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2021 Explorers inside



The Explorers

Oil & gas companies investing in Alaska's future

The Explorers, an annual publication from Petroleum News

Inside this week's issue is the annual Explorers magazine, a look at oil and gas companies investing in Alaska's future.

Pikka shows 'leaner' Repsol profile; 75% lower GHG than Slope average

Repsol has entered an agreement to sell its E&P assets in Malaysia and in Block 46 CN in Vietnam to a fully owned subsidiary of Hibiscus Petroleum, a publicly traded company based in Kuala Lumpur, Repsol said in a June 1 press release.

"The sale of the company's upstream assets in Malaysia and in Block 46 CN in Vietnam supports Repsol's broader rationalization of its global portfolio, streamlining its presence from 25 to 14 core countries within the framework of the

see **REPSOL PORTFOLIO** page 10

Federal brief supports BLM on Willow; ROD legally sufficient

A May 26 brief filed by the U.S. Department of Justice said plaintiffs who sued to stop the Willow development "seek to stop the extraction of resources from the Petroleum Reserve by cherry-picking the records of BLM, the Service, and the Corps, to suggest that the federal agencies' analyses violated the National Environmental Policy Act ("NEPA"), Clean Water Act ("CWA"), and Endangered Species Act ("ESA"). To the contrary, Federal Defendants complied with the

see **WILLOW BRIEF** page 8

Small firms scramble to round up Canadian Prairie helium rights

A scramble is underway among a host of small Canadian companies to turn an essential ingredient of kids' birthday parties into a treasure trove.

The rush for now is concentrated on rounding up land rights on the Canadian Prairies to create jobs and generate wealth from helium that until now has been best-known for filling party balloons with the odorless, lighter-than-air gas and over the past year has emerged as a vital element for respiratory treatment of

see **HELIUM RIGHTS** page 12

FINANCE & ECONOMY

ANS closes above \$70

OPEC+ sticks to 350,000 bpd increase in June citing China and US recovery

By **STEVE SUTHERLIN**
Petroleum News

Alaska North Slope crude closed above the psychologically important \$70 per barrel mark June 2 for the first time since the pandemic hit, notching a new post-COVID high of \$70.55, a gain of 92 cents. Brent closed at \$71.55, a gain of \$1.10, and West Texas Intermediate closed at \$68.83, up \$1.11.

Brent led the way above \$70 June 1, gaining 60 cents to close at \$70.25, while ANS jumped \$1.58 to close at \$69.63, and WTI added \$1.40 to close at \$67.72. It was the first time Brent closed above the \$70 per barrel mark for two consecutive days in more than two years.

Prices extended the gains of the previous week on signs of strong demand in the United States and

"We think in the next three years we could see \$100 barrels again, and we stand by that." —Francisco Blanch, Bank of America

Europe, and after the Organization of the Petroleum Exporting Countries and its allied producing nations kept intact their plan to gradually increase oil production through July.

The 17th OPEC and non-OPEC Ministerial Meeting concluded June 1 with reaffirmation of the group's prior commitments to gradually return 2 million barrels per day of production adjustments to the market, with the pace being determined according to

see **OIL PRICES** page 11

EXPLORATION & PRODUCTION

Major Newfoundland hit

Terra Nova offshore field headed for shutdown as partners won't fund revamping

By **GARY PARK**
For Petroleum News

All signs point to abandonment for Newfoundland's Terra Nova offshore oil project as it faces what operator Suncor Energy calls a "brick wall" date on June 15.

Unless there is an unexpected turnaround by the consortium's seven partners, the field will cease production, ending what has been almost two decades of operational problems.

The region's other surviving offshore fields — Hibernia, White Rose and Hebron-Ben Nevis — all chose fixed production platforms, while Terra Nova opted for a floating production, storage and offloading vessel that has been tied up since the end of 2019.

The FPSO had been scheduled to head for Spain in early 2020 to undergo a C\$500 million revamping that would have allowed the vessel to produce an extra 80 million barrels and extend its operating life by about 10 years, adding to the 450 million barrels that Terra Nova has so far yielded.

But Suncor Chief Executive Officer Mark Little has gradually been preparing Terra Nova's 1,000 direct employees and the thousands of others in the supply and service sector for decommissioning of the FPSO.

Hopes fading

In a meeting with investors in late May, he said

see **TERRA NOVA** page 11

GREEN ENERGY

Stalking water power

Part 2 of 2: Data-rich GeoAlaska off to good start hunting Mt. Spurr reservoirs

By **KAY CASHMAN**
Petroleum News

"We're not going into this blind," Paul Craig told Petroleum News May 27, referring to the substantial amount of scientific information GeoAlaska LLC has collected for an exploration program under its new Northwest Mount Spurr geothermal license.

The prospecting permit was issued May 24 by Alaska's Division of Oil and Gas. It gives the company three tracts on 6,376 acres of state land on the southern flank of Mount Spurr, an active volcano



PAUL CRAIG

that lies some 80 miles west of Anchorage, Alaska's largest city.

At least one notable expert concurs with GeoAlaska's theory about where one reservoir of Mount Spurr geothermal energy lies.

In early April, Steve Masterman, director of Alaska's Division of Geological and Geophysical Surveys, talked to the Alaska Senate Resources Committee about what was learned from

previous geothermal exploration in the area; most of this data being in State of Alaska hands because of tax credits offered explorers at the time.

see **SPURR GEOTHERMAL** page 11

● EXPLORATION & PRODUCTION

Conditional OK for Middle Ground Shoal

By **KRISTEN NELSON**

Petroleum News

Hilcorp Alaska has conditional approval for its Middle Ground Shoal unit plan of development.

In a June 1 decision on the 2021 POD for MGS, the Alaska Department of Natural Resources' Division of Oil and Gas said the Middle Ground Shoal fuel gas system has been shut down since early April after a fuel gas leak was detected and as a result the MGS unit is shut-in while repair and/or replacement options are evaluated.

Alaska Oil and Gas Conservation Commission data show that the field, which produces both oil and gas, had production on only a single day in April.

Because of the shut-in status of MGS, division Director Tom Stokes said in the conditional approval that the division is requiring written updates at 60-day intervals beginning June 15 on the status of the MGS fuel gas system and "its impact on the execution of the developments contemplated by the 2021 MSGU POD, including any planned repair or replacement" of the fuel gas system, until the fuel gas system is operational.

Fuel gas release

The fuel gas release was spotted April 1 by a helicopter

In its 2021 POD, the company plans six workovers and will continue to evaluate other rate-adding opportunities, the division said, including new rotary and coil tubing drilling targets.

pilot during supply delivery and reported by Hilcorp to the National Response Center and the Alaska Department of Environmental Conservation. The company immediately began shutting in the impacted facilities.

DEC said the 8-inch line had a prior leak in 2017 which also caused a field shut down until repairs could be made.

Platform A in the MGS field is the oldest in Cook Inlet, installed in 1964. MGS Platform C was installed in 1967.

The line currently used for fuel gas is encased in concrete. It was installed in 1965 and its design does not allow use of in-line inspection tools. It was pressure tested in 2005 and Hilcorp conducts annual side-scan or multi-beam eco-sounder surveys, but those do not provide enough information to allow the company to determine whether there are problems such as eroded pipe, rock impingements, dents, gouges or missing concrete

coating.

In 2017 the federal Pipeline and Hazardous Materials Safety Administration said the line had two previous leaks, the earliest in 2014.

Following this year's leak, PHMSA is requiring Hilcorp to replace the fuel gas line and gave the company 45 days to submit a replacement work plan and 365 days from the April 6 order to complete the replacement.

2021 POD

In its 2020 POD, Hilcorp proposed to evaluate rate-add opportunities from Platforms A and C and to evaluate recently completed subsurface for additional drilling opportunities from Platforms A, C and Baker, the division said. Production for the 2020 calendar year was some 452,000 barrels of oil and some 101 million cubic feet of natural gas, an increase of some 9.6 million cubic feet of gas and a decrease of some 6,900 barrels of oil from 2019.

