Petroleum news

page 3 Q&A: Josephson says fiscal plan could ensure industry confidence

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This week's Mining News

NORTH OF 60 MINING news

page 8 Colorado Resources cuts 130.4 oz/t gold at KSP project in northern BC

www.MiningNewsNorth.com — *The weekly mining newspaper for Alaska and Canada's North* — Week of September 17, 2017

NEWS NUGGETS

Compiled by Shane Lasley

From a vantage above the Peak zones at the Tetlin project in eastern Alaska, Avidon Development President Curt Freeman provides Royal Gold representatives with a geological overview of the gold-rich skarn mineralization found there.

Peak Gold discovers new zone at Tetlin; extends 2017 drilling

Contango ORE Inc. Sep. 8 announced the discovery of West Peak Extension, a new zone of gold mineralization northwest of the Main Peak deposit, during the second phase of 2017 drilling at the Tetlin project near Tok, Alaska. Tetlin is being explored by Peak Gold, a joint venture between Contango ORE and Royal Gold Inc. In June, the Peak Gold partners published an updated global resource for Main and North Peak – measured, indicated and inferred – of 15.65 million metric tons averaging 2.98 g/t (1.5 million oz) gold, 14.68 g/t (7.39 million oz) silver and 0.16 percent (55 million lb) copper. With a substantial resource established, the JV partners turned their summer 2017 exploration efforts to testing six priority prospects over a 2,500-acre-area in the immediate vicinity of the Peak zones. The best results of this exploration drilling came in the 14 holes drilled at West Peak Extension. The best hole drilled at West Peak Extension, 17379, cut 8.1 meters averaging 5.22 g/t gold from 103 meters; and 29 meters of 2.53 g/t gold from 117 meters. The new mineralization tapped in this new zone is open up-dip to the southwest as well as down-dip to the southeast along the undrilled north side of the Main Peak deposit. "We are very pleased to have identified a new mineralized area at West Peak Extension, and we look forward to further delineation of this mineralized area. While the other areas drilled did not return material amounts of gold, we encountered significant thickness of oxidized iron-rich skarn in some surface exposures that may warrant further exploration," said Contango ORE CEO Brad Juneau.

In addition to exploration drilling, Peak Gold drilled three holes to collect material from Main Peak for metallurgical testing. All three holes cut the high-grades of skarn mineralization that has become expected from this zone. One of these holes cut four mineralized intercepts, including 140.9 meters of 13.27 g/t gold; and another cut three mineralized intercepts, including 65.8 meters of 20.14 g/t gold. While these intercepts do not represent the width of the skarn deposit, these high grades over such long widths are still impressive. Results from the Main Peak metallurgical work is pending, however, 19 composite samples from North Peak averaged 97.5 percent gold recoveries during recent 48-hour cyanide leach bottle roll metallurgical testing.

Peak Gold also carried out reconnaissance work at the Noah block of state mining claims west of the main Tetlin property. Contango Ore reported multiple gold bearing samples from streams draining the Hona prospect, and visible gold was reported in pan concentrate samples from elsewhere on the Noah block. Assays are pending from much of the work carried out in this area and Peak Gold will make decisions about follow-up activities after all the data is

see NEWS NUGGETS page 8

COURTESY MITCHELL KREBS

After applying its engineering and permitting expertise toward advancing the Silvertip Mine into production, JDS Silver has now cut a deal to sell the high-grade silver mine to Coeur Mining, a company that specializes in high-grade precious metals operations.

ACQUISITIONS

Coeur to buy BC mine

Kensington owner agrees to $250 million deal for high-grade Silvertip mine

By SHANE LASLEY

Mining News

Coeur Mining Inc. has cut a deal to buy the high-grade Silvertip Mine in northern British Columbia, an acquisition that will add the first Canadian operation to the Chicago-based miner's portfolio of gold and silver mines.

Located about 10 miles south of the Yukon border and roughly 150 miles east of Coeur's Kensington gold mine in Southeast Alaska, Silvertip hosts 2.35 million metric tons of indicated resource averaging 352 g/t silver, 9.4 percent zinc and 6.7 percent lead; and 460,000 metric tons of inferred resource averaging 343 g/t silver, 9.8 percent zinc and 6.2 percent lead.

MITCHELL KREBS

JDS Silver Inc., a company formed by JDS Energy & Mining Inc. in 2012 to unlock the value of Silvertip, began operations at the high-grade northern B.C. mine late in 2016.

"JDS Silver identifies unique opportunities and deploys its proprietary value proposition to create projects that will generate value where others failed to see it," according to the company's web. site.

In the case of Silvertip, JDS applied its renowned engineering and permitting capacity to take a high-grade, near development silver project to production.

With the operation up and running, JDS Silver has agreed to sell Silvertip mine to Coeur, a company that specializes in making the most of high-grade underground mines, for US$250 million.

"By assuming ownership of the Silvertip Mine at the beginning of its life, we think we really have an unique opportunity to apply our operational expertise and shape this mine into a highly profitable operation and an eventual cornerstone asset within our platform of mines," Coeur Mining President and CEO Mitchell Krebs said during a Sep. 11 conference call.

Once the deal closes, which is expected to happen before the end of October, Coeur does not plan to waste any time turning Silvertip into the highest grade silver mine in its portfolio.

Coeur plans to have Silvertip running at its full 1,000-metric-ton-per-day capacity when it resumes year-round operations there in 2018.

Near-term, high-grade mine

Located on a road that extends 16 miles (26 kilometers) south from the Alaska Highway, Silvertip is an underground mine with more than 4,000 meters of underground development in place; and a 1,000-metric-ton-per day processing facility that is powered by five on-site liquefied natural gas generators.

The road accessible project also has a newly constructed dry stack tailings facility; 160-person camp; and a workforce already in place to fill the camp.

At 1,166 g/t silver-equivalent – the cumulative value of the silver, zinc and lead in the resources – the value of the metals at Silvertip is on par with Hecla Mining's Greens Creek Mine in Southeast Alaska.

Coeur said these exceptionally high grades at Silvertip will significantly boost the company's silver-grade profile.

For comparison, the high-grade gold reserves at Kensington are about 465 g/t when converted to silver-equivalency. While only about 40 percent of the Silvertip grade, the reserves at Kensington are above average for an underground mining operation.

Being a high-grade silver mine in northern B.C., Silvertip checked all the boxes for Coeur.

"It provides near term production and cash-flow from a high-grade, low-cost, high-margin asset

see SILVERTIP SALE page 8

Coeur Mining Inc. has cut a deal to buy the high-grade Silvertip Mine in northern British Columbia. See Mining News, page 7.

Alaska's oil industry recovering

The backbone of Alaska's economy — crude oil — is finally on the mend. Operators in the state appear to have adjusted to an average oil price of $50 per barrel, moving ahead with exploration and production projects.

The only exception might be BP; my solid but unofficial sources say the company is still over-staffed and expect to see more layoffs in the year ahead.

In August 2016 a total of three, sometimes four, rigs were working in Alaska. This past August there were three, sometimes four, rigs working in Cook Inlet alone, and the same number on the North Slope: And that's prior to the North Slope exploration season.

This coming winter promises to be the busiest oil explo-

see INSIDER page 12

Walker: Monetizing gas the goal; will continue even without AKLNG

GOV. BILL WALKER

The first audience question Alaska Gov. Bill Walker got at the end of a presentation he made Sept. 7 to the Resource Development Council was on the future of the Alaska LNG project and how that future would be funded.

The governor, elected on an independent platform, had based his run on moving an Alaska LNG project forward, and once elected, he took over a project begun under the administration of his predecessor, Gov. Sean Parnell, a Republican, and backed by what was then a Republican majority in both houses of the Alaska Legislature.

see ALASKA LNG page 16

EXPLORATION & PRODUCTION

More NS exploration

ConocoPhillips hopes to drill up to five exploratory wells this winter

By ALAN BAILEY

Petroleum News

ConocoPhillips is considering drilling up to five exploration wells on the North Slope during the coming winter, company spokeswoman Amy Burnett told Petroleum News in a Sept. 12 email. The drilling plans are still subject to final budget and permit approvals, Burnett said.

Three of the wells would target a better definition of the oil potential in the greater Willow area in the northeastern National Petroleum Reserve-Alaska. One well would target potential new resources southwest of the village of Nuiqsut. The fifth well is the Putu well, within the so-called Tofkat leases, a newly approved extension to the Colville River unit.

Three of the wells would target a better definition of the oil potential in the greater Willow area in the northeastern National Petroleum Reserve-Alaska.

ConocoPhillips has also applied for permits for a seismic survey to be conducted in leases issued by the state in July, Burnett said. ConocoPhillips obtained those leases in the December 2016 lease sale. They lie immediately south of existing leased acreage, east of and adjacent to NPR-A and the Colville River.

The greater Willow area references the Willow oil discovery, the major discovery that ConocoPhillips

see SLOPE EXPLORATION page 12

PIPELINES & DOWNSTREAM

Applying for change

Hilcorp requests RCA approval for shipment of oil by pipeline under Cook Inlet

By ALAN BAILEY

Petroleum News

Hilcorp Alaska pipeline subsidiary Harvest Alaska has applied to the Regulatory Commission of Alaska for commission approval of changes to Harvest's oil and gas pipeline systems, to enable the shipment of oil by pipeline west to east under Cook Inlet. The $75 million project would eliminate the use of the Drift River oil terminal on the west side of the inlet: Currently tankers use the terminal to ship oil produced from fields on the inlet's west side to Nikiski on the Kenai Peninsula. Use of the Drift River terminal is a cause for concern because of its proximity to the Redoubt volcano. Obtaining the necessary RCA approvals is a key step

The changes in the pipeline system will not impact the rates charged for the transmission of gas across the inlet, nor will the changes jeopardize the gas carrying capacity of the gas transmission system, Harvest told the commission.

in the execution of the pipeline project.

"The Cross Inlet Extension Project will bring a higher level of safety and reliability for shipping oil across Cook Inlet. We think it's the right thing to do," said Sean Kolassa, president of Harvest Alaska, in a Sept. 11 press release.

see HARVEST CHANGES page 15

EXPLORATION & PRODUCTION

Pipeline plan filed

More details on Hilcorp's Liberty development included in right-of-way application

By ALAN BAILEY

Petroleum News

A right-of-way application package filed with the Alaska Department of Natural Resources for the construction of a pipeline system running onshore from Hilcorp Alaska's planned Liberty oil field in the Beaufort Sea includes detailed plans for both pipeline construction and for the development of the oil field itself. Hilcorp Alaska's pipeline subsidiary, Harvest Alaska LLC, has filed the application in recognition of the fact that, although the oil field facilities would be located on the federal outer continental shelf, the pipeline system will traverse state land offshore within three miles of the coast, as well as onshore.

As previously reported in Petroleum News,

Hilcorp says that it is designing the offshore production facilities to use modules small enough to be trucked to the North Slope on the Dalton Highway.

