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A weekly oil & gas newspaper based in Anchorage, Alaska

page EIA expects crude below \$100/barrelthrough next year, with Brent at \$95

Week of October 16, 2022 • \$2.50

Justin Miller named new regional director of BSEE's Alaska Region

The federal Bureau of Safety and Environmental Enforcement recently said Justin Miller has been selected to serve as the new regional director of BSEE's Alaska Region. "Justin brings experience, a wealth of knowledge in oil and

gas operations at both the state and federal levels, and a proven track record to this vital leadership role," said BSEE Director Kevin Sligh. "His many years of experience in several bureaus across the Department provide the leadership to guide the Alaska Region's daily efforts and operations to ensure safe and environmentally responsible offshore energy

activities."



As the Alaska regional director, Miller JUSTIN MILLER

will oversee more than 1 billion acres on the Outer Continental Shelf and more than 6,000 miles of coastline more coastline than in the rest of the United States combined. The region encompasses the Beaufort, Bering and Chukchi

Seas, Cook Inlet and the Gulf of Alaska.

As director, BSEE said "he will lead an experienced team

see **NEW DIRECTOR** page 9

UAF viscous oil research yields results for Schrader; Ugnu next

Research led by the University of Alaska Fairbanks on viscous oil recovery using polymer injection at the Milne Point field on Alaska's North Slope has resulted in a tripling of production from some Schrader Bluff formation wells.

As field operator Hilcorp Alaska implements polymer injection on more and more drilling pads, the University of Alaska Fairbanks Institute for Northern Engineering's Petroleum Development Lab is moving on to tackle methods for recovery of the even heavier oil found in the shallower Ugnu formation.

In an Oct. 7 press release, the governor's office said UAF engineers and Hilcorp have been successful in using polymer flood for enhanced oil recovery at Milne Point, using a mixture of polymer and seawater.

The initial research was supported by federal funds, but the state has now stepped in to support new research.

see POLYMER INJECTION page 9

• FINANCE & ECONOMY

Recession regression

Oil down as demand worries extinguish exuberance over OPEC+ production cut

By STEVE SUTHERLIN

Petroleum News

Oil indexes fell for the third day in a row Oct. 12 as demand worries took the stage in the wake of new COVID-19 lockdowns in China and forecasts of falling demand were issued by the U.S. Department of Energy and the Organization of the Petroleum Exporting Countries.

Alaska North Slope crude fell \$1.43 on the day to close at \$92.96 per barrel, while West Texas Intermediate fell \$2.08 to close at \$87.27 and Brent fell \$1.84 to close at \$92.45.

On Oct. 11, ANS closed \$2.13 lower at \$94.39, WTI dropped \$1.78 to close at \$89.35 and Brent shaved \$1.90 for a close of \$94.29.

OPEC estimates of global oil demand growth in 2022 were revised down by 0.5 million bpd, the organization said in its October Monthly Oil Market Report released Oct. 12.

ANS fell \$1.45 Oct. 10 to close at \$96.52, as WTI shed \$1.51 to close at \$91.13 and Brent lost \$1.73 to close at \$96.19.

The losses stood in stark contrast to price action of the previous week in response to a 2 million barrel per day production cut to begin in November announced by OPEC and its allied exporting *see* **OIL PRICES** *page 10*

ALTERNATIVE ENERGY

A promising opportunity

Mount Spurr exhibits all parameters for a potential geothermal energy source

By ALAN BAILEY

For Petroleum News

Mount Spurr, an active volcano about 80 miles west of Anchorage, exhibits all three indicators of a potential source of geothermal energy, geothermal consultant Dr. Stephen Onacha, has told Petroleum News. Those indicators consist of a source of heat, abundant water for transporting the heat and fractures in the rocks that can provide channels for the water, Onacha said.

The heat is associated with the volcanic activity, with the eruption history indicating that the heat is not excessively deep, another important consideration in the evaluation of the geothermal potential. There is obviously plenty of water in the region, given the high rainfall and the annual snow melt. And, with an active geologic fault system, the rocks around Mount Spurr are known to be extensively fractured.

The fault system can act as a channel both for hot water to flow from depth and for cold water to flow into the geothermal system, Onacha said.

Exploration project

Onacha is working with GeoAlaska LLC on a project to explore for and potentially develop Mount Spurr geothermal resources, in conjunction with a two-year state geothermal prospecting license covering three state land tracts amounting to 6,376 acres. The land is on the south flank of the Crater Peak, the volcano's active crater, and on

PWSRCAC wants dispersants ban

for use in Sound on ANS crude oil

On Sept. 23 the board of Prince William Sound Regional Citizens' Advisory Council updated its position on the use of oil dispersants in responding to a potential oil spill in Prince William Sound. The organization now says that dispersants should not be used in the waters of the region to deal with a spill of North Slope oil.

Previously, in 2006, PWSRCAC published a position on dispersant use, opposing the use of chemical dispersants — until then the organization had said that dispersants could be used as technique of last resort, if the mechanical removal of spilled oil using skimmers and boom proved ineffective.

Dispersants break up an oil slick into tiny droplets that spread through the water column, thus accelerating the breakdown of the oil through bacterial decomposition. PWSRCAC, in issuing its new position, argues that sea conditions in Prince William Sound often limit the feasibility of applying dispersants and that the effectiveness of dispersants have not been demonstrated in marine environments with seawater that has

see DISPERSANTS BAN page 9

NATURAL GAS

SESM gets good news

Latchem's Prudhoe natural gas treatment plant almost unstuck after 2 years

By KAY CASHMAN

Petroleum News

On Sept. 16, Ray Latchem, president of SES Midstream LLC, or SESM, received a final finding and decision reinstatement on Alaska lease 421361 from the Alaska Department of Natural Resources' Division of Oil and Gas.

The Division told Latchem that the **RAY LATCHEM** final finding and decision updates the prior final finding and decision dated July 23, t 2020, that was the subject of a DNR's Commissioner's recension letter on Aug. 19, 2020, a director of Division of Mining, Land and Water



letter on Jan. 22, 2021, and the subsequent Appeal No. 21-002.

Subject to the remand order in SESM's Jan. 29, 2021, Appeal No. 21-002 to then-DNR Commissioner Corri Feige, the division proposes to issue a 25-year negotiated lease under AS 38.05.070(d) to SESM for the construction of a natural gas treatment and processing facility in Deadhorse, Alaska northwest of the Spine Road and west of the intersection with the Sag River Road.

Latchem told PN Sept. 23 that he is "quite

see GAS TREATMENT page 10

• GOVERNMENT

AOGCC well spacing statutes updated

Legislation enacted last session became effective in late September, reflecting changes in drilling practices since the 1950s

By KRISTEN NELSON

Petroleum News

The Alaska Legislature has updated oil and gas statutes which predated Alaska statehood and reflected concerns about drilling practices in place in the mid-1950s.

House Bill 349, by Rep. George Rauscher, R-Wasilla, amends statutes governing the Alaska Oil and Gas Conservation Commission.

In his sponsor statement Rauscher said the bill "eliminates needless regulatory red tape, as drilling and production processes have fundamentally changed since the statute was written."

