Petroleum news

page 2 Q&A: Persily — gas line pessimism based on economics, market forces

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This week's Mining News

NORTH OF 60 MINING news

page 8 Freeman: Winter coming to Alaska, so are mineral exploration results

www.MiningNewsNorth.com The weekly mining newspaper for Alaska and Canada's North Week of October 1, 2017

NORTHERN NEIGHBORS

Compiled by Shane Lasley

SHANE LASLEY

The Yukon River cuts through the White Gold District, a gold-rich region south of Dawson City.

White Gold expands Golden Saddle

White Gold Corp. Sep. 25 reported that its first two reverse circulation holes drilled at Golden Saddle deposit on the White Gold property in the Yukon has extended the gold mineralization there. Hole 17RC-001 cut 32 meters of 3.98 grams per metric ton gold from a depth of 19.8 meters; and 17RC-002 cut 25.9 meters of 2.24 g/t gold starting at 13.7 meters. The company said these grades are consistent with results from nearby diamond drilling and extend the main zone at Golden Saddle towards the surface. White Gold also said its technical team has generated new drill targets from recently completed geophysical surveys on trend with the Golden Saddle deposit, most notably the Golden Saddle East target which is located on strike and about 600 meters northeast of Golden Saddle. A technical review of data from previous operators has identified Ulli's, a target about 2,200 meters southwest of Golden Saddle and on trend. This zone is characterized by a significant gold-in-soil anomaly and the company said historical trench results which are comparable to those that led to the discovery of Gold Saddle. Ryan's target, another large gold-in-soils anomaly about 2,100 meters west of Golden Saddle has also been prioritized for drilling. All three new targets are slated for drilling this year. As of Sep. 25, White Gold had completed 1,970 meters of drilling in 11 RC holes and three diamond drill holes at Golden Saddle. Drilling is still in progress and additional holes are planned for the Golden Saddle and Arc zones.

TerraX discovers new gold target

TerraX Minerals Inc. Sep. 26 reported that its 2017 property-wide exploration program at its Yellowknife City Gold Project has discovered a new zone of high-grade gold mineralization a the Screamer Island target. Representative rock samples from wide zones of outcropping mineralization at Screamer Island, returned 27.9 grams per metric ton gold, 4.46 g/t gold, 4.15 g/t gold and 3.95 g/t gold. TerraX said the discovery at Screamer Island more than quadruples the strike length of the Sam Otto target, which lies about 3,500 meters to the north. "These results support our belief that Sam Otto is a large mineralized system which now extends over 5 kilometers (5,000 meters) with the potential for much higher grade," said TerraX CEO Joe Campbell. TerraX will be following up with channel sampling and enhanced ground geophysics analysis, which is expected to be completed this year. Surface exploration on the Yellowknife City Gold project this summer has collected more than 5,500 samples, assay results are pending from more than 4,800 samples.

New gold zone found near Eagle

Victoria Gold Corp. Sep. 25 reported results are from the

see NORTHERN NEIGHBORS page 10

PEBBLE LIMITED PARTNERSHIP

Field workers trek across the world's largest undeveloped copper and gold deposit at the Pebble project in Southwest Alaska.

PEBBLE

Meeting Pebble goals

Northern Dynasty remains confident in partner, permit application in 2017

By SHANE LASLEY

Mining News

Rolling into the final quarter, Northern Dynasty Minerals Ltd. remains confident that it will meets its ultimate 2017 goal of filing for the permits needed to develop a mine at the world-class copper deposit in Southwest Alaska by the end of the year.

"We entered the year with three objectives: settlement with EPA; re-partnering; and then getting the project description filed with the U.S. Army Corps of Engineers by the end of the year," Northern Dynasty CEO Ron Thiessen told Mining News on Sep. 26.

RON THIESSEN

The company aspired to have a global mining company join the Pebble Partnership by Oct. 1, but a settlement with the U.S. Environmental Protection Agency was a bit more complicated that originally though.

"It took a little longer, there was a little more complexity that we weren't aware of until we really got into it, but ultimately we got out of it exactly what I needed talk with major mining companies, potential partners," Thiessen said.

Objective 1: normalized permitting

What the Northern Dynasty CEO needed to finalize talks with potential Pebble partners was the ability to show that the largest undeveloped copper deposit on the planet is able to enter the "normalized permitting" process in the United States.

A 2014 Clean Water Act 404(c) determination by the EPA to put strict limits on any mine that could have permitted for Pebble, however, was far from normal.

Going into 2017, Northern Dynasty aspired to have these extraneous restrictions lifted by the end of the first quarter and did get EPA's agreement not to implement its proposed CWA Section 404(c) determination to restrict Pebble by May.

The definitive goal of normalized permitting, however, took a bit longer to achieve.

This was due to EPA's underlying determination still lingering, which posed potential complications if the U.S. Army Corps of Engineers decided to issue permits for Pebble.

Agreeing that it should completely withdraw its 2014 decision, EPA set in motion a process to completely do away with the pre-permitting restrictions and initiated a 90-day public comment period on its proposed withdrawal in July.

This comment and tribal consultation process wraps up on Oct. 10, after which EPA will make the final decision on whether to lift its Obama-era determination and open the door to normalized permitting for Pebble.

Final 2 objectives

Northern Dynasty, currently the sole owner of the Pebble Partnership, is now focused on its final two 2017 aspirations, signing on a global mining company as a Pebble partner and filing for permits to develop a mine at the world-class copper project.

With roughly 56.8 billion pounds copper, 70.4 million ounces gold, 3.4 billion lb molybdenum and 343.6 million oz silver in measured and indicated resource, the Pebble deposit is an attractive asset to global mining companies looking to replenish stores of copper and gold in a world where these metals are getting tougher to find.

Pebble, which host both the largest undeveloped copper and undeveloped gold resource on the planet, is a great way for a mining company with global scope to ensure it continues to supply these metals for decades to come.

According to a 2011 preliminary economic assessment, a large-scale mine at Pebble could

see PEBBLE GOALS page 10

Northern Dynasty remains confident in Pebble partner, permit application in 2017. Read more in Mining News, page 7.

Court rules bonding order illegal

Judge Gary Spraker of the U.S. Bankruptcy Court for the District of Alaska has issued a ruling nullifying an Alaska Oil and Gas Conservation Commission order regarding required bonding for the plugging and abandonment of wells, if Aurora Exploration is to buy the Nicolai Creek gas field from Aurora Gas.

In a Sept. 26 memorandum, Spraker explained that he was ruling the AOGCC decision void because it contravenes U.S.

see **BONDING ORDER** page 13

Enstar files modified Furie contract

Enstar Natural Gas Co. has asked the Regulatory Commission of Alaska to approve a change in the terms of the utility's gas supply agreement with Furie Operating Alaska, to accommodate a delay in the completion of the third well in Furie's Kitchen Lights gas field. The agreement originally required Furie to complete a third well in the field by the end of 2016, to demonstrate Furie's ability to meet the gas supply commitments in the agreement. But following a delay in the

see **ENSTAR REQUEST** page 14

Middle Ground Shoal restarted

Hilcorp Alaska restarted oil production from the A and C platforms in the Middle Ground Shoal field in Cook Inlet beginning in mid-September, the company said in an email statement from Senior Vice President David Wilkins.

Production was shut down earlier in the year after the company discovered a leak in a fuel gas line in early February. Diving activities to look for the source of the leak, from an 8-inch line in some 80 feet of water, were not initially possible

see **PRODUCTION RESUMES** page 15

NATURAL GAS

There's now a project

Hilcorp gas supply contract opens way forward for Interior Energy Project

By ALAN BAILEY

Petroleum News

The Alaska Industrial Development and Export Authority's Interior Energy Project has signed a Cook Inlet gas supply agreement with Hilcorp Alaska, thus opening the way for the project to move forward.

During its meeting on Sept. 21 the AIDEA board approved the gas supply contract and an associated plan for completing the IEP. The objective of the IEP is to enable a greatly expanded supply of natural gas at a viable price in Fairbanks and the surrounding region of the Interior. In addition to helping alleviate the high cost of energy in the region, the project also hopes to help reduce winter air pollution that results from the widespread use of wood stoves for heating buildings.

Therriault told Petroleum News that the IEP and IGU are close to finalizing the contractual paperwork for the sale of Pentex, and that the two organizations hope to reach closure in the next week or two.

The IEP plan involves expanding an existing liquefied natural gas plant near Point Mackenzie on Cook Inlet; beefing up the transportation arrangements for shipping LNG from the plant to

see **IEP CONTRACT** page 16

UTILITIES

Some in, some out

RCA rules on Enstar's requested changes to its gas transportation rates

By ALAN BAILEY

Petroleum News

In a Sept. 26 order the Regulatory Commission of Alaska issued its ruling on Enstar Natural Gas Co.'s proposed new schedule of fees for the shipment of natural gas through the utility's gas transmission and distribution network. Enstar had proposed an overall increase it its rates. The commission has accepted some of Enstar's proposed changes to its rate structure but has also rejected some of the utility's proposals.

Enstar had originally proposed the rate increase in June 2016. The idea was to apply the new rates in two stages, with the end result a total increase of 3.9 percent of revenues from the utility's gas transportation services. Enstar said that the impact to a typical residential gas bill would be an increase of 4.6 percent per year or $5.47 per month.

The RCA has upheld Enstar's use of a postage stamp rate for the shipment of gas through its pipeline system.

Having rejected some of Enstar's proposals, the RCA has ordered the utility to file a revised revenue requirement by Oct. 20, with supporting documentation including revised tariff sheets. Parties involved in the tariff case must then comment on the new filing within two weeks of the filing being made.

Enstar's gas shipment fees are critically impor-

see **RCA RULING** page 14

PIPELINES & DOWNSTREAM

Alyeska terminal spill

Oily water creates sheen at Valdez; some 400 gallons of oil/water mix recovered

By KRISTEN NELSON

Petroleum News

Tanker loading resumed at the Valdez Marine Terminal Sept. 25, following an overflight of the spill zone confirmed to federal and state officials that recovery operations following a Sept. 21 spill had been successful, Alyeska Pipeline Service Co. said in a Sept. 26 statement.

The Sept. 21 spill at the terminal was what Alyeska described as "oily test water" believed to have resulted from flow back during a test of the integrity of the loading arms.

The cause is under investigation, but Alyeska said in a Sept. 22 fact sheet that a preliminary determination points to testing during planned annual maintenance of loading arms. The company said that to test loading arm integrity, "a fire water pump routed salt water through the system at an increased pressure."

Alyeska said in a Sept. 22 fact sheet that crews worked through the night to recover oil and protect sensitive areas, with both the Solomon Gulch Hatchery and the Valdez Duck Flats boomed overnight.

"During a pause in the testing, oily test water flowed back through hose and piping related to the maintenance, out of the first system salt water

see **TERMINAL SPILL** page 15

● GOVERNMENT

Persily: Gas line pessimism warranted

Having tracked gas line developments at three different government levels, Persily offers hard look at current project, market forces

By **STEVE QUINN**

For Petroleum News

LARRY PERSILY

No one has had a more diverse look at Alaska's efforts to monetize North Slope gas than Larry Persily, whose term as Kenai Peninsula Borough Mayor Mike Navarre's chief of staff ends in October with Navarre's term. Persily has worked under the Obama administration when plans called for a pipeline to go overland and into the Midwest. He also served on Gov. Sarah Palin's pipeline team, as a special assistant for retired Rep. Mike Hawker and deputy revenue commissioner for Govs. Tony Knowles and Frank Murkowski. Known for his biting wit and incisive analyses underpinning resource development, Persily shared his thoughts with Petroleum News on the status of the AKLNG project and the prolonged, incessant debate over oil taxes.

Petroleum News: What are your general observations of where things stand, say from the 30,000-foot view, and I'll get to specific questions from there.

Persily: If enthusiasm counted in the market, I guess the Alaska LNG project and the Alaska Gasline Development Corp. would be a frontrunner. But enthusiasm doesn't count: It's economics, having a viable business plan, having all the partners lined up, customers and gas supply. I don't see us in the front of that pack worldwide. I think we have a long way to go. I don't think this project is going to go to final investment decision this decade. Maybe next decade.

