



page 4 Meyer says focus in 2018 on FERC permitting, commercial agreements

Eni looking to expand in Alaska, Go APE with Alaska Prospect Expo, Wilson takes Crane on ANS tour

ALTHOUGH ENI US OPERATING HAS NOT YET ANNOUNCED results from its offshore North Slope exploration well, the company's CEO Claudio Descalzi said at a recent 2018-21 strategy meeting that the company is "doing well" in Alaska and has plans for "increased investment" in the state.

The Italian mega-major holds interests in 107 leases in northern Alaska, 75 in the federal offshore waters of the Beaufort Sea and Chukchi Sea, and 32 in state onshore leases. The company operates and has a 100 percent interest in one producing oil field, Nikaitchuq, and is a 30 percent owner in the adjacent Caelus-operated Oooguruk field.

Nikaitchuq started production in January 2011 and is currently producing about 14,000 barrels of oil equivalent per day. Eni officials hope to nearly double that with output from Nikaitchuq

see INSIDER page 12

Oil prices continue climb above \$70

The price of oil has continued to climb, with Alaska North Slope crude reaching \$71.04 per barrel on April 17. The price climbed steadily between June 2017 and late January of this year, before tumbling somewhat in early February. It has since climbed again to the highest level seen since late 2014, a time when the price was in free fall from giddy heights well above \$100.

Analysts are primarily attributing the buoyant price to the effort by the Organization of the Petroleum Exporting Countries to limit oil production, combined with political tensions in the Middle East, following missile attacks on Syria. Plummeting oil production in Venezuela has particularly underwritten the OPEC production quota, according to

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see OIL PRICES page 11

Shell advances LNG plans

Shell Canada, the 50 percent stakeholder in the LNG Canada project, is assembling plans to develop massive gas fields in northeastern British Columbia as it moves closer to an expected final investment decision before the end of 2018.

At the forefront is the Groundbirch gas field that is jointly owned by Shell at 80 percent and PetroChina at 20 percent, which is estimated to hold 35 years of supplies based on current production levels.

In a back-up role is the Cutbank Ridge play, controlled 60 percent by Encana and 40 percent by Japan's Mitsubishi.

In addition to Shell's 50 percent stake in the actual C\$40 billion LNG Canada venture, consortium partners are PetroChina at 20 percent and South Korea's Kogas and Mitsubishi at 15 percent each.

Shell Canada President Michael Crothers told the Globe and Mail that LNG Canada's first phase will rely mostly on gas feedstock from Groundbirch and Cutbank Ridge, along with a smaller contribution from Kogas.

The plans call for two LNG trains capable of delivering 6.5 million metric tons a year to Asia once construction is com-

see LNG PLANS page 11

EXPLORATION & PRODUCTION

Six wells completed

ConocoPhillips makes three new oil discoveries; confirms Willow prospect

By ALAN BAILEY
Petroleum News

ConocoPhillips has announced that this winter it completed six North Slope exploration and appraisal wells, one more than the five wells the company had originally planned. The company drilled the three exploration wells that it had planned and encountered oil in all three wells. And, thanks to improved drilling efficiencies, it was possible to drill one more than the two appraisal wells anticipated for the Willow prospect in the northeastern National Petroleum Reserve-Alaska, the company said.

New discoveries

The company said that the results from the three exploration wells "represent new discoveries," and that a total of five production flow tests were conducted, with encouraging results. The Willow appraisal drilling supported a previously announced estimate of at least 300 million barrels of recoverable oil in the prospect, ConocoPhillips said.

All six wells, plus a sidetrack well, encountered oil and "verified the potential of the play," the company said, presumably referencing the

see CONOCO WELLS page 11

LAND & LEASING

AEX leases extended

BSEE grants suspension of operations for 21 expiring Beaufort Sea leases

By ALAN BAILEY
Petroleum News

The federal Bureau of Safety and Environmental Enforcement has agreed to defer the expiration of Beaufort Sea leases that Arctic Slope Regional Corp. Exploration acquired from Shell in 2016. The leases, in the Camden Bay region of the Beaufort, comprise the 20-lease Taktuk unit and one additional lease. Most of the leases had been due to expire around October 2017, but AEX had requested a suspension of operations, in particular on the grounds that an environmental analysis of proposed offshore operations is needed.

A suspension of operations puts leases on hold, pending completion of some agreed work program

at a future date.

Under the terms of the approval, AEX must report quarterly to BSEE, to demonstrate that the company is meeting required milestones in the company's schedule of environmental work. The company must file an exploration plan with the Bureau of Ocean Energy Management in 2023, BSEE says.

Known prospects

Camden Bay straddles an area north of the boundary between state North Slope land and the Arctic National Wildlife Refuge. The Sivulliq and Torpedo oil prospects are both in the western part of the bay, approximately north of the Point Thomson field. According to BSEE documenta-

see AEX LEASES page 9

PIPELINES & DOWNSTREAM

Saving Trans Mountain

Trudeau puts taxpayers' money on the line in discussions with Kinder Morgan

By GARY PARK
For Petroleum News

The Canadian government has started financial discussions with Kinder Morgan that Prime Minister Justin Trudeau said will "remove the uncertainty" and ensure that the Trans Mountain pipeline expansion is built.

Alberta Premier Rachel Notley said her government will participate in the talks in New York, Houston and Calgary that "will eliminate the risk" facing Kinder Morgan shareholders.

Neither leader would say how much money they would be willing to invest in Trans Mountain



RACHEL NOTLEY



JUSTIN TRUDEAU

or whether that would take the form of an equity stake or loan guarantees.

Kinder Morgan said it would not issue "updates or further disclosures" during the negotiations.

Alberta turned up the heat on British Columbia April 16 by introducing legislation giving its energy minister the power to restrict the flow of oil, natural gas and refined petroleum products crossing its borders if Kinder Morgan walks away from the Trans Mountain project, or B.C. takes new "hostile action" against the pipeline.

see TRANS MOUNTAIN page 9

Conoco asks for pool rules for Lookout

Reservoir being developed by new MT6 pad in Greater Mooses Tooth analogous to Alpine, where crude will be processed for shipping

By KRISTEN NELSON
Petroleum News

ConocoPhillips Alaska began drilling its first well from the MT6 Pad at its Greater Mooses Tooth Unit on March 21, company representatives told the Alaska Oil and Gas Conservation Commission in an April 3 hearing. The hearing was on establishment of pool rules and an injection order for Lookout, which will be produced from the MT6 Pad. Pool rules and injection orders are a requirement before production can begin. This story is based on a transcript of the presentation and accompanying slides.

The MT6 Pad, from which drilling has begun, is on the southeast edge of the proposed Lookout pool boundary.

John Cookson, a production engineer with ConocoPhillips Alaska, the operator at Greater Mooses Tooth, told the commission MT6 is the sixth drill site connected to the production facilities at the Alpine field and is 14 miles southwest of those facilities. The road

The MT6 Pad, from which drilling has begun, is on the southeast edge of the proposed Lookout pool boundary.

from MT6 to CD5 is in place, he said, and the pipeline is being finished up.

Lookout will be the first pool to be developed entirely within the National Petroleum Reserve-Alaska, where ConocoPhillips' predecessor ARCO Alaska began 2-D seismic acquisition in 1993, 1995 and 1996, and 3-D acquisition in 1998-2000.

The discovery wells at the accumulation, Lookout 1 and Lookout 2, were drilled in 2001-02. The Greater Mooses Tooth unit was formed in 2008 and expanded in 2009.

ConocoPhillips Alaska developed West Alpine from CD5 in 2016 and in 2016-17 began GMT1 construction and shot 3-D seismic at GMT2.

Current work, as listed on overheads for the presentation, includes final installation of facilities and pipelines

at the MT6 Pad and drilling of the first well. There are four pipelines, road and bridges from MT6 to CD5.

