

CONOCOPHILLIPS

spirit

Second Quarter 2017

The Bakken

Resilient through industry cycles



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From the desk of

Erec Isaacson, Vice President,
Rockies Business Unit

SINCE I JOINED THE LOWER 48'S ROCKIES BUSINESS UNIT eight months ago, what I've found striking about our work is the complexity and diversity of our asset base. Our business unit has six assets in six states with all classes of facilities and a dynamic federal and state regulatory environment unique to each state. We also have assets in various stages of development, including exploration, late-stage appraisal and full-field development. Rockies business unit assets such as the Bakken are helping the company deliver on its high-return, disciplined, organic growth strategy. As you'll read beginning on page 10, the Bakken team's can-do attitude has earned the company a reputation as the area's operator of choice, as well as a significant producer.

Focused on unconventional oil development and production in the premier portion of the region, known as the Nesson Anticline, the Bakken asset remains a consistent achiever in the company's portfolio. This year, we're executing our drilling program with four rigs while boosting base production and applying technology to optimize output and drive efficiencies.

Working together, we've improved our safety performance across the Rockies business unit, with no serious or significant incidents or process safety events in nearly six months. Many factors contributed to this accomplishment, but the key ingredient is a dedicated workforce committed to doing things right every time.

Over the years, we have been diligently building respectful, authentic and inclusive relationships with local communities. In 2011, the North Dakota Industrial Commission approved a 30,000-acre spacing unit in Little Missouri State Park. We were granted permission to operate in this beautiful area because of the extremely positive and successful relationships we've built with local, state and federal agencies. Developing the area as an integrated unit, ConocoPhillips is minimizing impact to the land and limiting truck traffic.

I hope you will enjoy reading the Bakken cover article to learn more about our work and the people who are delivering remarkable performance despite the challenges of climate, geography and unpredictable industry cycles. ■



The *spirit Magazine* team takes pride in delivering the latest news and information about our company. This issue also features a comprehensive look at how ConocoPhillips business units, including our Rockies team, are using data analytics to work smarter and improve processes. In *Living and working in Perth*, you'll learn about Western Australia's capital city, the central hub for the ConocoPhillips Australia West business unit. That and much more await you in the pages that follow.

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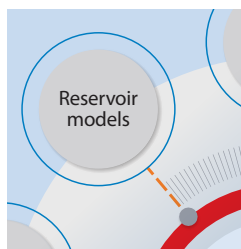
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In eastern Montana and western North Dakota, the Bakken team's commitment and can-do attitude have enabled the asset to remain a consistent achiever in the ConocoPhillips portfolio. **DAVY KONG**



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A compilation of news from around the ConocoPhillips world

ON THE COVER During the last decade, the Bakken Formation in eastern Montana, western North Dakota and southern Saskatchewan has become one of the country's most prolific unconventional oil development areas. During 2016, ConocoPhillips' net production in the region averaged 61,000 barrels of oil per day.

PHOTOGRAPHY BY PATRICK CURREY



In Perth, Western Australia, residents enjoy one of the city's many outdoor cafés. Perth is known for its year-round pleasant weather and outdoor recreational opportunities.





A view from the top

Looking north from the 22nd floor of Energy Center 4, the company's future headquarters, the busy intersection of Eldridge Road and the I-10 freeway dominates the foreground. Beyond the buildings on the northeast side of the intersection sprawl the three-story buildings of ConocoPhillips' current main campus. Beyond that lies the Addicks Reservoir, home to Bear Creek Pioneers Park and a key rainwater detention area for preventing downstream flooding of Houston's Buffalo Bayou. Work continues on the new headquarters, with move-in targeted for 2018. PHOTOGRAPHY BY FATAMA ZOYEB



Gladstone at dusk

Australia Pacific LNG is one of three liquified natural gas (LNG) facilities on Curtis Island, in the town of Gladstone on Australia's east coast. The joint venture between Origin, ConocoPhillips and Sinopec extracts gas from coal seams in the Surat and Bowen basins and converts it to LNG using ConocoPhillips' Optimized Cascade process. The LNG is transferred to specially designed bulk cargo vessels for transport to customers in Australia and Asia. The facility's first cargo sailed in January 2016, and the Train 1 turnaround was completed in April 2017. PHOTOGRAPHY BY WILLIAM DEBOIS





Heavy lift on the slope

With the recently completed CD5 drill site in the background, contractors from ASRC Energy Services Houston string 20-inch pipe that will ultimately carry oil from Greater Mooses Tooth No. 1 drill site to Alpine for processing. During this past winter, 75 miles of ice roads were built to support installation of more than 14 miles of pipeline, 7.7 miles of gravel road, more than 11 acres of gravel pad and two bridges for the GMT-1 project. Project construction will continue next winter, with first oil planned for 2018. PHOTOGRAPHY BY JUDY PATRICK



The background of the slide is a photograph of an oil field. In the foreground, there is a complex piece of industrial equipment, possibly a pumpjack or a valve assembly, with various pipes, valves, and a green-painted section. In the background, several wind turbines are visible against a hazy, overcast sky. The overall scene suggests a blend of traditional oil extraction and modern renewable energy.

Teamwork
is the heart of
Bakken success



BY DAVY KONG, PHOTOGRAPHY BY PATRICK CURREY

A DECADE AFTER ITS DRILLING PROGRAM COMMENCED, THE BAKKEN ASSET REMAINS AN IMPORTANT, CONSISTENT ACHIEVER IN THE CONOCO-PHILLIPS PORTFOLIO. ASK ANYONE WORKING THERE WHAT THE KEY INGREDIENTS ARE TO THEIR SUSTAINED SUCCESS, AND THEY'LL TELL YOU IT'S THE PEOPLE AND TEAMWORK. WITH A CAN-DO ATTITUDE, THE WORKFORCE HAS BUILT A REPUTATION AS THE OPERATOR OF CHOICE, A LEADING PRODUCER KNOWN FOR ITS CAMARADERIE AND COMMITMENT TO CONTINUOUS IMPROVEMENT.



Erec Isaacson, vice president, Rockies business unit

RIGHT: Trish Veit, lead, Bakken Facilities, and Cory Wilcox, foreman, West Production

“It’s an exciting time to be working in the Bakken,” said Erec Isaacson, vice president, Rockies business unit. “We’re currently in full field development, executing our drilling program this year with four rigs. Concurrently, we are in ‘manufacturing mode’ with our base production, applying technology to optimize output and drive efficiencies.”

BAKKEN SWEET SPOT

In a world of low, volatile prices, the Bakken is a compelling asset that is helping deliver on the company’s high-return, disciplined, organic growth strategy.

“The Bakken supports our value proposition with a low cost of supply and the flexibility to ramp up or down to adapt to ever-changing market conditions,” said Williston Asset Manager David Cook. Cook leads a 135-employee team engaged in operations, maintenance, implementation, reservoir characterization and planning and integration.

The [Bakken Formation](#) is a sequence of silty carbonates and shale layers in the [Williston Basin](#), stretching across portions of eastern Montana, western North Dakota and southern Saskatchewan in Canada. According to the North Dakota Petroleum Council, it was first formally identified



by geologist J.W. Nordquist in 1953 using samples from a well in Williams County, the H.O. Bakken #1, named for the surface owner, Henry Bakken. Today, that name is synonymous with one of the country’s most prolific unconventional oil development areas. While the Bakken’s history of oil production goes back more than 60 years, the relatively recent combination of two separate technologies — horizontal drilling and hydraulic fracturing — have enabled economic development of the shale oil reserves.

ConocoPhillips’ Bakken position comprises approximately 620,000 total net acres in Montana and North Dakota. “Resilient through the cycles,

Bakken leaders offer perspectives on inclusion

Inclusion has always been a part of ConocoPhillips' culture and has been a key element to the Bakken team's success. These perspectives from members of the Bakken leadership team highlight how creating an inclusive environment has encouraged collaboration, developed high-performing teams, fostered creativity and innovation and enhanced business performance.

**David Cook, manager,
Williston Asset**



"I think the 'collective brain' comes up with better perspectives than narrower thinking. Everyone has something valuable to contribute, and as leaders we

need to encourage everyone's input. We have women and men of many different backgrounds, national origins and styles working hard to make the asset successful, and that has been a key component of our success. Tackling difficult problems requires using all the talent we have on the team, without bias, and that's the strength of inclusion."

**Stephanie Erickson, supervisor,
Williston Reservoir Characterization
& Base Reservoir Engineering**



"Nearly all our daily work involves people from a variety of different groups, technical backgrounds and ethnicities. I don't see inclusion as a choice but rather an

absolute necessity to achieve strong business performance. When solving business

problems, one of the key strengths our team brings to bear is our different perspectives. It is this exchange of ideas that encourages innovative thinking and better results — every time."

Cesario Torres, advisor, Reserves & Reservoir Engineering



"The goals of an inclusive environment are to remove bias from one's own perspective, leverage the greater team's experience, exploit the collective knowledge,

expand diversity of thought and maximize the overall results of the organization. Inclusion is a critical aspect of my work. It ensures engineering efforts have included and utilized as much information as possible in generating outcomes that represent the value of the company. The Bakken team is fortunate to have a diverse group of individuals, ranging from early to late career, with varied work histories and backgrounds. Our culture of inclusion enables the team to tackle a wide range of problems and uncertainties and supports a bright future for the Bakken and the Rockies business unit."

Jennifer Withe, supervisor, Williston Planning & Integration/OBO

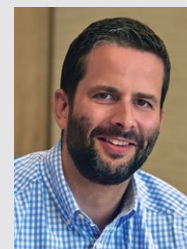


"Diversity and inclusion are key to our bottom line and our ability to succeed. Ideas build on each other. All it takes is one 'out of the box' idea to spark a

whole paradigm shift. Just look back at the exponential growth in technology or

the shale revolution as proof. Our unique backgrounds and perspectives bring a wider variety of ideas, and we rely on those ideas when challenges arise. Encouraging a range of ideas strengthens our culture of continuous improvement and teamwork in the Bakken."