Hilcorp plans to develop the field from an artificial gravel island, about five miles offshore in Foggy Bay, about 15 miles east of Prudhoe Bay. The island would have a surface area of 9.3 acres and a seabed footprint of about 24 acres, in 19 feet of water, with the surface of the island 15 feet above low tide level. The sloping sides of the island would be protected by an armor of linked concrete mats, a protection system successful-

see PIPELINE PLAN page 14

● FINANCE & ECONONY

EIA crude forecast down following Harvey

Agency's short-term energy forecast says 9.2M bpd in August down some 40,000 bpd from July; 2017 average expected to be 9.3M bpd

By KRISTEN NELSON
Petroleum News

U.S. crude oil production is estimated to have averaged 9.2 million bpd in August, down some 40,000 bpd from July, the U.S. Energy Information Administration said Sept. 12 in its Short-Term Energy Outlook.

The agency has also dropped its crude oil forecast for 2018. The forecast remains the same for this year, an estimated 9.3 million bpd, but for next year is down from an August estimate of 9.9 million bpd.

"EIA continues to expect growing oil output, with crude oil production forecast to reach an all-time high of 9.8 million barrels per day in 2018, topping the old 1970 record of 9.6 million barrels per day," acting EIA Administrator John Conti said in a statement accompanying the forecast.

"Downward revisions to the forecast partly reflect the effects of Hurricane Harvey," he said. "Industry watchers across the sector will have to grapple with uncertainty regarding the timeline for the return to normal operations for critical energy infrastructure, including refineries, in the coming weeks and months," Conti said.

Significant disruptions

EIA noted significant disruptions to the U.S. energy market in recent weeks due to Hurricane Harvey, with "continuing uncertainty ... regarding the timeline for the return to normal operations for a broad range of upstream production, refining, pipeline, and terminal and distribution infrastructure."

> *"EIA continues to expect growing oil output, with crude oil production forecast to reach an all-time high of 9.8 million barrels per day in 2018, topping the old 1970 record of 9.6 million barrels per day." —John Conti, acting EIA administrator*

There was a significant drop in refinery operations following Hurricane Harvey, with U.S. gross refinery runs averaging 14.8 million bpd the week ending Sept. 1, down by 3.1 million bpd from the previous week, EIA said.

Conti said "operations are beginning to ramp up. EIA expects refinery runs in September to average 15.3 million barrels per day, well below the August level," but with runs increasing into October.

US production, prices

U.S. crude oil production, at an estimated 9.2 million bpd in August, is down 40,000 bpd from July, EIA said, with Gulf of Mexico production down 70,000 bpd from July, averaging 1.6 million bpd.

The agency said that as of the publication of this forecast, "many oil production platforms in the Gulf of Mexico had returned to operation," and U.S. crude oil production is projected to grow in the coming months.

Producers also curtailed production in the Eagle Ford, but EIA said production declines there were offset by growth in other Lower 48 areas.

North Sea Brent crude oil spot prices averaged $52 per barrel in August, EIA said, and are forecast to average $51 per barrel this year and $52 per barrel in 2018. The agency expects West Texas Intermediate to average about $2 per barrel below Brent both this year and next.

Natural gas

EIA is forecasting U.S. dry natural gas production to average 73.7 billion cubic feet per day this year, up 1.4 bcf per day from 2016, with 2018 production forecast to be 4.4 bcf per day higher than this year.

The Henry Hub natural gas spot price averaged $2.90 per million Btu in August, down 8 cents from July.

Expected growth in natural gas exports and domestic consumption next year contribute to a forecast for Henry Hub to rise from a 2017 average of $3.05 per million Btu to a 2018 average of $3.29.

EIA said it expects the share of U.S. utility scale electricity generation from natural gas to fall from an average of 34 percent in 2016 to about 31 percent in 2017 as a result of higher natural gas prices and increased power generation from renewables and coal.

The share of power generation from coal is projected to rise from 30 percent in 2016 to 31 percent in 2017, with projected generation shares for natural gas and coal in 2018 averaging 31 percent and 32 percent respectively. ●

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contents

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● GOVERNMENT

Josephson: AKLNG answers still needed

Anchorage Democrat says a fiscal plan can ensure industry confidence for future consideration, create stable investment climate

By STEVE QUINN
For Petroleum News

House Resources co-chair Andy Josephson says a good fiscal plan could provide a turning point for Alaska and its resource development prospects. He'll start getting some answers when the Legislature returns to Juneau next month for a special session addressing a recurring budget gap. The Anchorage Democrat shared with Petroleum News thoughts on summer time developments such as the passage of HB 111, the state's visit from Interior Secretary Ryan Zinke and the status of the AKLNG project being advanced by the Alaska Gasline Development Corp.


REP. ANDY JOSEPHSON

Petroleum News: Let's start with AKLNG. What are your thoughts on where things stand right now?

Josephson: Well, I think that the revenue ruling which would allow for the potential to exempt investors from some of the taxes they would otherwise pay as I understand it, is actually potentially a very big deal. In August 2016 there was a joint session with at least both resources committees and there may have been finance committee members there as well. There were a number of legal briefs prepared. I delved into those and read them carefully. I read the case law and all of those documents pertained to the viability of getting this revenue ruling.

There wasn't a person in the room who didn't want a positive ruling. Everyone was broadly on the same page. The attorneys who offered their opinions gave their honest assessments that this was unlikely to occur. There was discussion about what the application would cost. What would the legal fees be? It was in the neighborhood of $100,000. So if you took the temperature in the room, this is now 13 months ago, you would have said it's not clear whether AGDC is even going to pursue the revenue ruling and even if it does, it's not clear they are going to obtain a positive revenue ruling. Well they've done that. That's a big deal to me.

They have also done their foundation for customer capacity. I haven't gotten the sense that it has necessarily changed the meter on success very much. We knew beforehand the Big 3 were likely to give us their gas if there was a pipeline to give it to. I think we heard last week in their open season, there may be an investor out there who is expressing interesting in helping build the infrastructure and financing that. But we don't know who it is or what the terms of that may be.

The economics of the project are still challenged. The world market is still broadly flooded. We still have favorable components that we've know about for years, which are there won't be civil strife resulting in war. We have a cold climate which is good for the mechanics in treating the gas and for liquefaction. We are relatively close to the market, and importantly we've seen and actually touched the gas. So those things are still favorable and the governor remains positive about it.

I've said before it was with some reluctance the Legislature said all right you can continue to use the $100 million we provided in the previous year. So that's where we are now. My hope would be that some of the work, whether it's a FERC application or other related aspect would have some benefit in the out years even if we can't move this thing down a successful path.

Petroleum News: What would you like to hear next from the administration or AGDC?

Josephson: I would love to hear by the end of next session, so let's say May 2018, that we have more than a Korea Gas memorandum of understanding. We have an actual commitment of partners and we have contracts for purchase. Those would be amazing things. Without that we would be adrift. Beyond the $100 million we've committed to this, it's going to be more and more challenging for the Legislature to commit other resources.

Q AND A

Petroleum News: On to oil taxes. The working group per HB 111 is not assembled yet and there is not a lot of interim left. Do you think it will happen or do you think you'll find yourselves easing into next session?

Josephson: I think that what may happen, if and when the special session is called for the 23rd of October, the meetings may begin then. I don't know that officially but I think that could happen. There was talk of a group of us taking a trip to Houston, but that was cancelled because of (Hurricane) Harvey. So that created a little bit of a false start. I think that will happen. Time is certainly getting a little more compressed, but I think there will be a working group and I hope that I'll be on it. I'm confident that Sen. Giessel and Rep. Tarr will discuss the how, where and why of that.

Petroleum News: So for the Houston trip, what was the hope? Was this a fact-finding trip?

Josephson: I think the hope was there would be meetings face-to-face with industry leaders about a path forward, talking about the credit issue and how we can helpful in this constrained climate that we're in.

Petroleum News: So would this have been Houston or would New York be included since the issue is whether Alaska remains a good investment after the cashable credit changes?

Josephson: I think those meetings will have to occur telephonically or here in Alaska. We are starting to move toward a special session and, as you said, the working group may start up when the co-chairs choose to do that. I'm not so sure time will allow for us to go to Houston.

Petroleum News: Speaking of the working group and HB 111, you guys eventually reached an agreement. What were your thoughts on the final outcome?

Josephson: I have basically positive thoughts about it. Many of us felt we didn't get all we wished for. In HB 111, that ending the cash credits prospectively was a good thing. There was a sadness about it for sure. It was important for the Alaska people to see that the program was ended, but the credit recipients were entitled to know what the viability of the program is and what remains. As a more practical accounting matter, we can now know there would have to be production before deductions are earned.

That's a monumental step away from a program that was started in 2003 then continued in 2006, 2007 and again in 2013. The other thing, of course, is the ring fencing measure. I hope it was written in a clear enough way. That was a significant part. You can't earned a deduction until a separate unit is in production and you can't take that deduction against other non-unit-producing areas, so you've to get your field into production to do that.

The other features that were important to me was, even though technically one could argue it's a reduction in interest rate, I think we've got the cumulative interest rate with the federal reserve and the statutory rate at a number — around 7.5 to 8 percent — that all sides can be relatively comfortable with.

I don't think anybody is going to think anybody is going to be seeking incredible reforms from that. I think it creates incentive to get auditing done from the state's perspective and also to pay in a timely way from the industry's perspective. So I think that was an important reform.

Petroleum News: With what you have now as a tax regime, one question not heard a lot in hearings is does the state have a tax system the state can afford?

Josephson: My view is that it doesn't. My own perception of this is that I'm in a moderate position on

see JOSEPHSON Q&A page 13

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GOVERNMENT

Hansen new DNR deputy commissioner

Heidi Hansen will join the Alaska Department of Natural Resources as a deputy commissioner effective Sept. 18.

In a Sept. 8 statement, DNR Commissioner Andy Mack said: "Her knowledge of natural resource issues in Alaska, her legal expertise, and extensive work on federal natural resource policy and law make her an excellent fir for this critical position."

Hansen, an attorney, was born and raised in Alaska most recently worked for the U.S. Senate Energy & Natural Resources Committee as counsel, focusing on issues including mining, energy, mitigation, land use and Alaska Native issues.

At DNR she will be responsible for direct management and supervision of the divisions of Mining, Land and Water, Forestry, Agriculture, Parks & Outdoor Recreation, Support Services and the Office of Project Management & Permitting.

Prior to joining the Senate Energy & Natural Resources Committee, Hansen worked for the U.S. Army as associate deputy general counsel (energy) and as special advisor to the assistant secretary for the Army (Installations, Energy and Environment). She was also an attorney for the U.S. Army Corps of Engineers.

Hansen earned her Juris Doctor from American University's Washington College of Law and a Bachelor of Arts from the University of Washington.

—PETROLEUM NEWS

Fisher named to Department of Revenue

Sheldon Fisher, the commissioner of the Department of Administration, was named to head the Department of Revenue Sept. 7. The transfer was immediate, with Deputy Commissioner of Administration Leslie Ridle serving as interim commissioner.


SHELDON FISHER

Fisher replaces Randy Hoffbeck, who retired Aug. 17.

"As Alaska shifts off of reliance on volatile oil prices to pay for government services, revenue is of critical importance," Gov. Bill Walker said in a statement. "Sheldon is a natural fit for the state's top revenue position."

Walker said that as commissioner of the Department of Administration Fisher "shepherded a number of cost-reduction projects, including the initiative to streamline services." The governor also noted Fisher's 20 years of management experience in the private sector.