The first two production wells and the first injector are targeted to be on production in the fourth quarter of the year.

Cookson said ConocoPhillips will keep the drilling rig at MT6 through 2019 to complete a planned nine well drilling program.

MT6 wells, like those at Alpine, will be horizontal, with lengths up to 22,500 feet.

Reservoir

Jennifer Doherty, a development geologist with ConocoPhillips Alaska, said Lookout develops the Alpine C sandstone. The oil at Lookout is a lower Kingak sourced oil, similar to Alpine, she said.

Joe Versteeg, a ConocoPhillips Alaska reservoir engineer, told the commission that the company has low, medium and high cases for original oil in place at Lookout, with estimated volumes of 70 million barrels,

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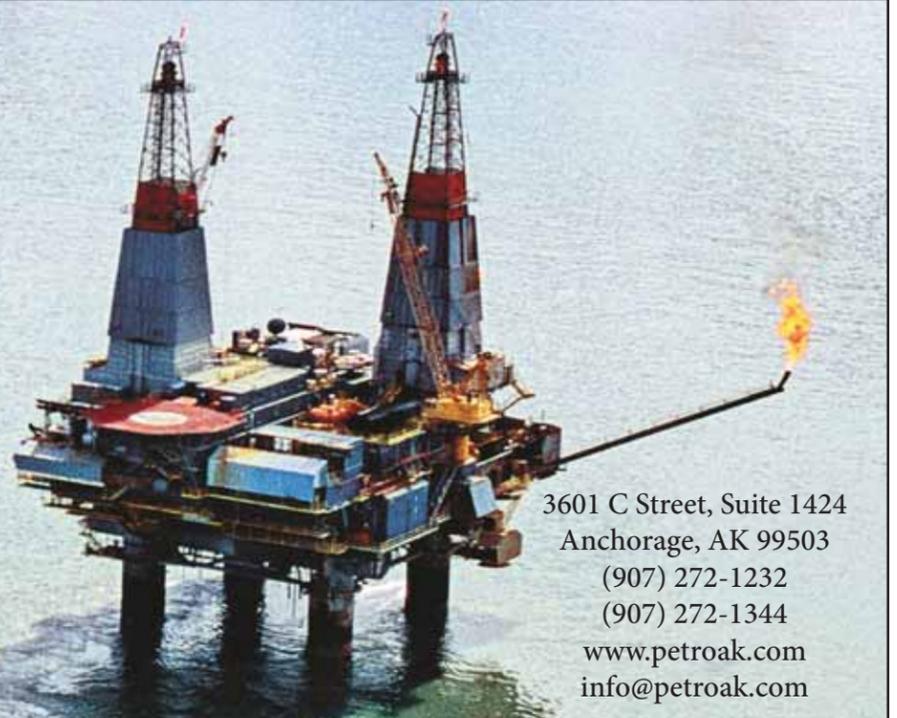
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• FACILITIES

Work proceeds on NS roads project

State ASTAR program seeks to link remote Arctic communities while also providing transportation routes for oil industry use

By **ALAN BAILEY**
Petroleum News

The state is moving ahead with Arctic Strategic Transportation and Resources, or ASTAR, a program aimed at the development of a road infrastructure connecting communities across the whole of Alaska's North Slope, Andy Mack, commissioner of the Alaska Department of Natural Resources, told the House Resources Committee on April 11. The idea is to increase cultural connectivity, reduce the cost of living in the communities, enable the more efficient development of natural resources, increase job opportunities in the region, and decrease the cost of remediating some legacy wells in the National Petroleum Reserve-Alaska, Mack said.



ANDY MACK

Work underway

At this stage, the state has contracted with ASRC Energy Services Inc. and Resource Data Inc. to provide project management support; to conduct data and geographic information analysis; to carry out stakeholder outreach; and to assess the project economics.

Anticipated deliverables include a strategic plan for future infrastructure development, a cumulative benefits analysis tool and an identification of any information gaps. The cumulative benefits tool would enable a determination of the benefits of an infrastructure development, as distinct from the cumulative impacts that are typically ferreted out in an environmental assessment, Mack explained. The strategic plan would identify specific infrastructure projects.

An immediate activity, which will likely take a couple of summers to complete, is an evaluation of potential gravel sources for roads.

A 2017 state appropriation of \$7.3 million funds the program: The budget for the current fiscal year amounts to some \$2.5 million; about \$2.9 million would be spent in fiscal year 2019; and \$1.7 million in fiscal year 2020. The assessment of project economics will research potential sources of funding for actual infrastructure construction. Given the current status

of state finances, all funding options are on the table, Mack said. The North Slope Borough has bonding ability and some federal funding through the Department of Transportation is a possibility, he said.

Originated in 2016

Mack said that the project originated in 2016, when Gov. Bill Walker met with regional leaders on the North Slope. A key issue that emerged from the discussions was the declining reliability of winter ice, a phenomenon that impacts the ability of people to travel between communities and the ability of industry to conduct winter off-road projects — winter ice-road seasons have been becoming shorter.

And so the state undertook to initiate a program, working with the communities, to determine what can be done to enhance the community connectivity, Mack said.

"It was agreed that we would come to some sort of understanding and focus, in partnership with those communities, on ensuring that year-round roads would be available in the future, for future generations," Mack said.

In particular, the young people in the communities recognize the future importance of a transportation infrastructure that would enable transits between communities and the import of goods and materials at reasonable cost, he said.

When it comes to potential industry use of a road system, the state is currently seeing tremendous development opportunities in the eastern National Petroleum Reserve-Alaska, and longer-term opportunities in the 1002 area of the Arctic National Wildlife Refuge, Mack said.

Funding led to partnership

The consequence of the state picking up the infrastructure program was a request last year to the Legislature for some funding, resulting in \$7.3 million for the program. Subsequently DNR formed a new partnership agreement with the North Slope Borough for actions to be carried out in conjunction with several state agencies. Several DNR divisions are involved, as are the Department of Health and Social Services; the Department of Commerce, Community and Economic Development; and the Department of Transportation and Public Facilities.

And a major focus of the effort is the development of a road from the Colville

Delta in the central North Slope west to Utqiagvik.

"Our purpose is to build year-round roads with the communities, so that they can enjoy those same benefits that most of us enjoy in our communities where we live," Mack said.

There has not been a state project to build major infrastructure for many years, Mack said. The ASTAR program, which is not yet a formal project, involves working with the communities in a region with the state's largest resource play. In doing this the state is anxious to provide a consistent vision, both from the state and from the communities, for what is required, to communicate with the federal agencies that manage huge land areas in NPR-A and ANWR, he said.

In fact, ASTAR involves planning on a regional basis, crossing different government jurisdictions, and not on the basis of land ownership patterns, Mack said.

Proof of concept snow road

Following the approval last year of ASTAR funding, DNR worked with the North Slope Borough on a proof-of-concept project for the value of road construction. This project has involved the construction this year of a packed snow winter road, between Nuiqsut and Utqiagvik, to assess how a year-round road might work. This has been used by caravans of Utqiagvik residents, for bringing vehicles in and out, and for traveling to destinations south of Deadhorse.

DNR is also trying to have the mail service use the trail, as an alternative to flying things into Utqiagvik, Mack said.

An alternative perspective

Lois Epstein, Arctic program director for the Wilderness Society, presented testimony to the committee, arguing that, with the state not having the tens of millions of dollars that it would require to build roads on the North Slope, the infrastructure program will end up being cancelled. In addition, questions need to be raised over why money should be spent on these particular projects, versus projects elsewhere, Epstein said. There is a history in the state of spending money on studies into infrastructure construction, only to have people's hopes dashed when they discover that the state does not have the financial wherewithal to fund the work, she said.