**Chris Malkin, manager,
Williston Operations**



"One of the things I love about the Bakken team is we're a melting pot of people from different backgrounds, industries and places. The Operations

team comprises former business owners, entrepreneurs, military veterans, firefighters, school teachers, home developers and restaurant owners, to name a few. This creates a can-do atmosphere where anything is possible and 'the way we've always done it' never features. Together, we're accomplishing great things, epitomizing inclusion at ConocoPhillips."

**Megan Gosnell, supervisor,
Williston Implementation**



"I believe inclusion has two critical roles: diversity of thought provides a larger range of solutions, and a respectful environment promotes

higher productivity. As we include people from different backgrounds in our decision-making process, we foster a culture of creativity and innovation critical to thriving in an unpredictable business climate."



Colin Stevenson,
manager, Drilling &
Completions

we're in the best part of the play with our incredibly talented and professional team consistently delivering the volumes and reserves we commit to at a predictable cost," Cook said. With a net resource base of 700 million barrels of oil equivalent (BOE) and an under \$35 per barrel average cost of supply, more than 10 years of drilling inventory remains.

During 2016, net production averaged 61,000 barrels of oil per day (BOED). Operated activity included 34 wells drilled and 37 brought online, bringing the total to about 630 operated wells online at year-end. In the first quarter of 2017, ConocoPhillips produced approximately 100,000 BOED gross, with another 1,200 operated drilling locations identified. In addition, the company has working interest ownership in about 1,000 wells operated by others (OBO).

competitively positions the Bakken within the Lower 48 portfolio. In fact, data from Wood Mackenzie's North America well analysis tool indicates ConocoPhillips has the Bakken's lowest well cost per barrel among major operators.

"Every function has contributed materially to reducing our cost of supply," Cook said. "During the downturn, the supply chain team did a tremendous job capturing savings by working with contingent workforce providers, suppliers and vendors. We also made structural improvements in drilling, completions and production optimization. Our learnings in optimum completions, well spacing, lateral placement and operational efficiency have markedly lowered costs and increased reserve recovery in the last five years." Now, with an apparent price upcycle, making those cost reductions structural and thus permanent is even more important.

The team has become more efficient, drilling and completing wells faster and at lower cost. For example, the Drilling group and Operations geologists have shortened spud-to-spud times from 46 days in 2011 to less than 15 days.

"There are many things that impress me about this Bakken team, but what really stands out is their relentless focus on identifying opportunities to make our operations more efficient and reduce our cost of supply," said Colin Stevenson, Drilling & Completions manager. Stevenson leads a team of approximately 130 staff and contingent workers across the Rockies business unit.

Changes to the bottom hole assembly (BHA), a component of the drill string, have improved drilling rates and efficiency. Improved geological interpretation techniques and geosteering have also nearly eliminated out-of-zone sidetrack wellbores.

With this type of commitment to continuously improve, it's no surprise that in early May, each of the four Bakken rigs consecutively beat the historical spud-to-rig release record over the course of two weeks by conducting batch drilling on multi-well pads with fit-for-purpose walking rigs. The spud-to-rig release record now stands at 12 ½ days.

The Completions, Reservoir Characterization



Multi-Skill Operators
Jon Lowry (left) and
West Neville examine
piping in a bulk
separation unit.

CONTINUOUS IMPROVEMENT DRIVES LOWER COST OF SUPPLY

Continuous improvement is rooted in the Bakken team's culture. A few years ago, they began a focused effort to reduce cost of supply, achieving a decrease from just over \$50 BOE to less than \$35 per BOE in the heart of the play. That

Cautionary Note to U.S. Investors — The SEC permits oil and gas companies, in their filings with the SEC, to disclose only proved, probable and possible reserves. We use the term "resource" in this presentation that the SEC's guidelines prohibit us from including in filings with the SEC. U.S. investors are urged to consider closely the oil and gas disclosures in our Form 10-K and other reports and filings with the SEC. Copies are available from the SEC and from the ConocoPhillips website.



and Technology teams have collaborated to enhance many aspects of completions design. Examples include changing from open hole sliding sleeves to cemented liners with plug-and-perf completions, increased sand loading to reduce water usage, reduced stage count and decreased cluster spacing. Even though completions are now much larger and more complex, completed well cost is down about 45 percent since 2014.

Less capital is being spent on facility construction, and the team is bringing wells online sooner through standardized designs, redesigned and prefabricated piping, reduction of structural steel and implementation of bulk separation, for which the team won a 2017 SPIRIT Award.

"There's been tremendous change in our value proposition," said Williston Planning & Integration/OBO Supervisor Jennifer Withe. "We're gaining efficiencies by drilling and completing wells faster with less capital and delivering higher estimated ultimate recovery rates."

Two functions on her team have contributed to reducing Bakken's cost of supply. Within the Planning & Integration group, coordinators manage the development program. "Think of it as a big machine with different pieces doing their parts.

Bakken Operations & Maintenance (O&M) and Projects raise the bar on safety performance

What we do: The Bakken O&M and Projects teams have achieved 2.4 million work hours without a recordable injury. The team is working hard to reach its next milestone — 3 million work hours without a recordable injury — by end of the year.

How we do it: Everyone is a safety leader. The Bakken team is raising the bar on safety by focusing on the basics, living by the Life Saving Rules, understanding and managing their risks and fostering a culture of trust and candor.

Three Bakken Safety Ambassadors share their insights about how they are building a strong safety culture.

Pat Knipp, lead line locator, I&E/Maintenance

"Safety is a philosophy and mindset that you can't turn on and off. In the Bakken, we are fostering a safety culture that extends beyond work and into our homes. In doing so, we are encouraging sustainable safety leadership."



Rory Ketterling, first delivery supervisor, Production

"I am proud to work in the Bakken because we have each others' backs. We care about our colleagues, and we want to make sure everyone goes home safe. Going home to my family safe every day is the most important thing I do. ConocoPhillips has the same philosophy, and I appreciate that."



David Kniffen, supervisor, Surface Facilities

"Leaders in the Bakken are really transparent about our safety expectations. Not only do they talk about safety, they also conduct themselves in a way that empowers all employees to create a successful safety culture."



We make sure everything is aligned and working toward the same goal.” The group works closely with all functions to develop and communicate a plan outlining the priority and timing for well execution, as well as problem-solving when challenges arise.

As managers of Bakken’s OBO portfolio, members of Withe’s team are stewards of the company’s capital. Managing, influencing and forecasting OBO activity can be challenging since the company does not control that portion of the program. Outside operators may have different strategies that require an understanding of their plans for a development area.

“An operator may decide to downspace or do



a different type of completion,” Withe said. “We conduct a detailed evaluation to determine the expected P50 production from a given operator’s strategy. Then we run economic evaluations based on their proposed costs and decide whether to participate or to let the opportunity pass.”

While the Planning & Integration team manages the rig schedule, budgets and outlooks, the Bakken Implementation team prepares drilling spacing units based on the rig schedule. Implementation Supervisor Megan Gosnell leads the team of 10 geologists, reservoir engineers and technicians who plan and execute an economic development program. “We’re the ones putting projects through the work plan and working with our regulatory staff to get the permits,” said Gosnell.

The Implementation team creates the optimal well plan for a pad of wells while considering



Multi-Skill Operator Jon Lowry greases the stuffing box packing on a pumping unit.

long-term plans for the entire unit. This includes designing the smallest surface footprint with the longest lateral configuration possible, while balancing the most cost-effective facilities plan for each pad. This improves cost of supply not just by lowering location building costs and providing more cost-effective facilities but also by increasing lateral length and therefore increasing the well's ultimate recovery.

Operational geologists on the team help steer horizontal wellbores during drilling. They frequently work with the drillers and rigs to improve efficiencies, resulting in faster drill times and less sidetracks while also lowering cost of supply.

INTEGRATED OPERATIONS OPTIMIZE PRODUCTION, REDUCE COSTS

In addition to lowering the cost of supply, the team has implemented initiatives to optimize base production, specifically, ways to optimize subsurface well spacing and stacking to maximize expected value per well and minimize cost of supply on a per-unit basis.

Reservoir Characterization/Base Reservoir Engineering Supervisor Stephanie Erickson leads a team of 10 charged with managing reservoir-focused decisions and issues for both base production and the development wedge. Her team provides the subsurface basis of design, i.e., well spacing, stacking and completion design for the asset, including infill development and base production. "The base

team talks weekly with the Production Engineering team to find new ways of extracting more oil from existing wells," Erickson said. "Sometimes it feels like finding a needle in a haystack, but we've definitely found opportunities to enhance production from existing wells."

Erickson's team is also on the front lines of data analytics used to make decisions. "We're using advanced analytics modeling tools to find new ways to increase our barrels produced per dollar spent," Erickson said.

Operations Manager Chris Malkin leads the largest number of employees working in the Bakken, approximately 100, with an additional

Bakken bulk separation team wins SPIRIT Award

A drive to lower facility costs led to bulk separation implementation for Bakken core-area wells. The new design features multiple wells sharing a common separator, requiring less equipment than the previous system of individual separator skids for each well. Results included a decrease in the cost of supply and overall well costs for Conoco-Phillips-operated Bakken wells. For their achievement, the project team received a 2017 SPIRIT of Performance Award for Business Excellence. This story will be covered in detail in the third quarter issue of *spirit Magazine*.



Perpetual innovation moves Bakken forward

North America's shale revolution originated in the late 1990s, as the combination of hydraulic fracturing and horizontal drilling made large-scale production possible. The resulting abundance is here for the long term, and the industry has just scratched the potential of shale.

Technological advancements have enabled development of several major oil plays, including the Bakken, located primarily in Eastern Montana and Western North Dakota. It has only been in the last decade that it has grown into one of the largest oil developments in the U.S.