"During that time, policymakers were worried that oil companies might drill too many vertical wells that were spaced too tightly together, resulting in oil left in the ground that could no longer be recovered," he said.

"Today, no one is spending millions of dollars to drill unnecessary wells in Alaska," Rauscher said.

With advances in drilling technology, wells can be directionally drilled underground, "sometimes with multiple lateral wells from a single motherbore or parent well," and wells just a few thousand feet deep can be thousands of feet in length, allowing for recovery of more oil and gas.

"Unfortunately, our outdated statutes have not kept up with the advancements in the oil and gas industry," Rauscher said.

HB 349 amends statutes "originally designed to provide oversight by involving another step, to provide assurance that perforations into the ground were not going to be too

close, jeopardizing substructure integrity of the field or zone. This extra oversight is no longer necessary, slows down development and costs the state time and money," Rauscher said.

Testimony from AOGCC

Because of the statute, Jeremy Price, then the public member of AOGCC and chair of the commission and Jessie Chmielowski, the engineering commissioner, told the House committees in hearings last spring, companies have been required to apply for spacing exceptions, which require hearings to be scheduled. Price said of 47 recent hearings, none was requested by the public and none received any public comment. The requirement, however, slows work by companies trying to develop fields because of the time required for the commission to schedule and public notice hearings — all of which costs the state money.

Chmielowski said the requirement has primarily impacted companies working in Cook Inlet, and showed an example from BlueCrest, the Cosmopolitan unit operator, which, because of the design of its fishbone wells, needed to obtain seven or more spacing exceptions per well for multiple wells.

HB 349 was heard in the Community and Regional Affairs Committee and the Resources Committee.

The bill was amended in CRA to reflect a concern that amending sections of the statute could hinder the commission's ability to hold hearings to protect correlative rights, the rights of adjacent oil and gas owners.

AOGCC does schedule hearings when wells would be close to boundaries where ownership changes to protect correlative rights.

The bill cleared Senate Resources without amendment

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• EXPLORATION & PRODUCTION Ninth POD filed for Kitchen Lights unit

Furie/HEX met 8th plan commitments; in 9th period will continue work to establish PA, evaluate drilling more wells or sidetracks

By KAY CASHMAN

Petroleum News

On Oct. 6 John Hendrix filed the ninth plan of development for the Kitchen Lights unit in the Cook Inlet basin with Alaska's Division of Oil and Gas.

Hendrix is CEO of Furie Operating Alaska LLC, operator of the Kitchen Lights unit, the only Alaskan-owned natural gas producing company in Alaska. He

became a Cook Inlet gas producer in July 2020 when his newly formed company, HEX Cook Inlet LLC, acquired Furie and its partners Cornucopia Oil & Gas Company LLC and Corsair Oil & Gas LLC in bankruptcy proceedings.



JOHN HENDRIX

The centerpiece of the purchase was the offshore Kitchen Lights unit, its Julius R. production platform, a 15-mile subsea gathering line and an onshore natural gas processing facility at Nikiski.

The Kitchen Lights unit, or KLU, is the largest unit in Cook Inlet by acreage and has been seen as a source of growth for the basin.

Kitchen Lights' ninth POD will be in effect from Jan. 4, 2023, through Jan. 3, 2024.

Met all commitments

In reviewing the eighth POD, which runs from Jan. 4 of this year through Jan. 3, 2023, Furie committed to the following:

• Continue development of proved gas reserves in the Kitchen Lights unit, or KLU.

• Continue efforts to optimize production, enhance safety and minimize environmental footprint of KLU related infrastructure.

• Continue progress on establishing a participating area along with possible unit expansion.

• Evaluate drilling of additional wells on existing lease acreage and lease acreage acquired in the 2021 Cook Inlet lease sale.

Hendrix said the following activities have either been completed or are in progress in support of the eighth POD:

• Well KLU A-1 Beluga production



Julius R. production platform with Denali in the background.

remained shut-in throughout 2022 due to ongoing excessive solids production. A production test of the Lower Sterling began May 2022 and is ongoing.

• Well KLU A-2 Beluga production declined to the point that frequent soap sticks were required to unload the well to sustain flow. A Lower Sterling production test commenced in June 2022 and is ongoing.

• Well KLU 3 continued production from the existing open Beluga intervals.

• Well KLU A-4 continued production from the existing open Beluga intervals. A production test was performed on the Lower Sterling interval; the interval produced water with little gas and was incapable of sustained natural flow to surface.

• The Julius R platform produced water handling system reliability improved significantly. Water handling system reliability is critical to maximizing recovery from the elevated water rate of Sterling intervals.

• Seismic data was reprocessed resulting in several potential development leads. Work is ongoing to further evaluate these potential development leads.

Modification conditions met

The division approved the eighth POD with modifications on Dec. 20, 2021. The modifications imposed the following conditions on Furie:

• Furie will provide the results of its

detailed assessment from the 2021 POD period to the division by no later than Feb. 28, 2022.

This requirement was fulfilled Feb. 24, 2022, when Furie personnel met with division staff and provided a technical presentation covering the detailed assessment performed during the 2021 POD period.

• Furie will provide a confidential preapplication technical presentation to the division by no later than July 31, 2022, detailing with specificity the progress made on the subsurface description of the KLU along with any other activities undertaken by Furie related to further development of the KLU and exploration activities.

Furie asked for an extension due to the inability of Furie and division personnel to

The Julius R platform produced water handling system reliability improved significantly (during the eighth POD period).

meet prior to the end of July. The pre application technical presentation was held Sept. 8, 2022.

• Furie will submit complete participating area, or PA, applications to the division by no later than Aug. 31, 2022.

Furie requested an extension to this deadline also, in conjunction with the delay of the pre-application technical presentation. The final PA application was submitted Oct. 4.

Possible unit expansion

For the ninth POD Furie plans to continue efforts ongoing from the eighth plan, specifically:

• Continue development of natural gas reserves in the KLU.

• Continue efforts to optimize production, enhance safety and minimize environmental footprint of KLU related infrastructure.

• Continue progress on establishing a participating area along with possible unit expansion.

• Evaluate drilling of additional wells and/ or sidetracks in the KLU.

In closing, Hendrix said "Furie continues to believe there is significant development opportunity within the Kitchen Lights unit that has the potential to provide clean, reliable energy for Alaskan residents for future years." ●

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FINANCE & ECONOMY

EIA expects crude below \$100 through '23

Brent forecast to average \$93 per barrel in 4th quarter, \$95 in 2023; US crude oil production forecast at 12.4 million bpd in 2023

By KRISTEN NELSON Petroleum News

U.S. Energy Information he Administration is forecasting the Brent crude oil spot price to remain below \$100 per barrel in 2023, EIA Administrator Joe DeCarolis said Oct. 12 as EIA released the October Short-Term Energy Outlook.

This despite production cuts announced Oct. 5 by the Organization of the Petroleum Exporting Countries.

"The global landscape for liquid fuels is complicated, but we expect that limited demand growth will partially offset price increases that would normally result from a cut in production," DeCarolis said.