Petroleum News: So, if you sat on either resources committee, what would you need to hear next from AGDC?

Persily: Well, I would like to see detailed plans, how much money do they have in the bank and how do they plan on spending it, so I can decide: is it worth it to go through the FERC process? How much is it going to cost? Do you have enough money to actually get through the end of the FERC process? If you get to an environmental impact statement and a FERC statement, what's the shelf life of that statement? How much would that project have to change before you had to go in there and redo that federal authorization? I'd want to know what am I buying and what's the value of it. You can to talk about that in open meetings.

As far as what potential customers do you have and how real are those, you can't discuss those in opening meetings, and I certainly understand why, but I guess — and I don't know what the authority is — you can ask for a closed briefing on that.

They did do a solicitation which closed on Aug. 31. It didn't get a whole lot of response. I guess I'd like to go over that in detail, what responses did they get and what do they mean?

Q AND A

Petroleum News: What do you make of the open season that was completed?

Persily: Well, open season is a legal term for FERC for rates, regulated interstate pipelines. So it wasn't an open season. It was an ask potential customers and users if they are interested in pursuing it further. It didn't seem like they got a lot. My understanding is the Alaska Gasline Development Corp. submitted a letter on behalf of itself saying it would use the project, the pipeline and liquefaction plant. That's sort of like co-sponsoring your own bill.

They are trying. I give them credit for that. On the other hand, there is still a lot of money on the table. If I were in the Legislature, I would want to exercise my due diligence to make sure it's still a good investment to keep spending.

Petroleum News: What do you make of the news of the IRS opinion that the project could be tax exempt?

Persily: Look, the Alaska Gasline Development Corp. is a political subdivision of the state just like school districts are, just as cities and boroughs and the

see **PERSILY Q&A** *page 13*

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● GOVERNMENT

GAO reviews USCG icebreaker plans

By KRISTEN NELSON
Petroleum News

The U.S. Government Accountability Office has reviewed plans by the U.S. Coast Guard for its icebreaker fleet capability and told Congress in a Sept. 25 report that it has recommended that the Coast Guard complete a comprehensive cost estimate for limited life extension of the heavy icebreaker Polar Star before committing to bridging a potential capability gap.

While the Coast Guard is responsible for providing polar icebreaking capability for the United States, GAO said in a presentation to Congress earlier this year that the Department of Defense reported to Congress in December "that it had no specific defense requirement for icebreaking capability because Navy Arctic requirements are met by undersea and air assets which can provide year-round presence."

GAO said one of the Coast Guard's required functions is to maintain icebreaking facilities on the high seas and on U.S. jurisdictional waters, and pursuant to international agreements in waters not subject to U.S. jurisdiction, specifically the Antarctic.

Two Coast Guard icebreakers are active, the heavy icebreaker Polar Star, nearing the end of its expected service life, and the medium icebreaker Healy.

The Coast Guard is seeking to recapitalize its polar icebreaking fleet with three new heavy polar icebreakers, allowing it to maintain polar icebreaking capability to access the Arctic and Antarctic, GAO said.

Polar icebreaking requests

GAO said the Coast Guard has not been able to address all polar icebreaking requests since 2010, fulfilling 25 of 32 (78 percent) of U.S. government agency requests from fiscal year 2010 through 2016.

The Coast Guard was unable to fulfill National Science Foundation requests for resupply of the McMurdo Station in Antarctica in fiscal years 2010-13 as its heavy polar icebreakers were undergoing maintenance, and NSF leased commercial polar icebreakers.

The Coast Guard's other heavy polar icebreaker, the Polar Sun, has been inactive since 2010.

GAO said the only mission the Polar Star has been able to complete since 2014, "due to its extensive annual post-operation maintenance requirements," is the annual McMurdo resupply.

Replacement plan

The Coast Guard "is seeking to recapitalize its polar icebreaking fleet through the acquisition of three new heavy polar icebreakers," GAO said.

In advancing its acquisition program the Coast Guard has partnered with the Navy and engaged the shipbuilding industry, but there are risks in the timeline it has set for delivery, GAO said, with the first of three icebreakers now scheduled for delivery in 2023, three years sooner than originally planned.

There are acquisition planning documents which must be completed and approved by the end of fiscal year 2017 (Sept. 30), but should those documents not be approved on schedule, it may impact release of the request for proposals for detail design and construction in mid-fiscal year 2018, which may delay contract award scheduled for fiscal year 2019.

Limited life extension

GAO said it has recommended to the Coast Guard completion of a comprehensive cost estimate for a limited service life extension of the Polar Star before committing to that approach to bridge the potential capability gap, and said the Coast Guard concurred.

The Polar Star's useful service life is projected to end between fiscal years 2020 and 2023, GAO said, creating a potential gap of up to three years before the first of the new heavy icebreakers is scheduled for delivery, to be covered by a limited life extension of the Polar Star. NSF officials told GAO that if a Coast Guard heavy icebreaker was unavailable for the McMurdo resupply, the plan would be to again lease a commercial icebreaker, as NSF did in 2010-13.

Costs of new heavy icebreakers are estimated at about $1 billion each, with the Coast Guard's new accelerated acquisition schedule showing the first delivered in late fiscal year 2023. ●

Contact Kristen Nelson at knelson@petroleumnews.com

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Kay Cashman	PUBLISHER & EXECUTIVE EDITOR
Mary Mack	CEO & GENERAL MANAGER
Kristen Nelson	EDITOR-IN-CHIEF
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Mapmakers Alaska	CARTOGRAPHY
Forrest Crane	CONTRACT PHOTOGRAPHER
Renee Garbutt	CIRCULATION MANAGER

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

NEWS
907.522.9469
publisher@petroleumnews.com

CIRCULATION
907.522.9469
circulation@petroleumnews.com

ADVERTISING
Susan Crane • 907.770.5592
scrane@petroleumnews.com

FAX FOR ALL DEPARTMENTS
907.522.9583

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CORRECTION

Oct. 4 public meeting in Anchorage

An item in the Sept. 24 issue of Petroleum News, "Corps extends Nanushuk comment period," incorrectly listed one of the hearing locations for the Nanushuk project EIS. The Oct. 4 meeting is in Anchorage, not Fairbanks.

A complete listing of the public meetings is on the project EIS website at www.NanushukEIS.com

Petroleum News apologizes for the error.

Alaska - Mackenzie Rig Report

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

Alaska Rig Status

North Slope - Onshore

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
Doyon Drilling			
Dreco 1250 UE	14 (SCR/TD)	Kuparuk 1J-137	ConocoPhillips
Dreco 1000 UE	16 (SCR/TD)	Standby	
Dreco D2000 Uebd	19 (SCR/TD)	Alpine CD5-316	ConocoPhillips
AC Mobile	25	Standby	
OIME 2000	141 (SCR/TD)	Kuparuk, Stack Out	ConocoPhillips
	142 (SCR/TD)	Kuparuk 1H-102	ConocoPhillips
TSM 7000	Arctic Fox #1	Prudhoe Bay, Icewine#2	Accumulate
Hillcorp Alaska LLC			
	Rig No.1	Milne Point	Hilcorp Alaska LLC
Nabors Alaska Drilling			
AC Coil Hybrid	CDR-2 (CTD)	Deadhorse	BP
AC Coil	CDR-3 (CTD)	Kuparuk	ConocoPhillips
Dreco 1000 UE	2-ES (SCR-TD)	Deadhorse	Available
Mid-Continental U36A	3-S	Deadhorse	Available
Oilwell 700 E	4-ES (SCR)	Deadhorse	Available
Dreco 1000 UE	7-ES (SCR/TD)	Deadhorse	Available
Dreco 1000 UE	9-ES (SCR/TD)	Deadhorse	Available
Oilwell 2000 Hercules	14-E (SCR)	Deadhorse	Available
Oilwell 2000 Hercules	16-E (SCR/TD)	Mustang location	Available
Oilwell 2000 Canrig 1050E	27-E (SCR-TD)	Deadhorse	Available
Oilwell 2000	33-E	Deadhorse	Available
Academy AC Electric CANRIG	99AC (AC-TD)	Deadhorse	Available
OIME 2000	245-E (SCR-ACTD)	Kuparuk	Available
Academy AC electric CANRIG	105AC (AC-TD)	Deadhorse	Available
Academy AC electric Heli-Rig	106AC (AC-TD)	Deadhorse	Available
Nordic Calista Services			
Superior 700 UE	1 (SCR/CTD)		Available
Superior 700 UE	2 (SCR/CTD)	Prudhoe Bay	Available
Ideco 900	3 (SCR/TD)		Available
Parker Drilling Arctic Operating Inc.			
NOV ADS-10SD	272	Prudhoe Bay DS 18	BP
NOV ADS-10SD	273	Prudhoe Bay DSW-59	BP

North Slope - Offshore

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
BP			
Top Drive, supersized	Liberty rig	Inactive	BP
Doyon Drilling			
Sky top Brewster NE-12	15 (SCR/TD)	Spy Island, NIK North Mod	ENI
Nabors Alaska Drilling			
OIME 1000	19AC (AC-TD)	Oooguruk	Caelus Alaska

Cook Inlet Basin – Onshore

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
BlueCrest Alaska Operating LLC			
Land Rig	BlueCrest Rig #1	Anchor Point, drilling production section of H14	BlueCrest Alaska Operating LLC
Glacier Oil & Gas	Rig 37	West McArthur River Unit Workover	Glacier Oil & Gas
All American Oilfield LLC			
IDECO H-37	AAO 111	In All American Oilfield's yard in Kenai, Alaska	Available
Aurora Well Services			
Franks 300 Srs. Explorer III	AWS 1	Stacked out west side of Cook Inlet	Available
Saxon			
TSM-850	147	Stacked	Hilcorp Alaska LLC
TSM-850	169	Stacked	Hilcorp Alaska LLC

Cook Inlet Basin – Offshore

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
Hilcorp Alaska LLC			
National 110	C (TD)	Platform C, Stacked	Hilcorp Alaska LLC
	Rig 51	Steelhead Platform, Stacked	Hilcorp Alaska LLC
	Rig 51	Monopod Platform, Drilling	Hilcorp Alaska LLC
Spartan Drilling			
Baker Marine ILC-Skidoff, jack-up		Spartan 151, Stacked Seward	
Furie Operating Alaska			
Randolf Yost jack-up		Nikiski, OSK dock	Furie
Glacier Oil & Gas			
National 1320	35	Osprey Platform, activated	Glacier Oil & Gas
Kuukpik Drilling	5	King Salmon Platform	Hilcorp Alaska LLC

Mackenzie Rig Status

Canadian Beaufort Sea

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
SDC Drilling Inc.			
SSDC CANMAR Island Rig #2	SDC	Set down at Roland Bay	Available

Central Mackenzie Valley

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
Akita			
TSM-7000	37	Racked in Norman Well, NT	Available

The Alaska - Mackenzie Rig Report as of Sept. 28, 2017. Active drilling companies only listed.

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

This rig report was prepared by Marti Reeve

JUDY PATRICK

Baker Hughes North America rotary rig counts*

	Sept. 22	Sept. 15	Year Ago
United States	935	936	511
Canada	220	212	138
Gulf of Mexico	19	17	20

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

*Issued by Baker Hughes since 1944

● FINANCE & ECONOMY

Oil & gas still underpins AK economy

McDowell Group report underlines continuing importance of the industry to the state despite low oil prices & declining production

By ALAN BAILEY
Petroleum News

The oil and gas industry continues to be a major and vital player in Alaska's economy, according to the latest edition of the McDowell Group's annual report on the role of the industry in the state. The new report, which presents data from 2016, indicates that in that year the industry created directly and indirectly more than 103,000 jobs and $6 billion in wages in the state.

"No other private sector comes close to generating more economic impact in Alaska than Alaska's oil and gas industry," the report says.

