



page 3 Q&A: Costello needs more answers from AGDC, Gov. Walker, on AKLNG

This week's Mining News



The weekly mining newspaper for Alaska and Canada's North. Week of July 31, 2016

NORTHERN NEIGHBORS

Compiled by Sherry Lasky

Hecta withdraws Dolly Varden takeover

Dolly Varden Silver Corp. July 22 reported that the British Columbia Securities Commission and the Ontario Securities Commission denied a request by Hecta Mining Company to stop Dolly Varden from completing a previously announced private placement financing. Hecta, which owned roughly 19.8 percent of Dolly Varden's shares in a partially diluted basis, has argued that the financing would be disruptive to the junior's standing Dolly Varden shares if it does not already own it and instead of roughly \$312 million. The two commissions, however, as a result of the commission's ruling, Hecta withdrew its bid. "We are disappointed by its planned private placement financing followed by its planned private placement financing. Hecta effectively acts as a poison pill, making the cost of acquiring Dolly Varden by more than 50 percent," said Hecta President and CEO Phillip Baker. Jr. On July 26, Dolly Varden closed the \$37.2 million financing, which included the sale of 9,153,800 shares at \$2.00 each, and up to 2,142,857 shares to be used to repay a \$25.2 million short-term loan from Smart Private Resources Lending, an additional Special dividend and the \$2 Principal Fund. Dolly Varden said it will apply most of the balance of the proceeds for exploration at its Dolly Varden all-terrain site in northwestern British Columbia. "By eliminating our debt and properly funding our company, we will be able to focus on further exploration and expansion of our previously announced financing program," explained Baker. "The value of our company should increase favorably with our debt-free years with funded exploration programs." "Once Dolly Varden is in receipt of the final financing, it will be able to fully evaluate Hecta's offer. We will then be in a position to ensure that our shareholders will receive meaningful advice and information upon which to make a decision to tender to bid, should we choose to do so." "To maintain its pre-merger interest in Dolly Varden, Hecta subscribed to 1,857,700 of the new-through shares of the financing and purchased another 101,762 warrants at \$1.00 each. Each share at \$2.00 cents for a period of two years. "Despite withdrawing our bid, Hecta will invest to maintain our 15.7 percent interest in Dolly Varden because of our long-term commitment to the Dolly Varden property," explained Baker. "The Hecta Dolly Varden decision exhibit both volcanic and massive sulfide (VMS) mineralization and potential (Hemlock) mineralization. In August 2015, Dolly Varden published a million independent geological and geophysical (Hemlock) mineralization drilling and site some of the quality geophysical

After 34 years, drills are again tapping Round Top copper target in western Alaska. Read more in North of 60 Mining News, page 9.

BLM starts GMT-2 project review

The federal government is beginning its environmental review of the second oil development proposed for federal lands within the National Petroleum Reserve-Alaska.

The U.S. Bureau of Land Management announced a Notice of Intent on July 25 to conduct the review for the Greater Mooses Tooth-2, or GMT-2, project. A 30-day "scoping" process for a Draft Environmental Impact Statement has been initiated and the entire EIS procedure typically requires 18 months to complete,

see **GMT-2 REVIEW** page 20

BP sees AK investment flexibility

During a second quarter 2016 results earnings call on July 26, BP executives commented that the company sees Alaska as one of a number of regions where capital investment can be flexible in response to the changing oil price situation.

"In the Lower 48, Iraq, and Alaska, where we have vast resources, we have reduced our spend while retaining the flexibility to scale up activity should prices strengthen," Group Chief

see **BP INVESTMENT** page 24

Conoco: Alaska cuts likely small

ConocoPhillips is looking at a 6 percent global workforce cut, but doesn't expect a large reduction in Alaska.

An email statement provided to Petroleum News July 25 by ConocoPhillips Alaska spokeswoman Natalie Lowman says "the extended downturn in oil price" means the company is "operating in a very cost-challenged environment" and is continuing "to work to align the company's workforce needs with expected future activity levels, given the difficult environment our industry faces."

see **CONOCO CUTS** page 24

EXPLORATION & PRODUCTION

More oil in Torok

AOGCC OKs pool rules for Kuparuk Torok formation; development to follow

By ERIC LIDJI

For Petroleum News

State officials have approved a new oil pool at the Kuparuk River unit.

The Alaska Oil and Gas Conservation Commission approved a request from ConocoPhillips Alaska Inc. to establish the Kuparuk River-Torok Oil Pool at the unit.

The ruling allows ConocoPhillips to proceed with an oil development program from the existing Drill Site 3S at the North Slope unit and could lead to additional pads in the future. The Kuparuk River-Torok Oil Pool is defined as "the accumulation of oil and gas common to and correlating with

The company originally referred to the accumulation as the "Moraine" interval, but the AOGCC decided to name the pool after the "Torok" formation present in the region.

the interval within the Kalubik No. 1 well between the measured depths of 4,991 and 5,272 feet on the resistivity log recorded in exploratory well Kalubik No. 1," according to the July 22 decision (Conservation Order No. 725).

ConocoPhillips applied for the pool in late

see **MORE OIL** page 24

FINANCE & ECONOMY

AEDC: Industry jobs down

So far few Anchorage-area impacts; slow turnaround after 2018 based on oil prices

By TIM BRADNER

For Petroleum News

So far layoffs in the state's petroleum industry have had few effects on the broader Anchorage area economy, data gathered by Anchorage Economic Development Corp. indicates.

As of June, petroleum industry jobs are down 700 compared with the same month of 2015. The six-month year-to-date average has been 600, says Bill Popp, CEO and president of AEDC.

Layoffs in industry jobs started in late 2015 but the reductions have had virtually no effects on the regional unemployment rate, which remains at near-record lows, or on first-time unemployment



BILL POPP

claims, a key measure of economic strength.

"You would think we would be seeing some kind of effect (of the oil losses). We're trying to figure it out," Popp said at AEDC's three-year economic forecast luncheon held July 27.

There are also job losses in professional and business services, a category also affected by the oil downturn, as well as construction, an industry hit by reduced state capital spending.

Why the lack of impact?

There are two plausible explanations for the relative lack of impact from oil cutbacks, Popp told

see **INDUSTRY JOBS** page 23

UTILITIES

Toward local control

Homer Electric wants its board rather than RCA to regulate its electricity rates

By ALAN BAILEY

Petroleum News

Homer Electric Association's board of directors has approved an initiative to establish local control for the utility, moving out from economic regulation by the Regulatory Commission of Alaska and giving full authority for the approval of electricity rates to the board.

"We're going to go to our members this fall and do our best to provide them the information to decide if they are interested in HEA becoming locally controlled, exempt from regulation," Brad Janorschke, general manager of HEA, told Petroleum News on July 26. "We're trying to allow our members to make an informed decision."

On Aug. 1 the Kenai Peninsula utility will offi-

Janorschke said that HEA's motivation for local control revolves around the cost, lengthy timeframe and rigidity of the RCA regulatory process.

cially notify the RCA of its proposal. Then, during local community meetings conducted in September, the utility will explain its proposal to its membership. Ballots on the proposal will go to the members in conjunction with the utility's billing cycle in October. The returned ballots will be sent to the RCA for counting by the end of December. If the members pass the proposal, local control would likely go into effect on Jan. 1,

see **LOCAL CONTROL** page 20

contents

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ON THE COVER

More oil in Torok

AOGCC OKs pool rules for Kuparuk Torok formation; development to follow

AEDC: Industry jobs down

So far few Anchorage-area impacts; slow turnaround after 2018 based on oil prices

Toward local control

Homer Electric wants its board rather than RCA to regulate its electricity rates

BLM starts GMT-2 project review

BP sees AK investment flexibility

Conoco: Alaska cuts likely small

ENVIRONMENT & SAFETY

4 Kenai refinery part of \$425M settlement

6 refineries, 5 belonging to Tesoro, part of Justice Department, EPA settlement; millions required for pollution control equipment

EXPLORATION & PRODUCTION

17 BlueCrest not drilling offshore

18 Seismic, well data up for public release

FINANCE & ECONOMY

4 Royale Energy to merge with Matrix Oil

GOVERNMENT

3 Costello: More AGDC answers needed

Anchorage Republican, L&C Chair says she wants to remain optimistic, but needs more clarity on the AK LNG project from Walker, AGDC

6 AOGCC sets CIE reconsideration hearing

7 Murkowski reports on federal energy bill

Alaska's senior senator chairs Senate side of conference committee, says she'll make sure Alaska provisions in bill 'don't get lost'

18 NMFS issues Apache Cook Inlet LOA

18 Governor vetoes legislators on AGDC board

LAND & LEASING

7 Court dismisses Chukchi lease sale appeal

17 BOEM to live stream Gulf of Mexico sale

NATURAL GAS

6 AIDEA reports on Interior Energy Project

Agency's initiative to bring affordable energy to the Fairbanks area has slowed but continues to move towards key decision points

23 Prudhoe singled out for marketing info

Division of Oil and Gas has approved 21 of 22 PODs since new natural gas marketing information requirement instituted in January

PIPELINES & DOWNSTREAM

7 Hilcorp plans Slope facilities mergers

Endicott, Northstar would use single connection point to TAPS, with newer Northstar facilities used; Endicott would be backup

18 Foreign-flagged tanker to move ANS crude

UTILITIES

18 Utilities comment on grid standards

Say they are progressing toward a single set of standards for Railbelt power transmission, want confidentiality over security

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GOVERNMENT

Costello: More AGDC answers needed

Anchorage Republican, L&C Chair says she wants to remain optimistic, but needs more clarity on the AKLNG project from Walker, AGDC

By STEVE QUINN
For Petroleum News

Sen. Mia Costello was putting the final touches on details for a three-week vacation when the news came: SB 125, her bill to place legislators as non-voting board members on the Alaska Gasline Development Corp., was vetoed by Gov. Bill Walker. A day later, the Alaska Supreme Court vacated a voter initiative she spearheaded in 2014. The day before leaving for her break, the Anchorage Republican who chairs the Labor & Commerce Committee and sits on Resources as vice chair, talked to Petroleum News about her concerns over progress with AKLNG project and her expectations of Gov. Bill Walker.

Petroleum News: Let's start with SB 125 being vetoed. It passed by a pretty wide margin. Were you surprised?

Costello: Was I surprised the governor vetoed it? No. I wasn't surprised, but I was very disappointed. I think the ink wasn't even dry on a newspaper article when Keith Meyer, the new head for AGDC, was saying that the No. 1 challenge for a gas line in Alaska is the relationship with the Legislature and he looks forward to improving the relationship.

The governor turns right around and he has the opportunity to sign into law a bipartisan measure that would allow Legislature members sit in as non-voting board members. They would listen in to these close-door meetings to help with that relationship, help with the continuity and preserve some continuity too because the bill required some experience with oil and gas on the board members.

But the governor vetoed it. He chose not to back up what he's saying with actions so I'm very disappointed.

Petroleum News: One of the criticisms separate from what the governor wrote in his veto letter was placing lawmakers on the board would lead to politicizing the board. That's contrary to the initial mission. How do you see this?

Costello: I did hear those concerns. There is precedent for legislators sitting as non-voting, ex-officio members on other boards but more important, I think is the nature of this project and the problems we've had with transparency. I think the governor is politicizing the issue. He's made it difficult to figure out what his vision is.

We are just asking to have a seat at the table. As far as any concerns that it's politicizing it, we are the people's branch. Who is more deserving of knowing what's going on with the project that the people's branch of government? So I view it as only a positive thing, only improving the relationship, the communication and the transparency.

If the governor chooses to veto a transparency bill, that's his prerogative. Minority members and majority members would have both sat in. It was amended in the House to include a minority member.

Petroleum News: So what do you next year? Do you try again?

Costello: I haven't given it thought on whether I would introduce it again. I think the main concern that I have and

the main interest I have is that the governor start sharing his vision for the gas line. When you look across at all the actions he's taken, it's confusing who is driving the policy behind the gas line.

The players are constantly changing. They are constantly hiring new people. We have a new DNR commissioner. The entire AGDC board except for Dave Cruz has been replaced. We have a new CEO. When you look across the landscape of this issue in Alaska, I think that this bill and the veto of this bill is one of many examples that indicate the governor has a vision for the gas line that he hasn't shared with the people of Alaska.

That's what this bill is trying to do. It's saying this is the most important project we are facing. It's only going to improve an outcome, improve a chance of success of it if we are communicating, if we are sharing and if we are behind each other, and we have an understanding of what the governor's vision is.

Petroleum News: You've touched on turnover. One of your colleagues raised that issue during the AKLNG quarterly meeting. How do you see this?

Costello: I think some turnover in agencies and projects, that's natural. The turnover we've seen is unprecedented and troubling.

Petroleum News: Is there any particular departure that concerns you the most?

Costello: You know, acting Commissioner Marty Rutherford leaving so suddenly, just prior to announcing he was going to reject the plan of development for the Prudhoe Bay unit, to me was another red light. Taken as a whole, there has been a whole lot of uncertainty, changing personalities that are often times controversial. It just makes you wonder what the governor is thinking about what he wants for this gas line.

Petroleum News: OK, let's go to the POD hearing on the 19th. What were your takeaways from the hearing?

Costello: I'm concerned the governor is using his action to leverage the companies into giving him information that has never been requested. This is a plan of development, which is an annual submission that talks about the activities on the North Slope. I think it's politicizing a process and it's putting oil production at risk. We are at a time in our state's history where we need certainty, to know that we have revenue coming into the state. To politicize a plan of development process sends mixed signals to Alaskans. He's trying to get gas information out of a process, that up until this point, that information hasn't been required.

Now we see on the heels of this, he's hired an attorney who has experience suing oil companies. So you have to ask yourself about the fact that he made the announcement late in the day. It didn't happen in the press cycle, and he didn't have a press availability about the hire. It's a big deal and I think the administration is trying to play it down in saying that now that AOGCC has approved



SEN. MIA COSTELLO

more gas offtake, we are asking for this new information. The question we all have is why is the governor asking for this information.

The state has many roles in the gas pipeline and in production with our oil and gas. Those lines get blurred and it's becoming unclear who is driving the policy within this administration. Division Director Corri Feige even admitted the governor doesn't even talk to her. To me that was one more example that results in the question what's the governor's vision and who is driving the policy.

We've also seen the introduction of John Hendrix who we learned is a cabinet level advisor who is on par with the DNR commissioner, who is also new. Andy Mack was there and he indicated a lot of his time will be running the department so the question is will John Hendrix be running the policy for the gas line? More than anything

Alaskans need to hear from the governor that if he has a vision for the gas line, he should share it with us.

Petroleum News: What you've noted sounds like concerns expressed over the structure during the last special session.

Costello: What you saw last session over the concerns with the organizational chart, many of those questions were answered. But when you change the personalities so often, I think the message he should be sending about his project should be clear; who is driving the policy should be clear. I think we should be working together. We should be communicating. We need to know why the governor is hiring an attorney, why the governor is hiring a cabinet level individual to handle the gas line issues.

I would have more confidence if he was talking to the director of oil and gas. Corri Feige has a tremendous amount of knowledge and experience. Taken together, I think we have a lot of individuals who are involved in this project. At the end of the day, Gov. Walker should tell the Alaskan public what his thoughts are, what his vision is. At this point, we are reading tea leaves.

Petroleum News: On the hiring of Mr. Hendrix, members of the Legislature have long wanted people who have been

in the field. So he's been in the field and in Alaska. Does that help in your mind?

Costello: Certainly his experience isn't in question. Mr. Hendrix sounds like a qualified, decent individual. The governor, however, did veto SB 125, which required oil and gas experience from members on the AGDC board. Who the people are, I guess that's a good question. I'm more interested in knowing who is driving the policy.

Petroleum News: And the other recent hire, you talked about Mr. Cotham being someone who has made a living suing the industry. Do you worry that he may be drafting papers for a lawsuit?

Costello: The producers have said the marketing information is propriety information. The governor is asking for it

before we have a royalty in kind/royalty in value determination. Then enter stage left, this individual who said at the hearing flat out, he didn't think this information was propriety. So he's already made a determination.

