Petroleum news

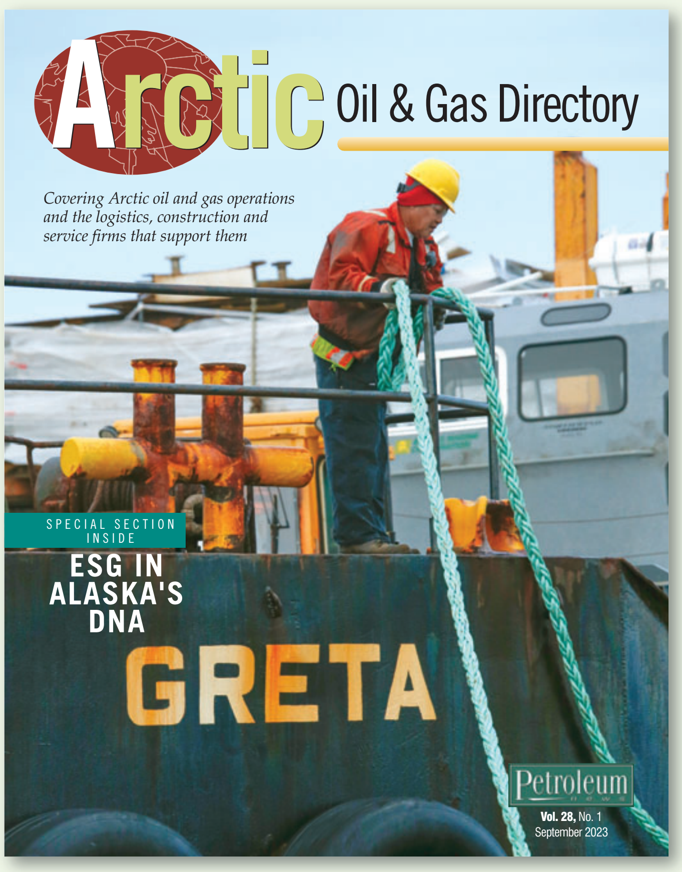
Vol. 28, No. 39 • www.PetroleumNews.com

A weekly oil & gas newspaper based in Anchorage, Alaska

Week of September 24, 2023 • $2.50

page 3 20 years ago: MMS Beaufort Sea sale draws $10M, includes Sandpiper

Latest Arctic Directory released



Hilcorp files lease plan, private easements at former MGS unit

Hilcorp Alaska is in the process of determining if a known gas accumulation in Cook Inlet north of the Baker platform at the former Middle Ground Shoal unit is commercial and obtaining easements on existing platforms and pipelines to allow existing facilities to be used to host wind, solar or CCUS (Carbon Capture, Usage and Storage) projects.

Wells at the Middle Ground Shoal platforms have been shut-in since the company discovered a leak in a fuel gas line in April 2021. Hilcorp had been evaluating the cost to repair or replace the fuel gas line and when it submitted its proposed plan of development for the unit to the Alaska Department of Natural Resources, Division of Oil and Gas in April, it said it had determined the cost to repair or replace the fuel gas line was not economic as a standalone project.

Then at the end of May (see story in June 11 issue of Petroleum News) Hilcorp withdrew the proposed POD for the

see **LEASE PLAN** *page 10*

Harvest has started construction of North Slope LNG plant for IGU

The construction of a liquefied natural gas plant on the North Slope is progressing to schedule, executives from Harvest Midstream told the board of the Interior Gas Utility on Sept. 12. The plant is expected to be operational by the end of 2024.

In January of this year IGU, the gas utility for the Fairbanks region, signed contracts with Hilcorp Alaska and Harvest for the supply of North Slope gas in the form of LNG to Fairbanks and North Pole. Harvest, Hilcorp's midstream affiliate, is building the LNG plant on a pad adjacent to the Spine Road on the North Slope. Harvest will operate the plant using North Slope gas that IGU is purchasing from Hilcorp.

IGU is establishing trucking arrangements for transporting LNG from the North Slope to Fairbanks.

The North Slope LNG supply will completely replace

see **LNG PLANT** *page 10*

EXPLORATION & PRODUCTION

Exploring east

Santos, Apache, Armstrong cut deal on 270,000-acre E. North Slope block

By KAY CASHMAN
Petroleum News

Consistent with its Alaska strategy to focus on the Pikka development west of the central North Slope, Santos said Sept. 19 that it will "farm-down" half of its working interest in 148 state of Alaska exploration leases on the eastern North Slope in an agreement with APA Corp.'s and Armstrong Oil & Gas Inc.'s Alaska subsidiaries, APA Alaska LLC1 and Lagniappe Alaska LLC2. Following execution of the agreement Santos working interest will be 25%.

Under the terms of the deal, initial activities during the exploration phase will be undertaken without cost to Santos.

KEVIN GALLAGHER

Alex Franceschi, a spokesperson for APA's Apache Corp., told Petroleum News that Bill Armstrong's Lagniappe Alaska will be the operator of the 148-lease block.

When asked how Apache got involved in the deal, Franceschi sent Petroleum News the following statement: "Apache maintains a global exploration team for the purpose of generating attractive future growth opportunities. As previously disclosed, we strategically allocate a limited percentage of our capital

see **EXPLORATION DEAL** *page 5*

FINANCE & ECONOMY

ANS into upper $90s

Hawkish Fed interest rate talk cools crude rally but ANS closes at $95.53

By STEVE SUTHERLIN
Petroleum News

Alaska North Slope crude maintained its position in the upper $90s Sept. 20, even in the face of hawkish comments from the U.S. Federal Reserve that sent financial markets and key commodities into a downdraft.

ANS dropped $1.10 on the day to close at $95.53, while West Texas intermediate slid 92 cents to close at $90.28 and Brent slid 81 cents to close at $93.53.

The Fed declined to raise rates at its Sept. 20 meeting, but in a follow up press conference Chairman Jerome Powell indicated that a November interest rate hike was likely, and that rates would need to stay higher for longer into 2024 in order to meet the Fed's inflation target of 2%.

China has of recent been a drag on oil prices as traders fret over the county's slow recovery from COVID-19 lockdowns, but the future is bright for jet fuel demand.

"We are prepared to raise rates further if appropriate, and we intend to hold policy at a restrictive level until we are confident that inflation is moving down sustainably toward our objective," Powell said.

see **OIL PRICES** *page 12*

EXPLORATION & PRODUCTION

Santos investors visit

Provides Pikka project update, ramping up to 1,000 on North Slope by year end

By KAY CASHMAN
Petroleum News

In an "Alaska Investor Visit" from Sept. 17 through Sept. 19 that included a Pikka project site tour, 11 individuals representing major Australian shareholders and equity analysts made the trip. Officials from Santos and its local operating subsidiary Oil Search (Alaska) provided the visitors with a comprehensive update on the North Slope development.

That update included a more specific time for Pikka Phase 1 start-up — second quarter 2026 versus simply 2026.

BRUCE DINGEMAN

The event kicked off with a management dinner in Anchorage on Sept. 17, followed on the 18th with management presentations and a stakeholder lunch and panel, and on the 19th a trip north for the Pikka project site tour.

In its 49-page written/slide presentation for the Investor Day Visit Santos says its Alaska team, which is headed up by Bruce Dingeman, has "demonstrated ongoing technical and operational success on the North Slope." In the first two drilling seasons, four wells, seven penetrations were "delivered on time and under budget, zero LTIs

see **PIKKA VISIT** *page 6*

● EXPLORATION & PRODUCTION

US rotary drilling rig count jumps 9 to 641

By KRISTEN NELSON

Petroleum News

The Baker Hughes' U.S. rotary drilling rig count saw a second week of increases for the week ending Sept. 15, up by nine rigs to 641, just the second consecutive increase in the count since July 7, following a downward trend dominant since the beginning of May and eight consecutive weeks of declines. This count is down by 122 from 763 a year ago.