Income of $1.2 billion from oil and gas royalties and taxes accounted for 72 percent of payments into the state government's unrestricted general fund, with an additional $518 million going into restricted funds. That 72 percent of unrestricted funding represents a drop from a peak of 93 percent in 2013, primarily as a consequence of the fall in the price of oil in conjunction with changes in the state's tax structure, the McDowell Group report says.

The report says that Alaska saw a net loss of 6,500 jobs and $680 million in wages between 2015 and 2016, almost entirely as a result of a drop in the amount of money flowing through the Alaska economy from the oil industry. However, North Slope oil production did tick up by 2.8 percent in 2016, the first increase seen for 14 years. Alaska crude oil production amounted to 6 percent of the U.S. total in 2016, the report says.

Private employment

In doing their analysis, the McDowell Group researchers identified 14 primary companies as providing direct impacts to the economy in terms of employment and wage income. These primary companies include oil and gas production and exploration companies; oil refineries; and Alyeska Pipeline Service Co.

In 2016 these primary companies employed 4,275 Alaska residents, who earned $749 million in wages. Total employees, including state residents and non-residents, amounted to 5,035. The companies spent $4.6 billion on services obtained from some 1,000 Alaska vendors, with those vendors in turn employing 6,095 Alaska residents in the service sector. Also taking into account additional jobs created by employees spending money in the state, oil industry spending in Alaska in 2016 created a total of 45,575 jobs and total wages of $3.1 billion. That amounted to about one in 10 of the total jobs and one in six of the private sector jobs in the state.

Taxes and royalties

Oil industry taxes and royalties create government jobs in the state as well as indirectly creating jobs and wages in the private sector. Also taking into account further employment induced by this economic activity, the tax and royalty payments generated 58,300 jobs and $2.9 billion in wages in the state in 2016.

In 2016 local governments in Alaska also benefited from the receipt of $559 million in oil and gas property taxes. These property taxes provide an especially high percentage of local government revenues on the North Slope and in Valdez.

Totting up the jobs and wages associated with primary companies, service companies, state and local government — and the induced or indirect impacts of these various jobs — leads to that total job figure of more than 103,000, about one third of the total wage and salary jobs in Alaska. For every primary company job there are nine additional jobs supported by primary company activity and 13 more jobs that derive from oil taxes and royalties, the McDowell Group report says.

Regional differences

Most of the employment and payroll impacts take place in six regions of the state: the Municipality of Anchorage, the Fairbanks North Star Borough, the Kenai Peninsula Borough, the Mat-Su Borough, the North Slope Borough and the city of Valdez. The biggest impact is in Anchorage, where the oil industry directly and indirectly generated more than 28,000 jobs and nearly $1.9 billion in wages in 2016. These figures do not include jobs and wages relating to government spending of oil and gas royalties and taxes, the McDowell Group report says.

The corresponding figures for Fairbanks were 2,961 jobs and $208 million in wages; for the Kenai Peninsula 5,045 jobs and $400 million in wages; for the Mat-Su Borough 3,270 jobs and $287 million in wages; for the North Slope Borough 1,845 jobs and $105 million in wages; and for Valdez 680 jobs and $71 million in wages.

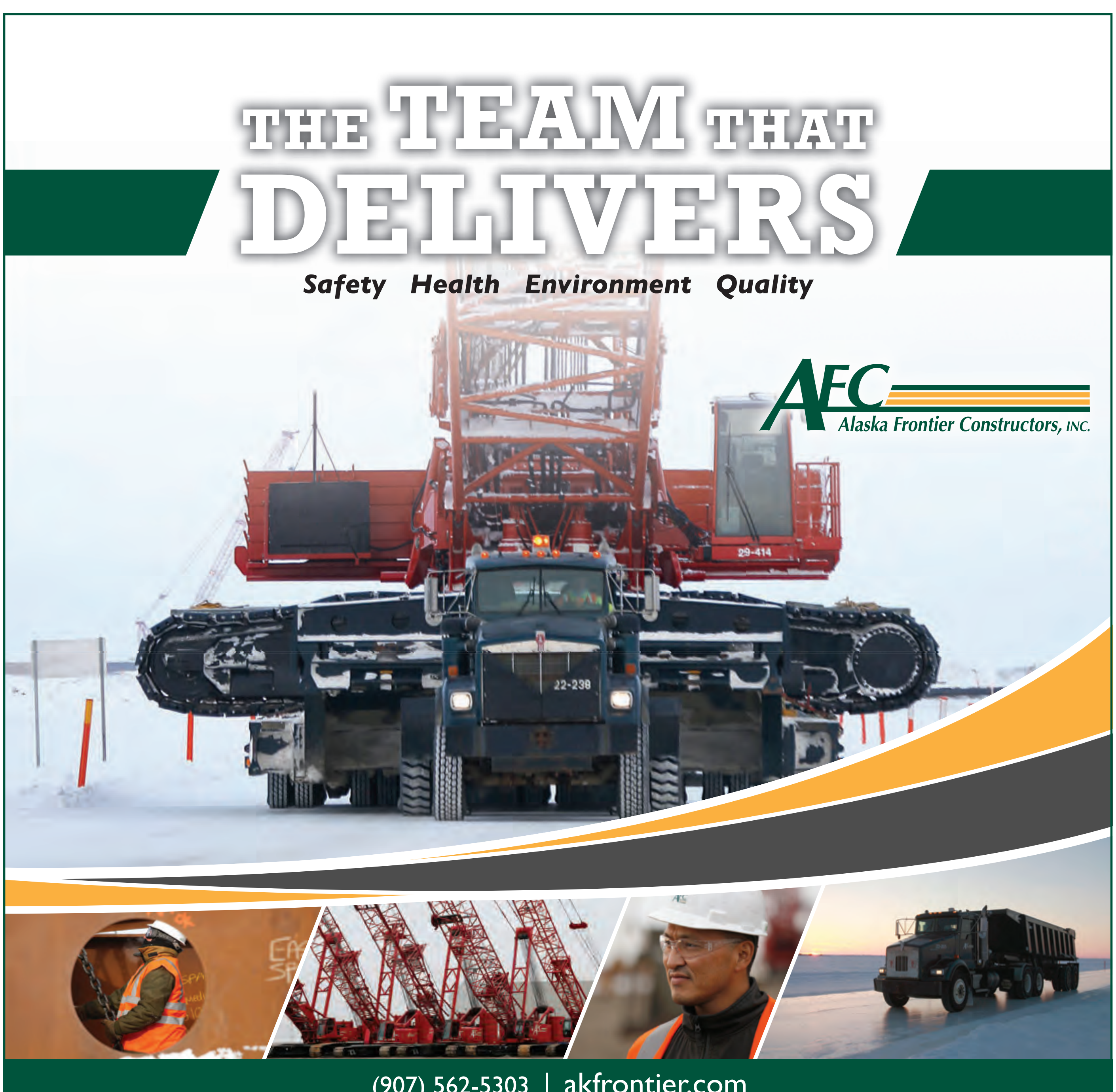
Funding of state programs

State oil and gas revenues fund a significant percentage of the activity of state government departments and of the state Legislature. Unrestricted oil revenue related funds account for 45 percent of all state government agency job positions. About $3.30 out of every $10 spent by the state and federal governments on the Medicaid program in Alaska can be attributed to oil and gas revenues. And $9 out of every $10 that the state spends on programs that earn a federal funding match come from these revenues. State oil and gas dollars also flow into various other government assisted programs in the state, including the public school system, the University of Alaska system and the Community Assistance Program.

Oil and gas money has also fed through into some capital projects in the state, including the refurbishment of the Loussac Library in Anchorage.

And a portion of oil and gas royalties goes into the state's Permanent Fund, the source of Permanent Fund dividends for Alaska residents, the McDowell Group report says. ●

Contact Alan Bailey at abailey@petroleumnews.com



NORTH OF 60 MINING news

page 8 Freeman: Winter coming to Alaska, so are mineral exploration results

www.MiningNewsNorth.com *The weekly mining newspaper for Alaska and Canada's North* **Week of October 1, 2017**

NORTHERN NEIGHBORS

Compiled by Shane Lasley

SHANE LASLEY

The Yukon River cuts through the White Gold District, a gold-rich region south of Dawson City.

White Gold expands Golden Saddle

White Gold Corp. Sep. 25 reported that its first two reverse circulation holes drilled at Golden Saddle deposit on the White Gold property in the Yukon has extended the gold mineralization there. Hole 17RC-001 cut 32 meters of 3.98 grams per metric ton gold from a depth of 19.8 meters; and 17RC-002 cut 25.9 meters of 2.24 g/t gold starting at 13.7 meters. The company said these grades are consistent with results from nearby diamond drilling and extend the main zone at Golden Saddle towards the surface. White Gold also said its technical team has generated new drill targets from recently completed geophysical surveys on trend with the Golden Saddle deposit, most notably the Golden Saddle East target which is located on strike and about 600 meters northeast of Golden Saddle. A technical review of data from previous operators has identified Ulli's, a target about 2,200 meters southwest of Golden Saddle and on trend. This zone is characterized by a significant gold-in-soil anomaly and the company said historical trench results which are comparable to those that led to the discovery of Golden Saddle. Ryan's target, another large gold-in-soils anomaly about 2,100 meters west of Golden Saddle has also been prioritized for drilling. All three new targets are slated for drilling this year. As of Sep. 25, White Gold had completed 1,970 meters of drilling in 11 RC holes and three diamond drill holes at Golden Saddle. Drilling is still in progress and additional holes are planned for the Golden Saddle and Arc zones.

TerraX discovers new gold target

TerraX Minerals Inc. Sep. 26 reported that its 2017 property-wide exploration program at its Yellowknife City Gold Project has discovered a new zone of high-grade gold mineralization a the Screamer Island target. Representative rock samples from wide zones of outcropping mineralization at Screamer Island, returned 27.9 grams per metric ton gold, 4.46 g/t gold, 4.15 g/t gold and 3.95 g/t gold. TerraX said the discovery at Screamer Island more than quadruples the strike length of the Sam Otto target, which lies about 3,500 meters to the north. "These results support our belief that Sam Otto is a large mineralized system which now extends over 5 kilometers (5,000 meters) with the potential for much higher grade," said TerraX CEO Joe Campbell. TerraX will be following up with channel sampling and enhanced ground geophysics analysis, which is expected to be completed this year. Surface exploration on the Yellowknife City Gold project this summer has collected more than 5,500 samples, assay results are pending from more than 4,800 samples.

New gold zone found near Eagle

Victoria Gold Corp. Sep. 25 reported results are from the

see **NORTHERN NEIGHBORS** *page 10*

PEBBLE LIMITED PARTNERSHIP

Field workers trek across the world's largest undeveloped copper and gold deposit at the Pebble project in Southwest Alaska.

PEBBLE

Meeting Pebble goals

Northern Dynasty remains confident in partner, permit application in 2017

By SHANE LASLEY

Mining News

Rolling into the final quarter, Northern Dynasty Minerals Ltd. remains confident that it will meets its ultimate 2017 goal of filing for the permits needed to develop a mine at the world-class copper deposit in Southwest Alaska by the end of the year.

"We entered the year with three objectives: settlement with EPA; re-partnering; and then getting the project description filed with the U.S. Army Corps of Engineers by the end of the year," Northern Dynasty CEO Ron Thiessen told Mining News on Sep. 26.

RON THIESSEN

The company aspired to have a global mining company join the Pebble Partnership by Oct. 1, but a settlement with the U.S. Environmental Protection Agency was a bit more complicated that originally though.

"It took a little longer, there was a little more complexity that we weren't aware of until we really got into it, but ultimately we got out of it exactly what I needed talk with major mining companies, potential partners," Thiessen said.

Objective 1: normalized permitting

What the Northern Dynasty CEO needed to finalize talks with potential Pebble partners was the ability to show that the largest undeveloped copper deposit on the planet is able to enter the "normalized permitting" process in the United States.

A 2014 Clean Water Act 404(c) determination by the EPA to put strict limits on any mine that could have permitted for Pebble, however, was far from normal.

Going into 2017, Northern Dynasty aspired to have these extraneous restrictions lifted by the end of the first quarter and did get EPA's agreement not to implement its proposed CWA Section 404(c) determination to restrict Pebble by May.