If you look at all the pieces and had to make an assumption — which I don't want to make, I'd rather the governor tell us his plan — it doesn't look that great. You don't bring on lawyers for no reason and the governor has a long history for suing the industry. If it's in the best interest of Alaskans to put Prudhoe Bay on hold and go into the courts and use our savings to pay for attorneys ... that's why I want to governor to share his vision.

Petroleum News: You had called the situation over the POD troubling, echoing the thoughts of committee Chair Cathy Giessel. What do you feel that way?

Costello: It seems like each party had dug its heels in the sand. The governor and his attorney are saying this information is not propriety; the industry is saying it is propriety and that it's information the state hasn't requested in the past; it seems premature; it comes prior to the state knowing if we are going to market our own gas or if we are going to have one of our partners market it for us. This begs the question are we looking to approve their marketing plan and if we

see COSTELLO Q&A page 21





American Marine Services Group
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● ENVIRONMENT & SAFETY

Kenai refinery part of \$425M settlement

6 refineries, 5 belonging to Tesoro, part of Justice Department, EPA settlement; millions required for pollution control equipment

By LISA DEMER

Alaska Dispatch News

Serious air pollution problems at six refineries including Tesoro Corp.'s Kenai facility in Alaska are being addressed through a \$425 million settlement announced July 18 by the U.S. Justice Department and the Environmental Protection Agency.

Tesoro and its subsidiaries operate five of the refineries in the settlement and used to run all six. The sixth one, in Kapolei, Hawaii, was sold in 2013 and is run by Par Hawaii Refining, the other corporation named in the settlement.

Under the agreement, which the public can comment on before it becomes finalized in court, the two companies must spend \$403 million to install and operate pollution control equipment. In addition, Tesoro will spend \$12 million on environmental projects in communities with a history of pollution impacts as well as paying \$10.45 million in fines.

Efforts to reach Tesoro for comment July 18 were unsuccessful. Kenai Peninsula Borough Mayor Mike Navarre said Tesoro is considered a good operator and he wasn't aware of air pollution issues at the refinery.

EPA has found problems at the various refineries that go back years and even decades, according to the complaint filed in U.S. District Court in Texas July 18, along with the settlement. The states of Alaska and Hawaii, as well as the Northwest Clean Air Agency, joined with the federal government to bring the complaint.

Two main problems at Kenai

Two main pollution problems occurred at the Kenai plant, said John Keenan, a Clean Air Act enforcement officer with the EPA in Seattle.

First, the Kenai refinery was flaring — or burning — gases generated during the refinement process beyond what is allowed. In addition, refinery workers failed to analyze

Kenai Peninsula Borough Mayor Mike Navarre said Tesoro is considered a good operator and he wasn't aware of air pollution issues at the refinery.

pumps, pipes and valves for leaks as frequently as required and, for part of the facility, failed to do the required checks at all, Keenan said.

Excess emissions from leaks, flares and other plant operations put toxins into the air that can cause cancer, birth defects and other health problems, and can seriously damage the environment, according to the EPA.

Flaring is a common technique for disposing of low-value gases but it results in emissions of sulfur dioxide, toxic air pollutants and greenhouse gases that contribute to climate change. Sulfur dioxide emissions can affect breathing and aggravate existing respiratory and heart diseases, according to the EPA. People with asthma, bronchitis or emphysema, as well as children and the elderly, are particularly sensitive. Sulfur dioxide also is a major contributor to acid rain, smog and haze.

Leaking vapors from valves and pumps pollute the air with volatile organic compounds. Emissions of volatile organic compounds can irritate the eye, nose and throat, cause headaches and nausea, bring about loss of coordination and damage the liver, kidneys and central nervous system, according to the government.

A refinery contains hundreds of miles of piping with innumerable valves and pumps. Operators are supposed to check the whole system, generally monthly, Keenan said.

Workers use a backpack-sized analyzer with a wand that sniffs equipment for vapors, Keenan said.

"The wand draws in ambient air, and they hold it up to the valve or other equipment," he said.

The device reads the levels of compounds and spits out

a number that the worker then must record.

"They do it 8,000 more times, then start all over again," Keenan said. "It's fairly labor-intensive."

And it wasn't done often enough, he said.

Work required on schedule

That work now will be done on schedule, under the agreement, signed by Tesoro as well as the government. Tesoro also must install an infrared gas-imaging camera at four refineries, including the one in Kenai, that will help it zero in on "fugitive emissions" in real time, Keenan said. Tesoro will use the \$100,000, next-generation cameras to locate vapor emissions, and then address any emissions found. But the big-ticket item in Kenai is \$60 million for new equipment to reduce flaring, Keenan said.

Under the settlement, Tesoro must buy equipment that will allow it to capture, compress and make use of the low-value gases that normally are burned off. That compressed gas is a fuel that can then be used to help run the refinery, Keenan said. Tesoro won't have to buy as much natural gas.

Tesoro will also have to repair smaller leaks than have been required in Kenai, under the agreement. Its enhanced leak detection program and its recovery of flare gas will significantly reduce emissions of volatile organic compounds such as cancer-causing benzene as well as greenhouse gases, according to the EPA.

Besides Kenai and Kapolei, other refineries at issue are in Martinez, California; Mandan, North Dakota; Anacortes, Washington; and Salt Lake City. In Contra Costa County, California, an area that has been impacted by other industrial pollution as well, Tesoro is expected to contribute \$1 million toward the purchase of four school buses that run on compressed natural gas, a cleaner fuel than diesel.

The public will have 30 days to comment on the agreement through a process that will be posted on the Justice Department website. ●

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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

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FINANCE & ECONOMY

Royale Energy to merge with Matrix Oil

Royale Energy Inc. said July 25 that it has signed a letter of intent to merge with privately held Matrix Oil Corp. The \$41.5 million transaction is subject to completion of due diligence reviews and definitive documentation and stockholder approval. Royale said the companies seek to complete the merger in the fourth quarter.

Matrix has oil and gas properties in the Sacramento, San Joaquin and Los Angeles basins in California and in the Permian basin in Texas.

Royale is an independent exploration and production company focused on natural gas with primary operations in the Sacramento and San Joaquin basins.

Royale holds some 40,000 acres of undeveloped state of Alaska oil and gas leases on the North Slope.

Royale said combined production from the two companies should be some 650 barrels of oil equivalent per day. The company will retain the Royale Energy name. Matrix will become a wholly owned subsidiary.

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After years of apprenticeship and regulatory delays, ASRC Exploration operates first North Slope exploration well



PHOTO COURTESY ASRC

Although it has been an important player in the oilfield services sector for many years, Arctic Slope Regional Corp. officially became an explorer this year through ASRC Exploration LLC with its completion of Placer No. 3 well, the culmination of a decade-long apprenticeship under BP.

Prior to ASRC acquiring the Placer prospect, ConocoPhillips drilled Placer No. 1 and Placer No. 2 exploration wells at the western edge of the Kuparuk unit with favorable results.

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| <ul style="list-style-type: none"> ABR AECOM Environment AES Electric Supply, Inc. aeSolutions Air Liquide Alaska Clean Seas (ACS) Alaska Dreams Alaska Frontier Constructors (AFC) Alaska Instrument Alaska Marine Lines Alaska Railroad Alaska Rubber Alaska Steel Co. Alaska Textiles Alaska West Express Alpha Seismic Compressors American Marine Arctic Catering & Support Arctic Controls Arctic Wire Rope & Supply Armstrong ASRC Energy Services AT&T Automated Laundry Systems & Supply Avalon Development Bald Mountain Air Service BELL & Associates Bombay Deluxe Brenntag Pacific Brooks Range Supply Calista Corp. Carlile Certek Heating Solutions CH2M CMS, Inc./Hepworth Agency Colville Inc. Computing Alternatives CONAM Construction | <ul style="list-style-type: none"> Construction Machinery Industrial Crowley Solutions Cruz Construction Delta Leasing Dowland-Bach Corp. Doyon Anvil Doyon Associated Doyon Drilling Doyon, Limited Doyon Universal Services Everts Air Cargo exp Energy Services EXPRO Group Fairweather Flowline Alaska Fluor Foss Maritime Fugro GCI Industrial Telecom Global Diving & Salvage GMW Fire Protection Greer Tank & Welding Guess & Rudd, PC Hawk Consultants HDR Hudson Chemical Corp. Inspirations Judy Patrick Photography Kuukpik Arctic Services Kuukpik Corporation Last Frontier Air Ventures Lounsbury & Associates Lynden Air Cargo Lynden Air Freight Lynden Inc. Lynden International Lynden Logistics Lynden Transport | <ul style="list-style-type: none"> Mapmakers of Alaska MAPPA Testlab Maritime Helicopters Motion Industries Nabors Alaska Drilling NANA WorleyParsons NEI Fluid Technology Nordic Calista North Slope Telecom Northern Air Cargo Northwest Linings PacWest Drilling Supply PENCO Petroleum Equipment & Services Polyguard Products PND Engineers Inc. PRA (Petrotechnical Resources of Alaska) Price Gregory International Resource Development Council Ravn Alaska SAExploration STEELFAB Stoel Rives Taiga Ventures Tanks-A-Lot The Local Pages TOTE-Totem Ocean Trailer Express Totem Equipment & Supply TTT Environmental UIC Design Plan Build UIC Oil and Gas Support Services Unique Machine Univar USA Usibelli Volant Products |
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● NATURAL GAS

AIDEA reports on Interior Energy Project

Agency's initiative to bring affordable energy to the Fairbanks area has slowed but continues to move towards key decision points

By **ALAN BAILEY**
Petroleum News

In its latest quarterly report to the Alaska Legislature, published in early July, the Alaska Industrial Development and Export Authority's Interior Energy Project described continuing progress towards an expanded natural gas supply for Fairbanks and the surrounding area of the Alaska Interior. However, with a decision yet to be taken on whether to proceed with the development of a new liquefied natural gas plant to underpin the supply boost, and with no further expansion to the gas distribution network in Fairbanks this year, the pace of the project has clearly slowed.

The essential purpose of the project is to reduce the cost of energy for Interior residents, given the past high cost of heating oil and of oil-fueled power generation. And, by providing affordable natural gas, the project anticipates reducing the use of wood-burning stoves for heating houses, thus addressing the severe winter air pollution issues resulting from wood smoke in the Fairbanks area.

Competitive pricing

The recent drop in the price of oil impacts the motivation for Fairbanks residents to convert to natural gas, thus presumably creating a need for particularly competitive natural gas pricing. The project has been targeting a price of \$15 per thousand cubic feet for gas delivered to houses in the Fairbanks area.

The recent drop in the price of oil impacts the motivation for Fairbanks residents to convert to natural gas, thus presumably creating a need for particularly competitive natural gas pricing.

In 2015 AIDEA purchased Pentex Natural Gas Co., the owner of gas utility Fairbanks Natural Gas, of a small LNG plant at Point Mackenzie on the Cook Inlet and of a road transportation service for delivering LNG to Fairbanks. Through its ownership of Pentex, AIDEA has been able to reduce the cost of gas for Fairbanks Natural Gas customers. But, especially given the small scale of the gas supply operation, and given the pricing of the gas delivered to the LNG plant, the price of the gas in Fairbanks is well above that \$15 target level. And the existing service only supports a relatively small number of customers in central Fairbanks.

AIDEA wants to greatly expand the gas supply while also merging Fairbanks Natural Gas with the Interior Gas Utility, the other gas utility for the Fairbanks area. The consolidated utility would be spun off as an independent entity.

In March the Interior Energy Project team recommended to the AIDEA board that a proposal by Salix Inc. to build a new LNG plant in the Cook Inlet region be selected as the basis for an enlarged and cheaper Fairbanks gas supply. However, the team has yet to put before the board a completed plan for the plant development,

to enable the board to make a formal decision on whether to authorize the front-end engineering and design phase of the plant construction project.

Five-stage supply chain

The July report to the Legislature considers a five-stage supply chain for Fairbanks natural gas delivery: a supply of natural gas from the Cook Inlet basin; the liquefaction of the gas in the Cook Inlet region; the transportation of LNG to Fairbanks; the storage and re-gasification of the LNG, coupled with the distribution of gas in Fairbanks; and the conversion of buildings in Fairbanks to the use of natural gas for heating.

In terms of a Cook Inlet gas supply, the Interior Energy Project team is working to finalize a long-term supply contract with a Cook Inlet producer, starting in 2018, the report says. Currently Hilcorp Alaska supplies gas to the existing LNG plant through a contract which runs through the beginning of 2018.

Liquefaction

Since March, to progress the proposed new Cook Inlet LNG plant, the project team, together with representatives from Fairbanks Natural Gas and the Interior Gas Utility, has been working with Salix to advance the LNG project's commercial terms and technical design. Key products from this work will be details of project financing, the pricing of the LNG and the assignment of project risks. Another anticipated product is a contract for the funding of work associated with front-end engineering and design, the report says.

The start of front-end engineering and design will be contingent on AIDEA board approval. And after that stage of the project has been completed the board will make a final investment decision for the construction of the LNG plant.

One issue that has arisen is the possibility that exploration drilling that Doyon Ltd. is currently conducting in the Nenana basin could result in a gas supply for Fairbanks, as an alternative to what the Interior Energy Project is proposing.

"The team has evaluated available information associated with the ongoing Nenana basin exploration," the report says.

Transportation

The Interior Energy Project anticipates transporting LNG to Fairbanks by road, along similar lines to the existing LNG supply service. But, to achieve economies of scale, the project team anticipates using larger LNG trailers than the 10,500-gallon capacity trailers currently in use. The team has been testing a prototype 13,000-gallon trailer supplied by Western Cascade, although highway restrictions in Alaska

would limit the capacity to about 12,300 gallons, the report says.

The Fairbanks Natural Gas affiliate that currently ships LNG to Fairbanks has already purchased the prototype trailer and has ordered three more similar trailers, to replace aging trailers in its fleet and reduce its transportation costs, the report says.

With the future railroad transportation of LNG being another possibility, the Alaska Railroad has arranged with Hitachi High-Tech AW Cryo to bring two 40-foot LNG containers from Japan in September, for a pilot project involving the transportation of LNG to Fairbanks by rail.

Fairbanks distribution

Although there has been no further buildout since October 2015 of the gas distribution system in Fairbanks, the Interior Energy Project has continued discussions on how future system expansion can be carried out in a way that facilitates the consolidation of the Fairbanks Natural Gas and Interior Gas Utility distribution systems into a single entity. And Fairbanks Natural Gas has been working with the City of Fairbanks, the Fairbanks North Star Borough and the Alaska Department of Transportation and Public Facilities to coordinate any gas pipe installations that might be done efficiently in conjunction with major roadwork, the report says.

AIDEA had originally envisaged consolidating the two existing Fairbanks gas utilities by selling Fairbanks Natural Gas to the Interior Energy Project by the end of June. But the parties involved have now deferred the target date for consolidation to the end of 2016, the report says. Meanwhile, the utilities have been exchanging term sheets, advancing a plan for the physical integration of their distribution systems, and conducting economic modeling of the consolidated system.

Gas conversions

Given the economic challenges to the project emanating from the current low price of oil, efforts towards encouraging consumer gas conversions have been focusing on the availability of low-cost loans and other financing mechanisms to help fund the conversions. There are multiple potential funding sources, including commercial loans; government loans and grants; and energy efficiency and clean air programs.

Funding for the Interior Energy Project comes from three sources: a \$57.5 million state capital appropriation; \$125 million in loans through AIDEA's Sustainable Energy Transmission and Supply, or SETS, program; and \$150 million in state bonds.

So far AIDEA has spent \$14.6 million of the capital appropriation, with \$14.1 million of that expenditure going into an earlier initiative to build an LNG plant on the North Slope. So far AIDEA has issued \$52.7 million in SETS loans for the build-out of the storage and gas distribution system in Fairbanks. No state bonds have yet been issued for the project.