In its outlook EIA cautioned that prices could be higher if there are supply disruptions and if production growth is slower than expected, and lower if economic growth is slower than forecast.

The forecast is for the Brent oil spot price to average \$93 per barrel in the fourth quarter and \$95 per barrel in 2023.

EIA said it lowered its price forecast for 2023 by \$2 per barrel compared with its September forecast, largely reflecting a 500,000 barrel per day "reduction in our forecast for global oil consumption in



global oil production JOE DECAROLIS was also revised,

oil

downward by 600,000 bpd in 2023, with the largest downward revision in the fourth quarter. Brent is now forecast to end 2023 higher than previously expected, "despite a lower crude oil price forecast on average for next year."

EIA said the forecast for average global oil production is 100.7 million bpd in 2023, 600,000 bpd lower than in September reflecting "announced cuts from OPEC+ as well as lower forecast crude oil production in the United States."

"Accounting for these changes, global oil markets are relatively balanced in our 2023 forecast," EIA said.

Heating costs projected to rise

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EIA also released its winter fuels outlook, and said that compared to last winter's



Petroleum

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heating costs, it is forecasting that U.S. households will pay 28% more for natural gas, 27% more for heating oil, 10% more for electricity and 5% more for propane.

"Forecasting months-long weather and energy trends is not an exact science, but it's highly likely that global dynamics affecting energy commodities will lead to higher U.S. prices for heat this winter," DeCarolis said.

If weather is colder than expected, U.S. households will pay more, EIA said.

US production

U.S. crude oil production is forecast to average 11.7 million barrels per day this year and 12.4 million bpd in 2023, surpassing the record set in 2019.

The 12.4 million bpd forecast is down from 12.6 million bpd in September, reflecting "lower crude oil prices in O422 than we previously expected," EIA said.

U.S. dry natural gas production was a record in September, 98.8 billion cubic feet per day.

U.S. liquefied natural gas exports averaged 10.1 bcf per day in September, EIA said, "as liquefaction terminals other than the off-line Freeport terminal operated near full capacity."

The Henry Hub spot price for natural gas was \$6.97 per million British thermal units on Oct. 6, down \$2.29 per million Btu from Sept. 1, EIA said.

The spot price is forecast to average some \$7.40 per million Btu in the fourth quarter, about \$1.60 less than forecast in September, largely reflecting "price declines in September that lowered the starting point for our forecast, amid slightly higher expectations for U.S. production in last 2022."

EIA said the Henry Hub spot price is

continued from page 2 WELL SPACING

following a hearing.

What next

AOGCC issued an industry guidance bulletin Oct. 5 on effects of HB 349, which was signed into law June 29 and was effective 90 days later, on Sept. 27, Chmielowski said in the guidance bulletin.

The bill changed portions of Alaska statue governing spacing between wells in a pool, she said, with the practical implication of the change meaning specific AOGCC

expected "to remain elevated until the second quarter of 2023 when we forecast the 12-month rolling average of supply to rise closer to average demand and inventories to rise above the five-year level."

EIA said it estimates that U.S. gasoline consumption averaged 8.8 million bpd in September, 2% lower than the 5-year average for the month, with gasoline exports estimated to have averaged 1 million bpd in September.

The agency said spot market prices for West Coast gasoline are typically higher than in other parts of the country, but in late September West Coast premiums rose to more than \$2 per gallon on average over New York prices. In September, spot gasoline prices in Los Angeles, San Francisco and Portland increased at least 50% while New York prices decreased by 4%.

"Multiple refinery outages for planned and unplanned maintenance on the West Coast, amid West Coast gasoline inventories at their lowest level since May 2012, contributed to the price increase along with lower imports," EIA said.

Imports on the West Coast have typically increased during market tightness, but that did not happen in a substantial way through the end of September, with imports averaging 30,000 bpd on the West Coast for the four weeks ending Sept. 30, "after unusually low import levels in the second half of July and all of August," EIA said.

The agency said West Coast premiums over New York declined by 92 cents on average in early October, "as some refinery capacity came back online in California and expectations rose for an increase in shortterm imports." \bullet

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regulations (20 AAC 25.055(a)(3)&(4) and 20 AAC 25.055(b)&(c)) "are no longer supported by the Alaska Statutes and thus are no longer enforceable." The same applies to interwell spacing requirements specified in AOGCC orders.

Chmielowski said AOGCC will update its regulations and review active orders, but that will take time, so the industry guidance bulletin is "to inform operators that interwell-spacing regulations and interwellspacing orders or portions of orders are no longer valid." •

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EXPLORATION & PRODUCTION

88 Energy releases investor update

Icewine East project holds est. 1.03 billion barrels; Hickory 1 targeting 647 MMBO unrisked net mean prospective resources

By KAY CASHMAN

Petroleum News

s reported in the Sept. 11 edition of Petroleum News, 88 Energy Ltd. said in a Sept. 5 release that its planned North Slope exploration well, Hickory 1, will test four reservoirs: The Shelf Margin Delta, Slope Fan System, Basin Floor Fan and Kuparuk.

The company said selection of the drilling location in Icewine East followed completion of the interpretation of recently licensed Franklin Bluffs 3D seismic survey.

In an Oct. 9 investor update, the company confirmed that it still expects to spud the well in the first half of 2023. And said that Hickory 1 is "targeting 647 million barrels of oil unrisked net mean prospective resources."

In addition to the 3D seismic data, 88 Energy said "third-party evaluation indicates multiple play fairways extend onto Icewine East from nearby Pantheon leases."

The entire Icewine East project holds "1.03 billion barrels total" per an "August 2022 maiden independent unrisked gross prospective mean resource estimate," 88 Energy said in the investor update.

Icewine East acreage is strategically located on the Dalton Highway and the 800mile trans-Alaska oil pipeline runs through the acreage providing access to infrastructure and services.

"Planned activity for H2 2022," 88 Energy said includes "planning and permitting for drilling of the 2023 Hickory 1 exploration well, as well as completing remaining three work-overs" at its Longhorn project in Texas to further increase production.

Other planned H2 2022 activities include:

· Completing analysis of Merlin 2 results including Peregrine project modelling studies.

· Advancing Icewine project modeling studies.

• Continuing assessment of new venture opportunities.

88 Energy has an extensive acreage position on Alaska's North Slope, which involves four major project areas: Peregrine, Umiat, Icewine and Yukon.

The company is the operator of all four project area leases. In Icewine it has about184,000 net acres, with a 75% working interest.

In Peregrine it has a 100% working interest ownership in 195,000 acres.

