessment Agency, while the National Energy Board is handling an application for a 35-year propane export license.

AltaGas said it also started consulting affected First Nations, communities, government and environmental and regulatory authorities early this year.

—GARY PARK

AltaGas said the terminal is "one of the key building blocks of our strategy to build out natural gas processing and liquids separation capacity" in the Montney gas formation of northern British Columbia and Alberta.

• IN OTHER NEWS

Nuclear gains ground as clean energy source

New York Times: Efforts across US to bail out nuclear plants; supporters include Energy Secretary, environmentalists

By KAY CASHMAN

Petroleum News

A recent article in the New York Times reports that some state and federal officials are once again eyeing nuclear power as a plausible source of energy for the United States, despite safety concerns.

No nuclear power plants have been built in the U.S. for decades and the 2011 catastrophe in Fukushima, Japan, lessened the likelihood of public acceptance of the relatively cheap energy source — until recently, that is.

Per an article by New York Times reporter Diane Cardwell, the Paris agreement on climate change is putting pressure on the U.S. to reduce greenhouse gas emissions, prompting some government officials and environmentalists to consider nuclear power as part of the solution.

"They are now scrambling to save existing plants that can no longer compete economically in a market flooded with cheap natural gas," the NYT reports May 31.

"Nothing else comes close," to drastically reducing greenhouse gas emissions, Secretary of Energy Ernest Moniz is quoted as saying at a symposium the department hosted to look at ways to improve the nuclear industry's prospects. Moniz is a nuclear physicist.

As a result, the NYT reports, there are "efforts across the country to bail out nuclear plants at risk of closing, with important test cases in Illinois, Ohio and New York, as well as proposed legislation in Congress."

Safety concerns remain, but ...

Concerns remain, the article says, over waste disposal, the industry's safety record after the disasters at Fukushima and Chernobyl, and the potential for nuclear power plants to be converted into weapons factories in other countries.

Nonetheless, the NYT reports, "policy

makers, analysts and executives, along with a growing number of environmentalists, say that at stake is the future of the country's largest source of clean energy."

In a May 31 interview, Moniz says, "Maintaining the nuclear fleet is really important for meeting our near-term and midterm goals."

"Nuclear plants provide nearly 60 percent of carbon-free power, followed by hydroelectric plants at roughly 18 percent," the article says.

Another factor in favor of nuclear power over other so-called green energy sources is that the plants can produce power steadily and on demand, running at more than 90 percent of their capacity.

see NUCLEAR ENERGY page 15

exponential possibilities

Exp provides professional, technical and strategic services to the world's built and natural environments in six key practice areas: Buildings, Earth & Environment, Energy, Industrial, Infrastructure, and Sustainability.

To learn more, visit exp.com, or call us at +1.907.868.1185



Better Products. Better Service. Better Results.
Alaska's Premier Leasing Company

Anchorage: 907.771.1300 • www.deltaleasing.com • Prudhoe Bay: 907.659.9056

• ASSOCIATIONS

AOGA packs them in; event big success

Alaska Oil and Gas Association's 50th anniversary and conference agenda draws crowd; proceeds stay in the state

By **KAY CASHMAN**

Petroleum News

A combination of interesting and valuable presentations, awards to Alaskans, and the fact that the money raised will stay in the state drew an estimated 450-plus attendees to the 50th anniversary celebration and conference of the Alaska Oil & Gas Association on May 25 in Anchorage.

"The success of any conference is whether or not the people attending learned something worthwhile," Kara Moriarty, CEO and president of AOGA, told Petroleum News following the event.

The agenda for the anniversary celebration and first-ever conference, which Petroleum News described earlier in May as "fascinating" and "interesting," was designed to offer a diverse group of presentations, Moriarty said.

Currently she and her staff are polling attendees to see what they liked and didn't like about the event — and what suggestions they have for the next annual conference should AOGA's board of directors approve an annual event.

"It's important that we offer something of value to attendees," Moriarty said. "This year we tried to do that by having a panel of experts for procurement people. We have a very stable group of oilfield service and supply contractors in this state, so panelists talked about what's different and what's the same in a low price environment and what contractors can do to survive the situation."

A senior vice president of IHS talked about what IHS sees happening to oil prices in the next few years.

"By the end of 2017, he predicts there will be a 6 in front of the price of oil; in 2020, he said we may see prices in the \$80 per barrel range; and by 2022, they could be in the \$100 range again."

A political panel gave a global perspective on energy and where Alaska fits in: "It was interesting to hear about other oil regions that are also struggling with low prices and what they are doing to attract more oil and gas investment," Moriarty said.

The debate between two "insightful" members of the University of Alaska Anchorage's debate team and Eric Epstein, author of *The Moral Case for Fossil Fuels*, on the ethics of fossil fuels production was excellent, she said.

Attendance should be even better next time

Attendance would likely have been higher except for the fact that the Society of Petroleum Engineers held a conference for the oil and gas industry in Anchorage on the same day.

"We weren't aware of their conference, or SPE of ours, until late March. We were both too far into the planning to change the date," Moriarty said. But because somewhere between 50 and 100 contractors and professional engineers couldn't make the AOGA conference because of SPE, Moriarty and her staff

see **AOGA CONFERENCE** page 20



The May 25 event celebrated AOGA's 50th anniversary and was possibly the first annual conference for the Alaska-based organization of oil and gas explorers, developers, producers, refiners, transporters or marketers.



Throughout the day AOGA awards were handed out, including Contractor of the Year for Safety Performance to Pacific Rim Logistics; Project of the Year for Environmental Stewardship and Innovation to ExxonMobil's Point Thomson project; the Rising Star award to Sterling Reardon of BP Alaska; and the 2016 Marilyn Crockett Lifetime Achievement Award to Kevin Tabler of Hilcorp Alaska. An AOGA scholarship to the University of Alaska will be awarded to East Anchorage High School student Erica Williams. Pictured here are Marilyn Crockett, Kevin Tabler and Kara Moriarty.

continued from page 8

MITIGATION COSTS

igation opportunities using public lands. DNR's goal is to lower costs for developers, Fogels said in an interview.