The definitive goal of normalized permitting, however, took a bit longer to achieve.

This was due to EPA's underlying determination still lingering, which posed potential complications if the U.S. Army Corps of Engineers decided to issue permits for Pebble.

Agreeing that it should completely withdraw its 2014 decision, EPA set in motion a process to completely do away with the pre-permitting restrictions and initiated a 90-day public comment period on its proposed withdrawal in July.

This comment and tribal consultation process wraps up on Oct. 10, after which EPA will make the final decision on whether to lift its Obama-era determination and open the door to normalized permitting for Pebble.

Final 2 objectives

Northern Dynasty, currently the sole owner of the Pebble Partnership, is now focused on its final two 2017 aspirations, signing on a global mining company as a Pebble partner and filing for permits to develop a mine at the world-class copper project.

With roughly 56.8 billion pounds copper, 70.4 million ounces gold, 3.4 billion lb molybdenum and 343.6 million oz silver in measured and indicated resource, the Pebble deposit is an attractive asset to global mining companies looking to replenish stores of copper and gold in a world where these metals are getting tougher to find.

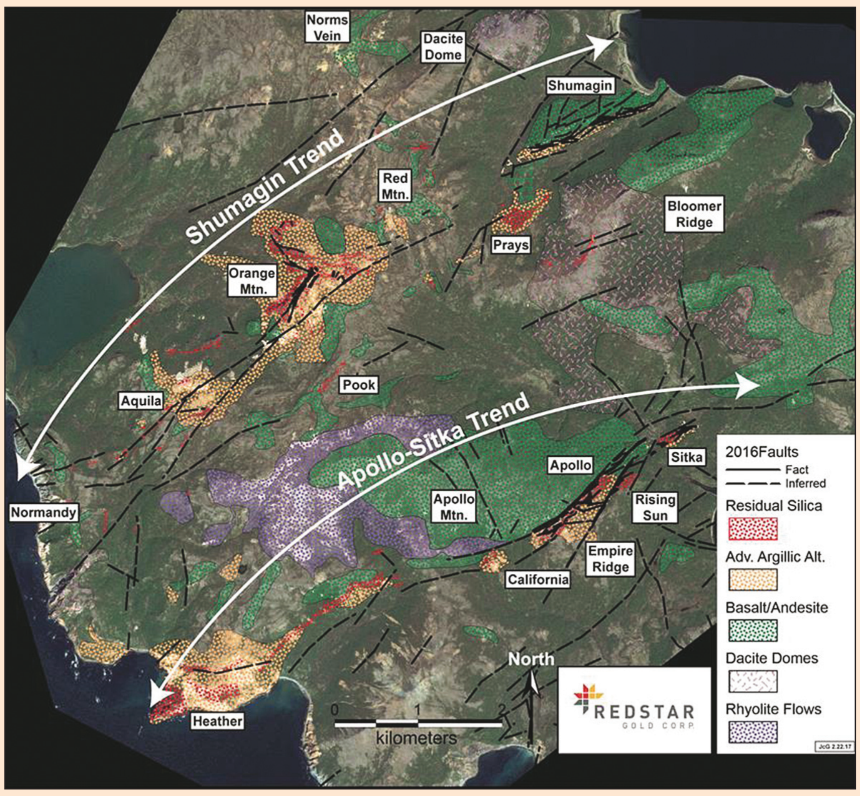
Pebble, which host both the largest undeveloped copper and undeveloped gold resource on the planet, is a great way for a mining company with global scope to ensure it continues to supply these metals for decades to come.

According to a 2011 preliminary economic assessment, a large-scale mine at Pebble could

see **PEBBLE GOALS** *page 10*

NEWS NUGGETS

Compiled by Shane Lasley



REDSTAR GOLD CORP.

Redstar Gold's fall drill program will continue to test high-grade gold expansion areas along the Shumagin Trend and may include the first drilling along the Apollo-Sitka Trend in nearly two decades.

Another round of Unga drilling

Redstar Gold Corp. Sep. 21 announced the start of a fall drill program at its Unga project on the Alaska Peninsula. This planned 3,750-meter program will primarily target the expansion of the main Shumagin zone, a 2,000-meter-long subset of this 9,000-meter (5.6 miles) Shumagin structural trend, at depth and along strike to the northeast towards and at depth below the Bunker Hill gold zone. Additionally, the company is finalizing a review of additional priority drill targets across its roughly 60,000-acre land package on Unga Island. This review may result in Redstar initiating its first drill program on the Apollo-Sitka Trend, as an add-on to the Shumagin gold zone drill program. Apollo-Sitka is a parallel trend about 3,000 meters south of the Shumagin Trend, where the Shumagin gold zone is located. Both trends extend across the entire width of Unga Island. Rising Sun, a gold zone about 500 meters east of the historic Apollo Mine, is the primary target being considered for drilling along the Apollo-Sitka trend. ●

Petroleum news

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

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

NEWS • 907.229.6289
publisher@miningnewsnorth.com

CIRCULATION • 907.522.9469
circulation@petroleumnews.com

ADVERTISING
Susan Crane • 907.770.5592
scrane@petroleumnews.com

FAX FOR ALL DEPARTMENTS
907.522.9583

Several of the individuals listed above are independent contractors

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● COLUMN

As winter rolls in, so do field results

Survey reveals top 10 mining risks have shifted sharply in recent years; the big three in 2008 failed to even make the cut in 2017

By CURT FREEMAN

Special to Mining News

As the first snows of the coming winter began to fall at high elevations across Alaska, results of summer programs likewise began to trickle in from far-flung areas of the state.

Meanwhile, second- and third-quarter production data began to show up and mining industry analysts released a series of reports covering a wide range of industry-wide trends.

For example, SNL Metals and Mining Research released information on how long it takes to move a new discovery to production. Data varies widely, ranging from less than five years to greater than 30 years but generally averaging 10 to 20 years.

Underground mines averaged four years longer to get into production and, on average, there did not seem to be a significant difference between permitting a large throughput mine versus a smaller throughput mine.

In another recent report from EY, a review revisited the top 10 risks to mining development. According to this survey, the top risk currently is "Cash Optimization," followed by "Capital Access" and then "Productivity".

A comparison with the same survey from 2015 shows that today's highest risk category was not even in the top 10 risks for 2015. Looking back to the financial crash year of 2008, the top three highest risks were "Skills Shortages, Industry Consolidation" and "Infrastructure Access," none of which made the top 10 highest risks for the 2017 survey.

As might be expected, the top 10 perceived risks vary by commodity but not as much as you might think. For many metals – gold, silver, the platinum group elements, copper, and nickel – price and currency volatility are the biggest perceived risks - nothing new or surprising there.

But what was surprising: the top perceived risk for lead-zinc was "Switch to Growth" followed by "Pipeline Shrinkage", a one-two punch that suggests these two metals will enjoy the recent strong prices for some time to come.

Western Alaska

SOLITARIO ZINC CORP. announced that is has initiated metallurgical testing to determine the potential to recover silver at its recently acquired Lik zinc-lead project in Alaska. The current lead-zinc resource averages about 50 grams of silver per metric ton. However, metallurgical testing to date has focused on maximizing recovery of zinc and lead with virtually no work conducted on silver recovery. In the 2014 preliminary economic assessment conducted on the project, the economic model assumed less than 5 percent silver recovery in the combined zinc and lead concentrates combined. With about 29.1 million ounces of silver in the indicated resource category, and another 6.5 million oz. in the inferred resource category, there is potential for a significant benefit to project economics if silver recoveries can be improved. Testing is underway on this analysis with results expected in late 2017.

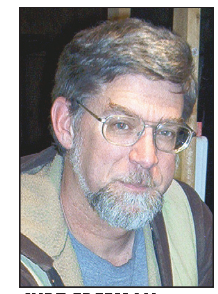
REDSTAR GOLD CORP. announced the approval of a 3,750-meter fall drilling program to follow up on encouraging drilling from recently completed geophysical and geochemical surveys and a 12-hole, 2,287-meter drilling program at its Unga gold-silver project near Sand Point. Drilling intersected the targeted Shumagin-style breccia structure in 10 out of 12 drill holes, including visible gold-bearing stockwork encountered in two holes. Significant drill results include hole 17SH032, which intersected 1.0 meters grading 2.12 g/t gold and 27 g/t silver, hole 17SH033, which intersected 0.7 meters grading 5.69 g/t gold and 30 g/t silver and hole 17SH034, which intersected 2.2 meters grading 9.9 g/t gold and 29.3 g/t silver. Mineralization has now been traced over 1,350 meters of strike along the Shumagin gold zone and remains open to expansion. The Shumagin gold zone is one of more than 14 gold-silver-bearing structures totaling close to 35 line-kilometers of combined strike length. The fall drill program will target the expansion of the main Shumagin gold zone at depth and along strike to the northeast towards and below the historic Bunker Hill gold zone. The company is also reviewing other drill targets that may be tested during the fall program, including the Rising Sun prospect on the nine-kilometers-plus-long Apollo-Sitka gold trend.

Interior Alaska

ENDURANCE GOLD CORP. reported the results of geochemical sampling completed on its newly acquired South Fork, Trout and Wolverine prospects, part of its Elephant project in the Rampart-Eureka-Manley Hot Springs district. At the South Fork target, an east-west striking mineralized structure returned values up to 6.60 g/t gold, corroborating previous sampling that assayed up to 11.98 g/t gold. Mineralization within the structure is related to oxidized sulfides associated

see **FREEMAN** page 9

The author



CURT FREEMAN

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

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with intermittent quartz veining, vein stockwork, and quartz-healed breccia hosted in hornfels altered clastic sediments. These samples also contained anomalous lead (up to 1.940 percent), arsenic (>1 percent), bismuth (up to 21.6 parts per million and silver (up to 10.25 g/t silver). Follow-up work included collection of 132 soil samples and 102 additional rock samples over a 1,000-meter by 300-meter target area. At the Trout prospect, additional rock and soil sampling was completed to follow up previous grab-sample results, which returned up to 9.64 g/t gold. Mineralization occurs in a northeast-southwest trending shear zone hosted within a syenomonzonite intrusive plug. Limited follow-up prospecting and rock sampling at the Wolverine prospect confirmed the presence of visible gold in a quartz vein hosted by felsic plutonic rocks. Additional follow-up work is planned and additional assays at the South Fork, Trout and Wolverine prospects.

CONTANGO ORE INC. reported additional drilling results from its Phase II drilling program at the Peak gold project (formerly Tetlin project), a joint venture with a subsidiary of operator **ROYAL GOLD INC.** Significant results from the West Peak Extension zone included hole 17379, which intercepted 8.1 meters with a grade of 5.22 g/t gold starting at 103 meters and an additional 29 meters grading 2.53 g/t gold from 117 meters. The new mineralization is open up-dip to the southwest, down-dip to the southeast as well as along strike on the undrilled north side of the Main Peak deposit. The companies also announced results from 48-hour cyanide leach bottle roll metallurgical testing on samples from the North Peak zone. Results showed that gold recoveries from 19 composites in the samples ranged from 90.4 percent to 99.6 percent and averaged 97.5 percent. Only three of the 19 composites were lower than 93 percent gold extraction. The majority of the composites (15 of 19) demonstrated gold leaching was primarily complete within 24 hours. Average silver extraction was 65 percent (low of 26 percent; high of 92 percent) with silver grades ranging from 2.0 g/t to 147 g/t silver. Three new holes also were drilled for metallurgical purposes in the Main Peak zone and will be submitted for 48-hour cyanide leach bottle roll testing similar to the previously described North Peak composites. As expected, these holes intercepted significant grade-thickness intervals, including hole 17393, which cut 18.38 meters grading 3.22 g/t gold starting at 2.1 meters, and 43.84 meters grading 6.93 g/t gold, starting at 27.9 meters and 23.13 meters grading 12.56 g/t gold, starting at 111.8 meters, hole 17395 which intercepted 140.86 meters grading 13.27 g/t gold, starting at 78.5 meters, and hole 17397, which intercepted 24.42 meters grading

> *"In another recent report from EY, a review revisited the top 10 risks to mining development. According to this survey, the top risk currently is 'Cash Optimization,' followed by 'Capital Access' and then 'Productivity'."*
> *– Curt Freeman, columnist*

12.42 g/t gold starting at 23.47 meters and 65.77 meters grading 20.14 g/t gold starting at 99.4 meters. The company also reported its first surface recon results from the Noah prospect, several kilometers southwest of the resource area. Results include multiple gold-bearing samples in streams draining the Hona prospect, and visible gold in pan concentrate samples from elsewhere on the Noah block. Assay results from this work are pending. A phase 3 drilling program has been approved for September-October. This drilling will further explore the West Peak Extension and drill additional holes on two other prospects. The budget for phase 3 is roughly US$1.5 million bringing spending for the calendar year 2017 to about US$11.8 million. Phase 3 spending is expected to bring Royal Gold's cumulative spending very close to the $30 million aggregate contribution that would result in that company owning 40 percent of the joint venture, with Contango owning the remaining 60 percent.

