



Willow gathers support; AK House, defense experts tout production

ON FEB. 20, THE ALASKA HOUSE voted unanimously in favor of House Joint Resolution 6 in support of the development of the Willow project in the National Petroleum Reserve in Alaska.

HJR 6 by Rep. Josiah Patkotak, I-Utqiagvik, urges the U.S. Department of the Interior to support the responsible development of resources in the petroleum reserve and issue a positive final record of decision for the Willow project, recognizing that responsible resource development today equips Alaska's communities to make investments in technology and infrastructure to support the use of renewable sources creating a balanced and affordable energy outlook for Alaskans.

"The unanimous passage of this resolution highlights the House's acknowledgment of the importance of responsible resource development in Alaska," said Rep. Calvin Schrage, NP-Anchorage. "This project will help ensure we have the resources needed to make critical investments to diversify our energy portfolio and expand renewable energy access."

see INSIDER page 8

Drill, test, build in a single season on Alaska's North Slope

In recent releases of information about Alkaid 2 well testing Pantheon Resources has talked about its nearby production facility which took only a year to build.

The modular facility, which is on skids, can handle multiple wells.

It appears to be a balancing act for Pantheon between the Alaska Oil and Gas Conservation Commission and the company's desire to have a facility in place that will allow its operator Great Bear Pantheon to move quickly into production should the Alkaid 2 exploration well's long-term production test be successful.

AOGCC approved flaring in association with a long-term production test of the well, but in three-month increments, not the nine months requested by the company.

A Pantheon spokesman told Petroleum News in a Feb. 17 email that "the facility was designed in-house, with the primary components assembled in Ft Nelson Canada and then

see ALKAID 2 WELL page 11

Biden administration responds on ANWR, says no laws contravened

In a federal District Court in Alaska case, in which the Alaska Industrial Development and Export Agency is challenging a Department of the Interior decision to suspend oil and gas lease related activities in the Arctic National Wildlife Refuge, the Biden administration has responded to a request for summary judgement by the plaintiffs in the case. The administration argues that the suspension does not infringe any laws and reflects a need to rework the evaluation of the potential environmental impacts of the lease related activities.

The Tax Cuts and Jobs Act, passed by Congress in 2017, required the Department of the Interior to conduct oil and gas lease sales for the ANWR coastal plain. And in August 2020 DOI issued an environmental impact statement for the lease sale program, under the terms of the National Environmental Policy Act. The Bureau of Land Management subsequently conducted the first lease sale for the coastal plain in January 2021. AIDEA, Knik Arm Services LLC and Regenerate

see ANWR RESPONSE page 10

FINANCE & ECONOMY

ANS below \$80

ANS at discount to Brent; Chinese demand could drive prices up in 2023

By STEVE SUTHERLIN

Petroleum News

Alaska North Slope crude plunged \$2.24 Feb. 22 to close at \$77.48 per barrel, while West Texas Intermediate dropped \$2.21 to close at \$73.95 and Brent plummeted \$2.45 to close at \$80.60.

In a trading week that saw ANS slide out of the low \$80s range it has enjoyed most days of February, Feb. 22 marked its low for the week, and was its second lowest close for the month, following its close of \$76.90 Feb. 3.

ANS ended January above \$80, but dropped into the upper \$70s Feb. 1, following a price pat-

tern that has been in place since late 2022 that has seen ANS displaying relative stability — trading in a range within several dollars of \$80.

Brent closed above \$80 for the entire month of February, save for a close of \$79.94 Feb. 3.

Brent has maintained a premium of some \$3.00 over ANS in 2023, at a time when Russian oil trading has been constrained due to its invasion of Ukraine, and a formal G7 coalition price cap on Russian seaborne crudes became effective Feb. 5. China and India have been eagerly buying up discounted Russian crude as a result.

Even as China has stepped up crude purchases

see OIL PRICES page 9

EXPLORATION & PRODUCTION

Mustang start September?

Spill plan app hints at AIDEA sale of Southern Miluveach assets to Finnex

By KAY CASHMAN

Petroleum News

It appears the deal between Finnex Operating LLC, or FOLLC, and the Alaska Industrial Development and Export Authority, or AIDEA, may soon close, with operations on the Mustang Pad in the Southern Miluveach unit scheduled to begin in September 2023.

The start date comes from FOLLC's recent application for a new Southern Miluveach Oil Discharge Prevention and Contingency Plan, which it filed with the Alaska Department of Environmental Conservation, or DEC.

The FOLLC deal with AIDEA, which seeming-



GORDON POSPISIL

ly fell apart once, was to purchase the assets of the five-lease Southern Miluveach unit, including its Mustang drilling and production pad, the Mustang Road and the 1,050-foot Mustang Pipeline which ties into the Alpine Pipeline just southeast of the Mustang Pad.

The unit lies between the Kuparuk River and Colville River units on the North Slope and is adjacent to Oil Search

(Alaska)'s Quokka unit. The Mustang Pad's location was listed in the application as: Latitude/Longitude: 70 2486 / 150 2806.

The application for a new spill plan for the

see MUSTANG START page 9

EXPLORATION & PRODUCTION

Producing inlet gas

Cook Inlet natural gas producers describe issues, production, plans for future

By KRISTEN NELSON

Petroleum News

What is being done to offset declining natural gas production in Alaska's Cook Inlet? Three Cook Inlet operators, including the two largest and a company with a significant but undeveloped natural gas field, talked to the Alaska House Special Committee on Energy on Feb. 21.

Hilcorp Alaska is Cook Inlet's major natural gas producer, operating more than 90% of Cook Inlet gas by volume in December; Furie Operating Alaska operated some 5% of inlet natural gas production in that month, the most recent for which



LUKE SAUGIER

Alaska Oil and Gas Conservation Commission data by field is available; and BlueCrest, primarily an oil producer with associated gas, accounted for less than 1% of inlet gas production.

Hilcorp

Asked about Hilcorp's warning to Cook Inlet utilities about long-term contracts, Luke Saugier, Hilcorp's senior vice president Alaska, said the utilities

are Hilcorp's customers and the company wants to give them as much transparency as possible. All fields decline, he said, and over the past 5 years,

see INLET GAS page 8

● GOVERNMENT

Administration files geothermal bills

In addition to modernizing statutes, legislation also provides AOGCC option to apply for primary for Class V, geothermal, wells

By KRISTEN NELSON

Petroleum News

In mid-February Gov. Mike Dunleavy introduced bills to make changes in the state's statutes governing its geothermal resources. House Bill 74 and Senate Bill 69 would remove "obstacles for exploration and development of Alaska's geothermal resources," the administration said in a Feb. 15 press release. HB 74 was referred to the House Special Committee on Energy, where it was scheduled for a Feb. 23 hearing, and to House Resources. SB 69, with a single referral, to Senate Resources, had not been scheduled for a hearing when this issue of Petroleum News went to press.

The administration cited technological advances which have made lower temperature geothermal energy commercially viable, with "non-commercial uses of heat energy such as heat pumps that rely on shallow subsurface pipes to heat or cool residential structure." The bills update the definition of geothermal resources to allow for modern uses.

The time for geothermal exploration is increased from 3 to 5 years, and the current permit system is changed to "an exploration license similar to oil and gas exploration," the administration said, with the 5-year term for the license allowing "explorers more time to conduct background research, acquire any related permits, and perform the field

The administration cited technological advances which have made lower temperature geothermal energy commercially viable, with "non-commercial uses of heat energy such as heat pumps that rely on shallow subsurface pipes to heat or cool residential structure."

work necessary to locate a resource and produce the data necessary to convert a license to a lease."

Ring of Fire

"Geothermal resources could be an important component of a sustainable energy mix," Dunleavy said. "Our location on the Pacific Ring of Fire puts Alaska in a prime position to benefit from geothermal energy. This bill makes geothermal exploration more viable for private industry."