An application by the DNR has been submitted to the U.S. Army Corps of Engineers for approval.

One aspect of a state in-lieu fee program is that state-owned lands would

become available, greatly expanding the pool of land eligible for compensatory mitigation, Longan said. More restoration, enhancement of aquatic resources and preservation would result.

There are also disturbed sites on state-owned lands that would become eligible for restoration with the money paid by private developers.

Longan told a state legislative committee in a briefing last year that more than 25 states now operate their own wetlands

mitigation banks under the Army Corps' oversight. The major goal in these states is to reduce the cost of mitigation for state highways and transportation projects, she said.

Alaska could similarly benefit. "Since 2009 the state Department of Transportation and Public Facilities has spent an estimated \$8.3 million with mitigation banks and in-lieu fee programs for statewide airport, highway and maintenance projects," Longan said.

The Alaska Railroad Corp. has spent about \$2 million since 2000 on mitigation, she said.

"These costs are likely conservative and may increase in the near term due to emerging federal mitigation policies or the limited availability of compensatory mitigation banking opportunities in Alaska," Longan said. ●

Contact Tim Bradner
at timbradner@gmail.com

we are
PND

Crandy
Drafting Dept. Coordinator

Roger

When Roger Crandy joined PND more than 18 years ago, his primary duties consisted of drafting design drawings in support of civil infrastructure projects. Since then, his responsibilities have evolved to include 3D modeling, presentation graphics, and GIS/mapping. Along with project visuals, he creates marketing materials, proposal graphics and large-scale promotional displays. He collaborates with other PND staff on content strategy to ensure visuals not only articulate facts but communicate ideas, producing the intended impact. He enjoys exploring new technologies and harnessing their capabilities. "PND has allowed me to expand what I do into all these different areas beyond drafting," he said. "They have encouraged me to do so much more, to carve my own path." Off the clock, Roger's interests include graphic and website design, and photography — including drone photography — as well as world travel and mountain biking. Next up: cycling through Italy, this fall.

PND is a full-service civil-structural engineering firm whose design support services include 3D modeling and visualizations.



ENGINEERS, INC.

WWW.PNDENGINEERS.COM

Computing Alternatives



Information Technology Professionals

WE OFFER THE FOLLOWING SOLUTIONS TO PUBLIC AND PRIVATE SECTORS

- Custom Web, Desktop, & Mobile apps
- IT Business Analysis
- Database Design & Modeling
- Microsoft Server Maintenance
 - SQL Server Database Administration
- Oil & Gas Risk Assessment and Regulatory Compliance Tools
 - Revenue Taxation
 - Hospitality Systems

Ph| 907-644-4522
Fx| 907-644-4523

services@Computing-ALT.com
www.Computing-ALT.com
5701 Silverado Way, Ste. 1
Anchorage, AK 99518

• EXPLORATION & PRODUCTION

Hilcorp looks to expand, rename Cook Inlet unit

South Middle Ground Shoal would be expanded by 11,503 acres, 3 leases; unit name would be changed to Middle Ground Shoal

By **KRISTEN NELSON**
Petroleum News

Hilcorp Alaska LLC has applied to expand and rename the South Middle Ground Shoal unit in Cook Inlet. Hilcorp acquired two leases, ADL 18754 and ADL 18756, from XTO Energy in 2015 and became the operator of the A and C platforms. Hilcorp is now the sole working interest owner and operator, and has applied to the Department of Natural Resources' Division of Oil and Gas to expand South Middle Ground Shoal to include the former XTO operations as well as Hilcorp's current lease operation of ADL 17595, location of the Baker Platform.

Hilcorp said the proposed expansion would then encompass the entire Middle Ground Shoal field.

The expansion area covers three state oil and gas leases, some 11,502 acres.

Hilcorp said the unit expansion would have no direct environmental impact, but would minimize administrative and operational efficiencies for both the state and the company. It said the unit expansion does not involve any activities not already authorized on either a lease-by-lease basis or as part of the South Middle Ground Shoal unit.

1960s platforms

The A and C platforms and facilities at Middle Ground Shoal were installed by Shell in 1964 and 1967 and sold to Cross Timbers Oil Co. in 1998, transferring properties from a major which had worked on initial Cook Inlet development to an independent, focused on getting more oil out of an existing field past its peak and too small to be of continuing interest to a major producer.

Cross Timbers, later renamed XTO and now an ExxonMobil subsidiary, had a goal similar to Hilcorp's when it acquired Middle Ground Shoal in 1998: To work mature fields no longer of interest to a major and produce additional oil and gas.

When Cross Timbers bought the properties in 1998 production was some 3,600 barrels per day; when Hilcorp acquired the properties from XTO in 2015 Hilcorp said production was some 1,750 bpd. Production

earlier this year stood at 1,800-1,900 bpd.

The Baker and Dillon platforms were installed by Unocal in 1965 and 1966. Hilcorp acquired those properties from Chevron in a deal for Cook Inlet assets finalized in 2012.

Three plays present

Hilcorp told the division there are three development plays present: shallow Tyonek gas, Tyonek oil sands and Hemlock oil sands. Fifty wells have been drilled to date, the company said, 35 producers and 15 injectors.

"Good potential exists for future exploration and development of the untested Jurassic formation," Hilcorp said.

Hilcorp said it had submitted detailed confidential geologic and engineering presentations to the division on the field's geologic and engineering characteristics and historic exploration and development activities.

The company said its 2016 proposed plan of development for the area, submitted to the division in March, covered plans for the consolidated Middle Ground Shoal field and said no changes to that consolidated POD are needed.

Only the A and C platforms are currently producing, but Hilcorp said it is "actively pursuing plans to return the Baker Platform to production and is evaluating a range of options required to return the current South Middle Ground Shoal Unit to production."

Three fields share the Middle Ground Shoal name: North Middle Ground Shoal with the shut-in Baker Platform; Middle Ground Shoal with the active A and C platforms; and South Middle Ground Shoal with the lighthoused Dillon Platform. The platforms lie in the middle of Cook Inlet offshore northwest of Nikiski, with Baker the farthest north and Dillon the farthest south.