The \$54 million required for the purchase of Pentex came from a separate AIDEA revolving fund — the agency anticipates recovering this cost and making a return on the investment through the eventual sale of the business. ●

GOVERNMENT

AOGCC sets CIE reconsideration hearing

The Alaska Oil and Gas Conservation Commission has scheduled a reconsideration hearing on penalties it imposed on Cook Inlet Energy last year.

A public hearing had been previously scheduled on the CIE request for reconsideration, but the company asked that the hearing be continued pending appointment of a third commissioner. That appointment took place July 20, and the AOGCC has now scheduled a public hearing for Sept. 13 at 9 a.m. at its Anchorage offices.

The commission fined CIE \$446,000 in May 2015 for multiple violations at the Sword No. 1 well between November 2013 and March 2014.

In December 2014 the commission issued a notice of corrective action based on numerous regulatory violations of the safety valve system at the Sword No. 1 and a failure to provide requested information to the commission on the company's safety valve system compliance policies. That notice proposed a civil penalty of \$806,000.

The commission reduced the penalty based on mitigating circumstances but said "CIE has a history of noncompliance involving various parts of its operation that fall under AOGCC jurisdiction" at operations other than the Sword well.

It required corrective actions, including a detailed description and example of regulatory compliance tracking program, a copy of a written management-of-change procedures, and evidence that personnel have been trained in AOGCC regulatory requirements.

—PETROLEUM NEWS



Maps and data for the oil and gas industry in Alaska.



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259 South Alaska Street, Palmer AK 99645 | (907) 745-3398
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Contact Alan Bailey
at abailey@petroleumnews.com

• GOVERNMENT

Murkowski reports on federal energy bill

Alaska's senior senator chairs Senate side of conference committee, says she'll make sure Alaska provisions in bill 'don't get lost'

By **TIM BRADNER**
For *Petroleum News*

Alaska Sen. Lisa Murkowski says her top priority when Congress resumes work is crafting a House-Senate compromise on a broad bipartisan federal energy bill that passed the Senate in April 85 to 12.

Murkowski, who chairs the Senate Energy and Natural Resources Committee, is also chair of the Senate side of a House Senate conference committee. The conference committee includes the ranking Minority member on the Senate Energy Committee, Sen. Maria Cantwell, D-Washington.

"My position on the conference committee will allow me to make sure that Alaska's provisions in the energy bill don't get lost," Murkowski told the Anchorage Chamber of Commerce July 25.

Crafting the bill has required a careful balancing act, with Murkowski working with Maria Cantwell, to produce a bipartisan bill, the first in years Congress will have passed if it finally happens.

Republican and Democratic members of the committee had to reach consensus

on a multitude of issues and avoid partisan priorities that would have been rejected on the floor of the Senate. "Both sides had to agree to drop a few priorities to get consensus," the senator said.

Murkowski's good working relationship with Cantwell was crucial, she said.



LISA MURKOWSKI

More provisions in House version

The House version of the bill, however, contains more provisions inserted by the Republican leadership there that will not go over well with Senate Democrats. Murkowski's challenge in the conference committee will be to bring House members along in developing a final bill that will be acceptable.

As now written, the proposed Energy Policy Modernization Act, which has long been in the works, contains several measures beneficial to Alaska in areas of renewable and traditional energy production, mineral production, public land access, and the reauthorization of programs that provide important funding to the state.

"Chairman Murkowski's energy bill

will help Alaska produce more of its resources, lower energy costs across the state, and provide sportsmen with greater access to our federal lands," said Robert Dillon, communications director for Lisa Murkowski for U.S. Senate.

Provisions for Alaska

Alaska-related provisions include:

- Reauthorizing federal research at Prudhoe Bay on production from methane hydrates, which could provide a vast gas resource on the North Slope.
- Directs the U.S. Bureau of Land Management to coordinate more closely with the state of Alaska on federal land management plans.
- Reauthorizing federal research of Alaska's geothermal resources which could benefit up to one-fourth of the communities in the state.
- Streamlines permitting decisions for new hydropower projects, to reduce unnecessary delays and costs.
- Authorizes expansion of the Terror Lake hydroelectric project in Kodiak.
- Promotes development of hybrid

micro-grid technologies for rural communities, including the integration of renewable energy sources to reduce diesel dependency.

•Clarifies that Alaska and other states are eligible for federal loan guarantees for the deployment of new energy systems and efficiency improvements.

•Reauthorizes the State Energy Program to provide federal funding directly to the state to invest in energy efficiency, renewable energy, and energy emergency preparedness.

•Continues a program that provides funding for the state to assist in weatherization in homes of low-income Alaskans.

•Changes the definition of "Indian Tribes" in federal law to include Alaska Native corporations, so Native corporations can apply for federal hydroelectric licenses; allows Alaska Native tribes and Native corporations to be eligible for federal biomass demonstration project grants; allows Alaska tribes to apply directly for federal home weatherization funds. ●

Contact Tim Bradner
at timbradner@gmail.com

• PIPELINES & DOWNSTREAM

Hilcorp plans Slope facilities mergers

Endicott, Northstar would use single connection point to TAPS, with newer Northstar facilities used; Endicott would be backup

By **KRISTEN NELSON**
Petroleum News

Endicott Pipeline Co. and Northstar Pipeline Co., both owned by Hilcorp subsidiary Harvest Alaska, have applied to the Regulatory Commission of Alaska for a permit to connect the Endicott Pipeline to the Northstar Oil Pipeline. The joint application also includes approval of a connection agreement between the companies for their connection facilities at TAPS Pump Station No. 1 and approval of a capacity lease agreement for Endicott throughput from the new TAPS Pump Station No. 1 connection through existing Northstar-TAPS connection facilities.

The Northstar and Endicott pipelines are currently connected separately to TAPS at Pump Station No. 1 with the Northstar-TAPS connection agreement dating from 2001, the Endicott-TAPS connection from 1987.

The companies said in their application that the Endicott-TAPS connection facilities will remain in place for the purpose of transporting Lisburne production to TAPS Pump Station No. 1 and will also serve "as a possible back-up facility for the Northstar-Endicott production streams if needed for that purpose."

Lisburne production

"When the Endicott-TAPS connection is no longer needed for Lisburne production, which may occur within the next few years, a decision will be made at that time concerning whether the use of the Endicott-TAPS connection should be permanently discontinued and whether it should be removed, subject to regulatory approval," the companies said.

The proposed Endicott-Northstar con-

nection facilities would be in close proximity to TAPS Pump Station No. 1, some 400-500 feet upstream of the TAPS metering building.

The companies said the incoming Endicott and Northstar lines would be connected by a jumper line, and would result in combined throughput from the Endicott and Northstar pipelines entering TAPS through the existing Northstar-TAPS connection facilities.

The companies are asking for RCA approval without formal proceedings because the parties agree on the terms and conditions, there are no protesting parties and the parties have agreed on reasonable terms and conditions.

Capacity agreement

The capacity agreement between the companies provides for equal sharing of the costs to maintain the Northstar-TAPS connection facilities and would allow Endicott throughput of up to 50,000 barrels per day between the final 400-500 feet of the connection facilities between the Northstar tie-in point and the Northstar-TAPS metering building.

The companies said the Northstar-TAPS connection facilities were designed to accommodate expected Northstar field production of 65,000 bpd, which could be increased to 70,000 to 90,000 bpd with modifications.

The current combined average daily throughput of Endicott and Northstar is less than 20,000 bpd.

The companies said the capacity lease would benefit both pipelines, and their respective shippers, by allowing the pipelines to share operating and maintenance costs of the Northstar-TAPS connection facilities downstream of the

Northstar tie-in point, eliminating "the need for maintaining and operating redundant capacity downstream of the Endicott Tie-in Point" thus reducing operating and maintenance costs for both pipelines.

In addition to cost savings, the companies said "the proposed connection will also serve to mitigate corrosion on the

Northstar-TAPS Connection Facilities with the increased volumes, and the cost of corrosion control measures and other maintenance costs will be shared by the two pipelines." ●

Contact Kristen Nelson
at knelson@petroleumnews.com

LAND & LEASING

Court dismisses Chukchi lease sale appeal

Given that no further exploration is planned in leases sold in the Department of the Interior's 2008 Chukchi Sea lease sale, the federal District Court in Alaska has finally dismissed a long-standing appeal against the validity of the environmental impact statement for the sale. With the various companies that purchased leases in the sale having already relinquished their leases, only one Shell lease remains in the Chukchi outer continental shelf. Shell is retaining that lease in order to preserve the confidentiality of data from a well that it drilled in the lease and has no plans for further exploration in the region.

In a court order issued on July 19 Judge Ralph Beistline said that, given the changed circumstances surrounding the Chukchi Sea leases, he was dismissing the lease sale case "without prejudice to renewal by the plaintiffs should circumstances change in the future."

The Native Village of Point Hope and 12 environmental organizations launched the appeal just prior to the lease sale in 2008, claiming that there were deficiencies in the EIS for the sale. With subsequent court rulings requiring improvements to the EIS before exploration activities could be approved, the appeal became one of a number of factors delaying Shell's efforts to drill in the Chukchi — as a consequence of the rulings, Interior issued new versions of the EIS and re-authorized the lease sale in February 2012 and March 2015. The last rework of the EIS resulted from an April 2014 9th Circuit appeals court decision upholding a complaint against the first EIS rework and remanding the case to the District Court.

The appellees challenged the March 2015 decision by Interior, but the various parties in the appeal have agreed that at this stage there is no purpose to continuing that challenge. Three parties in the case — the Native Village of Point Hope, the City of Point Hope and the Inupiat Community of the Arctic Slope — had already withdrawn from the case in 2015.

—ALAN BAILEY

Well done BlueCrest!



JUDY PATRICK PHOTOGRAPHY

From left, former Department of Natural Resources commissioner Marty Rutherford, Sen. Dan Sullivan's chief of staff Joe Balash, Sen. Peter Micciche, BlueCrest board chairman Robert Israel, Sen. Lisa Murkowski, BlueCrest CEO Benjamin Johnson, BlueCrest COO John Martineck, BlueCrest CFO Kenneth Sanders, former state chief geologist and former deputy DNR commissioner Bob Swenson (the geologist who named Cosmopolitan) and BlueCrest vice president of Alaska operations Steve Massey pose for a photo at the June 25 ceremonial opening of the Cosmopolitan oil gas production facilities near Anchor Point.

Congratulations to BlueCrest's Benjy Johnson, Robert Israel, John Martineck, and Kenneth Sanders on bringing Cosmopolitan's production facilities online

BlueCrest President Benjy Johnson said the production facility has slots for up to 20 wells and is capable of processing up to 10,000 barrels per day; a target he believes can be achieved at Cosmopolitan. The facility is built on a 38-acre land parcel so it can be expanded in the future if drilling results merit. The company plans to begin the drilling of two additional production wells by early fall — mid-August is the target—when the assembly of a large drill rig is completed at the site.

ABR
 AECOM Environment
 AES Electric Supply, Inc.
 aeSolutions
 Air Liquide
 Alaska Clean Seas (ACS)
 Alaska Dreams
 Alaska Frontier Constructors (AFC)
 Alaska Instrument
 Alaska Marine Lines
 Alaska Railroad
 Alaska Rubber
 Alaska Steel Co.
 Alaska Textiles
 Alaska West Express
 Alpha Seismic Compressors
 American Marine
 Arctic Catering & Support
 Arctic Controls
 Arctic Wire Rope & Supply
 Armstrong
 ASRC Energy Services
 AT&T
 Automated Laundry Systems & Supply
 Avalon Development
 Bald Mountain Air Service
 BELL & Associates
 Bombay Deluxe
 Brenntag Pacific
 Brooks Range Supply
 Calista Corp.
 Carlile
 Certek Heating Solutions
 CH2M
 CMS, Inc./Hepworth Agency
 Colville Inc.
 Computing Alternatives

CONAM Construction
 Construction Machinery Industrial
 Crowley Solutions
 Cruz Construction
 Delta Leasing
 Dowland-Bach Corp.
 Doyon Anvil
 Doyon Associated
 Doyon Drilling
 Doyon, Limited
 Doyon Universal Services
 Everts Air Cargo
 exp Energy Services
 EXPRO Group
 Fairweather
 Flowline Alaska
 Fluor
 Foss Maritime
 Fugro
 GCI Industrial Telecom
 Global Diving & Salvage
 GMW Fire Protection
 Greer Tank & Welding
 Guess & Rudd, PC
 Hawk Consultants
 HDR
 Hudson Chemical Corp.
 Inspirations
 Judy Patrick Photography
 Kuukpik Arctic Services
 Last Frontier Air Ventures
 Lounsbury & Associates
 Lynden Air Cargo
 Lynden Air Freight
 Lynden Inc.
 Lynden International
 Lynden Logistics

Lynden Transport
 Mapmakers of Alaska
 MAPPA Testlab
 Maritime Helicopters
 Motion Industries
 Nabors Alaska Drilling
 NANA WorleyParsons
 NEI Fluid Technology
 Nordic Calista
 North Slope Telecom
 Northern Air Cargo
 Northwest Linings
 PacWest Drilling Supply
 PENCO
 Petroleum Equipment & Services
 Polyguard Products
 PND Engineers Inc.
 PRA (Petrotechnical Resources of Alaska)
 Price Gregory International
 Resource Development Council
 Ravn Alaska
 SAExploration
 STEELFAB
 Stoel Rives
 Taiga Ventures
 Tanks-A-Lot
 The Local Pages
 TOTE-Totem Ocean Trailer Express
 Totem Equipment & Supply
 TTT Environmental
 UIC Design Plan Build
 UIC Oil and Gas Support Services
 Unique Machine
 Univar USA
 Usibelli
 Volant Products



NORTHERN NEIGHBORS

Compiled by Shane Lasley



DOLLY VARDEN SILVER CORP.

A geologist samples historical workings at the Dolly Varden property in northwestern British Columbia. The Dolly Varden Mine produced 1.5 million ounces of silver in the 1920s from ore that averaged 35.7 ounces per ton. A second mine, Torbrit, produced 18.5 million oz. of silver in the 1950s from ore that averaged 13.58 oz./ton. Two other historical deposits, North Star and Wolf, were defined and developed by not put into production.

Hecla withdraws Dolly Varden takeover

Dolly Varden Silver Corp. July 25 reported that the British Columbia Securities Commission and the Ontario Securities Commission denied a request by Hecla Mining Company to stop Dolly Varden from completing a previously announced private placement financing. Hecla, which owned roughly 19.8 percent of Dolly Varden's shares on a partially diluted basis, has argued that the financing would be destructive to the junior's share value. In late June, Hecla made a bid to buy all of the outstanding Dolly Varden shares it does not already own in a deal valued at roughly C\$12 million. The two commissions, however, agreed with Dolly Varden that Hecla's unsolicited offer was an insider bid, and therefore Hecla must obtain and disseminate to Dolly Varden shareholders an independent formal valuation. As a result of the commissions' rulings, Hecla withdrew its bid. "We are disappointed with Dolly Varden's expensive debt financing followed by its planned dilutive private placement that effectively acts as a poison pill, raising the cost of acquiring Dolly Varden by more than 50 percent," said Hecla President and CEO Phillips Baker, Jr. On July 26, Dolly Varden closed the C\$7.2 million financing, which included the sale of 9,115,861 shares at C62 cents each and up to 2,142,857 flow-through shares at C70 cents apiece. Some of the proceeds will be used to repay a C\$2.5 million short-term loan from Sprott Private Resource Lending, an additional Sprott affiliate and The K2 Principal Fund. Dolly Varden said it will apply most of the balance of the proceeds for exploration at its Dolly Varden silver property in northwestern British Columbia. "By eliminating our debt and properly funding our company, we will be able to re-focus on further exploration and expansion of our prospective Dolly Varden silver property. The value of our company should compare favorably with our debt-free peers with funded field programs," explained Rosie Moore, interim President and CEO, Dolly Varden. "Once Dolly Varden is in receipt of the formal valuation, it will be able to fully evaluate Hecla's offer. We will then be in a position to ensure that our shareholders will receive meaningful advice and information upon which to make their decision to tender to a bid, should one go forward." To maintain its pro rata interest in Dolly Varden, Hecla subscribed to 1,857,796 of the non-flow-through shares of the financing and purchased another 101,762 warrants at C43 cents. Each Warrant will entitle Hecla to acquire an additional Dolly Varden share at C70 cents for a period of two years. "Despite withdrawing our bid, Hecla will invest to maintain our 15.7 percent interest in Dolly Varden because of our long term commitment to the Dolly Varden property," explained Baker. The known Dolly Varden deposits exhibit both volcanogenic massive sulfide (Eskay-like) and epithermal (Brucejack-like) mineralization styles. In August 2015, Dolly Varden published a maiden indi-

see **NORTHERN NEIGHBORS** page 14



WESTERN ALASKA COPPER & GOLD COMPANY

This core from about 67 meters down RT-12, the fourth hole of Western Alaska Copper & Gold's 2016 program at Round Top, shows strong oxidation of a large sulfide vein. At 193 meters, this hole was cutting quartz pyrite chalcocite vein hosted by altered porphyry.