The bills also increase the acreage limit for geothermal prospects from the current 51,200 acres to 100,000 acres and allow the Alaska Oil and Gas Conservation Commission "the option to pursue state permitting primacy over Class V geothermal wells from the U.S. Environmental Protection Agency in order to provide more expeditious responses to local concerns and projects," the administration said.

AOGCC Commissioner and Chair Brett W. Huber Sr. said in that agency's fiscal note that the legislation would consolidate geothermal regulation in the state and said the agency does not foresee a fiscal impact.

David LePain, director of the Department of Natural Resources' Division of Geological and Geophysical Surveys, said the legislation would provide DNR's Division of Oil and Gas "with tools to support the development of state geothermal resources, much as it currently does with the development of petroleum resources." He said current statutes authorize permits for geothermal resources but "its limits and conditions make the program unattractive to industry."

DGGS is requesting funding for a new geologist position to re-start its geothermal program, LePain said. "The position will coordinate with agencies and industry to publish new geology data to further the development of Alaska's geothermal energy resources," he said in the fiscal note.

The administration has introduced bills to update the state's geothermal regulations in the past two Legislatures, and while the bills were heard, they were not passed. The biggest difference in this year's legislation is the inclusion of the provision to allow AOGCC to seek primacy for Class V, geothermal wells. ●

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● GOVERNMENT

Alaska sues feds over ice seal designation

State contends NMFS is over designating seals' critical habitat — 324,105 square miles along North Slope coastline, adjacent OCS

By **KAY CASHMAN**
Petroleum News

The State of Alaska filed a complaint Feb. 15 against the National Marine Fisheries Service, or NMFS, asking a U.S. District Court to vacate the critical habitat designations for ringed and bearded seals. The area designated for the two seal species is much larger than the state of Texas and includes approximately 324,105 square miles of coastal waters along the North Slope and the adjacent Outer Continental Shelf, or OCS.

Alaska Gov. Mike Dunleavy sees the science giving way to politics. "Washington D.C. continues to see our state as the nation's sole wildlife preserve, to the detriment of the opportunities we were promised at statehood to be able to build a robust economy," Dunleavy was quoted as saying in a Feb. 16 press release.

"Nearly the entire Alaska coastline and vast offshore areas are designated as 'critical' for one species or another, ranging from whales to sea ducks to seals and sea lions. No other state is burdened by the same level of federal overreach created by unnecessarily large critical habitat designations. If other states had the same level of federal designations, the law would be rewritten," the governor said.

Alaska Attorney General Treg Taylor says the designa-

tion is not based on reason. "These ice seals are important to the state, and actually are among the most common marine mammals found in the Arctic. However, to designate virtually all of the seals' range within the U.S. as 'indispensable' to the recovery of the species is an abuse of federal power," he said.

"These designations of vast areas, beyond what could ever reasonably be considered 'critical' to a species' recovery, was not intended by the drafters of the Endangered Species Act. Unfortunately, though, designations such as these have all too often been the norm for endangered species in Alaska," Taylor said.

Under the Endangered Species Act only those specific areas that are "indispensable" to the conservation of the species can be considered "critical habitat."

Alaska Commissioner of Fish and Game Doug Vincent-Lang also refutes the species' listings in the Feb. 16 press release. "I struggle to believe that a species with a healthy, robust population of millions can be considered threatened with extinction," said Vincent-Lang.

"The best available scientific information indicates



GOV. MIKE DUNLEAVY

"I struggle to believe that a species with a healthy, robust population of millions can be considered threatened with extinction."

—Alaska Commissioner of Fish and Game
Doug Vincent-Lang

ringed seals are resilient and adjust well to varying conditions across their enormous range and are likely to continue. ESA listings should be reserved for imperiled species," he said.

The complaint lays out how:

- NMFS failed to articulate how these areas meet that definition.
- NMFS contradicts the very purpose of designating critical habitat; its final rule asserts that no project changes or other critical habitat protections will result from the designation of critical habitat.
- NMFS' designation shows that the critical habitat designations were not necessary for the animals' recovery and that the designations are not essential to their conservation. ●

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● EXPLORATION & PRODUCTION

US rotary drill rig count drops 1 to 760

By **KRISTEN NELSON**
Petroleum News

The Baker Hughes' U.S. rotary drilling rig count was down by one rig the week ending Feb. 17 to 760 and up 115 from a count of 645 for the same period a year ago.

When the count dropped to 244 in mid-August 2020, it was the lowest the domestic rotary rig count had been since the Houston based oilfield services company began issuing weekly U.S. numbers in 1944.

Prior to 2020, the low was 404 rigs in May 2016. The count peaked at 4,530 in 1981.

The count was in the low 790s at the beginning of 2020 prior to the COVID-19 pandemic, where it remained through mid-March, when it began to fall, dropping below what had been the historic low in early May with a count of 374 and continuing to drop through the third week of

Baker Hughes shows Alaska with seven rotary rigs active Feb. 17, unchanged from the previous week and down by one from a year ago, when the state's rig count stood at eight.

August 2020 when it gained back 10 rigs.

The Feb. 17 count includes 607 rigs targeting oil, down two from the previous week and up 87 from 520 a year ago, with 151 rigs targeting natural gas, up one from the previous week and up 27 from 124 a year ago, and two miscellaneous rigs, unchanged from the previous week and up by one from a year ago.

Forty-two of the rigs reported Feb. 17 were drilling directional wells, 700 were drilling horizontal wells and 18 were drilling vertical wells.

Oklahoma (64) and Wyoming (18) were each up by a single rig from the pre-

vious week.

Louisiana (64) was down two rigs, while Colorado (18) and New Mexico (108) were each down by a single rig week over week.

Rig counts in other states were unchanged from the previous week: Alaska (7), California (4), North Dakota (41), Ohio (14), Pennsylvania (22), Texas (370), Utah (11) and West Virginia (15).

Baker Hughes shows Alaska with seven rotary rigs active Feb. 17, unchanged from the previous week and down by one from a

year ago, when the state's rig count stood at eight. All seven of the Alaska rigs were onshore, unchanged from the previous week. There were no offshore rigs active in the state.

The rig count in the Permian, the most active basin in the country, was unchanged from the previous week at 352 and up by 46 from 305 a year ago. ●

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THIS MONTH IN HISTORY

Satellite explosion at Alpine

20 years ago this month: ConocoPhillips says as many as 10 more satellites; possible standalone facilities at Kuukpik, NPR-A

Editor's note: This story originally ran in the Feb. 23, 2003, issue of *Petroleum News Alaska*.

By KRISTEN NELSON

Petroleum News

ConocoPhillips Alaska Inc. has submitted an environmental impact statement proposal to state and federal agencies for the development of five satellites to its Alpine facilities in the Colville River unit on the northwest North Slope. The Bureau of Land Management said Feb. 18, 2003, that it plans to evaluate the proposal for oil development in the northeast corner of the National Petroleum Reserve-Alaska and along the Colville River.

In supporting documentation the company said as many as 10 additional satellites feeding back to Alpine within a 30-mile radius are possible, as well as standalone processing facilities in the National Petroleum Reserve-Alaska and at Kuukpik, which is northeast of the Colville River unit.

And, should a gasline be built from the North Slope, ConocoPhillips said gas processing facilities and a gas pipeline from NPR-A are also possible.

The company provided little more than a "heads up" on the possible additional satellites and standalone projects telling agencies that it is likely that more discoveries will be found and proposed for development, both within the Colville River unit and in the northeast NPR-A.

Three possibilities

Three types of discoveries could lead to future development, the company said: "(1) additional satellite oil discoveries that flow back to Alpine for processing; (2) oil discoveries with stand-alone processing; and (3) natural gas discoveries and the associated pipeline."