The division said the application was received May 16 and deemed complete May 24. Comments are being accepted through June 28. ●

Contact Kristen Nelson
at knelson@petroleumnews.com

continued from page 13

NUCLEAR ENERGY

Crisis of old age

The nuclear industry, however, is "facing a crisis of old age," with most of the country's 99 nuclear reactors "more than 30 years old."

On top of a need for technological and other upgrades, the price of electricity has dropped in recent years with the plentiful supply of cheap natural gas.

Lower potential revenues for owners of nuclear plants is a challenge for them because the plants require "costly upgrades and repairs during their life spans," the NYT reports.

"We get no recognition for the fact that we emit nothing," says Marvin S. Fertel, chief executive of the Nuclear Energy Institute, an industry trade group.

Supporters of nuclear plant bailouts

contend the plants should be eligible for the subsidies awarded solar and wind power, or be included in clean energy mandates. ●

Contact Kay Cashman
at publisher@petroleumnews.com

PIPELINES & DOWNSTREAM

Kinder Morgan ready to pay the price

Kinder Morgan is prepared to meet a regulatory requirement to offset greenhouse gas emissions generated by construction of an expanded Trans Mountain pipeline even if that adds millions of dollars to the projected costs, said the company's Canadian President Ian Anderson.

He told reporters in a series of interviews that "we welcome" the unexpected provision among the 157 recommended by the National Energy Board that the NEB requires Kinder Morgan to reduce the net impact of emissions to nil within four months of the new parallel pipeline starting operations.

Anderson said Kinder Morgan estimates that 1 million metric tons of GHGs will result from the building phase and could be offset by planting trees to capture carbon and by buying emission credits from other parties.

The company has estimated 90 percent of the construction emissions would be generated from land-clearing work and the burning of waste vegetation.

Anderson said his company has started work on satisfying about half of the NEB conditions before construction can begin.

He has no doubt that the current forecast cost of C\$6.8 billion to add 590,000 barrels per day of capacity to Trans Mountain will rise, though he is not yet ready to give a final tally.

The federal government cabinet is scheduled to consider a report expected in November from a three-member panel assigned to gather feedback from communities and indigenous communities along the pipeline right of way, then pass a final verdict in December.

Anderson agreed that there is still entrenched opposition to the Trans Mountain expansion in the Metro Vancouver region, especially from Vancouver Mayor Gregor Robertson and Burnaby Mayor Derek Corrigan, both of whom he said attract "headlines because of the extreme positions they are prepared to take."

The two mayors have also insisted there are no benefits that Kinder Morgan could offer in return for their endorsement of the project.

A poll conducted by Ottawa-based Abacus Data found British Columbians would be more willing to support the pipeline if the NEB conditions were met, including "evidence that there was a parallel agenda (by the companies involved) to promote an evolving energy mix" for Canada.

—GARY PARK

NEI FLUID TECHNOLOGY

Suppliers of:

- Petrochemical refueling & testing equipment
- Meters and valve systems for oil & gas industry
- Portable measurement for petroleum, chemicals and bulk liquids
- Refrigerant recovery/recycling equipment

Phone: 907.561.4820
Fax: 907.562.2316
Email: sales@neifluid.com

UNIQUE MACHINE

A SUMITOMO CORPORATION SUBSIDIARY

Serving Alaska's Petroleum Industry for Over 35 Years

Threading

API 5CT, lic. # 5CT-1163 • API Spec 7-1, lic. # 7-1-0758 • Vallourec • VAM AB
 Tenaris • Hunting • NS Connection Technology • NOV Grant Prideco • Vam USA

Machining

OEM Equipment
Accessories
Repair and Overhaul

Welding

Production Welding
Certified Welding
Fabrication

APIQR ISO9001:2008, reg. # 0717 • APIQR Spec Q1, reg. # Q1-0456
 APIQR ISO/TS 29001, reg. # TS-0268

8875 King St., Anchorage | 907 563-3012 | pat.hanley@umalaska.com | www.umalaska.com

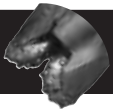
MOTION INDUSTRIES

COMPLETE HYDRAULIC SALES & SERVICE

REPAIR, DESIGN, FIELD SERVICE

PUMPS, MOTORS, VALVES, CYLINDERS

Tel: 907.563.3000 • Toll Free: 800-478-6205 • Fax: 907.563.1003
 611 E. International Airport Rd., Anchorage, AK 99518-1302 USA
 Kenai – 907-283-4452
www.motionindustries.com



NAC announces annual customer appreciation BBQ

Northern Air Cargo said that it would like to extend its utmost gratitude and invite all of its customers, vendors and partners who have contributed to its success over the past 60 years to its annual customer appreciation BBQ.

The BBQ will be held Wednesday, June 8 from 11 a.m. to 2 p.m. at the NAC warehouse parking lot located at 3900 Old International Airport Rd, Anchorage, AK 99502.

Come and enjoy delicious Hawaiian cuisine catered by Hula Hands Restaurant.

Bradner joins Petroleum News writers

Veteran Alaska journalist Tim Bradner has joined Anchorage-based Petroleum News as a contributor and will specialize in reporting on environmental regulation and state tax and revenue issues, as well as some breaking oil and gas news.

Bradner is also co-publisher of Alaska Legislative Digest with Mike Bradner, and co-editor of Alaska Inc., a business quarterly. He writes for the Alaska Journal of Commerce on health care and workforce/training and is a columnist for Alaska Dispatch News.

Bradner has lived in Alaska since 1962 and worked with BP Alaska and Sohio Petroleum Co. from 1970 to 1985.

"Tim and I worked together many years ago on the Alaska Public Affairs Journal for the University of Alaska-Southeast. It is great to be working with him again as a freelancer for our weekly newspaper," said Kay Cashman, publisher and executive editor of Petroleum News.



TIM BRADNER

Call today to spotlight your company and key people here!

Call 907-522-9469 for details.