EXPLORATION

Return to Round Top

After 34 years, drills are again tapping copper target in western Alaska

By SHANE LASLEY
Mining News

ILLINOIS CREEK CAMP — Maps spread out here on a pool table and laptops filled with geophysical and geochemical data collected at the Round Top copper project line up on a makeshift desk against the wall – an air of optimism and excitement fills the former recreation room for the past-producing Illinois Creek Mine that now serves as the headquarters for Western Alaska Copper & Gold Company.

The source of the excitement is a drill tapping into a potentially large and robust porphyry copper deposit about 11 miles to the northeast, the first such program carried out at Round Top in 34 years.

"Our 2016 drilling program represents a significant milestone in the exploration of the Illinois Creek district," said Kit Marris, founder and president of Western Alaska Copper & Gold.

It also marks a pivotal moment for the privately held exploration company funded by its four directors and a small circle of friends and associates.

With money out of their own pockets on the line, three of the company's four directors – Marris, his wife Joan and Gary Jones – are closely monitoring the drilling progress and carefully targeting each hole to corroborate results from historical drilling and test some of the quality geophysical

and geochemical anomalies that define this large porphyry target.

Considering the chalcocite and other copper mineralization being cut by drilling so far, this careful deliberation is paying off.

Strong team

While Western Alaska Copper & Gold may be a relatively small and privately funded mineral exploration company, its leadership brings experience and skills ideally suited for advancing Alaska minerals projects, especially ones found in the Illinois Creek district.

Kit and Joan Marris were first dispatched to Illinois Creek, a western Alaska district located a few miles east of the Yukon River, after Anaconda Minerals discovered outcropping copper mineralization during a 1980 reconnaissance exploration program in the area.

As project geologist for Anaconda, Kit was in charge of the 1980s exploration program that included mapping, sampling, geophysical surveys and drilling.

This early work made a number of discoveries across the district that includes a nearly mile-wide intrusive complex at Round Top; TG and TG North, high-grade brecciated silver-gold-lead-zinc

see **ROUND TOP** page 15

• COLUMN

Declining gold production spurs Goldcorp

Canny producer snaps up Yukon explorer along with its 2-million-ounce-plus Coffee gold project in half-billion-dollar takeover

By **CURT FREEMAN**
For Mining News

As a follow-up to last month's realization that once again "the game is afoot" in the mining industry, major gold producer Goldcorp recently presented some arresting statistics at the Bank of America Merrill Lynch Global Metals, Mining and Steel Conference.

The presentation showed gold discovery and production information for the global mining industry that indicated that peak gold discovery occurred in 1995, this despite three periods between 1995 and 2015 when exploration funding skyrocketed. Perhaps more important to Alaska, as elephant country for gold deposits, is the fact that global gold reserves declined 15 percent between 2013 and 2015, while peak gold production took place in 2015. Gold production forecasts for the next decade show a steady decline in anticipated production, from the 2015 peak of about 95 million ounces per year to a projected production rate in 2024 of less than 80 million ounces per year. Goldcorp's belief in these dismal forecasts was made clear with their recent C\$520 million takeover of Kaminak Gold and its more than 2-million-ounce Coffee gold project in western Yukon Territory. Talking the talk is one thing, but Goldcorp is walking the walk, and you can bet their actions are not lost on other resource-hungry gold producers.

Western Alaska

GRAPHITE ONE RESOURCES INC. announced the results from the initial performance tests on coin cells manufactured with the company's premium grade, coated spheroidized graphite from the Graphite Creek project. The benchmark test results show that the application of a coating produces little change in the important reversible discharge capacity of the coin cells and an increase in efficiency, measured in terms of reduced irreversible capacity loss. Reversible discharge capacity for the best coated coin cell was 370.1 Ampere/kilogram or about 0.5 percent below the theoretical maximum for natural graphite. Discharge capacity is a measure of a battery's energy storage capability once charged. Coin cell 1220 successfully completed three charge/dis-

The author

The author Curt Freeman, CPG #6901, is a well-known geologist who lives in Fairbanks. He prepared this column July 25. 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

charge cycles as seen in the accompanying figure, the second and third discharge curves show almost complete coincident overlap with the first discharge curve, attesting to repeatability in performance across subsequent charge/discharge cycles. The next product development test phase will use representative graphite from the project to compare with the test results and generate additional sample product for interested third parties. The test results will be used in the company's preliminary economic analysis, expected in the third quarter of 2016.

Interior Alaska

On July 23, 2016, just over 114 years after gold was discovered in the Fairbanks District, **KINROSS GOLD'S FORT KNOX MINE** passed a major milestone – the pouring of its 7 millionth ounce of gold! The mine poured its first ounces in 1996 after going to production with a resource of just over 4 million ounces. Twenty years into a 10-year mine life (wait, what?) the mine continues to prospect, recovering 401,553 ounces of gold in 2015 with another good year in process for 2016. The mine has expanded late in life, thanks in part to the Walter Creek heap leach facility where lower grade ore is processed. Since its start-up in 2009, the heap leach has contributed more than 750,000 ounces of gold to the project's production totals. At the end of 2015, the mine had resources of 147.32 million metric tons of proven and probable reserves averaging 0.4 grams per metric ton gold (2.02 million ounces). The mine also

"Gold production forecasts for the next decade show a steady decline in anticipated production, from the 2015 peak of about 95 million ounces per year to a projected production rate in 2024 of less than 80 million ounces per year."
—Curt Freeman, columnist

holds another 1.42 million ounces of gold in other resource categories that may prove recoverable in the future. The mine currently anticipates milling gold through 2019 with several years of heap leach production continuing beyond that point. Congratulations to everyone, past and present, who contributed to the success of the Fort Knox mine!

FREGOLD VENTURES LTD.

announced that it will commence core drilling at Shorty Creek copper-gold project near Livengood. Previous drilling by Asarco on Hill 1835, one of the current two target areas had suggested the potential for a porphyry system at depth. The 20-hole Asarco drill program (1989/1990) noted the presence of copper mineralization in conjunction with gold mineralization at depth in most of the shallow drill holes completed. Following ground geophysics and soil sampling in 2014, the company completed four holes drilled and confirmed the presence of intrusive-hosted copper-gold mineralization, the best interval of which was 91.4 meters, grading 0.55 percent copper, 7.02 grams per metric ton silver and 0.14 g/t gold in hole SC15-03. Work in the Hill 1835 area in 2016 will focus on extending the known mineralization to depth as well as testing the center of the magnetic high associated with the prospect. Additional work is planned for the Hill 1710 area where a 6-kilometer-by-1.5-kilometer soil anomaly contains coincident copper (up to 669 parts per million) and molybdenum (up to 235 ppm). The 2016 drill program will test about a 2 kilometer-by-1.5-kilometer area with 400-meter spaced holes.

NORTHERN EMPIRE RESOURCES CORP. announced the commencement of an exploration program at its Richardson gold project in the Richardson District. The first phase of the 2016 exploration program has been budgeted at about \$500,000. Phase 1 will consist of about 500 soil samples, 300 meters of trenching, prospecting, 100 line kilometers of ground magnetic surveying, four line kilometers of induced polarization geophysics and re-logging of historic core holes with the goal of delineating drill targets. The 2015 soil sampling efforts discovered anomalies that will be followed up by trenching in this year's program. Additional soil work will be done to expand existing targets and also to define new targets, for potential drill testing.

Alaska Range

COVENTRY RESOURCES LTD. said a second drilling rig has arrived at its Caribou Dome copper project in the Valdez Creek District. The company plans to complete 8,000 meters of drilling in 2016. This program will include initial testing of the Menel, Guardian, Lense 9 and Lense 3 induced polarization geophysical targets, located

along strike from the 700 meter-long mineralized zone drilled to date. All four of these targets consist of strong IP anomalies that coincide with outcropping and/or sub-cropping mineralization and strong copper geochemical anomalies at surface, including rock chip samples that assayed up to 16.5 percent copper at the Guardian target. In addition to drilling, new IP data will be acquired over extensive soil anomalies delineated over seven kilometers of strike. While preparing to drill the Menel Target, significant copper mineralization has been mapped directly above and immediately along strike from the Menel IP anomaly. While preparing to drill the Menel Target, significant copper mineralization was mapped directly above and immediately along strike from the Menel IP anomaly.

KISKA METALS CORP. and partner **FIRST QUANTUM MINERALS** announced that an exploration team and drill rig has been mobilized to the Copper Joe copper-gold-molybdenum porphyry project in the western Alaska Range. In 2015, the partners completed detailed alteration and vein mapping, alteration mineral chemistry mapping (white-mica hyperspectral analysis and chlorite chemistry), a 12-square-kilometer, full-tensor magnetotellurics geophysical survey, and applied Fathom Geophysics proprietary three-dimension porphyry footprint lithochemical modeling method. This work has defined two compelling porphyry targets, the Evening Star and Morning Star prospects. In 2016 the partners plan to drill the core of the Evening Star magnetotellurics anomaly with an 800 meter-long diamond drill hole. Morning Star has yet to be tested by geophysical surveys or drilling, and will be further investigated in 2016.

Northern Alaska

NOVACOPPER INC., soon to be renamed **TRILOGY METALS INC.**, provided an update on its 2016 field program at the Upper Kobuk Mineral project in the Ambler District. The company has budgeted US\$5.5 million this year mainly for drilling at the Arctic copper project. A planned 3,000-meter drill program using three diamond drill rigs will continue until mid-August. In addition, the company will complete in-pit geotechnical, hydrological, metallurgical, environmental and waste rock characterization studies. The company will continue to engage with the State of Alaska on the permitting of the Ambler Mining Industrial Access Project.

Southeast Alaska

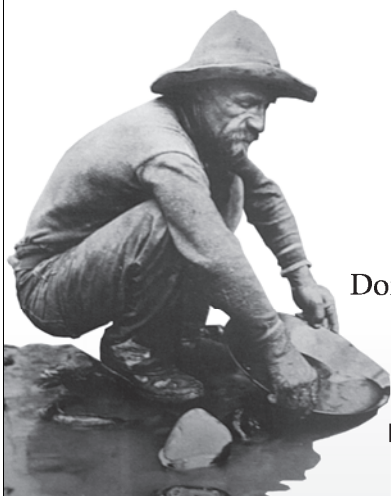
HECLA MINING reported preliminary second-quarter 2016 production results for its Greens Creek mine on Admiralty Island. The mine produced 2,117,024 oz. silver and 11,528 oz. gold, which represent a 14.1 percent increase and 16.2 percent decrease, respectively, over silver and gold production levels during the year previous period. Higher throughput and average silver contributed to increased silver production. The mill operated at an average of 2,235 tons per day in the first quarter. Silver and gold production for 2016 are now estimated at 8.3 million ounces and

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• BOOK REVIEW

Murder/mining tale dishes chilly thrills

Historian offers intriguing glimpses into the world of Alaska mining in the early 1900s in his new novel, 'Dead Men Do Come Back'

By ROSE RAGSDALE

Special to Mining News

Steven C. Levi's new mystery, "Dead Men Do Come Back," not only provides a rollicking glimpse of the new Old West, it takes a discerning leap into the world of Alaska mining during the little-discussed early years of the last century.

Narrated in the first person by the likable but fictitious U.S. Marshal Gordon Whitford, the story is a slick and entertaining "who dun-it." Yet it is also a detailed portrait of life in and out of the fabled gold mines that operated near Juneau in Southeast Alaska in the early 1900s.

In this fictional tale of clever skulduggery, Levi also manages to educate the reader about the extraction, refining and transportation of gold ore during this period by weaving in actual details of early Alaska mining and his-

tory. His protagonist, Whitford, does a credible job of investigating the murder of a lone miner – one Chilly George Swanscombe – and subsequently the apparent theft of at least 250 pounds of gold ore that seems to disappear in the process of being transported by steamship from the Alaska Gastineau Mine in Juneau to a refinery in Seattle, not once but twice.

Who could have pulled off such an audacious caper? Will Whitford catch the bad guys? And how exactly did they manage it under the watchful eyes of not only the federal marshal but also mine officials and armed guards sent to protect the gold 24/7 and to escort the shipments to the Federal Reserve in Seattle.

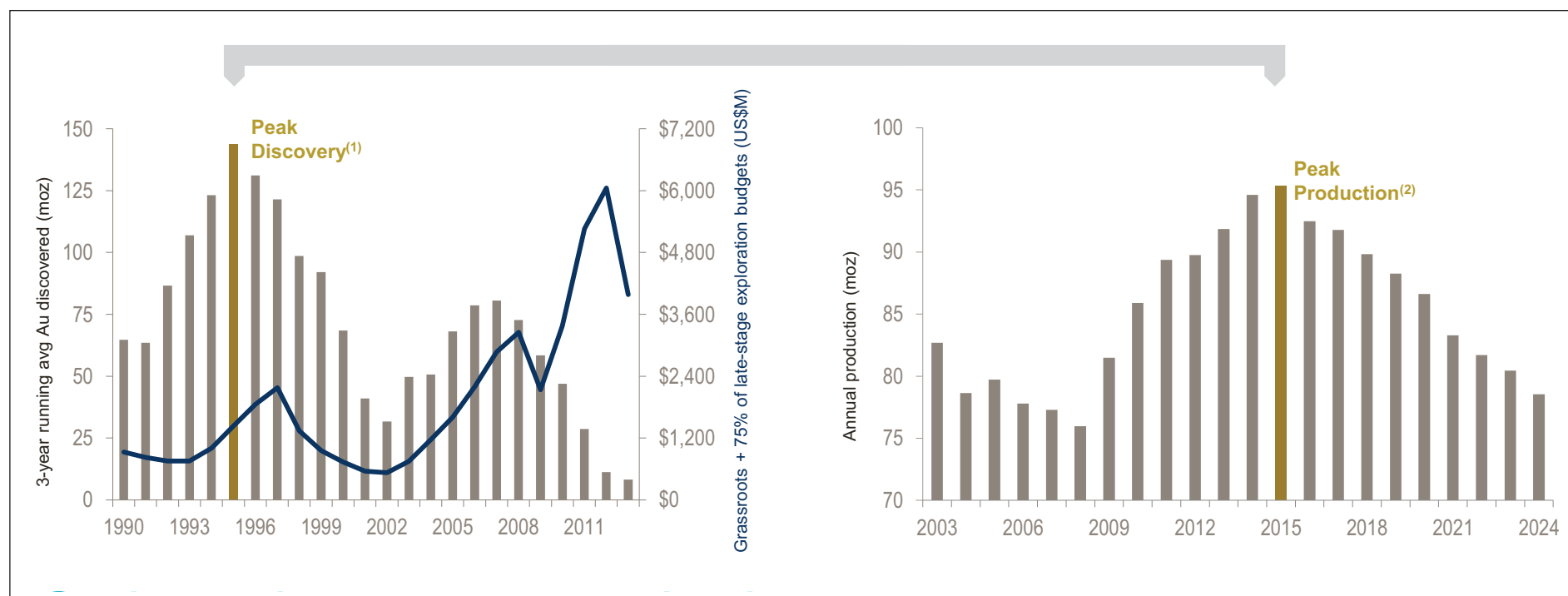
Despite the customary disclaimer on the copyright page, Levi includes actual historical figures in his story, though, hopefully, in fictitious settings and situations. For example, mining engineer Bartlett Thane was actually the

managing director of the Alaska Gastineau Mine in 1910 and is credited with pioneering hydroelectric power in Juneau.