A drop of 17 on May 12 was the steepest drop since June of 2020, during the first year of the COVID-19 pandemic. The Sept. 15 count is the lowest since Feb. 11, 2022, when the count was 635. The count dropped below 700 the week ending June 2, the first time it has been below 700 since April 2022. This week's count is down from a high so far this year of 775 on Jan. 13. The high for 2022 was a count of 784 rigs at the beginning of December.

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

Baker Hughes shows Alaska with nine rotary rigs active Sept. 15, unchanged from the previous week and down by one from a year ago.

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

The count was in the low 790s at the beginning of 2020 prior to the COVID-19 pandemic, where it remained through mid-March of that year, 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 Sept. 15 count includes 515 rigs targeting oil, up by two from the previous week and down by 84 from 599 a year ago, with 121 rigs targeting natural gas, up by eight from the previous week and down 41 from 162 a year ago, and five miscellaneous rigs, down by one from the previous week and up by three from a year ago.

Fifty-seven of the rigs reported Sept. 15 were drilling directional wells, 567 were drilling horizontal wells and 17 were drilling vertical wells.

Alaska rig count unchanged

Texas (317) was up by seven rigs from the previous week.

Colorado (16), Utah (15) and Wyoming (21) were each up by a single rig.

New Mexico (102) was down by two rigs week over week.

Rig counts in other states were unchanged from the previous week: Alaska (9), California (5), Louisiana (42), North Dakota (30), Ohio (10), Oklahoma (39), Pennsylvania (21) and West Virginia (8).

Baker Hughes shows Alaska with nine rotary rigs active Sept. 15, unchanged from the previous week and down by one from a year ago. Eight of the Alaska rigs were onshore, unchanged from the previous week, with one rig was working offshore, also unchanged.

The rig count in the Permian, the most active basin in the country, was up by two the previous week at 322 and down by 21 from 343 a year ago. ●

Contact Kristen Nelson at knelson@petroleumnews.com

contents

Petroleum News | *Alaska's source for oil and gas news*

GOVERNMENT

AOGCC approves Granite Point gas pool

Hilcorp requested pool, estimates 40-100 bcf of gas lies above oil; wells to be drilled from Bruce Platform beginning this fall

By KRISTEN NELSON
Petroleum News

The Granite Point unit primarily produces oil, and two Granite Point oil pools have been defined by the Alaska Oil and Gas Conservation Commission in pool rules, the Granite Point Middle Kenai Oil Pool and the Granite Point Hemlock Oil Pool.

There is also natural gas production and in March operator Hilcorp Alaska requested that the commission define the Granite Point Gas Pool, telling the commission in a June 6 hearing on the request that the company believes there is a sizeable gas accumulation at Granite Point, some 40-100 billion cubic feet of natural gas.

In a Sept. 19 order the commission has approved definition of the Granite Point Gas Pool, GPGP).

Pool rules define the vertical and map extent of a pool and establish rules modifying statewide requirements, making for more efficient operation while continuing to protect underground freshwater, correlative rights and requiring safe and environmentally sound operations, AOGCC said.

The gas would be produced from the Bruce platform and the commission said the pool area is predominately in the Granite Point unit, but also partially extends onto two state leases outside the unit boundary.

Hilcorp proposed that the top of the GPGP be defined as 3,095 feet measured depth — at the first consistent coal bed — and the base of the pool as 7,725 feet measured depth, coinciding with the top of the Granite Point Middle Kenai Oil Pool. References are to the Granite Point No. 1 well, which defines the oil pools.

GPGP is in the upper portion of the Tyonek formation, AOGCC said.

Bruce platform

The commission said one leg of the Bruce platform has seven to eight available slots for drilling, optimizing drilling for the shallower reserves, while redrilling of existing wells will also be evaluated.

Because development at Granite Point has focused on deeper oil pools, limited information has been gathered on the shallower gas pool area and Hilcorp told the commission that it plans to do as much data gathering as possible when drilling the new wells.

The company said the Spartan 151 rig would be moved to the Bruce platform for drilling, as there no rig on the platform.

Drilling is anticipated to begin this fall, Hilcorp said in its application for the pool definition, and is part of its "commitment to extend natural gas production from legacy offshore production facilities throughout Cook Inlet."

There are three platforms at Granite Point: Anna, Bruce and Granite Point, all installed in 1966.

Hilcorp acquired Chevron/Union Oil Company of California's Cook Inlet assets in 2012.

In July, the most recent month for which AOGCC production data is available, Granite Point averaged 2,223 barrels per day of crude, 27.1% of inlet production, and 3,247 thousand cubic feet per day of natural gas, 1.6% of July inlet production. ●

Contact Kristen Nelson at knelson@petroleumnews.com

THIS MONTH IN HISTORY

MMS Beaufort lease sale draws $10 million

20 years ago this month: ConocoPhillips picks up three leases at Sandpiper prospect, EnCana goes for large block off NPR-A

Editor's note: This story first appeared in the Sept. 28, 2003, issue of Petroleum News.

By KRISTEN NELSON
Petroleum News

Petroleum 20 YEARS AGO THIS MONTH

Three companies bid more than $10 million at the U.S. Minerals Management Service's Sept. 24, 2003, Beaufort Sea sale, with a known field in the central Beaufort and a wildcat area north of the National Petroleum Reserve-Alaska attracting the most attention.

There were 37 bids on 34 tracts, 15 in Zone "A" and 22 in Zone "B" with total high bids of $8,903,538, MMS Alaska Regional Director John Goll said in summing the sale results, with $10,175,949 exposed.

ConocoPhillips Alaska took three tracts for $4 million, bidding $2,151,600 on one tract, the highest single bid in the sale, and $1,201,600 and $646,800 on two other tracts. Armstrong Alaska, a subsidiary of Denver-based Armstrong Resources, which bid $2.6 million in the sale and took seven tracts for $1.4 million, also bid on these three tracts.

EnCana was the second highest bidder, at $3,550,158, taking all 24 tracts on which it bid, including a block of 19 tracts north of NPR-A in the Smith Bay area, adjacent to six existing ConocoPhillips-Anadarko Petroleum leases.

ConocoPhillips paid the highest average price per acre, $265.70 for approximately 15,055 acres; Armstrong averaged $36.01 an acre for some 37,600 acres; and EnCana averaged $27.51 an acre for some 129,100 acres.

MMS Director Johnnie Burton said after the sale that she was very pleased with the results.

"We're showing a couple of large companies that are still big players and we're seeing an independent" active, which hasn't happened a lot in that area. Burton also said MMS was "pleased to see that EnCana is really stepping out and going into a wildcat area."

Some tracts near existing exploration

Sale 186 is the first MMS Beaufort Sea outer continental shelf lease sale since 1998.

The "A" area bids — closer to shore and to existing infrastructure — included five leases taken by Armstrong Alaska northwest of the company's existing acreage position in the Oooguruk unit, where Pioneer was operator for the partnership last winter on three exploration wells on state oil and gas leases acquired by Armstrong. Armstrong also took two leases adjacent to blocks of offshore state leases north of the Kuparuk River and Milne Point units.


JOHNNIE BURTON

ConocoPhillips took three "A" leases for $4 million — the leases on which Armstrong also bid — in the area of the old Sandpiper wells, northwest of the Northstar unit.

see HISTORY page 4

GOVERNMENT

Hilcorp requests waiver for propane use

Hilcorp North Slope, the Prudhoe Bay operator, has applied to the Alaska Oil and Gas Conservation Commission for an exemption to an AOGCC regulation which requires hydrocarbons leaving a unit to go through a sales meter.

In its application the company said it is requesting a waiver for a regulatory requirement for propane in use at the Prudhoe Bay unit as a fuel in unit vehicles.