"Given the state's financial situation, it's a mystery to me why the Legislature in 2017 approved an appropriation for ASTAR, which starts this new mega-project, in the very same capital budget that shut down the unaffordable Knik Arm bridge and Juneau access mega-projects," Epstein said. "I fear that residents of the North Slope are being misled into thinking that ASTAR will actually construct gravel roads, rather than just spend money to plan them." ●

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• NATURAL GAS

AGDC's Meyer: 2018 a year of paperwork

Marketing 2017 focus; this year focus on regulatory requirements, getting to commercial agreements with JDA partners, producers

Receipt authority in limbo

Gov. Bill Walker included authority for the Alaska Gasline Development Corp. to accept third-party funding in the operating budget.

The authority appears in the budget as designated program receipts and would allow AGDC to accept investments from third parties in the Alaska LNG project. As proposed, the authority was open ended, allowing AGDC to accept any amount of money from third parties.

The House limited the amount to \$1 billion. The authority in the House version includes \$1 billion for the fiscal year ending this June and a separate allowance for \$1 billion for the fiscal year ending June 30, 2019.

The Senate dropped the \$1 billion provisions, although it left references to the authority in the bill.

AGDC President Keith Meyer said April 12 that the organization has been operating on an austerity budget, stretching funds previously provided by the Legislature. He said he expects full support from the Legislature to move the project forward and doesn't expect designated program receipts to be a barrier.

AGDC wants and needs third-party investment and expects the designated program receipts issue to be resolved this year, he said, adding that he wants the state to have the option to invest but not the requirement.

Meyer said AGDC wants third-party funding in place this year to keep up the pace of the project, so funding issues won't cause slippage in the schedule to have

see RECEIPT AUTHORITY page 7

By KRISTEN NELSON

Petroleum News

Alaska Gasline Development Corp. President Keith Meyer reviewed the corporation's activities over the last year and answered questions at an April 12 press conference following a corporation board meeting.

Last year was a year of marketing and AGDC came out of 2017 with great dance partners for the project, Meyer said, a full slate of very good counter parties. He said he wouldn't trade a single one.

2018 will be a year of paperwork with regulatory filings and commercial agreements, he said; then in 2019 the focus will be on preparation for construction.



KEITH MEYER

diligence, he said, and AGDC is getting them comfortable with the ability of Alaska companies to do this work. The project is also a little different because it is state sponsored, he said, and AGDC is also getting the JDA partners comfortable with that.

As for the role those partners might play in construction, Meyer said Sinopec has a very capable construction company and has built longer pipelines than this project, in higher places and with larger plants. But they lack cold weather experience, he said, so they met with local contractors with cold-weather experience.

He said the ability of Alaska companies is something AGDC is promoting.

The tour

Meyer said the pipeline group drove the route from Prudhoe Bay to Coldfoot. The facilities group toured the Andeavor (formerly ConocoPhillips) liquefied natural gas facility in Nikiski, and the group also had a chance to try out the marine simulator at the Alaska Vocational Technical Center in Seward.

The executive group met with state departments, Alaska Native regional corporations, industry representatives and state and local elected officials in Anchorage. The emphasis is Alaska first, Meyer said, that companies in Alaska are capable and have done this work.

AGDC has a group that has gone back to China with the JDA partners, he said.

At its March meeting the board authorized Meyer to formally engage investment banks for the project, and AGDC engaged Bank of China Ltd., one of AGDC's JDA partners, and Goldman Sachs & Co. LLC to serve as global capital coordinators to the project.

The signing of those agreements was announced in late March.

FERC, producers

Frank Richards, AGDC senior vice president, engineering and program management, said the environmental data requests AGDC received totaled 1,370,

see AGDC FOCUS page 7

Parallel paths

Meyer said the project was moving on four parallel paths: regulatory, commercial, financial and technical.

On the regulatory side, the Federal Energy Regulatory Commission is the lead agency and issued its schedule for the project's environmental impact statement in March, with a draft EIS scheduled for March 2019, a final EIS in December of that year and a final order in March 2020.

On the commercial and technical side, in late March AGDC hosted a group of 38 representing the three joint development agreement partners (China Petrochemical Corp., CIC Capital Corp. and Bank of China) with whom AGDC and the state of Alaska signed an agreement last year. The group split into teams — executive, commercial, facilities, pipeline and shipping — and were given tours of facilities on the North Slope and in Nikiski.

Meyer said this was not the first visit the JDA partners have made to Alaska, and said they also have access to an extensive data room which AGDC maintains. The partners have done a lot of due

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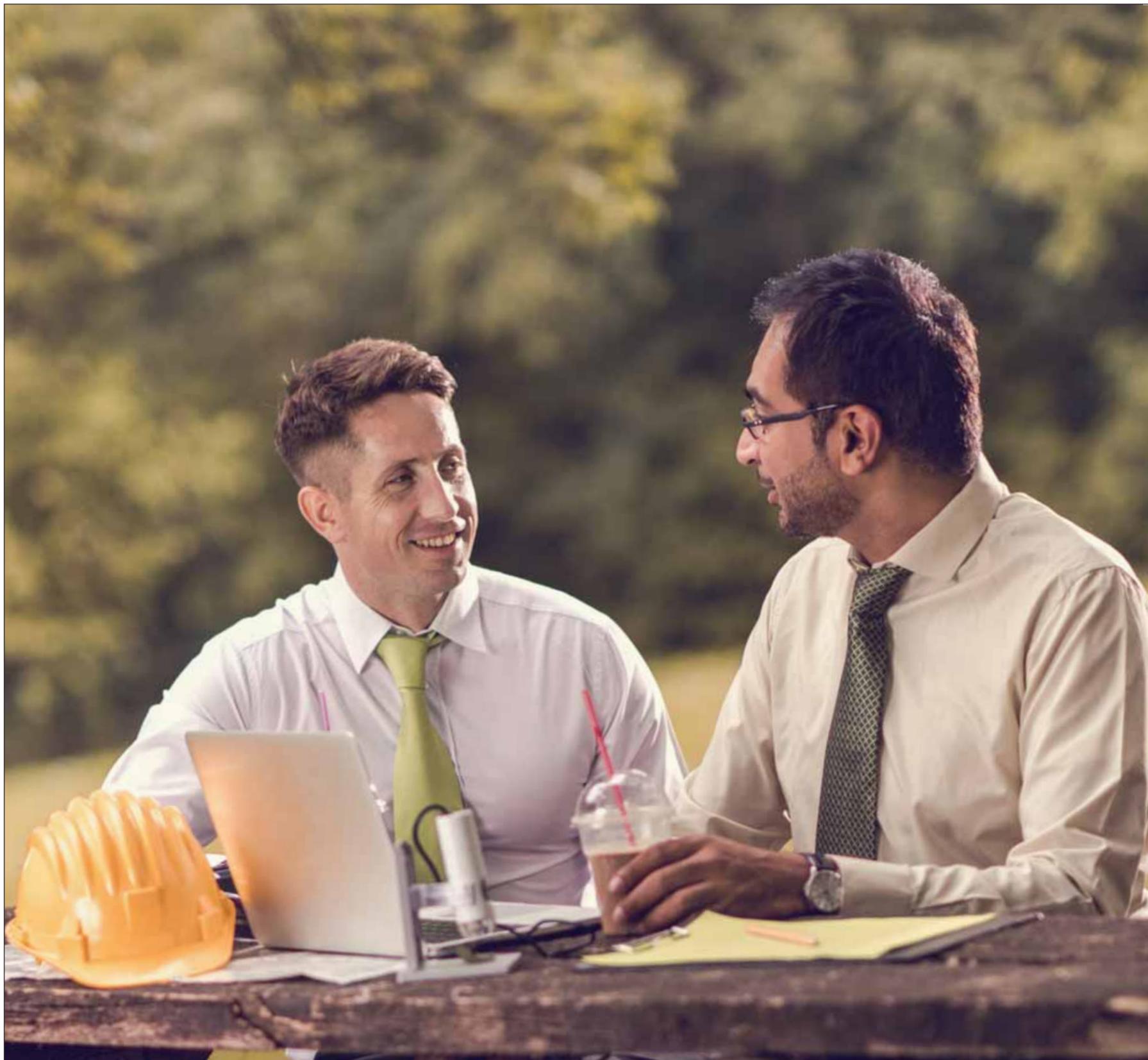
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• ENVIRONMENT & SAFETY

Drones can improve safety & efficiency

Unmanned aerial vehicles can support oil spill response, pipeline inspections and surface mapping without putting people at risk

By ALAN BAILEY
Petroleum News

Unmanned aerial vehicles, commonly called drones, have gained widespread use in many applications, ranging from aerial photography to mapping. And the oil industry has seen the deployment of drones in activities such as pipeline inspection.