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

ADVERTISER	PAGE AD APPEARS	ADVERTISER	PAGE AD APPEARS	ADVERTISER	PAGE AD APPEARS
A				N-P	
ABR		Crowley Solutions		Nabors Alaska Drilling	19
AECOM Environment		Cruz Construction		NANA WorleyParsons	2
Air Liquide		Delta Leasing	13	Nature Conservancy, The	
Alaska Clean Seas (ACS)		Dowland-Bach Corp.		NEI Fluid Technology	15
Alaska Dreams		Doyon Anvil		Nordic Calista	
Alaska Frontier Constructors (AFC)		Doyon Associated		North Slope Telecom	
Alaska Instrument		Doyon Drilling		Northern Air Cargo	
Alaska Marine Lines	20	Doyon, Limited		Northwest Linings	4
Alaska Railroad		Doyon Universal Services		Opti Staffing Group	17
Alaska Rubber		exp Energy Services	13	Pacific Pile	
Alaska Steel Co.		Fairweather		PacWest Drilling Supply	
Alaska Textiles	5	Flowline Alaska	4	PENCO	5
Alaska West Express	20	Fluor	7	Petroleum Equipment & Services	
Alpha Seismic Compressors		Foss Maritime		Polyguard Products	
American Marine	5	Fugro		PND Engineers Inc.	14
Arctic Catering & Support		G-M		PRA (Petrotechnical Resources of Alaska)	
Arctic Controls		GBR Oilfield Services		Price Gregory International	
Arctic Wire Rope & Supply		GCI Industrial Telecom		Q-Z	
ARCTOS		Global Diving & Salvage		Resource Development Council	
Armstrong		GMW Fire Protection		Ravn Alaska	
ASRC Energy Services		Greer Tank & Welding		SAExploration	
AT&T		Guess & Rudd, PC		STEELFAB	6
Automated Laundry Systems & Supply	6	Harley Marine Services		Stoel Rives	
Avalon Development		Hawk Consultants		Taiga Ventures	
B-F		Hudson Chemical Corp.		Tanks-A-Lot	
Bald Mountain Air Service		Inspirations	18	The Local Pages	
BELL & Associates		Judy Patrick Photography		TOTE-Totem Ocean Trailer Express	
Bombay Deluxe		Kenworth Alaska		Totem Equipment & Supply	
Bowhead Transport		Kuukpik Arctic Services		TTT Environmental	
Brooks Range Supply		Last Frontier Air Ventures		Turnagain Marine Construction	
Calista Corp.		Lounsbury & Associates		UIC Design Plan Build	
Canrig Drilling Technology		Lynden Air Cargo	20	UIC Oil and Gas Support Services	
Carlile		Lynden Air Freight	20	Unique Machine	15
Certek Heating Solutions		Lynden Inc.	20	Univar USA	
CH2M		Lynden International	20	Usibelli	12
ClearSpan Fabric Structures		Lynden Logistics	20	Volant Products	
Colville Inc.	17	Lynden Transport	20	Weston Solutions, Inc.	
Computing Alternatives	14	Mapmakers of Alaska			
CONAM Construction	11	MAPPA Testlab			
Construction Machinery Industrial		Maritime Helicopters			
		Motion Industries	15		

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

continued from page 5

SEATON Q&A

So we were saying if you were developing a 15,000 barrel or bigger field, once you reach your production goal, you were no longer able to carry your credits forward. I was originally at much lower than 15,000, but 15,000 seemed to be an area where we could reach a compromise on. That's just the nature of it. As far as I was concerned once you went into commercial production, then you shouldn't be carrying forward tax credits or generating tax credits to carry forward. So that was really the genesis of how this got done.

Petroleum News: Whether this version prevails or not, what do you think this reveals about the dynamics of the Legislature?

Seaton: We are trying to balance those things. The third goal was that for 12 years we have tried to diversify the players on the North Slope, especially because there was perceived basin control by three large companies, so the tax credits were a mechanism to be able to financially participate in new operations and get them up there. What is the right level of those? Well you're always picking and choosing and trying to make your best estimate.

I don't think anything nefarious has been going on. All of the tax bills have always had problems. We had the gross tax and that grew out of itself when production was going down and we were getting more oil than water. Then we had the Economic Limit Factor. That was not designed right. People could keep water wells going basically then drastically reducing their tax rates because they had a bunch of none productive wells, even though that had good producing wells, but it was a field wide number of well.

So ELF that was when I came in: It was broken. We had Kuparuk paying zero production tax. That was the tax system. No one was cheating, but that wasn't the intention in the design of the system. Then you have to come in and make a change. We had a series of low oil prices and oil companies wanted to be protected at low oil prices and wanted a profits-based tax.

There was some cheating going on there and people went to jail, that kind of stuff. That was the reaction to that. ACES came in and the pendulum went too far and we came back with SB 21.

In my opinion the pendulum swung back too far. There is no progressivity and as far as an effective tax rate of 35 percent, you don't reach that until you get to \$170 a barrel. So at \$110 a barrel, the effective tax rate is about 25 percent. That's a big problem I have with the tax credits. We have an effective tax rate at 25

"That's a big problem I have with the tax credits. We have an effective tax rate at 25 percent but we are giving a tax credit at 35 percent."

—Rep. Paul Seaton, R-Homer

percent but we are giving a tax credit at 35 percent.

Petroleum News: Do you think you can emerge from this special session with a bill that reflects stability? That seems to be a buzz word: stability.

Seaton: I hope so. We are looking at our payout system, that's mainly what we are looking at. Every other big field or small field, there is very few of them that get a tax payout. You go around the world and see where there is government participation there really isn't anything like our system. Our problem now is that it's protecting on the low end, but there isn't as much recovery on the high end. If you have to get to \$170 before you get to your 35 percent tax rate on profits. It's a long climb. The rate at which you're giving credits is higher for the effective tax. It's very difficult for that kind of system to work. That's why we want to take the tax credits down to 25 percent.

Petroleum News: Closer to your home, the Cook Inlet Recovery Act seems to have worked for the industry and the state. What are your thoughts on that?

Seaton: A big part of that, which people don't recognize, is the consent agreement on gas sales. We're really talking about gas sales. Oil in Cook Inlet is really about 15,000 to 18,000 barrels a day. People don't realize we were artificially stuck at \$2 per thousand cubic feet for years and years and years by the RCA. They viewed their job as keeping the price as low as possible for consumers. Since there was excess gas on the oil production, they didn't really have to make a profit on the gas.