At the Umiat oil field, 88 Energy has a 100% working interest in 18,000 acres.

| Project Icewine | Operator, ~75% WI ICEWINE EAST High impact Hickory-1 exploration well scheduled in 2023 Third-party evaluation indicates multiple play fairways extend onto leavine East from near-by Pantheon leases Bluff - Shelf Margin Delta-B Sst (SMD-B Bluff - Shelf Margin Delta-C Sst (SMD-0 40° API oi Acreage significantly de-risked by recent Pantheon drilling and successful flow tests, as well as data from the Icewine-1 logs and a detailed 3D seismic data set Theta West ed 35-39° API oil ROJECT ICEWINE EAST NET ENTITLEMENT PROSPECTIVE RESOURCE (MMBO, UNRISKED) Prospects Total 1.576 167 647 621 **ICEWINE WEST** Charlie-1 discovery well drilled in 2020 recovered hydrocarbons during wireline operations with an API gravity Icewine etween high-40 to low-50 (Torok formation) Targeting a follow-up appraisal well in future years post any successful flow test in Icewine East PROJECT ICEWINE WEST NET ENTITLEMENT PROSPECTIVE RESOURCE (MMBO, UNRISKED) Talitha A d 35-39° **ICEWINE WEST ICEWINE EAST** 889 Lima Comple 134 613 1756 49 155 Stellar Fan 1-6 Torok 452 222 TOTAL MEAN PROSPECTIVE OIL RESOURCE 1,1112

Matson Matso 11 ATTI 878747

And in its Yukon leases it has a 100% working interest in 15,000 acres.

In its investor update, 88 Energy said the following about Umiat, which is adjacent to the Peregrine project:

Historic flow testing demonstrated a sustained rate of 200 barrels per day with no water (with a maximum rate of 800 barrels of oil per day).

"Recently completed AVO work (McColgan, 2022) shows upside potential at Umiat as well as better, apparent trap definition/resolution," 88 Energy said.

"Studies continuing to review historical development plans have identified potential cost savings on planned development CAPEX."

88 Energy also said it was investigating a new lightweight low-cost rig for a future appraisal well at Umiat.

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PRODUCERS MAGAZINE PREVIEW

Barrow gas field keep powering Utqiagvik

Producers Magazine Preview: Decades old project remains a unique story for North Slope natural gas first found in 1940s

By ERIC LIDJI

For Petroleum News

t's a uniquely Alaska anomaly. While the wider North Slope region has been trying for years to monetize its extensive natural gas resources for decades, one small community has been benefitting for years.

Under the operatorship of the North Slope Borough, the Barrow gas fields have been the foundation of affordable and relatively secure energy for the city of Utqiaġvik for years.

The program subverts the usual paradigm for Alaska. Remoteness is usually a leading factor preventing development of known resources. But Utqiaġvik's remoteness has made it nearly impossible to develop the nearby gas fields for anything but local use.

The Barrow gas fields emerged from federally sponsored exploration in the National Petroleum Reserve-Alaska after World War II to improve domestic energy security.

Federal contractors discovered the fields on separate expeditions between the late 1940s and the 1980s. The fields have generally required minimal development work, aside from a \$92 million rejuvenation program launched in 2011 to combat declining production.

With that effort, the city commissioned the Savik 1 and 2 wells at the East Barrow field and the Walakpa 11, 12 and 13 wells at the Walakpa field. By improving deliverability, the city of Utqiaġvik can now rely on natural gas for its energy needs even during cold snaps or during maintenance activities, instead of switching to diesel as an alternative.

South Barrow

The U.S. Navy discovered the South Barrow field with the 2,505-foot South Barrow No. 2 well in 1948, during its initial wave of NPR-A exploration following World War II.

Production began the following year. Drilling continued through 1987 with 13 new wells drilled and one existing well — South Barrow No. 7 — deepened, according to the AOGCC. Production began in November 1981 at 3.5 mil-

lion cubic feet per day.

The South Barrow field produced consistently from 1950 through 1990, at which point operators began to suspend production sporadically. The field was shut-in with increasing regularly through the 2000s, often being used only to increase supplies in winter.

After nearly six years of inconsis-

tent production, South Barrow has now been producing regularly since May 2018. The field produced 99.3 million cubic feet in 2021, up considerably from 56.1 million cubic feet in 2021, according to the AOGCC.

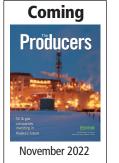
The South Barrow field is producing from three wells: S. Barrow Test Well No. 6, South Barrow NSB No. 1 and South Barrow No. 9. The field produced exclusively from S. Barrow Test Well No. 6 from January 2020 through July 2020, when it went offline. It was back online from April 2021 through June 2021 and again in November and December 2021. South Barrow NSB No. 1 came online in February 2021 and went offline in June 2021, which accounted for increased production in 2021. It returned from December 2021 through March 2022. South Barrow No. 9 produced in July 2021.

Cumulative production at South Barrow passed 24 billion cubic feet by June 2022, according to the AOGCC. Early forecasts estimated some 32 billion cubic feet in lifetime production at the field, suggesting the potential of ongoing production for years to come.

East Barrow

The U.S. Geological Survey discovered the East Barrow field with the South Barrow No. 12 well in 1974, during the second wave of oil and gas exploration in the NPR-A.

Production began in December 1981. Drilling continued through 1990, with eight wells total. The North Slope Borough more recently returned with the Savik drilling



program.

Gas production peaked in early 1983 at some 2.75 million cubic feet per day.

The East Barrow field produced nearly 47 million cubic feet from the South Barrow No. 14 and Savik No. 1 wells in 2021, down considerably from 139.1 million cubic feet in 2020 according to the AOGCC. The decline started in spring 2021 and culminated in a shutdown of production through the latter half of the year before resuming in December.

Production was restored somewhat this year. The field produced nearly 60 million cubic feet through the first half of the year, down somewhat from 2020 but well above 2021.

Cumulative production through June 2022 was nearly 9.9 billion cubic feet, well above the 6.2 billion cubic feet in place originally estimated for the East Barrow field. The city of Utqiaġvik attributes the productivity to the presence of methane hydrates at the field.

Walakpa

Working under a U.S. Navy contract, Husky Oil discovered the Walakpa field with the 3,666-foot Walakpa No. 1 well in the 1980s. Production began in the late 1992. The field has peaked above 5 million cubic feet per day numerous times in the decades since.

Walakpa is the most productive of the three Barrow gas fields, currently producing from 11 wells — Walakpa No. 3 through Walakpa No. 13. The field produced 1.4 billion cubic feet in 2021, up from 1.3 billion cubic feet in 2020, according to the AOGCC. The field produced 746 million cubic feet in the first half of 2022, on pace with 2021 rates.

Cumulative production through June 30, 2022, was 37.3 billion cubic feet.

The South Barrow and East Barrow reservoirs have a stratigraphic setting similar to the Alpine oil field. Walakpa is in the Pebble Shale unit, a major North Slope source rock. \bullet

Contact Eric Lidji at ericlidji@mac.com





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EXPLORATION & PRODUCTION

State OKs 4 new PBU wells at W Pad

Prudhoe Bay unit operator Hilcorp North Slope has received approval for four new wells at W Pad.

In an Oct. 5 plan of operations amendment, the Alaska Department of Natural Resources' Division of Oil and Gas said Hilcorp sought authorization for four new development wells and installation of associated infrastructure at W Pad in the Prudhoe Bay unit. The wells will be located within the existing W Pad well row. Associated infrastructure includes well houses, heat tracing, power and instrumentation cables and tie-in piping and electrical lines. Thermosiphons may be installed to limit future subsidence.