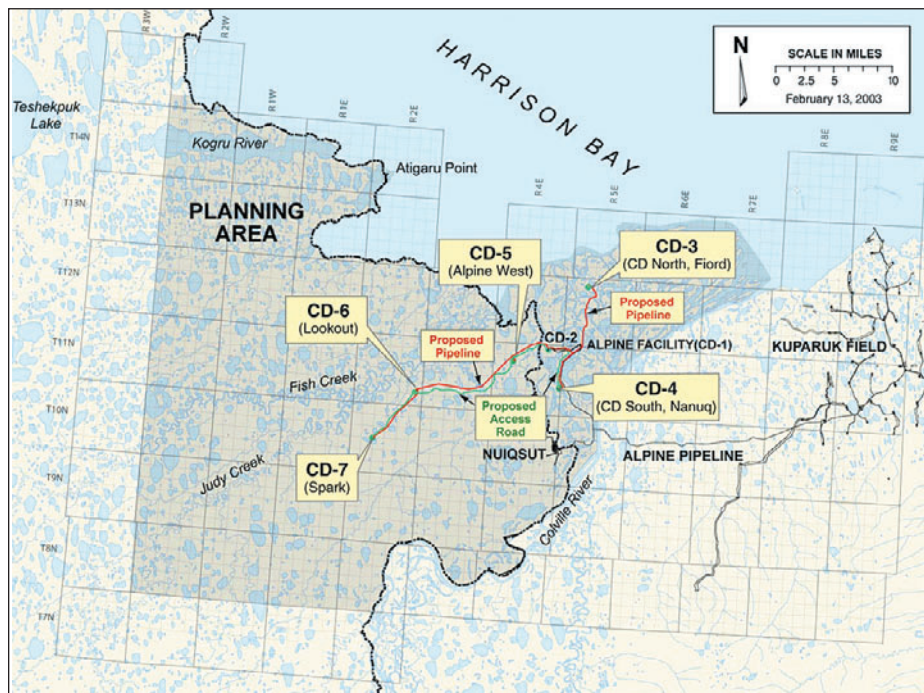
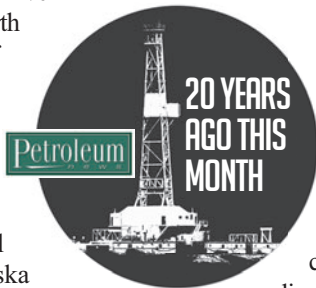
Additional exploration and delineation drilling are necessary for such discoveries, the company said.

Potential future development of satellites would be similar to those now proposed, with gravel roads, pads and airstrips, and pipelines taking production to Alpine for processing.

"At this time it is estimated that up to 10 such satellite discoveries, in addition to the five discussed in this document, may be developed in this manner. The precise location of these discoveries is not known at this time but would generally be within 30 miles of Alpine due to engineering constraints," the company said.

It is also possible that large enough reservoirs may be found to justify standalone facilities, ConocoPhillips said. "The location and details of such a facility are not known at this time but would likely be similar to Alpine." Such a facility could have its own satellites.

"Although this scenario is not being proposed for any location at this time, with continuing exploration activity in the NPR-A it is possible that such a facility could be constructed in the future, most likely beyond the 30-mile radius around Alpine," the company said. The third category of project is



ConocoPhillips included a map which "depicts a cluster of both (1) announced discoveries within the former Kuupik unit approved by the state of Alaska, and (2) the surface locations in the CRU and Northeast NPR-A" where the company "has drilled an exploration well since 1999 or has permission to do so in the next few years."

gas: if there were a gas pipeline from the North Slope, "gas reserves in the NPR-A may be developed to provide gas for this pipeline. In such a scenario, gas processing facilities and pipelines could be constructed in the NPR-A."

ConocoPhillips included a map which "depicts a cluster of both (1) announced discoveries within the former Kuupik unit approved by the state of Alaska, and (2) the surface locations in the CRU and Northeast NPR-A" where the company "has drilled an exploration well since 1999 or has permission to do so in the next few years."

The Kuupik area leases are in the Beaufort Sea at the mouth of the Colville River, adjacent to leases where Pioneer and Armstrong are drilling their Kuparuk Northwest prospect this winter. The Kuupik unit was terminated in 2001, after Kuupik unit operator Phillips Alaska Inc. notified the state that it would not commit to drill a well in the unit before June 1, 2002, as required by the third plan of exploration for the unit. Six leases are held with certified wells: ADL 355036, ADL 355037, ADL 355038, ADL 355039, ADL 365577 and ADL 365578. Pioneer Natural Resources Inc. is drilling the Ivik well this winter season on the lease just west of ADL 355036, and the Ooguruk on the lease just to the north of ADL 355036. Pioneer and Armstrong Resources LLC, which developed the drilling prospect, are working what they call the Kuparuk Northwest prospect.

Fiord and Nanuq under review

ConocoPhillips began permitting the two Colville River unit satellites, Fiord (Colville Delta North) and Nanuq (Colville Delta South) in 2000. In 2001 the company announced several discoveries of oil and gas accumulations on its leases in the northeast planning area of NPR-A and west of the Alpine facility. "Additional information has since been gathered from the NPR-A discoveries" the company said, and it "is now

in the process of determining the commerciality of these prospects."

The three NPR-A prospects under evaluation are Alpine West, Lookout and Spark, all within approximately 20 miles of the Alpine central processing facility.

There are two sites operating at the Colville River unit now, CD-1 and CD-2. Proposed drilling site names for the satellites are: CD-3 (CD North, Fiord); CD-4 (CD South, Nanuq); CD-5 (Alpine West); CD-6 (Lookout); and CD-7 (Spark).

ConocoPhillips said the proposed Lookout (CD-6) and Spark (CD-7) satellites are on federal lease tracts owned by ConocoPhillips and Anadarko Petroleum Corp. The proposed Alpine West (CD-5) satellite is on lease tracts the partners own on Native land within NPR-A. CD North (CD-3) is on state-owned surface; CD South (CD-4) is on Kuupik Corp. owned surface. The state and Arctic Slope Regional Corp. have subsurface ownership at CD-3 and CD-4.

CD North would include a standalone drilling pad connected to an airstrip and apron-taxiway by an access road. Access to the pad would be from Alpine by small aircraft or helicopter to the all-weather gravel strip.

ConocoPhillips said a winter development drilling program at CD North would "avoid impacts to wildlife and subsistence activities during summer months." Three to five winter drilling seasons would be required to drill up to 32 wells; a relief rig would require access via ice road. The drilling rig would be moved before break-up for use elsewhere during summer months.

The CD South (CD-4) satellite would include a gravel pad and a 3.6 mile all-weather gravel road to Alpine. Up to 32 wells would be drilled "on a scheduled that includes a seasonal compliment to the proposed CD North (CD-3) program," the company said. Pipelines from both satellites would connect to existing Alpine facilities.

NPR-A satellites

ConocoPhillips said "the NPR-A satellites are in the early stages of planning" to all estimates of gravel volumes and lengths of roads and pipelines are approximate. Utility lines — power and communication — would be suspended on vertical support members or buried in the gravel road. Local power generation may be used at Lookout (CD-6) and Spark (CD-7).

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● EXPLORATION & PRODUCTION

ConocoPhillips files 25th Colville plan

Wells for 2023-24 confidential; four wells drilled under 2022-23 plan; additional Narwhal wells planned from newly expanded CD4

By KRISTEN NELSON
Petroleum News

ConocoPhillips Alaska has filed the 25th annual status update to the unit plan for its Colville River unit on the west side of the North Slope.

While its overall drilling plans at Colville for the upcoming 2023-24 period are confidential, the company did say that in the fifth expansion area, currently being drilled from an expanded CD4 drillsite, it has been planning for four wells, two producers and two injectors, for the 2023-24 period.

ConocoPhillips said it completed all approved development plans for the 24th plan, covering May 16, 2022, through May 15, 2023, “including the CD4-597 opportunity well, the expansion of CD4, construction and start-up of the Alpine Power Expansion, and the CD1-33A disposal well as a replacement for WD03.”

Drilling the WD03 caused the gas release at CD1.