Fisher was appointed commissioner of Administration in December 2014.

Prior to that he was chief operating officer at McKinley Capital Management LLC in Anchorage, and spent 15 years in the telecommunications industry in the Lower 48 and Alaska, including six years at Alaska Communications where he was senior vice president of sales and product marketing. Prior to that he was an executive at Sprint Communications.

Fisher earned an economics degree from Brigham Young University and a law degree from Yale University. He and his wife Christine have seven children.

—PETROLEUM NEWS

PIPELINES & DOWNSTREAM

Unocal's interest in TAPS still hanging

Unocal Pipeline Co. continues to ask the Regulatory Commission of Alaska for extensions of the deadline for filing an application to sell its operating authority on the trans-Alaska Pipeline System.

In a Sept. 1 compliance filing an attorney representing the company said "Unocal still is not in a position to file an application to transfer its operating authority at this time."

The filing said that, as with other applications for extensions, Unocal and the other TAPS owners are still arbitrating "a dispute over several transfer-related matters," and described the litigation as "time-consuming" and "likely to continue for a significant period of time."

In a Sept. 6 order approving the request RCA said Unocal proposed to file either an application to transfer its interest or an explanation of why the application cannot be filed by March 1, 2018.

Unocal Pipeline's interest is the smallest in the line, 1.36 percent. The company filed for temporary suspension of its service on the line in June 2012, telling RCA then that the suspension was temporary "pending the finalization of the sale of its ownership interest." The commission had approved the sale earlier in 2012 of the other small interest, that of Koch Alaska Pipeline Co., to the major owners — BP Pipelines (Alaska) Inc., Exxon Mobil Pipeline Co. and ConocoPhillips Transportation Alaska Inc.

—PETROLEUM NEWS

● GOVERNMENT

Tolsona recounts communication failure

Describes to AOGCC commissioners circumstances surrounding the failure to comply with orders over exploration well suspension

By ALAN BAILEY
Petroleum News

During a Sept. 12 Alaska Oil and Gas Conservation Commission hearing Tolsona Oil and Gas Exploration LLC recounted the events that had led to regulatory violations resulting in the commission proposing $380,000 in fines. Tolsona, expressing contrition for unintended failures to comply with AOGCC orders, is arguing for a lower penalty. The violations at issue relate to the suspension of the Tolsona No. 1 gas exploration well, which Tolsona Oil and Gas Exploration drilled some 11.5 miles west of Glennallen towards the end of last year.

Tolsona Oil and Gas Exploration, a wholly owned subsidiary of Ahtna Inc., the regional Native corporation for the Copper River Valley region, completed the drilling of the Tolsona well in early December. After some initial flow testing, operations at the well ended in early January. Tolsona suspended the well, pending decisions on further well work.

The well was drilled as part of an Ahtna strategy to find a viable source of natural gas in the Copper River region, to help address the high cost of energy in the region.

Notice of violation

The AOGCC violations relate to commission mandated reporting of pressures in the outer annulus of the well, and the required installation of an additional pressure gauge. Apparently orders from AOGCC to the Tolsona oil and gas operations and development manager were not acted on to AOGCC's satisfaction and were not communicated to senior Tolsona management. Tolsona management only discovered the problem after the eventual issue by AOGCC on May 24 of a notice of violation with the fine proposals.

During the Sept. 12 hearing Tom Maloney, CEO of Tolsona Oil and Gas Exploration, said that on May 25, upon hearing of the AOGGC notice, he had directed immediate action to address the commission's concerns and had ordered a review into how the communications failure had happened.

"We are deeply sorry that this has occurred," Maloney told the commissioners. "It's been a black eye for all of us in the corporation to have this occur. We're committed that it will never happen again."

Maloney said the company had "taken every conceivable step," including the obtaining of advice from leading industry experts, to rectify the shortcomings in the corporation's internal communications.

Chain of events

Ahtna in-house council Nicolas Ostrovsky reviewed the chain of events. Ostrovsky said that on Dec. 15, after the start of work on suspending the well, Tolsona's drilling manager had notified AOGCC that the pressure in the outer annulus had increased from zero to 895 pounds per square inch. Four weeks of continuing monitoring indicated that the pressure then remained between 895 and 1,100 psi.

On Jan. 25 the AOGCC had stipulated the need to continue to monitor the pressure in the well's outer annulus and to install an extra pressure gauge on the annulus. But the commission did not set a specific deadline for having the gauge fitted. In the event, because of technical issues relating to the well cellar configuration and an invoice dispute with the well head manufacturer, the required gauge was not installed until 126 days after AOGCC issued its order, Ostrovsky said. He said that Tolsona now realizes that it had failed to communicate with AOGCC over the issues involved in installing the gauge, communications that could have resulted in some mutually acceptable resolution of the problem.

In the event, after a visit to the well site by an AOGCC inspector on March 3, AOGCC issued a notice of violation on March 6 for the absence of the mandated pressure gauge and for the lack of reporting of annulus pressures for February.

"The notice of violation was received by Tolsona's oil and gas operations and development manager but was not forwarded to upper management," Ostrovsky said.

On March 20 the operations and development manager responded to AOGCC over the notice of violation, providing pressure readings for Feb. 22 and March 2, and believing that these readings satisfied the pressure reporting requirements. On April 11 AOGCC proposed an enforcement action because it had not received pressure data due on March 20, and because the required pressure gauge had still not been installed. Again, the operations and development manager received the order but did not forward the order to senior management. On April 25 the manager sent AOGCC pressure readings for April 13, together with a note that he would call the commission to discuss potential fines. There is no evidence that this call happened, Ostrovsky said.

see **TOLSONA HEARING** *page 6*

LAND & LEASING

Tract contracted out of Cosmopolitan

The Alaska Department of Natural Resources' Division of Oil and Gas has approved the contraction of a tract out of the BlueCrest Energy-operated Cosmopolitan unit. The unit is offshore in state waters adjacent to the southern Kenai Peninsula north of Anchor Point. Crude oil is produced from an onshore drill site.

The tract which BlueCrest relinquished, the 1,109-acre lease ADL 391902, was the most northerly tract in the unit. The lease was acquired by Apache Corp. in the state's June 2011 areawide Cook Inlet sale, and was one of three tracts, the "B" portion of the sale, offered as a block with a minimum bid of $50 per acre and a requirement for an exploration plan within six months of receipt of the leases. Apache's bid was $70 per acre for the leases, which were offered in this way because they were part of a known oil accumulation — discovered by Pennzoil in 1967, and part of the Cosmopolitan unit formed by ConocoPhillips in 2001. Pioneer Natural Resources took over the unit in in 2005, and held it until 2011. Buccaneer and BlueCrest acquired Cosmopolitan in early 2012, and BlueCrest took over as 100 percent owner in early 2014 and has been producing from an onshore pad since early 2016.

A Sept. 11 letter to BlueCrest from division Director Chantal Walsh said BlueCrest notified the division Aug. 31 that it was relinquishing the lease and proposing a contraction to the unit.

—KRISTEN NELSON

CORRECTION

$100,000 offer for Nicolai

The article titled "Major bond needed" in the Sept. 10 issue of Petroleum News incorrectly stated that Aurora Exploration had offered $75,000 for Aurora Gas's Nicolai Creek gas field. In fact, Aurora Exploration offered $100,000 for the field. Petroleum News apologizes for the mistake.

ENVIRONMENT & SAFETY

Researchers elucidate sea ice variations

A team of researchers from Japanese universities and the University of Alaska Fairbanks has determined that heat input through open water is the primary driver behind annual variations in Arctic sea ice retreat, according to a paper published in Scientific Reports.

Using data from the Pacific Arctic collected from satellite observations between May and August from 1979 to 2014, the researchers found that in regions where the ice cover is seasonal, rather than multiyear, the ice melt volume strongly correlates with the area of open water. As the ice breaks apart when the summer melt gets underway, the increasing area of open water tends to accelerate the melt rate, the researchers determined.

The cause of this phenomenon is the fact that the ice tends to reflect solar energy, while open water absorbs the energy and hence warms up, melting the ice. Moreover, because the melting of the underside of thin first-year ice causes that ice to melt completely, thus increasing the surface area of open water, the bottom melting of the ice as well as the melting of the sides of ice floes contributes to the overall decrease in sea ice area. Conversely, the presence of thick, multiyear ice can constrain the overall melt rate.

The findings also point to the importance of the early melt season divergence of ice floes and resulting uncovering of the sea surface as a critical factor in determining the variation from one year to the next in the overall extent of the Arctic sea ice retreat. A relatively small change in ice floe divergence early in the season becomes magnified later in the season, through the multiplier effect of ever increasing areas of open water. The importance of this phenomenon has become particularly noticeable in Pacific Arctic since the early 2000s, the researchers say.

—ALAN BAILEY

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TOLSONA HEARING

Ultimately, this chain of events led to the May 24 notice of violation.

Communications failure

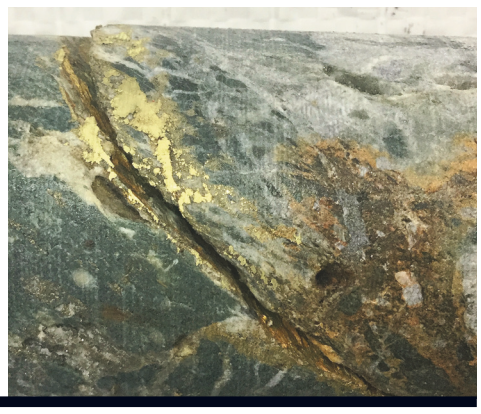
Ostrovsky said that Tolsona has concluded that the debacle resulted from a complete failure of communications in the company, in particular because critical communications with AOGCC were channeled through a single person in the company, with no redundant communications route for ensuring wider awareness of what was happening. The company has subsequently implemented procedures to prevent this type of problem in the future, he said.

Brewster Jamieson, external counsel for Tolsona Oil and Gas Exploration, presented Tolsona's arguments for reducing the size of the fine. One of the fines, a $260,000 fine, is based on the use of a regulation that applies to a producing well and not a suspended well, he said. Moreover, the level of the fines seems high when compared with similar cases — this was an accidental mistake by Tolsona and not a deliberate attempt to blow off or ignore the commission's requirements, he said.

Commissioner Cathy Foerster asked several technical questions which Tolsona will respond to subsequently. She said that the commission had been told that Tolsona may try fracture stimulation of the well to overcome some perceived near well bore formation damage. Ahtna Corporate Communications Director Shannon Blue has told Petroleum News that Ahtna cannot currently comment on any potential stimulation of the well. However, Blue commented that Ahtna has yet to receive state tax credit payments that it are due for the drilling of the well. ●

Contact Alan Bailey at abailey@petroleumnews.com

NORTH OF 60 MINING news



page 8 Colorado Resources cuts 130.4 oz/t gold at KSP project in northern BC

www.MiningNewsNorth.com The weekly mining newspaper for Alaska and Canada's North Week of September 17, 2017

NEWS NUGGETS

Compiled by Shane Lasley

AVALON DEVELOPMENT CORP.

From a vantage above the Peak zones at the Tetlin project in eastern Alaska, Avalon Development President Curt Freeman provides Royal Gold representatives with a geological overview of the gold-rich skarn mineralization found there.