The division said project work is expected to begin in November, and includes: •Installation of headers and conductors.

•Drilling development wells.

•Installing associated infrastructure, including wellhouses, heat tracing, power and instrumentation cables and tie-in piping and electrical lines.

•Installing thermosiphons if necessary.

•Tying wells into existing infrastructure.

W Pad is some 16 miles east of Deadhorse.

In mid-September the division approved addition of six new development wells on M Pad.

-KRISTEN NELSON

• EXPLORATION & PRODUCTION

US rotary rig count down by 3 to 762

By KRISTEN NELSON

Petroleum News

The Baker Hughes' U.S. rotary drilling rig count was 762 on Oct. 7, down by three from the previous week and up 229 from 533 a year ago.

When the count dropped to 244 more than two years ago, 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, 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 2020 when it gained back 10 rigs.

The Oct. 7 count includes 602 rigs targeting oil, down by two from the previous week and up 169 from 433 a year ago, with 158 rigs targeting natural gas, down by one from the previous week and up 59 from 99 a year ago, and two miscellaneous rigs, unchanged from the previous week and up by one from a year ago. Forty-one of the rigs reported Oct. 7 were drilling directional wells, 698 were drilling horizontal wells and 23 were drilling vertical wells. Baker Hughes shows Alaska with 10 rotary rigs active Oct. 7, unchanged from the previous week and up by five from a year ago, when the state's rig count stood at five. Nine of the rigs in Alaska were onshore and one was offshore, unchanged from the previous week.

year ago, when the state's rig count stood at five. Nine of the rigs in Alaska were onshore and one was offshore, unchanged from the previous week.

The rig count in the Permian, the most active basin in the country, was up by one from the previous week at 345 and up by 79 from 266 a year ago.

International rig count up by 19 to 879

Baker Hughes' international rig count for September, issued Oct. 7, is up by 19 rigs from August at 879 rigs, with land rigs up 10 to 660 and offshore rigs up nine to 219. The September international count is up by 92 rigs from the comparable count in 2021, 787, with land rigs up by 60 and offshore rigs up by nine. Baker Hughes began providing a monthly international rig count in 1975. The international count excludes North America which is included in the company's worldwide figures.

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Alaska rig count unchanged

Oklahoma (65) and West Virginia (17) were each up by one rig from the previous week.

Louisiana (62) was down by four rigs week over week while Wyoming (19) was down one.

Rig counts in other states were unchanged from the previous week: Alaska (10), California (7), Colorado (21), New Mexico (113), North Dakota (38), Ohio (10), Pennsylvania (23), Texas (360) and Utah (13).

Baker Hughes shows Alaska with 10 rotary rigs active Oct. 7, unchanged from the previous week and up by five from a

The Middle East accounts for the most rigs in the international totals, 308 in September, followed by Asia Pacific with 205, Latin America with 180, Europe with 106 and Africa with 80.

The U.S. rig count averaged 763 in September, down by one from an August average of 764, and up by 255 from September 2021, while the Canadian count for September averaged 211, up 10 from an August average of 201 and up by 58 from September 2021.

Worldwide the rig count was 1,853 in September, up 28 from 1,825 in August and up by 405 from 1,448 last September. ●

Contact Kristen Nelson at knelson@petroleumnews.com



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THIS MONTH IN HISTORY

A portable exploration solution

20 years ago this month: Anadarko plans to test its Arctic platform, will allow winter exploration drilling without ice roads, ice pads

Editor's note: The following is a reprint from the Oct. 27, 2002, issue of Petroleum News Alaska

BY KRISTEN NELSON

PNA Editor-in-Chief

The window for North Slope winter exploration is shrinking — and costs are expanding. Anadarko Petroleum Corp. has a plan to deal with both.

It will test a portable drilling platform this winter which would allow companies to save money by exploring without ice roads or ice pads, and over a longer period of time each year. And the platform could also replace gravel pads for production facilities.

The Arctic platform adds time to the drilling season by eliminating ice roads and ice pads, the company's Alaska public affairs manager, Mark Hanley, told PNA Oct. 22. That becomes more important, he said, as you

get farther from infrastructure, "if you want to go a long ways away, it takes you the whole winter just to build your ice road."

Requirements for ice: water, flat surface

Gravel used to be used for exploration, Bill Fowler, Anadarko's Houston-based environmental supervisor, said in the same interview. Gravel became environmentally unacceptable, so companies moved away from it the same time exploration was moving away from the foothills to the coast where the land was flat and there was water: both conducive to ice pads and roads.

But Anadarko is looking in the foothills again, Fowler said, and there are fewer lakes as you move towards the mountains, so there's less water. And there are terrain issues — the water won't stay in place long enough to freeze. Anadarko has determined, he said, that a 6 percent grade is the limit for using ice.

And there's the distance: you build about one mile of ice

road per day, so with a 120-day season and prospects farther out, perhaps 50 or 60 or 80 miles, you don't have time to drill after you've built your ice road.

Fowler said Anadarko took the problem to Keith Millheim, Ph.D., the company's Houston-based manager of operations technology.

A scaled-down version of the solution will be tested this winter on a 3,000-3,500 foot gas hydrate core well, Fowler said, "fairly close to infrastructure and at a lower cost than a full-scale test."

Rolligon moveable modules

20 YEARS

GU IHIS

The concept is simple, Millheim said: "you're putting an offshore platform into the context of onshore."

Anadarko has brought the concept onshore and "modularized it so it's easy to move the equipment out there" by helicopter or rolligon, Fowler said.

When the modules are assembled, the platform is a self-contained elevated drilling unit on legs sitting 12 feet above the tundra.

"The legs are made of steel, special steel for Arctic conditions," Millheim said, and are helical in shape to provide more support for the platform. "The modules themselves are made of aluminum," which is light weight and handles variations in temperature very well.

The first installation step is done with a common auger, Millheim said: Holes are drilled about 20 feet deep along a grid. The legs, which have coils to circulate either hot or cold fluid, are placed in the holes.

The modules, interlocking pieces 12.5 feet wide by 50 feet long, come out by rolligon, Millheim said. The deck pieces are aluminum with reinforcing materials on the inside and sit on top of a base of shallow containers which capture any deck fluids or other spillage.

The first sections are installed by a crane on a rolligon; when a large enough working surface is in place, the crane moves to the platform to install the rest of the modules. "Everything is basically done in modules so they can be hauled off and plugged together," Millheim said.

"And I'm very optimistic about it. If it works, this would be the new exploration type system that we could use in frontier areas," he said.

Year-round work

The concept with these Arctic platforms is to be able to supply them — even move them — in the off season, Hanley said. He said the company understands there would be restrictions, but if you have two, or two and a half platforms, you can set up in your first prospect area and begin setting up in the second, and some components will already be there on the second platform.

Millheim said that the piping and wiring, things that take time to put together, could be duplicated and you would just move the power package, the main pumps and the draw works. "So you might have what we'd call one and a half rig to be servicing in a kind of hopscotch."