But nobody is going to go out and explore for gas and not make a profit on the gas so when you are wanting that exploration, we gave a big tax credit, but we also went through this large negotiation, and now gas in Cook Inlet is the highest price in the world. That's because there has been a down pressure around the world, but when you're talking about less than \$2 for Henry Hub and your talking \$7 in Cook Inlet, it's hard not to see where the price supports the production. Plus, the contracts go through 2023 and end up at \$8.19, plus if there is any change in taxes that flows through as well.

So the Cook Inlet Recovery Act worked, but one shouldn't say that it was the credits that was the only thing that

drove that because when people can see they can make a profit on something, they will explore and develop. That's what our consultants said, that \$5 to \$7 is sufficient price to develop the most expensive gas around the world, deep offshore as well as shale.

There were two factors, one was the credits. The other was if we find gas we can sell it at a profit, which is a major determinant. You can offer all the credits that you want. Nobody is going to invest if they can't make a profit on the product they sell.

Petroleum News: So I've heard the term "the sale is over" for Cook Inlet. Is that accurate?

Seaton: We are fairly close on Cook Inlet. The Senate's version ramps them down slower. We concentrated more on the wells and only if you are already producing after the first of the year. The North Slope is where we have a lot of differences. We said we will continue to offer the cash credits but on a ramped down level — we were ramping down to 25 percent — and we are only going to do that for people working on a plan and developing it.

In other words, you found something and we are getting oil in the pipeline — producing wells, not just going out and exploring. Just general exploration is the riskiest investment you can make and it's 20 years in the future.

So we narrowed the scope of the projects that would get credits. We lowered the amount of the credits. And we lowered the size of the producing amount that needed help to keep those projects going. We were very conscious of one of our three goals to keep projects that were stimulated healthy so that they can go for-

ward.

One of the proposals out of the Rules Committee was we're going to get rid of credits altogether and we're just going to let you carry forward all your expenses. Companies who have production and are paying taxes could use those, but the companies who are building out a field are maybe looking at eight years before they go to production. They wouldn't have any finance case.

They can't go to a bank and say I've got a bucket of expenses can you loan me money on this load of expenses I'm accumulating until I get my field going. That's a long timeframe and doesn't have any stability to get any financing. That's why we didn't go with that. It would basically devastate the new companies who are trying to move into the development phase.

Petroleum News: Still closer to home, there is still AKLNG. While it may not reach Homer, it still hits the Kenai Peninsula. I realize it's not been on too many people's radar, but what's your take on what's happening?

Seaton: Every project around the world is challenged at these prices. When you are selling liquefied natural gas, after liquefying it and transporting it to Japan or China for less than the price you can domestically sell it for in Alaska. That is a non-existent economic model. You need enough price in a negotiation to provide financing. I think we're in a delay situation. We're still doing the investment to get to the final engineering design stage, so I think the project will have its EIS and application to FERC. But until we can see a future market, we're on hold. ●

Contact Steve Quinn
at squinnwrite@gmail.com

Home... Away from Home

When you work in the rugged climate of Alaska's North Slope, having a comfortable, modern place to rest is a necessity. At **Brooks Camp**, each sound insulated room includes a private bathroom, rocker recliner, flat screen TV and individual climate control.

- Hot Breakfast, Lunch and Dinner
- 24-Hour Spike Room
- Free Wi-Fi
- Exercise Room & Pool Tables
- Conveniently located in Deadhorse
- Environmentally designed



colvilleinc.com

For availability and rates: 907.659.6233
brookscampmanager@brooksrangesupply.com

Our success is determined by your success.



Alaska's Premier Placement Service

Phone: 907.677.9675

CHOOSE OPTI STAFFING

- Oil & Gas
- Skilled Trades
- Administrative Support
- Accounting

www.OptiStaffing.com

What's the big attraction?



- A. an industry institution
- B. quality, accurate reporting
- C. attractive, readable design

To advertise in Petroleum News call Susan Crane at 907-770-5592, or Bonnie Yonker at 425-483-9705. To subscribe visit PetroleumNews.com, call 907-522-9469, or email circulation@PetroleumNews.com.

continued from page 1

SANDS PRODUCTION

pany, the largest oil sands producer, was confident it could “safely return people to the region” and start the process of getting “things back to normal in Fort McMurray.”

The Alberta government also lifted orders that prevented all but critical staff from remaining at sites connected with the operations of ConocoPhillips and CNOOC’s Nexen unit.

One of the big unanswered questions is what impact the build-up of production from northern Alberta will have on crude prices now that they have clawed their way back to the US\$50 level, or whether the oil sands will continue on their projected growth trajectory until 2019.

Laura Lau, senior portfolio manager at Brompton Funds, said most of the producers should no longer be under pressure from their banks “who won’t come after them as badly. But can they grow? No they can’t.”

Samir Kayande, an analyst at RS Energy Group, said that, despite outages and shut-downs in the oil sands and shale oil plays, supply and demand is still not in balance in North America, though that gap is “probably going to close sooner rather than later.”

Cenovus Energy Chief Executive Officer Brian Ferguson said his oil sands company is working on the assumption that prices will remain volatile, trading in the range of US\$35-US\$65 a barrel over the next year.

There is no specific price level that would prompt Cenovus to revive expansion, he said.

Paul Sankey, managing director of New York-based Wolfe Research, said prices would need to stabilize around US\$70-US\$80 to justify new projects in the oil sands “and that’s pretty hard to come up with right now.”

—GARY PARK

Contact Gary Park through publisher@petroleumnews.com

continued from page 1

BELUGA UNIT

a year earlier, and deliverability had also declined.

Maintenance projects over the previous year did yield a bump in production. The unit produced 25.1 billion cubic feet in 2014, up from 22.4 bcf in 2013.

Heavy program

But an equivalent maintenance program last year failed to produce similar results. The unit produced 21.2 bcf in 2015, down 15.5 percent over 2014 and 5.3 percent from 2013.

Between the summer of 2015 and this summer, ConocoPhillips exceeded the maintenance program it had originally proposed in its plan of development for

the unit.