Levi, a historian who has lived in Anchorage for 40 years, has written some 80 books about various aspects of Alaska's colorful past. In this novel, he seems to have crafted the story with an additional objective. "Dead Men" also gives readers a compelling snapshot of life for the average person in Southeast Alaska long before statehood but well after the waning of the tumultuous turn-of-the-century Gold Rush era.

This book is a good read for anyone interested in early Alaska mining or life in territorial Alaska, especially in Southeast, during the early years of the 20th century.

Published by Hong Kong-based Crime Wave Press, "Dead Men Do Come Back" is available online at www.crimewavepress.com or at www.amazon.com ●



Despite the amount of exploration spending carried out over the past two decades, gold discoveries peaked in 1995. Due to this dearth of new finds, Goldcorp believes that gold production may have reached its peak in 2015.

continued from page 10

FREEMAN

53,000 ounces, respectively.

COEUR MINING INC. reported second-quarter 2016 production results from its Kensington mine. The mill processed 157,117 tons of ore, a 13,000-ton decrease from the year previous period. The mine produced 32,210 oz. of gold, grading 0.22 oz. per ton gold with average recovery of 94.1 percent, a +2,000-oz. increase in total oz., due primarily to higher ore grades. The company also indicated that development of the decline into the high-grade Jualin deposit is progressing and is over 50 percent complete. The company indicated that it expects full-year 2016 production from the mine at 115,000 – 125,000 oz. of gold.

CONSTANTINE METAL RESOURCES LTD. and funding partner DOWA METALS & MINING CO., LTD. announced the start of the 2016 drill program at its Palmer copper-zinc-silver-gold project near Haines. The work is part of a US\$3.7 million budget for 2016. Principal targets for the 1700 meter first-phase drill program include an untested zone of intense volcanogenic massive sulfide footwall-style alteration exposed in a creek drainage about 1,000 meters on strike and east of the mineral resource, a strong conductor anomaly located 1,000 meters to the north of the mineral resource that is identified by geophysical surveys and supported by

the presence of mineralized boulders grading up to 16.1 percent zinc and 13.2 g/t silver, and depth and strike extensions of silver-rich massive barite sulfide mineralization at the Cap prospect where limited historic drilling has intersected 134 g/t silver over 23.2 meters and 31 g/t silver over 90.6 meters. Cap is one of several stratigraphically linked prospects that define a hydrothermal system of comparable scale to the RW-South Wall resource area that is located 2,500 meters to the northeast. The 2016 field program also includes environmental, hydrogeology, engineering studies, road construction and the completion of several geotechnical drill holes.

QUATERRA RESOURCES INC. announced the sale of its remaining 35 percent participating interest in the Herbert Glacier project, Alaska, to its joint venture partner GRANDE PORTAGE RESOURCES LTD. The project carries an indicated resource of 821,100 metric tons containing 182,400 ounce of gold at 6.91 g/t gold per ton. Inferred resource include 51,600 metric tons containing 12,800 ounces of gold at 7.73 g/t gold per metric ton. Drilling has intersected the mineralized vein over a strike length of 370 meters and to a depth of more than 200 meters. The vein can be traced at surface over a strike length of 1,000 meters.

UCORE RARE METALS announced a further 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 separation of the sub-groups samarium-dysprosium and the holmium-

lutetium sub-group from the heavy rare earth element class. The separation of the two Sub-Groups was achieved at greater than 99 percent purity and greater than 99 percent recovery. ●

Contact North of 60 Mining News:

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NEWS • 907.229.6289
publisher@miningnewsnorth.com

CIRCULATION • 907.522.9469
circulation@petroleumnews.com

ADVERTISING
Susan Crane • 907.770.5592
scrane@petroleumnews.com

FAX FOR ALL DEPARTMENTS
907.522.9583

Several of the individuals listed above are independent contractors

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Companies involved in Alaska and
northwestern Canada's mining industry

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The Red Dog mine in Northwest Alaska.

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continued from page 9

NORTHERN NEIGHBORS

cated resource of 31.8 million ounces of silver contained within 3.07 million metric tons of material averaging 321.6 grams per metric ton silver for the Dolly Varden, North Star, Torbrit, and Wolf deposits at its Dolly Varden property.

Equitorial Exploration to acquire Strategic lithium property in NWT

Strategic Metals Ltd. July 27 announced that it has sold its interest in the Li lithium property to Equitorial Exploration Corp. Located in western Northwest Territories, adjacent to the Yukon border, the Li property hosts the Little Nahanni Pegmatite Group lithium-cesium-tantalum pegmatite dykes. In exchange for the property, Equitorial has agreed to issue 7.5 million shares and 2.5 million warrants to Strategic. Upon TSX Venture Exchange acceptance of the transaction, Equitorial will issue 5 million of the shares. The remaining shares and warrants will be issued within a year. Each warrant will entitle Strategic to purchase one additional Equitorial share for C10 at any time within two years of the issuance. Equitorial has also agreed to pay C\$100,000 to cover the costs of Strategic's 2016 work program on the Li property. Strategic has also retained a 2 percent net smelter return royalty interest in all future production from the property. Equitorial can at any time, purchase one-half of the NSR from Strategic for C\$2 million. The Little Nahanni Pegmatite Group consists of several dyke swarms, each containing multiple closely spaced dykes. Spodumene is a major component of several of the dykes. Channel samples across outcrops have assayed up to 1.59 percent lithium oxide over 10 meters and drilling has cut intervals grading 1.2 percent lithium oxide over 10.94 meters and 0.92 percent lithium oxide over 18.27 meters. Prior to finalizing its negotiations with Equitorial regarding the sale of the property, Strategic initiated a two week program consisting of mapping, prospecting and channel sampling. The program which is now complete was designed to evaluate grade, size and density of lithium-bearing pegmatite dykes within four of the dyke swarms at Li.

Golden Predator raises C\$16M; Sprott grabs big stake in junior

Golden Predator Mining Corp. July 26 announced the completion of a C\$16.36 million brokered private placement. As a result of the financing, the company issued 11.036 million non-low-through units at C73 cents each and 8.305 million flow-through units at \$1.00 apiece. Each unit includes one Golden Predator share and one half of a warrant. Each full warrant entitles the holder to purchase one additional company share at C\$1.00 for a period of two years from the closing date. Eric Sprott acquired 10 million of the non-flow through units. The founder of Sprott Asset Management now owns 13.55 percent of Golden Predator's issued and outstanding common shares on a non-diluted basis and 19.04 percent on a partially diluted basis assuming exercise of the warrants. Golden Predator said it will use the proceeds from the financing to fund work at its 3 Aces and Brewery Creek gold projects in the Yukon Territory and general working capital.

Higher grade ore is boosting copper output at Minto Mine

Capstone Mining Corp. July 26 reported that strong mill throughput and recoveries resulted in better than planned second-quarter copper production at its Minto Mine in the Yukon Territory. Mining continues to advance in the Minto North pit, with higher than 2 percent copper grades reaching the mill by early June, resulting in significantly higher production planned for the second half of the year. Capstone's 2016 guidance to produce 108,000 metric tons of copper from its Pinto Valley, Cozamin and Minto mines remains unchanged. However, the production distribution by mine is expected to be different than originally guided, with outperformance at Pinto Valley and Minto expected to make up for an anticipated shortfall at Cozamin for the year. "Improved mill reliability and consistency at Pinto Valley has demonstrated its upside potential, and Minto is set up to access the high grades at Minto North, positioning us well for strong second half performance," explained Capstone President and CEO Darren Pylot. The Minto Mine is now expected to produce 28,000 metric tons of copper this year. This Yukon operation produced 6,093 metric tons of copper in concentrates during the second quarter at a C1 cash cost of US\$1.70 per pound



Going into 2016, Capstone Mining reported plans to temporarily halt operations at its Minto copper-gold mine in 2017. With mining now advancing at the high-grade Minto North pit, the company is anticipating significantly higher copper production at this Yukon Territory operation in the second half of 2016.

of payable copper produced. Capstone's three mines produced 27,200 metric tons of payable copper at a C1 cash cost of US\$1.51/lb.

Cariboo Rose digs for drill targets at Canadian Creek

Cariboo Rose Resources Ltd. July 22 announced the start of a C\$225,000 exploration program at its Canadian Creek gold project, which lies immediately west of the Casino copper-gold-molybdenum porphyry deposit owned by Western Copper and Gold Corp. The program will include trenching in large multi-element soil geochemical anomalies that extend over a roughly 10,000-meter by 3,000-meter area. Previous work has shown that this area hosts gold mineralization similar to the Coffee property, which lies immediately to the north, and this year's work will follow up on those earlier discoveries as well as testing a large number of unexplored geochemical trends. The objective of the program is to better define the controls on existing occurrences and evaluate as much of the target area as possible for its discovery potential in order to plan a much larger second phase program. Cariboo Rose and its predecessor companies have spent more than C\$4.5 million on the project since the first claims were acquired in 1993. The most recent program, completed in 2011 at a cost of C\$1.5 million, consisted of extensive soil geochemical and magnetometer surveying with 5,589 soil samples collected, excavator trenching, and select induced polarization surveying. Several trenches cut gold mineralization with up to 4,400 parts per billion gold.

Independence launches phase 2; drilling begins next door to Coffee

Independence Gold Corp. July 21 reported the start of a roughly 2,000-meter reverse circulation drill program at its Boulevard gold project, which borders the Coffee Gold property now owned by Goldcorp Inc. The second phase of Independence Gold's 2016 Yukon exploration program also will include a rotary air blast drill program on its recently optioned Rosebute gold property situated 58 kilometers (36 miles) south of Dawson City. The Coffee Creek fault system, an important structure that controlled the emplacement of the 2.16-million-ounce Coffee gold deposit, continues to the west and is interpreted to extend into the Denali area of the Boulevard property. Soil sampling at Denali has identified a 1,200-meter-long multi-element geochemical anomaly. This year's drilling will follow-up drill hole YCS15-03, which intersected 4.25 grams per metric ton gold across 6.10 meters at the center of this robust soil anomaly. A similar structure, oriented subparallel with the Coffee Creek fault, is interpreted to control the 2,300-meter-long Sunrise-Sunset multi-element soil anomaly. At Rosebute, the company is planning to complete 1,500 meters of RAB drilling at the Hudbay zone, which hosts three, north trending gold-in-soil anomalies. Taku Gold Corp., which optioned Rosebute to Independence earlier this year, intersected 6.2 g/t gold over five meters; 1.2 g/t gold over 10 meters; and 1.5 g/t gold over 20 meters in trenches dug at the Hudbay zone in 2012.

Sabina points to local support; asks minister to OK Back River

Sabina Gold & Silver Corp. July 21 said it has asked the Minister of Indigenous and Northern Affairs Canada to reject the Nunavut Impact Review Board recommendation that Sabina's Back River gold project not proceed



Part of Independence Gold's 2,000-meter reverse circulation drill program at Boulevard will follow up on a 2015 hole that cut 4.25 grams per metric ton gold across 6.1 meters at the property's Denali zone.

to the next phase of permitting at this time. NIRB made its recommendation in a report that follows an environmental assessment process during which the review board coordinated and reviewed Sabina's draft and final environmental impact statements, including numerous technical studies and reports. Sabina said its engagement and consultation during this process was extensive and included community members, hunters and trappers' organizations, hamlets councils, advisory committees, the Kitikmeot Inuit Association, territorial governments and federal regulatory agencies. The process culminated in a six-day public hearing in Cambridge Bay, Nunavut, which was attended by representatives of all interested parties. At the end of the hearings, Sabina said there was strong Inuit support expressed for the project. Additionally, all agency subject matter experts were satisfied with Sabina's plans and proposals for the project and recommended to the NIRB that the project move to the next phase of permitting. "As we worked through the NIRB process we came to know and respect the people and the environment of the Kitikmeot Region and Nunavut. We also have developed a positive working relationship with the KIA, who we have found to be transparent and business-minded, while also protecting the best interests of their constituents. Throughout this process, we have been focused on responsible mining in the Kitikmeot and appreciate all the input that we have received to assist us in our planning," said Sabina President and CEO Bruce McLeod. "We believed we understood the issues we had to address in the final hearings and had come to resolution on these issues. Unfortunately, Sabina believes that the NIRB recommendation does not reflect this support nor the evidence presented during this process." The Minister of Indigenous and Northern Affairs has three main options available to her regarding the NIRB recommendation not to proceed with Back River permitting at this time: reject the recommendation; refer the report back to NIRB for further review; or accept the recommendation. Sabina believes there are strong grounds for the minister to reject the NIRB recommendation and refer it back to NIRB to consider terms and conditions for a project certificate. Sabina contends the NIRB report does not fully consider support of the Back River gold project or fully recognize the socio-economic benefits the project offers; and it reaches conclusions that are not consistent with the evidence submitted by experts, responsible government agencies, and the KIA on the monitoring and mitigation measures. Whatever the minister's decision is, Sabina



SHANE LASLEY

By July 15, crews were on the fourth hole of a roughly 1,500-meter drill program at Round Top. Mounted on tracks, this rig being leased from More Core Drilling can be driven to a new drill location and resume drilling in a matter of hours. The short span between holes, combined with requiring a much smaller support helicopter primarily for transport of core and personnel, is keeping Western Alaska Copper & Gold's drill costs low.

continued from page 9

ROUND TOP

vein prospects less than a mile northwest of Round Top; Honker, a high-grade gold prospect on separate group of claims about 13 miles to the west; and the Illinois Creek copper-silver deposit, situated about six miles south of Honker.

While the Illinois Creek property was eventually developed into a mine that produced roughly 130,000 ounces of gold and 500,000 oz. of silver from 1997 until 2003, the other prospects Anaconda discovered before closing its doors in 1985 went largely unnoticed.

This lack of notice worked out well for Kit and Joan, who were able to nab full and unencumbered ownership of the mineral rights to Round Top, TG and Honker by simply staking state of Alaska mining claims over the prospects in 2008.

In order to get Western Copper & Gold up and running, Kit and Joan invited Greg Anderson, a business partner in Tucson with a legal background, and Jones, to join them as directors in 2010.

Since securing the properties, the Western Alaska Copper & Gold team has steadily been building towards the drill program being carried out this summer. This work has included compiling all the historical data from Anaconda's tenure; purchasing key heavy equipment and the Illinois Creek camp from Novagold Resources; conducting extensive modern geophysical surveys at both the Round Top and Honker properties; grid soil sampling at Round Top; rock and trench sampling at Honker; and integrating all of the historical and modern results in a database now being used to guide this year's drilling.

Jones brings strong management experience and geophysical expertise to the Western Copper & Gold team. This director, who has a bachelor's degree in geological engineering and a master's in geophysics, has served as president of both Western Geophysical and WesternGeco, the seismic division of Schlumberger. This global geophysical experience has provided the company with data from the various surveys Western Alaska Copper and Gold has carried out at Round Top and Honker, as well as the historic geophysics that was reprocessed by Zonge Engineering.

The outcome of this work identified a number of drill targets that includes a number of strong induced polar-



SHANE LASLEY

Western Alaska Copper & Gold President Kit Marrs and director Gary Jones at the outcrop where an Anaconda geologist discovered copper-silver mineralization while prospecting the Illinois Creek district in 1980.

ization-resistivity and significant aeromagnetic anomalies high-low pairs within a larger aeromagnetic high identified by high-resolution mapping completed in 2012.

One set of high-low-high anomalies situated on the south flank of the known porphyry mineralization at Round Top was of such magnitude that Precision GeoSurveys suspected it must have had an instrument malfunction. A second flight over this area, however, returned the same strong response.