In its 2021 POD, the company plans six workovers and will continue to evaluate other rate-adding opportunities, the division said, including new rotary and coil tubing drilling targets. ●

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Alaska's source for oil and gas news

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North Slope Natives, Alaska governor, Congressional delegation say action illegal; initial BLM environmental review comprehensive

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Alaska-Mackenzie Rig Report

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

Alaska Rig Status

North Slope - Onshore

All American Oilfield LLC IDECO H-37	AAO 111	Deadhorse, Stacked in Cruz Yard	Available
Doyon Drilling Dreco 1250 UE Dreco 1000 UE Dreco D2000 Uebd AC Mobile OIME 2000	14 (SCR/TD) 16 (SCR/TD) 19 (SCR/TD) 25 141 (SCR/TD) 142 (SCR/TD)	Standby Standby Standby Alpine, MT7-04 Standby Standby	Hilcorp Alaska LLC ConocoPhillips
TSM 700 ERD	Arctic Fox #1 26	Standby Start Up	
Hilcorp Alaska LLC Rotary Drilling	Innovation	Milne Point, I Pad	Hilcorp Alaska LLC
Nabors Alaska Drilling AC Coil Hybrid AC Coil	CDR-2 (CTD) CDR-3 (CTD)	Deadhorse, Cold Stacked at Nabors Deadhorse Yard Kuparuk, Cold Stacked at 12 Acre Pad	Available ConocoPhillips
Ideco 900 Dreco 1000 UE Mid-Continental U36A Oilwell 700 E Dreco 1000 UE Oilwell 2000 Hercules Oilwell 2000 Hercules Oilwell 2000 Canrig 1050E Oilwell 2000 Academy AC Electric CANRIG OIME 2000 Academy AC electric CANRIG Academy AC electric Heli-Rig	3 (SCR/TD) 7-E (SCR-TD) 3-S 4-E (SCR) 9-E (SCR/TD) 14-E (SCR) 16-E (SCR/TD) 27-E (SCR-TD) 33-E 99AC (AC-TD) 245-E (SCR-ACTD) 105AC (AC-TD) 106AC (AC-TD)	Deadhorse, Stacked Kuparuk, Cold Stacked Stacked Stacked Stacked Deadhorse Stacked Stacked Deadhorse Stacked Stacked Stacked Stacked Stacked Stacked Stacked Stacked	Available Oil Search Available Available ConocoPhillips Available Brooks Range Petroleum Glacier Oil & Gas Available Repsol ENI Oil Search Great Bear Petroleum
Nordic Calista Services Superior 700 UE Superior 700 UE Ideco 900 Rig Master 1500AC	1 (SCR/CTD) 2 (SCR/CTD/TD) 3 (SCR/TD) 4 (AC/TD)	Deadhorse Deadhorse, stacked Deadhorse, stacked Oliktok Point	Available Available Available ENI
Parker Drilling Arctic Operating LLC NOV ADS-10SD NOV ADS-10SD	272 273	Deadhorse, Stacked Deadhorse, Stacked	Available Available

North Slope - Offshore

Doyon Drilling Sky top Brewster NE-12	15 (SCR/TD)	Spy Island, SP16-FN3-L1	ENI
Nabors Alaska Drilling OIME 1000	19AC (AC-TD)	Oooguruk, Stacked	ENI

Cook Inlet Basin – Onshore

BlueCrest Alaska Operating LLC Land Rig	BlueCrest Rig #1	Stacked	BlueCrest Alaska Operating LLC
Glacier Oil & Gas	Rig 37	West McArthur River Unit Workover	Glacier Oil & Gas
Hilcorp Alaska LLC TSM-850 TSM-850	147 169	Stacked Beluga River Unit	Hilcorp Alaska LLC Hilcorp Alaska LLC

Cook Inlet Basin – Offshore

Hilcorp Alaska LLC National 110	C (TD) Rig 51 Rig 56	Platform C, Stacked Steelhead Platform, Stacked Monopod A-13, stacked	Hilcorp Alaska LLC Hilcorp Alaska LLC Hilcorp Alaska LLC
Nordic Calista Services Land Rig	36 (TD)	Kenai, stacked	Available
Spartan Drilling Baker Marine ILC-Skidoff, jack-up		Spartan 151, stacked at Rig Tenders where pre mobilization work is being performed	Hilcorp Alaska LLC
Furie Operating Alaska Randolf Yost jack-up		Nikiski, OSK dock	Available
Glacier Oil & Gas National 1320	35	Osprey Platform, activated	Glacier Oil & Gas

Mackenzie Rig Status

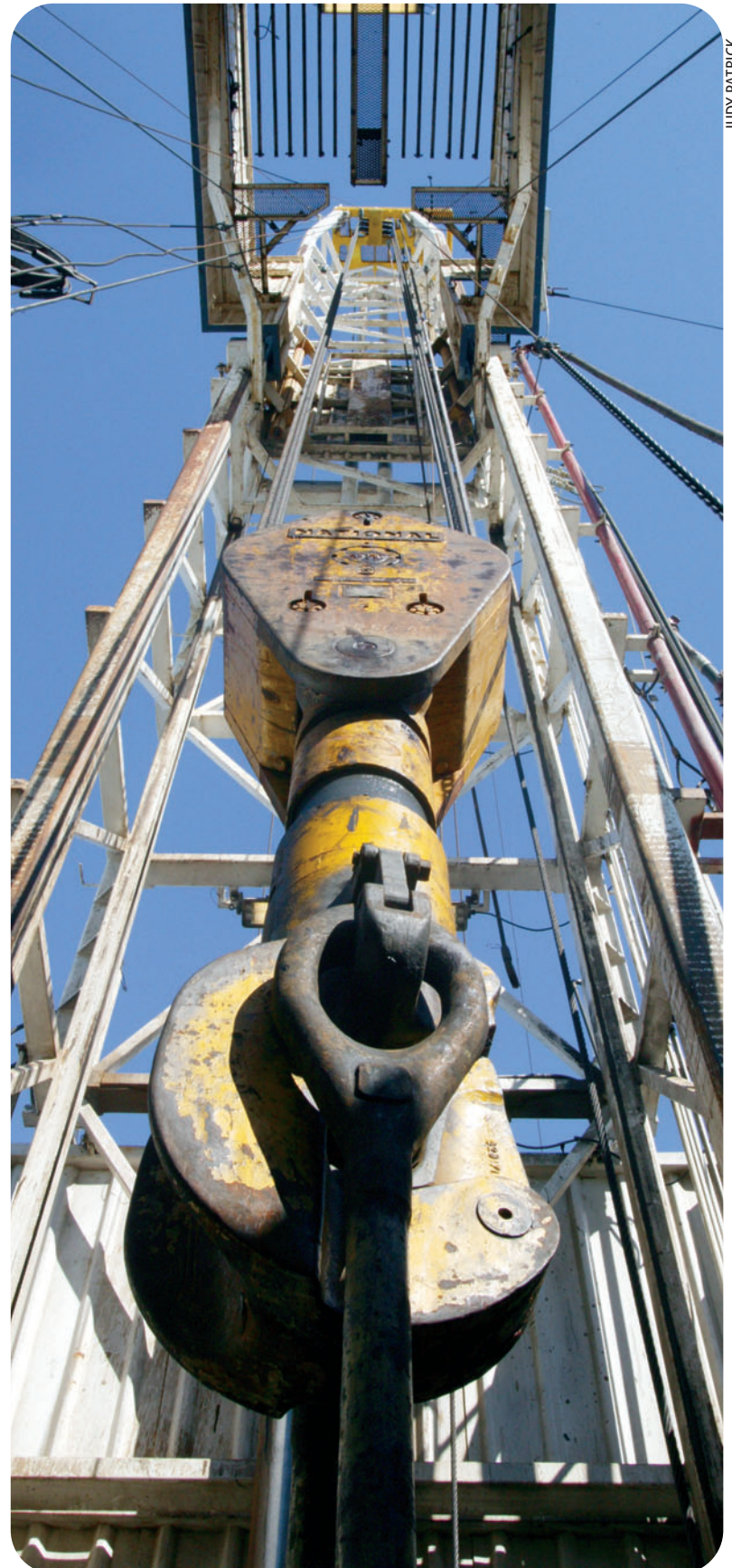
Canadian Beaufort Sea

SDC Drilling Inc. SSDC CANMAR Island Rig #2	SDC	Set down at Roland Bay	Available
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The Alaska-Mackenzie Rig Report as of June 3, 2021.
Active drilling companies only listed.

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

This rig report was prepared by Marti Reeve



JUDY PATRICK

Baker Hughes North America rotary rig counts*

	May 28	May 21	Year Ago
United States	457	455	301
Canada	62	58	20
Gulf of Mexico	14	14	12

Highest/Lowest

US/Highest	4530	December 1981
US/Lowest	244	August 2020

*Issued by Baker Hughes since 1944

The Alaska-Mackenzie Rig Report
is sponsored by:



PIPELINES & DOWNSTREAM

Permitting for Monopod pipe replacement

Hilcorp Alaska continues to receive state approvals for its Monopod pipeline replacement work.

On May 24, the Department of Natural Resources' Division of Oil and Gas approved a miscellaneous land use permit allowing the company "to conduct temporary activities in support of pipeline maintenance on state lands in the Cook Inlet region of Alaska." The permit covers state land and waters between the Trading Bay Production Facility and the Monopod Platform outside the boundary of the Trading Bay unit. The division said the project includes some 750 acres from the shoreline to intersection with the company's existing right of way. The permit is effective through the end of November.

Hilcorp is proposing to replace some 4,100 feet of existing 8-inch oil pipeline beginning at the Monopod Platform "to address an anomaly detected during in-line pipe inspection" with the work expected to be completed during the 2021 ice-free season.

Other facilities work at the Monopod Platform includes completion of ongoing quarters replacement (see story in May 23 issue of PN).

The division said new pipe sections will be pulled from the beach at the TBPF to the tie-in point on the existing infrastructure using tugboats, with sub-sea pipe sections, each some 1,025 feet, to be connected by divers and other support personnel.

There will be temporary pilings near the shore to help guide the pipe during pulling, with a Cat 400 excavator driving eleven 7-inch diameter pilings at 50-foot intervals, perpendicular to shore and extending some 500 feet into state tidelands. The division said the pilings would help mitigate nearshore water currents and tidal fluctuations and prevent pipe from drifting outside the tow path.

The Monopod is the most northerly of the Trading Bay platforms.