ConocoPhillips installed artificial lift on the 212-35T and 232-26 wells and identified 224-34 and 214-26 as future artificial lift candidates. The company also installed velocity string on 232-23. The company cleaned-out 212-25 and a portion of 212-35 and returned 244-04 to intermittent gas production by resolving a sand production issue in the well.

Other projects were less successful. An effort to mill a plug and swab 244-23 was “unsuccessful,” although the company re-established production from upper zones. An effort to swab and flow test 211-03 resulted in a flow that was “not sustainable,” forcing the company to shut in the well and postpone flowline installation pending evaluation.

New management

Earlier this year, ConocoPhillips sold its stake in the Beluga River unit to Anchorage Municipal Light & Power and Chugach Electric Association Inc. for \$152 million.

While Hilcorp retained its one-third interest in the field, the company became the operator of the unit almost by default, as its two partners are both electric utilities.

The utilities said their stake in the unit — now 56.67 percent for ML&P and 10 percent for Chugach — will meet a significant portion of their gas needs over the next decade.

For Hilcorp, taking over the field provided another opportunity for applying economies of scale in Cook Inlet. Earlier this year, the company suggested that the future of the struggling Stump Lake unit to the northeast might depend on activities at

Beluga River.

Hilcorp has publically worried about the fate of legacy Cook Inlet fields in the current economic climate. In its Stump Lake unit plan of development, the company asked officials “to evaluate regulatory and policy changes that, going forward, will extend the useful life of similarly situated legacy fields while minimizing waste, maximizing existing infrastructure and promoting sound environmental and economic policy.”

While the Beluga River unit is approaching its 50th anniversary, and production is declining, the annual production rate is high enough to make its situation better than the marginal Stump Lake unit or other old, small fields scattered throughout the basin. ●

Contact Eric Lidji at ericlidji@mac.com

continued from page 1

SLOPE FRACKING

tight rock that have been bypassed by other companies.

BP Exploration Alaska is meanwhile also experimenting with the technique in the Lisburne field, a tight limestone formation that underlies the main Prudhoe Bay reservoir. The company has also achieved good results, company spokeswoman Dawn Patience said.

Lisburne wells have been notoriously poor producers, averaging about 250 bpd.

Last year, however, BP drilled three new horizontal production wells and applied multi-stage fracturing, resulting in a boost of output for the three wells combined to 3,500 bpd, according to BP reservoir engineer Joshua J. Michie, a member of BP’s Lisburne development team.

The Lisburne well results have just been published in a Society of Petroleum Engineers paper, with Michie as one of the authors.

Slope fracturing smaller in scale

The North Slope hydraulic fracturing so

far is smaller in scale than fracturing being done in the Bakken and Eagleford shale oil plays of the Lower 48 states.

Companies are exploring shale formations on the Slope, however, but so far no production tests have been done.

The three tight-rock Lisburne wells exceeded BP’s expectations by about a third but have since declined to about 2,500 bpd. However, Caelus’ wells at Oooguruk stimulated with multi-stage fracturing have not shown significant declines so far, Foley said are often choked to 2,000 bpd to 4,000 bpd early in their life to maximize reservoir performance. Production rates fall to roughly one third of the initial rate one year after they are brought on production.

Foley said Caelus typically drills four or five new wells each year and fracture stimulates them in a single winter program winter at Oooguruk’s offshore gravel production island, which is in shallow Beaufort Sea waters near shore, he said.

When the drilling is complete the company mobilizes equipment for the fracturing of all of the new wells, Foley said. That has just been completed on five new wells drilled at Oooguruk and the production benefit so far has been to lift the field’s pro-

duction from about 15,000 bpd prior to the fracturing to about 18,000 bpd with four of the new wells on line.

When the last newly-fractured well is put on line Oooguruk’s production will be 20,000 bpd, Foley said.

Fracturing adds to Oooguruk costs

Caelus injected about 2.5 million pounds of ceramic proppant and water based fracturing fluids per well in its Oooguruk multi-stage fracturing. Costs for a new Oooguruk production well average about \$20 million and the multi-stage fracturing adds about \$10 million to costs, Foley said.

In its Lisburne wells BP used about 30,000 pounds of proppant and 1,000 barrels of fluids in each stage of fracturing, with four stages of fracturing applied at one well and five stages in a second well.

“The important aspect was not so much their size as a focus on stimulating the poorer intervals along the well’s path,” Michie said. BP gave no figures on the cost of the drilling and stimulations.

Tight rock at Lisburne

Lisburne has been a poster child for

unpleasant production performance for the North Slope. The reservoir has tight limestone rock with poor permeability but also with a highly complex fracture network.

Oil can flow a hundred times more easily in the Ivishak reservoir, the main Prudhoe Bay producing formation, than it does in the Lisburne, BP has said in a briefing paper.

Initial development began in 1985 but was stopped in 1991 due to poor performance. ARCO Alaska was the operator of the eastern side of Prudhoe Bay, which included Lisburne. After ARCO was acquired by BP the development of Lisburne resumed from 2003 to 2006 but with less-expensive coiled-tubing drilling. The results were equally poor.

While recovery of oil is estimated at 50 percent of 26 billion barrels of oil-in-place in the Ivishak it is only 7 percent of 2.5 billion barrels of oil-in-place in the Lisburne.

If BP engineers can figure ways to get more oil out of the Lisburne rock, such as expanded use of hydraulic fracturing, it would be a big win for the company. ●

Contact Tim Bradner at timbradner@gmail.com

INSPIRATIONS

Hair & Nail Salon

We offer personalized service, catering to the busy professional.

- 11am — 7pm (Late night appointments by pre-arrangement only)
- Each stylist has a separate, enclosed work area for your privacy and comfort

700 W Northern Lights Blvd., Anchorage, Alaska 99503

• Call for appointments • 561-9499

Mention
this ad and
receive a 10%
discount on
hair services!

continued from page 8

LEGACY WELLS

ing oil,” BLM allowed its contractor to attempt cleanup without a blowout preventer, a violation of Alaska state law and regulations of AOGCC, the Alaska Department of Environmental Conservation and the Alaska Department of Natural Resources. “It ignores industry standards and, most consequentially, risks human lives and additional damage to the environment.”