On March 29, during the Alaska Oil Spill Technology Symposium, Peter Webley, associate director of research in the Alaska Center for Unmanned Aircraft Systems Integration in the University of Alaska Fairbanks, talked about the value that drones can bring to a project such as an oil spill response.

With their capability for rapid deployment and through the avoidance of placing people in potentially harmful situations, unmanned aerial vehicles are ideal for dull, dirty and dangerous three-dimensional operations, Webley said.

The ACUASI runs a research program into the practical uses of drones and is also the site of one of seven Federal Aviation Administration unmanned aircraft test centers.

For an oil spill, an unmanned aerial vehicle, equipped with multiple sensors, can fly into the area of the spill, enabling the situation to be assessed without putting people at risk, and enabling subsequent decisions about how to use personnel, Webley said.

A team effort

However, Webley emphasized that the drone itself is but one component of an unmanned aircraft system. Operating drones requires a team, with pilots, engineers, flight planners, operations people, and an administration to handle the necessary paperwork.

"A critical component is working together," Webley said. "It becomes a seamless system where you can go from what's the mission, fly the mission, collect the data,

and get it into the hands of real time operators."

Planning a drone operation involves an assessment of the necessary payloads and the number of people required for the operation. Does the transportation of the drone to the site require just a couple of people and a backpack, or is it a more complex operation, perhaps requiring more people, trucks and a ground station? An engineer may need to make modifications to a drone for a particular operation. And it is important to separate the navigation and communications systems from the communications required for data collection.

Certification of authorization will be needed if a drone is to fly above 400 feet or beyond the pilot's line of sight.

A range of types

There are several sizes and types of drone, with a decision on which type to use in a particular situation depending on what needs to be done and the particular setting in which the drone must operate. In general, the smaller the drone, the smaller its maximum payload and the shorter the time it can fly before its battery becomes drained. But small drones are more easily transportable than larger drones and can be quickly deployed.

As a simple form of drone for commercial use, Webley described a small portable hexacopter called the Ptarmigan, a device developed in the UAF program with a low but adaptive payload capability, focused on visible light and long-wave infrared detectors. The pilot has always to be in line of sight of the device. The flight time is quite short and depends on the wind conditions,

the height above sea level and the weight of the payload.

The Responder

A somewhat larger aircraft, the Responder, has to be carried to site in the back of a pickup truck. This single blade helicopter can carry a three-kilogram load, with a maximum flight time of about 40 minutes. It is equipped for operation beyond the pilot's line of sight and has an integrated visible and infrared camera. It is also capable of carrying a light detection and ranging, or LIDAR, system. This particular vehicle has been used, for example, for mapping a glacier and has been integrated into NOAA's spill response mapping tool, Webley said.

UAF also has two large unmanned aircraft that weigh more than 55 pounds, the weight limit above which drones require FAA certification. These vehicles have flight durations of six to 10 hours and are optimized for flight beyond line of sight. They require a runway for takeoff and can conduct the multi-hour mapping of a hazard such as a spill. The navigation systems include satellite navigation, a feature that enables the aircraft to operate much farther north than most unmanned vehicles, Webley commented.

The UAF researchers are addressing the adaptation of drones for use in Arctic conditions. For example, cold conditions shorten battery lives, Webley said.

Camera equipment

Other considerations for drone use include the type of camera that is needed and the type of lens, with an interchangeable lens camera offering a range of fields of view. A camera system is integrated with a GPS system and an inertial mapping unit, to enable images to be linked to precise location information.

The UAF researchers have also been supporting a NASA air traffic management project, testing the operation of several unmanned vehicles in relatively close proximity. Sensor equipment enables the vehicles to see each other and automatically avoid collisions. The objective is to figure out how to integrate unmanned vehicles into the manned airspace, Webley said. ●

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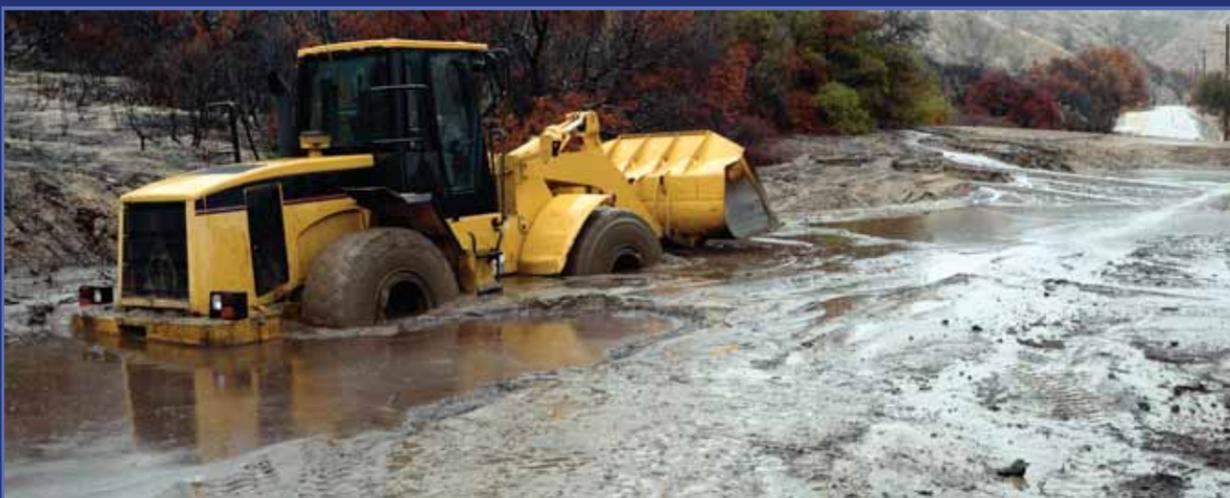
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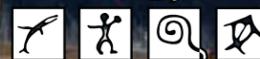
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POOL RULES

80 million barrels and 150 million barrels. He said primary recovery, without flooding, would probably be 20 percent of OOIP, a range of 14 million, 16 million and 30 million barrels. With primary recovery plus waterflood, recovery is expected to rise to 45 percent, with estimated volumes of 31 million, 36 million and 67 million barrels. And with EWAG, enriched water alternating gas, in addition to primary and waterflood, recovery is expected to be some 60 percent of OOIP, with ranges of 42 million, 48 million and 90 million barrels for the low, medium and high estimates. Versteeg said that EWAG flood would be alternating waterflood with slugs of gas as is done at Alpine.

Peak annual production rates are expected to be 20,000 to 30,000 barrels per day of oil, 20 million to 50 million cubic feet of gas per day, 10,000 to 15,000 bpd of water and 4 million to 12 million cubic feet per day of lift gas.

The company expects to inject 23,000 to 40,000 bpd of water and 10 million to 20 million cubic feet per day of rich gas.

Versteeg said the water volumes would come later in field life as the waterflood matures.

Drilling

Brian Noel, a ConocoPhillips Alaska drilling engineer, said nine horizontal wells, four producers and five injectors, are planned. He said the well designs are similar to those at Alpine.