Peak Gold discovers new zone at Tetlin; extends 2017 drilling

Contango ORE Inc. Sep. 8 announced the discovery of West Peak Extension, a new zone of gold mineralization northwest of the Main Peak deposit, during the second phase of 2017 drilling at the Tetlin project near Tok, Alaska. Tetlin is being explored by Peak Gold, a joint venture between Contango ORE and Royal Gold Inc. In June, the Peak Gold partners published an updated global resource for Main and North Peak – measured, indicated and inferred – of 15.65 million metric tons averaging 2.98 g/t (1.5 million oz) gold, 14.68 g/t (7.39 million oz) silver and 0.16 percent (55 million lb) copper. With a substantial resource established, the JV partners turned their summer 2017 exploration efforts to testing six priority prospects over a 2,500-acre-area in the immediate vicinity of the Peak zones. The best results of this exploration drilling came in the 14 holes drilled at West Peak Extension. The best hole drilled at West Peak Extension, 17379, cut 8.1 meters averaging 5.22 g/t gold from 103 meters; and 29 meters of 2.53 g/t gold from 117 meters. The new mineralization tapped in this new zone is open up-dip to the southwest as well as down-dip to the southeast along the undrilled north side of the Main Peak deposit. "We are very pleased to have identified a new mineralized area at West Peak Extension, and we look forward to further delineation of this mineralized area. While the other areas drilled did not return material amounts of gold, we encountered significant thickness of oxidized iron-rich skarn in some surface exposures that may warrant further exploration," said Contango ORE CEO Brad Juneau.

In addition to exploration drilling, Peak Gold drilled three holes to collect material from Main Peak for metallurgical testing. All three holes cut the high-grades of skarn mineralization that has become expected from this zone. One of these holes cut four mineralized intercepts, including 140.9 meters of 13.27 g/t gold; and another cut three mineralized intercepts, including 65.8 meters of 20.14 g/t gold. While these intercepts do not represent the width of the skarn deposit, these high grades over such long widths are still impressive. Results from the Main Peak metallurgical work is pending, however, 19 composite samples from North Peak averaged 97.5 percent gold recoveries during recent 48-hour cyanide leach bottle roll metallurgical testing.

Peak Gold also carried out reconnaissance work at the Noah block of state mining claims west of the main Tetlin property. Contango Ore reported multiple gold bearing samples from streams draining the Hona prospect, and visible gold was reported in pan concentrate samples from elsewhere on the Noah block. Assays are pending from much of the work carried out in this area and Peak Gold will make decisions about follow-up activities after all the data is

see **NEWS NUGGETS** *page 8*

COEUR MINING INC.

After applying its engineering and permitting expertise toward advancing the Silvertip Mine into production, JDS Silver has now cut a deal to sell the high-grade silver mine to Coeur Mining, a company that specializes in high-grade precious metals operations.

ACQUISITIONS

Coeur to buy BC mine

Kensington owner agrees to $250 million deal for high-grade Silvertip mine

By SHANE LASLEY
Mining News

Coeur Mining Inc. has cut a deal to buy the high-grade Silvertip Mine in northern British Columbia, an acquisition that will add the first Canadian operation to the Chicago-based miner's portfolio of gold and silver mines.

Located about 10 miles south of the Yukon border and roughly 150 miles east of Coeur's Kensington gold mine in Southeast Alaska, Silvertip hosts 2.35 million metric tons of indicated resource averaging 352 g/t silver, 9.4 percent zinc and 6.7 percent lead; and 460,000 metric tons of inferred resource averaging 343 g/t silver, 9.8 percent zinc and 6.2 percent lead.

MITCHELL KREBS

JDS Silver Inc., a company formed by JDS Energy & Mining Inc. in 2012 to unlock the value of Silvertip, began operations at the high-grade northern B.C. mine late in 2016.

"JDS Silver identifies unique opportunities and deploys its proprietary value proposition to create projects that will generate value where others failed to see it," according to the company's website.

In the case of Silvertip, JDS applied its renowned engineering and permitting capacity to take a high-grade, near development silver project to production.

With the operation up and running, JDS Silver has agreed to sell Silvertip mine to Coeur, a company that specializes in making the most of high-grade underground mines, for US$250 million.

"By assuming ownership of the Silvertip Mine at the beginning of its life, we think we really have an unique opportunity to apply our operational expertise and shape this mine into a highly profitable operation and an eventual cornerstone asset within our platform of mines," Coeur Mining President and CEO Mitchell Krebs said during a Sep. 11 conference call.

Once the deal closes, which is expected to happen before the end of October, Coeur does not plan to waste any time turning Silvertip into the highest grade silver mine in its portfolio.

Coeur plans to have Silvertip running at its full 1,000-metric-ton-per-day capacity when it resumes year-round operations there in 2018.

Near-term, high-grade mine

Located on a road that extends 16 miles (26 kilometers) south from the Alaska Highway, Silvertip is an underground mine with more than 4,000 meters of underground development in place; and a 1,000-metric-ton-per day processing facility that is powered by five on-site liquefied natural gas generators.

The road accessible project also has a newly constructed dry stack tailings facility; 160-person camp; and a workforce already in place to fill the camp.

At 1,166 g/t silver-equivalent – the cumulative value of the silver, zinc and lead in the resources – the value of the metals at Silvertip is on par with Hecla Mining's Greens Creek Mine in Southeast Alaska.

Coeur said these exceptionally high grades at Silvertip will significantly boost the company's silver-grade profile.

For comparison, the high-grade gold reserves at Kensington are about 465 g/t when converted to silver-equivalency. While only about 40 percent of the Silvertip grade, the reserves at Kensington are above average for an underground mining operation.

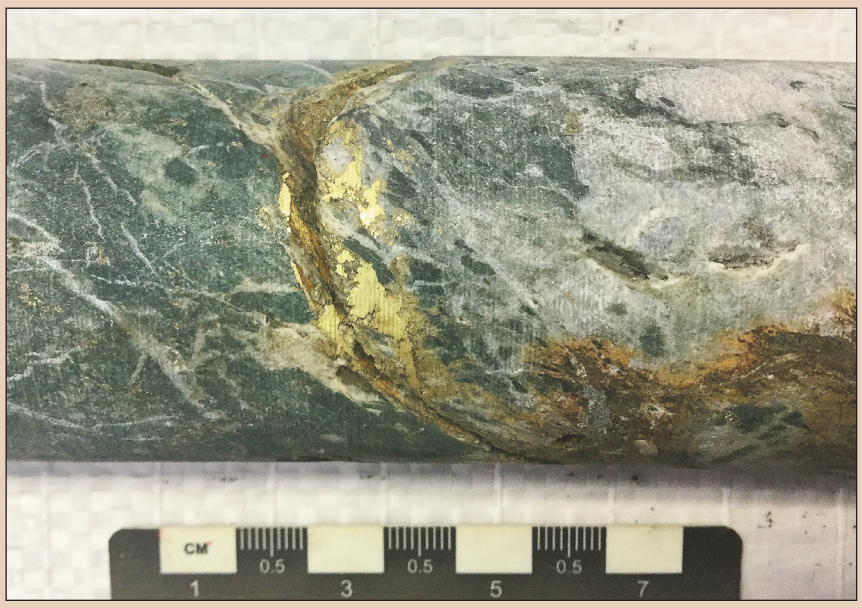
Being a high-grade silver mine in northern B.C., Silvertip checked all the boxes for Coeur.

"It provides near term production and cash-flow from a high-grade, low-cost, high-margin asset

see **SILVERTIP SALE** *page 8*

NORTHERN NEIGHBORS

Compiled by Shane Lasley



COLORADO RESOURCES LTD.

Seeing this thick chunk of gold, Colorado Resources had delivered a section of this core to a lab for analysis. A 1.4-meter section of this core 1,670.5 g/t gold, reminiscent of the high-grade gold found at the historic Snip Gold Mine and the new Brucejack Gold Mine, both located near KSP.

Colorado taps bonanza gold at KSP's Inel zone

Colorado Resources Ltd. Sep. 12 announced that its initial phase of 2017 drilling at the KSP property in northwestern British Columbia cut bonanza grade gold. Identifying coarse visible gold in hole INDDH17-081, the company hand delivered five core samples centered on the VG to ALS Global Vancouver Laboratory for a coarse gold analysis. These samples averaged 1,670.5 grams per metric ton gold over 1.4 meters; including 4,470 g/t (130.38 ounces per ton) gold over 0.5 meters. As a result of the coarse visible gold encountered in hole 81, six holes were drilled over a 150-meter along strike to the north. Assays are pending. Colorado completed 8,100 meters of drilling in 40 holes during the initial phase of 2017 exploration focused on the Inel area at KSP. INDDH17-055 – drilled at Inel Ridge to test an area 50 meters below a 2016 intercept that returned 1 meter of 53.1 g/t gold – cut 2.6 meters of 31.59 g/t gold. Another intercept higher up in hole 55 cut 73 meters of 1.71 g/t gold. The first hole drilled at KSP in 2017, INDDH17-054, tested a porphyry target at the eastern edge of the Inel intrusion where an induced polarization anomaly coincides with the contact between volcanic and sedimentary rocks. This hole cut 273.2 meters averaging 0.32 g/t gold and 0.08 percent copper from a depth of 5.8 meters to the bottom of the hole. Colorado has received assay results from half of the holes drilled during the 2017 phase 1 program at KSP. These results have encouraged Colorado to immediately initiate a second phase of drilling that will extend into the fall. "Sound exploration by our team is being rewarded with significant new discoveries and a better understanding of the Inel System with high-grade visible gold discovered; the recognition of new mineralized trends at Inel Ridge associated with the 8-kilometer-long Big Rock Deformation Zone; and the discovery of porphyry style gold-copper mineralization associated with the Inel Intrusion. These discoveries point to the fact that Inel is a large mineralized system with the capability of delivering high grades and large volumes of mineralized rock, said Colorado President and CEO Adam Travis. "With the recent completion of the $7.3M financing we are well positioned to continue to advance KSP and our other high quality Golden Triangle projects."

see **NORTHERN NEIGHBORS** *page 9*

continued from page 7

SILVERTIP SALE

located in a mining friendly jurisdiction," said Krebs.

Silver tip of the iceberg

Coeur has agreed to pay up to US$250 million to acquire this turnkey high-grade silver mine.

The deal includes US$200 million upfront, which involves paying JDS Silver approximately US$146.5 million in cash; issuing roughly 4.3 million Coeur shares valued at US$38.5 million; and assuming responsibility for about US$15 million in existing JDS Silver debt.

The up to US$50 million balance is to be paid when two milestones are met.

The first such payment would be paid when Coeur receives a permit amendment that allows for year-round operations at Silvertip at the operation's full 1,000 t/d capacity

The second milestone payment is contingent upon the size of the Silvertip minerals resource by the end of 2019. JDS Silver will receive US$5 million for a total resource of at least 2.5 million metric tons and US$5 million for every 300,000 metric tons over that. The maximum payment of US$25 million would be paid if the total resource is at least 3.7 million metric tons.