Jones said this promising target will be drilled in the future.

Tapping porphyry

Now, the Western Alaska Copper and Gold team has launched a roughly 1,500-meter drill program that aims to prove that the extensive copper and other metal anomalies found on the surface and coincident with a 4,000-by 5,000-meter geophysical anomalies are expressions

of a large and copper-rich porphyry system, with outlying epithermal gold, silver, lead and zinc targets.

Anaconda proved that porphyry material enriched with copper, molybdenum and silver was present during a seven-hole drill program completed at Round Top in 1981. While Marrs has the assays and cross sections from this historical drilling, the core was lost, making drilling in the area of some of the better historical holes a logical place to start.

With a track-mounted drill leased from Stewart, B. C.-based More Core Drilling, crews are able to drive between drill sites at Round Top, saving time and expense compared with moving the rig with a helicopter.

Jones told Mining News that More Core is the "best drilling company either Kit or I have been associated with."

RT-8 and RT-9, the first holes drilled at Round Top in 35 years, were drilled near RT-2, an Anaconda hole that

continued from page 15

ROUND TOP

tapped three 4.3- to 7.3-meter zones of 0.98 to 1.82 percent copper at the West Lobe target.

While it will still be a month or two before assay results from this year's program are known, copper mineralization was observed in RT-9 core and the hole tapped roughly nine meters of massive sulfide mineralization in a skarn contact zone.

By the third hole, RT-10, abundant porphyry-hosted copper mineralization in the form of chalcopryite and chalcocite was evident in the core. This was drilled adjacent to RT-7, an Anaconda hole that cut 360 meters averaging 0.21 percent copper, an intercept that included 18.6 meters of supergene chalcocite enrichment that averaged 0.48 percent copper and 5.2 meters averaging 1.1 percent copper.

Due to its orientation, hole 10 was not expected to return such a long mineralized intercept as the historic hole. However, once the drill bit emerged from a nearly parallel fault, it cut into the copper mineralization in porphyry that Western Alaska Copper & Gold was seeking.

Following the success of hole 10, the track-mounted rig carrying out the efficient drill program was driven about 220 meters south to test one of several intriguingly strong IP anomalies within a resistivity low.

RT-11 and RT-12, which targeted this intriguing anomaly from the same location but in different directions. Both cut porphyry-hosted copper mineralization, providing an early indication of the potential size of copper mineralization at



This chalcocite copper mineralization was encountered about 135 meters down hole RT-11, which was drilled about 22 meters south of RT-7, the last hole Anaconda drilled at Round Top in the early 1980s.

Round Top.

RT-13 will be collared north of RT-3, an Anaconda hole about 200 meters north of RT-7 that cut three mineralized intercepts, including 62.7 meters averaging 0.36 percent copper and 0.015 percent molybdenum. Likely the last hole of the 2016 program, hole 13 will target an IP anomaly coincident with a resistivity low that is expected to be associated with copper mineralization cut at the bottom of hole 10.

Ultimately, Western Alaska Copper & Gold hopes its work at Round Top will attract a major mining company that will further define and potentially develop this copper project.

convenience of a 4,400-foot Alaska-owned airstrip at its camp capable of landing a DC-6 and an established 26.5-mile winter trail linking the Illinois Creek camp to the Yukon River.

In 1995 the Alaska Industrial and Economic Development Authority published a prefeasibility study for building an industrial grade road along this route and a port on the Yukon River. From here, the Yukon River serves as a super highway to the Pacific Ocean.

This infrastructure also could serve the future development of other projects being explored in the Illinois Creek district, including the company's TG high-grade lead-zinc-silver-gold carbonate replacement prospects and the high-grade gold prospect at Honker.

"The logistics of using the Yukon River for barge transport of the fuel and heavy equipment needed to develop the district and ultimately to move concentrate out, represents a low-cost mode of transportation," Marrs commented on the significance of the project's accessibility.

"This river transportation will substantially help the competitiveness of these deposits when competing with long overland infrastructure requirements of other potential mines," he added. "Success by Western Alaska Copper & Gold will bode well for jump-starting the economic development of this stretch of western Alaska." ●

Yukon highway

Ultimately, Western Alaska Copper & Gold hopes its work at Round Top will attract a major mining company that will further define and potentially develop this copper project. Any such company, however, will need significant infrastructure to transport equipment and fuel to the western Alaska project and, hopefully, copper and molybdenum concentrates to world markets.

Luckily, Round Top already enjoys the



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Since this photo was taken, about a year ago, Pretium Resources has made significant progress on development at its high-grade Brucejack gold mine project in northwestern British Columbia. With the mill building now nearly enclosed, the company remains on schedule to begin commissioning the underground mine in mid-2017.

continued from page 15

NORTHERN NEIGHBORS

said it is confident that it can address the concerns raised in the NIRB report.

Drilling confirms, upgrades Valley of the Kings deposit

Pretium Resources Inc. July 21 published an updated mineral resource estimate for the Valley of the Kings deposit at its Brucejack gold project in northwestern British Columbia, where construction and development continues on schedule for commissioning of the underground mine in mid-2017. Over the past two years, Pretium has drilled 367 holes (63,740 meters) aimed at upgrading indicated resources in the areas to be mined in the first three years of the current mine plan to the measured category. As a result of this drilling, the measured resource in the Valley of the Kings has increased by 58 percent to 3.5 million metric tons averaging 17 grams per metric ton (1.9 million ounces) gold. The program added to the indicated mineral resource, with measured and indicated mineral resources in the Valley of the Kings now totaling 16.4 million metric tons grading 17.2 g/t (9.1 million oz.) gold, a slight increase from the 15.3 million metric tons averaging 17.6 g/t (8.7 million oz.). The Valley of the Kings remains open to the east and west along strike, and at depth. ●

• LAND & LEASING

BOEM to live stream Gulf of Mexico sale

By KRISTEN NELSON

Petroleum News

The U.S. Department of the Interior's Bureau of Ocean Energy Management plans to live stream its Aug. 24 western Gulf of Mexico planning area oil and gas lease sale.

BOEM said in the sale information package that while bids will be opened at the Mercedes-Benz Superdome in New Orleans, the bid opening will not be open to the public.

The bid opening will be available for the public to view in real time on BOEM's website at www.boem.gov via video live streaming beginning at 9 a.m. the day of the sale.

"The use of live streaming to announce bids is being implemented to provide greater access to a wider national and international audience while ensuring the security of BOEM staff," the agency said.

BOEM said sale 248 will be the first federal offshore oil and gas auction broadcast live on the Internet, with the goals of promoting "greater government efficiency and transparency, eliminating the need for the public to physically attend the bid reading."

Bill proposes Internet offshore leasing

In related congressional action the U.S. House Committee on Natural Resources unanimously approved H.R. 5577, the Innovation in Offshore Leasing Act, which authorizes BOEM to use Internet-based leasing for its offshore leasing.

The Aug. 24 sale involves a traditional opening and reading of bids, with the change being exclusion of the public from the reading which will be live streamed.

H.B. 5577 would allow the Secretary of the Interior "to conduct offshore oil and gas lease sales through Internet-based live lease sales." The bill says the change will "modernize the Nation's offshore leasing program to ensure the best return to the Federal taxpayer, reduce fraud, and ensure a fair and competitive leasing process."

Under the bill sale requirements include "live web streaming of the bid reading process" and would include a bidder verification process and "the ability for a bidder to correct a possible misreading of a submitted bid."

There would be a third-party observer from Interior's Office of the Inspector General present during bid reading "to prevent wrongdoing, independently certify the bidding process, and maintain transparency," with "data security measures to ensure bidder data is kept secure."

The bill specifies that statistical data would be provided on the sale day.

Collaboration in the process

The bill requires that before the first Internet-based lease sale under the bill is conducted, Interior would issue a request for information from each company present for bidding at the 10 most recent oil and gas lease sales conducted under the Outer Continental Shelf Lands Act "in order to provide the bidding public sufficient opportunity to share innovative ideas, methods, and concerns regarding Internet-based leasing."

National Ocean Industries Association President Randall Luthi said the organization, representing companies involved in offshore resources exploration and production, commended the committee for passing the bill out. Luthi, who formerly headed the U.S. Minerals Management Service, BOEM's predecessor, called the bill "a common-sense way to update the offshore lease sale process. Incorporating internet-based technologies are cost-effective improvements that can increase transparency and efficiency in the offshore lease sale process." ●

Contact Kristen Nelson at knelson@petroleumnews.com

E&P

BlueCrest not drilling offshore

BlueCrest Operating Alaska has withdrawn an application for an incidental harassment authorization for offshore drilling this year in Cook Inlet, according to information posted on the U.S. Fish and Wildlife website. The company had applied for the authorization of minor disturbance to sea otters during offshore drilling at the Cosmopolitan field, off Anchor Point in the southern Kenai Peninsula. BlueCrest has been planning to use the Spartan 151 jack-up drilling rig to drill wells into shallow gas and oil pools above the main oil reservoir at Cosmopolitan. The company is developing the main oil resources in the field using extended reach drilling from onshore, but the shallow reservoirs require offshore drilling.

The Cosmopolitan field is currently producing oil from a single production well which was originally drilled as an exploration well several years ago.

BlueCrest no longer anticipates conducting the offshore drilling this year, although the company continues to progress its oil development plans involving its onshore drilling site — the company has shipped a suitably large rig from Texas to start the directional drilling.

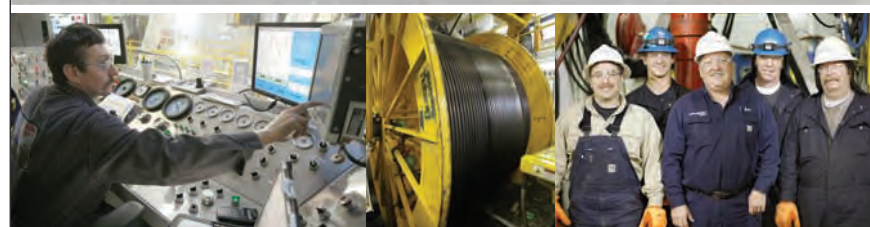
"Consistent with our legislative testimony, we will not be drilling offshore gas wells this year," Benjy Johnson, BlueCrest president and CEO, told Petroleum News in a July 25 email. "We are continuing our onshore oil development as planned. We are currently assembling the land rig and expect to begin drilling the onshore wells within the next few weeks."

The Cosmopolitan field is currently producing oil from a single production well which was originally drilled as an exploration well several years ago.

—ALAN BAILEY



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PIPELINES & DOWNSTREAM

Foreign-flagged tanker to move ANS crude

According to press reports BP has chartered a foreign-flagged vessel, the Bahamas-flagged Tianlong Spirit, to move Alaska North Slope crude oil.

Press reports indicated the ship would load crude out of Valdez Sept. 25.

Routine shipping of ANS crude oil is to the West Coast on tankers owned by the major North Slope producers.

BP spokeswoman Dawn Patience told Petroleum News July 25 that she couldn't talk about vessel locations, but said BP had received needed state and U.S. Coast Guard approvals needed for the vessel to move ANS crude from Valdez.

"This vessel meets all state and federal requirements to carry cargo in Prince William Sound," Patience said in an email. She said the vessel is also registered under the PWS Oil Discharge Prevention and Contingency Plan.

"Our first priority is to safely operate the tanker in compliance with the strict shipping rules and regulations," Patience said.

Bloomberg reported that the Tianlong Spirit would be the first foreign-flagged tanker to carry ANS crude out of Valdez in more than 30 years and said that when Congress ended restrictions on most American crude exports, it also ended the ban on foreign-flagged tankers shipping crude from Alaska.

—KRISTEN NELSON

GOVERNMENT

NMFS issues Apache Cook Inlet LOA

Nearly two years after Apache Corp. applied to the National Marine Fisheries Service for letters of authorization for the disturbance of marine mammals from offshore seismic surveying in Alaska's Cook Inlet, and some four months after the company finally called it quits on its Cook Inlet oil and gas exploration, the federal agency has issued regulations enabling letters of authorization for the seismic work. The regulations are valid for five years, should Apache elect to resurrect its Cook Inlet efforts.

Apache had previously conducted offshore Cook Inlet seismic surveying under the terms of incidental harassment authorizations, approvals that while simpler to obtain than a letter of authorization only covered single years. Given that each annual authorization application triggered a consultation and a biological assessment for the potential impacts of the surveys on protected beluga whales in the inlet, Apache had become frustrated with the unpredictable timeframe for the review and approval process. So, instead, the company had applied for letters of authorization, a form of authorization more complex to obtain than an incidental harassment authorization but which lasts for five years following a single consultation, assessment and public review process.

Before departing Alaska Apache had also expressed its frustration with the lengthy and unpredictable timeframes involved in obtaining other federal permits such as U.S. Army Corps of Engineers permits for the laying of offshore seismic recording nodes.

—ALAN BAILEY

Governor vetoes legislators on AGDC board

Gov. Bill Walker has vetoed Senate Bill 125, which would have added members of the Legislature to the Alaska Gasline Development Corp. board as non-voting members.

In his July 20 veto statement the governor cited Article 2, Section 5, of the Alaska Constitution which prohibits legislators from holding "any other office or position of profit under the United States or the State."

This issue arose in committee discussions of the bill and two different legal opinions were offered.

A March 20 opinion from Assistant Attorney General Jerry Juday said legislative member on the AGDC board, even as non-voting members, would be unconstitutional because of the provision against holding dual office and because such appointments would violate the separation of powers doctrine.

A March 30 opinion from Emily Nauman, legislative counsel with the Legislative Affairs Agency Division of Legal and Research Services, said the bill "may violate" separation of powers and dual office holding provisions of the constitution, but said the issue of nonvoting members on executive branch boards "is unsettled."

"The only sure resolution is a decision by the Alaska Supreme Court," Nauman said.

Other memberships

Legislators pointed to membership on a number of state boards and commissions, including the Alaska Aerospace Corp. board of directors, the Alaska Commission on Postsecondary Education and the Knik Arm Bridge & Toll Authority board of directors, among others.

In a statement after the governor's veto, bill sponsor Sen. Mia Costello, R-Anchorage, said Walker's veto "sends the wrong message to the industry, the Legislature and the public. The governor needs to share his vision for the gasline with Alaskans and not cut legislators out of closed door meetings."

Senate President Kevin Meyer, R-Anchorage, said: "Having legislators serve on the AGDC board provides greater transparency, greater insight into the direction of this \$65 billion project, and greater accountability as to how money is being spent."

"The more we know, the more comfortable we can become with appropriating funds for the largest infrastructure project in North American history," Meyer said.

—PETROLEUM NEWS

UTILITIES

Utilities comment on grid standards

Say they are progressing toward a single set of standards for Railbelt power transmission, want confidentiality over security

By ALAN BAILEY

Petroleum News

Concerned about the potential need for uniform, enforceable reliability and security standards for the Railbelt power transmission grid, in June the Regulatory Commission of Alaska in created a docket to gather information about the issue. As an opening gambit in the docket the commission asked the Railbelt utilities that operate the grid some questions regarding the status of efforts towards achieving a common set of standards, and for comments regarding the security of the grid.

Currently the grid, with various sections owned and operated by five independent utilities and the state of Alaska, has two sets of different but similar standards. One set of standards is maintained by the Intertie Management Committee, the committee that oversees the transmission intertie between Southcentral Alaska and the Interior, while the other standards are maintained by Homer Electric Association. Given the interconnected nature of the grid and its importance to Railbelt residents and businesses, the commission is worried about the lack of a single standard for the entire grid, the fact that the standards are voluntary rather than mandated and the possible exposure of the grid to security threats such as a cyber attack.

The utilities have now responded to the commission's questions.