The company told AOGCC it is modifying PBU owned vehicles to operate on dual fuels, with propane as the primary fuel source and unleaded gasoline the secondary source. The propane is produced at the Prudhoe Central Gas Facility, Hilcorp said, "and produces fewer emissions including reduced GHG emissions than a gasoline fuel." The company also noted that all unleaded gasoline in use has to be imported.

Some 30 vehicles are currently operating on both propane and unleaded gasoline, and Hilcorp said subject to working interest owner alignment, it "plans to continually install dual fuel conversion kits on PBU owned vehicles."

A sales quality meter is being installed at the CGF and when Prudhoe begins to sell propane produced at the facility, "effectively severing certain volumes of propane from the PBU, all PBU CGF produced propane will flow through the sales quality meter."

Propane being used to support operations at Prudhoe is not accounted for as a sale, the company said.

The issue arises when propane-fueled vehicles leave the unit boundaries which can occur, Hilcorp said, when vehicles travel to another unit to borrow or purchase tools needed for unit operations; when Prudhoe personnel respond to emergencies in mutual aid support on the haul road, on another operator's assets or to support North Slope residents; or when Prudhoe personnel assist governmental and regulatory agencies with transportation across the North Slope.

The company is requesting that AOGCC waive the requirement "for the specific use of CGF propane as a fuel in vehicles supporting PBU operations."

The commission has tentatively scheduled a public hearing on the request for 10 a.m. Nov. 14 at its Anchorage offices but said if requests for a hearing are not timely by 4:30 p.m. Oct. 26, it may issue an order without a hearing. Call 907-793-1223 after Oct. 19 to learn if AOGCC will hold the hearing.

—PETROLEUM NEWS

20 years ago: Sandpiper prospect a big draw

The old Sandpiper prospect, where two wells were drilled in the mid-1980s, was the biggest dollar draw at the Sept. 24, 2003, Minerals Management Service Beaufort Sea lease sale, attracting winning bids of $4 million from ConocoPhillips Alaska, as well as $1.27 million from Armstrong Alaska, in the sale's only competitive bidding.

Shell Western Exploration and Production drilled the Sandpiper No. 1 9 miles northeast of Seal Island (where BP Exploration (Alaska) developed Northstar in the late 1990s), spudding the well in 1985 and completing work in 1986. Shell tested the 12,575-foot well from below 11,910 feet at 500 to 2,500 barrels of 40-52 degree API oil and up to 18.5 million cubic feet per day from two different Sadlerochit formation intervals. Shell had a 31.5% interest in the well. Its partners were Amoco Production (31.5%), Murphy Oil USA (20%), Petrofina Delaware (10%) and Koch Industries (7%).

Shell spud the second well, Sandpiper No. 2, but Amoco later took over as operator. That well was drilled to 14,983 feet, sidetracked three times due to downhole problems, and plugged and abandoned in July 1986.

Both wells were drilled from Sandpiper gravel island in 49 feet of water, and MMS lists both wells as producible. Former leases at the prospects expired in April 2001. The Alaska Department of Revenue said in 2001 that it considered Sandpiper a prospective source of oil production, and estimated production at 12,000 barrels per day by 2008.

BP was the operator until 1999; its partner Murphy Exploration and Production then took over as operator. Murphy told MMS that the most economic development plan would be "to construct a gravel island on Loan Shoal with minimum process facilities." Crude oil would then be piped to BP's Northstar facility for processing. Murphy estimated that Sandpiper would have peak daily production rates of 8,000 barrels of oil and 50 million standard cubic feet of gas and a field life of 24 years. Total recoverable liquid reserves were estimated in the 47 million barrel range.

There was a unit at Sandpiper until 2001.

Petroleum news
www.PetroleumNews.com

Kay Cashman	PUBLISHER & FOUNDER	
Mary Mack	CEO & GENERAL MANAGER	
Kristen Nelson	EDITOR-IN-CHIEF	
Susan Crane	ADVERTISING DIRECTOR	
Heather Yates	BOOKKEEPER	
Marti Reeve	SPECIAL PUBLICATIONS DIRECTOR	
Steven Merritt	PRODUCTION DIRECTOR	
Alan Bailey	CONTRIBUTING WRITER	
Eric Lidji	CONTRIBUTING WRITER	
Gary Park	CONTRIBUTING WRITER (CANADA)	
Steve Sutherlin	CONTRIBUTING WRITER	
Allen Baker	CONTRIBUTING WRITER	
Judy Patrick Photography	CONTRACT PHOTOGRAPHER	
Forrest Crane	CONTRACT PHOTOGRAPHER	
Renee Garbutt	CIRCULATION MANAGER	

ADDRESS
P.O. Box 231647
Anchorage, AK 99523-1647

NEWS
907.522.9469
publisher@petroleumnews.com

CIRCULATION
281.978.2771
circulation@petroleumnews.com

ADVERTISING
Susan Crane • 907-250-9769
scrane@petroleumnews.com

Petroleum News and its supplement, Petroleum Directory, are owned by Petroleum Newspapers of Alaska LLC. The newspaper is published weekly. Several of the individuals listed above work for independent companies that contract services to Petroleum Newspapers of Alaska LLC or are freelance writers.

OWNER: Petroleum Newspapers of Alaska LLC (PNA)
Petroleum News (ISSN 1544-3612) • Vol. 28, No. 39 • Week of September 24, 2023

Published weekly. Address: P.O. Box 231647 Anchorage, AK 99523-1647
Subscription prices in U.S. — $118.00 1 year, $216.00 2 years
Canada — $206.00 1 year, $375.00 2 years
Overseas (sent air mail) — $240.00 1 year, $436.00 2 years

"Periodicals postage paid at Anchorage, AK 99502-9986."
POSTMASTER: Send address changes to Petroleum News, P.O. Box 231647 Anchorage, AK 99523-1647.

continued from page 3

HISTORY

EnCana took two "A" and three "B" leases offshore on the east side between Badami and Endicott.

EnCana was the only bidder for "B" leases, those farther offshore and farther from infrastructure, bidding on 22 tracts, the three on the east side and the majority in the block north of NPR-A. There are six existing ConocoPhillips-Anadarko leases in this area, Goll told Petroleum News after the sale, "so it appears that people think there's something there." But there are no wells in the immediate area. It's in a hole between exploration wells, he said, and MMS will be very interested to see results of seismic exploration in the area.

Armstrong playing off last year's success

Ed Kerr, Denver-based vice president of land and business development for Armstrong, told Petroleum News that some of Armstrong's bids were for tracts "playing off of our success of last year, drilling in the state waters in the Oooguruk unit." Other tracts the company won, he said, offset the Milne Point unit.

The tracts where Armstrong bid against ConocoPhillips are in the Sandpiper area, Kerr said. "And they had a bigger bid, of course, a bigger wallet," and took those tracts.

But he said: "The things we wanted most, we got, and we're very excited about it." The company is looking forward to doing a lot more in the Beaufort, he said, and still has a lot of work to do with acreage it already owns.

ConocoPhillips looking for gas

Rick Mott, ConocoPhillips Alaska's vice president of exploration and land, told Petroleum News the company was pleased to win the blocks it bid on. "We thought there would be competition on the blocks and obviously there was. It was an area where there had been drilling historically and gas and oil had been found there, but predominately gas. And this kind of fits with our strategy to be a major gas producer on the North Slope."

MMS Director Johnnie Burton said after the sale that she was very pleased with the results. "We're showing a couple of large companies that are still big players and we're seeing an independent" active, which hasn't happened a lot in that area.

The ConocoPhillips tracts are about 11 miles offshore, he said, and about 8 or 9 miles from Northstar.

This is the area of the former Sandpiper unit. There have been two wells drilled on the feature, Mott said.

EnCana evaluating Alaska portfolio

EnCana spokesman Alan Boras told Petroleum News Sept. 25, 2003, that the 24 tracts the company took, some 120,000 acres for approximately $3.5 million, include about 100,000 acres on the western Beaufort and about 20,000 acres approximately 20 miles northeast of Prudhoe Bay.