"It's fair to say most people don't think of the oil and gas industry as pushing the frontiers of technical innovation," said Erec Isaacson, vice president, Rockies business unit. "When I think about the ingenuity of the people working to develop a new way to produce oil from rock at volumes and prices that have

moved global markets, it's remarkable. There's no doubt we've disrupted the energy landscape."

ConocoPhillips is at the forefront of technological advances in horizontal drilling and multi-stage hydraulic fracturing to optimize development of complex reservoirs. Accelerated adoption of new tools has played an important role in improving the Bakken's productivity and has enhanced the company's ability to drill and complete wells faster, better and at a lower cost.

"We are improving the value of our development program by focusing on two key parameters, completion design and well spacing," said David Cook, Williston Asset manager. "In the past few years, we initiated several pilots and tests to better understand wellbore placement and completion effectiveness and made good use of industry best practices. Today, we are using

data from instrumented wells to make smarter decisions about optimum well design and well spacing combinations to improve our economics."

Instrumented vertical pressure monitoring wells are used to understand vertical and lateral fluid drainage from adjacent 9,700-foot laterals. Other methods, such as fluid transmissibility tests, geochemistry and tracer logging, complement the pressure monitoring. In addition, wells designed to test completion changes are instrumented with downhole pressure gauges to understand the fracture geometry between wells. A process called interference testing reveals well drainage patterns. Understanding drainage geometries allows the team to get maximum value from completions, well spacing and lateral placement in the formation.

Data analytics improves understanding of Bakken rocks

Reservoir Characterization & Base Reservoir Engineering Supervisor Stephanie Erickson and her team manage Bakken subsurface projects. The team of 10 comprises reservoir engineers, geologists and technicians who work with groups across the company, including Applied Geoscience, Reservoir Engineering Services, Global Completions Engineering and Analytics Innovation, to better understand reservoirs and optimize their lifetime performance.

"One of the things I love about the Bakken team is their passion for innovation and pushing boundaries," Erickson said. "We have strong, collaborative relationships with our colleagues in the corporate Technology organizations that enable us to make better decisions utilizing the latest technologies, tools and workflows."

The Bakken team is working on several big projects with the Analytics Innovation group. The joint efforts use machine learning algorithms to decipher complex trends that are hard to find with traditional methods. One project involves

working with a more than 11,000-well dataset from operated and nonoperated partners to tease out production response to completion design and operations variables so the team can maximize production per dollar spent on completions.

Fiber-optic sensing innovations applied to completion design decision

Distributed acoustic sensing (DAS) and distributed temperature sensing (DTS) technologies use laser-sensing methods to measure strain rate and temperature along an optical fiber several miles long.

The signal is highly sensitive to temperature and mechanical-induced strain rate changes associated with hydraulic stimulation operations and fluid flow in a wellbore.

Insights gained from DAS and DTS data have helped inform business decisions related to completion design. In collaboration with the Technology Value Optimization team, Bakken engineers have been using Ziebel's DTS/DAS logging tool. Results of these measurements and other analysis led to a decision to nearly double the completions job size from 2016 to 2017.

"We applied the DTS and DAS application in four wells to see if we could increase the number of clusters per stage and still get an effective completion," Erickson said. Early results from the DTS data showed fracture initiation associated with all clusters during initial flowback – regardless of whether it was from a stage with three, five or seven clusters.

"An understanding of fracture initiation was critical, but DTS couldn't tell us how much production each cluster was contributing," Erickson added. "That's where the DAS analysis helped." Combining these two measurements, Subsurface Technology teams developed an industry-first workflow to provide a quantitative production allocation estimation at a cluster level. The data revealed that clusters associated with seven-cluster stages were as productive as the three- and five-cluster stages.

"DTS and DAS gave us the technical assurance needed to increase clusters per stage on future wells, saving us significant money and time on every completion," Erickson said. "We've doubled our clusters per stage, in part based on the Ziebel analysis."

50 contingent workers. The team includes five functions — Operations & Maintenance, Facilities Engineering, Production Engineering, Bakken Operations Center (BOC) and Integrated Operations (IO). The team is responsible for safe, cost-effective and efficient management of wells through the lifecycle, including meeting all local, state and federal regulations.

"Our group takes ownership of wells soon after they're put on production," Malkin said. "We focus on maximizing production, optimizing artificial lift and creating integrated operations and operation center tools to make our business processes more efficient. In doing so, we manage our controllable cost structure and deliver the best value for our company, the state, royalty owners and operating partners."

Bakken field teams have looked at all aspects of their business and are realizing savings from various cost-cutting efforts. For example, in 2016, the team implemented Teradata Analytics for SAP, a software tool that provides user-friendly, granular and real-time insight to operating costs. The Bakken has



Stakeholder Relations
Advisor Josh DeMorrett

also adopted an operate-by-exception model where multiskilled operators (MSO) cover more wells than they used to.

Malkin joined the Bakken team in late 2015. Since then, he's seen a lot of change. "When I got here, around half of the production my team was responsible for was development production, which means it was online for less than a year. Today, much more of the production we manage is base production that has

RIGHT: Peter Bazin, Williston Operations & Maintenance superintendent

been online for longer than a year.”

The growing base production provides a great opportunity to learn, innovate and optimize. “We’re still learning what the decline curves and type curves of these wells look like and how we can influence them,” Malkin said. “We’re also gaining insights into how to reduce base decline to prolong the life of the well and maximize early well-life performance.”

The Production Engineering and Operations & Maintenance (O&M) groups oversee the phase of the well life where it stops free flowing and artificial lift is used to overcome pressure decline. This year the Bakken team will aggressively pursue more gas lift applications, which will result in further reductions in operating expenses. To optimize production, instrumentation has been installed at the surface to monitor well pressure, temperature and other data and transmit the information in real time to the BOC in Billings, Montana, where it is modeled to determine what is happening downhole.

“We made the decision to technologically enable our field devices and communications infrastructure so that we could have a best-in-class operation center and integrate the operations program,” Malkin said. “We have 10 telecommunication towers in the field and 192 access points across the basin. The result is real-time



monitoring of facility and well performance. We don’t always need an individual on the pad to let us know what’s going on.”

The O&M organization runs a 24/7 schedule with support from the BOC. “While there is a large inventory to develop in the future, there is also a high-value base business to look after as well, and that’s what O&M does every day,” said Peter Bazin, supervisor, Williston O&M. “At the heart of our teamwork is the attitude that our people carry with them that we all come to work every day wanting to do the right thing and wanting to achieve the goals of the organization. The working conditions are extremely harsh in the winter, with wind chills as low as 60 below. Despite these challenges, I am especially proud of the team’s safety performance. We’ve had no

From left: Project Controls Specialist Steve Scherffius, Facilities Engineer Emily Jones and Williston Operations Manager Chris Malkin





Operations Center
Superintendent
Kevin Junso (top) and
Operations Center
Operator Brian Smith

recordable injuries since May 2015.”

BOC Superintendent Kevin Junso attributed Bakken’s strong safety culture to a deep commitment to ensuring that everyone goes home safe. “The Bakken has a diverse workforce, with many individuals new to the industry. Yet, people quickly adopt their roles as safety leaders and take it seriously,” said Junso. “It’s one thing to talk about being your ‘brother’s keeper,’ but when you see it come to life in the field, it really hits home.”

COLLABORATION KEY TO OVERCOMING UNIQUE CHALLENGES

The Bakken’s core area spans more than 1,000 square miles in North Dakota, and it is not uncommon for MSOs to drive 200 to 300 miles a day. The Bakken team collaborates across offices in Billings, Montana; Watford City, North Dakota; Dickinson, North Dakota; and Houston, Texas.

“The team that supports the Bakken is distributed across three states — North Dakota, Montana and Texas,” Malkin said. “Operations alone has members in each of these states, a unique arrangement in the Lower 48. While this brings interesting challenges to our work, that doesn’t seem to faze this team. Improved communications technology and applications enable purposeful collaboration, with video conferencing frequently replacing the traditional phone call. There are team members I don’t meet in person more than once a year. When I do, it’s often like I’d visited them yesterday.”

In addition to long distances, the Bakken is subject to extreme weather. “Our biggest execution risk is winter weather,” Cook said. “That can materially affect wells online and volumes, but

we are a resilient bunch adept at clawing back losses.” That was certainly the case early this year. In January, the region experienced massive snowfall, extreme temperatures, high winds and frozen lines, resulting in significant lost production. Activity ground to a halt for rigs, haulers and personnel as snow limited surface access. Since then, the team has worked hard to make up the lost production.

ConocoPhillips works diligently to build respectful, authentic and inclusive relationships with local communities. In 2011, the North Dakota Industrial Commission approved a

Raising the Bar on Safety Performance: Bakken O&M and Projects

NEXT MILESTONE:
3.0 million
work hours

without a recordable injury by Q4

- Focus on the basics
- Live by the Life Saving Rules
- Understand and manage risks
- Foster a culture of trust and candor

2.4 million
work hours
without a recordable injury

2.0 million
work hours
without a recordable injury

1.0 million
work hours
without a recordable injury

APR 2017

AUG 2016

NOV 2015

Last recordable injury
MAY 2015

Company of choice reputation built on trust and integrity

BY JOSH DEMORRETT

In 2000, the population of the state of North Dakota was 642,023. By July 2016, it had swelled to 757,952. This growth is unmatched in the 127-year history of the state. The influx of people was due in large part to the increase in oil and gas development in the Bakken from unconventional reservoirs. According to the North Dakota Petroleum Council, the state has been an oil-producing state since 1951, but only within the last decade has it grown into the second largest oil-producing state in the nation. This energy renaissance has been a game changer for North Dakota and for the industry.

Relationships matter

Energy development impacts everyone. "Developing these resources benefits communities across the state and country through increased tax revenues," said Asset Manager David Cook. "But we also recognize that questions arise from our development."

ConocoPhillips aims to create and maintain inclusive, honest and mutually beneficial relationships with stakeholders — individuals and groups who are impacted by and can impact its business. "Building strong relationships matters," Cook said, "and we believe they lead to mutual success."