The company said it “has implemented learnings from the CD1 gas release across its operations including an enhanced analysis of significant hydrocarbon bearing zones in areas where CPAI drills and with enhanced drilling proce-

In an overview of the fifth expansion area plan of development for CRU, ConocoPhillips said that “drilling of CD4-594 and CD4-595 have stretched the limits of drilling extended reach, serviceable wells at shallow depths and have confirmed that a new pad will be required to reach the full extent of the Narwhal resource in the 5th Expansion Area.”

dures addressing outer annulus monitoring and freeze protection operations.”

(The Alaska Oil and Gas Conservation Commission has a hearing scheduled March 23 on the CD1 gas release.)

ConocoPhillips said it spud an additional opportunity well in the Fiord West Kuparuk participating area, CD2-361, in the fourth quarter of 2022, with completion of the well estimated for the second quarter of this year.

Wells drilled in the 24th plan include: CD1-33A, the disposal well; CD2-310, a Fiord West Kuparuk PA injector, CD2-361, the Fiord West Kuparuk producer spud in the

fourth quarter; and CD4-597, a Narwhal injector in the Narwhal PA.

Eight PAs, three oil pools

There are eight participating areas in three oil pools — Alpine, Nanuq, Qannik — and eight distinct reservoir areas in the Colville River unit, ConocoPhillips said.

The Alpine pool includes five PAs: Alpine, Nanuq Kuparuk, Fiord Kuparuk, Fiord Nechelik and Fiord West Kuparuk.

At the Fiord West Kuparuk PA, the only Alpine PA with work listed, the company said it completed a planned pre-production phase at the CD2-310 well, prior to converting it to an injector. After accessing the results from that well, “an additional opportunity well, the CD2-361 producer, was spud in Q4 2022,” the company said, with completion estimated for the second quarter.

“With continued success on both the drilling and reservoir fronts, it is expected that a third well, the CD2-320 injector, will be spud within 2023,” ConocoPhillips said.

see COLVILLE PLAN page 6

continued from page 4

HISTORY

“The satellites would be services and maintained by crews based at Alpine, and 20 to 30 wells would be drilled at each location.”

Alpine West (CD-5) will be in section 8 of township 11 north, range 3 east, Umiat Meridian, on Arctic Slope Regional Corp. oil and gas lease NPR1. CD-5 would be approximately six miles south-southwest of Alpine and west of the Nigliq Channel of the Colville River. ConocoPhillips said one Alpine West exploratory well was drilled from the CD-2 pad in 2001.

The CD-5 satellite would include a gravel pad and a three-mile all weather gravel road and vehicle-capable bridge across the Nigliq Channel, beginning near CD-2 on the existing gravel road that connects CD-2 with Alpine. Lookout (CD-6) would be on BLM oil and gas lease AA081819 in section 25 of T11N-R2E, UM, and would include a gravel pad and an all-weather gravel road, approximately 10 miles, connecting to Alpine West (CD-5).

Spark (CD-7) would be on BLM oil and gas lease AA081802 in sections 16, 17, 20 and 21 of T10N-R2E, UM, and would include a gravel pad and a six-mile all-weather gravel road connecting to Lookout (CD-6).

Timeframe

ConocoPhillips said the satellites “may be constructed simultaneously or independently.” Under a typical schedule, the company said, “construction of an ice road, the access road, drilling pad and pipelines would be completed in the first and second winters after permit approval for each individual satellite.”

After gravel is placed, development drilling and workover operations “would continue intermittently throughout the life of the field.”

Construction and final road compaction and grading and some facilities installation would occur in the third year and final installation of facilities, pipeline, utilities and oil production start-up would begin in the third year.

The company does not provide an estimate for pre-construction, which includes environmental studies, permitting and engineering. ●



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COLVILLE PLAN

The Nanuq pool includes the Nanuq Nanuq PA. ConocoPhillips listed no planned work there for 2023-24.

The Qannik pool includes the Qannik PA and the Narwhal PA, and at the Narwhal PA the company said work on the CD4 drillsite expansion began in the 2021-22 winter construction season was completed, with expansion enabling it to reach additional Narwhal development targets, and potentially additional Qannik targets.

“Future Narwhal development will continue from CD4 and help inform the design and optimization of a future pad notionally referred to as CD8” targeting Narwhal in the fifth expansion area, ConocoPhillips said.

The company said Narwhal will be developed using an MWAG process, a gas-alternative-waterflood using either miscible gas or sub-miscible enriched gas, with the enhanced oil recovery process integral to expected production. AOGCC approved an extension of a pilot injection order for the existing EOR and ConocoPhillips said it plans an application for a permanent area injection order covering the Narwhal reservoir this year.

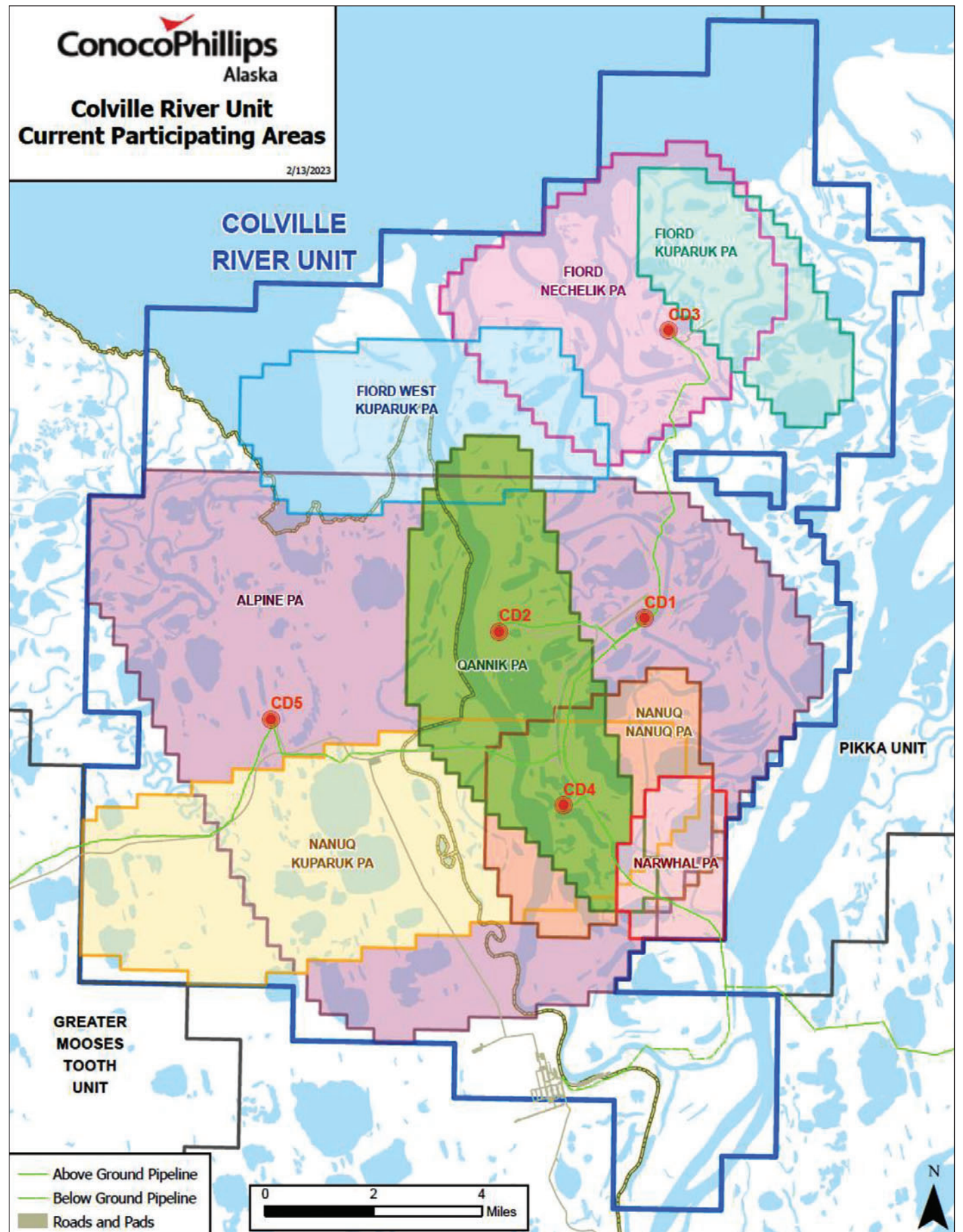
Reservoir, facilities

In a summary of reservoir management issues, ConocoPhillips said the new GMT2 pad at Greater Mooses Tooth (the company’s development in the National Petroleum Reserve-Alaska) is producing more gas than anticipated and as a result the company’s western North Slope “asset is currently at its gas handling capacity and CRU has experienced elevated produced gas volumes” and is “pursuing efforts to optimize gas production and injection across the WNS system.” Those measures include GMT2 gas production mitigation measures, increasing gas injection capacity at GMT2 and adding gas injection capacity at CRU by performing up to four rig workovers.