Prior to this sale, he said, EnCana had 675,000 net acres in Alaska, about 390,000 in the Foothills, about 230,000 on state land on the North Slope, and about 57,000 acres in NPR-A.

Asked what the company had planned for its newly acquired acreage, Boras said EnCana would evaluate existing seismic data and do exploration evaluation with that existing data, as well as looking at whether the company might acquire additional seismic in the future. "It's very early days," he said, but the company will evaluate the prospects on its new leases and plan work in due course.

He said EnCana was pleased with its acquisitions at the sale. It adds to the company's portfolio of Alaska exploration acreage, he said, and the company continues to evaluate that portfolio.

No wells are planned in Alaska this winter, he said, although the company does plan to drill a well this winter in the Mackenzie Delta. ●

Contact Kristen Nelson at knelson@petroleumnews.com

continued from page 1

EXPLORATION DEAL

program each year to exploration activities, and this partnership in Alaska is a part of that program."

The lease block, Santos said, contains "multiple prospects in the late Cretaceous Brookian and Schrader Bluff formations."

Santos acquired the acreage as part of its merger with Oil Search in 2021. The farm-down is subject to customary government approvals.

BILL ARMSTRONG

"I am pleased we've reached this agreement to farm down our exploration assets in Alaska. This transaction demonstrates the continued level of interest in exploration and development projects in the region, a tier one jurisdiction with supportive stakeholders and prospective undeveloped acreage," Santos Managing Director and CEO Kevin Gallagher said.

In 2021, Apache Corp. moved to a holding company structure under APA Corp., the public company trading on the Nasdaq stock exchange. According to Wikipedia, APA's Apache is an American company engaged in hydrocarbon exploration. It is organized in Delaware and headquartered in Houston. The company is ranked 431st on the Fortune 500.

Two-year exploration program?

In early March, Lagniappe Alaska began permitting a two-year exploration program starting as early as next winter on some of the 148 leases and identified in the company's oil discharge prevention and contingency plan paperwork as the South Badami Area. The paperwork was filed with the Alaska Department of Environmental Conservation's Division of Spill Prevention and Response.

Lagniappe is looking at drilling three to six onshore oil and gas exploration wells, although there has been no indication from Lagniappe, Santos or APA that this is still the plan.

The paperwork was signed March 2 by William D. Armstrong, president of Armstrong Oil & Gas Inc. and member of Lagniappe Alaska.

Although Bill Armstrong will not comment on the Sept. 19 agreement with Santos and APA, on March 30 he told Petroleum News in a text that the exploration wells will target Brookian objectives — "Pikka look-a-likes that are defined off of high effort, reprocessed modern 3D. Really exciting stuff. Big targets."

There has been "virtually no prior drilling in the area. The wells that have been drilled have great shows and some have bypassed pay on old logs," Armstrong added.

Ice roads will be constructed to access drill sites.

Per the paperwork filed March 2, potential well names and locations (Latitude, Longitude, Meridian, Township, Range, Section) are as follows:

- King Street-1 70.085880 -147.552190 U.M. T9N R18E 34
- Voodoo-1 70.028080 -147.367630 U.M. T8N R19E 22
- Montucky-1 69.981620 -146.763780 U.M. T7N R21E 12
- Killian-1 70.115032 -147.234009 U.M. T9N R19E 23
- Killian-2 70.108218 -147.081451 U.M. T9N R20E 28
- Sockeye-1 70.073558 -146.764640 U.M. T8N R21E 1

A little something extra

Lagniappe is a Cajun word that loosely translates into "a little something extra" or "a good unexpected surprise" — apropos for the Nanushuk play on the North Slope, which Armstrong and a partner first drilled and identified as a huge oil reservoir in 2013 (Qugruk 3 well). The discovery led to the Pikka oil field, today operated by Santos' Oil Search (Alaska).

Since that billion-barrel discovery, the industry has been on a tear, drilling at Pikka, Horseshoe, Putu, Mitquq, Stirrup, Willow, West Willow, Narwhal, Harpoon and Bear.

All reports say the play concept in Lagniappe's acreage to the east is very similar. Multiple zones, onshore, good gravity oil, reasonably close to infrastructure.

But the targeted objectives are slightly younger than what Santos and partner Repsol have at Pikka et al but with better reservoir qualities - porosity and permeability — even though they are deeper.

There have been very few wells drilled in and near Lagniappe's South Badami area — and most of those wells were drilled in the 1970s trying to find another Prudhoe Bay, but almost all of the wells had good oil shows, Armstrong said in a 2021 interview.

Prior to finding all of that oil in the Nanushuk formation west of the central North Slope most people were saying the North Slope had very little remaining potential. The Nanushuk at Pikka changed all that.

Armstrong formed Lagniappe just prior to the Nov. 15 bid opening for the 2018 state areawide North Slope oil and gas lease sale.

Lagniappe was high bidder on 120 tracts, bidding an average of more than $72 an acre for a total of $14.1 million.

Both Oil Search and Lagniappe picked up leases in what is today the 148-lease block. ●

Contact Kay Cashman at publisher@petroleumnews.com

SANTOS

continued from page 1

PIKKA VISIT

(lost time incidents)."

The team also twice broke a 40-year record for earliest drilling start on the North Slope.

Santos also noted that Pikka's civil program is complete; and major construction (fabrication and field construction) is underway.

Nanushuk Fairway, geology

Santos touted excellent development opportunities across major Nanushuk trends with additional satellite reservoirs in its presentation. The Nanushuk reservoirs are found in topset deposits of "enormous Brookian clastic clinoforms" from western NPR-A to Santos' core position west of the central North Slope.

More than "15 laterally continuous Nanushuk fairways underpin enormous potential across Santos acreage," the company said.

Furthermore, discovered Nanushuk fields "exhibit modest API gravities, generally 24°-40°."

Santos said one of the advantages of its Pikka and area leases is that they are in a "proven play fairway with developments in progress and further running room."

The company lists the following Oil Search (Alaska)-operated fields and prospects in the Nanushuk Fairway:

•Pikka — Discovered in 2013 with the Qugruk-3 (Q-3) well, completed appraisal in 2019.

Pikka Phase 1 — initial drill site and processing facilities.

Pikka Phase 2 — additional permitted drill sites.

•Quokka — Discovered in 2020 (Mitquq).

•Horseshoe — Discoveries in 2017 (Horseshoe) and 2020 (Stirrup).