Coeur believes the current resource may only be the silver tip of the iceberg and plans a robust exploration program aimed at upgrading and expanding the Silvertip resource as soon as it closes the acquisition.

"Based on our work so far, we believe the current Silvertip resource potentially represents the edge of a much larger system," Krebs said.

As part of its deal with JDS Silver, Coeur agreed to invest at least US$15 million on exploration by the end of 2019 but has indicated an even more robust drill program that initially focuses on expanding the resource in the immediate mining area and then work on expanding the high-grade silver deposit.

Getting ready for 2018

Once the deal closes, which is expected to happen before the end of October, Coeur does not plan to waste any time turning Silvertip into the highest grade silver mine in its portfolio.

"We plan to spend about US$25 million to US$35 million over the next six months or so to optimize and commission the processing facility; improve some the existing surface infrastructure; invest in underground development and drilling; and then to develop an optimized mine-plan," said Krebs.

The company hopes to have this work done and the amended permit in time to begin ramping up production at Silvertip fairly early in 2018.

Once the mill is running at full capacity, Coeur expects Silvertip to produce roughly 3 million oz silver, 45-50 million lb zinc, and 40-45 million lb lead annually over an initial 7.5-year initial mine life.

"Once in full production, we expect Silvertip to produce about 10 million silver-equivalent-ounces annually, which would make it our second largest producing mine behind Palmarejo," the Coeur Mining CEO said.

Palmarejo in Mexico, which has about triple the mill capacity as Silvertip, produced 8.9 million silver-equivalent-oz in 2016 and is expected to produce more than 13 million oz this year.

The all-in costs to produce an ounce of silver at Silvertip are expected to be between US$10 and US$11.

The ability to churn out high quantities of silver at lower costs in a secure mining jurisdiction is what made Silvertip a compelling acquisition for Coeur.

"With average annual sustaining capital of less than US$10 million, we expect Silvertip to be a source of significant long-term free cash flow," Krebs said.

This fits well into Coeur's strategy of fostering cash flow from precious metals mines in safe jurisdictions.

"Over the past several years, we have repositioned our existing portfolio of mines, achieved greater geographic and operational balance and generated industry-leading cost reductions and cash flow growth," said Krebs. "The acquisition of Silvertip – one of the highest-grade and newest operations in the sector with a tremendous amount of exploration potential – should serve to further accelerate these positive trends while providing us with an important foundation in British Columbia." ●

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NEWS NUGGETS

received and interpreted. No drilling is planned for the Noah block in 2017. Peak Gold, however, will be carrying out additional drilling around the Peak zones this year. "A phase III drilling program has been approved for the remainder of calendar year 2017, and will begin before the end of September," said Juneau. "This drilling will further explore the West Peak Extension, as well as, drill additional holes on two other prospects." Peak Gold has budgeted US$1.5 million for this third phase of 2017 exploration, which will result in roughly US$11.8 million of exploration at Tetlin this year. By the end of the program, Royal Gold will be very close to investing the US$30 million required to earn a 40 percent interest in the Peak Gold JV. Once Royal Gold has funded the full US$30 million, Contango ORE will be required to begin funding its 60 percent share of future capital costs. "The company currently has approximately US$5 million in cash and no debt, and we are very encouraged by our drilling, metallurgical and recon results," said Juneau. ●

Petroleum news

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NORTHERN NEIGHBORS

3 Aces bulk sampling yields 744 oz gold bar

Golden Predator Mining Corp. Sep. 12 reported that it has poured a 744 troy ounce gold doré bar recovered from the its initial 776 metric ton bulk sample at the 3 Aces project in eastern Yukon. A 96.72 oz bar from 2016 bulk sampling contained 85 percent fine gold and 8 percent fine silver. Similar percentages would make this year's bar worth about US$840,000 at today's gold and silver prices. In addition to the 744 oz bar poured from the No. 1 concentrate table at 3 Aces, Golden Predator has arranged shipment of 86.4 kilograms of No. 2 concentrate and more than 1 metric ton of #3 concentrate for further processing. Golden Predator also reported results of the final 10 holes drilled at the Ace of Spades zone this summer. Highlights from these holes include 19.3 meters averaging 16.15 grams per metric ton gold; 4.2 meters20.04 g/t gold; and 2.5 meters of 15.51 g/t gold. Drilling began testing the northerly extension of the Hearts zone in August and on the newly discovered gold-in-quartz veins at the Diamonds zone in September.

Fireweed off to a good start at Macmillan Pass

Fireweed Zinc Ltd. Sep. 12 reported results from the first five holes of its 2017 drill program on the Macmillan Pass zinc project in eastern Yukon. The best intercept so far cam in hole TS17-03, which cut 24.4 meters averaging 10.2 percent zinc, 6.28 percent lead and 87.7 grams per metric ton silver. Fireweed said this intersection confirms the very high grades near the surface of the Tom West zone. Hole TS17-05, also drilled at Tom West cut 27.7 meters averaging 6.35 percent zinc, 3.15 percent lead and 34.2 g/t silver. "We are excited to see these results not just confirm the historic grades, but also exceed them significantly in places," said Fireweed CEO Brandon Macdonald. "These results also demonstrate the very high-grade nature of near surface areas of the Tom West zone." Results from additional holes drilled at Tom and Jason, the two main deposits at MacMillan Pass, are pending. The results from the 2017 program, along with 11 holes drilled by a former operator in 2011, will be included in an updated mineral resource later this year.

Drills cut shallow gold-silver at Klaza

Rockhaven Resources Ltd. Sep. 12 reported initial assay results from a 15,922-meter drill program at its Klaza gold-silver property in the Dawson Range Gold Belt of southern Yukon. The main objectives of the 2017 program were to better define and expand the near-surface mineral resources through infill and step-out drilling; explore for new gold zones with drilling, trenching and geophysics; and continue to advance the metallurgical and engineering facets of the Klaza project. Most of the 28 holes in this batch of assay results tested the Central Klaza zone. Highlights include: 2.9 meters averaging 7.57 grams per metric ton gold and

ROCKHAVEN RESOURCES LTD.

Rockhaven Resources completed 15,922 meters of drilling this year aimed at upgrading and expanding the gold-silver resource that served as the basis for a 2016 preliminary economic assessment of its Klaza project in the Yukon.

65.6 g/t silver; 1.93 meters of 14.14 g/t gold and 116 g/t silver; 0.83 meters of 36.9 g/t gold and 1,280 g/t silver; 24.04 meters of 1.25 g/t gold and 8.74 g/t silver; and 2.22 meters of 6.57 g/t gold and 99.0 g/t silver. All of the holes were drilled within or adjacent to a proposed open pit as outlined in a 2016 preliminary economic assessment for Klaza. "Enhancing the economics at Klaza is largely dependent on adding ounces amenable to open pit mining and these first holes help demonstrate the consistent nature and extent of the near surface gold mineralization within and adjacent to the Klaza and BRX zones," said Rockhaven CEO Matt Turner. A total of 96 holes were completed during the 2017 program, assays are pending from 68 holes. Samples collected from the program will be used for pre-concentration metallurgical test work that will begin this fall.

North Arrow targets Q1-4 with 2017 field program

North Arrow Minerals Inc. Sep. 12 announced the completion of the summer drilling and mini-bulk sampling program of the Q1-4 kimberlite at the company's Naujaat diamond project in Nunavut. Q1-4 hosts 48.8 million metric tons of inferred resource averaging 0.54 carats per ton (26.1 million carats) of diamonds from surface to a depth of 2015 meters. The C$2 million summer program included 3,469 meters of drilling completed in 11 holes and the collection of a 234 metric ton mini-bulk sample targeting an under-tested area of the kimberlite. The drilling yielded 2,440 meters of kimberlite core, which will be used for petrography, indicator and microdiamond analysis and will contribute to a new geological model planned for 2018. The mini-bulk sample will be analyzed for macro-diamonds and will contribute to a better understanding of overall diamond value and the distribution of colored diamonds within the Q1-4 kimberlite. A significant population of rare, potentially high value, fancy intense to vivid orangey yellow diamonds has been identified in Q1-4. North Arrow President and CEO Ken Armstrong said, "All samples have now been shipped south for processing and we look forward to seeing the impact of these results on our current model as we plan for further drilling and bulk sampling of the kimberlite in 2018." North Arrow said the summer field work represents the first phase of a larger planned program to better define the size, grade and diamond content of the Q1-4 kimberlite in support of an economic assessment.

Faraday drilling done, maiden resource soon

Kennady Diamonds Inc. Sep. 11 reported that its summer drill program on its Kennady North diamond project has extended the Faraday 2 kimberlite and has demonstrated that Faraday 1 and 3 are a single kimberlite body that connects at depth. The program, which began on July 4, included 2,766 meters of drilling in nine HQ diameter drill holes. The latest three holes drilled at Faraday 2 have extended that kimberlite body about 150 meters to the north and Kennady President and CEO Rory Moore said the kimberlite has maintained a relatively constant depth in this direction. "The total strike length of Faraday 2 now stands at approximately 600 meters, and the latest drilling will add significant tonnage to the high-grade resource potential of this kimberlite. The final hole of the program delivered a 64.6-metre kimberlite intercept, one of the longest kimberlite intercepts drilled on Faraday 2 to date," said Moore. Two holes were drilled at the Faraday 1 and 3 kimberlites – one was positioned to collect geotechnical and environmental data, and the second tested a potential connection at depth between the kimberlites. Kimberlite intercepts from both holes have established that the two pipes are joined at the northwestern tip of Faraday 1. As a result, Kennady has renamed the merged kimberlite, "Faraday 1-3". A resource estimate is currently being calculated for the Faraday kimberlites. "On behalf of directors of Kennady, I extend sincere thanks and appreciation to the technical team at Aurora Geosciences Ltd. for delivering yet another highly successful drilling season without any lost time injuries," said Moore." The next step in the evaluation of the Faraday kimberlites will be the announcement of the maiden resource results, which are expected within the next week to ten days."

Victoria drills gold at Olive extension

Victoria Gold Corp. Sep. 11 reported gold intercepts from drilling untested areas south and west of the main Olive-Shamrock zone on its Dublin Gulch property in the Yukon. Highlights from this drilling at Olive include 33.3 meters of 1.54 grams per metric ton gold in hole DG17-849C; 9.1 meters of 3.14 g/t gold in DG17-856C; and 13.9 meters of 1.56 g/t gold in DG17-889C. "These latest assay results highlight the fact that additional, near-Olive gold mineralization exists at Dublin Gulch and further validates the Potato Hills Trend mineralization model which we continue to test even as construction has begun at the Eagle Gold Mine," said Victoria President and CEO John McConnell. "We are greatly encouraged with each of the targets we have tested this season at Dublin Gulch and look forward to the steady receipt of assays from this on-going campaign throughout this fall." ●

● ENVIRONMENT & SAFETY

Tank failures reveal storm vulnerabilities

By MATTHEW BROWN & LARRY FENN
Associated Press

More than two dozen storage tanks holding crude oil, gasoline and other contaminants ruptured or otherwise failed when Harvey slammed into the Texas coast, spilling at least 145,000 gallons of fuel and spewing toxic pollutants into the air, according to an Associated Press analysis of pollution reports submitted to state and federal regulators.