The Alpine Power Expansion project was completed in the second quarter of 2022, adding infrastructure to the Central Alpine Facility to meet future power demand.

Fifth expansion area

In an overview of the fifth expansion area plan of development for CRU, ConocoPhillips said that “drilling of CD4-594 and CD4-595 have stretched the limits of drilling extended reach, serviceable wells at shallow depths and have confirmed that a new pad will be required to reach the full extent of the Narwhal resource in the 5th Expansion Area.”



Studies are underway to determine the location of the new pad, referred to as CD8, with the current basis of design a new gravel pad connected by a gravel access road with pipelines and power tied back into CD4, and associated production and injection piping

connected to the Alpine Central Facility with a multi-phase pipeline.

The current concept indicates that 20 to 40 wells might be drilled to fully develop the area. CD4 Narwhal drilling and production are providing information that will deter-

mine final spacing and wellbore designs and trajectories, the company said, with location to the pad remaining “subject to engagement with stakeholders.”

Depending on a number of factors, including stakeholder alignment, permitting and internal studies and alignment, sustained production from CD8 “could commence as early as 2030.”

The company said expansion of the CD4 drillsite enabled access to additional Narwhal development targets, with an injector drill in 2022, CD4-597, completing the existing CD4-595/594 pattern, and production that that pattern informing “ultimate well spacing, waterflood performance, and surface facility design for CD8.”

“Planning for four wells, two producers with two offsetting injectors, has been progressed to enable additional Narwhal drilling from CD4 in 2023-2024,” with those wells providing “additional data on reservoir performance and ... insights to optimize CD4 and CD8 development concepts.”

ConocoPhillips said that in addition to Narwhal development within the fifth expansion area, “current plans for the reservoir include the drilling and completion of up to 12 Narwhal wells from the CD4 pad” with access possible from the recent CD4 pad expansion. ●

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● ENVIRONMENT & SAFETY

Colorado may store carbon in defunct wells

By **JESSE BEDAYN**

Associated Press/Report for America

From Colorado's high desert to the wooded hills of Pennsylvania, millions of oil and gas wells sit deserted, plunging thousands of feet into the earth. Many haven't been plugged, some leak greenhouse gases.

In Colorado, lawmakers are considering a solution that would give these wells a new, redemptive purpose: deep receptacles to trap carbon for millennia.

The Colorado study will determine if biochar could make up a portion of the slurry pumped into wells, and if it could be used as an ingredient in the concrete that's poured as the plug.

The idea is to keep carbon locked away in a special type of charcoal known as biochar, which is made by burning organic matter at high heat and low oxygen. The substance could be used to fill defunct oil and gas wells. Proponents say biochar would not only filter dangerous gas leaks but also stop that carbon from forming carbon dioxide, a greenhouse gas.

Colorado lawmakers gave initial approval Feb. 16 for a study to assess whether biochar would work to plug defunct wells.

If successful, experts say that sinking biochar into a portion of the over 3 million abandoned oil wells nationwide could help tackle climate change — estimates range from keeping millions to billions of tons of carbon dioxide out of the atmosphere.

Feasibility questions

Still, the idea is relatively new and a number of feasibility questions remain. The study would direct Colorado State University to review research and run new tests to determine, in part, the efficacy of biochar in filtering gases and sequestering carbon as well as the technical feasibility of using it to plug oil and gas wells.

Carbon naturally cycles through Earth's ecosystems, floating in the atmosphere as carbon dioxide before being snatched up by little bluestem grasses, ingested by grazing bison on the prairie, and when the animal keels over and begins decomposing, returning to the atmosphere as carbon dioxide.

But extracting fossil fuels has unearthed carbon — formed out of ancient plant matter over eons — that's been stored underground largely since the Mesozoic Era, the age of dinosaurs over 65 million years ago.

"Where we need to focus is: How do

we not only stop putting excess carbon into the cycle but can we take measures to take carbon out of the cycle permanently?" said Rep. Karen McCormick, a Democrat and one of the bill's sponsors. "That's where I see biochar having a great benefit."

Biochar Now

North of Denver in the small town of Berthoud, one company already makes biochar. On a recent day at Biochar Now's facility, a tractor drove across the muddy yard, its bucket holding shards of wood bound for a new life as biochar.

Nearby, dead logs were stacked in neat piles. They were likely either killed by invasive beetles in Rocky Mountain forests or were casualties of a 2021 wildfire near Boulder, the most destructive in state history.

What they have in common, said James Gaspard, the company's co-founder, is that they'd otherwise be doomed to rot or burn, releasing carbon dioxide. Instead, the wood debris is loaded into large kilns, where the heat burns at three times the temperature of fire and the oxygen is sucked from the chamber in a process called pyrolysis. What's left is biochar.

The substance has a carbon structure closer to a diamond, said Jim Ippolito, a professor at Colorado State University. While diamonds might last forever, biochar isn't far behind and can keep the carbon inert — unable to form carbon dioxide — for centuries if not millennia. Unlike a decomposing bison, biochar pulls carbon out of the earth's carbon cycle.

International market

Biochar is lightweight — like popcorn — and porous like a sponge, which is why it already has an international market. From Colorado, Biochar Now ships bags of the substance internationally for deployment as a filter at wastewater treatment plants, in soil to retain nutrients and in streams to pull out pollutants.

That's partly why it's being proposed to plug oil and gas wells. It could help absorb dangerous gases such as methane that seep from abandoned shafts. The plugging process includes pouring concrete at certain points in the well and can include stuffing the remaining space with a combination of fillers like sand, gravel or clay.

The Colorado study will determine if biochar could make up a portion of the slurry pumped into wells, and if it could be used as an ingredient in the concrete that's poured as the plug.

Colorado's oil and gas industry association said it "looks forward" to working with McCormick in finding the best use for biochar.

If passed, the measure would let scien-

tists take a key step forward in assessing whether biochar in wells is a viable form of carbon sequestration.

"That's what we need to prove, back

this up with hard data, so that we can say: 'Hey Louisiana, hey Mississippi, hey Texas, you can see what we are doing here,'" McCormick said. ●

EXPLORATION & PRODUCTION

Exploration licensing open in April

The Alaska Division of Oil and Gas has a reminder out that exploration license proposals on state land are accepted annually in April.

Applications may be submitted in areas of the state where there has been a determination of lands. Exploration has been determined to be in the state's best interest on close to 1 million acres in the Susitna basin, "awaiting a new proposal," the division said.

The intent of the exploration licensing program is to encourage exploration in areas with unknown hydrocarbon potential, with licensees required to provide all geological and geophysical data acquired under an exploration license to the state.

An area proposed for an exploration license must be between 10,000 and 500,000 acres, with a license good for up to 10 years.

Instead of an up-front bonus payment, licensees must commit direct expenditures for exploration. There is a one-time \$1 per acre licensing fee with no annual rental payments.

An existing exploration license covers 18,698 acres in the Houston-Willow basin, according to the division's website, awarded Dec. 1, 2018, and good for 6 years. There are also two pending applications, both in the Susitna Valley, one for 433,331 acres and one for 479,918 acres.