Alaska Range

POLARX LTD. (formerly Coventry Resources) announced the start of drilling on the Stellar copper-gold project in the central Alaska Range. Diamond drilling with two rigs is underway at the high-grade Zackly copper-gold deposit to complete 3,000 meters of core drilling in 25 holes. One rig will complete about 1,400 meters of core drilling in 12 holes to evaluate the eastern and western extensions of the Main Skarn already identified in previous induced polarization surveys. The second rig is conducting confirmation drilling of about 1,600 meters in 12 holes within the historically drilled Main Skarn resource to verify grade-thickness intervals and allow an industry-compliant resource estimate to be completed. Historic resources at Zackly stand at 1.5 million metric tons, grading 2.9 percent copper and 4.51 g/t gold. The twinned holes also will provide structural details and material for use in metallurgical test work programs to evaluate current processing options for Zackly skarn mineralization. In addition, the company indicated that baseline environmental work also has been commissioned and will include ground- and surface-water monitoring and wetlands determination studies.

Northern Alaska

TRILOGY METALS INC. and funding partner South32 Limited announced initial high-grade copper results from this summer's exploration diamond drilling program at the Bornite deposit at its Upper Kobuk Mineral project, a business relationship owned and controlled by Trilogy and **NANA REGIONAL CORPORATION** Results from the first three holes are available comprising 3,083 meters of the in-progress 10,000-meter drill campaign. Significant results include hole RC17-234, which intersected three mineralized intervals totaling 83.8 meters averaging 1.10 percent copper, hole RC17-235W intersected two mineralized intervals totaling 33 meters averaging 0.90 percent copper and hole RC17-236 intersected two mineralized intervals totaling 116.4 meters averaging 1.06 percent copper. These three holes offset mineralization to the north and east from previously drilled hole RC13-224, which intersected 236 meters of 1.9 percent copper. The company also reported significant cobalt mineralization occurring as the mineral carrollite and associated with one or more stages of pyrite – particularly in the higher grade copper zones with bornite and chalcocite. More geochemical and metallurgical work is planned to determine the distribution and metallurgical characteristics of cobalt. Bornite mineralization has not been traced over a 1,500- by 2,500-meter area and remains open to the northeast. Grade – thickness maps have revealed a previously unrecognized northwest orientation and recently completed gravity surveys have shown promising results. The company indicated that an additional six holes will be completed during the 2017 field program.

GOLDRICH MINING CO. reported production figures for Goldrich NyacAU Placer LLC through the end of July for its Chandalar placer gold mine in the Brooks Range. Gold production through July was about 7,262 oz. of alluvial gold, equivalent to roughly 6,050 oz. of fine gold. Production for the same period in 2016 was about 5,565 oz. of alluvial gold, equivalent to roughly 4,484 oz. of fine gold. Subject to weather, gold production at Chandalar should continue through mid-September.

Southeast Alaska

HECLA MINING CO. reported updated production results for the second quarter 2017 and updated annual production estimates at its Greens Creek mine. The mine's second- quarter production of 1,932,047 oz. of silver was significantly less than the second quarter of 2016 production of 2,117,084 oz. Gold production was 12,704 ounces versus 11,528 ounces in the same period in 2016. Operating costs decreased significantly to $1.86 per ounce of silver versus $5.38 per ounce of silver in the year-previous period. The average grade of ore mined during the quarter was 12.11 ounces of silver per ton, down from the average grade of 13.25 ounces per ton that was mined in the second quarter of 2016. During the second quarter the mine also produced 4,420 tons of lead and 12,966 tons of zinc. The mill processed 210,788 tons of ore during the quarter, up from 203,388 tons milled in the year-previous period. Decreased silver production resulted from lower average grades and higher mill throughput, which averaged 2,316 tons per day in the second quarter. On the exploration front, drilling of the East Ore Zone compares favorably to previously modeled

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VICTORIA GOLD CORP.

A load of core being hauled back to camp from Victoria Gold's expansive drill program at Dublin Gulch that is testing expansion zones near the Eagle Mine project and new exploration targets across the wider property.

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NORTHERN NEIGHBORS

14 exploration holes drilled at the Eagle Extension zone, a previously under-tested area immediately west of the proposed Eagle Gold Mine. Highlights include: 21.3 meters of 0.64 grams per metric ton gold starting at a depth of 50.3 meters; 64 meters of 0.52 g/t gold from 30.5 meters; and 26.7 meters of 0.76 g/t gold from 43.3 meters. Earlier this year, Victoria Gold had similar success in drilling Eagle West, another zone that had limited previous drilling about 200 meters north of Eagle Extension. Earlier this month, Victoria broke ground on development of the Eagle Gold Mine, an open-pit, heap-leach operation at Eagle Gold is expected to produce 190,000 ounces of gold annually over a 10-year mine life from 116 million metric tons of reserves averaging 0.67 g/t (2.66 million oz) gold outlined prior to a 2016 updated feasibility study for the project.

Drills tap 5.85 oz/t gold at Klaza

Rockhaven Resources Ltd. Sep. 26 reported the highest grade gold intercepts so far from drilling at its Klaza gold-silver property in southern Yukon. The company published results from another 21 holes of a 96-hole, 15,922-meter drill program completed at Klaza this year. Highlights from this drilling include 182 grams (5.85 ounces) per metric ton gold and 0.61 g/t silver over 0.61 meters, and 7 g/t gold and 7.12 g/t silver over 2.92 meters in hole 376; 4.18 g/t gold and 30.18 g/t silver over 6.94 meters in hole 370; 13.38 g/t gold and 397 g/t silver over 1.05 meters in hole 383; and 4.41 g/t gold and 23 g/t silver over 5.81 meters in hole 372. The high-grade gold in hole 376 was intersected in the Central Klaza zone. A 2016 preliminary economic assessment for Klaza envisions a 1,500-metric-ton-per-day process plant producing 630,000 oz gold, 11.35 million oz silver, 52.46 million lb zinc and 51.23 million lb lead over an initial 14-year mine life. Since the completion of the PEA, Rockhaven has focused on metallurgical work, resource expansion and infill drilling to enhance the economics of mining Klaza. Many of the intercepts from 49 holes reported to date from the 2017 program lie outside of the current mineral resource and mine plan. In addition to resource upgrade and expansion, core from this year's program will be used for additional metallurgical testing, which is necessary to incorporate the Eastern BRX Zone into future economic studies. ●

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PEBBLE GOALS

produce 31 billion lb of copper, 30 million oz of gold, 1.4 billion lb of molybdenum, 140 million oz silver, 2.6 million lb of rhenium and 907,000 oz of palladium over a 45-year mine-life while only mining about 32 percent of the resource.

Despite the multi-generational size of this deposit, the mine proposed for permitting will likely be "a smaller, environmentally-optimized project" than considered in the PEA.

Focused on areas of the Pebble deposit that come right to the surface, this more modest operation will be less expensive to develop, produce less waste from the removal of overburden and have a smaller overall environmental footprint.

"We are going to try to make it the smallest we can and still have enough economics that not only provides something for shareholders and investors, but for the Bristol Bay region at large, "Thiessen explained.

For Northern Dynasty and any future partner, this smaller project will be easier to permit.

Thiessen said global mining companies considering becoming Pebble partners agree that a smaller mine is the best way to start at Pebble.

"I've found some enlightened people that are completely on-side with that approach," he said, referring to prospective Pebble partners.

While Northern Dynasty won't meet its initial goal of signing one or more of these enlightened companies to the Pebble Partnership by the end of the third quarter, the company believes a deal will be finalized soon.

With prospective partners agreeing that the environmentally-optimized mine being designed by the Pebble Partnership is the best approach for the project, Northern Dynasty believes that it can still obtain its third objective of having a project ready to file for permitting by the end of 2017.

"I feel that is going to be available for us to submit to the Army Corps of Engineers by the end of the year," Thiessen told Mining News. ●

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resource estimates at higher elevations that may expand the current resource model. Recent intersections include 26.7 ounces of silver per ton, 0.10 ounces of gold per ton, 10.0 percent zinc, and 5.4 percent lead over 5.6 feet and 29.7 ounces of silver per ton, 0.07 ounces of gold per ton, 1.8 percent zinc, and 1.0 percent lead over 5.4 feet. At the West Zone significant intervals include 643.5 ounces of silver per ton, 1.8 ounces of gold per ton, 14.9 percent zinc, and 7.8 percent lead over 4.8 feet and 31.7 ounces of silver per ton, 0.21 ounces of gold per ton, 13.6 percent zinc, and 6.5 percent lead over 4.6 feet. Recent assay results from the 9A Zone include 27.5 ounces of silver per ton, 0.03 ounces of gold per ton, 15.8 percent zinc, and 7.9 percent lead over 8.2 feet and 10.4 ounces of silver per ton, 0.04 ounces of gold per ton, 11.3 percent zinc, and 2.2 percent lead over 45.0 feet. Drilling of the Deep Southwest Zone identified mineralization that extends north of previous mining in the zone and down to the upper limb of the NWW. Recent assay results include 47.2 ounces of silver per ton, 0.22 ounces of gold per ton, 4.3 percent zinc, and 2.0 percent lead over 7.9 feet.

"But what was surprising: The top perceived risk for lead-zinc was "Switch to Growth" followed by "Pipeline Shrinkage", a one-two punch that suggests these two metals will enjoy the recent strong prices for some time to come."
– Curt Freeman, columnist

GRANDE PORTAGE RESOURCES LTD. announced that it has drilled 2,870 meters of a planned 3,700 meters of core drilling at its Herbert project, a mesothermal vein gold deposit near Juneau. The majority of these holes were designed to expand the strike length of the Goat vein, currently the northernmost drilled vein and to also intercept the Main vein. Drilling and surface sampling have extended the Goat vein strike to at least 700 meters and it has been intercepted in drilling to a depth of at least 200 meters. One of the new Goat vein outcrops consists of about four feet of quartz outcrop with disseminated arsenopyrite, pyrite, galena and sphalerite and visible gold. Hanging wall alteration of the quartz diorite host rock reaches at least six feet thick and the footwall contact zone is covered by gravel. Representative grab samples over a four-foot width of the exposed Goat vein at this location 231 g/t gold and 49.8 g/t silver. Assays from drilling completed to date are pending however, hole 17U-1 intersected over 10 meters of mineralized structure of the Deep Trench vein over 400 meters below surface and 17U-2 intersected nearly 15 meters of mineralized structure of the Main vein 300 meters below the surface outcrop. ●

● UTILITIES

Utilities make power pooling progress

CEA, ML&P and MEA establish processes for making maximum use of cheapest electrical power to reduce cost in region

By ALAN BAILEY
Petroleum News

The Alaska Railbelt electricity utilities have been making significant progress towards the pooling of their power generation capacity, to reduce the cost of electricity for consumers, executives from the utilities told the Regulatory Commission of Alaska on Sept. 27. The idea is to make maximum use of the cheapest available power, regardless of who owns the power generation and transmission facilities.