The tank failures follow years of warnings that the Houston area's petrochemical industry was ill-prepared for a major storm, with about one-third of the 4,500 storage tanks along the Houston Ship Channel located in areas susceptible to flooding, according to researchers.

More of the massive storage tanks could be put to the test in coming days as Hurricane Irma bears down on Florida.

Tanks prone to float, break

The tanks are prone to float and break during floods, and Harvey's unprecedented rainfalls revealed a new vulnerability when the roofs of some storage tanks sank under the weight of so much water.

Federal and state rules require companies to be prepared for spills, but mandate no specific measures to secure storage tanks at refineries, chemical plants and oil production sites.

Although Florida has no oil refineries, it has more than 20 petroleum product storage terminals in coastal communities and about 30 chemical companies with a presence in the state, including a significant number of facilities in the Tampa Bay area, according to the American Chemistry Council and U.S. Energy Information Administration.

"Tampa Bay is one of the most vulnerable cities in the country" to hurricanes, said John Pardue, a Louisiana State University professor who has researched problems with storage tanks during storms.

"But there's no requirement that says when you're in a hurricane zone you've got to do things differently," Pardue added. "If we're going to continue to put some of these facilities in harm's way, it would be great to have some specific regulations" to safeguard storage tanks.

Harvey surge small

The storm surge from Harvey was small enough that the refineries in the Houston Ship Channel appear to have avoided the huge spills associated with past storms such as Hurricane Katrina, when ruptured storage tanks released several millions of gallons of oil including into residential areas, according to Jamie Padgett, an associate professor at Rice University who has inventoried the Houston Ship Channel's storage tanks.

One difference during Harvey was that prior to the storm, some refineries apparently were able to fill up their storage tanks to make them less buoyant and therefore less prone to floating and being damaged, said Kyle Isakower, vice president of regulatory policy at the American Petroleum Institute.

That wasn't the case with about a dozen smaller storage tanks that experienced spills in Fayette County west of Houston, said Ron Whitmire with EnerVest, the Houston-based company that operated the tanks. The capacity of those tanks ranged from about 250 to 400 barrels, which he said was not large enough to resist the force of the floodwaters that swept them away.

"Do we plan for storms and hurricanes? Absolutely," Whitmire said. "But nobody plans for 50-plus inches of rain."

Issue with 'floating roofs'

The record rainfall also exposed problems among almost 400 large storage tanks in the Houston area that have "floating roofs" that go up or down depending on how much fuel is inside the containers. The unprecedented rains that came with Harvey caused 14 of those roofs to sink, in some instances allowing the chemicals inside them to escape, according to company reports and Padgett of Rice.

There are no government rules dictating how tanks are designed. But the American Petroleum Institute has established industry standards for tank construction that call for tanks to be able to drain at a minimum 10 inches of rain over a 24-hour period. Rain was falling at more than twice that rate during Harvey, Padgett said.

At least two of the floating roof failures occurred in gasoline storage tanks at Shell Oil's Deer Park refinery and another occurred at ExxonMobil's Baytown refinery.

Pollution reports submitted by the companies to Texas regulators blamed the roof problems on Harvey's excess rainfall. The reports said air pollutants including benzene, toluene and xylene were released into the atmosphere. Long-term exposure to such pollutants can cause cancer, although Texas officials said they never reached concentrations high enough in the storm's wake to cause health concerns.

A Shell representative said in a statement to the AP that the roof problems presented an "extremely rare" circumstance and that company workers had quickly responded by spraying the spilled fuel with foam to suppress any harmful vapors. All the gasoline that was released was contained on-site, Shell spokesman Ray Fisher said.

ExxonMobil spokeswoman Charlotte Huffaker said safety was a priority for the company and it was able to lessen environmental damage from Harvey by shutting down equipment in advance. Huffaker said Exxon "reported and responded to the event as soon as it was identified."

Spill volumes uncertain

As state and federal officials investigate the impacts from Harvey, it's uncertain how much spilled material flowed off-site from the storage yards, oil production areas and refineries.

It's expected to take about two weeks from the time of the spills for any contamination in the ship channel to reach Galveston Bay, according to Hanadi Rifai, director of the graduate program in environmental engineering at the University of Houston.

Texas has rules governing protections for underground storage tanks during floods, but not for above-ground tanks found at many refineries and chemical plants, according to Andrea Morrow, a spokeswoman for the Texas Commission on Environmental Quality.

Morrow declined to say if the agency planned to investigate the Harvey-related tank failures and whether tanks that failed had been properly secured before the storm.

"We have established a Unified Command with other state and federal partners, and are in the field conducting rapid needs assessment at this time," she said. "Due to the widespread impact from Harvey, the TCEQ anticipates conducting many storm-related investigations over the next several months." ●

—Associated Press Correspondent Matthew Brown reported from Billings, Montana. AP data journalist Larry Fenn reported from New York City.

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INSIDER

ration season on the North Slope in several years.

This is what the coming winter exploration on the North Slope looks like right now:

• Glacier Oil & Gas (Savant) is drilling a well on its leases near Badami, exploring a formation behind a fault block that hasn't been drilled before, and using Nabors Rig 27E. That's the same rig ExxonMobil used at Point Thompson. 1 rig.

• ConocoPhillips is planning four to five exploration wells west of the Colville River (see full story this issue). 3 additional rigs.

• Armstrong, per company President Bill Armstrong, two Pikka appraisal wells, including one side track. 1 rig.

There had been consideration by Alliance to drill an exploration well in its new Guitar this winter unit but our sources say that has been pushed back a year to 2019.

Given the state's primary economic engine is the oil industry, several service and supply contractors have already seen increased activity this year, and expect to see even more in 2018.

Given the state's primary economic engine is the oil industry, several service and supply contractors have already seen increased activity this year, and expect to see even more in 2018.

Finally, some good news.

Here's to hoping the economic pundits that have predicted a gradual strengthening in world oil prices starting in mid-2018 are right.

—KAY CASHMAN
Publisher & Executive Editor

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SLOPE EXPLORATION

announced in January. The discovery, in the Nanushuk formation, the focus of a major new North Slope oil play, could yield 300 million barrels of light 44 degree API oil, the company said. The discovery lies west and slightly north of the ConocoPhillips Mooses Tooth 2 development. If drilling in the Willow area proves the viability of development of the Willow prospect, the development would represent a logical step out from ConocoPhillips' developments at Greater Mooses Tooth 1 and Greater Mooses Tooth 2 in NPR-A.

Moving west

Essentially, the company has been following a strategy of progressively moving out west from the Colville River delta area into NPR-A, building out the pipeline infrastructure, as necessary, to link the new developments back to the established infrastructure connecting to the Colville River unit and the Alpine oil field.

The proposed well southwest of Nuiqsut is presumably targeting another prospect relatively near that existing Colville River unit oil infrastructure.

The drilling of the Putu well, close to Nuiqsut, in the coming winter forms a key ConocoPhillips commitment, as part of an August approval by the state of the expansion of the Colville River unit to include the Tofkat leases, on the southeast corner of the unit. ConocoPhillips had originally hoped to drill the well last winter but ended up postponing the drilling, following discussions with community leaders from Nuiqsut. Arctic Slope Regional Corp., the Native regional corporation for the North Slope, has a joint interest with the state in the Tofkat leases. The planned drilling of the Putu well is of great interest, given that the drilling in 2008 of the Tofkat No. 1 well and its sidetracks by Brooks Range Petroleum in the Tofkat leases indicated the presence of oil in several horizons, including rocks of the Nanushuk formation. ●

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Petroleum news

Oil Patch Bits

PND Engineers Inc. announces new hires in Anchorage

PND Engineers Inc. said Sept. 8 that Bill Jamison and Rachel McKinney have joined its Anchorage office.

Bill Jamison, P.E., first joined PND in 2003, and is now rejoining the team with his expertise in marine design, structural bridge design, and construction inspection. Jamison is a lifelong Alaskan with several years of practical construction experience. He graduated from University of Alaska Anchorage in 2003 with a Bachelor of Science in civil engineering and is an Alaska-registered professional engineer. Jamison brings project administration background including contract development, bid phase support, construction inspection, and cost estimating to his position.

Rachael McKinney was brought on as the firm's marketing coordinator. McKinney holds a Master of Science in journalism from West Virginia University. In addition to her background in writing and editing, she has experience in graphic design, computer programming, and strategic communication. Before joining PND, McKinney served one year as an AmeriCorps VISTA for a local nonprofit in Anchorage. She will assist the team in proposal development and procurement effort.

RACHAEL MCKINNEY

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

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

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JOSEPHSON Q&A

this. There are people who serve in the Legislature and experts in the field who believe under the current price environment we could reap what we need to have sustainable budgets. That is instead of say bringing in $1 billion a year, which is about what we are bringing in now in taxes, royalty and property tax, that we could bring in $3 billion plus per year. I don't take that position. That's the most aggressive position relative to what could be done in our oil and tax schedules.

Then you have the status quo position, which is don't tinker with anything, leave it where it is. That is sort of the position of the defenders of SB 21 and all it was trying to achieve. I'm sort of in a middle position which is neither the first two I described in that I think that there are in the $50 price monies that the state is arguable being shorted. It may just be in the $200 million to $300 million range, but they are there. The reason we believe that is, our members continue to believe that the per-barrel credit for example on legacy fields doesn't make any sense where production would occur anyway. The maritime transportation costs are fixed but the cost of infrastructure for legacy fields are low enough — some might say as low as $25 a barrel — that even at $50 a barrel (market price) there is profit that should be more generously shared with the state.

The other issue is the crossover point moving from a gross tax to a net profits tax is apparently around $75 a barrel. What happens is in this price environment, the state doesn't receive more than 4 percent of the gross. The people are getting somewhat less, even if it's a modest amount than fairness would dictate. We have these three companies that have done some modeling. I'm told in a very short time we will see what the consultants have come up with.

Obviously the Alaska House Majority Coalition took the position that the oil industry should also be contributing in a greater way to balancing our budget. That didn't happen. That's where we are on that question.

Petroleum News: One argument for leaving things as they are is that oil production has ticked upward these last few years. In other words, SB 21 is working as intended. How do you answer that?

Josephson: There is potential in the relative near term with fields like Armstrong's Nanushuk, which is part of Pikka, and then you have Willow in ConocoPhillips' play, and that could be 100,000 barrels per day. And ConocoPhillips has a play near Kuparuk and then you have Greater Moose's Tooth. We can see that there is a win-win that could be obtained where if everything went really well and you had 300,000 barrels of new production then then benefit to the state's treasury would be manifest. Understandably in a competitive environment makes the argument if we change SB 21 too significantly it can't move forward with those developments. Those are the kinds of discussions we need to have and they need to be carefully gauged. I'm in a learning position and learning mode on those.

Petroleum News: Late May Interior Secretary Ryan Zinke visited Alaska touting the state's resource development prospects. What are your thoughts on his visit?