A license in the Gulf of Alaska is under appeal.

The division said proposals must be submitted during the call for proposal period, with an exploration license awarded "if the proposal is found to be in the best interest of the state." If there are competing proposals for an area, applicants must submit sealed bids, with the successful bidder "determined by the highest bid in terms of the minimum work commitment dollar amount."

Once the work commitment has been met, the licensee may convert all or a portion of the license area to oil and gas leases.

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INSIDER

"I'm grateful for the amendment supported in the resources committee to include a broader context embracing the development and implementation of renewable energy here in Alaska," said Rep. Donna Mears, D-Anchorage. "Renewable development in Alaska supports not only a future of lower and more stable energy prices, but a more diverse, stable economy over the long run as well."

"The benefits of the Willow project cannot be understated," said Rep. Louise Stutes, R-Kodiak. "Whether we're talking about job creation and workforce development, increased revenue to the state for essential services, or national security, I am happy to see that we all agree that this project will help build a brighter future for Alaskans."

Defense experts affirm importance

IN A MID-FEBRUARY HEARING of the Senate Armed Services Committee, or SASC, several defense policy experts testified to the importance of domestic



REP. JOSIAH PATKOTAK

energy production as a critical strategic advantage for the United States relative to America's main adversaries, China and Russia. The witnesses were responding to questions posed by U.S. Sen. Dan Sullivan, R-Alaska, a senior SASC member, who asked whether it serves U.S. national security interests to produce more oil and gas — such as the massive pending Willow project on the North Slope of Alaska — or to seek energy supplies from the regimes in Venezuela and Saudi Arabia.

The witnesses testifying before the committee were Dr. Bonny Lin, senior fellow on Asian Security at the Center for Strategic & International Studies; Dr. Fiona Hill, senior fellow at the Brookings Institution; and Roger Zakheim, director at the Ronald Reagan Presidential Foundation and Institute.

Below is a shortened transcript of the senator's exchange with the witnesses.

SULLIVAN: I'm going to turn to another topic that is all about American strategy. And that's energy. I'm glad to see Senator Manchin, Senator Mullin, they've raised this. A very memorable meeting I had many years ago with our former chairman here, Senator McCain, and a Russian dissident, a very brave Russian dissident who's



SEN. DAN SULLIVAN

now in jail, Vladimir Kara-Murza. I had asked him what more can we do to undermine the Putin regime? What more can we do to go after Putin and the oligarchs. He said, "It's easy, Senator, number one thing you can do as a country is produce more American energy." Number one. Do you agree with that, Dr. Hill, Mr. Zakheim? American energy is a really important tool of American power to deal with great powers like Russia and China?

HILL: Well, I would say yes, writ large, together with our allies and rethinking our energy posture, so absolutely. ZAKHEIM: Yes.

SULLIVAN: Thank you. Dr. Lin, someone else who's very scared of American energy dominance is Xi Jinping. You read the reporting. It makes him very nervous. I was just in the Middle East. Sixty percent of China's oil and gas goes through the Straits of Hormuz. If we're in a conflict with them, we could shut that down in 10 minutes. Is American energy dominance important for us — all the above, oil, gas, renewables, but certainly oil and gas — is that important for our competition with China?

LIN: Absolutely. And China imports about 70% of its oil. So it is a huge dependency that China needs to work around.

—Oil Patch Insider is compiled by Kay Cashman

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INLET GAS

Hilcorp has been the only company drilling wells in Cook Inlet.

Hilcorp is maintaining its supplies, he said, but hasn't seen other companies drilling, which is not an ideal situation, because without drilling the gas supply will decline.

Hilcorp is doing everything it can, he said, but if the market needs more, there isn't an infinite supply and Hilcorp has contracted for all the gas it has.

Redundancy is important for deliverability of gas, Saugier said, and Hilcorp maintains three of the four gas storage operations in the inlet. The Kenai gas field is the company's largest storage facility, with one reservoir dedicated to storage with 540 billion cubic feet of storage available and 12 bcf in storage today, stored at low pressure and sent through compressors when the company wants to remove it.

At Swanson River, Hilcorp maintains high-pressure gas storage, with a 3 bcf capacity. Think of this, Saugier said, as an emergency supply which would flow naturally even if there was no power.

The smallest, and the only storage on the west side, is Pretty Creek. He said this is very small, almost 1 bcf, and typically empties every winter.

The company also has redundant compressors and multiple delivery points to pipelines, Saugier said.

Hilcorp in Alaska

Hilcorp began operating in Cook Inlet in 2012 and has spent more than \$750 million on capital projects in the inlet since then, with those projects directed to production of natural gas, Saugier said.

Over the next 10 years the company plans to spend that much or more, he said.

In addition to drilling and doing workovers, Saugier said Hilcorp has brought new and innovative technologies to the inlet, including new drilling rigs, new offshore and onshore pulling units and new vendors. It has also applied modern technology, 3D seismic, improved stimulation and horizontal drilling. The company owns two rigs, he said, one working on the west side and one working on the Kenai Peninsula, rigs which have been used by other operators.

Looking ahead, Saugier said the company is investing in new wells, wellwork to add production rates and exploration and drilling, and plans to invest hundreds of millions of dollars per year in Kenai and Cook Inlet, with four rigs operating in 2023, 18 wells planned and 41 wells to be plugged and abandoned.

Furie

John Hendrix, president and CEO of Furie Operating Alaska, said the company's goal is to increase its gas production. Furie produces natural gas only from its platform in Cook Inlet at the Kitchen Lights unit.

Hendrix told the committee HEX Cook

Inlet purchased Furie in July 2020. Since then, he said, they have stabilized production, providing natural gas to Enstar, Marathon Petroleum, Matanuska Electric Association, Homer Electric Association, Chugach Electric Association and the Interior Gas Utility.

In 2023, he said, the company plans to finalize re-processing of 3D seismic and well data and mobilize a new workover rig to Alaska to work over and repair two wells, 50% of the unit's four producing wells. Hendrix said the goal is to increase production for the winter of 2023-24.

But there is uncertainty, he said, over the cost and the duration of the work, with issues including mobilization of the new rig to Cook Inlet, potential difficulties in performing the work and the impacts of weather, especially later in the season.

Hendrix urged the state to reduce royalties and provide production tax relief, as well as releasing seismic data, providing a just and fair property tax, reducing bonding obligations and eliminating duplicative bonding requirements.

BlueCrest

BlueCrest President and CEO Benjamin Johnson told the committee that BlueCrest, which produces oil with associated gas at its Cosmopolitan field on the Kenai Peninsula, has a separate gas field. The Tyonek gas sands, which lie above the oil reservoirs the company is currently producing, are too shallow to be reached from onshore wells, he said.

Multiple wells have been drilled through the gas zones, which have a proved but undeveloped volume of 234

billion cubic feet with flow tests confirming high productivity, and the size and shape of the structure documented by 3D seismic.

Johnson said the gas zones are similar to the Ninilchik field, some 15 miles to the north and currently the largest Cook Inlet gas producer.

The gas at Tyonek was discovered in the Starichkof State 1 drilled in 1967 and confirmed in the Cosmopolitan State 1 drilled in 2013, both drilled by jack-up rigs, with flow tests done at the 2013 well.

Johnson said there are 12 gas sands at the Cosmopolitan Tyonek gas field, which is "proved" but undeveloped.

Because of the requirement for a platform, it will cost hundreds of millions to develop that resource, Johnson said, but it could produce up to 50 million cubic feet per day.

Johnson said this is dry gas, with no liquid hydrocarbons. It would require a 3-mile subsea pipeline to the company's onshore facility, and he said recent seafloor surveys confirm a safe pipeline route, while the onshore facility is already connected to the Enstar pipeline system.

The design of platform and facilities and cost estimates are largely completed, he said, with the platform gas wells to be done with standard Cook Inlet drilling and completion.

From funding to first gas would be 30 to 40 months, Johnson said.