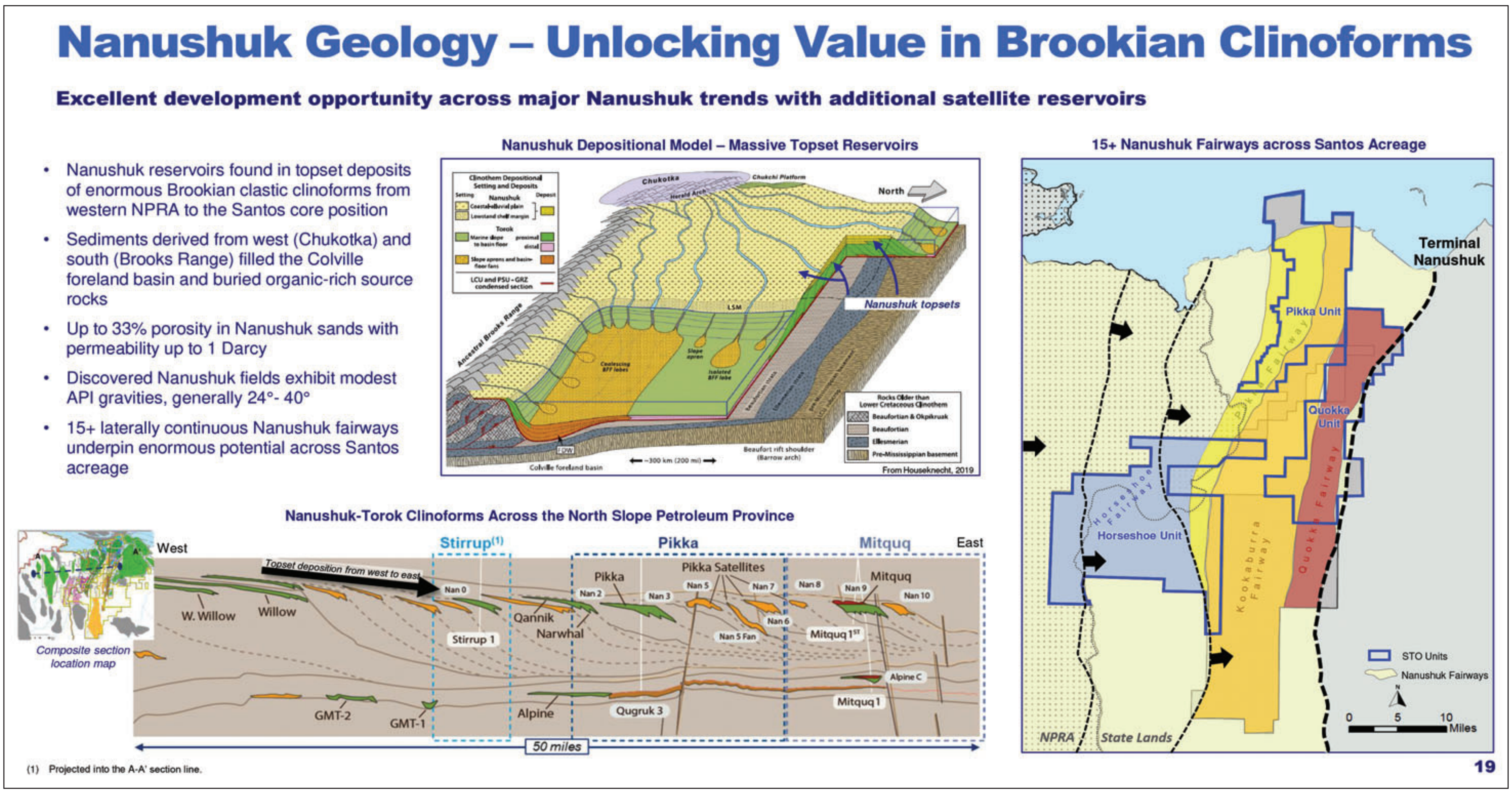
Under offset operators in the Nanushuk Fairway, Santos lists the following (all are ConocoPhillips Alaska):

•Qannik (CD2) — First oil in 2008; six producers, three injectors.

•Narwhal (CD4) — Appraised in 2019 (one producer and one injector) following Q-3 and Pikka appraisal success. Planning additional wells in CD4.

•Potential new drill site (CD8) as tie

see **PIKKA VISIT** *page 7*



continued from page 6

PIKKA VISIT

back to CD4.

•Coyote — Appraised in 2021 following Mitquq discovery in 2020; currently producing from two-well EOR pilot drilled in 2023 and advancing new 11-well development.

•Willow — Appraised in 2018 following Q-3 success; pending development.

Robust Phase 1 economics

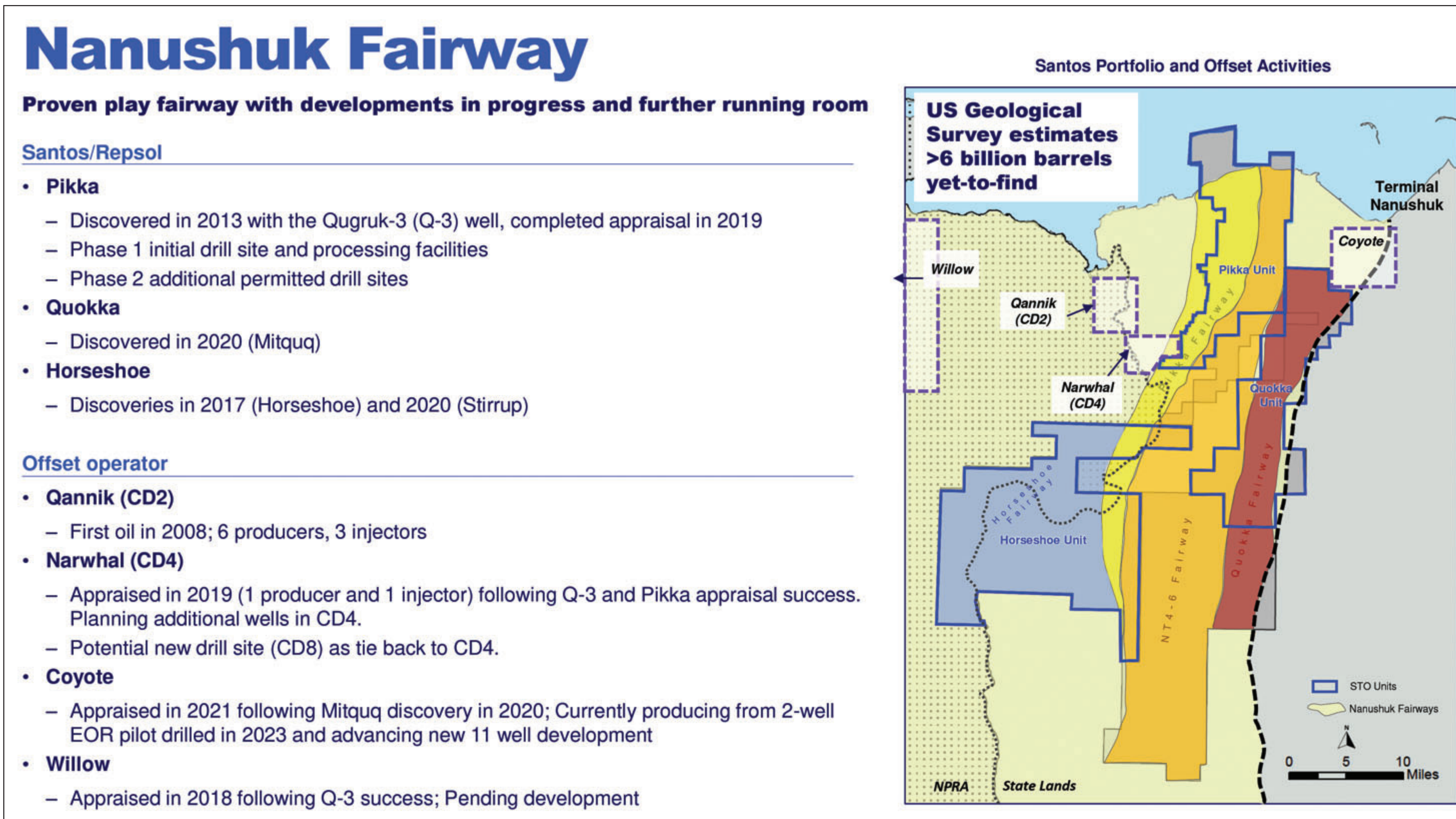
Santos said a "highly appraised reservoir underpins" robust Phase 1 economics in that Phase 1 "targets the heart of the Nanushuk 2/3 reservoirs."

It has the greatest net pay with up to 140 feet in the Nanushuk 2/3 reservoirs across the Nanushuk Drillsite B (NDB) Phase 1 development area.