In a May 12 approval of an amendment to Hilcorp's plan of operations, the division said the section of pipeline to be replaced will be "de-inventoried, and the entire pipeline will be flushed, and appropriately cleaned as part of the replacement activities prior to cutting or disconnecting sub-sea piping" with the replaced section to be abandoned in place.

—KRISTEN NELSON

UTILITIES

Figuring out high speed EV charging

RCA publishes for public comment utility proposals for electric rate structure for commercial charging stations in Alaska

By ALAN BAILEY

For Petroleum News

The Regulatory Commission Alaska is requesting public comments on a proposal by the Alaska Railbelt electric utilities for a rate mechanism for electricity supplied to high-speed charging stations for electric vehicles. The deadline for comments is June 18.

The lack of the commercial scale charging stations on Alaska highways is a major impediment to the use of electric vehicles in the state. However, the utilities' current approved tariffs do not include provisions for supplying power to charging stations — the RCA will need to approve some acceptable form of tariff arrangements. The commission may also need some adjustments to its regulations, to accommodate this new form of electricity supply.

Demand charges

Since commercial charging stations are business operations, subject to the tariff rules that apply to businesses rather than residential customers, current tariffs would impose what are referred to as demand charges on the charging stations. These demand charges involve fees that are linked to the maximum rate of electricity usage, in addition to the fees charged for the amount of electricity consumed. Business customers incur especially high demand charges if their periods of high electricity usage correlate with periods of overall high demand on the electrical system.

But high-speed charging stations for electric vehicles have a particular electricity consumption profile, involving very high peak demand rates when vehicles are being charged but low overall electricity loads. And so, the imposition of routine business demand charges on the charging stations could lead to very high electricity costs that could deter people from using electric vehicles.

May 19 letter

The Railbelt utilities made their proposal for a high-speed charging station rate structure in a May 19 letter to the commission. In this letter the utilities acknowledged that, while it is in their long-term interests to encourage electric vehicle use, the imposition of unrealistically high electricity costs on charging stations would likely deter the commercial implementation of stations. On the other hand, the utilities need some reasonable way of recovering the cost of the infrastructure needed to support the brief high demand rates that

The lack of the commercial scale charging stations on Alaska highways is a major impediment to the use of electric vehicles in the state. However, the utilities' current approved tariffs do not include provisions for supplying power to charging stations — the RCA will need to approve some acceptable form of tariff arrangements.

high speed charging stations would trigger.

The proposal is to temporarily eliminate separate demand charges for the fast charger infrastructure, with the recovery of high demand costs to come from a fee structure involving a formula that encapsulates a utility's presumed charging station load factor — the load factor expresses the extent to which high load periods occur during periods of high overall electricity demand. The consequence would be a single electricity charge, incorporating both the demand costs relating to the electricity load and the cost of the amount of electricity supplied. This arrangement would come into effect at load factor levels that normally trigger particularly high demand charges.

Regulatory issues

Also mentioned in the utilities' letter and discussed during a May 26 RCA public meeting are two other regulatory issues. The first of these issues concerns the importance of not classifying charging stations as public utilities. A classification of a charging station as a public utility would result in the need for the RCA to regulate the charging station, including the regulation of the charging station's rates. However, a charging station would presumably operate as a relatively small-scale business, competing in a market to sell power to electric vehicle owners. During the public meeting commissioners suggested that the utilities should petition the commission to deal with this question.

The second issue relates to the question of a charging station operator reselling to its customers electricity purchased from an electric utility. Apparently some utility tariffs prohibit electricity resale. RCA staff are going to investigate this issue and clarify whether it relates to some regulatory mandate — resolving the issue may simply involve some tariff changes ●

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● GREEN ENERGY

Looking to Cook Inlet tidal energy

ORPC applies for FERC permit to start building out a tidal energy system offshore the East Foreland of the Kenai Peninsula

By **ALAN BAILEY**

For *Petroleum News*

Ocean Renewable Power Co. has filed a preliminary permit application with the Federal Energy Regulatory Commission for the development of a tidal energy power generation system in the waters of Cook Inlet, offshore the East Foreland area of the Kenai Peninsula. The concept is to sell electricity generated by the tidal currents of the inlet to Homer Electric Association, the local electric utility.

“Cook Inlet is the premiere tidal resource in the U.S. and harnessing clean, renewable, reliable energy from it will help the U.S. achieve its ambitious goals of a 100% clean energy economy and net-zero emissions,” said Stuart Davies, ORPC chief executive officer, when announcing the new initiative.

ORPC has developed hydrokinetic technology involving helical shaped water turbines that gather energy from flowing water, either from river flow or from the flow of tidal currents.

Project continuation

The proposed project picks up from an earlier East Foreland project in which ORPC made tidal velocity measurements at two potential tidal turbine sites, conducted a detailed bathymetric survey of the project area, and carried out an environmental assessment. The project was suspended in 2015 because of adverse economic factors at the time.

The project concept now involves the construction of an initial 5-megawatt pilot project near East Foreland to verify the environmental compatibility and technical performance of ORPC’s turbine devices in the Cook Inlet situation. Depending on the results of this evaluation, the project would be built out to a 100-megawatt commercial-scale operation.

The proposed Cook Inlet project would initially involve the testing of a single turbine device. Success with this device would be followed by the addition of two further devices, to conduct further testing. Expansion to the 5-megawatt capacity of the test system would then involve the replacement of these initial turbines by larger commercial scale turbines. In its permit application, ORPC says that within five years of the pilot project the company will determine whether the Cook Inlet site is suitable for expansion to the full 100-megawatt commercial operation.

Success elsewhere

ORPC has previously developed a hydrokinetic tidal power system in Maine. And the company has seen success in the development of an in-river hydrokinetic power generation system in the Kvichak River, for the supply of electrical power to the village of Igiugig, near Lake Iliamna in southwest Alaska. The company says that it plans to install a second turbine unit at Igiugig this summer — the river generated power is reducing the need for diesel fueled power generation for the village. ORPC is also investigating the possibility of constructing a tidal energy system at the city of False Pass in the Aleutian Islands, to offset the use of diesel power there.

In the context of the potential for tidal power generation for the Kenai Peninsula, ORPC cites a 93-megawatt-hour battery storage project that HEA initiated in 2019. The battery storage, scheduled for comple-

tion in the fall of this year, will support intermittent renewable power generation, without the need to place stress on gas-fired power generation facilities, ORPC said. Tidal power is intermittent, but predictable, varying as the tidal current ebbs and flow during the regular tidal cycle.

“Homer Electric Association supports ORPC’s FERC application and wishes it well as it develops these technologies,” said Brad Janorschke, HEA general manager. “HEA has developed a robust net metering program that is available to individuals and businesses seeking to create renewable projects. In the coming years, we anticipate additional opportunities to work with renewable energy companies such as ORPC to diversify and integrate renewable power into the HEA power grid.” ●

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ALAN BAILEY

Ocean Renewable Power Co. has pioneered the use of helical in-water turbines for generating electrical power from water currents, in rivers or in regions with strong tidal currents.

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● GOVERNMENT

Biden admin freezes ANWR 1002 leases

North Slope Natives, Alaska governor, Congressional delegation say action illegal; initial BLM environmental review comprehensive

Trump, Biden ANWR Timeline

DEC. 22, 2017: President Donald Trump signed H.R. 1, the Tax Cuts and Jobs Act, a bill that opens the 1002 Area, a narrow strip along the coast of the Arctic National Wildlife Refuge, to energy development. The second title of the act authorizes the surface development of up to 2,000 federal acres of the non-wilderness coastal plain (roughly one ten-thousandth of the 19.3 million acre ANWR), which government scientists say could bring an estimated 10.4 billion barrels of oil to market.

DEC. 20, 2018: the U.S. Bureau of Land Management, part of the Interior Department, released the draft environmental impact statement, or EIS, for the ANWR 1002 Area.

AUG. 17, 2020: BLM released its Record of Decision for an oil and gas program in the ANWR 1002 Area.

NOV. 1, 2020: BLM announced it will issue a Call for Nominations for tracts to be offered in the first lease sale in the ANWR 1002 Area.

DEC. 7, 2020: BLM published a Notice of Sale for the first lease sale in the ANWR 1002 Area.

JAN. 6, 2021: First lease sale in the ANWR 1002 Area held by BLM.

JAN. 20, 2021, a.m.: On the last morning President Donald Trump was in office, BLM announced the signing and issuing of leases on nine tracts of land that received qualifying bids from the first lease sale for lands in the ANWR 1002 Area.

JAN. 20, 2021, p.m.: On the first afternoon of his presidency, President Joe Biden announced a pause on all federal activities, including seismic testing, in the ANWR 1002 Area.

JUNE 1, 2021: Interior suspended oil and gas leases issued in the ANWR 1002 Area on June 1, saying it will review the program and subject it to a stringent environmental review.

By KAY CASHMAN

Petroleum News

The Biden administration suspended oil and gas leases in the Arctic National Wildlife Refuge on June 1, saying it will review the Trump-approved program and subject it to a stringent environmental review.

The reaction from the Native people of the area was immediate, with Arctic Alaska residents contending the Trump-approved program was not rushed and supporting the Record of Decision for the ANWR 1002 Area where the nine leases are located.