Rolligons are approved now for year-round tundra use, Fowler said, although there is a closed period between breakup and July 15. The existing fleet, he said, puts 4 psi to 5 psi of footprint weight on the tundra, but new technologies get that down to 1 psi.

Beyond exploration

The Arctic platform can be expanded for production work.

Fowler said agencies which have seen the concept are excited about its potential for production. Most of the industry's impact comes at development, he said.

"And if you sum it up, the majority of the impacts that the agencies see and are concerned about are gravel gravel pads and gravel roads — being placed on the tundra," Fowler said. The long-term impacts are difficult to mitigate.

What remains when an Arctic platform is moved,





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continued from page 1 **POLYMER INJECTION**

Initial project

The polymer injection research, with funding from the U.S. Department of Energy beginning in 2018, was in conjunction with DOE, the National Energy Technology Laboratory and Milne Point operator Hilcorp Alaska. The objective was to demonstrate the value of polymer in enhanced oil recovery in the arctic environment.

At an Oct. 7 press conference at UAF, Gov. Mike Dunleavy said since DOE is not funding further heavy oil research, the state has committed \$5 million in the FY 23 state budget for work to find a way to produce the heavier oil in the Ugnu formation.

Hilcorp using polymer injection

Jill Fisk, a Hilcorp vice president and one of the company's Prudhoe Bay managers, said with the success of the polymer injection project for viscous oil such as that found in the Schrader Bluff formation in Hilcorp's Milne Point field

Fisk said polymer flood can triple production: Milne Schrader Bluff wells without polymer injection averaged some 300 barrels per day and with polymer are averaging some 900 bpd.

- the company has expanded use of the technology. It is now employed on seven Milne Point pads, with injection into more than 30 wells - and Hilcorp is continuing to expand the project.

Fisk said polymer flood can triple production: Milne Schrader Bluff wells without polymer injection averaged some 300 barrels per day and with polymer are averaging some 900 bpd.

She said the company demonstrated that polymer can be shipped in bulk to the North Slope, can be mixed with water in arctic conditions and requires less than 2 pounds of polymer per extra barrel, which, Fisk said, is the best result in the industry.

Ugnu is the next opportunity, with research and development expected to take years as wells are drilled and pro-

continued from page 1 NEW DIRECTOR

of petroleum engineers, structural engineers, geologists, geophysicists, environmental scientists, and administrative staff."

Miller began his federal career with Department of the Interior at the Bureau of Land Management. He has more than 13 years of experience in regulatory oversight of the oil and gas industry, most of which has been in Alaska.

He served as senior technical advisor, certified oil and gas inspector, and oil and gas inspections and enforcement coordinator for the BLM Alaska State Office

before joining the Bureau of Ocean Energy Management Alaska Region in 2014, where he served as the senior petroleum engineer and chief of the Resource Analysis Section.

Miller also served as the special assistant to the BOEM Director and as the division chief for Leasing Policy and Management in BOEM Headquarters.

Most recently he served as the chief of the Resource and Economic Analysis Section for BOEM Alaska.

Miller graduated from Penn State University with a Bachelor of Science in Petroleum and Natural Gas Engineering following 4 years of active-duty service in the U.S. Marine Corps.

—PETROLEUM NEWS

duced and improvements made in the process. Great partners, UAF and the state, are crucial to success, she said, with Ugnu opportunities existing in both Milne Point and Prudhoe Bay.

UAF's role

Abhijit Dandekar, professor and chair of petroleum engineering at the UAF College of Engineering and Mining, summarized success of the work done to date by UAF.

He said funding available beginning in 2018 enabled UAF, working with the U.S. Department of Energy, the National Energy Technology Laboratory and Hilcorp Alaska, to demonstrate the value of polymer in enhanced oil recovery in the arctic environment.

With the polymer injection project completed, Dr. Yin Zhang will be the principal investigator in the next phase,

continued from page 1 **DISPERSANTS BAN**

similar temperatures and salinities to those found in the Sound.

At the same time, dispersant use is known to be associated with environmental harm and potential risks, PWS-RCAC says.

"The known harms and potential risks caused by dispersants, in addition to a lack of proven effectiveness and safety, preclude the council from supporting dispersants," PWSRCAC commented.

The council said that since adopting its previous position in 2006 it has continued to track developments and scientific publications regarding the use of dispersants. Discussions and work on the topic over the past year ultimately led to the council's board adopting its new position.

Alaska's current Prince William

using polymer alternating solvent, PAS to target even heavier oils, Dandekar said.

He compared viscous oil to molasses and said viscous oil is water soluble, while the heavier Ugnu oil is not, hence the need for a different technology, polymer alternating solvent.

Viscous and heavy oil represents about a third of known North Slope original oil in place, with cumulative production of those resources to date about 1%, Dandekar said.

In addition to the large resource and existing infrastructure, research now is important while lighter North Slope oils are being transported through the trans-Alaska oil pipeline, and available to act as a diluent for the heavy oils.

-KRISTEN NELSON

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Contact Kristen Nelson at knelson@petroleumnews.com

"The known harms and potential risks caused by dispersants, in addition to a lack of proven effectiveness and safety, preclude the council from supporting dispersants," PWSRCAC commented.

Sound area oil spill contingency plan envisages the potential use of dispersants. However, dispersant use has to be approved by the state and by the federal Environmental Protection Agency. Special rules apply to avoidance areas deemed particularly sensitive for potential environmental impacts.

-ALAN BAILEY

Contact Alan Bailev at abailey@petroleumnews.com

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continued from page 1 GAS TREATMENT

pleased" with Acting DNR Commissioner Akis Gialopsos' decision.

The proposed North Slope lease site will encompass approximately 13.2 acres. SESM intends to install a gravel pad that will cover approximately 8.6 acres. The gas processing facility will provide sales quality natural gas for use by area operators and to Norgasco, the local natural gas distribution company, run and owned by Latchem and his family.

Background: SESM, Latchem

Background on SESM's situation at the time of the appeal can be found in the March 7, 2021, issue of Petroleum News, page 7, titled "Prudhoe gas treatment plant hits snag: SES Midstream appeals division's decision on Deadhorse lease to DNR commissioner; Ray Latchem says project is shovel ready."

Latchem's history with natural gas projects in Alaska

continued from page 1 **OIL PRICES**

nations, as well as robust crude oil and gasoline consumption in the United States reported by the Energy Information Administration.

Price notched a strong finish to the week ending Oct.7, as ANS jumped \$3.20 to close at \$97.97, WTI leapt \$4.19 to close at \$92.64 and Brent jumped \$3.50 to close at \$97.92.

ANS added 89 cents Oct. 6 to close at \$94.77, as WTI rose 69 cents to close at \$88.45 and Brent rose \$1.05 to close at \$94.42.

From Wednesday to Wednesday, the ANS closing price of \$92.96 Oct. 12 was just 92 cents lower than its closing price of \$93.88 Oct. 5.

can be found in the May 2, 2021, issue of PN, page 8: "Working small-scale natural gas in Alaska: 'No rate increase in 30 years,' brags Deadhorse gas utility Norgasco; founder forms company to scrub CO2, H2S from product."