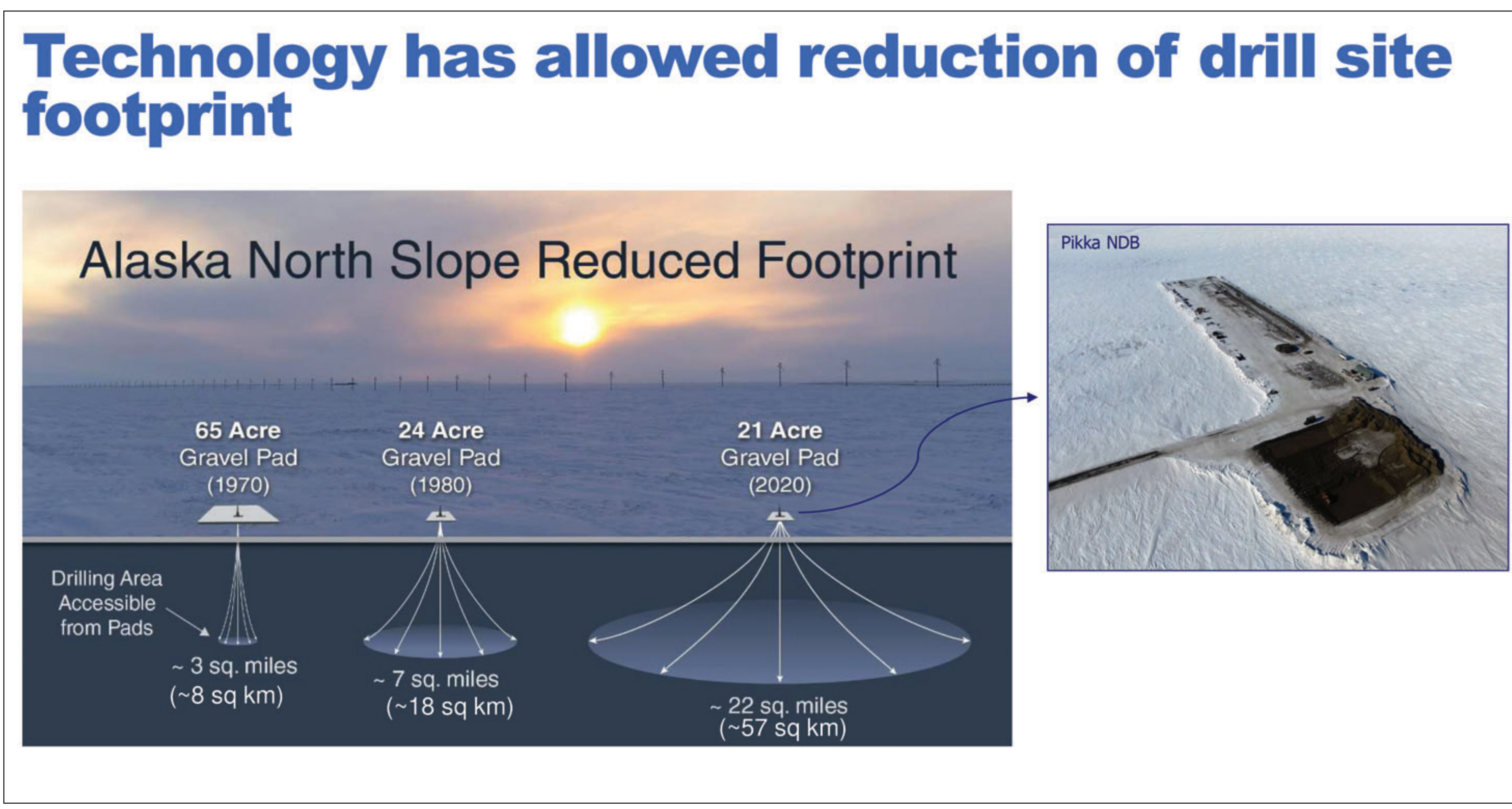
Santos said it has "excellent resource density with 397 MMbbl gross (165 MMbbl net) of 2P reserves.

Furthermore, Nanushuk 2/3 is fully appraised at Pikka with excellent control

see PIKKA VISIT page 8



SANTOS



SANTOS

continued from page 7

PIKKA VISIT

of reservoir properties and deliverability, the company said, noting:

—five wells with core data around the NDB laterals.

—four flow tests constrain deliverability around the Phase 1 area of interest.

Santos expects strong per well recoveries across the Phase 1 footprint underpinning a capital-efficient development plan.

Development drilling began in June.

Phase 1 development

Pikka Phase 1 builds out the initial processing facility, drill site, seawater treatment plant and operations pad.

Nanushuk Drillsite B, or NBD, will have 43 producer/injector wells. The Nanushuk Processing Facility, or NPF, is a modular design approach with 80.000 barrels a day processing capability.

The Seawater Treatment Plant, or STP, will have 100 MBWPD capacity expandable to 150/200 MBWPD.

The other components of Phase 1 include more than 100 miles of oil, gas, and water pipelines, a grind and inject plant, an operations pad, or NOP, and a Tie-in Pad, or TIP.

Alaska and the North Slope have some of the strongest environmental standards in the oil and gas industry; in fact, the robust permitting process is the "foundation of the North Slope's strong environmental credentials and performance — ESG compliance is baked into the process," Santos said.

A key metric in the development plan, Santos said, is optimization using existing pipeline capacity, single small footprint drilling pad and electrified field operations.

Santos estimates that the lifecycle breakeven oil price for the project will be approximately $40 per barrel.

The annual operating expenditures, the company said, would be in the neighborhood of US$150 million, with the internal rate of return, or IRR, at 19% assuming a US$60 long-term per barrel price.

Phase 2 capex to nameplate capacity, Santos said, is US$2.6 million gross, with US$1.3 billion for Santos' 51% share.

Facilities design, logistics

Building the Pikka project in phases and using a standardized truckable design have helped reduce the costs and risks of the project, Santos said.

For example, utilizing a standardized truckable Nanushuk Processing Facility, or NPF, instead of a typical North Slope sealift design has resulted in a savings of US$200 million.

The processing modules will all be 14-foot by 130-foot by 16-foot by 90-ton.

The facilities are being built in Canada and then transported by barges and trucks to the development site on the North Slope.

Project execution risk, Santos said, is reduced by increasing the seasonal transport window from one month to 10 months and reducing peak activity levels.

River lift modules are increasing the fabrication window up to three months, the company said. Another factor in reducing execution risk is installing modules that are trial fit in the fabrication yard.

Long-term growth potential

The remaining 2P reserves in the Pikka unit for future phases are 519 million barrels.

"Future phases leverage Phase 1 infrastructure to deliver compelling economic returns allowing for self-funding

see **PIKKA VISIT** *page 9*

continued from page 8

PIKKA VISIT

growth while returning cash to corporation," Santos said, noting "ongoing appraisal and permitting activities will feed the development pipeline."

Rig specs, upgrades

Rig 272 will be used by Santos at Pikka. It is fully enclosed and heated for Arctic drilling, the result of a Kuukpik-Parker joint venture.

Built in 2011, it is a full cantilever design with 1800 horsepower draw works and a max hook load of 750,000 pounds.

Other rig specifications included in the Santos presentation were the following: 13-5/8" 5000 psi blowout preventer, or BOP; 3x3516C-HD Caterpillar engines; 2 x 1600 horsepower mud pumps; three modules, each with a moving system; and offline pipe handling capability.

Purpose built rig upgrades for Pikka Phase 1 include:

—Tier 4 equivalent exhaust system.

—Pipe skate upgrade for 5-7/8" drill pipe.

—Finger boards for 5-7/8" drill pipe.

—TDS11SAE top drive (55,000 ft lb continuous torque top drive).

Net zero commitment

Santos continues to emphasize its commitment for Pikka to be "net-zero (Scope 1 and Scope 2 emissions, equity share) from first oil."

The company has offered more information about its partnering with a Native corporation on carbon offsets, specifically on an "improved forestry project."

Santos also said it joined a consortium in 2022 to "pursue CCS projects in Alaska leveraging federal funding."

Alaska, the company said, is the right place for responsible development.

Exploration and construction conducted on the North Slope 90-120-day winter window and using ice roads and pads leaves no trace, Santos said.