The leases were issued on Jan. 20 by the U.S. Bureau of Land Management, which is part of the Interior Department.

Voice of the Arctic Inupiat released a statement June 1 saying its members were disappointed in Interior's announcement.

"Our members are looking forward to meeting with the Interior Department to learn exactly what 'deficiencies' Secretary Haaland is referencing within the Environmental Impact Statement that prompted this order. We also would like to know how the Record of Decision diverges from the intent of Section 20001, PL 115-97," said VOICE President John Hopson Jr. "As an organization whose members actively participate in NEPA on a routine basis, we felt the process was as robust and comprehensive as any our members have been involved in." (NEPA stands for the National Environmental Policy Act.)

BLM consulted with tribal and



JOE BIDEN



DONALD TRUMP

ANCSA entities and "applied appropriate mitigations as a result of that consultation," Hopson said (ANCSA is the abbreviation of Alaska Native Claims Settlement Act).

VOICE is a nonprofit organization established to provide direct input from the people of the North Slope in matters of Arctic policy. Its membership includes 24 entities from across the Slope including tribal councils, municipal governments, Alaska Native regional corporations, Alaska village corporations, educational institutions and other area entities.

ASRC: Decision disheartening

The Arctic Slope Regional Corp., which is owned by and represents the business interests of the Arctic Slope Inupiat, issued its own statement following Interior's June 1 decision to freeze oil leases in the ANWR 1002 Area.

"Today's announcement is disappointing as it seemingly ignores the local Inupiat voices of the North Slope of Alaska, and it fails to consider the beneficial impacts this exploration will provide to our communities. Our shareholders and the approximately 9,500 residents of the North Slope directly benefit, given such exploration brings important job opportunities and economic infrastructure support to our remote region," the Native regional corporation said.

The Biden administration's decision to stall progress on the nine leased tracts in the 1002 Area "not only reneges on promises made to producers that took part in January's oil lease sale but also does not take into account the benefits to our region. We are disheartened by this decision, as opening the 1002 Area to oil and gas development is a valuable way to bring jobs and opportunity — like health clinics, support for our schools and other benefits — to our communities," ASRC said.

ASRC owns title to 92,000 acres of subsurface rights within the 1002 Area, with Kaktovik Inupiat Corp. owning title to the surface rights. KIC has also recently issued a strong statement favoring 1002 Area exploration and development.

Wilderness group: a good start

The Alaska Wilderness League, one of several environmental organizations that sued the Trump administration in August over the finalizing of the ANWR 1002 Area leasing program, was the first to release a statement — hours before the Biden administration made its announcement.

The League's acting executive director, Kristen Miller, said, "We strongly support the Biden administration's commitment to preserving the Arctic National Wildlife Refuge, one of the last great expanses of untouched wilderness areas in America."

The leasing program and resulting

see ANWR LEASES page 7

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● PIPELINES & DOWNSTREAM

Enbridge's Line 3 enters critical month

By **STEVE KARNOWSKI**
Associated Press

June will be a critical month for Enbridge Energy's Line 3 crude oil pipeline as the company resumes construction and opponents mobilize for large-scale protests and civil disobedience.

One prominent opponent, Winona LaDuke, founder of the Indigenous-based environmental group Honor the Earth, said she expects thousands of people from across the state and country to join the protests along the route in northern Minnesota.

Both sides are also waiting for a major ruling from the Minnesota Court of Appeals in June on a legal challenge by environmental and tribal groups that are seeking to overturn state regulators' approval of the project. The opponents also hold out hope that Democratic Gov. Tim Walz and President Joe Biden will intervene.

"I expect that unless Walz stops the project over 1,000 people are going to get arrested," LaDuke said.

Canadian crude from Alberta

Line 3 carries Canadian crude from Alberta. It clips a corner of North Dakota on its way across northern Minnesota to Enbridge's terminal in Superior, Wisconsin. Enbridge says the 1960s-era pipeline is deteriorating and

can run at only about half its original capacity. It says the new line, made from stronger steel, will better protect the environment while restoring its capacity and ensuring reliable deliveries to U.S. refineries.

The Canadian and Wisconsin replacement segments are already carrying oil. The Minnesota segment is about 60% complete as a planned construction pause for the spring thaw ends June 1. Enbridge plans to finish the work and put the line into service in the fourth quarter, said Mike Fernandez, the Calgary-based company's chief communications officer.

Opponents organizing

That adds to the urgency for opponents, who are organizing a "Treaty People Gathering" for June 5-8 and preparing for mass arrests. More than 250 "water protectors" already have been arrested since major construction began in December.

The opposition says the replacement pipeline, which would carry Canadian tar sands oil and regular crude, would aggravate climate change and risk spills in sensitive areas where Native Americans harvest wild rice, hunt, fish, gather medicinal plants and claim treaty rights.

"We will gather in Northern Minnesota to put our bodies on the line, to stop construction and tell the world that the days of tar sands pipelines are over," organizers say in

appeal on their website. "Only a major, nonviolent uprising — including direct action — will propel this issue to the top of the nation's consciousness and force Biden to act."

Over 300 groups delivered a letter to the Biden administration on May 27 calling on the president to direct the Army Corps of Engineers to suspend or revoke Enbridge's federal clean water permit for the project.

"Due to the urgency of the climate crisis and the fact that Indigenous leaders have not consented to the Line 3 project, large-scale non-violent civil disobedience is now being organized for early June along the Line 3 pipeline route," they warned the president.

They urged Biden to follow the example he set on the first day of his administration, when he cancelled the disputed Keystone XL pipeline on climate-change grounds.

No stand from administration

Biden has not taken a stand on Line 3, while Walz is letting the legal process play out. The Biden administration has declined to shut down the Dakota Access pipeline, which is owned by a different company and was the subject of major protests near the Standing Rock Reservation in the Dakotas in 2016 and 2017. In Michigan, Enbridge is defying an order by Democratic Gov. Gretchen Whitmer to shut

see **LINE 3** page 8

continued from page 6

ANWR LEASES

lease sale, she said, "were the result of a substantial flawed and legally deficient process that must be reversed."

Suspending the leases is "a step in the right direction," Miller said, noting the Canadian Gwich'in people, who have established an office in Fairbanks, Alaska, consider the 1002 Area "sacred." They were "ignored by the Trump administration," she said.

"There is still more to be done. ... Now we look to the administration and Congress to prioritize legislatively repealing the oil leasing mandate and restore protections to the Arctic Refuge coastal plain," Miller said.

Governor rebukes Biden

Alaska Governor Mike Dunleavy and the state's Washington, D.C., delegation, all Republicans, criticized Interior for announcing it will suspend all oil and gas leases for portions of the non-wilderness 1002 Area, pending the outcome of another environmental review.

"ANWR spans 19.3 million acres, an area of land roughly equal in size to South Carolina, in northeast Alaska. In 1980, Congress (and President Jimmy Carter)

designated more than eight million acres within ANWR as federal wilderness as part of the Alaska National Interest Lands Conservation Act (ANILCA). That same legislation set aside the 1.57 million-acre coastal plain for petroleum exploration and potential future development, which is supported by a majority of Alaskans," their June 1 release said.

"The Biden administration's suspension of leases ... is contrary to federal law. ... Neither the President nor the Secretary are given the discretion to decide otherwise. Our leases for oil and gas are valid and cannot be taken away by the federal government," said Dunleavy.

"The Biden administration's actions are not unexpected but are outrageous nonetheless," said Sen. Lisa Murkowski.

"DOI's announcement suspending leases ... goes against the law, facts, the science, and the will of the Native communities on the North Slope. It is nothing more than a naked political move by the Biden administration to pay off its extreme environmental allies," said Sen. Dan Sullivan.

"I am extremely dismayed by the Administration's decision to freeze oil leases in ANWR," said Rep. Don Young. "Make no mistake; this suspension is a grave one, not only for those employed by Alaska's energy industry but also for the Alaska Native community of

Kaktovik. Despite being the primary stakeholders involving policy affecting their land, the pro-development voices of the Kaktovik Iñupiat continue to be ignored by those who believe they know better than the people who actually live in ANWR."

AIDEA protests

The Alaska Industrial Development and Export Authority also criticized the Biden administration's actions.

AIDEA received seven of the nine leases that BLM issued. (The other two leases went to Knik Arm Services and 88 Energy's Alaska operating subsidiary Regenerate Energy.)

"For decades, Alaska has proven that energy development and environmental conservation can proactively co-exist," said AIDEA's executive director, Alan Weitzner. "The Department of Interior has yet to provide AIDEA with documentation of any deficiencies that would warrant a suspension of leases. We're extremely disappointed in the Biden administration's effort to prevent Alaska from lawfully and responsibly developing its natural resources as agreed and provided for under ANILCA." ●

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EXPLORATION & PRODUCTION

Weekly US rotary rig count again up by 2

The Baker Hughes U.S. rotary drilling rig count had another week of slow but steady gains, up by two to 457 on May 28, the same gain as the previous week and up by 156 from 301 a year ago.

When the count bottomed out at 244 in mid-August last year, it was not just the low for 2020, but the lowest the count has been since the Houston based oil-field 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, 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 August when it gained back 10 rigs.