Bakken employees engage with stakeholders early in the project planning process to understand their values, needs and interests and ensure they are considered in the company's decision-making and project execution processes.

Unitization of the Corral Creek Unit (CCU) illustrated this approach. In 2011, ConocoPhillips set out to unitize an area of the Bakken field near Little Missouri State Park, a sequence of state and privately owned lands. Unitization provides

for the exploration and development of an area by a single operator, incentivizing efficient drilling and production and minimizing impacts to land, water and the environment. Unitizing the CCU enabled ConocoPhillips to establish gathering systems to transport produced hydrocarbons, thus limiting truck traffic in the area.

The CCU remains North Dakota's only area that is unitized for primary oil production. The project required hours of listening and engagement but has served to protect the dynamic beauty of the state's badlands while optimizing production for mineral owners.

Rockies Regulatory Advisor Donna Williams was on the CCU project team.

"Engaging with stakeholders from the beginning was key to making it a success. Being a first of its kind, we had conversations with everyone involved to address their concerns," Williams said. "Our commitment to building trusting relationships with stakeholders has allowed us to successfully operate in CCU."

ConocoPhillips received approval to develop the CCU because of the company's commitment to the environment and its successful history in North Dakota. "We've been here for many years, and the Industrial Commission recognized that," Williams said.

Four years into development, ConocoPhillips and North Dakota Parks and Recreation collaborated on a project that rerouted two horseback riding trails to maintain distance from drilling

locations and made improvements to trails damaged by years of above-average precipitation.

Collaboration with industry to reduce flaring

Increased oil and gas production in a short period of time meant the infrastructure needed was simply not there. One major challenge the industry faced was the rate at which the associated gas from oil production was being flared. In response, a task force created by the North Dakota Petroleum Council (NDPC) with representatives of upstream and midstream companies, worked with the North Dakota Industrial Commission (NDIC) to establish gas capture targets that allowed industry to catch up on construction projects needed to transport hydrocarbons.

ConocoPhillips Bakken employees were active members of the task force, working toward a common goal of safeguarding air quality and developing guidance and tools to minimize air emissions. Ron Ness is president of the NDPC. "Companies came together to work with the NDIC on a comprehensive plan that helped reduce flaring even as natural gas production increased," Ness said. "This approach has been very successful, allowing the industry to continue oil production while capturing more natural gas for the benefit of mineral owners, value-added markets and the state as a whole."

More than \$13 billion has been invested in infrastructure in the state to combat gas flaring. Today, only 12 percent of the gas is flared, compared to a 37 percent flaring rate in September 2011, a 68 percent reduction.

"Whether it's how we work with stakeholders or our commitment to environmental stewardship, our SPIRIT Values guide our actions every day," Cook said. "I am very proud of how the Bakken team is working to seek solutions that build long-term value for both the company and stakeholders."



Rockies Regulatory Advisor Donna Williams

30,000-acre spacing unit at the request of ConocoPhillips, which owns 50 percent of the mineral acres in the unit. Known as the Coral Creek Unit (CCU), it is the largest spacing unit for oil well development in the Bakken oil formation.

“We are proud to operate in the CCU, located within privately owned, leased land in [Little Missouri State Park](#) in North Dakota’s badlands,” Gosnell said. “Thanks to the extremely positive and successful relationships we’ve built with local, state and federal agencies, we were granted permission to operate in this beautiful state park.”

Developing the area as an integrated unit allows ConocoPhillips to minimize impact to the land, including the state park, and limit truck traffic in the area.

BAKKEN EMBODIES STRATEGIC OBJECTIVES

Despite its challenging climate and geography, the Bakken continues to deliver on the company’s strategic objectives: Smart Growth, Superior Returns, SPIRIT Values. The asset’s increased recovery per well, optimized completions and

reduced well costs, combined with a vast and stable acreage position, provide capital flexibility and strong returns. Operational and capital efficiencies continue to improve through use of multi-well pad drilling, completion optimization and facility design changes that also reduce the overall environmental footprint.

“Our SPIRIT Values shine through our daily work,” Erickson said. “From the strong collaboration with folks in Billings, Dickinson, Watford City and Houston to the constant drive to innovate and automate, the team is relentless in finding new ways to lower costs while never losing sight of our HSE objectives. This is something I’m genuinely proud of.”

Cook reaffirmed the value of teamwork in the Bakken. “While it’s very rewarding to see the change and growth in the asset and what we’ve accomplished together, I am most proud of how we did it,” Cook said. “Guided by a strong work ethic, we’ve faced challenges and overcome them by working together, taking ownership and following through on our commitments.” ■



Systems Lead
Frank Martinet

The analytics advantage

ConocoPhillips accelerates its transformation into a data-driven company

BY GUS MORGAN

A TECHNOLOGY REVOLUTION, DRIVEN BY BIG DATA AND ANALYTICS, IS SWEEPING THE EXPLORATION AND PRODUCTION (E&P) INDUSTRY. TO CAPITALIZE ON THIS OPPORTUNITY, CONOCOPHILLIPS IS ON A MULTIYEAR JOURNEY TO TRANSFORM ITSELF INTO A DATA-DRIVEN ENTERPRISE, EMPLOYING ANALYTICS TO LOWER COST OF SUPPLY, OPTIMIZE OPERATIONS AND OUTPACE COMPETITORS.

“Data analytics is a game changer,” said Chief Technology Officer Greg Leveille. “We’ve already deployed analytics across many of our businesses, and we’re seeing hundreds of millions of dollars of benefit. There’s a lot more promise to be reaped in the years ahead. It’s an opportunity for us to help our employees improve their productivity and thereby make ConocoPhillips a better E&P company.”



Chief Technology Officer Greg Leveille

‘AN EVOLVING PROCESS’

“We’ve identified the businesses where analytics is likely to have the biggest impact,” Leveille said. “And we’ve identified the key leaders in each business who will drive the effort forward. We think it’s going to roll out a lot like computers did in the 1980s. If you think about that, it was an evolving

process where at first very few employees had access to computing power and within a few years everyone had a PC on their desk.”

Building upon a long history of innovation, ConocoPhillips is accelerating its cultural transformation into an information rich, data-driven company. It’s a progressive move to capitalize on the business value that advanced analytics will bring, said Chief Information Officer Mike Pfister.

“We have plenty of evidence that analytics is going to make a difference for us,” Pfister said. “This is a developing discipline, and how well we use data analytics to solve business challenges will influence our future success. By embracing this opportunity and adapting our culture and business processes to exploit emerging analytics capabilities,



Chief Information Officer Mike Pfister



Analytics Innovation Manager Rich Barclay discusses ConocoPhillips' 2017 Global Analytics Playbook, a roadmap that outlines the company's approach to analytics.

we can be more effective and more efficient than ever before. This is an exciting domain, and from my perspective, there's not a more compelling value proposition on the horizon."

Cross-functional collaboration and data integration are accelerating the business units' analytics initiatives, he said.

"We're organizing the data in our integrated data warehouses for easy access," Pfister said, "and we're making sure our employees have the right tools, such as Spotfire, and know how to use them effectively. We'll also be deploying certain high-end data analytics capabilities, such as machine learning to solve complex problems. So, we're really going at this with a multipronged strategy, and we're going to be building upon the successes we've had to date."

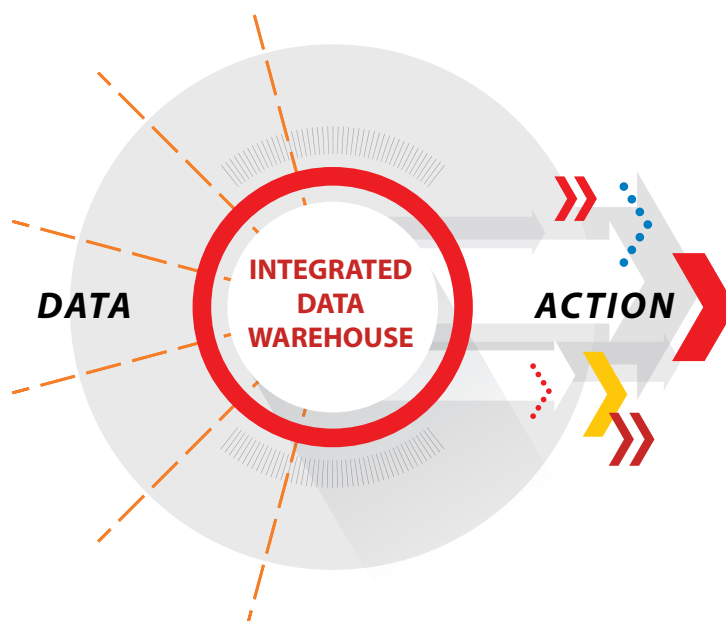
A NEW WAY OF WORKING

ConocoPhillips has a rich history of using data analytics to improve processes and decision quality. The company's Norway and Alaska business units were pioneers in the field. So, what's changed in the company's approach to analytics? There are several key differences.

Overall, recent advancements in computer technology have caused a paradigm shift, enabling workers to quickly gain insight from vast amounts of data. Advanced analytics software, an abundance of

data and advanced modeling techniques are fueling the excitement. ConocoPhillips has worked to keep pace with these revolutionary changes.

"It's about changing the way that we work," said Dustin Ernst, manager, Eagle Ford Integrated



Operations of the Future (iOF), who is helping facilitate the new data analytics strategy. "This isn't a start and end project. It's a way of working. It's similar to our approach to safety. This is not something we're doing on the side or a project

we're doing year to year. It's how we tackle the business. It's about running the smartest business possible."

And it's about accelerating time to insight.

"So instead of months or weeks to get to a conclusion," Ernst said, "it may take only days or minutes."

Analytics Innovation Manager Rich Barclay is helping facilitate the analytics rollout with Ernst.

"This is a multiyear effort to ingrain in people a better way to work," Barclay said. "If you provide employees with quality data and tools, it makes them much more effective, much more engaged, and they're able to add tremendous value to how the business operates."