He said the critical path is finding investors. ●

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Image by John Gomes.

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MUSTANG START

Southern Miluveach unit said FOLLC plans to conduct a multiyear onshore oil and gas development project year-round in the 8,960-acre Southern Miluveach unit.

Who's who

On that application Gordon Pospisil was listed as president and CEO. It was signed Jan. 16 by Harry Bockmeulen, COO, and posted Feb. 9 on DEC's website.

Alaska's Division of Corporations, Business and Professional Licensing shows that Anchorage-based Finnex Operating LLC was formed on May 17, 2022.

Thyssen Petroleum USA is listed as a member and 100% owner.

Lease competition

In the November 2022 North Slope Areawide lease sale Santos-owned Oil Search (Alaska), or OSA, took three tracts, outbidding Finnex on one of the tracts with a bid of \$103.79 per acre. That tract was adjacent to Finnex and OSA acreage immediately west of the Quokka unit.

OSA bid \$103.79 per acre on all three tracts it took — the other two are also west of Quokka, one immediately west, farther south, and the other adjacent to that lease.

Finnex took a single tract, 1,920 acres, for \$117,600, adjacent to OSA acreage and Mustang. OSA also bid on the tract.

OSA's proposed Pikka Sales Oil Pipeline will cross un-unitized state lands, the newly formed Quokka unit, the Southern Miluveach and Kuparuk River units. ●

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OIL PRICES

as it phases out COVID shutdowns, cheap Russian crude has blunted the rise of U.S. West Coast crude prices that would normally accompany a surge in Asian purchases of Pacific cargoes. Thus ANS — which is primarily sold on the West Coast — hasn't seen an outsized boost from Asian buying.

That could change, according to Pierre Andurand of Andurand Capital, which manages \$1.4 billion in assets.

Oil could rise to \$140 per barrel later in 2023, Andurand told Financial Times in remarks for a Feb. 9 article.

The market is taking a short-term view because of losses suffered last year and due to a growing dominance in oil markets of multi-manager and quant hedge funds, he said.

"The reopening of China is going to lead to a lot more oil demand growth than expected," Andurand said. "It might take a couple of months for the market to recognize the scale of the demand increase we're seeing."

Global consumption could rise by as much as 4 million barrels per day this year versus just over 1 million bpd average annual growth normally, he said.

Andurand doesn't expect the tightening of western sanctions on Russia to boost the price, he said.

"I don't want to bet on a large supply disruption from Russia as they have shown a willingness to move the barrels even if at very low prices," Andurand said. "My base case is we won't have a major supply disruption from Russia and I'm focusing more on what China and Asia's reopening means overall."

"I don't want to bet on a large supply disruption from Russia as they have shown a willingness to move the barrels even if at very low prices," Andurand said. "My base case is we won't have a major supply disruption from Russia and I'm focusing more on what China and Asia's reopening means overall."

ANS slipped 13 cents Feb. 21 to close at \$79.72, as WTI fell 18 cents to close at \$76.16 and Brent rose 5 cents to close at \$83.05.

Markets were closed Feb. 20 for a federal holiday.

ANS lost \$1.78 on Feb. 17 to close at \$79.85, while WTI dropped \$2.15 to close at \$76.34 and Brent dropped \$2.14 to close at \$83.00.

On Feb. 16, ANS slid 44 cents to close at \$81.63, WTI trimmed 10 cents to close at \$78.49 and Brent slid 24 cents to close at \$85.14.

From Wednesday to Wednesday, ANS fell \$4.59 from its close of \$82.07 Feb. 15 to \$77.48 Feb. 22.

India: rising oil consumer

India will rise in importance as a consumer of imported oil and will be a driver of demand, Simon Flowers, Wood Mackenzie chairman and chief analyst said in a Feb. 17 release.

India has a population of 1.4 billion, and its population is set to grow by another quarter of a billion by 2050 while wealth will triple over the period, Flowers said.

"India's approach to meeting surging energy demand will be dual-pronged: rapid deployment at scale of low-

carbon technologies and simultaneous bold steps to increase domestic oil and gas production," he said.

India completed a round of offshore oil and gas leasing in 2022 that will open deepwater areas previously closed to exploration, Flowers said, adding that "alignment from the PM's office down to the regulator sends a positive signal to prospective investors."

Flowers said enhanced fiscal terms make the newly opened basins among the most competitive in the world for a deepwater gas field, based on Wood Mackenzie modelling.

India's oil production, however, will fall short of its needs.

Oil consumption is 5.4 million bpd today and will reach almost 8 million bpd over the next decade, overtaking China as the number one driver of global oil demand growth, Flowers said. Imports, now 88% of consumption, will rise to 95% by 2035.

"Much more refining capacity is required," Flowers said. "India plans to build 2.7 million bpd of new capacity over the next 10 years, almost half of all net additions globally."

India is targeting 20% bioethanol blended in gasoline from 2025 to reduce crude imports and emissions intensity, a goal that's easier in a vehicle fleet dominated by two-wheelers, he said.

"But with more mouths to feed, the food versus fuel debate will intensify," Flowers said. "Much depends on the supply of next-generation feedstocks, including cellulosic material, biomass and used cooking oil." ●

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ANWR RESPONSE

Alaska purchased leases in the sale.

Executive order

However, shortly after the lease sale President Biden issued an executive order saying that the EIS was deficient and required a rework, with DOI having to order a suspension of all lease sale related activities until there is a record of decision for the revised EIS. The Bureau of Land Management anticipated publishing the supplementary EIS in April 2023, with a record of decision following in June 2023. However, the agency later indicated that there would be delays in the completion of the SEIS.

Knik Arm Services and Regenerate Alaska subsequently surrendered their leases. In November 2021 AIDEA filed a legal complaint in District Court over the DOI action. The State of Alaska, Kaktovik Inupiat Corp., the North Slope Borough and Arctic Slope Regional Corp. joined the lawsuit in support of AIDEA. The Native Village of Venetie, the Arctic Village Council, the Gwich'in Steering Committee and several environmental organizations intervened in support of DOI.

Request for summary judgement

In December 2022 AIDEA and the other plaintiffs in the case filed requests for a summary judgement against the Biden administration. The plaintiffs argued that the lease activity moratorium was unauthorized by any statute and that it violated the Tax Cuts and Jobs Act, while also violating the Alaska National Interest Lands Conservation Act and the Federal Land Management and Policy Act. In addition, the plaintiffs claimed that the reversal of the EIS decision and subsequent enforcement of the moratorium without opportunities for public comment had violated the Administrative Procedures Act.

In December 2022 AIDEA and the other plaintiffs in the case filed requests for a summary judgement against the Biden administration. The plaintiffs argued that the lease activity moratorium was unauthorized by any statute and that it violated the Tax Cuts and Jobs Act, while also violating the Alaska National Interest Lands Conservation Act and the Federal Land Management and Policy Act.

Biden administration responds

The Biden administration, in its response to the requests for summary judgement, has argued that the decisions to rework the EIS and to suspend lease activities meantime did not violate the Tax Cuts and Jobs Act, in that BLM has commenced conducting an ANWR lease sale program, as mandated by the act.

"Instead, they have undertaken significant efforts to establish the program and conduct its first lease sale. It is unremarkable, and certainly not unlawful, for the department to ensure that the program, and any resulting leases, are properly issued and comply with the law," the administration wrote.

Moreover, the Administrative Procedures Act has not been infringed, because President Biden's executive order mandating the lease activity moratorium was not an administrative rule subject to the APA. And the plaintiffs have failed to demonstrate any conflict between the executive order and the statutory mandate to conduct ANWR lease sales, the Biden administration told the court.

In addition, frustration at the pace of a government agency's "effort to address multiple, broad statutory directives does not override the need to conduct environmental analysis, consider public input, and otherwise

work through the administrative process as necessary to comply with NEPA and other environmental laws," the Biden administration told the court.