Continuing discussions

Several utilities commented on continuing discussions to reconcile differences between the two sets of current standards, saying that the utilities were holding the second of two workshops in mid July, to further the reconciliation of the standards. Apparently the differences revolve around the sharing of spinning reserves,

the power generation capacity kept in reserve to cover generation outages. Homer Electric Association told the commission that all of the utilities now agree on how much total reserve spin must be available but that there are differences of opinion on how that spin should be allocated among the utilities. Matanuska Electric Association also commented that additional work is underway to modify the standards, with a particular focus on system modeling, planning and operations.

The Intertie Management Committee said that reconciliation of the standards should be completed in the next few months.

Sensitivity over security

All of the utilities expressed the seriousness with which they view the security of the grid and said that they have adopted policies for ensuring that security. However, in the interests of not compromising their security arrangements, the utilities are reluctant to provide public information about the security measures they have taken.

Asked about sharing security information with the commission as part of the commission's investigation into grid standards, all of the utilities voiced their concerns that any of the information given to the commission might pass into the public domain. Municipal Light & Power suggested that the commission should issue a protective order to establish a legal basis for maintaining the confidentiality of security information. And, rather than requiring the transmission to the commission of confidential security information, two of the utilities suggested that the commission should glean knowledge about security arrangements through on-site visits. ●

Contact Alan Bailey
at abailey@petroleumnews.com

EXPLORATION & PRODUCTION

Seismic, well data up for public release

The Alaska Department of Natural Resources, Division of Oil and Gas has provided public notice of the future release of geological and geophysical exploration data and information for the Nenana and Yukon Flats basins.

The information is being made available based on state statute requiring data release in exchange for exploration incentives.

Data has previously been released for various Cook Inlet and North Slope wells and seismic shoots.

The July 25 data release announcement covers 2-D seismic for the Nenana basin in townships 1-7 south, ranges 8-12 west, Fairbanks Meridian and 3-D seismic for Doyon land in the Stevens Village area in townships 15-16 north, ranges 7-8 west, FM.

The Nenana basin 2-D was shot west of Nenana, stretching both north-northwest and southwest of that community. The Stevens Village 3-D was shot north of the village.

Well data to be released includes: the Nunivak 1 well, drilled by Rampart Energy Co. in section 17, T4S, R8W, FM; the Nunivak 2 well drilled by Doyon Ltd. in section 7, T4S, R9W, FM; and the Nunivak 2ST drilled by Doyon Ltd. in sections 7-8, T4S, R9W, FM.

The Nunivak wells are west of Nenana.

The division said in a July 25 notice that the information would be made available to the public "no less than 30 days following this notice."

—PETROLEUM NEWS

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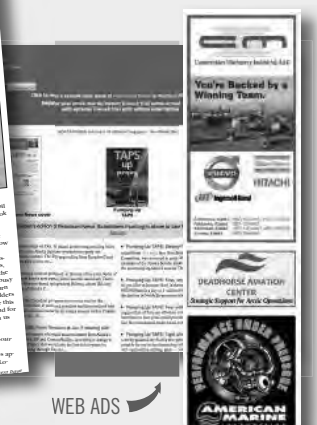
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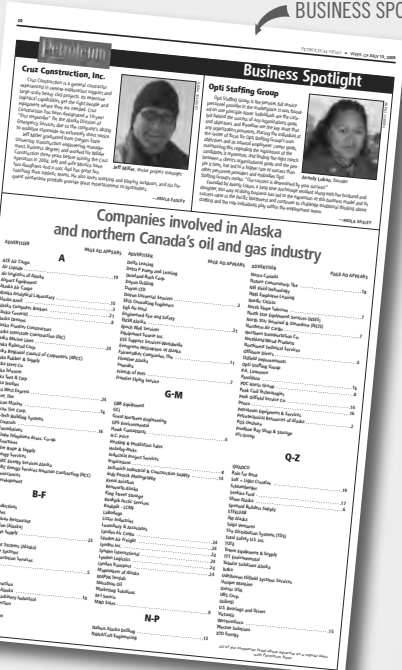


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continued from page 1

LOCAL CONTROL

Janorschke said.

Utility regulation

As a public utility, Homer Electric requires a certificate of public necessity and convenience, a kind of operating license, from the RCA. And by default the RCA regulates the rates that the utility charges its customers, with any rate change having to go through a formal RCA rate approval process.

But HEA is a member-owned cooperative, governed by a board of directors elected by the membership. And under a state statute the subscribers or members of a utility or cooperative can vote for economic deregulation, in effect passing the regulatory authority for rates from the RCA to the utility board, with the board reviewing the utility's cost of service through public meetings. As with the RCA regulatory process, a consumer who is ultimately dissatisfied with a rate decision can appeal that decision through state Superior Court, Janorschke explained.

Approval of the move to local control

Janorschke emphasized that the local control initiative only applies to HEA's power distribution business, and not to the utility's power generation and transmission operations, which are handled by a separate business entity, the Alaska Electric and Energy Cooperative.

requires a simple majority of the membership in the approval vote, although at least 15 percent of the membership must vote, Janorschke said. And, if ultimately the membership discovers that it does not like the local control arrangement, after two years the membership can vote to return to RCA regulation, he said.

According to information provided by HEA about 80 percent of U.S. electric cooperatives operate under the type of local control arrangement that HEA is proposing. In Alaska, 56 percent of electric utilities are locally controlled, including Kodiak Electric Association and Copper Valley Electric Association, HEA says.

Janorschke emphasized that the local

control initiative only applies to HEA's power distribution business, and not to the utility's power generation and transmission operations, which are handled by a separate business entity, the Alaska Electric and Energy Cooperative. Consequently, the proposed move to HEA local control has no relevance to a current debate, overseen by the RCA, on consolidating the management of the Railbelt power transmission grid, the pooling of power generation capabilities and the alignment of Railbelt power transmission reliability standards, he said.

Local control motivation

Janorschke said that HEA's motivation for local control revolves around the cost, lengthy timeframe and rigidity of the RCA regulatory process. Eliminating the RCA rate case process, which can take up to 450 days to complete, would cut significant cost, including attorney fees, consulting fees and staff time, from HEA's rate change procedures.

Moreover, by cutting out that lengthy RCA process, HEA can be more nimble and flexible in implementing new service arrangements, perhaps piloting new rate structures ahead of final board approval

decisions, Janorschke said.

"We can implement it right there, as opposed to taking that whole analysis, bringing it up to Anchorage, have a panel of commissioners, who are located in Anchorage, trying to weigh in on what our local directors have approved," he said.

The flexibility of local control could help, for example, in implementing new renewable energy sources, he commented.

Elimination of the RCA rate approval process would also enable the HEA board to make immediate strategic decisions on electricity rates based on forecast costs, rather than having to wait until after the costs have been incurred before making a rate rise. Thus, for example, by feathering in the cost recovery for a new major piece of infrastructure, the rate impact could be softened, spread over time, rather than appearing as a sudden major jump, Janorschke said.

The bottom line for a utility such as HEA, regardless of the regulatory environment, is to supply power at least cost, while also maintaining safety and power supply reliability, he said. ●

Contact Alan Bailey
at abailey@petroleumnews.com

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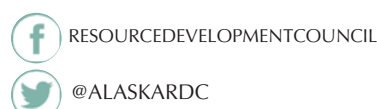
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continued from page 1

GMT-2 REVIEW

BLM spokeswoman KJ Mushovic said.

Almost a year ago, in August 2015, ConocoPhillips Alaska Inc. applied for permission to build a drill site, access road, pipelines and other facilities to support oil and natural gas development within the federal Greater Mooses Tooth unit. If sanctioned, the proposed GMT-2 development would be the second in the NPR-A, after the GMT-1 project.

The BLM completed a Final Supplemental Environmental Impact Statement for the GMT-1 project in October 2014 and approved the project in February 2015. The company later sanctioned the \$900 million project and expects production by 2018.

14-acre production pad

GMT-2 would be built on a 14-acre production pad capable of supporting 48 wells and would be connected by road and pipeline to ConocoPhillips' GMT-1, another planned production site, about 8 miles to the northeast. GMT-1 is now under construction by ConocoPhillips and is expected to be in production in 2018 with peak output estimated at 30,000 barrels per day.

Oil from both sites would be transported to the producing Alpine field, also operated by ConocoPhillips, which is about 11 miles to the east in the Colville River delta, and on state-owned lands.

ConocoPhillips spokeswoman Natalie Lowman said her company hopes to have "first oil" from GMT-2 in the fourth quarter of 2020. So far there are no estimates of potential production.

The Greater Mooses Tooth projects are the second and third in a series of medium-sized projects extending southwest into NPR-A from the producing Alpine field, which is on state lands in the Colville River delta just east of the NPR-A boundary.

The first NPR-A project is CD-5, just over the border and a few miles west of the Alpine field. CD-5 is now producing at about 16,000 bpd.

CD-5 cost about \$1.1 billion to build; GMT-1 is budgeted at \$900 million and GMT-2 at \$1 billion, ConocoPhillips has said.

—ERIC LIDI & TIM BRADNER

continued from page 3

COSTELLO Q&A

don't approve it, then we are going a different route. It's very confusing and it seems very political.

No one questions the governor's passion for Alaska and for getting a gas line, it's just that we want to know what is his vision for it, what is his idea for a project. Why is it worth putting Prudhoe Bay oil production at risk to get this marketing information?

The message we want to send Alaskans and the message we want to send the market is that we have an industry that we want to keep healthy. We want to keep Prudhoe Bay going. I don't know what happens if a plan of development is not approved by Nov. 1. What happens to Prudhoe Bay? Seriously what is the plan? There has to be a plan. When that question was asked at the hearing the answer was we are expecting to get the information.

Petroleum News: Well, the governor has said he expects to get the information and he didn't expect any consequences.

Costello: I hope he's right. I hope there aren't any consequences.

Petroleum News: Prior to this, you had an eight-hour AKLNG quarterly update. What were takeaways from the hearing?

Costello: Well, that is where we got our introduction to Keith Meyer. I think the questions in the minds of us listening were is there a different vision that he is going to pursue, that AGDC is going to pursue. He indicated that the state could have equity in the pipeline but not be at risk or accept any risk. I came away from that wondering how could you possibly have equity and not share risk. I was not able to get an answer to that. Again, anytime you

bring somebody new in, there is a learning curve. He seemed to be on a different page from (ExxonMobil's) Steve Butt.

Petroleum News: What more would you like to hear from Mr. Meyer as we approach the end of Pre-FEED?

Costello: I think there are these broad overarching questions over whether decisions have already been made. I have this recollection that this project may not go forward right away into FEED. I thought that the Legislature did a prudent and thoughtful job when we passed SB 138. It laid out parameters to the project and it had decision points that would be made to where the project would slowly ramp up. So from a project standpoint, it sounds like we are making progress. We've had some high points for that. To come in and say we might be changing course. ... I think you saw a lot of questions asking him, "Are you familiar with SB 138?"

That question has permeated ever single hearing we've had on the gas line. No matter who the new members of AGDC are, or you have a new CEO or you have a new commissioner: SB 138 is the road map and the guideline and the plan for moving forward. If we are going to deviate from that, it's a concern because that's the law we are working under.

Petroleum News: So what do think you would like to hear from the partners at the close of pre-FEED?

Costello: Well, at this point, I'm skeptical that the governor's vision isn't a different path for the state to go it alone. Every hearing there is always a surprise of some sort. I'm very curious to see what will happen in the fall. He did actually unveil a plan. Keith Meyer did say the state would like to go it alone, but the details haven't been revealed yet.

Petroleum News: There was concern last summer when the governor unilaterally accepted federal funds to expand Medicaid. Do you see something similar coming?

Costello: You know, I haven't given that a lot of thought. The Legislature would be funding the project. I wonder if there is some plan for him to use the Permanent Fund to fund the gas line. I'm not sure what his vision is. That's why I keep bringing it up. I just feel like the governor should explain his vision. We all want a gas line.

Petroleum News: OK, put on your Labor & Commerce chair hat now and discuss the workforce issues that would apply to AKLNG.

Costello: That issue is very important. We need to know now what the workforce needs are going to be. Those needs will tie to what kind of project we will have. The opportunity the gas line brings is not only the energy issues and our fiscal issues, but also jobs. I ask this question a lot. The people who will be filling those jobs are in our schools right now. Are we training them for the jobs we know will be available. That is something I'm keenly interested in and I look forward to more details on that. One of the things that Alaskans want out of this project is jobs for us. That's an expectation that we should meet.

Petroleum News: Are you hoping to get any kind of preliminary report from the Department of Labor?

Costello: I have asked for information on that and I haven't had an update from Department of Labor yet.

Petroleum News: Do you have any kind of timeline when you would like to see a report, even if you have a different position on the Senate next year.

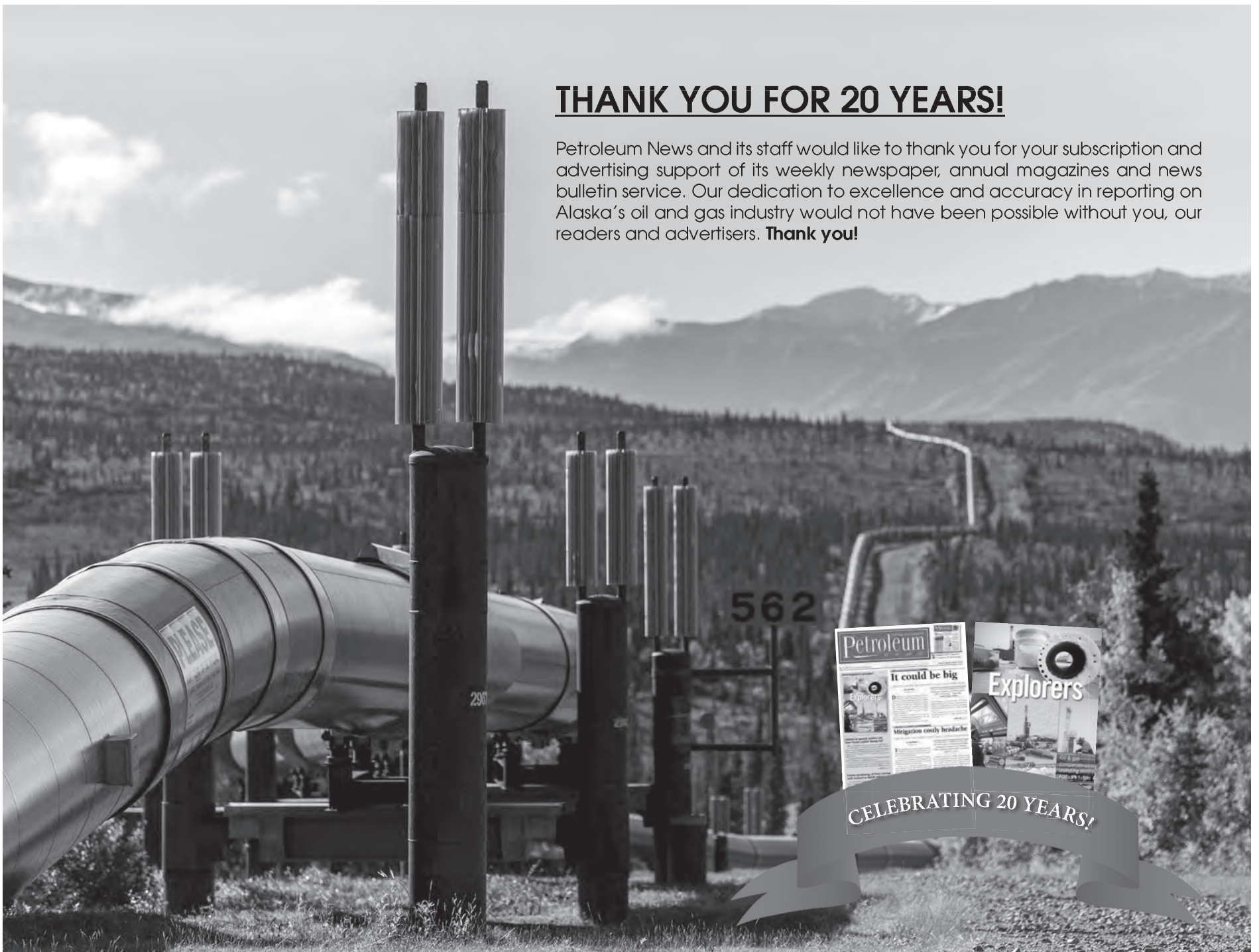
Costello: There was a report that was due and I know Commissioner Drygas sits on the AGDC Board and that's one of the things they would be looking at. That's another thing the Legislature should be intimately involved in: the jobs. That affects education issues. We fund engineering programs at the university. We helped fund an engineering building. We'll have to look at things like welding.