Josephson: I actually got to meet him at Byers Lake over Memorial Day weekend. I didn't want to take up much of his time and he didn't have that much. We spoke for about 60 seconds. First of all, he's got a great background. He's a Navy SEAL; he was a congressman; he worked in the oil industry. He's a very smart person. I support his being very ambitious of the oil industry. I have more hesitancy than he does over offshore drilling. My concerns about his agenda are related to other Interior Department issues. For example, he is supportive of legislation that Don Young spoke to last week on allowing the state to manage wildlife and national parks and preserves? Just this morning Gov. Knowles wrote a good op-ed on this topic. I view these as public lands for which the federal government should have a role in their management. He's also taken the view seeking to reign in and modify some of the Antiquities Act designations, and I don't necessarily support that, either.

But the positive news he gave me when I met with him is that he confirmed that the administration has no intention of taking federal land and giving it back to the state. That may not be a broadly popular position for some Alaska people, but I certainly think it's OK with my constituents. I take the position that there is even economic benefits in the ANILCA designations remaining as they are.

Petroleum News: Secretary Zinke also brought two Alaskans on to his team. Can you speak to those appointments starting with Joe Balash? He's fresh off his hearing.

Josephson: I certainly support that appointment. He's impressed me as a thoughtful person, well-spoken, friendly and a good listener. I applaud that appointment.

Petroleum News: Zinke also appointed another Alaskan to his team, Steve Wackowski.

Josephson: He was there when I spoke with Secretary Zinke. I support that appointment, too.

Petroleum News: Even though you're going to be back here in October to discuss a fiscal plan, what if the Legislature puts a fiscal plan in place. How might that help resource development in the future?

Josephson: It's the Senate's position that there be no increase in taxes for the extractive industry. Then the question becomes what is the Senate's recommendation to balancing the budget. The Senate originally said it would hope for some return in oil prices. I don't know that it's going to happen. Then it had a plan to draw down $700 million a year from the Constitutional Budget Reserve. It claimed that could be done over four or five years and we could ride this out. Then it claimed it could fund the government from the CBR undermining its own plan.

My body has already passed a fully funded fiscal plan. It did that. The Senate didn't. So really the success of this special session rests with the state's Senate. They have enormous power to set a course because we are going to be responding to them. We already set a course they rejected. I believe if we had a fully balanced budget in the out years and we had a fiscal plan that people honored, broadly honored and respected, then industries — mining and oil — could know what the lay of the land is and what the rules would be. They could make judgments about the overall health of the economy and the state's position

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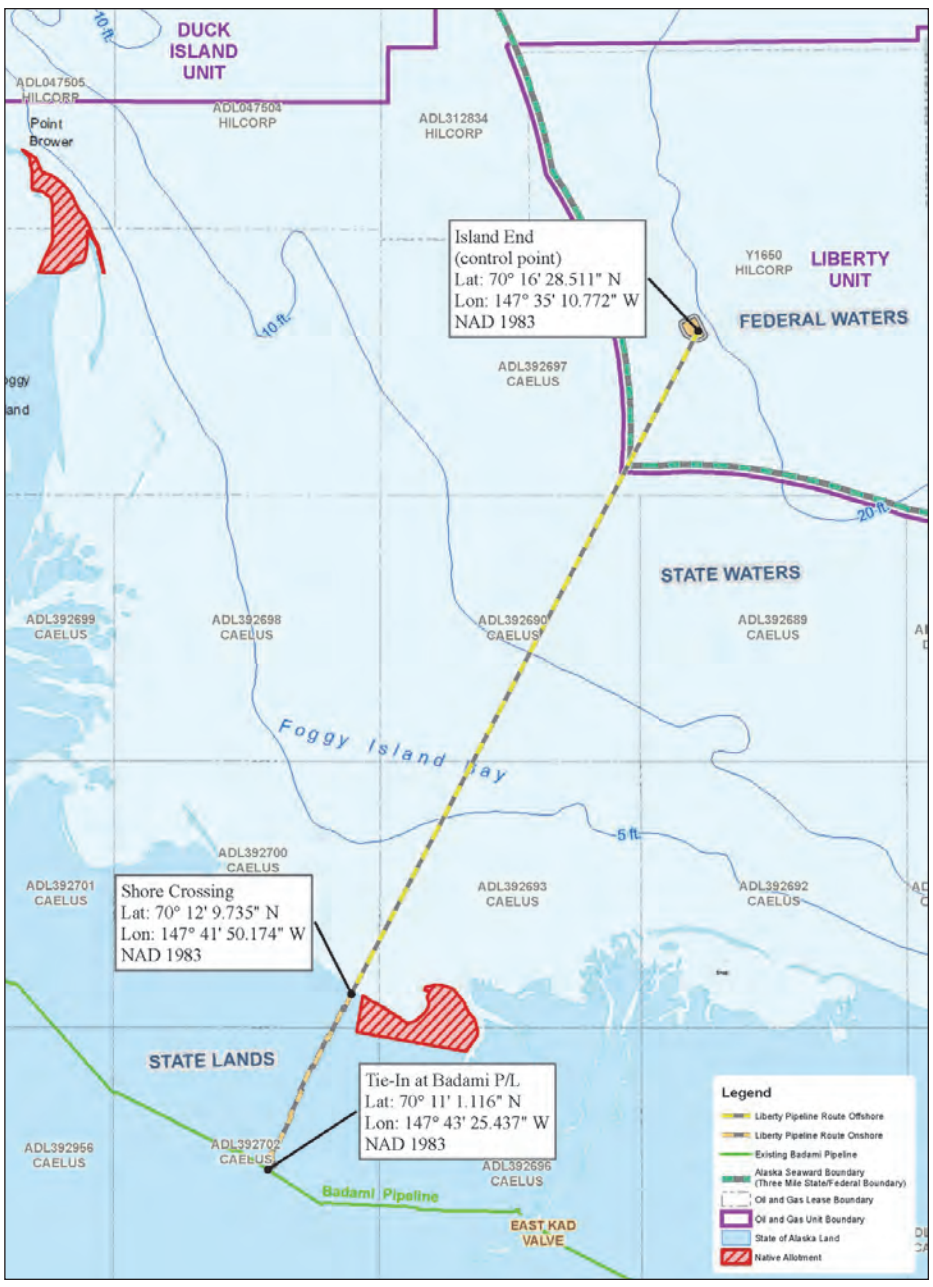

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PIPELINE PLAN

ly used in other Beaufort Sea artificial islands, Hilcorp's plan says.

Hilcorp anticipates production starting at 10,000 to 15,000 barrels per day of oil and peaking at 60,000 to 70,000 barrels per days within two years of field startup, with total recovery between 80 million and 150 million barrels over 15 to 20 years. The total recovery estimate represents a 55 percent recovery factor from an estimated 230 million barrels of oil in place, Hilcorp's plan says.

Permits needed

Currently, Hilcorp is waiting for the completion of a Bureau of Ocean Energy Management environmental impact statement before the project can proceed. Once the company has the EIS and the permits that it needs for the project it will review permit stipulations and work with the other field owners to determine whether the development remains viable: That review process will likely take at least six to nine months, the Hilcorp plan says. Following financial approval by the owners, development would start with detailed engineering for the project. The construction of the Liberty island would happen in year two of the project. Pipeline construction would take place in winter, during the first half of year three.

First oil is expected in the first quarter of year four of the development.

Hilcorp says that it is designing the offshore production facilities to use modules small enough to be trucked to the North Slope on the Dalton Highway. The modules and equipment for the facilities may be barged to the island from the North Slope during the summer, or trucked over an ice road in the winter. Facility installation and on-site construction will begin in year two of the development and will be completed by the end of year four. The use of small modules rather than larger units barged from out of region offers several benefits, including the use of proven module designs; shorter engineering and fabrication times; and flexibility, if needed, in adjusting to a higher than anticipated production rate, Hilcorp's plan says.

The pipeline system

The pipeline system that will connect the Liberty island to the mainland will actually include two pipelines: an oil line for the export of pipeline grade crude oil from the field production facilities, and a utility line for the delivery of fuel gas to the island and for other potential uses. The pipeline bundle will include a fiber optic cable for communications with the offshore facilities. Design life of the system is 25 years, although appropriate maintenance may enable the system to continue operating longer, the plan says.

The 5.6-mile offshore section of the pipeline bundle will be buried nine to 11 feet beneath the seafloor, with a minimum depth of seven feet of fill cover above the bundle. Landfall will be at the coast, to the west of the Kadleroshilik River. The 1.5-mile onshore section will be above ground, with the two pipelines held on vertical support members. The oil line will connect with the existing Badami pipeline, for the shipment of oil to the trans-Alaska pipeline. The concept for the offshore section of the oil line is a pipe-in-pipe design involving a 12-inch oil pipeline inside a 16-inch diameter casing. The utility line will be four inches in diameter.

The pipeline system will incorporate leak detection technologies, including the vacuum testing of the space between the offshore oil pipeline and the outer pipeline casing, Hilcorp's plan says.

Winter placement of the gravel for the offshore island and winter laying of the pipeline system will avoid noise disturbance to bowhead whales that traverse the region in the summer and form an important subsistence resource for local communities, the plan says.

Drilling rig

The drilling rig and associated equipment will be mobilized to the island by barge in year two of the development, with start-up of the drilling scheduled for the first quarter of year three. Hilcorp says that it may use an existing drilling rig, its Rig 248 that currently operates in Cook Inlet. Alternatively, the company may build a new rig that would be portable and adaptable, and thus usable both at Liberty and for other North Slope projects. Whichever rig is used, the rig would have new, low emission engines and use new or reconditioned drilling equipment, Hilcorp's plan says.

Used drilling mud will be disposed in a disposal well, the plan says.

The design of the Liberty island will accommodate five to eight production wells, four to six injection wells and up to two disposal wells. Directional drilling will enable access to various parts of the subsurface reservoir. All wells will be completed by the end of the second quarter of year five of the development. Seawater, at some stage supplemented with produced water, will be injected for reservoir pressure maintenance. And any produced gas would be used as fuel, or for artificial lift from production wells, or for injection into the reservoir.

Kekiktuk reservoir

The oil reservoir for the Liberty field is

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HARVEST CHANGES

In 2009 an eruption of Redoubt forced an evacuation of the Drift River terminal and an emergency drawdown of oil stored at the terminal site.

"We are pleased that Hilcorp is taking steps to shut down Drift River Terminal and transport oil via pipeline. It's certainly a safer option," said Mike Munger, executive director of the Cook Inlet Regional Citizens Advisory Council. "The council has advocated for a crude oil subsea pipeline since the reopening of the terminal after the 2009 Mount Redoubt eruption."