The May 28 count includes 359 rigs targeting oil, up by three from the previous week and up by 137 from 222 a year ago, 98 rigs targeting gas, down by one from the previous week and up by 21 from 77 a year ago, and no miscellaneous rigs, unchanged from the previous week and down by two from a year ago.

Twenty-seven of the rigs reported May 28 were drilling directional wells, 415 were drilling horizontal wells and 15 were drilling vertical wells.

Alaska rig count unchanged

The Texas rig count (218) was up by four from the previous week and Oklahoma (28) was up by two.

Colorado (9) and New Mexico (71) were each down by one rig; Pennsylvania (17) was down by two.

Counts in all other states were unchanged from the previous week: Alaska (4), California (6), Louisiana (53), North Dakota (16), Ohio (10), Utah (9), West Virginia (11) and Wyoming (4).

Baker Hughes shows Alaska with four rigs active May 28, unchanged from the previous week and up by one from a year ago, when the state's count stood at three.

The rig count in the Permian, the most active basin in the country, was up by two from the previous week at 233 and up by 85 from a count of 148 a year ago.

—KRISTEN NELSON

Baker Hughes shows Alaska with four rigs active May 28, unchanged from the previous week and up by one from a year ago, when the state's count stood at three.

continued from page 1

WILLOW BRIEF

requirements of these statutes and other applicable legal requirements, and Plaintiffs' claims should be rejected."

DOJ said in its conclusion that the Federal District Court should deny the motion by plaintiffs for summary judgment, and grant summary judgment in favor of the federal defendants in the case.

At issue is the Willow Master Development Plan, approved by the Bureau of Land Management in consultation with the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers.

DOI review

In a related matter, the Department of the Interior has finished its review of the record of decision for the Willow Master Development Plan, approved in October, and found "the ROD legally sufficient," Alaska's congressional delegation said in a May 27 release.

They said the Biden administration found the ROD consistent with the administration's executive orders on addressing climate change.

In a June 1 statement, ConocoPhillips Alaska said it understands the Department of the Interior's review of the Willow Master Development Plan is now complete.

"Although the final decision on the Willow Project is still pending, clearing the DOI review represents a very significant milestone for this project," Erec Isaacson, president of ConocoPhillips Alaska, said in the company's statement.

He thanked Alaska's congressional delegation "for their tremendous efforts in advocating for the Willow Project and working with the Biden administration to

achieve this favorable outcome on the review."

He also cited coordinated support from the Alaska Native regional corporations, the Alaska Federation of Natives, the VOICE of the Arctic Inupiat and several village councils for work that "has had a significant impact on the thoroughness of the permitting process and is appreciated."

100,000 bpd

Willow, in the National Petroleum Reserve-Alaska west of Greater Mooses Tooth, is projected to have peak production of more than 100,000 barrels per day of oil from a resource discovered at the Tinmiaq 2 and Tinmiaq 6 wells in early 2016, and estimated, ConocoPhillips Alaska said in an online project description, to have from 450 million to 800 million barrels of oil equivalent in place, making it the largest North Slope development since Alpine in the late 1990s.

The project includes a standalone production facility which, the company said, would have a processing capacity of up to 200,000 bpd, with first oil currently planned for 2026.

Congressional delegation

In a joint statement Alaska Senators Lisa Murkowski and Dan Sullivan and Congressman Dan Young, all Republicans, said progress on the project follows weeks of advocacy and outreach to members of the Biden administration, including President Joe Biden.

Murkowski said the state's relationship with the new administration "got off to a rough start after the President's sweep of a pen called for reviews — and potential halts — to a number of responsible resource projects."

She said she has been working to edu-

see **WILLOW BRIEF** page 9

continued from page 7

LINE 3

down its Line 5 because of the potential for a spill in a channel linking two Great Lakes.

Enbridge, which updated the projected total cost in February to \$7.3 billion (U.S.), has been touting the economic benefits of Line 3. Fernandez said employment on the project will shoot up to 4,000 as full-scale work resumes. More than half the workforce has been from Minnesota with most of the rest coming from neighboring states. Around 500 are Native Americans, many of whom were specifically trained for the project. He put the total local benefit at over \$250 million.

The Minnesota Court of Appeals is

expected to rule by June 21 on whether Enbridge adequately proved a long-term need for the project. The independent Public Utilities Commission approved the project, but the state Department of Commerce, two tribes and other opponents argue that the company's demand projections failed to meet the legal requirements. Enbridge and the PUC say the projections complied.

The opponents aren't disclosing many specifics about their plans for protests because law enforcement also is getting prepared, but they say they're determined to step up the fight as the final construction push approaches.

"I expect there will be pretty strong resistance," LaDuke said. "I really have no idea what it will look like." ●



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GLACIER BREWHOUSE

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WILLOW BRIEF

cate the new administration on the importance of Willow for Alaska's economy, North Slope communities and thousands employed in the region, and said the administration found, through careful review, "that the Willow project went through a rigorous, comprehensive permitting process and can move forward because it is being held to the highest environmental and labor standards in the world."

Murkowski said she brought the significance of the project to the attention of President Biden and senior White House officials "on the first day of the new administration," and during confirmation hearings "pressed now Interior Secretary Haaland to defend the Record of Decision for the Willow project now being litigated in courts."

Sullivan said he has stressed to the administration, including President Biden, that Willow "is one of the most environmentally responsible and rigorous energy projects in our country." The project will create thousands of direct and indirect jobs in Alaska "and provide opportunities and billions of dollars in revenues for our state and indigenous communities on the North Slope."

Sullivan said the project "will produce American energy with the highest environmental standards at a time when we're importing far too much from our adversaries, like Russia."

He called Willow a "once-in-a-generation energy development" and said he appreciated President Biden and Secretary Haaland listening and defending the project.

"I also want to commend the numerous Alaskans and Alaska Native leaders — especially those who live within NPR-A and on the North Slope — for weighing in with the secretary and making the case for Willow," Sullivan said, adding that he remains "deeply concerned about some of the administration's remaining policies that are still targeting Alaska and our workers."

Young called it "a good day for Alaska, our energy economy, and American energy independence," and thanked the administration, "particularly my friend, Secretary Deb Haaland, for reaching what Alaskans know to be the right conclusion: the Willow Project is legally defensible and holds great potential for our state."

"Secretary Haaland is my friend, and while we do not always see eye to eye, I appreciate that she always listens

In a related matter, the Department of the Interior has finished its review of the record of decision for the Willow Master Development Plan, approved in October, and found "the ROD legally sufficient," Alaska's congressional delegation said in a May 27 release.

to the Alaskan perspective with an open mind," Young said.

He also noted that "countless individuals" in BLM "worked hard to ensure a thorough environmental review."

North Slope

A May 27 statement from the Arctic Slope Regional Corp. said the May 26 brief, "maintaining that the Record of Decision for the Willow Project complied with National Environmental Policy Act (NEPA) standards, is certainly encouraging news for the region we represent." ASRC said the project, in the northeast portion of NPR-A, "will provide not only much-needed jobs for our people, but also tax revenue to support our schools, health clinics and other infrastructure and public services."

On April 26 the mayors of three North Slope cities in NPR-A, Atkasuk, Utqiagvik and Wainwright, wrote jointly to Haaland, congratulating her on her confirmation as the first indigenous woman selected to head the Department of the Interior and expressing concern over policies of the Biden administration which, they said, "can have a greater impact on our communities than changes to our environment will have in the long-term by significantly reducing our local economy, without allowing time or resources to integrate new technologies and diversity."

The three, Mayor Doug Whiteman of Atkasuk, Mayor Fannie Suvlu of Utqiagvik and Mayor John Hopson Jr. of Wainwright, said the North Slope Borough, the home-rule government formed in 1972 for the North Slope, spends some \$400 million a year to maintain infrastructure, schools, manage wildlife and administer the school system, with more than 95% of that \$400 million coming from property tax on oil and gas infrastructure within the borough.

They said policies which would interfere with that source of income "would be a sham and a taking — and completely at odds with the Biden Administrations alleged dedication to consultation and equality."

The three city councils passed individual resolutions supporting NPR-A leasing and development, particularly projects like Willow, the mayors said.

They said the administration's executive and secretarial orders "significantly undermine our participation in the processes, and we are appalled that your agency, Madam Secretary, is focused more on the environment than on our people. This has long been our experience with the environmental non-governmental organizations (eNGO's) who have worked hard to erase us from our own homeland."

The mayors said SO 3352 (issued April 16) "could cancel our contributions as a region to the 2020 NPR-A Integrated Activity Plan-Environmental Impact State (IAP-EIS). This would be a breach of our long-standing relationship with the Bureau of Land Management (BLM) who we have worked with through multiple IAP-EIS's since the 1999 NPR-A IAP-EIS, over the course of several administrations and have developed a trust in their ability to listen to us as significant stakeholders in the region."

The mayors said while the department is raising questions "about the process and science of the BLM, we can tell you, having participated in NEPA with the BLM for over 20 years, we did not see any changes, short-cuts, or poor science performed by the BLM in the 2020 NPR-A IAP-EIS and to imply there was undercuts out experience and undercuts your agency."

The mayors said they only change they have seen over time "is the number of embedded policy personnel in the DOI that have fought us, as indigenous people, for many years."