Following a directive to RCA from the state Legislature to investigate the potential for unification of the Railbelt transmission grid, including the implementation of what is referred to as economic dispatch, the continuous pooling of the most efficient sources of electrical power, in June 2015 the commission issued an opinion that unification should proceed. Since then, the commission has been monitoring voluntary efforts by the utilities to move towards a more unified approach. The Sept. 27 RCA meeting was designed as a review of progress towards the economic dispatch paradigm.

20-year commitment

In January the three Southcentral utilities, Chugach Electric Association, Municipal Light & Power and Matanuska Electric Association, signed a 20-year commitment to pool the operation of their generation and transmission assets. The agreement involved a one-year period for the development of the necessary processes and procedures. Progress has now been made, with the specification of procedures for the joint dispatch of power and the settlement of power sales, together with testing and refinement of these procedures, the utilities told the commission during the Sept. 27 meeting.

The two most efficient plants in Southcentral are the Southcentral Power Project, owned by Chugach Electric and ML&P, and Plant 2A, owned by ML&P. These are state-of-the-art, gas-fired, combined-cycle power generation systems.

Since August the SPP and Plant 2A have been loaded to a capacity factor above 90 percent, thus enabling high efficiency use of these systems, Jeff Warner from ML&P told the commissioners. The Southcentral utilities also use hydropower, in particular from the Bradley Lake hydropower system on the Kenai Peninsula. The concept is then to use MEA's Eklutna Generation Station to handle peaking power supplies, dealing with peaks in power demand above the base power usage, Warner explained. The EGS's bank of gas-fueled, reciprocating engines powering its generators makes this power plant especially suitable for following varying loads.

Other utilities involved

In addition to the three Southcentral utilities, Golden Valley Electric Association, based in Fairbanks, and Homer Electric Association, on the Kenai Peninsula, have been involved in the development of the power pooling procedures. These utilities are interested in the possibility of joining the pool but have not yet decided to do so.

> *The two most efficient plants in Southcentral are the Southcentral Power Project, owned by Chugach Electric and ML&P, and Plant 2A, owned by ML&P.*

For the time being, they will become subscribers to the pool, buying power from the pool as necessary, in conjunction with using their own power sources.

Henry Dale, a consultant for GVEA, told the commission that the Fairbanks utility has some issues that need to be resolved before the utility can commit to a 20-year power pooling agreement. In particular, there are complications relating to the potential incorporation of GVEA's Eva Creek wind farm into the pool. And the pooling procedures developed thus far will not adequately address large power load swings associated with gold mines that GVEA serves, Dale said.

Larry Jorgensen, director of power, fuels and dispatch for Homer Electric Association, said that the fact that there is just a single transmission intertie between the Kenai Peninsula and the rest of the Railbelt transmission grid currently presents an obstacle to HEA joining the Southcentral power pool. HEA has sufficient power generation facilities on the peninsula to assure reliable power supplies in the event of the transmission line going down. But HEA would be interested in joining the pool if the transmission constraint is removed, Jorgensen said.

"HEA is very supportive of the power pooling effort and very involved in the whole process," he said.

Mark Fouts, Chugach Electric's executive manager of fuel and corporate planning, explained to the commissioners how the new Southcentral power pooling arrangements have been moving ahead. An

see POWER POOLING page 12

GOVERNMENT

New regs out for oil property assessments

The Alaska Department of Revenue has proposed regulation changes affecting the oil and gas property tax out for comment until Oct. 24. The department is also taking written questions relevant to the proposed changes: questions must be received at least 10 days prior to the end of the public comment period. The questions and responses, aggregated for substantially similar questions, will be available online.

Proposed regulation changes are available online at www.tax.alaska.gov.

The proposed changes add detail to regulations on valuation of oil and gas properties, with value to be determined on replacement cost less depreciation.

Before regular production begins, "full and true value will be the actual cost incurred or accrued as of the assessment date" and after production begins replacement cost will be calculated each Jan. 1, reflecting "the full current cost of a modern replacement."

> *The proposed changes add detail to regulations on valuation of oil and gas properties, with value to be determined on replacement cost less depreciation.*

Depreciation will be calculated Jan. 1 using one of two methods: Where production is ramping up or on plateau, depreciation will be a 1 percent deduction to the replacement cost each year; and when production is in decline, a quotient will be applied obtained by dividing calendar year production by historic calendar year peak production.

The proposed regulations further say that depreciation of the replacement cost shall not exceed 80 percent in any assessment year in which the property is in production and shall not exceed 90 percent for a production property no longer in operation but not yet dismantled and removed.

The department is not to deviate from these provisions unless there are extenuating circumstances "determined by the department in its sole discretion." Such circumstances could "include reservoirs that immediately and significantly underperform resulting in abnormal and excessive super-adequacy of a property, and reservoirs that significantly over perform resulting in the facility constraint of a property."

—KRISTEN NELSON

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POWER POOLING

operations committee has been overseeing the procedure development process, with three other committees dealing with power dispatch procedures, the process for settling power sales and the implementation of computer software for managing and operating the system.

The utilities tested new power dispatch procedures in July. Following subsequent refinement of the procedures, by September the utilities in the pool established a power sales settlement process. The next step is to establish a settlement process for the utilities that subscribe to the system rather than participate in the pool, Fouts said. The utilities are also in the process of selecting and preparing the required computer software and control systems for the joint power scheduling, dispatching and settlement arrangements. Ultimately, the utilities will file details of the pooling arrangements with the commission for approval, Fouts said.

The next step is to establish a settlement process for the utilities that subscribe to the system rather than participate in the pool, Fouts said.

Under the procedures, each day a central scheduling service will schedule for the next day the optimum use of generation and transmission assets, and the scheduling of the necessary fuel supplies. The scheduling will take into account the anticipated electricity load profile and the availability of the various assets. On the following day, each utility's dispatch center will manage the use of the assets, using the centralized scheduling plan. The settlement of payments to the utilities for the use of their assets will then be conducted using a computer system.

A computer system will operate the power dispatch automatically, able to respond to changes much more quickly than a human operator. Then, in the settlement process, a utility that has produced more energy than it has used will be considered an energy seller, while a utility that produces less than it uses will be viewed as a buyer. The power cost savings will then be split between the buyers and sellers of the power.

Procedures will in addition settle the cost of regulating the power to cover short-term fluctuations in load, and to settle the cost of spinning reserves, the reserve power needed to assure the reliability of the power supplies. ●

Contact Alan Bailey at abailey@petroleumnews.com

Oil Patch Bits

SafeVision announces prescription safety glasses for everyday

SafeVision recently said that it provides stylish light weight safety glass frames. Everyone should choose an American National Standards Institute certified safety glasses as their regular glasses. ANSI is a non-profit, non-governmental organization that works to improve the efficiency of organizations, often by improving safety. Their set of standards know as ANSI Z87.1 is specifically focused on safety glasses. More than 2.4 million eye injuries occur in the U.S. each year. Using protective eyewear can prevent 90 percent of all eye injuries.

Nearly half of all eye injuries occur in and around the home. Many of them serious, requiring immediate attention. Hazardous products like hot oil, oven cleaner, bleach, chlorine as well as everyday products like toothpaste, mouthwash or just hot water can cause serious eye injury. Projectiles from hammering nails, drilling wood or metal, or fragments from hard surfaces can permanently injure your eyes. That is why the American Academy of Ophthalmology and the American Society of Ocular Trauma recommend approved protective eyewear in every home.

SafeVision offers many new light weight stylish prescription ANSI Safety Glasses at affordable prices. Now you can protect your eyes in your home, at work and when you're active in sports. For more information visit www.safevision.net.

Arctic Slope Regional Corp. announces new acquisition

Arctic Slope Regional Corp. said it is pleased to announce the acquisition of US Coatings Inc. by its wholly owned subsidiary ASRC Industrial Services LLC.

Headquartered in Mobile, Alabama, USC was founded more than 10 years ago. USC is a specialty industrial services contractor serving the marine industry. USC specializes in providing interior tank coating, cleaning and surface preparation services for assorted Maine vessel tanks, including cargo, ballast and freshwater. Additionally, USC is an applicator of advanced coatings and protective systems for marine hulls, decks and superstructures. USC operates across the Gulf Coast, in the Midwest and the Mid-Atlantic serving multiple end-markets within the marine industry — including transportation, logistics, tourism, leisure, commercial fishing and the federal government. USC will become a component of AIS's construction, maintenance and repair operating group.

"On behalf of ASRC's board of directors, I am pleased to welcome the talented employees of US Coatings to the ASRC family of companies," said Rex A. Rock Sr., president and CEO of ASRC. "The acquisition of USC demonstrates continued progress and commitment to the execution of the AIS strategy that was announced last September and we believe will deliver long-term value for ASRC shareholders."

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PERSILY Q&A

Alaska Energy Authority are. So, it was no surprise. Yes, it's a state entity. To the extent that the Alaska Gasline Development Corp. owns a piece of the project, their piece would be exempt from federal corporate income taxes. I didn't see that as much news. The question is how much of it are they going to own. If they own 25 percent, that means the private partners who own 75 percent, they are still going to have to pay corporate income tax. I guess I saw it as a non-event, sort of re-affirming what I thought would be the answer. In terms how of it affects the economics, it really comes down to how much of the project the state owns and what's the corporate ownership structure. It's nice to have that affirmation. There is some value to that sure.

Petroleum News: The bottom line is you didn't learn anything you hadn't already suspected?

Persily: Not to me, no.

Petroleum News: What global hurdles are there for this project, then we'll bring it closer to home.

Persily: The global hurdles are how much LNG is the world going to need in the future and where can they get it cheaper or at less project risk. Those hurdles determining the market demand are China's converting from coal to gas, India's conversion to gas, Japan's nuclear plants, LNG competition from Russia, Qatar, Tanzania, Mozambique and the U.S. Gulf Coast. There are a lot of variables out there on that.

Petroleum News: Closer to home, what variables do you see?

Persily: You're in a very competitive environment. We are not the only developer out there trying to sell an LNG project. The hurdles are can you compete on price and project risk? If someone signs a contract with you, can you really deliver the first cargo on the day you promised and at the price you promised? The lenders and your customers want to know you can really deliver five years out or six years out — whatever it is — from the day they signed the contract to the day that first tanker is supposed to dock at the first receiving terminal. I think there is some concern in the market in (the project's) current form whether Alaska can because the band is not back together. You don't have the producers and the state in an agreement. The producers might sell the gas but they are not in agreement on the structure and now you've got the state and Exxon fighting again. That doesn't help.

Petroleum News: Well, let's talk about that for a minute. What is your take on the dispute? Is this something that goes back to Gov. Walker's longstanding disagreement with how Point Thomson was handled or something else?

Persily: Point Thomson goes back through more governors than just Gov. Walker. Yes it's a longstanding point of contention between the state and Exxon is the lead partner in the development. I will say there are some very good reasons why Point Thomson was not developed, there are some very good reasons it's not working as expected and some very good reasons why if I were a company I'm not sure I would want to put billions more into it right now.

I don't see anyone else wanting to. Chevron walked away from its share of Point Thomson. Conoco earlier this year told its partners, "hey, here are the keys, we are walking away too." Point Thomson is not a big money maker. I believe Exxon and the state will settle this one as they should. I've got to believe all parties will be reasonable about it. There will be more headlines about it. That's for sure. That's just the way we do things here in Alaska.

Petroleum News: OK, back to AKLNG. What's the mood or the tone been like as the project's viability has changed these last three years in your backyard on the Kenai?

Persily: I think generally the residents of Nikiski have accepted the inevitability that construction will not start this decade. At some time in the future, they hope and believe this will still go ahead. For those who sold their property when AKLNG was buying, I haven't heard from anyone regrets for selling. For those who didn't sell because they didn't think they were getting enough for their property, I've heard a few say gee I wish I had sold when I had the chance. Others are content to enjoy their property until it comes up again. More generally, as opposed to specific property owners, like most Alaskans, they are disappointed in the sense that we thought we were getting close and we are closer but we aren't there yet. I think people are accepting that there are still more chapters to write in this one.