She said she had been informed that the contractor lost control of the well and oil flowed onto the tundra.

Another incident, she said, occurred at Iko Bay Well No. 1, currently flowing methane. No ground contamination occurred there, she said, but “the initial lack of attention to detail during capping of the well seems to indicate that BLM needs to review the terms of its performance-based contracts, and improve its level of oversight and the knowledge and experience of its oversight person-

nel, to guarantee that all state and federal regulations are properly followed in the future.”

The cost issue

Murkowski noted that BLM awarded \$37.4 million to complete remediation of 18 legacy wells, and given the incidents, she asked if all of those wells are “still on track to be remediated on the same timeline, using the funds that have already been awarded by the agency?”

She asked if BLM will ask the con-

tractor at the Simpson Core Test well “to cover the full cost of remobilizing to properly remediate the well” or whether the department will absorb those costs, “potentially at the expense of other work that could decommission other abandoned wells?”

She also asked what the agency has done to improve its contracts and what its timeline is for remediation of all abandoned wells in NPR-A. ●

Contact Kristen Nelson
at knelson@petroleumnews.com

continued from page 1

POINT THOMSON

Point Thomson facilities are designed to produce as much as 10,000 bpd, so over time production volumes should tick upward.

Overall, North Slope crude oil production averaged 529,670 bpd in May, up 4.6 percent from an April average of 506,441 bpd.

The largest month-over month increase was at the BP Exploration (Alaska)-operated Prudhoe Bay field, the Slope’s largest, which averaged 286,286 bpd in May, up 8.8 percent from an April average of 263,261 bpd. Prudhoe production includes satellite production from Aurora, Borealis, Midnight Sun, Orion, Polaris, Sag River and Schrader Bluff, as well as from the Hilcorp Alaska-operated Milne Point and Northstar fields.

AOGCC data for April show Milne Point averaging 19,093 bpd, down 0.9 percent from a March average of 19,274 bpd, while Northstar averaged 5,168 bpd in April, down 4.1 percent from a March average of 5,391 bpd.

Kuparuk up 2.5 percent

The ConocoPhillips Alaska-operated Kuparuk River field averaged 144,814 bpd in May, up 2.5 percent from an April average of 141,307 bpd. Kuparuk production volumes include satellite production from Meltwater, Tarn and West Sak, as well as production from the Eni-operated Nikaitchuq field and the Caelus Alaska-operated Oooguruk field.

AOGCC data show Nikaitchuq averaged 23,347 bpd in April, down 4.5 percent from an April average of 24,449, while Oooguruk averaged 17,250 bpd in April, up 28.8 percent from a March average of 13,388 bpd.

The Hilcorp-operated Endicott field, where volumes include production from Eider and Sag Delta, as well as from the Savant Alaska-operated Badami field and the ExxonMobil-operated Point Thomson field, averaged 9,176 bpd in May, down 10.3 percent from an April average of 10,231 bpd. In March, prior to the startup of Point Thomson, Endicott volumes averaged 8,358 bpd.

AOGCC data for April show Badami averaged 1,005 bpd, down 4 percent from a March average of 1,047 bpd. As noted above, the first month of Point Thomson production showed an average of 1,599 bpd for April.

Lisburne, Alpine also down

BP-operated Lisburne averaged 23,611 bpd in May, down 4.8 percent from an April average of 24,800 bpd. Lisburne volumes include production from Niakuk, Point McIntyre and Raven.

The ConocoPhillips-operated Alpine field averaged 65,783 bpd in May, down 1.6 percent from an April average of 66,842. Alpine includes satellite volumes from satellites at Fiord, Nanuq and Qannik.

Cook Inlet down month-over-month

Crude oil production from Cook Inlet

averaged 14,959 bpd in April, down 5.6 percent from a March average of 15,854 bpd.

The largest month-over-month decline by percentage was at the Cook Inlet Energy-operated West McArthur River field, which averaged 763 bpd in April, down 24.5 percent from a March average of 1,011 bpd.

Also down steeply was Cook Inlet’s largest field, Hilcorp-operated McArthur River, which averaged 4,562 bpd in April, down 9.9 percent from a March average of 5,063 bpd.

Hilcorp’s Beaver Creek, Cook Inlet’s smallest oil field, averaged 121 bpd in

April, down 5.8 percent from a March average of 129 bpd.

Trading Bay, also operated by Hilcorp, averaged 2,221 bpd in April, down 5.1 percent from a March average of 2,341 bpd.

Hilcorp’s Granite Point averaged 2,447 bpd in April, down 3.7 percent from a March average of 2,542 bpd.

Remaining Cook Inlet fields had month-over-month increases.

Hilcorp’s Swanson River averaged 2,331 bpd in April, up 1.9 percent from a March average of 2,288 bpd.

Hilcorp’s Middle Ground Shoal aver-

aged 1,866 bpd in April, up 1.3 percent from a March average of 1,841 bpd. Cook Inlet Energy’s Redoubt Shoal field averaged 648 bpd in April, up 1.3 percent from a March average of 640 bpd.

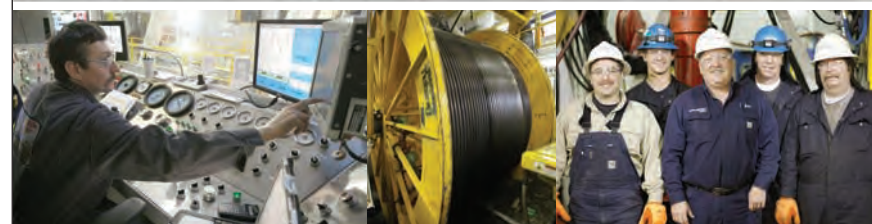
ANS crude oil production peaked in 1988 at 2.1 million bpd; Cook Inlet crude oil production peaked in 1970 at more than 227,000 bpd.

—KRISTEN NELSON

Contact Kristen Nelson
at knelson@petroleumnews.com



Safer. Smarter.



Better.

Our CDR2-AC rig reflects the latest innovations in Arctic drilling to provide our customers with incident free performance and operational and technical excellence.