There are three existing wells, Lookout 1, which was suspended in 2003 and is inspected on a regular

Peak annual production rates are expected to be 20,000 to 30,000 barrels per day of oil, 20 million to 50 million cubic feet of gas per day, 10,000 to 15,000 bpd of water and 4 million to 12 million cubic feet per day of lift gas.

cycle; Lookout 2 which was plugged and abandoned in 2002, and Mitre 1, also plugged and abandoned in 2002.

Commissioner Cathy Forester asked about plans for Lookout 1. Noel said it's in the middle of the reservoir and is being kept as an observation well. He also noted that now that the road and pad are in place, plugging and abandoning will be much easier.

Metering

Cookson said wells at Lookout will flow to a three-phase separator allowing separation of oil, gas and water so each can be precisely measured for custody transfer. The oil, gas and water are then combined and sent to Alpine in a 20-inch pipeline where Lookout production is combined with Colville River unit production and processed. The oil then goes into the Alpine pipeline.

Production compositions from Lookout are expected to be similar to Alpine; he said the two pools are close analogs because they share a similar geologic history, both charged from the Lower Kingak, and a similar rock deposition source, Alpine A and B. ●

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PIPELINES & DOWNSTREAM

Oliktok pipeline to be converted to NGLs

Oliktok Pipeline Co. has requested authorization from the State Pipeline Coordinator's Section of the Alaska Department of Natural Resources' Division of Oil and Gas to convert the Oliktok Pipeline from natural gas to natural gas liquids.

The 16-inch 28-mile pipeline originates near Pump Station 1 on the North Slope and terminates at Central Processing Facility 1 within the Kuparuk River unit. The line, which began service in 1981, was the original crude oil line from Kuparuk to Pump Station 1. The line was converted to natural gas service and used for that purpose in the mid-1980s after a larger crude oil line was built. It was idled until 1995 when it went into service carrying NGLs; it was converted to fuel gas service in late 2014.

A January request from the pipeline company said shippers ceased fuel gas shipments on Jan. 1, 2017, and the line was placed into suspended operations indefinitely.

Shippers have now requested that the Oliktok Pipeline return to NGL service.

The company said it planned to shut down the line and discontinue fuel gas service as of April 30 and begin required construction activities with the expectation that the line would return to NGL service by Aug. 1.

The conversion back to NGL carriage will allow shipment of NGLs from the Prudhoe Bay unit to the Kuparuk River unit for enhanced oil recovery use. The pipeline company said the project was being managed by ConocoPhillips Alaska Inc. on behalf of the Oliktok Pipeline Co. ConocoPhillips is the owner of the Oliktok Pipeline Co.

An inspection program approved by the federal Department of Transportation was begun by ConocoPhillips on the line in 2010, using inline inspection or smart pigging. The pipeline was modified for pigging and smart pigging was completed in September 2010, with inline inspection performed every three years, most recently in September 2016.

—KRISTEN NELSON

continued from page 4

AGDC FOCUS

with responses provided to some 1,100, almost 80 percent this year. By September, there will be responses to 100 percent of those data requests, he said, noting that some requests simply requiring information on where in the volumes already submitted the information can be found.

There was a meeting with FERC on the most recent requests, Richards said, and FERC didn't require major field work on many of those requests, just tabletop analysis. There will be some field work required this summer on cultural resources, which will be reported to FERC by September.

On the LNG plant location, Meyer said some 100,000 pages have been filed around Nikiski, the designated LNG plant location. Richards said FERC has asked for an alternative analysis for Port MacKenzie and said AGDC would provide that analysis.

On the natural gas needed for the project, Meyer said AGDC is in the middle of discussions with the North Slope produc-

ers on the gas resource. He said the producers have been supportive.

AGDC is actively engaged with all three, Meyer said, referring to AGDC's former partners — BP, ConocoPhillips and ExxonMobil.

He said BP has called North Slope natural gas its largest unbooked resource and noted that until there is a way to move the gas to market, it cannot be booked as reserves. ●

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continued from page 4

RECEIPT AUTHORITY

first gas in 2024-25. As long as the project is in construction in 2020, AGDC can make a 2024-25 online schedule, he said.

The operating budget was in conference committee when this issue of Petroleum News went to print.

—KRISTEN NELSON

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Darlene Gates

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continued from page 1

TRANS MOUNTAIN

Energy Minister Marg McQuaid-Boyd would be able to direct pipeline companies, railroads and truckers on how much product could be shipped and when.

That could cut off 80,000 barrels per day of refined fuels, or about 30 percent of B.C.'s consumption. Violators would face daily fines of C\$1 million for individuals and C\$10 million for companies.

B.C. Attorney-General David Eby directed his staff to prepare a legal challenge on constitutional grounds, triggering a scornful response from Alberta, which said it could counter-sue against B.C.'s attempt to restrict the flow of diluted bitumen on Trans Mountain.

These actions followed a hastily called summit on April 15, when Trudeau diverted his travel plans to fly directly from the Summit of the Americas to conferences in Paris and London.

May 31 deadline

Under rapidly mounting pressure from Kinder Morgan, which has set May 31 for an agreement with the governments that would allow construction to start this summer on the C\$7.4 billion, 590,000 barrels per day pipeline, Trudeau stopped in Ottawa April 15 for his first meeting with Notley and B.C. Premier John Horgan on the stalled project.

Andrew Scheer, leader of the federal Conservative Party, which has edged ahead of Trudeau in polling ahead of the 2019 national election, issued a blunt assessment of Trudeau's role in the Trans Mountain dispute, asking why it had taken eight months to meet with the two provincial leaders.

He said Canadians can no longer "trust (Trudeau) to get a major resource project completed," noting that since getting elected in 2015, the Liberals have watched C\$80 billion in energy investment evaporate, led by the Pacific NorthWest LNG project, Enbridge's Northern Gateway pipeline and TransCanada's Energy East.

B.C. perspective

Although refusing to soften his hard line on Trans Mountain, Horgan significantly shifted ground on two fronts, notably his insistence during the spring 2017 election campaign that the New Democratic Party would "use every tool in our tool box" to fight the venture.

Rather than referring to the pipeline itself, he now says the key objective of the B.C. government (propped up by three Green Party legislators) is to protect the Pacific coastline from any tanker spills — a stance that has prompted the



JOHN HORGAN

Trudeau government to promise C\$1.5 billion in spending on emergency response systems.

Horgan also conceded for the first time that his government will abide by any court decisions that "run counter to our position" on the pipeline. "That's the way it should be," he said.

Verdict expected

Seven First Nations are expecting a verdict in the next few weeks on their claim that National Energy Board and Canadian government approvals of the Trans Mountain expansion failed to properly consult with B.C. indigenous communities.

Even though the Union of B.C. Indian Chiefs are leading public protests against Kinder Morgan, resulting in more than 200 arrests so far, 43 First Nations (10 of them in Alberta) have signed mutual benefit agreements estimated to be worth about C\$300 million.

Ernie Crey, chief of the Cheam Nation just east of Vancouver, said cancellation of the pipeline would carry a ruinous loss of job training, employment and business opportunities for aboriginal people.

He also accused environmental protesters of "red-washing" their fight against the pipeline.

"We have a vigorous environmental movement in B.C. and they have learned they can use aboriginal communities to advance their agenda," Crey said. ●

continued from page 1

AEX LEASES

tion, the Taktuk unit includes the Sivulliq prospect, which was previous called Hammerhead. Sivulliq contains a known, modest-sized oil pool penetrated by the Hammerhead Nos. 1 and 2 wells, drilled by Unocal in 1985 and 1986.

In 2012 Shell started drilling an exploration well at Sivulliq but was only able to complete the top hole section of the well, because a containment dome required for spill response contingencies was not available in time for drilling into hydrocarbon bearing zones.