I mean the training that is going to be required to get Alaskans into these jobs will be an immense undertaking. There will be public-private partnerships. There will be all sorts of jobs that will come with a project of this nature, so the last thing I want is an Alaskan to miss an opportunity for a job because he didn't have the training that then would go to somebody from outside.

Petroleum News: So even if the project is seven to 10 years down the road, why is it important to have these workforce discussions now?

Costello: Because those programs need to be in place. A lot of times people decide what their interest is early on and you have to introduce these careers to students when they are in school. West High has a media tract, a healthcare tract and a process technology tract. They have a wing of the school where they put on a hard-hat. The work they are doing during the school days directly translates to a job they may one day get on the North Slope. It's an important component. You don't want to be caught off guard. We're lucky. We know in advance that we need this information. It hasn't gotten the attention publicly as it has internally within the department or the legislative branch, but it's a very important component of this project. ●

Contact Steve Quinn at squinnwrite@gmail.com



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CELEBRATING 20 YEARS!



Alaska Rubber to hold annual BBQ & blood drive

Alaska Rubber and Rigging Supply said it is holding its annual customer appreciation BBQ and celebrating the everyday hero, those who might go unappreciated and overlooked. Joining its team of wonderful vendors will be the blood bank of Alaska's blood mobile.

Be a super hero by making a donation at the event, held on Aug. 10 from 11 a.m. to 2 p.m. at 5811 Old Seward Hwy., Anchorage, Alaska 99518.

Those wishing to make a donation at the event, in the blood mobile, will need to schedule prior to arrival by calling BBA at: 907-222-5630 or online at: donate.bloodbankofalaska.org.

aeShield selected by BP for all upstream facilities

aeSolutions, the leader in process safety engineering and automation, said July 18 that after a three-year software evaluation period, BP has selected aeShield to assist asset personnel in monitoring control, alarm and safety instrumented systems performance for all upstream oil and gas assets around the globe. To date, it has been a challenge to automate the monitoring of these devices due to the lack of common systems in place across BP's facilities.

By using aeShield, BP will achieve centralized reporting, standard enforcement consistent with internal procedures, reduced man-hours, monitored IPLs and efficient management of change tracking. During initial rollout, BP will focus on HAZOP/LOPA studies, safety requirements specification, SIL verification, and IPL performance monitoring.

aeShield provides key performance indicators. The software seamlessly transfers data from the HAZOP/LOPA, to SIS design and verification, and into operations and maintenance activities. This contiguous data model simplifies monitoring protection layer, both SIF and IPL performance against assumptions made during the initial risk assessment and design versus current real world performance.

aeSolutions started designing aeShield after realizing the one thing that would ultimately improve the process safety of the process industry was a database-driven safety lifecycle platform created for engineers by engineers. aeShield enables users to cost effectively maintain their entire process safety lifecycle documentation in an evergreen fashion. For more information visit www.aeshield.com.

DRI and Bowhead to provide risk management course

Disaster Recovery Institute International and UIC's Bowhead Systems Management LLC have teamed up to provide a risk management course for business continuity professionals and other professionals looking for certification in risk management.

"It was a natural fit to combine Bowhead's risk management expertise with our business continuity experience and acumen," says DRI International President Al Berman. "As these disciplines converge within organizations, it is important for practitioners to expand their skill sets accordingly. So, this course and the certifications are exciting and necessary."

A recent student from a federal agency stated, "Overall, enjoyed the class and instructors. Would definitely recommend to peers and I would take additional, higher level courses." DRI Senior Director of Operations Traci O'Neal said, "Response to the course has been overwhelmingly positive. It's great to see the level of excitement around the topic, and the feedback we're getting just proves how much a course like this was needed." The next course is scheduled for early August in Anchorage. For more information and to register for the course visit: <http://www.bowheadsupport.com/drii/>.

Arctic Catering shows support at United Way picnic

Arctic Catering & Support Services said June 7 that it recently provided more than \$3,000 worth of food and the cooking expertise of CEO Dave Gonzales and other senior

see OIL PATCH BITS page 23

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

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• NATURAL GAS

Prudhoe Bay singled out for marketing info

Division of Oil and Gas has approved 21 of 22 PODs since new natural gas marketing information requirement instituted in January

By **TIM BRADNER**
For Petroleum News

So far oil and gas unit operators are providing only general and limited information on marketing in response to a new Division of Oil and Gas policy requiring the information as part of annual field Plan of Development, or POD, approvals.

The PODs are normally routine and offer a way for field operators to inform the division of activities they plan over the next year. The division must approve the POD, and without it oil and gas activities cannot be done on state leases.

In January the division instituted a new policy requiring a section in the plan describing marketing activities.

Then-state Attorney General Craig Richards pushed for the new requirement and initially intended it only for the Prudhoe Bay field, which is an oil field that has large undeveloped natural gas reserves. However, the oil and gas division had to make the requirement apply to all POD renewals statewide, and not single out one field.

In the responses so far to the new poli-

Since the requirement was made effective in January the division has received 22 POD renewals from unit operators, with 21 of these approved, oil and gas division spokeswoman Diane Hunt said.

cy Cook Inlet operators like Hilcorp Energy and Cook Inlet Energy have informed the division they sell oil to the Tesoro Corp. refinery at Nikiski and natural gas to utilities in the Southcentral region.

On the North Slope, operators inserted a few paragraphs to compliance with the requirement, most noting they have no surplus gas to sell and that all is committed to use as fuel or for enhanced oil recovery. Crude oil marketing was not mentioned.

21 of 22 POD renewals approved

Since the requirement was made effective in January the division has received 22 POD renewals from unit operators, with 21 of these approved, oil and gas

division spokeswoman Diane Hunt said.

There are five plans that are now being reviewed, and with approvals anticipated, and eight more that are anticipated through the rest of 2016, she said.

Only one that was applied for was not approved, the POD for Prudhoe Bay. The division had requested that Prudhoe Bay operator BP provide information on gas marketing activities by the other working interest owners, ConocoPhillips and ExxonMobil.

BP replied that it could not do this, noting anti-trust issues if it attempted to obtain marketing information, which is competitive, from its partners in the Prudhoe field.

Since the requirement was made effective in January the division has received 22 POD renewals from unit operators, with 21 of these approved, oil and gas division spokeswoman Diane Hunt said.

BP isn't the only North Slope operator to tell the division it cannot provide information on marketing, however. In its proposed POD renewal for the Nikaitchuq field, field operator Eni Petroleum said "Eni does not have any information on marketing plans or opportunities."

Despite that response, Eni's POD for the Nikaitchuq field was approved.

Direction from governor's offices

The Prudhoe Bay disapproval was done at the direction of the governor's office, according to sources, and is believed linked to plans being made to assert claims that Prudhoe working interest owners BP, ConocoPhillips and ExxonMobil are failing to comply with a "duty to produce and market" requirement in state oil and gas leases over the field.

That plan is also reported to be linked to the governor's new proposal for a state-led gas pipeline project, which Walked announced Jan. 18.

Although crude oil has been produced from Prudhoe Bay since 1977 the claim reportedly will be made for the 26 trillion cubic feet of natural gas in Prudhoe's reservoir which has not been marketed, mainly because there is no natural gas pipeline.

However, the gas is meanwhile being used to produce more crude oil. ●

Contact Tim Bradner at timbradner@gmail.com

continued from page 1

INDUSTRY JOBS

the AEDC luncheon. One is the state Department of Labor data that shows that about 20 to 30 percent of petroleum workers statewide are non-resident (the number for North Slope oil workers in 40 percent) which means only part of the oil jobs lost are held by Alaskans, he said.

The second factor is many oil and gas workers are taking retirement, if they are eligible, and others are switching jobs, some going into business for themselves, Popp said.

A big share of retirees wind up staying in Alaska as do many job-switchers, so these people are not lost to the economy, he said.

Two-year impact

That said, the combined effects of reduced industry employment and spending and reductions in state expenditures will be felt over the next two years. In January AEDC estimated a total job loss of 1,600 for Anchorage in 2016, an approximate 1 percent decline, and data for the first half of the year shows the estimate to be on track.

Another 1,500 jobs are expected to be lost in 2017, for a 2-year total of a 2 percent decline, Popp told people at the luncheon. After that AEDC predicts a leveling off with slow growth resuming in

2018 due partly to expectations of a slowly rising oil price and a gradual resumption of industry activity.

"At this point we're not hearing rumors of any more big layoffs in the industry. We believe things may have hit bottom," Popp said.

"It's worth noting in June, 2005 there were only 7,900 oil workers in the state. Even with the recent layoffs we're still more than 50 percent above 2005," he said.

Two consulting firms, McDowell Group and Northern Economics, assisted AEDC with its projections. The flattening of total job losses in 2018 and resumed slow growth after that are based partly on expectations of an average oil price of \$40 per barrel in 2016; \$50 per barrel in 2017; \$53 per barrel in 2017; and \$55 per barrel in 2018.

The evolution of technology in the industry, as in shale oil production, will help keep a lid on prices. "We do not foresee a return to \$100-per-barrel prices in the foreseeable future," Popp said.

Growth in some areas

Some jobs in the regional economy are showing growth, however. Health care has been a spurt in employment possibly due to the resolution of lawsuits against Medicaid expansion in the state, which gives employers in health care confidence in growth in demand for medical services. Leisure and hospitality, and transporta-

tion, two sectors affected by the robust 2016 tourism season, are also seeing gains. So is, surprisingly, government employment, Popp said. While there are declines in state employment due to budget cuts these are largely offset by gains in federal jobs in the Anchorage

area.

"There seem to be broad gains across several federal agencies. This does not include the military," Popp said. ●

Contact Tim Bradner at timbradner@gmail.com

continued from page 22

OIL PATCH BITS

personnel, to help make the 2016 United Way Appreciation Picnic a resounding success.

The event is held annually to honor the hundreds of local United Way volunteers, who help the organization make a difference in Anchorage. Four senior staff members at AC&SS assisted in serving and grilling food at the event, including Ean Aucoin, Matt Graham, Erich Muth and Eileen Simmons. In addition, Miranda Issaacson from Sysco worked with the team.

"We've participated with United Way for several years in this event, as United Way truly makes a difference in our communities," said AC&SS CEO Dave Gonzalez. "It's important to us to give back to Alaskans, and volunteering is a key part of that."

Remaining food from the event was donated to Bean's Café, while vegetables and other food items were also donated to the Alaska Zoo.



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continued from page 1

MORE OIL

March 2016, after several years of exploration and appraisal activity in the northwest corner of the Kuparuk River unit. The AOGCC held a meeting in early May, where company representatives provided testimony. The company originally referred to the accumulation as the "Moraine" interval, but the AOGCC decided to name the pool after the "Torok" formation present in the region.

The area included in the pool covers 22 leases, including two currently outside of the unit boundaries—ADL 392374 and ADL 392371. ConocoPhillips intends to apply for an expansion of the unit boundaries to incorporate those two leases, according to the ruling.

Development in phases

ConocoPhillips plans to develop the Torok pool in "discrete phases," according to the Conservation Order, starting with a program to drill between 10 and 40 horizontal production and injection wells extending northwest from the existing Drill Site 3S. In an associated Area Injection Order, the AOGCC outlined a slightly

smaller program of four to five hydraulically fractured horizontal producers and three to four fracture stimulated horizontal injectors, each with 3,000-foot to 8,000-foot horizontal sections through the formation. Future phases could be drilled from DS-3S, but ConocoPhillips also might build between one and two additional drill sites in the area, according to the rulings.

A development program from DS-3S could access between 100 million and 500 million barrels of oil in place, according to estimates included in the Area Injection Order. A primary recovery is expected to be approximately 5 percent, with certain enhanced recovery programs increasing that recovery rate to a range of 13 to 55 percent. A separate development at a hypothetical second drill site could access between 100 million and 500 million barrels of oil in place, according to the Area Injection Order, with similar recovery rates.

Reconsidering the region

Exploration in the region goes back decades.

Sinclair Oil and Gas penetrated the reservoir in 1966 with the Colville No. 1 well, and Texaco Inc. returned in 1985 and 1986 to drill the Colville No. 2 and Colville

No. 3 wells much farther to the north. The Texaco wells produced less than 50 barrels of oil per day, although production from the Colville No. 3 well increased after fracture stimulation. ARCO Alaska Inc. drilled the Kalubik No. 1 well in 1992 and the Kalubik No. 2 well in 1998 and a test of the former well produced only 10 barrels of oil per day on average.

Recent interest in the Torok formation started with work at the Ooguruk unit to the northwest. All the wells at the offshore unit passed through the Torok en route to deeper formations. Between 2010 and 2012, former operator Pioneer Natural Resources Alaska Inc. drilled and completed three wells within the Torok turbidite sands and delineated the formation with the Nuna No. 1 well, which produced 1,524 barrels per day. In May 2011, the AOGCC formed the Ooguruk-Torok Oil Pool to guide development of the pool.

In 2013, ConocoPhillips returned to the existing KRU 3S-19 well, which it had drilled about a decade earlier, to fracture stimulate the upper portion of the Torok turbidite sequence. The well produced between 250 and 300 barrels per day during a flow test.

The results convinced the company, in 2015, to drill the KRU 3S-620 well hori-

zontally through a 4,200-foot section of those turbidite sands. The well produced 1,575 bpd, with a water cut of 75 percent. Also in 2015, ConocoPhillips drilled the vertical Moraine 1 well from an ice pad "to acquire extensive logs with whole core for detailed reservoir and overburden characterization studies, including special core analysis."

Earlier this year, ConocoPhillips returned to the area to drill the corresponding 3S-613 injection well nearby. "Results from special core analyses and reservoir performance from the 3S-620 producer well and 3S-613 injector well will guide future development plans for the Moraine interval," the company wrote in a recent plan of development.

Since returning to the 3S-19 well in 2013, ConocoPhillips has been reporting oil production from the formation through the Kuparuk River Torok Undefined Oil Pool.

Turbidite sands have given other operators difficulty. Given their nature, all wells into the new pool will likely be fracture stimulated "to enhance productivity, improve vertical injection sweep, and connect thin, individual sandstone beds," according to the AOGCC. The approval includes no spacing restriction for wells, aside from a general prohibition against opening pay to a well within 500 feet of a property line with a different owner.

Along with the new pool rules, the AOGCC issued an area injection order (Area Injection Order No. 39) allowing ConocoPhillips to conduct injection for enhanced recovery. ●

Contact Eric Lidji
at ericlidji@mac.com

continued from page 1

BP INVESTMENT

Executive Bob Dudley told financial analysts.

Bernard Looney, chief executive officer upstream division, commented that onshore locations such as the Lower 48, Alaska and Iraq tend to provide the best opportunities for investment flexibility. And, with new ideas and solutions coming from the company and its suppliers enabling more cost effective operations, BP remains optimistic about continuing to drive capital productivity, Looney said.

—ALAN BAILEY

Contact Alan Bailey
at abailey@petroleumnews.com

continued from page 1

CONOCO CUTS

ConocoPhillips Alaska President Joe Marushack told the Resource Development Council in November that the company had reduced its Alaska workforce by some 120 people.

Lowman said the company's current Alaska employee headcount is 1,070.

The company said the approximately 6 percent reduction in its global workforce will impact some areas more than others, with the largest impact in North America.

"Alaska will be impacted by layoffs, and although we cannot yet provide specifics, we are not anticipating a significant reduction in the Alaska workforce," Lowman said in her email.

—KRISTEN NELSON

Contact Kristen Nelson
at knelson@petroleumnews.com

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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



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