The administration also argued that anyone bidding in an ANWR lease sale would understand that acquisition of leases would "entail a lengthy and uncertain path to development." And "a temporary suspension of AIDEA's leases during supplemental NEPA analysis is not a withdrawal of any lands from the operation of ANILCA, the Tax Act or any other law," the administration told the court.

Other court filings

In a separate court filing attorneys for the Gwich'in Steering Committee supported the Biden administration's position, arguing that, rather than violating several laws, including the Tax Cuts and Jobs Act, "Interior simply took the step of identifying legal flaws with the leasing program and temporarily suspended leases while the agency undertakes a supplemental process to ensure the leasing program is legal."

The filing also comments on the importance of the Coastal Plain as calving and feeding ground for the Porcupine Caribou Herd that the Gwich'in rely on for their way of life.

Counsels for the Native Village of Venetie Tribal Government, Arctic Village Council and Venetie Village council presented similar arguments.

"It is well within the Secretary's discretion to order such a supplement as well as to protect the public resources at issue by issuing a temporary suspension of leases to maintain the status quo ante while the supplemental EIS process is undertaken," the counsels wrote.

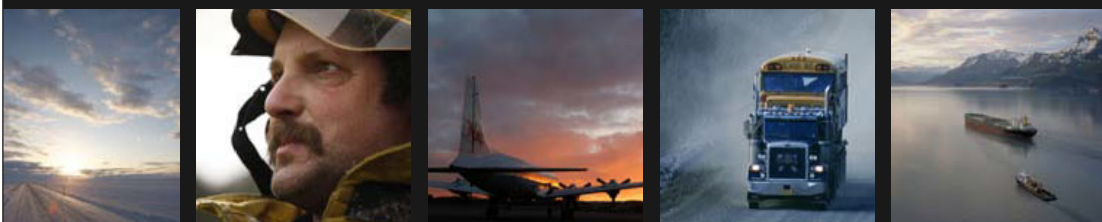
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continued from page 1

ALKAID 2 WELL

trucked to the North Slope and reassembled on site.”

“While a huge learning experience for Pantheon, it proves that given our location we can execute in a single season. We both drill and test wells in a single season while others drill one season and test the next. We were confident that we would need a facility for our long term test, thus committed to it before the spud of Alkaid 2 and were able to design, procure and install in a season,” the Pantheon spokesman said.

The production facility “now runs on power completely generated with produced gas without any ancillary equipment,” Pantheon announced on Feb. 14.

Drilled last summer

Great Bear Pantheon drilled the Alkaid 2 from a gravel pad off the Dalton Highway some 20 miles south of Prudhoe in July and August 2022.

In an Oct. 27 AOGCC hearing, Great Bear Pantheon reported that the well encountered the Alkaid production zone, a tight sand, and was “completed horizontally with a multi-stage hydraulically fractured completion similar to completions in tight sand reservoirs in the Permian, Anadarko and Williston basins.”

In its presentation to the commission, Great Bear Pantheon said Alkaid 2 had a pilot hole whose measured depth was 8,950 feet, with a true vertical depth of 8,584 feet. The well has a 5,000-foot lateral, with a bottomhole at 14,300 feet MD and 8,056 feet TVD.

The company told the commission that if the pilot production test was prematurely shortened the estimated production profile would be “highly speculative” and would “lack the certainty to ... attract investment.”

AOGCC agreed, saying in a Nov. 23 order that “long-term production tests provide more accurate results, especially in poorer quality reservoir rocks, than short-term tests when evaluating the feasibility of a project. Short-term tests may not be able to differentiate between an economically viable development and an uneconomic one.”



PHOTOS COURTESY PANTHEON RESOURCES

“We were confident that we would need a facility for our long term test, thus committed to it before the spud of Alkaid 2 and were able to design, procure and install in a season.” —Pantheon spokesman

On Feb. 20 Pantheon said that following the successful cleanout of the sand blockage in the wellbore, “flow testing operations have now recommenced.” Flow test information will be reported after flow rates have been stabilized.

Latest update

But, as previously reported, the company ran into problems with sand blockages and other things that held up testing operations.

On Feb. 20 Pantheon said that following the successful cleanout of the sand blockage in the wellbore, “flow testing operations have now recommenced.”

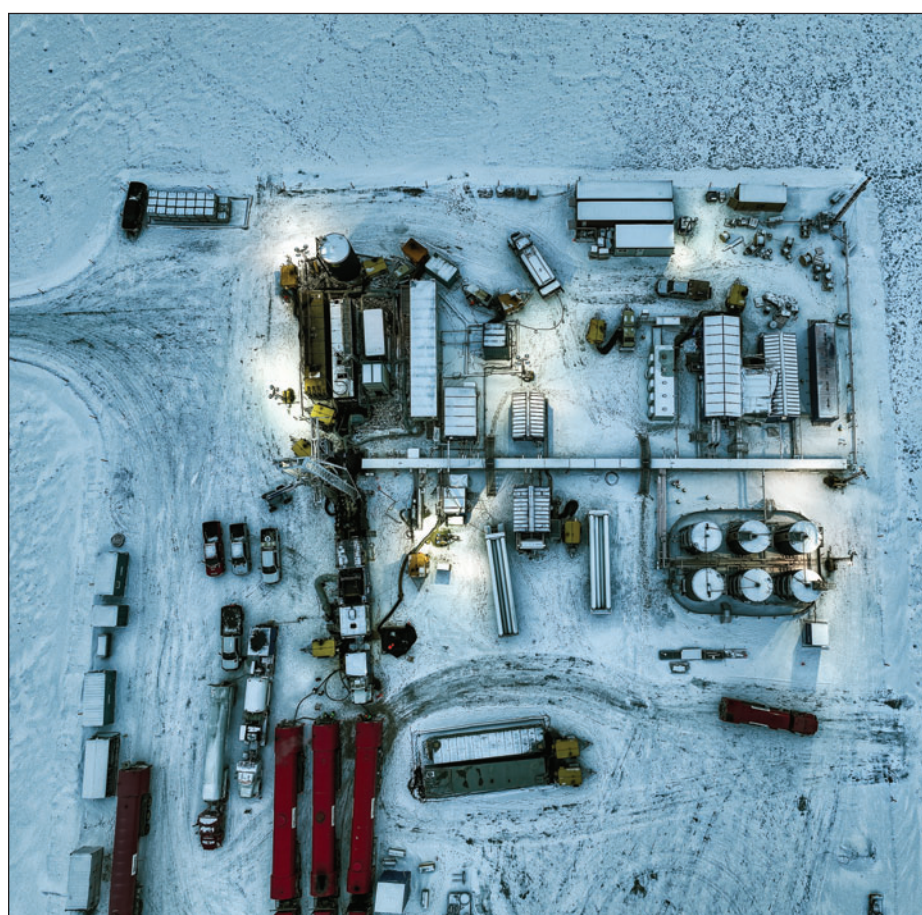
Flow test information will be reported after flow rates have been stabilized, so stay tuned.

Note: Pantheon released a video giving a tour of the production facility, which can be found at:

<https://www.youtube.com/watch?v=gW0B10MENzw>

—KAY CASHMAN

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It is with great honor, pleasure, and humility that the Alaska Geological Society's Pathfinders Committee announces the inaugural class of “Pathfinders in Alaska Geology”. This award was established to recognize true trailblazers in the geosciences in Alaska; men and women who made enormous contributions to the general understanding of the geology of the Last Frontier.

The thirty individuals listed at left are inducted as the first Pathfinders class; they will be honored with a permanent display at the Alaska Geologic Materials Center in Anchorage. There also will be an annual dedication ceremony for newly inducted Pathfinders at the Alaska Geological Society's Annual Technical Conference. This year's conference will be held at the University of Alaska-Anchorage on April 22nd, 2023.

The composition of this first class was determined after several months of research and deliberation by a committee of 9 long-time Alaskan geologists. Following the 2023 AGS Technical Conference, the nomination process for future inductees will be posted and open to the public.

Congratulations to the inaugural class – we thank you for your efforts.



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