Alaska and the North Slope have some of the strongest environmental standards in the oil and gas industry; in fact, the robust permitting process is the "foundation of the North Slope's strong environmental credentials and performance — ESG compliance is baked into the process," Santos said.

Another plus for the North Slope is that it is a mature basin with existing and underutilized infrastructure — Pikka is a "project footprint only" development, not a "frontier" development, adding production to a stable and well-regulated operating area, Santos said.

"By producing oil in the North Slope of Alaska we are managing climate change transition risk, ensuring oil is produced at a low GHG emissions intensity and with the highest environmental standards," Santos said.

Another major plus for Santos is the supportive local communities and indigenous people on the North Slope. ●

Contact Kay Cashman at publisher@petroleumnews.com

Petroleum news — Oil Patch Bits

Acuren Acquires Alloyweld Inspection

As reported by Acuren News Sept. 14, Acuren, the industry leader in nondestructive testing, inspection, engineering and rope access integrated services, has acquired Alloyweld Inspection.

This acquisition brings Alloyweld's 55 years of nondestructive testing experience and team of experts into the Acuren family of companies and broadens the range of services available to customers of both companies.

Located in Bensenville and Elgin, Illinois, Alloyweld serves critical industries, including aerospace, electronics, medical devices and forensics. Alloyweld was one of the world's first organizations to achieve National Aerospace & Defense Contractors Accreditation Program certification in CR and DR digital x-ray inspection. They also specialize in 3D computed tomography.

"Alloyweld's strong reputation for excellence in quality and service, talented team of technicians and leaders make it an ideal fit for future growth with Acuren," said Acuren CEO Tal Pizzey.

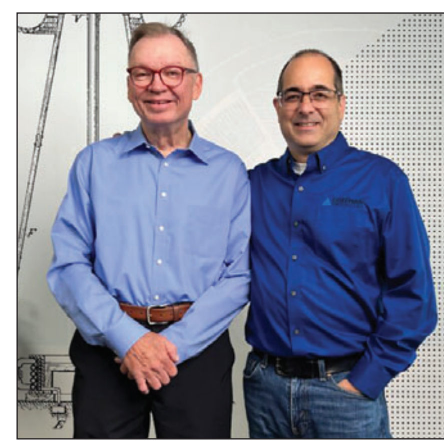
"We look forward to providing Alloyweld customers Acuren's complete portfolio of services," Alloyweld Vice President Jennifer Anaya said of the acquisition. "We are excited to connect with the technical depth Acuren has to offer while perpetuating the legacy of quality, personal customer service and responsiveness that our customers have come to expect from Alloyweld."

For more information visit www.acuren.com.

Coffman finalizes asset purchase agreement

As reported by Coffman News Sept. 12, Coffman Engineers Inc. said that it has finalized an asset purchase agreement with acoustical consulting firm BRC Acoustics & Audiovisual Design Inc. Coffman welcomes BRC's president and five staff members to the company. Representatives from both firms finalized the agreement on September 10th.

The decision to join Coffman is part of BRC's ownership transition plan for future retirement while supporting their staff and clients. President Daniel Bruck, PhD, LEED AP BD+C, joins Coffman as a principal advisor. BRC introduces new acoustical services to Coffman's Northwest clients and expands companywide acoustic capabilities.



COURTESY COFFMAN ENGINEERS INC.

Dan Bruck, PhD, president, BRC Acoustics, and Arvind Nerurkar, PE, SE, senior VP, managing principal, Coffman Engineers Seattle

"I've been fortunate to have been part of BRC's 60-year legacy, and it's time for the next chapter. Coffman has similar business values, and I am confident it will be a good fit for my staff and our clients," said Daniel Bruck, PhD, BRC President. "We have some of the same clients, project overlap, and are two long-established firms. We are also joining a growing acoustics team at Coffman and will support these services across the company."

BRC and Coffman's experience and markets align, particularly in hospitality, healthcare, housing, and education, providing a foundation for a smooth transition of projects, clients, and employees. Coffman will offer a new acoustical service to Northwest clients and expand capabilities in performing arts centers, historic renovations, and specialized room acoustics.

"BRC has a rich 63-year history in Seattle, and their influence is heard on projects across the Northwest and internationally. We are fortunate to welcome this experienced team," said Arvind Nerurkar, PE, SE, senior VP, and Seattle managing principal at Coffman. "We look forward to connecting with new clients and offering a new service to existing clients." For more information visit www.coffman.com.

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

continued from page 1

LNG PLANT

IGU's LNG supplies from the Cook Inlet. Currently IGU purchases Cook Inlet gas from Hilcorp and manufactures LNG from the gas using the utility's LNG production facility near Point Mackenzie. The LNG is trucked to LNG storage facilities in central Fairbanks and North Pole, to enable gas supplies for customers in the region.

The move to the use of North Slope gas comes in response to growing concerns about the future capacity of Cook Inlet gas supplies.

The Harvest executives told the IGU board that, following the signing of the new LNG supply agreements with IGU, Harvest was rapidly able to negotiate arrangements for the use of the North Slope pad and obtain an easement for pad use. Harvest is sharing the use of the pad with Alyeschem LLC. Alyeschem plans to construct a petrochemical plant on the gravel pad to produce methanol.

Air permit was critical

Obtaining an air permit from the Alaska Department of Environmental Conservation was a critical step in the process for building the LNG plant — Harvest could not begin any on-site construction work until it obtained that permit. ADEC issued the permit in July, and Harvest began its on-site work immediately afterwards. Harvest had already begun engineering and design work for the project during the second half of 2022. Following the signing of the agreements with IGU the company proceeded with the procurement of the components of the LNG plant.

The plant will consist of four major structures: a gas treatment building; a liquefaction building; LNG storage and truck loading facilities; and an office and power generation building.

Four main structures

The plant will consist of four major structures: a gas treatment building; a liquefaction building; LNG storage and truck loading facilities; and an office and power generation building. The plant will connect to the main Prudhoe Bay field fuel gas pipeline via two above ground, 1,300-foot pipelines. One of the pipelines will deliver gas to the facility while the other pipeline will return carbon dioxide to the fuel line. The carbon dioxide will be extracted from the gas in the gas treatment building — Prudhoe Bay gas contains some carbon dioxide which must be removed before LNG can be manufactured.

The liquefaction process will use nitrogen loop cooling technology.

Microturbine power generation in the office and power building will enable the LNG plant to operate independently from the Prudhoe Bay power supplies.

On-site work

The on-site work conducted this year involves constructing the building foundations and starting the installation of the buildings. The preparation work has involved excavating the foundations, installing piles for supporting the buildings, and installing the thermosyphon equipment and insulation needed to protect the permafrost. A liner and grading material were placed above the insulation. Work laying the concrete bases for the buildings is in progress. Harvest anticipates the building modules to start arriving by truck on the North Slope during October and hopes to erect at least one building before the end of the construction season in mid-October.

During the tundra travel season in the coming winter Harvest anticipates using an ice road to drive in the piles for the pipelines connecting to the Prudhoe Bay fuel pipeline and install the pipelines — the company already has the necessary piping staged on the pad.

Trucking of the modules for the facility should begin in the spring, with the various components of the plant being assembled during the 2024 North Slope construction season. That would lead to commissioning of the plant starting at the beginning of October, with plant startup anticipated by the end of the year.

—ALAN BAILEY

Contact Alan Bailey at abailey@petroleumnews.com

continued from page 1

LEASE PLAN

Middle Ground Shoal unit and proposed instead that the unit be voluntarily terminated. The company said it would relinquish two associated oil and gas leases, while requesting a suspension of operations/production for three other leases associated with platforms A, C and Baker, allowing the company to evaluate a known natural gas accumulation north of the Baker platform.

When the division issued a decision on Hilcorp's proposal at the end of June, it required annual lease plans of development, due each Sept. 1.

Along with its first lease plan of operations, Hilcorp also filed for a private non-exclusive easement for leases and infrastructure at the former Middle Ground Shoal unit.