Opposing view

In a May 27 statement, Kristen Miller, acting executive director of the Alaska Wilderness League, said, "President Biden's early executive actions suggested a new era of bold and visionary federal leadership in fighting climate change and prioritizing environmental justice," and said the organization stands behind what the administration is doing to meet those goals.

"Unfortunately," she said, "the decision to defend a Trump-era project that ignored the concerns of local Indigenous communities and failed to adequately address risks to our climate future is just incredibly disappointing and a decision we will continue to fight."

—KRISTEN NELSON

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REPSOL PORTFOLIO

multi-energy company's 2021-2025 Strategic Plan that focuses on the geographic areas with the greatest competitive advantages," Repsol said, adding that the assets included in the sale represent approximately 2% of Repsol's global current net output.

Repsol said the transaction includes a 35% interest in PM3 CAA PSC, 60% in 2012 Kinabalu Oil PSC, 60% in PM305 PSC, 60% in PM314 PSC, and 70% in Block 46 CN in Vietnam — a tie-back asset to the PM3 CAA production facilities.

The transaction followed the sale of the company's producing assets in Russia, the cessation of oil production activities in Spain and the exit from exploratory activity in other countries, Repsol said. The agreement is subject to regulatory approval and the waiver of partners' preemption rights.

The funds raised from the transaction as well as the resulting capex savings will contribute to the global strategic goal of funding core projects and new low-carbon initiatives, Repsol said. The company is now concentrating its upstream activity on 14 key projects centered around producing basins and executed through lean modular development, prioritizing value over volume.

In the United States, the key upstream projects Repsol is focusing on from 2021 through 2025 are the Pikka oil project in Alaska; a Marcellus gas project; oil, condensate and gas production from the Eagle Ford; the Shenzi and Shenzi North oil projects; and the Buckskin oil project, according to a 2020 presentation of Repsol's 2021-2025 Strategic Plan.

The Pikka development on the western North Slope, in which Repsol is a 49% partner, will have a greenhouse gas emissions intensity approximately 75% lower than the current North Slope average, based on the Wood Mackenzie Emissions Benchmarking Tool.

Elsewhere, the company will pursue the Explo Mexico oil discoveries in Mexico; the Akacías oil project in Columbia; the BPTT gas project in Trinidad and Tobago; the BM-C-33 gas development project in Brazil; the Lapa SW oil project in Brazil; the YME oil project in Norway; the Sakakemang gas project in Indonesia, and additions to its oil production in the U.K.

Various decarbonization initiatives that Repsol has put into action have enabled the company to make strides towards reaching a goal of zero net emissions by 2050, despite the adverse scenario caused by the pandemic, Repsol said April 29 in its first quarter 2021 report. Acting under its 2021-2025 Strategic Plan, Repsol has focused 40% of its first quarter investments in low-carbon projects.

"The company has shown its steadfast commitment to assisting in Spain's economic recovery through a series of initiatives focused simultaneously on decarbonization and industrial transformation," Repsol said.

In its upstream assets, Repsol aims to reach a tier 1 lowest carbon intensity with a 75% reduction in emissions intensity per barrel produced, the company said in the 2020 presentation of its 2021-2025 Strategic Plan. It intends to

reach the goal by utilizing energy efficiency and best technologies in operations, and by streamlining to a leaner upstream portfolio through the decline or exit of carbon intensive and non-core assets.

Alaska project low carbon

Repsol's activities on Alaska's North Slope appear to fit with the company's quest for a low carbon future.

The Pikka development on the western North Slope, in which Repsol is a 49% partner, will have a greenhouse gas emissions intensity approximately 75% lower than the current North Slope average, based on the Wood Mackenzie Emissions Benchmarking Tool.

Repsol's Pikka partner and operator Oil Search has been designing the Pikka project to be a global leader and model for efficient low emission intensity developments by designing greenhouse gas emissions, or GHG, intensity targets agreed on by its joint venture partner, Repsol, Oil Search's top executive Keiran Wulff said April 30 at the company's annual meeting.

Oil Search said it continues to assess and incorporate traditional knowledge that helps protect environmental resources and sustain the subsistence lifestyle of the local Alaska Native people. It has incorporated improvements to the environmental performance and sustainability of the project design, including minimizing the surface footprint while still ensuring that the resource base is efficiently developed.

Pikka has a "very, very small footprint," Wulff told Petroleum News in February.

"It's actually sandwiched between existing facilities, ConocoPhillips at Kuparuk, and the Alpine field to the west," he said. "We're not in a remote area; we can tie into existing pipelines. ... So, this is almost like an offshore development, where we'll be drilling 50 wells from a small pad rather than whole series of wells spotted over the area."

Green energy in the mix

Repsol is going beyond its efforts to reduce the carbon footprint of its upstream portfolio, to make investments in low-carbon technologies.

It has joined a consortium of 15 partners to present an application for European Green Deal funding for the development of Europe's first 100 megawatt alkaline electrolyzer plant which will be connected to a Repsol industrial site.

Electrolyzers use electricity to split water into its components — oxygen and hydrogen. When renewable electric-

ity such as solar, wind and hydroelectric is used in this process no carbon dioxide emissions are created, and the resultant hydrogen is referred to as green hydrogen.

Alkaline electrolyzers contain caustic water solution with potassium hydroxide, sodium hydroxide and sodium chloride used as the catalyst. The liquid electrolyte allows ions to be transported between the electrodes and is not consumed in the chemical reaction.

The project — H24All — is designed to develop, build, operate, and demonstrate the sustainability of a 100 MW high-pressure alkaline electrolyzer in real operation according to end-users' needs, meeting market requirements for competitive low-carbon hydrogen production, Repsol said.

Partners in the consortium hail from six different countries — Belgium, Denmark, Germany, Norway, Spain and Turkey, Repsol said, adding that the partners include research centers, material suppliers, engineering firms specializing in electrolyzers, electro-intensive industries, energy and automotive companies, universities, and industry associations, all of which have a high level of expertise in the field and are safety-oriented and committed to CO2 reduction.

During the H24All project, the partners will bring innovative solutions to represent, in a record time, significant progress in hydrogen technologies that improve the competitiveness and viability of an electrolyzer while reducing the required investment and operating costs, Repsol said.

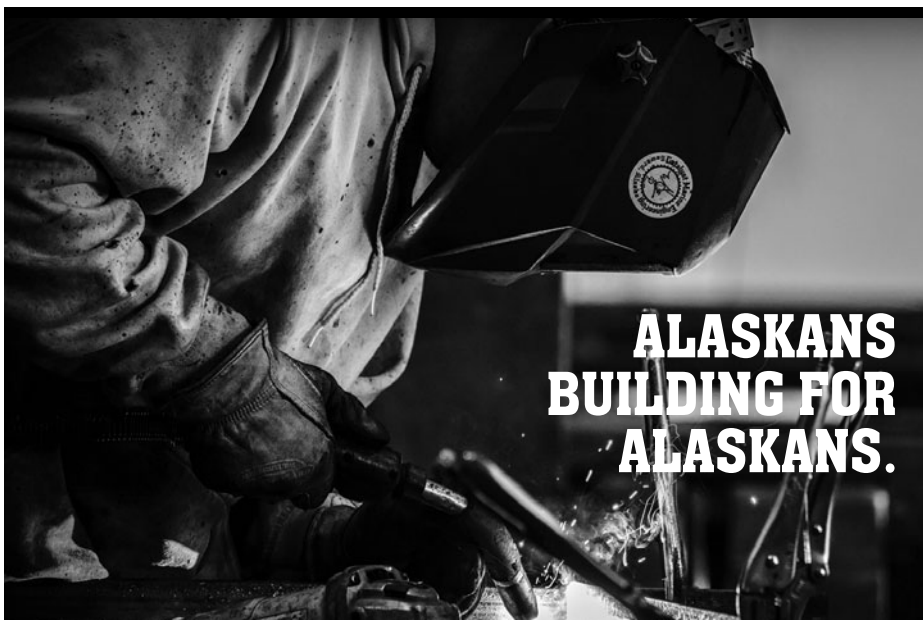
The economic and business-modeling case will provide quantitative evidence that will reduce the risk for other hydrogen infrastructure deployment in Europe, Repsol said. The timeline calls for three years of research, development, and construction plus two years of the demonstration and validation phase.

Repsol said it aims to become a leader in the production of hydrogen in the Iberian Peninsula by reaching a production equivalent to 400 MW by 2025.

"Repsol's refining business is currently the largest consumer and producer of this product in Spain, and it will, through its Technology Lab, contribute its technological capabilities, knowledge, and experience in hydrogen to the consortium," the company said. "This project represents another decisive step for Repsol in leading the energy transition, transforming its industrial complexes into multi-energy hubs, and achieving net zero emissions by 2050."

—STEVE SUTHERLIN

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OIL PRICES

market conditions, OPEC said in a release.

In May, OPEC+ added an additional 350,000 bpd to production, and it will add another 350,000 bpd in June, as confirmed at its June 1 meeting. July output is scheduled to be increased by 450,000 bpd.

OPEC said overall conformity to the production adjustments by the participating countries in the Declaration of Cooperation was 114% in April (including Mexico).