In November 2016, after Shell had abandoned its Beaufort Sea exploration program, AEX acquired 21 leases from Shell, all on the federal outer continental shelf of the Camden Bay area, about 8 to 25 miles off the coast of the North Slope. And in February 2017 AEX filed requests to BSEE to unitize the leases and to obtain a suspension of operations approval.

In July 2017 BSEE approved forming 20 of the 21 leases into the Taktuk unit. The agency did not allow one lease on the eastern side of the lease block to be included in the unit, because, the agency said, AEX had not submitted sufficient seismic data to warrant including the lease in the unit.

The case for suspension

AEX argued for a suspension of operations on the grounds that further environ-

mental analysis is needed for potential offshore operations, and that the suspension would be in national and national security interests. National interests include a mandate for the expeditious and orderly development of OCS resources, and the need to address declining oil throughput in the trans-Alaska pipeline, AEX said.

BSEE rejected the argument that national interests justify a suspension — the national interest line of argument only applies to a situation where development is planned following an oil discovery, the agency said. And national security issues are not at play, since resources in the leases have no relevance to any war, national emergency or national defense requirement, the agency said.

Work schedule filed

However, BSEE did uphold AEX's claim of the need for further environmental analysis, saying that AEX had provided descriptions of the environmental work to be carried out, including a schedule of proposed activities.

"No wells have been successfully drilled in this area for approximately 30 years," BSEE wrote. "BSEE acknowledges the unique challenges to OCS exploration presented by the extreme environmental conditions, sensitive and vibrant ecosystems, lack of existing infrastructure, the presence and migration patterns of protected marine mammals, and cultural and socioeconomic resources present in the Arctic."

BSEE also commented on the impact of seasonal sea ice on the carrying out of offshore activities.

And AEX's desire to carry out a thorough environmental analysis work program also provides justification for approving the suspension of operations, BSEE said. Regulations for an approval of this type require a schedule of work that will be

carried out while the suspension is in effect — AEX's proposed work schedule increases the likelihood that oil and gas exploration will occur in the area of the leases safely and in an environmentally and culturally responsible manner, BSEE said. ●

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UTILITIES

Railbelt electric utilities file standards

Chugach Electric Association has filed with the Regulatory Commission of Alaska a consistent set of reliability standards for the Alaska Railbelt electricity grid, agreed by all six of the Railbelt electricity utilities and the Alaska Energy Authority. Chugach Electric told the commission that the standards have been drafted for adoption and enforcement by a Railbelt-wide reliability organization.

Currently, the grid operates under two similar but different standards. As part of efforts to unify the operation and management of the grid, the utilities have been working to develop a unified set of standards — they have indicated that, given the operational differences between different sectors of the grid, developing a common standard for spinning reserves, the reserve generation capacity needed to assure continuity of power supplies, has been particularly challenging.

The utilities are also in the process of developing the concept of a Railbelt Reliability Council for oversight of the operation of the grid. There are also other concepts for a grid-wide system operator that would enforce reliability standards, including a concept being put forward by AEA, and a concept encapsulated in a bill proposed by the House Special Committee on Energy.

The RCA has been pushing for unified management and operation of the grid and is particularly concerned that the utilities must adopt a comprehensive, unified set of reliability standards whose use is enforced.

—ALAN BAILEY

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Legal battle erupts over credit bonding

Two oil tax bills in House; DEC spill fund bill in House Rules; extension of AIDEA bonding for Interior LNG passed Senate, in House L&C

By KRISTEN NELSON
Petroleum News

As the Alaska Legislature winds down, some oil and gas related bills appear to remain in the mix while others are probably stalled.

The administration's proposal to bond for payment of the cashable credits owed by the state, primarily to small oil and gas companies, is in House Finance (House Bill 331) and Senate Finance (Senate Bill 176) but it faces a question of whether such bonding would be constitutional.

The constitutionality issue, raised by Sen. Bill Wielechowski, D-Anchorage, who sits on Senate Resources, which heard the bill earlier in the session, are based on a legal memo from the Legislative Legal Division, authored by the division's deputy director, Emily Nauman, which says "there is substantial risk that a court may determine that SB 176 is unconstitutional."

The Alaska Department of Law disagrees, saying in an April 18 press release that the legal issues were reviewed.

"The proposed tax credit bonds in SB 176 are not general obligation bonds under the Alaska Constitution,"

Alaska Attorney General Jahna Lindemuth said in the release. "We've carefully reviewed the legal issues and are confident that these bonds are lawful under Alaska law."

"The Alaska Constitution expressly prohibits the legislature from bonding for state debt, and the two instances that are allowable must be approved by the voters," Wielechowski said in an April 18 press release. "This bill seeks to avoid the constitutional ban by creating a pass-through state corporation whose sole purpose is to put the state in debt to pay the oil companies," he said.

The Department of Law said the legislation creates the Alaska Tax Credit Certificate Bond Corp. to "authorize the issuance of bonds to pay off the state's tax credit liability in a lump sum rather than paying it down incrementally over the coming years," and notes that the state's current obligation is roughly \$800 million.

"Before the Governor proposed the legislation, the Department of Law in conjunction with outside bond counsel carefully reviewed the legality of the bill under Alaska law, including the constitutional limitations on state debt."

The department said it "disagrees with the legislative

counsel's opinion published today."

The alternative to the bonding proposal is to continue paying off this debt on an annual basis.

AIDEA bonding extension

SB 125, a one-page bill, would extend the expiration date of the Alaska Industrial Development and Export Authority's ability to bond for a liquefied natural gas production system and natural gas distribution for an Interior energy project from July 1 of this year to July 1, 2023.

It was sponsored by Senate President Pete Kelly, R-Fairbanks, and co-sponsored by Sen. Click Bishop, R-Fairbanks, Sen. Donny Olson, D-Golovin, and Rep. Scott Kawasaki, D-Fairbanks. It passed the Senate 19-0 in February and is in House Labor and Commerce, along with the companion House Bill 261, sponsored by Rep. Steve Thompson, R-Fairbanks, and co-sponsored by Kawasaki.

DEC fine increases, oil tax increases

HB 322, by the House Resources Committee, would

see CREDIT BONDING page 12



Oil Patch Bits

ASRC announces Industrial Services acquisition

Arctic Slope Regional Corp. said April 11 that it is pleased to announce the acquisition of F.D. Thomas Inc. and FDT's wholly owned subsidiary D. Zelinsky & Sons by its wholly owned subsidiary ASRC Industrial Services LLC.

Headquartered in Medford, Oregon, with satellite offices in Kent, Washington, Oakland and Sacramento, California, FDT is nationally recognized as a premier provider of waterproofing, roofing, infrastructure restoration, specialty painting and coatings services. FDT was founded by Dan Thomas in 1979. FDT services customers nationwide across multiple end markets, including: federal agencies, health care, higher education, transportation, infrastructure, sports, entertainment and new commercial construction. FDT will become a part of AIS's Construction, Maintenance and Repair operating group.

DZ was founded in 1884 and is headquartered in Oakland, California. FDT acquired DZ in 2014. DZ provides commercial painting, wallcovering, faux finishes, waterproofing, fireproofing, high performance coatings and SoftWalls upholstered wall and ceiling systems. DZ serves primarily commercial customers in the San Francisco Bay Area. DZ will join FDT as a member of AIS's CMR operating group.

"On behalf of ASRC's board of directors, I am pleased to welcome the talented employees of F.D. Thomas and D. Zelinsky to the ASRC family of companies," said Rex A. Rock Sr., president and CEO of ASRC. "The additions of F.D. Thomas and D. Zelinsky is further evidence of ASRC's commitment to the AIS strategy that ASRC initiated in September 2016. I am pleased with the progression of the strategy to date, and I am confident that the teams at F.D. Thomas and D. Zelinsky will work collaboratively with the AIS team to deliver durable, enduring benefits for ASRC shareholders."