Pipeline easement

On Sept. 23, the division posted a public notice on SESM's gas supply pipeline private non-exclusive easement, asking for comments. The comment deadline is 4:30 pm Alaska Standard time on Oct. 23.

The division said it had received an application from SESM, requesting authorization to construct a gas supply line on state land on the North Slope.

The agency said the proposed supply line and easement will be adjudicated under AS 38.05.850.

SESM is proposing to construct and operate a gas supply line between a currently abandoned line operated by Hilcorp North Slope LLC, and SESM's planned gas treatment facility, the notice said.

"Up to six million cubic feet of gas per day may transit from Flow Station 1 through the gas supply line to the

Demand estimates pared back

OPEC estimates of global oil demand growth in 2022 were revised down by 0.5 million bpd, the organization said in its October Monthly Oil Market Report released Oct. 12.

The adjustment reflects recent macroeconomic trends and oil demand developments in various regions, including extension of China's zero-COVID-19 restrictions; economic challenges in Organization for Economic Cooperation and Development Europe; and inflationary pressures in other key economies which have weighed on oil demand, especially in the second half of the year, OPEC said.

OPEC now forecasts 2022 global oil demand to grow by about 2.6 million bpd, it said.

In the OECD, OPEC estimates oil demand growth is will be 1.4 million bpd with the non-OECD at about 1.3 million bpd.

gas treatment facility. The proposed easement measures 300 feet long and 50 feet wide, with a total easement acreage of 0.344 acres," the notice said.

According to SESM's application, the easement is in the Greater Prudhoe Bay unit, totally contained within the 13-acre Tract C.

SESM said the "easement is sought to authorize a short connector pipe between a GPBU field gas pipeline and a planned small gas treating facility that will serve the Deadhorse industrial community."

Expected construction start date for the gas supply line is June 2024 and the end date is July 2024.

The method of construction is described in the application as "conventional welded steel piping will be used, per industry standards, including API and PHMSA regulations." \bullet

Editor's note: See related story in the Sept. 4, 2022, issue of Petroleum News titled "Alaska CNG delivering compressed natural gas."

Contact Kay Cashman at publisher@petroleumnews.com

For 2023, world oil demand growth is revised down to 2.3 million bpd, OPEC said, adding that the OECD is projected to grow by about 0.4 million bpd, and the non-OECD by about 2.0 million bpd.

"Global economic growth has entered into a period of significant uncertainty and deteriorating macroeconomic conditions, amid intensifying challenges including high inflation levels, tightening monetary policies by major central banks, rising interest rates and persisting supply chain issues," OPEC said. "Moreover, geopolitical risks, extensions of COVID-19 related lockdowns and flare ups of the pandemic in the Northern Hemisphere during winter season remain uncertain."

Separately, the EIA forecast contained in its October Short Term Energy Outlook calls for global oil consumption in 2023 of 101.0 million bpd, 0.5 million bpd lower than in the September STEO.

see OIL PRICES page 11



continued from page 8 **HISTORY**

Millheim said, is 20-inch diameter holes, down to 15 to 20 feet. You fill the holes and you plant the 20-inch diameter surface.

North Slope production facilities sit on pilings now, Fowler said. The platform would do away with the gravel pads. The modules would be smaller and more assembly done on site.

This winter's modules under construction

This year's Arctic platform is about half done, Millheim said, and will be trucked up in December. It will use a small Dynatec-NANA mining-type drilling rig capable of drilling up to about 6,000 feet, he said.

This scaled down version of the platform, including the rig, will weigh less than half a million pounds, Millheim said, compared to one to two million pounds just for the big rigs alone.

It reduces the number of trips, the impacts and the cost, Hanley said.

Millheim said it wasn't possible to compare this prototype to the cost of a standard winter exploration setup because it is a prototype.

"Obviously," he said, "we're designing this to significantly cut costs. And improve what we call the cycle type of exploration."

This eliminates the cost of ice, Fowler said. And unlike ice, "this is reusable" so the cost is amortized over time.

Hanley said Anadarko wouldn't be spending the money if it didn't think it could reduce the cost, "but in the end it does have to be economic.

"If it isn't — if it doesn't reduce costs enough, you're still not going to see development." ●

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continued from page 1 SPURR GEOTHERMAL

land at the foot of the volcano extending south to the Chakachatna River. GeoAlaska is 100% owned by Dr. Paul Craig, an Anchorage resident with a long history of investing in the Alaska energy industry.

Analysis of the chemistry of water flowing from underground can provide insights into how the water has interacted with subsurface rocks and what temperature the water has reached, Onacha said. Based on this type of information, it appears that the geothermal water reservoir at Mount Spurr is at a temperature in excess of 260 C at a depth in excess of 2.5 kilometers (8,200 feet), he said. The actual geothermal well depth needed to support a viable geothermal project would involve a tradeoff between higher temperatures at greater depths, and the higher cost of drilling deeper wells, he said.

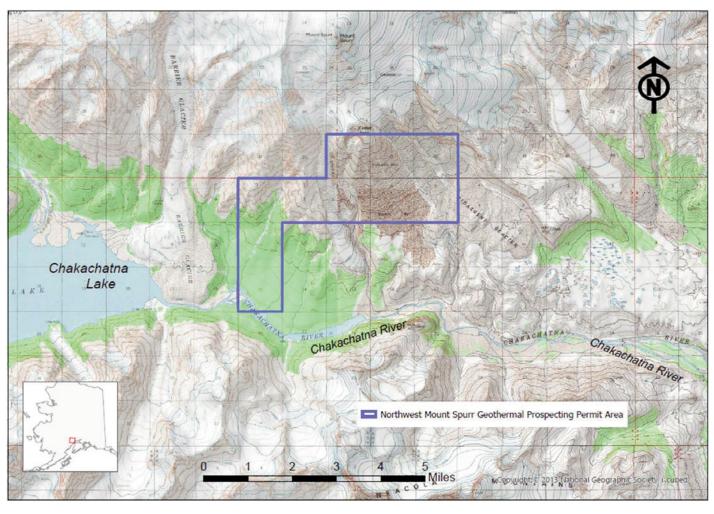
Onacha commented that hot springs in the area already provide evidence of water cycling through a geothermal system.

The big question is where best to drill, to tap into a viable resource.

Wells need to target fractures

Given the relative impermeability of the subsurface rocks, wells would need to target fractures in the rocks that carry water, at depths where the water is at appropriate temperatures for geothermal use — the water tends to be relatively cold at shallow depths. The concept is to drill wells directionally along fractures towards Crater Peak, where temperatures are probably higher, Onacha said.

In addition to locating rock fractures through geologic research, it is possible to locate subsurface fractures through geophysical data analysis. The geophysical analysis is conducted using data from surface recordings of vibrations originating from earthquakes. In addition, the measurement of electric and magnetic signals that are transmitted naturally from the Earth can provide data that give insights into the electrical conductivity of the subsurface — rel-



atively high conductivity can indicate the presence of subsurface water at elevated temperatures.