China, US lead recovery

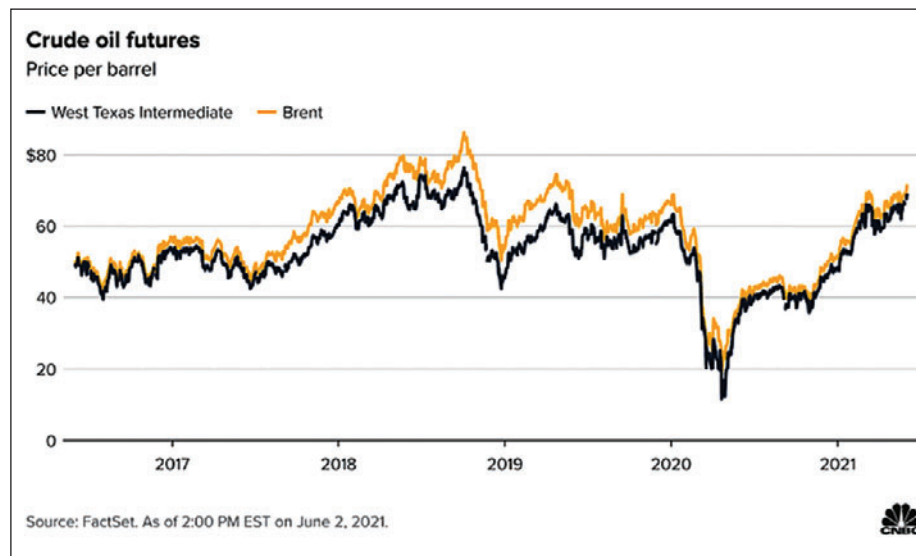
China and the United States are fueling the growth prospects for the year, with China's economy on course to expand by 8.5%, while the U.S. economy is expected to expand by 6.2%, Mohammad Sanusi Barkindo, OPEC Secretary General said in remarks prior to the June 1 meeting.

Despite a second wave of COVID-19 in India, India's economy is still expected to grow by 9.7%, he said.

The Euro-zone, thanks to a gradual easing of strict lockdowns, should benefit from pent-up consumer demand and the beginning of the summer holiday season, Barkindo said, adding that growth in the Euro-zone this year is forecast at 4.2%.

Despite positive developments on the demand front, Barkindo cautioned against complacency.

"As we know from experience over the past year, COVID-19 is a persistent and unpredictable foe, and vicious mutations remain a threat to both human health and the recovery," he said, adding that many



leading economies have deployed record levels of fiscal and monetary stimulus, debt levels have soared, and inflation is a risk to the recovery.

"Month-on-month, the actions of the Declaration of Cooperation continue to support the rebalancing process and have helped reduce the global supply by more than 2.9 billion barrels since May 2020," he said.

The 18th OPEC and non-OPEC Ministerial Meeting is scheduled for July 1.

Technical signals bullish

Crude prices have broken the downtrend dating back to the all-time high, buoyed by growth optimism and inflation concerns, according to Christopher Vecchio, DailyFX senior currency strategist.

"Crude oil prices have started to experience greater topside traction in recent days,

breaking out from the symmetrical triangle consolidation while sustaining an earlier bullish move above the descending trendline from the July 2008 (all-time high) and June 2014 highs," Vecchio said in a June 2 release. "The technical structure is bullish, through and through."

Crude prices have risen to their highest level since October 2018, and more gains may be ahead, he said.

The fundamental backdrop has brought clarity in recent days, Vecchio said, adding that it appears that both Iran and the United States are coming close to agreeing to a revised Joint Comprehensive Plan of Action, however, that development is largely priced-in as market participants anticipate a significant supply of Iranian oil to join global markets.

Global demand increasing at a torrid pace, and the OPEC+ announcement that

production cuts will remain keep the near-term supply-demand imbalance as viable catalysts for more gains in crude oil prices, he said.

"All-in-all, this has been a positive mix of news for crude oil prices," Vecchio said. "In fact, taking a look at measures of volatility, it seems that the current mix of news has traders feeling less uncertain about the future — typically a positive omen for oil markets."

Bullish Bank of America

Bank of America thinks the oil rally has room to run in 2021. "Demand is ramping up very quickly because everybody's driving, and we have the reopening of Europe, which is really starting to happen," Francisco Blanch, global commodities and derivatives strategist at Bank of America said in a June 2 CNBC interview. "India seems to have hit an inflection point, in terms of cases, which in my mind could mean you also get a return of mobility."

Long-term, prices likely will go even higher, Blanch said.

"We think in the next three years we could see \$100 barrels again, and we stand by that. That would be a 2022, 2023 story," Blanch said. "Part of it is the fact we have OPEC kind of holding all the cards, and the market is not particularly price responsive on the supply side and there is a lot of pent-up demand. ... We also have a lot of inflation everywhere; oil has been lagging the rise in prices across the economy." ●

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TERRA NOVA

hopes of a renewed life have been fading, adding Terra Nova "does not look like it's going to get there," even with the Newfoundland government's offer of C\$175 million.

He said the challenges are compounded by weather conditions that affect plans to improve subsea equipment in the field.

Little was quoted in an independent oil and gas industry Internet news site as saying "it's far easier to go into abandonment than it is to get an asset life extension approved."

He told Bloomberg that "it's heartbreaking to me to think this asset and the great people that operate it and maintain it that this operation could come to a premature end of life because of our inability to get alignment."

Government supportive

Newfoundland Energy Minister Andrew Parsons told reporters that his government has done everything to be supportive, but the task has been difficult with seven part-

ners to deal with.

"Trying to get everyone in the same spot has been difficult. There's no doubt we're in a time of crunch now," he said.

The Terra Nova partners are Suncor at almost 38%, ExxonMobil at 19%, Equinor 15%, Husky Energy/Cenovus 13%, Murphy Oil 10.475% percent, Mosbacher Operating 3.85% and Chevron Canada 1%.

Little declined to say which partners were standing in the way of an agreement, but industry sources point to ExxonMobil, which recently tried and failed to find a buyer for its stake.

Abandonment work required

In April, Suncor invited expressions of interest from companies that could do abandonment work on 30 wells ties to the production system, 11 other exploration and delineation wells, and to carry out decommissioning of the FPSO.

At the same time, Suncor has sought proposals from companies for the provision of subsea remediation and vessel services to support a modernization of the subsea facili-

ties which lie 210 miles east of the Newfoundland capital of St. John's.

A Suncor spokeswoman told the Canadian Broadcasting Corp. that the consortium is continuing to seek a deal with the Newfoundland government "to develop and evaluate options that could support a plan for long-term production at Terra Nova."

For now, Suncor has sidestepped making any capital commitments of its own for the project in 2021.

In an 11th-hour bid to save Terra Nova, the Newfoundland and Labrador Oil and Gas Industries Association, with about 400 member companies, implored "all parties to find a positive resolution as soon as possible."

In the first four months of 2021, Newfoundland's three operating fields produced 33 million barrels, down 94% from a year earlier. Hibernia and White Rose are both rated as mature fields facing depleting reserves, while Hebron-Ben Nevis has been holding the line at around 150,000 barrels per day. ●

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SPURR GEOTHERMAL

Hot springs at the surface a few miles to the south of Mount Spurr's active crater point to the existence of a subsurface reservoir of hot geothermal water that would be the prime target for drilling, Masterman told committee members, suggesting that the reservoir might lie several miles from the hot springs.

In particular, he said, a major fault, the Capps Glacier fault, runs east to west on the south side of Mount Spurr. Following extensive surveying activities, Ormat Nevada, the company that acquired most of the tracts sold in the 2008 lease sale, opted to drill three wells into sedimentary strata below shallow volcanic rocks on the south side of the fault. Unfortunately, the wells did not encounter warm or hot rocks or water of any quantity, Masterman said. Ormat eventually relinquished its leases.

New explorers in the region, armed with that knowledge, would have to use geology and geophysics to search elsewhere for the elusive geothermal reservoir, Masterman said.

Mount Spurr, which is on the west side of Cook Inlet, has an elevation of 11,070 feet and is one of the northernmost peaks in the Aleutian Island-Alaska Peninsula volcanic arc.

"So, they have a difficult task in front of them. ... They have to try to trace the hot water back from the surface exposure to the reservoir, and drill into that reservoir."

Finding yields specifics

In its preliminary finding on GeoAlaska's application, the Division of Oil and Gas provided more specifics on Ormat's activities: "Following lease acquisition Ormat performed non-intrusive geochemical sampling and geophysical data acquisition during the summers of 2009 and 2010. Using these field results, two shallow (<1,000 ft) exploration wells were drilled in late summer 2010 yielding positive results," the agency said.

"In summer 2011 a third deep (nearly 4,000 ft) exploration hole was drilled yielding less than desirable results. Temperatures were much cooler than expected,

in part because Ormat was unable to drill through the West Foreland conglomerate into the harder (and presumably hotter) basement rock beneath (ORNI-46 2012)."

This was a major setback for Ormat and was the main driver that ultimately led to the company's decision to relinquish its leases in 2016 and leave Alaska, the Division of Oil and Gas wrote.

Anderson convinces Craig

As mentioned in the first segment of this story, the man who first sold Craig on the acreage he applied for was private consultant Erik Anderson, who is based near Anchorage.