CDR2-AC is the first Arctic rig designed and built by Nabors specifically for Coil Tubing Drilling operations. The rig was built to optimize CTD managed pressure drilling to provide precise control of wellbore pressures for improved safety, decreased costs, and increased wellbore lengths.

Combining safety and environmental excellence with greater efficiency means CDR2-AC can deliver the high value results customers have come to expect from Alaska’s premier drilling contractor.

Learn more about Nabors’ new drilling technologies at Nabors.com.



NABORS – MISSION TO ZERO
Safer, Smarter - Incident Free

continued from page 1

BARROW HYDRATES

hydrate theory. And recent research is bolstering that view.

Methane hydrate is a naturally occurring ice-like material that concentrates methane in a lattice of water molecules within a specific range of relatively low temperatures and high pressures. In certain situations methane hydrate deposits could become a prolific source of natural gas for use as a fuel, if viable ways of producing gas from the hydrates can be developed. The phenomenon observed in the Barrow gas fields is particularly intriguing since, if the reservoir pressure maintenance does result from the presence of hydrates, the observations from the field would demonstrate the possibility of producing gas from hydrate deposits elsewhere.

Huge quantities of the hydrates exist around the base of the permafrost under the North Slope.

Drilling program

The U.S. Department of Energy had planned to support a hydrate research project in the Barrow gas fields, with the

drilling of a couple of test wells in conjunction with a major development drilling program that the North Slope Borough had planned. But in early 2010 DOE dropped its funding for the Barrow research. However, the field development drilling did go ahead in 2011 and 2012, to boost and maintain gas supplies for local communities. The drilling, while not specifically targeting methane hydrate research, did provide some additional insights into the Barrow gas fields enigma.

Consultancy firm Petrotechnical Resources of Alaska funded an intern project to investigate what new light on the gas production puzzle could be gleaned from the results of the development drilling. And on May 24, during the Society of Petroleum Engineers 2016 western regional meeting, Nolan Youngmun from the PRA team presented a paper, reviewing the results of earlier research into the gas fields and the findings from the development drilling results in the East Barrow field.

Youngmun said that despite an original estimate of 6.2 billion cubic feet of original gas in place, with 5.7 bcf of that being recoverable, the East Barrow field has to date produced about 9.1 bcf. And, despite

the volume of gas extracted from the field, the pressure of the gas in the reservoir has remained somewhat constant.

Field performance simulation

A study of the field conducted a few years ago simulated the expected field performance under various combinations of gas, water and methane hydrate in the field reservoir. This study showed that the observed reservoir pressure history could best be matched by a scenario in which the dissociation of hydrates and the influx of some water both occurred, Youngmun said.

Moreover, the computer modeling of the East Barrow reservoir and the likely zone of methane hydrate stability in the field indicated that hydrates would be stable within the upper part of the field's pay zone and that these hydrates could be in communication with the field's underlying gas pool. A comprehensive reservoir simulation for the field confirmed that a combination of free gas, hydrate dissociation and some water influx most accurately replicated the East Barrow gas field's performance history. A particularly astonishing finding from the reservoir simulation was a revised estimate of nearly 42 bcf of original gas in place, including gas

held in the hydrate deposits. That is an increase of 677 percent relative to the original gas in place estimate, Youngmun commented.

Savik wells

An analysis of the results of the development drilling conducted in 2011 and 2012 focused on two wells: the Savik No. 1 and the Savik No. 2. These gas production wells were directionally drilled through the Upper and Lower Barrow Sandstone reservoir rocks in the East Barrow field.

Log analyses for the No. 1 well indicate that the well encountered hydrate in the upper sands while encountering gas in the lower sands. Flow tests for the well indicated a gas flow rate suitable for commercial operation, with adequate maintenance of the well head pressure.

Savik No. 2, which also penetrated both sand bodies, proved more problematic, with the wellhead pressure declining rapidly during flow testing, probably because of hydrates plugging the downhole section of the well. After several unsuccessful attempts to sustain a gas flow through the well, including the use of a coiled tubing unit to unplug the well, it was concluded that the downhole end of the well must lie entirely within the pressure and temperature stability zone for methane hydrate, rather than in free gas — the deepest section of the No. 2 well was shallower than the producing section of the No. 1 well. The No. 2 well was shut in, Youngmun said.

Unexpected recovery

However, in July 2014 the wellhead pressure in the Savik No. 2 well suddenly rose, without any stimulation being applied to the well. And gas could subsequently be flowed from the well at commercial rates. Although the research team has recommended some further tests on the well, to better understand the well's behavior, it appears that as gas production and associated hydrate dissociation have continued, the base of the hydrate stability zone has risen above the level of downhole end of the No. 2 well, thus putting the well in direct communication with free gas in the reservoir.

In addition to well logging and drilling operations confirming the presence of methane hydrate deposits in the East Barrow gas field, the results of field modeling and the observed performance of the two Savik wells all support the concept that hydrate dissociation combined with a small amount of water influx are recharging and maintaining the pressure in the gas pool, Youngmun said. ●

Contact Alan Bailey
at abailey@petroleumnews.com

continued from page 14

AOGA CONFERENCE

are going to be more careful about checking for competing events for Alaskans next spring.

All the proceeds from AOGA's conference stayed in Alaska. In addition, the event raised nearly \$10,000 for a local charity, gave an award to an oil and gas project for environmental stewardship and innovation, a contractor of the year award for safety performance, a lifetime industry award, a rising star award and a scholarship to the University of Alaska. All the awards went to Alaskans. ●

Contact Kay Cashman
at publisher@petroleumnews.com

**Only pay for the speed you need...
Dynamic Routing!SM**

At Lynden, we understand that plans change but deadlines don't. That's why we proudly offer our exclusive Dynamic Routing system. Designed to work around your unique requirements, Dynamic Routing allows you to choose the mode of transportation — air, sea or land — to control the speed of your deliveries so they arrive just as they are needed. With Lynden, you only pay for the speed you need!

DESTINATION: FAIRBANKS

ETA: 9:30 - 11:30 A.M.

S	M	T	W	T	F	S
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11



ALASKA

LYNDEN
Innovative Transportation Solutions

www.lynden.com 1-888-596-3361