Petroleum News: Walker missed his self-imposed deadline, though it was a soft deadline. Is there anything to make of this?

Persily: It was more of a we got interest and I'm spending what you gave me, but it really wasn't a deadline like March 31, if you don't apply for a PFD you won't get it. This is much softer than the Permanent Fund Dividend application deadline is what I'm trying to say. The money was appropriated by the Legislature, so unless someone takes away your money, keep going with the marching orders you were given. I know there were many legislators who were skeptical but obviously the Legislature this year considered taking back some of the money but decided no, let's let it play out and see how it goes. They had the chance and didn't.

Petroleum News: Let's say they get FERC authorization, what would that mean?

Persily: It certainly helps in the market to say look I've got my federal environmental authorization as opposed to I don't. It makes you more real so that's good. It eliminates some risk. It's "OK, now I've got that. I don't have to worry about that getting stretched out or delayed. I know how much it costs me. I know what conditions they imposed on the project." There is value to it.

Petroleum News: Let's slide over to oil and gas. Why do you suppose oil tax bills continue to come up almost annually?

Persily: Because we don't have a professional sports team in Alaska to cheer for so this is our recreation. It's unfortunate for all of a lot of reasons: It detracts us from dealing with the real problems like our fiscal gap; it consumes all of the political energy in the room; it dominates the elections; it's not very productive. But we do it to ourselves because we are so overly dependent and so addicted for two generations to this one source of revenue so we don't have to pay out of our own pocket. It continues as the dominant debate point in Alaska politics. There were years where the industry used its political sway to keep taxes too low, I think. Then under Murkowski and Palin the pendulum swung too far the other way and taxes were too high. So when you have dissatisfaction, you're going to have volatility.

We see it in the national debate over the Affordable Care Act. It was just Democrats who passed it. For seven years, the Republicans said we are going to fix it. If they pass a new version, the next time it will change to Democrats and it will go back again. It's been so divisive, as with this oil tax debate in Alaska. We just go back and forth with who is in charge and that's not healthy. It would be great if we could go 10 years without an oil tax bill, a referendum, an initiative or misleading and deceitful social media advertising and accusations. It would wonderful on all sides. We have other problems. We have opioid addiction. We have an aging population. We have healthcare issues. We have a fiscal future that needs attention. We've got a lot going on in this state rather than wondering if the 2018 election is going to be about oil and gas taxes again.

Petroleum News: Let's go federal. Back in late May, early June, Interior Secretary Zinke paid Alaska a visit. What are your takeaways from getting a visit from the Interior secretary pretty early into his tenure with the administration?

Persily: Yawn. He's got to go somewhere. He's probably going to go to some western states. He's not going to Delaware or Rhode Island. The administration is courting Sen. Murkowski's favor on many issues. His heart it appears is on western state federal land issues so it makes sense that he comes to Alaska. He has limited time. Out of the 50 states, we would be more of a priority than a state with minimal federal land issues. This administration certainly believes in more oil and gas drilling and fewer restrictions on the use of federal land, so it seems logical that he comes to the state that has the most. So yawn in that I'm not surprised.

Petroleum News: So can a new administration like this one make a difference?

Persily: Sure. By not funding climate change research. By streamlining permitting requirements. By putting more federal acreage up for lease. Regardless of acts of Congress, the administration has control over regulations and the budget, so you can do a lot. They have been taking positions that are favorable to Alaska, supported by the delegation and supported by the governor. To that extent the administration is supportive of a resource development agenda in Alaska. That's what they got elected on and that's what most Alaskans want.

Petroleum News: I've had you tap into your experiences with federal government and state government. Talk about your experience — even as it's about to expire soon — working for a local government. What's been different for you?

Persily: I like local government just like I enjoyed small-town journalism. You're closer to the people whose lives you effect. It makes decisions more personal, not necessarily easier, but more personal. At the municipal level, working with the Alaska Municipal League and other cities and boroughs, clearly you can see the effects of state budget cuts on municipalities: reduced Trooper counts; more burden of education funding moving to cities and boroughs.

If you cut the state budget, but shift the expense of cities and boroughs, yeah, it gives them more control, but to the taxpayers it's the same thing. When you work for the borough, it's more noticeable. My sense on the Kenai Peninsula, most people are aware of the state's financial situation, and the precariousness of the Alaska economy, and the constraints on the borough. They are willing to accept the inevitability that free money is gone, and there are some very tough choices ahead. They may not agree on those choices, but they are aware that those choices have to be made. As much as they would like for oil to bail us out again, I think the general public view is it would be nice to think that but it's probably not going to happen. They still would like to see more oil be produced and more revenue to the state, but most in the public accept that it's not going to be enough to solve our problem. We're going to have to look at other sources of revenue and certainly spending decisions, too. ●

Contact Steve Quinn at squinnwrite@gmail.com

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BONDING ORDER

bankruptcy law. The AOGCC and the Alaska Department of Natural Resources had opposed a motion by Aurora Exploration to strike down the AOGCC order.

Aurora Gas, the operator of five onshore gas fields on the west side of Cook Inlet, is bankrupt and is trying to sell its assets to help reimburse its creditors. Aurora Exploration, a separate company, has offered to buy Nicolai Creek, one of Aurora Gas's fields. Nicolai Creek has six active gas wells: The AOGCC has said that it needs $1 million in bonding for each of those wells, if Aurora Exploration is to take over as field operator. In the alternative, the AOGCC has said that Aurora Exploration can use a $200,000 bond if the company plugs and abandons three wells in the Three Mile Creek field, an Aurora Gas field that Aurora Exploration does not plan to buy.

Judge Spraker said that AOGCC's conditioning of a $200,000 bond on the plugging of the Three Mile Creek wells violates bankruptcy law because it conditions the sale of the Nicolai Creek wells on the payment of an Aurora Gas liability that predates the company's bankruptcy. Moreover, the imposition of a very high bond, without supporting evidence for its scale, evidences an effort by the state to force Aurora Exploration to accept that Three Mile Creek liability, Spraker said.

The AOGCC has concerns about the financial capability of small companies to plug and abandon wells that the companies operate. However, Aurora Exploration has argued that plugging and abandoning a Nicolai Creek well would cost much less than $1 million and that the imposition of a $6 million bond would render the purchase of the field non-commercial. If the sale of the field falls through, the field would shut down and, given Aurora Gas's bankruptcy, the state would have to pay a substantial portion of the cost of dealing with the field's wells, Aurora Exploration has argued.

—ALAN BAILEY

Contact Alan Bailey at abailey@petroleumnews.com

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RCA RULING

tant in Southcentral Alaska, not just because of the impact of the fees on consumers' gas bills but also because of the impact on gas transportation costs for commercial businesses including electric utilities that use gas-fired power plants. Contention over Enstar's proposals has resulted in a lengthy RCA investigation, with the Sept. 26 order being the outcome of the commission's hearing of the case.

The RCA, in its order, commented that Enstar operates a safe and reliable utility, with the utility's fees to deliver gas to customers well below the national average.

Postage stamp rate

The RCA has upheld Enstar's use of a postage stamp rate for the shipment of gas through its pipeline system. In other words, the fee per unit of gas shipped will be the same, regardless of which sections of the system the gas molecules pass through. The use of postage stamp rates has become common practice by electric, gas and water utilities and generally reflects the fact that all customers tend to benefit from the use of an integrated transportation system, RCA said.

The commission has also upheld a request by Enstar to include its costs associated with the storage of gas in the Cook Inlet Natural Gas Storage Alaska facility on the Kenai Peninsula in the cost of the gas that it sells to customers, rather than through its gas transportation fees. But the commission is allowing the inclusion of some past gas storage reservation and capacity fees in Enstar's rate base, until the impact of these fees is eliminated as a consequence of continuing use of the storage facility.

However, the commission requires Enstar to remove from its rate base the amortized cost of developing a short pipeline used to expedite the delivery of gas from the CINGSA facility.

The rate base represents a utility's total costs, to compensate for which the utility can obtain revenues through its rates.

Pipeline to Homer

The commission is not allowing Enstar to add to its rate base the cost of a pipeline between Anchor Point and Homer on the Kenai Peninsula. This pipeline was built to give Homer residents access to supplies of utility gas — Enstar has been recovering the cost of the line using a surcharge on the gas rates for Homer consumers. However, Enstar says that the take up of gas usage in Homer has been much slower than anticipated, as a consequence of which the utility may not be able to fully recover the cost of the line. The RCA says that it is sticking with its original view that recovering the pipeline cost through the rate base would place an undue burden on Enstar's existing customers but that Enstar can, if it wishes, propose a higher Homer surcharge.

On the other hand, the commission is allowing Enstar to continue to include in its rate base the cost of the gas transmission line between Ninilchik and Anchor Point. Some Enstar commercial customers had claimed that they do not use gas shipped on that line.

Rate base determination

A particular bone of contention in Enstar's proposals has been the utility's request to use year-end data to determine its rate base, rather than the 13-month average costs that the RCA normally requires. Essentially, a utility will use these historic costs coupled with anticipated cost changes to derive its rate base. Enstar had argued that the 13-month average method would fail to adequately accommodate the cost impact of some major new capital investments that the utility had made in its system. In its order, RCA has rejected Enstar's request to use a year-end rate base rather than the commission's preferred 13-month average method.

However, the RCA is allowing Enstar to include in its rate base the cost of some new additions to its system made after the end of the test year used for the rate base determination. But the commission declined to make any adjustment to the test year data to allow for climate warming trends.

Capital structure and rate of return

The commission has also ordered an adjustment to Enstar's cost of debt, along with a slight change to the proportions of debt and equity assumed in the utility's capital structure. These factors impact the cost of capital that the utility must account for in its economics.

Also contentious is the rate of return that Enstar should be allowed to make on its investment in its business. The appropriate rate depends on the business risks that the utility faces. In justifying its rate of return, proposed at 12.55 percent, Enstar had cited a list of risks, including risks to its gas supplies, lag in the regulatory process, weather uncertainty and challenging economic conditions in Alaska. Having evaluated the risks and the method used to determine the return, the RCA concluded that the appropriate rate of return would be 11.875 percent.

Customer classes

Another tricky issue in determining equitable utility rates is the manner in which the utility's costs are recovered from different classes of customer. For example, a type of customer that forces the need for maximum transmission capacity may be required to pay more than a customer whose peak transmission need are more modest. In the case of Enstar, the guaranteed transportation of large volumes of gas for electrical power stations, in particular, can present rate making challenges: The manner in which the utilities can sell power to each other through economy energy sales can result in fluctuations in the shipment of fuel gas for the generating stations. In its order, the RCA requires Enstar to allow for economy energy sales in assessing customer gas transportation volumes. And the commission is approving Enstar's use of a standard method called "Seaboard" for the apportioning of costs between different customer classes.

The RCA also ruled on a number of other aspects of Enstar's rate case, including the allocation of the cost of employee salaries, the cost of the company employee health care benefits, customer credit card fees, the cost of transmission system maintenance and the manner in which the utility's general office and administrative costs are allocated across the business.

And the commission declined to allow Enstar to increase its rates in stages, saying that the staged approach would result in cross-subsidization between different classes of customer.

The commission declined to rule on a proposed Enstar rate schedule for shipping gas for an electrical power pool that is being established between Chugach Electric Association, Municipal Light & Power and Matanuska Electric Association. ●

Contact Alan Bailey at abailey@petroleumnews.com

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ENSTAR REQUEST

drilling, Enstar agreed to extend the deadline to July 31, 2017.

However, Furie did not manage to complete the well by that July deadline: Enstar has now agreed to extend the deadline to July 31, 2018, but needs RCA approval of the change. The new agreement requires Enstar to provide proof of an alternative source of supply from a viable Cook Inlet producer, should Furie be unable to fully meet its contractual obligations with Enstar. And, under the terms of the original agreement, Furie's failure to meet the drilling deadline has triggered a drop in the price of gas in the contract, Enstar says.

Enstar says that it has conducted due diligence into the adequacy of the modified contract.

Enstar says that it has conducted due diligence into the adequacy of the modified contract.