One of GeoAlaska's exploration targets is the Capps Glacier Fault, a regional fault that runs approximately southwest to northeast, south of Crater Peak, Onacha said.

Surface exploration

Next spring GeoAlaska plans to conduct some onsite exploration, collecting electrical conductivity data, and drilling 3,000-foot wells for measuring the subsurface temperature gradient. The company would like to construct a 3D model of the subsurface electrical signal, to help figure out where to conduct deeper drilling and to evaluate the scale of the resource. The expectation for future development is to start with a 35 megawatt power plant, with the possibility of future expansion, Onacha said.

Ormat Technologies, a Lower 48 geothermal company, conducted some Mount Spurr geothermal exploration on state leases between 2008 and 2011. The company failed to find a viable geothermal resource and eventually relinquished its leases. However, the Ormat exploration took place to the east of the area where GeoAlaska is exploring. Onacha commented that Ormat drilled in areas distant from where GeoAlaska thinks that the resource exists. Moreover, a well that drilled through a fault did not drill deep enough to encounter hot fluid. On the other hand, one of the Ormat wells did exhibit a higher temperature gradient, Onacha said.

A good location

A major incentive for geothermal development at Mount Spurr arises from the fact that the location lies only about 40 miles from the gas-fired Beluga power generation facility, the nearest point on the Railbelt electricity transmission system. However, Onacha suggested that there may be additional uses for Mount Spurr geothermal, such as the use of the geothermal heat to support agriculture. In Iceland, geothermal developments have become popular as sites for recreational hot pools, he commented.

Onacha also said that GeoAlaska is figuring out how to engage with stakeholders in the system, to ensure that the project runs smoothly. He commented that the company hope to support the local community by training people to work as field technicians. \bullet

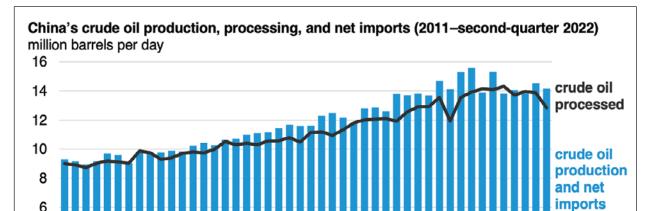
> Contact Alan Bailey at abailey@petroleumnews.com

continued from page 10 OIL PRICES

The forecast reflects Oxford Economics lowering its October forecast for global GDP growth in 2023 to 2.2%, down from 2.7% forecast in September, the EIA said.

The EIA expects U.S. crude oil production will average 12.4 million bpd in 2023, down from its September forecast of 12.6 million bpd.

Lower crude oil production in the forecast reflects lower crude oil prices in the fourth quarter of 2022 than



previously expected, the EIA said.

The EIA 2023 forecast for U.S. gasoline consumption was revised down by 0.1 million bpd.

"The downward revision reflects lower forecast vehicle miles traveled as a result of lower expected employment growth, based on forecasts from S&P Global next year, as well as higher expected growth in vehicle fuel efficiency," it said.

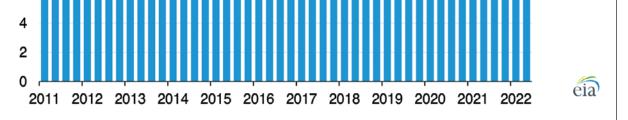
OPEC+ cut 'very bullish'

The OPEC+ 2 million bpd production cut announced Oct. 5 will start from current baselines — allocated pro rata — rather than including baseline adjustments for over-compliant members struggling with production, Goldman Sachs said in an Oct. 5 note.

"This outcome is therefore surprisingly bullish," the bank said.

Goldman Sachs said a 2 million bpd headline cut would be an effective 1.2 million bpd cut from its November expectations, and an even larger 1.4 million bpd versus its forward balances, if sustained through 2023.

If sustained through Dec. 23, 2023, such cuts would



amount to a \$25 per barrel upside from its previous 2023 \$107.50 Brent forecast, with potential for price spikes even higher should inventories fully deplete, requiring demand destruction as a last resort, the bank said, adding, "This outcome is likely unsustainably bullish in our view."

"As such, we would expect the cuts to have to be temporary before some form of political detente allows quotas to move back significantly higher," it said. "To that end, OPEC+ have said the quotas will stand for at least November and December before the return of their biannual meetings that month."

As determined by its legacy inventory-based framework, such a cut would be equivalent to a \$6-\$12 per barrel upside to its forecast if implemented over 3-6 months, the bank said, adding that given depleted current global inventories — especially when adjusting for surging oil on water required for the Russian redirection — the risk of price spikes is still present.

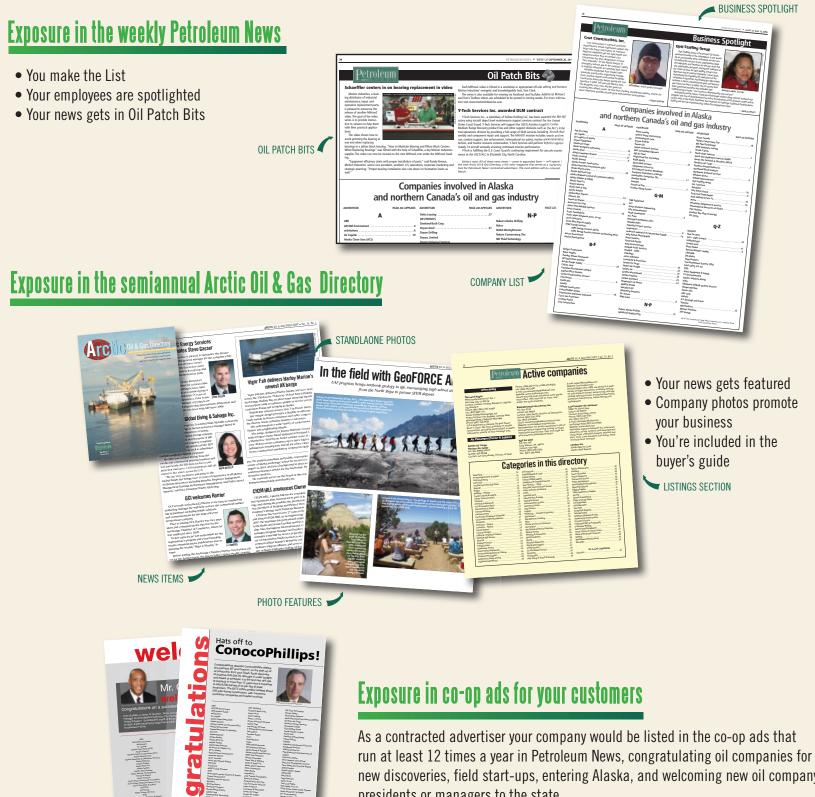
"Should the market return to our scarcity pricing framework, requiring demand destruction as a rebalancing of last resort, prices could yet move 30+ per barrel higher," the bank said. "For now, we raise our 4Q22-1Q23 forecasts conservatively by 10 per barrel, to 110/115 respectively, but acknowledge price risks are skewed potentially even higher."

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