In a Sept. 14 public notice the division said comments are being accepted through Oct. 13 on the applications, available on the division's website, https://dog.dnr.alaska.gov/Newsroom.

Field studies

In its public notice the division said Hilcorp was requesting authorization for field studies "to determine the potential for future production on three oil and gas leases in Cook Inlet" formerly part of the Middle Ground Shoal unit "and to consolidate existing easements associated with the former MGSU."

Hilcorp said various field studies would be conducted "to determine the potential for future production on ADLs 17595, 18754 and 18756." The company said it would provide annual updates to the division beginning no later than April 1, 2024, and said it planned to conduct a field study on the exploration area in the Middle Ground Shoal "to identify potential drilling targets."

It will also evaluate the potential to drill from the Baker platform "or whether a new exploration/production platform would be required," and said it would evaluate the costs of constructing a new drilling and production platform, which, if built, would likely require new pipelines to shore.

Included in the study is looking at reactivating platform A.

Prior to the April 2021 shut-in, MGS had been producing from the A and C platforms, installed in 1964 and 1967, respectively. The other two platforms at MGS, Baker and Dillon, were no longer in production.

Consolidated easement

In its application for easement, Hilcorp said the purpose was to consolidate five non-exclusive pipeline easements; support continued use of Baker, A and C platforms "in connection with continued oil and gas activities" for the three retained leases; establish an integrated utility corridor between the three platforms and Dillon and shore; provide for potential use of existing platforms "for other beneficial purposes," which, the company said, include but are not limited to research and development of offshore wind, tidal energy and CCUS.

The company requested a 25-year easement duration, subject to termination if Hilcorp or other third parties fail to use lands or existing platforms by Oct. 30, 2038, and that failure continues for at least 12 consecutive months.

Hilcorp said it intends to provide reasonable access to third parties such as universities, utilities, national laboratories, private entities and public agencies "for research, development, and implementation of tidal, wind and CCUS projects, as well as marine mammal and environmental research."

Hilcorp said this is the primary purpose of the requested easement and the focus for the first 10 years.

"Hilcorp's role would not be as an alternative energy project developer or independent power producer, bur rather as site host and provider of support/logistical activities," the company said.

Platforms

Hilcorp said the consolidated easement for lands associated with the Dillon platform would provide the company with land use authorization allowing use of the Dillon platform "structure and associated infrastructure for other beneficial purposes (including, but not limited to, research and development of offshore wind, tidal energy and CCUS)."

The lands associated with A, C and Baker platforms, which would be in SOP, suspension of operations and production, terms and conditions of the retained leases would "continue to apply and control in connection with Hilcorp's oil and gas operations" until termination of the leases, and after termination of the leases terms of the consolidated easement would apply, allowing use of the SOP platforms and infrastructure for other beneficial purposes, as with the Dillon platform.

—KRISTEN NELSON

Contact Kristen Nelson at knelson@petroleumnews.com

NEED TO STRETCH YOUR DOLLAR?

Becoming a contracted advertiser

To become a Petroleum News 'contracted advertiser' you simply have to agree to run **12 ads of any size over a 12-month period. In return we'll give you this additional marketing exposure:**

Exposure in the weekly Petroleum News

- You make the List
- Your employees are spotlighted
- Your news gets in Oil Patch Bits

OIL PATCH BITS

BUSINESS SPOTLIGHT

COMPANY LIST

Exposure in the semiannual Arctic Oil & Gas Directory

STANDLAONE PHOTOS

NEWS ITEMS

PHOTO FEATURES

- Your news gets featured
- Company photos promote your business
- You're included in the buyer's guide

LISTINGS SECTION

CO-OP ADVERTISEMENTS

Exposure in co-op ads for your customers

As a contracted advertiser your company would be listed in the co-op ads that run at least 12 times a year in Petroleum News, congratulating oil companies for new discoveries, field start-ups, entering Alaska, and welcoming new oil company presidents or managers to the state.

If your annual contract exceeds $7,100

We'll profile your company We'll work with you on a two-page Q&A company profile that will appear in the Arctic Oil & Gas Directory. Afterwards, you can frame it or use it as a company brochure or flyer.

We'll give you free online advertising When Petroleum News readers click on articles each week they will see your ad, which will appear in rotation on the current story pages. The size of your annual contract determines the size of your online ad.

COMPANY PROFILES

WEB ADS

To advertise in Petroleum News, contact Susan Crane at 907-250-9769

continued from page 1

OIL PRICES

The upward trajectory of oil prices has complicated the Fed's decision making, although oil and food prices are not included in the Fed's core inflation rate.

The oil price slide on Sept. 20 defied a drawdown in U.S. inventories.

U.S. commercial crude oil inventories for the week ending Sept. 15 — excluding the Strategic Petroleum Reserve — fell 2.1 million barrels from the previous week to 418.5 million barrels, 3% below the five-year average for the time of year, the U.S. Energy Information Administration said in its Sept. 20 data summary.

Total motor gasoline inventories edged down by 0.8 million barrels for the period and are about 3% below the five-year average for the time of year, the EIA said.

ANS fell 65 cents Sept. 19 to close at $96.64, as WTI edged 28 cents lower to close at $91.20 and Brent edged down 9 cents to close at $94.34.

ANS hit its apex for the week on Sept. 18, up 76 cents to close at $97.29. WTI gained 71 cents on the day to close at $91.48 and Brent added 50 cents to close at $94.43.

Prices were boosted Sept. 18 as the EIA released its monthly drilling productivity report which said output from top U.S. shale-producing regions will fall in October for a third consecutive month, to the lowest level since May 2023.

EIA data showed U.S. crude production is on track to drop to 9.393 million barrels per day in October from 9.433 million bpd in September — down from a record 9.476 million bpd in July.

ANS was up 11 cents Sept. 15 to close at $96.53, as WTI notched a 61-cent gain to close at $90.77 and Brent added 23 cents to close at $93.93.

ANS leapt $1.73 Sept. 14 to close at $96.42, while WTI popped $1.64 to close at $90.16 and Brent surged $1.82 to close at $93.70.

ANS turned in a gain over the trading week ending Sept. 20, up 83 cents from its Sept. 13 close of $94.70 to $95.53. On Sept. 20 ANS traded at a $3.65 premium over Brent.

China to lead air travel demand

China has of recent been a drag on oil prices as traders fret over the county's slow recovery from COVID-19 lockdowns, but the future is bright for jet fuel demand.

U.S. airliner manufacturer Boeing sees China leading the world's air travel recovery.

China's domestic aviation market will be the largest in the world by the end of 2042, according to Boeing's 2023-2042 Commercial Market Outlook released Sept. 20.

Boeing forecast that China will require 8,560 new commercial aircraft through 2042, lofted by economic growth well above the global average and a boom in demand for domestic air travel.

China's commercial airliner fleet will take off, doubling to 9,600 jets over the next 20 years, Boeing said, adding that it expects China will account for one-fifth of the world's airplane deliveries in the next two decades.

China domestic demand will require 6,470 new single-aisle airplanes such as the Boeing 737 MAX family, Boeing said.

"Domestic air traffic in China has already surpassed pre-pandemic levels and international traffic is recovering steadily," said Darren Hulst, Boeing vice president of commercial marketing. "As China's economy and traffic continue to grow, Boeing's complete line-up of commercial jets will play a key role in helping meet that growth sustainably and economically."

In addition to single-aisle jets, Chinese carriers will require 1,550 widebody airplanes to support a growing network of international routes, Boeing said, adding that fleet growth will drive two thirds of its forecast deliveries in China, while older jets are replaced by higher efficiency modern aircraft featuring reduced CO_2 emissions.

In addition to passenger aircraft fleet growth, Boeing expects to deliver 190 new jet freighters to meet growth in e-commerce and express shipping. ●

Contact Steve Sutherlin at ssutherlin@petroleumnews.com