Anderson had advised Raser to apply for a prospecting permit where he thought the reservoir was located, but instead Raser chose the geothermal springs that represented the surface expression.

"Our property wraps around Raser's acreage to the north and to the west," Craig said. "Our geological theory is that our tracts hold the source of those springs — the geothermal reservoir."

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HELIUM RIGHTS

COVID-19 patients.

Aside from saving lives, helium could be a rescue line for a struggling natural gas industry, spurred on by a modest royalty rate of 4.25% that has been set by both the governments of Alberta and Saskatchewan.

The added incentive has been a surge in commercial helium prices to C\$200-C\$600 per thousand cubic feet, compared with the C\$3 for conventional natural gas.

Significant resources

Phil Skolnick, an Eight Capital analyst, said the helium market has the potential to be a “significant opportunity for Canada” which has an estimated 20% of the world’s helium resources and has a chance to take advantage of the world-leading U.S. demands.

Alberta Energy Minister Sonya Savage said removing the royalty rate barrier “unlocks the potential to develop helium deposits in Alberta and sets us up to take advantage of our close proximity to the United States.”

“Economic diversification is an essential part of our province’s recovery efforts and puts us on a course toward future prosperity,” she said.

The Alberta government has yet to disclose how much it has earned in helium revenues. That could indicate it is unwilling to show how far it lags behind Saskatchewan,

which already has nine active helium wells and another 24 being drilled.

Saskatchewan is also home to Canada’s largest helium purification facility that was built at a cost of C\$32 million and is owned and operated by Calgary-based North American Helium.

The privately held company hopes to produce more than 50 million cubic feet per year of helium for commercial sale from the more than 20 wells it has drilled in southwestern Saskatchewan.

North American raised C\$39 million for the construction of a second purification plant in the area, with design capacity of 160,000 cubic feet per day of purified helium.

The company now claims to have acquired rights to explore for and produce helium on an expanding property base of 4.4 million acres in Saskatchewan, Utah and Arizona.

To sweeten its incentives, the Saskatchewan government has offered a 15% transferable royalty credit for processing and liquefaction projects.

Alberta joins the race

To join the race, Alberta, in addition to its helium specific royalty, has established a royalty structure it hopes it can gain a competitive footing against Saskatchewan.

Since 2016 only two existing oil and gas wells in Alberta have been converted to helium producers, according to the Alberta Energy Regulator, with one of the wells taking two years to yield significant amounts of the commodity, start-

ing in April 2020.

Chris Baker is chief executive officer of Calgary-based Avanti Energy, which recently leased 7,000 acres in southern Alberta to explore for helium and is hoping to secure access to 12,000 acres in Montana.

He said that over the last 18 months “quite a few companies have appeared on the market.”

Andrew Davidson is chief executive officer of Royal Helium which raised C\$7.5 million last year and has just finished drilling three wells in Saskatchewan, which it hopes will become a Canadian core for helium production.

He said the company has demonstrated that “anything you understand about the oil and gas sector is exactly the same in the helium sector — there is no difference in how you drill the wells.”

Virginia-based Well Group is producing small volumes in the two provinces and operates a purification plant in Saskatchewan, where it reactivated old wells drilled in the 1960s and reactivated them to produce helium.

The North American helium market has been bolstered in recent years in response to a 2013 law requiring the U.S. government to complete the sale by September of its strategic helium reserve, which was established in Texas in the 1920s. The drain on the reserve has turned the U.S. into a net importer of helium.

—GARY PARK

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SPURR GEOTHERMAL

“In addition to our emphasis on the Capps Glacier fault ... we are also interested in the North Bench fault on our exploration property. That fault appears to be contiguous with the Crater Peak magma conduit and closer to the magma column,” Craig said in a follow-up email to Petroleum News.

“At a proper distance from the magma conduit and at a sufficient depth to encounter water, the BTUs of geothermal energy that may be discovered could be substantial. In summary, GeoAlaska identified multiple geothermal targets when selecting the lands for which the company applied,” he said.

Reanalyzing plethora of data

“There are a plethora of public domain data about the geothermal potential at Mount Spurr,” Craig said.

“We accessed those ... and reanalyzed them. In addition, Mount Spurr is one of the most studied volcanos in the world; there are micro-geophones permanently installed all over that mountain. So every time the earth moves just a little bit because of a seismic event the epicenter of that motion is able to be identified. It’s sort of a naturally occurring 3D seismic survey based upon earthquake events. All these little epicenters are knowable by following one specific line for each,” he said.

For GeoAlaska Anderson put together a database of “thousands and thousands of epicenters of seismic activity on Mount

Spurr and ran it through a statistical procedure to find the zone of central tendency for all the movement,” Craig said. “It mapped out exactly along the Capps Glacier fault; where we hypothesized it to be.”

Those results, he said, were yet another way to analyze the available data — and were “reassuring” in confirming their theory.

Unlike oil and gas, what GeoAlaska is looking for is fractured rock through which water can flow, so a fault is typically an ideal location to find fractured rock.

“You want water that has flowed past a heat source, so that it’s hot. It doesn’t have to be boiling water,” Craig said. “It just has to be charged with sufficient energy to power what’s called a binary geothermal power plant,” which he hopes to be able to someday build.

Binary cycle power plants transfer the heat from geothermal hot water to another liquid. The heat causes the second, engineered, liquid to turn to steam, which is used to drive a generator turbine.

A geothermal discovery and subsequent power plant at Mount Spurr, Craig said, could potentially supply a significant amount of electricity to the nearest point on the Alaska Railbelt electricity grid, about 40 miles away at the Beluga gas-fired power generation facility on the Cook Inlet coast.

“Once you discover your geothermal source, you engineer the power plant accordingly, so if your water comes to the surface at a particular temperature then you engineer the fluid in the power plant one point lower than the water coming out

of the ground,” Craig said.

Essentially the water coming out of the ground, goes back into it.

“Unlike oil and gas where you eventually drain a reservoir, you continually cycle the water through the reservoir, continually extracting heat from the source,” he said.

In Kenai Peninsula Borough

Mount Spurr, which is on the west side of Cook Inlet, has an elevation of 11,070 feet and is one of the northernmost peaks in the Aleutian Island-Alaska Peninsula volcanic arc.

Much of GeoAlaska’s prospecting permit area was recently glaciated, and the lower elevations are usually gently sloping with thickets of alder.

The state owns the land within the prospecting permit area. The Bureau of Land Management and Cook Inlet Region Inc. own the remainder of land in the vicinity.

GeoAlaska’s acreage is 40 miles west of the village of Tyonek and lies entirely within the Kenai Peninsula Borough.

Pinning down PP3 reserves

Anderson, who is well-connected with geothermal experts worldwide, introduced Craig to GeothermEx, a Schlumberger company.

At this point, what Craig wants GeothermEx’s help with is establishing “a probable level of sustainable energy production from one or more reservoirs in Mount Spurr — essentially P3 reserves,” which in the oil world is possible reserves, with P3 being a 10%-49% probability. Doing this will involve GeothermEx analyzing the “plethora” of information available on Mount Spurr, as well as some of the data Anderson and Craig have already reanalyzed.

The acquisition of GeothermEx in 2010 places Schlumberger in a unique position to serve the geothermal industry. GeothermEx’s work in hundreds of geothermal fields in more than 50 countries and participation in 70% of all operating geothermal projects worldwide means Schlumberger is well-equipped for geothermal.

Communications protocols

According to the Division of Oil and Gas’ preliminary finding, the current and anticipated level of volcanic activity is not

expected to create conditions under which geothermal prospecting would be unduly hazardous. If prospecting were to be undertaken over a period of days or weeks, the Alaska Volcano Observatory, or AVO, “has expressed a willingness to set up communications protocols with prospectors to keep them apprised of any significant changes in the status of the volcano,” the agency said.

Several Alaska state and federal agencies, along with Alaska’s university, conduct research in the area. AVO is an inter-agency program of the Division of Geological and Geophysical Surveys, Alaska Department of Natural Resources, U.S. Geological Survey, and the University of Alaska Fairbanks Geophysical Institute.

AVO monitors Alaska volcanoes, including Mount Spurr, with the purpose of mitigating hazards by providing timely and accurate information on volcanic activity including unrest and eruptions.

AVO monitors Mount Spurr with web cameras, and other ground-based instruments, including seismometers, infrasound networks, and GPS. This monitoring network can provide warning of impending eruptions and serves to provide geophysical data and visual information during active eruptions.

“Mount Spurr erupted in 1953 but has no history of having erupted before that in recorded history; and then it erupted again in 1992. There’s no way to predict with certainty when it will erupt again; if ever, in the foreseeable future,” Craig said.

“We are aware the USGS is constantly monitoring the volcano — and not just seismic activity; they actually have GPS units permanently attached around the mountain and they can measure very small movements, or expansions, of the mountain itself. When a volcano like Spurr is preparing to erupt it expands measurably. Predicting earthquakes is a failed exercise, but you can more accurately predict when a volcanic eruption is imminent, as long as you’re monitoring the right data,” Craig said.

“We will do everything we can to design all aspects of the project for safety, being environmentally responsible, and also designing the surface facilities so that they are optimally shielded from volcanic activity if it does occur,” he said. ●

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