Companies involved in Alaska's oil and gas industry

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CONOCO WELLS

Nanushuk play that has significantly raised the ante for major oil development on the western side of the North Slope.

“The results of this year’s program are promising,” said Matt Fox, ConocoPhillips executive vice president, strategy, exploration and technology. “We are excited about the opportunity to extend our legacy in Alaska, where we have a long track record of operational success and value creation.”

The company said that it will assess the results from this winter’s drilling season “in anticipation of another active exploration and appraisal season in 2019.”

Other exploration

Other exploration wells scheduled to be drilled during the winter consist of Glacier Oil & Gas’s Starfish well on undeveloped leases near the Badami field, to the east of the central North Slope, and an extended reach well being drilled into the Beaufort Sea Nikaitchuq North prospect from a Spy Island drill pad by Eni US Operating Co. No information is available yet on any results for either of these wells.

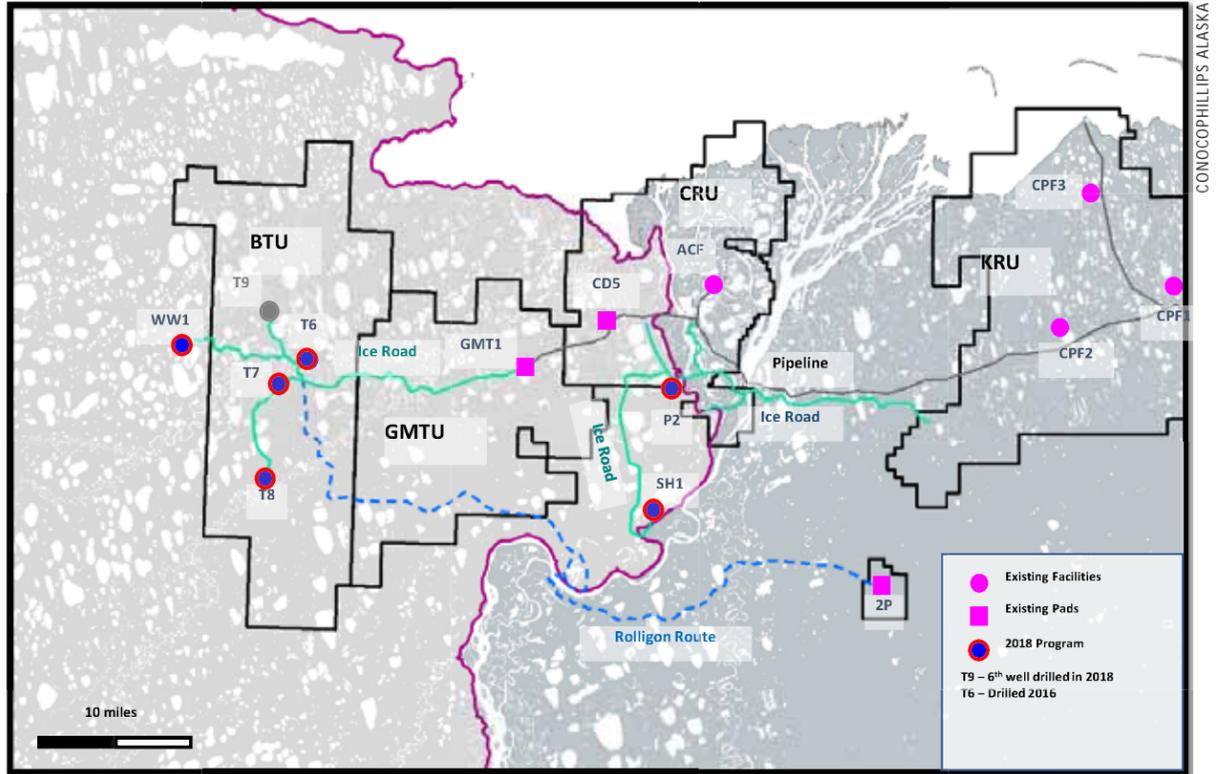
Also, as previously reported by Petroleum News, 88 Energy Ltd. completed two 3-D seismic surveys during the winter. One survey, the Icewine survey, to the west of the Dalton Highway, was designed to confirm leads identified in existing 2-D seismic on the western margin of the company’s North Slope acreage. The second survey was on the company’s Yukon Gold acreage that it acquired last year, south of the Point Thomson field and west of the Arctic National Wildlife Refuge.

Exploration drilling and seismic

On April 11, during a presentation to the House Finance Committee, Scott Jepsen, ConocoPhillips vice president of external affairs and transportation, commented on his company’s winter drilling program. He said that the three exploration wells that the company had drilled consisted of the West Willow No. 1, the Putu and the Stony Hill wells.

The West Willow well lies immediately west of the central part of the Bear Tooth unit, the unit that includes the Willow prospect. The Stony Hill well is about six miles south of the village of Nuiqsut, while the Putu well is about three miles east of Nuiqsut. The three Willow appraisal wells are the Tinmiaq Nos. 7, 8 and 9.

Jepsen also commented that this winter ConocoPhillips had completed a 250-square-mile seismic survey on state land some distance south of the Stony Hill well. The company is optimistic about finding more prospects, with the potential to drill more explo-



The locations of exploration and appraisal wells that ConocoPhillips drilled this winter. WW1 is the West Willow No. 1 well, SH1 is the Stony Hill No. 1 and P2 is the Putu well. T7, T8 and T9 are the Tinmiaq Nos. 7, 8 and 9 appraisal wells. BTU is the Bear Tooth unit and GMTU is the Greater Mooses Tooth unit. ConocoPhillips also shot a 3-D seismic survey to the south of the rolligon route in the lower part of the map.

ration wells, in that region, he said. ConocoPhillips is pioneering a new high resolution 3-D seismic technique called compressive seismic imaging, a technique that the company has said can help find the types of subtle oil traps associated with the Nanushuk play.

Nanushuk play

The Willow prospect involves the Nanushuk play — presumably the West Willow well would target the same play. The Stony Hill well is understood to be targeting a similar play to Willow. A well and sidetracks drilled in the area of the Putu well in 2008 by Brooks Range Petroleum Corp. encountered hydrocarbons in several horizons, including in the Nanushuk formation.

Jepsen said that ConocoPhillips estimates potential peak production from Willow to be about 100,000 barrels per day, if the prospect is developed using stand-alone production facilities, similar to those in the Alpine field to the east. The scale of the Willow production would overwhelm the existing oil infrastructure in the region, thus necessitating the construction of new infrastructure at a cost of as much as \$5 billion and involving several hundred direct jobs, Jepsen said.

ConocoPhillips has previously said that it is also evaluating the possibility of developing Willow as an Alpine

satellite, along the lines of the neighboring Mooses Tooth developments. As a satellite field delivering production fluids to Alpine, Willow would produce at lower rates than would be possible as a standalone field.

Active season

Asked why ConocoPhillips had conducted an especially active exploration and appraisal drilling season this winter, Jepsen commented that a number of factors had driven the drilling program. Positive exploration results in recent years on the North Slope were associated with exploration trends that cross ConocoPhillips’ acreage, he said. The company had originally planned to drill the Putu well in the previous drilling season but had postponed the drilling because of some issues involving the nearby village of Nuiqsut and the state of Alaska. The company had the capacity to drill the Stony Hill well during the same season. And the company wanted to move ahead with an aggressive appraisal program at Willow, to enable an investment decision and the possibility of bringing the prospect on stream as soon as possible, Jepsen said. ●

Contact Alan Bailey at abailey@petroleumnews.com

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LNG PLANS

pleted in 2023.

Crothers noted that his company is a “big gas trader” that is able to access a wide range of contracts from individual producers, as well as the wider market.