"Enstar's opinion is based on the contractual remedies in the GSA (gas supply agreement), including a $6 million letter

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TERMINAL SPILL

intake piping, and into Port Valdez."

Alyeska said boom was deployed for the test, but the salt water intake piping, the source of the spill, was outside the booming.

The Alaska Department of Environmental Conservation's Division of Spill Prevention and Response said in its situation reports on the incident that the cause was under investigation, "but early indicators show that oily water in the oil loading system may have drained through the Berth firewater system during a pressure test."

Sept. 21

The sheen was observed shortly after 11 a.m. Sept. 21 and the division said in a 5 p.m. situation report that the source had been secured.

Alyeska said in a Sept. 22 fact sheet that crews worked through the night to recover oil and protect sensitive areas, with both the Solomon Gulch Hatchery and the Valdez Duck Flats boomed overnight.

In an evening fact sheet on Sept. 23 Alyeska said that response continued around the clock, with no observed areas of concentrated oil on the water. The company said the focus was on rainbow sheens inside the containment, with an afternoon overflight confirming that all sheens were within containment.

ALYESKA PIPELINE SERVICE CO.

The Sept. 21 spill at the terminal was what Alyeska described as "oily test water" believed to have resulted from flow back during a test of the integrity of the loading arms.

There were some shoreline impacts at the Valdez Marine Terminal inside the containment area, Alyeska said, and an assessment would be performed to determine a plan for cleaning the impacted shoreline area.

Wildlife specialists had not found any affected wildlife, the company said Sept. 23.

There were no tankers at berth when the spill occurred and Alyeska said shippers adjusted their schedules. The terminal inventory was at 26 percent Sept. 23, and the company said the response was not expected to impact North Slope production.

Alyeska said Sept. 26 that it had resumed tanker loading at the terminal after an overflight confirmed successful recovery operations to federal and state officials.

The company said the U.S. Coast Guard and DEC concurred with the decision to restart tanker-related operations after the fly-over Sept. 25, and a tanker docked at Berth 5 late Sept. 25, with loading operations continuing Sept. 26.

Alyeska said activity in the area of Berths 4 and 5 continues as vessels and equipment are decontaminated and crews monitor conditions and remaining absorbent boom.

SERVS

Alyeska's Ship Escort/Response Vessel System, SERVS, recovered some 400 gallons of oil/water mixture by Sept. 26, the division said in its Sept. 26 situation report.

While tanker loading operations have resumed, absorbent boom will remain in place to collect any remaining sheen that may surface, the division said.

Scott Hicks of Alyeska, the incident commander, said: "We appreciate the diligence and concentration of responders, and state and federal personnel who worked closely with us to the point. We will maintain that focus until we are satisfied that our response is complete to our shared standards." ●

Contact Kristen Nelson at knelson@petroleumnews.com

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PRODUCTION RESUMES

because of winter ice conditions in Cook Inlet. The line supplies dry processed fuel gas, 98.67 percent methane, to the A, C, Dillon and Baker platforms.

Non-essential equipment on the platforms was shut down, reducing gas pressure in the line.

In March, PHMSA, the federal Pipeline and Hazardous Materials Safety Administration, notified Hilcorp that it wanted the company to inspect the subsea pipeline that moves oil from MGS to the shore at Nikiski, on the premise that the oil line is subject to a damage risk similar to the risk associated with the subsea gas line which has ruptured. The agency said its concern was based on the fact that the two lines are close to each other on the seafloor and are of near identical design, both 8 inches in diameter and cased in cement.

There had been two previous leaks in the gas line and PHMSA said abrasion of unsupported portions of the gas pipeline by rocks as a consequence of vibration in the line from Cook Inlet tidal currents had been identified as the likely cause of the previous gas pipeline leaks.

PHMSA required inspection of the oil pipeline within a specified period, or shutdown. Hilcorp told the agency that the oil line was pressure tested in September 2015 and had been operating normally.

MGS shut-in

On March 25 Hilcorp said that in response to the continuing fuel gas leak it had shut-in the Middle Ground Shoal oil field. The company said that shutting in wells and idling lines and equipment over the winter would have created a risk of freeze up and potential rupture, but with warmer temperatures a safer shut-in process of wells and associated equipment was possible. Hilcorp had pumps circulating filtered seawater through the subsea oil pipeline to eliminate the possibility of that line freezing up.

Repair work on the fuel gas line began in early April, once ice conditions in the inlet made it safe for divers to work.

Hilcorp said divers found what initially appeared to be a 2-inch gash in the fuel gas line where the pipeline rests on a boulder; a temporary clamp was installed April 14. Exact measurements taken later determined the breach to be three-sixteenths by three-eighths of an inch. The permanent repair included cleaning and preparation of the damaged area and installation of a steel and rubber clamp over the leak. The Alaska Department of Environmental Conservation said dive boat operators confirmed that the bubbling of gas from the leak stopped after the clamp had been installed.

The initial repair was followed by further inspection work and permanent repair, with the line not to be returned to service until completion of permanent repairs, pressure testing and approval by government regulators.

Successful restart

Wilkins said the restart process on platforms A and C began Sept. 15 and normal operations have now been resumed on both platforms, following consultation with regulators and an extensive inspection process on both the fuel gas and oil lines.

"To date, Hilcorp has spent more than $5 million inspecting and repairing the lines," Wilkins said.

Specially designed inline inspection tools were used to gather data, he said, and divers "performed tactile and ultrasonic inspections." That data "was fully analyzed and was used to determine what maintenance and repair work was necessary and completed prior to restart," Wilkins said.

Both lines were hydro-tested before being returned to service.

He also said that Hilcorp is using a supervisory control and data acquisition computer system to monitor the pipelines 24 hours a day.

—KRISTEN NELSON

Contact Kristen Nelson at knelson@petroleumnews.com

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ENSTAR REQUEST

of credit and an industry-standard cover provision, and a change in management both at Furie and at its parent company," Enstar wrote.

Furie currently has two wells producing gas from Kitchen Lights, a converted exploration well and a development well. The company used the Randolf Yost jack-up drilling rig to drill a third well in 2016 but did not complete that well before the end of the drilling season. The extension of the drilling deadline to July 2018 would appear to indicate that Furie has not conducted drilling at Kitchen Lights this summer. Furie has not responded to requests from Petroleum News for information about the drilling status.

—ALAN BAILEY

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IEP CONTRACT

Fairbanks; expanding the LNG storage capacity in Fairbanks; and building out the gas distribution pipeline network in the Fairbanks area.

House Bill 105, passed by the Alaska Legislature in 2015, required the AIDEA board to approve an IEP plan that includes an identified source of gas, the cost of the various components of the gas supply chain and the expected delivered price of gas in Fairbanks before additional use can be made of a Sustainable Energy Transmission and Supply, or SETS, loan for the project. With the cost elements in place and a plan approved, the full funding of the project can now proceed.

Meeting the target

The gas supply contract with Hilcorp runs to 2021 and involves a fixed gas price of $7.72 per thousand cubic feet. This is expected to result in an initial gas price for Fairbanks consumers of $19.88 per mcf. The IEP's target price for gas delivered to consumers is $15 per thousand cubic feet. However, by 2022 the price of gas in real terms is expected to drop below that target level, as gas demand in Fairbanks builds.

Gene Therriault, AIDEA's IEP team leader, emphasized that the project economics will be driven by the volume of Fairbanks gas usage. In particular, the fixed costs associated with the operation of the LNG plant become spread over a larger gas volume as that volume increases. Therriault told the board that the project is seeking ways to build up the initial demand volume, especially from business customers who tend to use more gas than residential consumers.

According to the IEP's approved plan, the expansion of the Cook Inlet LNG plant is expected to cost about $46 million. The IEP estimates the total cost of new LNG storage and regasification facilities in Fairbanks to be $52 million, with the possibility of earning an $18.5 million tax credit.

"The new (gas) contract also offers a great deal of volume flexibility," Therriault said, adding that the contract will enable the supply volume to grow without the need for any take-or-pay commitment.

Utility consolidation

AIDEA currently owns Pentex Natural Gas Co., the owner of the LNG plant, the LNG road transportation system and Fairbanks Natural Gas, one of the two current gas utilities in Fairbanks. Part of the IEP plan involves selling Pentex to the Interior Gas Utility, the other Fairbanks gas utility: The consequence will be a consolidated utility in Fairbanks that can efficiently build out and operate the gas supply system.

A resolution passed during the AIDEA board meeting modified the scope of activities that can be funded from the IEP SETS loan, enabling IGU to use loan funding to assist with its costs in the merger negotiations. Part of the funding will cover the cost of filing a request to the Regulatory Commission of Alaska for the approval of the merging of the two Fairbanks utilities, Therriault told the board. Therriault told Petroleum News that the IEP and IGU are close to finalizing the contractual paperwork for the sale of Pentex, and that the two organizations hope to reach closure in the next week or two.

Fairbanks Natural Gas currently supplies gas to some customers in central Fairbanks. The idea behind the IEP and the merger between FNG and IGU is to greatly expand that supply, in terms both of gas volumes and of the size of the area where a gas supply becomes available. Therriault told the board that the new gas supply contract overlaps the existing FNG contract by three months. That will prove a benefit to Fairbanks gas consumers because the existing contract, unlike the new contract, includes a 4 percent annual price escalator, Therriault said.

LNG plant expansion

The planned expansion of the Cook Inlet LNG plant will require some additional front-end engineering and design work prior to a final investment decision. The plan is to approximately double the plant capacity to about 3 billion cubic feet per year of gas. Meanwhile, FNG has taken delivery of new, larger capacity LNG road trailers, to increase the LNG transportation capacity to Fairbanks. The hope is to expand the LNG production capacity by around the time that new LNG storage in Fairbanks has been completed, potentially by the end of 2019.

The timing of the LNG storage expansion through the development of a new 5.25 million gallon Fairbanks storage facility is important because of the need to have the new storage in operation by 2020, so that the storage development qualifies for a state tax credit. FNG hopes to start work on the foundations for the facility in February or March of 2018, Therriault said. And the storage expansion will prove to be of benefit, even if it is completed prior to the expansion of the LNG facility — the availability of more LNG storage in Fairbanks will enable the stockpiling of LNG during the summer, thus enabling more efficient year-round LNG production, Therriault explained.

Distribution expansion suspended

FNG and IGU started expanding the gas distribution pipeline network in Fairbanks in 2015, but had to stop work on the expansion shortly afterwards, following the passage of HB 105. Since then the utilities have been taking advantage of street remediation projects to lay pipework under some streets, but have not otherwise progressed the pipeline system expansion. In addition, the planned merger of FNG and IGU required a rethink of the layout of the distribution system, to maximize the benefits of utility integration. With the new release of SETS funding, the distribution expansion will now be able to proceed.

Project costs and funding

According to the IEP's approved plan, the expansion of the Cook Inlet LNG plant is expected to cost about $46 million. The IEP estimates the total cost of new LNG storage and regasification facilities in Fairbanks to be $52 million, with the possibility of earning an $18.5 million tax credit.

The project is being funded from a $57.5 million state capital appropriation, $125 million in SETS loans, $140 million in AIDEA bonds and $4.7 million in commercial financing. To date, $15 million of the capital funding has been spent, a significant portion of that on an early version of the project involving a potential LNG plant on the North Slope, while $42.4 million in SETS funding has been used in expansion to date of the Fairbanks gas distribution infrastructure.

The expansion of the LNG plant; upgrades to the LNG transportation arrangements; expansion of LNG storage and regasification facilities; the acquisition of Pentex by IGU; and initial further upgrades to the Fairbanks gas distribution system are expected to cost a total of $164 million. The $59.5 million of this expenditure that is allocated to the Pentex purchase will presumably be returned to the AIDEA revolving fund originally used by the agency to purchase Pentex.

Depending on future gas demand in Fairbanks, the LNG facility may be further expanded at a cost of $25 million, an additional $2.9 million may be spent on further ramping up of the LNG transportation arrangements and a further $96 million may be spent on further expansion of the gas distribution system in Fairbanks, the IEP plan says. ●

Contact Alan Bailey at abailey@petroleumnews.com