But the objective, Barclay said, is not just to get employees to use analytics.

"You can do great analytics and have great insight," Barclay said, "but if you don't change the business to capitalize on that, you have not generated any value. Part of the program is acting on the insight that people develop out of the analytics."



Dustin Ernst,
manager, Eagle
Ford Integrated
Operations of
the Future



Dayton Packebush,
production lead, Eagle Ford
Integrated Operations of the
Future, monitors real-time
data as it is transmitted from
the field.

Analytics will help you find opportunities, but if you don't act on that, you don't achieve value. So, you have to change the way you work to get the benefits out of the program."

BUSINESS UNITS WILL LEAD THE WAY

Each business unit is taking an integrated operations approach to building a multidisciplinary team of business and information technology (IT) employees. These teams play a key role in cultivating the new way of working as well as visualizing, processing and storing data for each business unit, mixing business knowledge with information technology.

"One of the critical success factors has been this combination of skill sets all working toward the same goals," Pfister said. "Whether they're working on integrated planning or day-to-day integrated operations, that's where we commingle and mix the various disciplines from the subsurface and surface. We support these groups with either dedicated or embedded IT professionals who help them in terms of data access and using the analytics tools."

The business units, the Analytics Center of Excellence (AICOE) and corporate functions have

also come together to form the Analytics Acceleration Team, a multi-business unit support group working to support this effort. “We have worked to align our corporate teams and key subject matter experts from business units and functions to accelerate key redeployments and work in support of the BU efforts,” Barclay said.

ALASKA: TAKING ANALYTICS TO THE NEXT LEVEL

Taking its substantial analytics capabilities to the next level, the Alaska business unit is aiming to save \$200 million annually.

“There’s a ton of excitement up here for this,” said Mike Luce, director, Data Analytics, Alaska business unit. “People are engaged.”

The opportunity lies in connecting and integrating financial and operational data. Such integration could empower employees to make more granular decisions, such as finding ways to lower cost of supply for a specific well pad.



Alaska Data Analytics
Director Mike Luce

The Alaska data warehouse is the foundation for the business unit’s new analytics initiatives. The self-service system enables engineers and analysts to find their own data and use it within their preferred analytics program.

Brandon Richardson, manager, Alaska IT, said the business unit is aiming to integrate five data streams this year, with the core being operational, finance and drilling information.

“The real value is combining those data streams into one integrated set,” Richardson said. “This will allow our engineers and analysts to solve problems they haven’t even imagined yet.”

One initiative leverages knowledge borrowed from the Eagle Ford, where analytics tools used to optimize drilling and completions have saved hundreds of millions of dollars.



Brandon Richardson,
manager, Alaska IT

In another project, the Alaska business unit is looking to improve its well economics, using analytics tools to identify unprofitable wells with high maintenance costs.

Last year, Luce said Alaska saved 15 ½ days of shutdown time at CPF-1, a plant that processes around 50,000 barrels of oil a day, by using analytics. Analysts integrated corrosion inspection data and process conditions data, concluding that six of the nine process vessels scheduled for maintenance and inspection could be removed from the scope of the project.

CANADA: INCREASING ACCESS TO INTEGRATED DATA

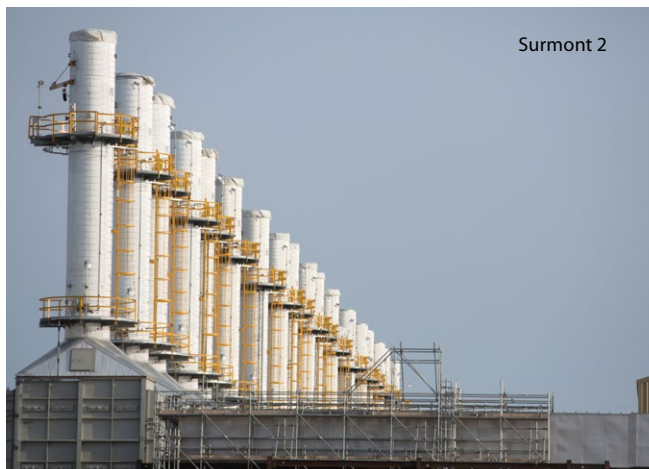
In Canada, there is a serious groundswell building; leaders are recognizing the value added through data integration and analytical tools.

“The Data Analytics team is focused on leveraging this growing energy by arming staff with tools to make better decisions and drive better outcomes,” said Patrick Stanley, supervisor, Data Analytics & Integrated Planning.

The approach already has generated results. Take, for example, the optimization of steam generators. Over time, fouling inside the generators reduces steam generation capacity.



Patrick Stanley, supervisor,
Data Analytics &
Integrated Planning



Surmont 2

“Thanks to the team’s use of data analytics,” Stanley said, “we now have a deeper understanding of the variables that influence fouling. This allows us to maximize production and schedule maintenance to shelter production losses.”

For the past two years, the business unit has added play characterization, production and plan-



Billy-Jo Lafortune,
supervisor,
Applications & Data

ning data into its integrated data warehouse.

“Previously there were many single sources of data across different groups,” said Billy-Jo Lafortune, supervisor, Applications & Data. “We developed an integrated data warehouse for the data. Having all the information in one place and being able to correlate it allows engineers and

scientists to test their hypotheses, driving different decisions. It’s about using data in unorthodox or nontraditional ways.”

Now, Stanley said, rather than siloed sources the business has a hub for data, a single-decision environment. “The goal is to enable staff to make quicker, more impactful decisions,” he said. “Using data in new ways doesn’t mean taking big risks; it’s about tweaking or optimizing and getting great results.”

NORWAY: USING ANALYTICS TO LOWER COST OF SUPPLY

For more than 15 years, the Norway business unit has used integrated operations (IO) to optimize production and reduce costs, collecting a wealth of well and performance data in the process. Norway has used analytics to look at its data in different combinations, revealing new ways of doing things.

Arild Kleven, manager, Production Delivery Center, and Trine Soerum, IT manager, Europe & North Africa, are coordinating Norway’s latest efforts to



Arild Kleven, manager,
Production Delivery
Center



lower cost of supply.

Two of those initiatives — reducing rental costs and real-time production optimization — are ongoing. A third, scale data management, has been implemented, lowering production losses



Trine Soerum, IT manager,
Europe & North Africa

from scaling. By integrating and analyzing multiple data sources, the organization gained insight into the mechanisms behind scaling, mineral salt deposits that clog production tubing. Data analytics helped with management and mitigation efforts, lowering production losses by 90 percent.

The business unit spends \$100 million annually on rental equipment and expects to reduce costs by returning equipment earlier. Integrating and analyzing data streams such as inventory, costs and logistics can help employees identify rental equipment linked to completed activities and flag it for early return.

Real-time production optimization is helping engineers improve decisions. Downhole and topside sensors deliver well pressure and temperature readings in real time, providing insight on well performance. Each morning, the production optimization team reviews automated production reports to better understand potential production.



EAGLE FORD: REAL-TIME DATA FROM THE FIELD

From its inception, the Eagle Ford asset team has used integrated data and analytics to optimize operations, reduce downtime and lower costs associated with well spacing, stacking and completion designs. The business results have been exceptional, just recently enabling teams to drill 80 percent more wells per rig, realize 20 percent more resource in completion design and lower lifting costs by 15 percent while decreasing well downtime. The team is addressing issues such as greenhouse gas emissions, lifting costs and pipeline integrity.

Ernst said the business uses a digital approach to enhance decision making and optimize processes across all functions.

“This has simply become the way we work within Eagle Ford,” Ernst said. “We chose to take an integrated warehouse approach to our data and have extended that now to support all functions within the asset.”

The Eagle Ford team has been on its journey since late 2010, Ernst said, and has learned an enormous amount in this type of endeavor. That knowledge is proving useful to the broader ConocoPhillips effort.

A key user of the data is the iOF operation center in Houston, where employees monitor every well and central facility across the asset, working to optimize well performance and gas lift, monitor alarms and provide decision support to workers in the field. Real-time machine data from the field flows into an integrated data warehouse and other systems utilized by operations. Access to those data streams improves

Success stories

Eagle Ford Drilling time improvements — **80%** more wells per rig

Norway Scale project has reduced annual production losses by **~200 MBO**

Norway Lifting cost data analytics have reduced lifting costs by **~10%**

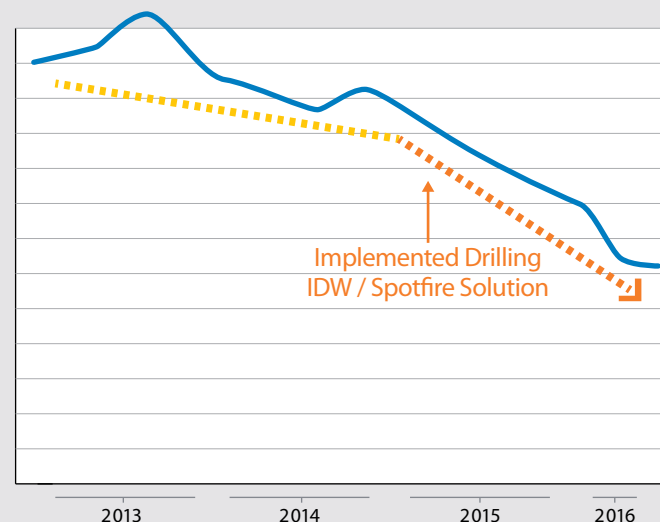
Eagle Ford Direct operating efficiency increased from **86%** to **95%**

Surmont 2 **100,000** employee-hours eliminated from maintenance plans

Eagle Ford Completions optimized using multivariate analysis — **20%** production uplift

Supply Chain **>\$6MM** expected savings in 2017 utilizing new analytics tools

Eagle Ford Drilling Spud to Spud Days



decision-making, Ernst said, allowing the business teams to quickly spot issues and take action.