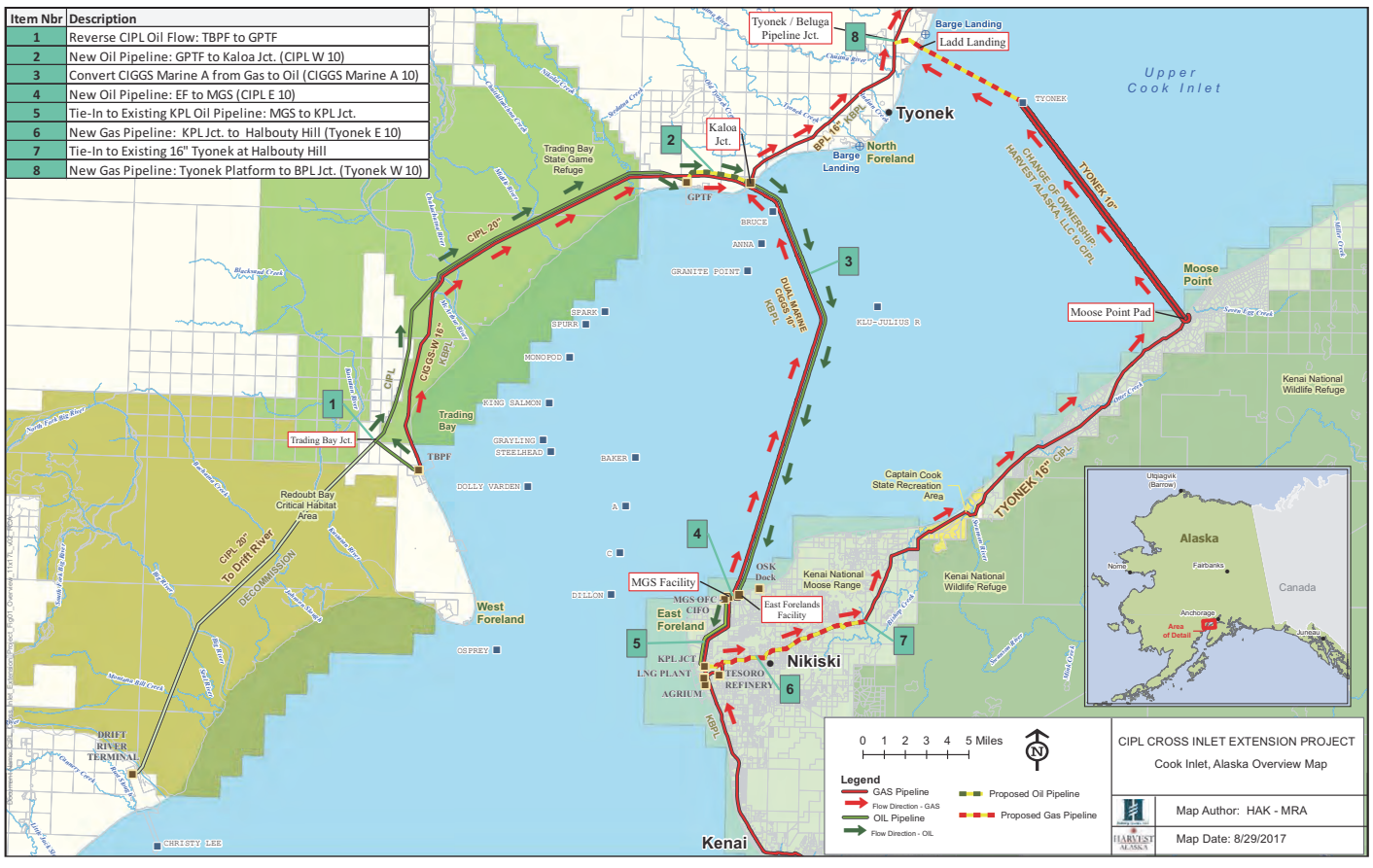
Two subsidiaries involved

The applications to RCA essentially involve two Harvest Alaska subsidiaries: Cook Inlet Pipeline Co., the operator of the pipeline that carries oil down the west side of the inlet to Drift River, and Kenai Beluga Pipeline LLC, the operator of a major gas transmission pipeline that ships gas under the inlet. The subsea component of KBPL's gas pipeline system actually consists of twin pipelines, originally part of the Cook Inlet Gas Gathering System, or CIGGS, a pipeline system originally designed to carry gas from oil and gas fields on the west side of the inlet to the Kenai Peninsula.

Under its current configuration CIGGS has bidirectional gas flow and its capacity is vital to Southcentral Alaska gas and power utilities for shipping gas under the inlet during periods of peak winter gas demand.

Harvest Alaska's plan is to use one of the CIGGS lines under Cook Inlet for the transportation of oil west to east, to Nikiski, while continuing to use the other CIGGS line for gas transportation. This plan requires the construction of a new 3.3-mile onshore oil pipeline to connect the northern end of the Cook Inlet pipeline to the CIGGS line at the Kaloa pipeline junction on the western side of the inlet. The pipeline changes also require a short oil line connecting the Kenai Peninsula end of the CIGGS line to the oil line from Hilcorp's Middle Ground Shoal oil field. Harvest also plans to build a new subsea gas pipeline between Hilcorp's Tyonek gas production platform and Ladd Landing on the west side of the inlet. An existing gas pipeline connects the Tyonek platform with the gas transmission infrastructure near Nikiski. The transmission of gas through the Tyonek pipeline with its new extension to Ladd Landing will, in effect, replace the transmission of gas through the CIGGS line that will be switched to oil transportation, thus enabling the gas transportation capacity under the inlet to be maintained.

In its RCA filings Harvest says that, as part of the pipeline project, it also plans to replace an 8.5-mile onshore section of the Tyonek pipeline.



CIPL incurs the cost

In the filings Harvest has made it clear that, because the primary purpose of the pipeline project is to improve the shipment of oil from the west side of the inlet, the business and regulatory arrangements proposed for the project place the cost of the project on Cook Inlet Pipeline, the oil carrier, and not on Kenai Beluga Pipeline, the gas carrier. The changes in the pipeline system will not impact the rates charged for the transmission of gas across the inlet, nor will the changes jeopardize the gas carrying capacity of the gas transmission system, Harvest told the commission.

To achieve these business objectives CIPL will acquire the existing Tyonek pipeline and make the planned modifications and extension to that pipeline system. That company will own and maintain the pipeline, while making the pipeline available for KBPL's use in the transportation of gas, under the terms of a formal agreement between the two companies.

Similarly, under the agreement, CIPL will retain ownership of both of the twin CIGGS pipelines, even although KBPL will have use of one of these lines for the transportation of oil to Nikiski. In effect, KBPL will swap gas carrying capacity on CIGGS with carrying capacity on the Tyonek system.

Approvals needed

To do all of this, Harvest has asked RCA to grant CIPL a certificate of public necessity and convenience for the carriage of gas on the Tyonek system, and KBPL a certificate for the carriage of oil on CIGGS. CIPL needs RCA approval for the recovery of the pipeline reconfiguration costs from the rates that it charges for the carriage of oil. Approval of the business agreement between CIPL and KBPL is also needed, as is approval of connection agreements for the ends of the Tyonek pipeline system. And CIPL needs a permit for the pipeline construction work involved in the project.

Other approvals that will be needed in the future consist of amendments to a CIPL tariff settlement agreement with the state of Alaska, an agreement for the connection between the CIGGS oil line and the Middle Ground Shoal line, and the approval of the decommissioning of the Drift River terminal and its connecting CIPL oil pipeline.

Complete in 2018

Harvest's plan for the pipeline project envisages onshore pipeline construction starting in December of this year, with the laying of the new offshore gas line from the Tyonek pipeline starting once the winter ice has melted in Cook Inlet in the spring of 2018. The company's goal is to have construction completed and oil flowing through the CIGGS pipeline by the end of 2018, the company says. Decommissioning of the Drift River Terminal and its associated pipeline will overlap with the start of the CIGGS oil flow, according to the company's project plan.

The company says that it has already ordered U.S. manufactured steel pipe for the project and is procuring other long-lead items. ●

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PIPELINE PLAN

in sandstones of the Kekiktuk formation of Mississippian age, the same rock unit as forms the reservoir for the Endicott field, a few miles to the northwest. At Liberty the oil column is about 380 feet thick, from the top of the mapped reservoir structure to a tar-mat at the base of the oil. Water lies under the tar mat. The oil has a gravity of 24 to 27 API. And there is the possibility of a gas cap above the oil, although gas has not been encountered by wells drilled into the reservoir, Hilcorp's plan says.

Reservoir rock properties are similar to those at Endicott. Zone two of the reservoir has the best reservoir quality, with a net-to-gross ratio of more than 90 percent, Hilcorp's plan says. Subzone 2A has an average porosity of 18 to 19 percent and is 80 to 150 feet thick. Subzone 2B is 80 to 140 feet thick and has a porosity of 18.5 to 21 percent. The rock has excellent permeability. ●

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JOSEPHSON Q&A

on their industries with that in mind. With these continuing deficits and no fiscal plan, they should understandably be feeling insecure and unsure about the future of the state. I would say if the Senate agrees the people of Alaska may need to participate in their own economic future by contributing in some way to the operation of state government, if I were in the industry that would be a great relief to me because I would say it's not coming out of my pocket. It's going to be a shared responsibility in a way that it hasn't been in the past.

For multiple reasons, if I were an oil explorer and developer or a mining explorer and developer, I would be hopeful the state would chart a different path. What's interesting about that is it creates an interesting paradox. The oil industry, in particular, has been reluctant to agree that the state divorce itself from the oil industry's economic future in any way. It's a strange juxtaposition. I would think it would be in the oil industry's best interest that we raise some of our own revenue independent of them. I suspect it is in their self-interest and they would want that even though they stood on the sidelines on that issue. I think they are reluctant to really let us go because there is some co-dependency there for sure. ●

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ALASKA LNG

That project was a partnership between the three major North Slope producers and the state to build a gas treatment plant on the North Slope, an 800-mile pipeline to Nikiski on Cook Inlet and a liquefaction facility at Nikiski to turn North Slope natural gas into liquefied natural gas for shipment abroad. The pipeline was also to provide access to North Slope natural gas for communities along the line, particularly Interior Alaska.

After the producers declined to move to the next step of a phased project, the state took over leadership.

Strong commitments needed

Walker said there was interest in the project, and pointed out that state money for the Alaska LNG project was there when he came into office. He said he'd just played the hand that was there.

That existing money, he said, allows the state — now that it is heading up the project — to meet directly with the market. The market response, he said, has been very, very positive.

But it would take really strong commitments for the project to go forward, Walker said.

He said he believes the project should continue with the state funding it has and mentioned interest in the project from the Trump Administration — and visits to Alaska by the largest LNG buyers in the world. Those buyers, Walker said, evidently see the advantage of seven to 10 days of travel time between Alaska and Asian markets.

But the governor said he doesn't allow himself to be too optimistic.

He said he is hopeful about the project, but doubtful it can continue beyond existing funding.

The Alaska LNG project is the largest get-well card the state has and if a customer would step up and take a long-term contract there will be a project — if not, there won't be, Walker said.

The Legislature left the existing money in place, Walker said, but said he thought the administration would be hard pressed to ask for more money.

Monetizing gas

He said he always wanted Alaska to be its own salesman and use the benefits of a sovereign to bring down the cost of the project: And that has happened, he said, but if there is no market engagement on the project, there is no engagement.

That doesn't mean, however, that the state stops looking for ways to monetize the gas, Walker said. For example, Alaska has all of the ingredients for a fiber optic manufacturing business and alternatively it might possible to take gas off the North Slope on a seasonal basis, he said.

Walker said one reason he hopes a gas pipeline project works is because of benefits to the state's mining industry. The largest beneficiary of Australian natural gas development is the mining industry, he said.

And on a national basis, AKLNG is the only project that would have as much balance of trade impact.

The Alaska LNG project is the largest get-well card the state has and if a customer would step up and take a long-term contract there will be a project — if not, there won't be, Walker said.

—KRISTEN NELSON

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