While the consortium pursues its own agenda, it has been bolstered by British Columbia First Nations, which are eager to tap into an estimated 10,000 construction jobs and 950 permanent jobs from the gas fields across the province to the terminal facility at Kitimat on the northern B.C. coast.

Haisla Nation Chief Councilor Crystal Smith, whose community is the major land-holder in the Kitimat region, fired

Smith said her people take exception when those who don’t have to live with the social issues confronting indigenous residents campaign against resource development.

back at the Sierra Club, which has warned of the negative impacts an LNG industry would have on tourism.

She invited the club and B.C. Green Party leader Andrew Weaver to spend time with the many First Nations who support LNG development.

Last year, the B.C. government reported 64 agreements had been signed with 29 First Nations, representing about 90 percent of those along the pipeline routes

for LNG projects.

Karen Ogen-Toews, chief executive officer of the First Nations LNG Alliance, said the agreements range from site clearing to supplying work camps and open the way to skills training, new business development and new revenue streams, creating “own-source revenue” for the aboriginal communities.

Smith said her people take exception when those who don’t have to live with the social issues confronting indigenous

residents campaign against resource development.

She noted that the Haisla have already had a “taste of an economic boom” from the C\$6 billion expansion of the Rio Tinto Alcan smelter at Kitimat through “meaningful, well-paying jobs.”

—GARY PARK

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OIL PRICES

Bloomberg. The Financial Times has also suggested that the possibility of the re-imposition of sanctions on Iran by the United States has put upward pressure on the oil price.

The quantity of crude oil stored as stock also impacts the oil price — excessive stocks have been considered

a major factor in the low prices of recent years. According to the Energy Information Administration, crude oil stocks in the United States have dropped by more than 10 percent over the last 12 months.

Activity in the U.S. oil industry continues to surge. According to Baker Hughes, the U.S. oil rig count reached 815 on April 13, the highest level since March 2015.

—ALAN BAILEY

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INSIDER

North, although they are careful to say this winter's exploration well is a wildcat.

Eni started drilling its 35,000-foot extended reach Nikaitchuq North 1 exploration well in late December. The Nikaitchuq North prospect lies immediately north of the state leases in the Nikaitchuq field, offshore the central North Slope and west of Prudhoe Bay.

The Alaska Oil and Gas Conservation Commission drilling permit says the directional well heads north from Eni's Spy Island drill site and involves four state leases — ADL 388571, ADL 388574, ADL 388583 and ADL 391283 — plus Harrison Bay Block 6423 that lies in the Beaufort Sea federal outer continental shelf and is 50 percent owned by Shell.

Well results will determine whether Eni proceeds with a sidetrack this winter and a second well next winter.

Go APE! with Alaska Prospect Expo

STARTING IN MAY, PETROLEUM NEWS will carry a classifieds section over a month called Alaska Prospect Expo, or APE, designed to interest the newspaper's subscribers, who include buyers and investors for mineral rights/leases and exploration and development prospects in Alaska.

Since its formation, the Anchorage-based weekly newspaper has targeted public and private investors and oil companies all over the world with an expressed interest in Alaska's oil and gas potential.

Petroleum News, which has a booth at NAPE every winter, has seen an increase in investor subscribers in the last two years.

Some have signed up because of Armstrong's big western North Slope discoveries, followed by those of ConocoPhillips in the same area; others subscribed because of the re-opening of ANWR; and still others were attracted to

the high price of natural gas produced in the Cook Inlet basin, as well as the low lease and rental rates charged by the state for upper and lower Cook Inlet.

NAPE is the international oil and gas industry's marketplace for the buying, selling and trading of prospects and producing properties. The NAPE winter summit, which is held in Houston, brings together industry decision-makers, focusing on prospect generators, and hosts companies of all sizes, from small independents to majors.

The APE classifieds in Petroleum News will carry only Alaska properties.

Special thanks to Jim Winegarner who suggested the title of the section, pointing out its catchy abbreviation, APE.

Susan Crane gets first tour of North Slope

THANKS TO MAGTEC ALASKA'S ROGER WILSON, Petroleum News' advertising director Susan Crane got her first tour of the North Slope in late March.

Susan began selling advertising for the Anchorage-based oil and gas weekly newspaper on Sept. 11, 2001, and for the next 17 years saw the Slope through the eyes of others who wrote and took photos for Petroleum News.

So when Roger offered to take her on a road trip from Prudhoe Bay to the eastern border of the National Petroleum Reserve-Alaska, or NPR-A, Susan hopped on a plane.

Once on the North Slope, Roger took over as her escort, securing a room for her at Magtec's camp at Deadhorse.

The weather was sunny and cold, but never dropped below minus 15 degrees Fahrenheit. "It was beautiful in its own way — flat as a pancake. I could see the Brooks Range off in the distance," Susan said.

"We went in Roger's truck to Pump Station 1 of the trans-Alaska oil pipeline, sometimes driving through and other times driving by, oil field units, including Prudhoe Bay, Kuparuk, Oooguruk,



COURTESY ROGER WILSON

Petroleum News advertising director Susan Crane visits Pump Station 1 on a March tour of North Slope facilities.

Nikaitchuq, Pikka and Alpine, going up to NPR-A's border before we ran out of time," she said.

Deadhorse was a real surprise: "It can best be described by what it's not. A community of several thousand people, it has no homes, no movie theaters and no restaurants."

Wildlife was scarce — two caribou and an Arctic fox — although she did see at least one sign warning about brown bears.

"The thing that really impressed me was all the safety and environmental precautions — things we never see down here in Anchorage. First, there were safety signs everywhere; way more than you see here."

"... One minor example was getting food at Magtec and Eni's camps — you have to put on protective gloves to go through the lines. And going into buildings you have to put blue booties on over your boots, like the ones you see in hospitals."

What she especially enjoyed was the great food.

"If I worked up there I would definitely gain weight. The food was very good and there was an amazing selection. ... The salad bars were fabulous, not to mention the variety of desserts."

And she and Roger stocked up on snacks from the Magtec camp's large snack bar every time they left.

"There was everything you could think of — sandwiches, soups, chips, apples, hot dogs, nachos, donuts, cookies, ice cream, bottled water and other beverages, and they're available 24 hours a day."

All in all, Susan said photos "do not do the North Slope justice."

—KAY CASHMAN

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CREDIT BONDING

increase fines which the Department of Environmental Conservation can impose for oil spills. There is no companion bill in the Senate. It was amended in House Finance and is in House Rules.

Rep. Andy Josephson, D-Anchorage, co-chair of House Resources, said in introducing the bill that fines had not been increased since they were imposed and that increases in the bill were based on inflation. The bill also provides for increasing the fines in the future based on changes in the consumer price index.

Two oil tax bills were heard in the House. Neither has moved out of its first committee, which, this late in the session probably means that they are not going to move through the House.

If either or both passed the House, they seem unlikely to pass the Senate.

HB 288, by House Resources co-Chair Geran Tarr, D-Anchorage, co-sponsored by Josephson and Rep. Paul Seaton, R-Homer, co-chair of House Finance, pro-

poses an increase in the minimum tax on North Slope crude oil production. The bill originally proposed an increase from 4 percent to 7 percent; the bill was amended to a stepped increase, based on the price of oil, with 4 percent at \$25-\$40 per barrel (North Slope crude oil price); to 5 percent between \$40 and \$55; 6 percent between \$55 and \$65, and 7 percent above \$65. The bill is still in House Resources.

HB 411, a House Finance Committee bill, was introduced April 6, and has had four hearings in that committee.

In introducing the bill, Seaton said the tax increase provisions in HB 411 were almost identical to those in HB 111, but were dropped from that bill before it passed the Legislature last year, leaving just the portion of the bill which addressed credits. He said tax increases in HB 411 were aimed at getting the state its fair share of wealth from oil and gas production. ●

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