Along with that data captured from field sensors and meters, the business has extended this approach to include data from SAP, WellView, DSM and many of other sources the past several years. Now more than 60 percent of the Eagle



Glen Endress, IT director,
Gulf Coast business unit

Ford organization is leveraging the integrated data warehouse.

"We create the environment where the data exists," said Glen Endress, IT director, Gulf Coast business unit, who manages the IT team supporting the iOF group.

"Then, through Spotfire or another custom-built

application such as the production forecasting tool NIMBUS, we provide engineers and analysts a self-service approach to their own data."

The Eagle Ford iOF benefited from Norway's best practices. Eagle Ford's accomplishments are now the foundation for other business units to ramp up and exploit value faster, as seen in the Alaska, Rockies and Mid-Continent business units.

MID-CONTINENT BUSINESS UNIT: A LEVERAGED APPROACH TO SUCCESS

Paul Kissell, manager, Mid-Continent business unit Integrated Operations, said the business unit



Paul Kissell, manager,
Mid-Continent business unit Integrated Operations

is leveraging existing IO programs and solutions to accelerate its operations and lower cost of supply.

For example, Kissell said, a multidisciplinary team of Mid-Continent and Gulf Coast business unit personnel collaborated to implement drilling and completions analytics in three months, an activity that originally took the Eagle

Ford unit about a year to do. "Collaboration and leveraging enabled us to see success fast," he said.

In addition to optimizing its drilling and completions work, analytics are expected to drive Mid-Continent business unit improvements in cost management, production surveillance and optimization, well planning, competitor analysis and capital project execution.

"We're building a fit-for-purpose IO framework," he said. "We're focusing on getting our production data, cost data, drilling and completions data as well as our competitor data into our warehouse and modeled to be used through multiple teams in the asset. At the

same time, we're ensuring the things we're working on are directly related to business goals."

Cassandra Corley, Mid-Continent business unit IT director, said cost information from SAP has been added to the IDW, enabling new analysis possibilities. "By having access to all the costs associated with operating a well and your production data, you can review in detail the cost to produce every barrel. And now you can make some business decisions."

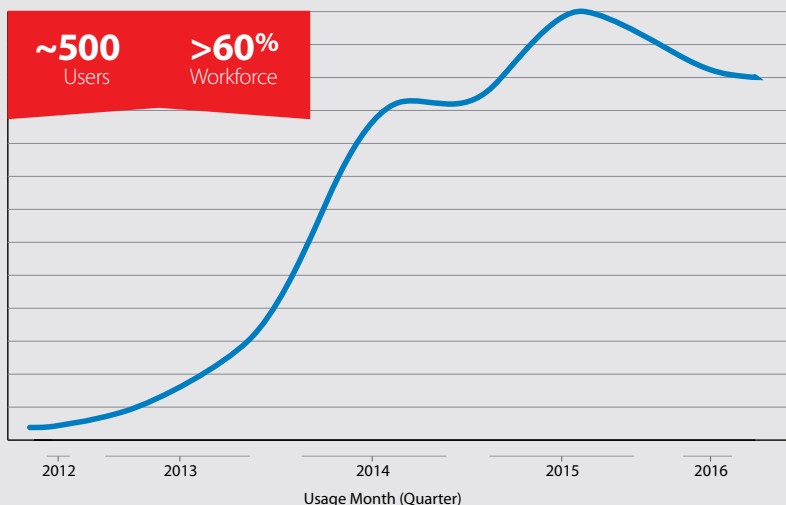
Corley summarized how the analytics landscape has shifted at ConocoPhillips.



Cassandra Corley, Mid-Continent business unit IT director

Integrated Data Warehouse Allows All Functions to Access Data

- Productions Operations
- M&R / Facility Engineering
- Drilling & Completions
- Development / Subsurface
- Projects, Regulatory, HSE
- A&OI





“ConocoPhillips has always done analytics,” Corley said. “This is not new. What’s new is we have more data than we used to have, the quality of the data has improved, the data is easier to access and the quality of our analytical tools has improved. Overall, analytics allow us to better understand the operational activities that are occurring today and manage how we want to take them to the next level.”

BAKKEN: ‘THE SKY IS THE LIMIT’

In the Williston asset, more than 70 percent of employees are using analytical tools, especially Spotfire, for decision-making.

The Rockies business unit has leveraged best practices from other business units to propel itself further and faster with a much smaller investment.



Dryonis Pertuso,
supervisor, Williston
Integrated Operations

Williston Integrated Operations Supervisor Dryonis Pertuso said analytics is giving the company a competitive advantage. “The sky is the limit. We’re seeing great results, and we have plenty of opportunities.”

By bringing cost data from SAP into the integrated data warehouse, employees can integrate it with drilling, production and reservoir characterization data.

“This has allowed us to create insight that was unthinkable even two to three years ago,” he said.

The Bakken team is using analytics to

lower cost of supply through initiatives such as optimizing drilling and completions, monitoring rod pumps (artificial lift), predicting and reducing tubing failure rates, and helping with compliance and regulations.

While technology advancements have helped drive change at ConocoPhillips, the bigger driver is the multidisciplinary



Brandon Biggs, IT
director, Rockies
business unit

approach to problem solving. The company’s IO groups are great examples of how a new way of working can add tremendous value.

“Data is powerful,” Pertuso said. “But the moment you integrate it, you exponentially grow the insight it can provide.

Our data warehouse

allows us to capture the data, integrate it, and then allow the asset to consume it.”

IO programs are driving success, according to Brandon Biggs, IT director for the Rockies business unit.

“It takes multidiscipline teams to be effective,” he said. “Our IO programs combine engineers and IT. It takes the best of both areas to function at a high level, and it allows us to lean on each others’ expertise. Relying more on data is how we do business. We use analytics to understand and get a better outcome.”

A big part of the analytics equation is having the business teams involved and owning the data and work processes, as their understanding of business needs unlocks the

How ConocoPhillips is using analytics:

- Acquiring acreage
- Appraisals
- Drilling/completions
- Production/operations
- Asset disposal
- Competitor analysis
- Others: logistics, HSE, forecasting

Data analytics enables:

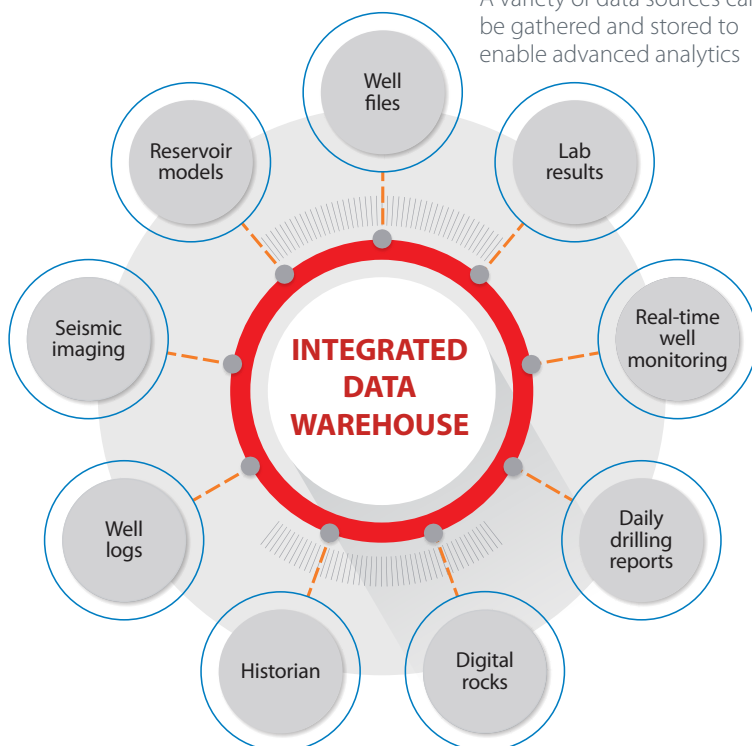
- Faster time to insight.
- Increased productivity from petro-technical staff and other professionals.
- Identification of opportunities not obvious from traditional E&P problem-solving techniques.
- Integrating data across functional boundaries (linking cost data to operational performance).

ConocoPhillips has always used analytics for decision-making, so what’s changed?

- Increase in data volume, variety, velocity, quality
- Access to integrated data
- Improved analytics tools



A variety of data sources can be gathered and stored to enable advanced analytics



potential of the data.

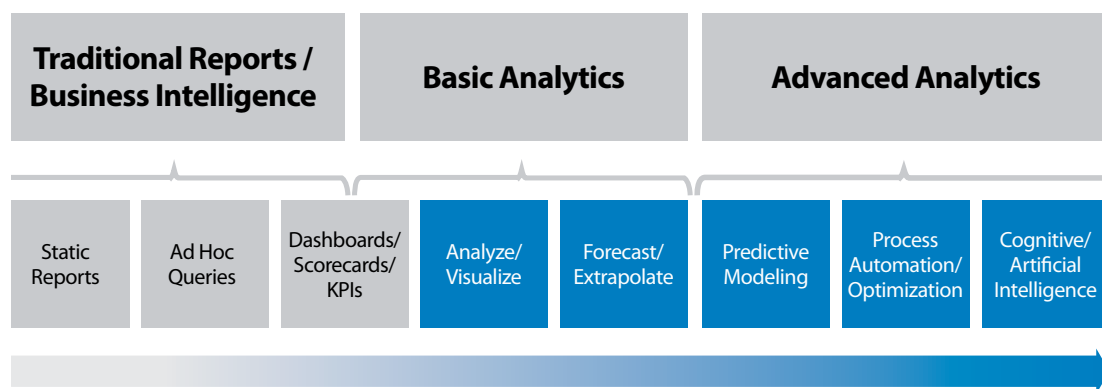
According to Pertuso, employees are the drivers behind this new approach to technology and business. “They understand this new way of working has great value and realize it will bring lots of opportunities and improvements to the business.”

EXTENDING SUCCESS FROM ONE BUSINESS UNIT TO ANOTHER

While it’s still early in ConocoPhillips’ transformational journey, the company’s data analytics initiatives are progressing at a steady pace.

“We’re accelerating our capabilities of building out our integrated data warehouses, getting data, getting people trained and moving some analytic tools that have been useful in one area to another area,” Barclay said. “We’ve been successful early in the program in accelerating this buildout effort in several of the BUs. So instead of reinventing the wheel everywhere, we’re able to extend the successes from one BU into another. We’ve had good uptake on the training. And I’m very

The analytics continuum—what is data analytics?



Source: Gartner, IBM, COP IT

Analytics maturity = The ability to handle increasingly difficult problems

certain that by the end of this year we'll have success stories within each of our targeted BUs and their functional areas."

INTEGRATED DATA WAREHOUSES: ONE-STOP SHOPS

Data, which is more abundant than ever, is fueling the analytics revolution.

"Analytics all starts with data," Barclay said. "You can't do analytics without data."

As the data flows in, it's cleaned and stored in integrated data warehouses, essentially digital libraries, where it is organized and cataloged for easy access. The goal is to make it easier for engineers and analysts to find and use the data. Thus, eliminating the effort of extracting, integrating and cleaning the data from the workload of the analyst or engineer allows them to launch right into the analysis.

"A big part of the program is building out these integrated data sources so people can run their analytics," Barclay said. "Every BU has its own integrated data store. But building these data warehouses takes time."

These data warehouses are one-stop shops for data users, providing access to data that is trustworthy and serves as a single source of the truth. It's a self-service setup, meaning employees can select the data they need and then flow it into the analytics application of their choice. The ability to integrate operational and financial data

is especially valuable, giving employees greater insight into how to lower cost of supply.

SOLVING MORE COMPLEX ANALYTICAL PROBLEMS

ConocoPhillips is working to empower all its employees by giving them access to better analytical tools and data. But when it comes to solving



Sanjay Mehta, manager,
Data Analytics Strategy
& Advanced Analytics

complex analytical problems, ConocoPhillips calls upon its multidisciplinary team of data scientists.

Sanjay Mehta, manager, Data Analytics Strategy & Advanced Analytics, said ConocoPhillips' data scientists employ computer algorithms and advanced machine learning to solve multivariate problems, such as determining the optimal completions design for a well or optimizing rod pump technology.

"They look at problems where traditional methods aren't reaping rewards or the amount of data may be too big for an individual to understand," Mehta said. "My team is moving up the analytics continuum from predictive modeling to process automation and optimization."

The next step for ConocoPhillips and the industry, Mehta said, is the use of cognitive analytics and artificial intelligence. ■

Living and working in Perth

BY LUCINDA CALLIE

CONOCOPHILLIPS' PRESENCE IN AUSTRALIA BEGAN IN THE 1990S WITH EXPLORATION FOR GAS IN THE TIMOR SEA, MORE THAN 4,000 KILOMETERS (2,500 MILES) NORTHEAST OF PERTH. THE 1995 DISCOVERY OF [BAYU-UNDAN](#), A GIANT GAS FIELD, LED CONOCOPHILLIPS TO ESTABLISH AN [LNG FACILITY AT DARWIN](#).

BELOW: Daily meetings with Bayu-Undan Facilities are held at 7:30 a.m. in the IOSC.
PHOTO BY LUCINDA CALLIE
RIGHT: Jacob's Ladder

[Perth](#) is the central hub for the ConocoPhillips Australia West business unit because of a variety of factors, including access to a skilled workforce, suppliers and contract partners. Many ConocoPhillips employees live in Perth but work at the remote Bayu-Undan offshore facility.

"I get the best of both worlds," said Offshore Health, Safety & Environment (HSE) Advisor Mike Gibson. "I live in the beautiful city of Perth and work 500 kilometers (310 miles) northwest of Darwin in the Bayu-Undan Field. My work schedule begins with a four-hour flight to Darwin in the Northern Territory followed by an early morning flight to Dili, Timor Leste, and finally a helicopter ride to the field. It's a total of 21.5 hours and 3,625 kilometers (2,250 miles) of travel just to get to the office! There's no better feeling than finishing a three-week trip and returning to sunny Perth to





enjoy the Swan River with family and friends.”

ConocoPhillips’ two offices in Perth are located less than half a mile from each other. The Ord Street location is home to the corporate office and support functions such as

Finance, Information Technology, Human Resources and HSE, as well as core functions like Drilling, Commercial and Supply Chain. The office is located close to the iconic Kings Park, which

provides a breathtaking view of the city. During *Energy in Action!* ConocoPhillips personnel were able to make use of the many nearby trails and the challenging Jacob’s Ladder, a 242-stair climb, for runs and walks.

The other office, on Cambridge Street, is the Integrated Operations Support Centre (IOSC), established to leverage technology and provide



enhanced support to the business unit’s core assets, Bayu-Undan and Darwin LNG. The IOSC houses most of the business unit’s technical team and features high-tech equipment and telecommunications resources.

This capacity will be beneficial to Barossa, Australia West’s potential growth asset located in the Timor Sea approximately 270 kilometers (165 miles) north-northwest of the Northern Territory.

The IOSC’s main objective is seamless communication among all sites and facilities. Real-time

ABOVE: The skyline of downtown Perth

LEFT: Mike Gibson, HSE advisor

BELOW: Crisis & Emergency Management Specialist Mario Fazio in the IOSC emergency response room





CLOCKWISE FROM TOP: Fremantle coast; a rainbow sculpture built entirely from shipping containers; and kangaroos at the [Perth Zoo](#)



Paul Garforth,
occupational health
coordinator



Marine Director
Dan Trotter

information and interaction enable the Australia West business unit to drive relevant and timely decisions, allowing work to be performed at the optimal location with higher productivity. This integration comes at a much lower cost to the business, along with a decreased risk of miscommunication or misinterpretation.

The Operation Support Centre (OSC) is the hub of the IOSC designed to link the support teams in Perth to Bayu-Undan and Darwin LNG field operations. The multi-discipline OSC team takes a cohesive approach, identifying optimization opportunities and early issues, leading to a more holistic view of the plant and equipment condition.

Embedded in the culture of the IOSC is a focus on optimizing costs while operating safely and efficiently. For example, the IOSC has developed an innovative design for a bow winch on a platform support vessel that allows it to support the loading of product onto tankers. This reduced the number of Bayu-Undan support vessels from three to two. It's the first time in industry history that such a large vessel has been used for this type of support, and implementation has garnered great attention.

"We awarded this industry-leading contract to MMA Offshore, also located in Fremantle, Perth," said Marine Director Dan Trotter. "A key contributor to the sustainable success of the operation was the development of an interactive training simulator in Perth to enhance the ship-handling capabilities of masters and mates."



WHY LIVE IN PERTH?

Perth ranks as one of the best cities in the world to live due to its outdoor lifestyle, beaches, cafés and weather. This all comes at a price; Perth has been ranked as one of the most expensive cities in the world. On average, a cup of coffee will set you back AU \$5.40 (U.S. \$4), and an average meal out is in the range of \$30 to \$40.

If you are a fitness enthusiast, the city is hard

The history of Perth

Perth is the capital and the most populous city in the state of Western Australia, the largest state in the country, with a land mass of 2,529,875 kilometers (around 1,571,992 miles). To put it into perspective, you can fit the state of Texas and the nations of Japan, the United Kingdom, New Zealand and Ireland into Western Australia and still have space to spare.

Founded in 1829 by Captain James Stirling and named after Perth, Scotland, it is the most isolated city in the world. The closest major city is Jakarta, Indonesia.

Perth became a British penal colony in 1849 and for the next 16 years was home to more than 9,000 convicts. Its reputation as a “convict town” began to change with the gold mining boom in the 1880s and 1890s.

Perth’s early buildings were rudimentary and simple, but the convict workforce helped generate new buildings of colonial authority. These embraced the culture and aspirations of an empire in a remote settlement and were largely constructed in the Gothic Revival style that was in vogue in England at the time. Buildings constructed during this time include the [Fremantle Prison](#), [Government House](#), the [Perth Town Hall](#) and the



Margaret River vineyard

Swan River Mechanics’ Institute.

Today the city is a mixture of old and new, where one can walk down the main street and see a modern glass skyscraper next to a small Gothic church with stained glass windows. The city has also grown into a multicultural hub because a labor shortage at the start of the mining boom generated an influx of workers from Asia and even South Africa.



Fremantle Prison, now a UNESCO World Heritage Site

and maturity that ConocoPhillips, along with other oil and gas giants, began seeing Western Australia as a place of economic importance.

Perth is known for its pristine, white sandy beaches that stretch on for miles, and the Swan River meanders through most of the city. The weather is similar to the Mediterranean climate, with mild winters. Perth also boasts the [Margaret River wine region](#), just a three-hour drive away.

to beat, with safe bike paths that can go for over 100 kilometers (62 miles) and many incredible running paths to choose from. This has helped Perth employees support the company’s *Energy in Action!* fitness program and contributed to the business unit being 2016 and 2017 Division 1 trophy winners.

According to Occupational Health Coordinator Paul Garforth, “The healthy lifestyle that

our BU has reflects our commitment to the 2017 ConocoPhillips *Energy in Action!* challenge. The team fiercely defended its Division 1 trophy. More important, we see great opportunities for team-building, cross-functional development, workforce engagement and a general sense of camaraderie as we pursue the common goal of being healthy and getting more active together.”

Each suburb is unique, with its own culture and



Stephen Wilson, senior quality assurance



Continuous Improvement Lead Tanya Perry



HR Business Partner Salome Soorma



Australia West President Chris Wilson

TOP RIGHT: IOSC early career engineers, from left: Matthew Cooper, Ben Perer, Sean Kittson and Ray Kerimofski

lifestyle. Fremantle, one of the oldest parts of Perth, is a must-see for tourists. It is home to historical architecture, the infamous Fremantle prison, and many famous Australian sculptors and artists. One huge rainbow sculpture is built entirely from shipping containers. The area is also home to the historical maritime museum where the yacht that won the America's Cup in 1983 is on display.

Despite maturing over the last 20 years, there is still a certain charm about the city of Perth, with shops never staying open past 5 p.m. during the week and most open on Sunday after



HSE Assurance Supervisor Derek Cross

11 a.m. This limitation on trading hours gives the feeling of a city that appreciates a work/life balance. Almost every suburb has access to a weekend farmers' market, encouraging residents to buy local.

"I love working and living in Perth because it allows such a healthy balance between work and life," said HSE Assurance Supervisor Derek Cross. "You can spend a productive day in the office and then in no time be outside taking advantage of Perth's excellent climate. It's a great way to remove stress and stay healthy."

Perth is a truly a unique spot for ConocoPhillips because the team manages major assets from thousands of miles away. Most employees, whether they have stayed or moved on, say that it's up there with one of the best locations in the world to live and work.

"Because Perth is the vibrant oil and gas hub



for the region, we have been able to attract great talent to the company in the areas of HSE, technical safety and process safety. Whatever the issue, we have the expertise to handle it," said Stephen Wilson, senior quality assurance.

"Perth is one of the best places in the world to work in the oil and gas sector — a small city with beautiful weather, river and beaches, great cycle paths and a very outdoorsy lifestyle. It would be a very difficult place to leave!" said Continuous Improvement Lead Tanya Perry.

HR Business Partner Salome Soorma said, "I love the variety of my work and the diverse group of people I work with every day. We immigrated to Perth seeking a better lifestyle, and I was very fortunate to be able to start working part-time when my kids were little. Now that they're grown, I'm working full-time. I'm a huge supporter of my children's sporting activities, and we dedicate most of our weekends to supporting the local basketball and soccer teams. As part of the Employee Volunteering Grant I was able to get my son's soccer team new T-shirts and balls for the season."

Chris Wilson assumed his role as Australia West business unit president in June 2015. His career with ConocoPhillips began in 1990 and has taken him around the world, from the U.K. to Houston to Dubai, Alaska and now Australia.

"I've been lucky enough to work in several great locations," Wilson said. "But Perth is definitely a favorite! Australia West is seeing a lot of activity right now as we work to keep Bayu-Undan and Darwin LNG running well, while also progressing



PHOTO BY
LUCINDA CALLIE



a backfill project that will enable Darwin LNG to run for decades longer. There is a lot for us to do, but we have a clear plan, a great team and we are making good progress!"

When not in the office, Wilson tries to make the most of what Perth can offer. "Western Australia is one of the world's windiest places, so



I've gotten back into windsurfing, a sport I first learned when I was at university in Aberdeen. I live about a mile or so from the ocean and try to get out when I can. The weather in Perth is certainly a lot more conducive to windsurfing than Scotland was!"

Legal Counsel Julia Moffat appreciates Perth as the Australian gateway to Asia. "Being in the same time zone as Singapore gives us the opportunity to work seamlessly with contractors and suppliers throughout the region. As legal counsel, I support the business in efficient contract negotiation and management. It would, however, be remiss of me to describe Perth without mentioning the weather. With an average of nearly nine hours of sunlight a day, Perth is Australia's sunniest capital city. Perfect conditions for getting out and taking part in one of the many sporting events Perth hosts throughout the year." ■

CLOCKWISE FROM TOP:
Perth beaches are some of the best in the world; Integrated Operations Support Centre facilitates collaboration; Legal Counsel Julia Moffat completing a triathlon

Malcolm Rice-Jones

Absolutely phab!

TEXT AND PHOTOGRAPHY BY PATRICK CURREY

TWELVE YEARS AGO, MALCOLM RICE-JONES, manager, Business Development & Common Services in ConocoPhillips' London Commercial office, was struck by an out-of-control car while walking along the sidewalk. The vehicle jumped the curb with no warning, knocking Malcolm over a railing and into a basement below. The incident resulted in a severe back injury that would impact

his life in an unexpected way.

In his extracurricular community engagement, he has volunteered for about 15 years with the [Epsom and Ewell Phab](#), a club for youth in southwest suburban London. His involvement with the club started innocently enough.

"I have two daugh-

ters, and when they turned 8 they heard about the youth club and thought it would be a nice thing to do. Inevitably, rather than dropping them off, going home and coming back to pick them up, I thought I'd just stay a bit."

His daughters have moved on, and Malcolm has moved from volunteer to Phab chairman.

"The club meets every Friday evening and engages in a wide variety of activities from sports to theatre. It's for kids age 8 to 18, and a third to a half of our 100-plus members have special needs. Some are wheelchair-bound and have difficulty with movement. Others are dealing with different forms of autism or educational needs. After my accident, I really came to appreciate and understand the challenges that the kids at the club face.

"Our whole purpose is to encourage integration

among kids so there are no artificial barriers.

Someone who has a different level of ability isn't restricted from achievement. If you're able to give people a bit of a chance, they can make the most of the opportunity and really thrive. We've seen that in our own club."

Indeed, the club's most famous and distinguished alumnus is David Weir, a six-time Paralympic gold medalist and recent winner of a record seventh London Marathon men's wheelchair title — which he called his "best victory ever."

One of the club's proudest moments came when they received the Queen's Award for Voluntary Service — the highest award given to volunteer groups across the U.K. But perhaps the club's finest hour came in 2011, when they were nearly shut down.

"The local government sold the building we were operating in. We went through a two-year battle to save the club, and through the kids' and volunteers' efforts, we persuaded the government to spend the proceeds on a new facility. We've moved into a new and fantastic place. It showed us our real strength. The young people were passionate and courageous. They went to long, tedious council meetings, representing the club in a very professional way, demonstrating the strength of our core values and having the tenacity to see the process through."

Thankfully, Malcolm made a full recovery from the back injury resulting from that fateful encounter and proved it to himself, even running a marathon. But he never forgot the valuable lesson. "I learned a lot about being dependent on others, how frustrating it could be to not have my full abilities and how it might be for those who have to deal with such a situation permanently, rather than for a short period as I did. I'm so proud of our club and our kids — they continue to inspire us all and are 'absolutely phabulous.'" ■



Cast members from a sellout performance at the local theatre





Dan Trotter

Strength and mindset fuel first solo swim to Rottnest

BY LUCINDA CALLIE

BELOW AND RIGHT: Dan swims against the current at the 16-kilometer line with paddler Colin Lane, one of six support crew members; Dan meets up with Industrial Relations Specialist Marcus Humphreys, left, at 4:30 a.m. at the start line registration.

OPPOSITE PAGE: Dan and daughter Kailee minutes before the race start at sunrise



DAN TROTTER IS NOT A SWIMMER. But he doesn't like being told he can't do something.

After having shoulder surgery and being told he could not swim for 20 months, he decided to tackle one of the toughest open water swims in the world: the February 25, 2017 [Rottnest Island Open Water Solo Swim](#), 19.7 kilometers (12 miles) in cold, choppy, shark-infested waters off Western Australia. Less than nine months after surgery, Dan knew this would be quite the journey.

He had never even swum 50 meters in a pool, but his mindset was that the only failure was not trying.

Dan joined ConocoPhillips' Polar Tankers fleet after graduating from a maritime academy and is now in Australia working in Marine Opera-

tions. He started training from scratch, getting up at 4:30 a.m. to swim, train or do physiotherapy. Before the surgery, he'd had only two swimming lessons. So he joined a swim team and continued to learn from YouTube videos. He also learned the importance of mental toughness after his coach told him about an Olympic track star who had the same surgery and was throwing the javelin

10 months later. His mottos were, "If she can do it, I can too," and "Even if I do not finish the swim, at least I had a go at it."

Dan got into the best physical condition possible. He expected his body to fatigue after 16 kilometers and that any additional distance toward the finish line would be 100 percent mental toughness. "The body will always quit before the brain."

Not being a swimmer and having an injured shoulder, staring out at the blue, choppy ocean

made him doubt himself. But his training program included building mental toughness to deal with the fears associated with open water swimming: heavy seas and swell, currents, hypothermia, sunburn, sharks and exhaustion.

The night before the swim, he had the best sleep in months.

He was in the best physical condition possible, had mentally trained for the challenge and had a fantastic support crew. Now it was just up to him to swim!

The morning of the swim, he got a good luck high-five from three-time participant and colleague Marcus Humphreys, and they set off from Cottesloe Beach at 6:05 a.m.

About 17 kilometers into the swim, Dan's shoulder began to weaken and nearly dislocated. His first thought was, "How can I change my stroke to hide the issue from the support crew so they don't pull me out of the water?" He adapted his stroke and pressed on.

Dan swam for 10 hours and 6 minutes and, due to currents, covered 22.8 kilometers (14.2 miles). During his time in the water, he wondered why anyone would do this twice, but minutes after crossing the finish line he was already planning to go again in 2018.

"A lot of us sit much of the day behind a desk. I find that my mental health improves when I am physically active. It never ceases to amaze me how much more productive I am during the day after exercising. If you're feeling tired and just want to hit the snooze button — don't. Moving your body will make your mind so much better." ■







Jumadil Kubro

From Palembang to Norway

BY ISTIQOMAH MATTJIK

BRINGING FOOD TO THE OFFICE OR TO NEIGHBORS' HOMES IS A COMMON PRACTICE IN INDONESIA, especially for

Jumadil Kubro because his wife, Henni, loves to cook. He never imagined that the gesture would bring him and his family closer to his colleagues and neighbors in Norway.

Jumadil joined ConocoPhillips Indonesia (COPI) in 2001 after being recruited by campus hiring at Politeknik Sriwijaya University in Palembang, 270 miles from Jakarta, Indonesia's

capital city. Palembang was home base for COPI onshore operations in South Sumatra.

Jumadil's first job was as senior clerk, supporting purchasing activities for the onshore camp. In 2006, he was assigned to Jakarta and continued his procurement career. After handling Jakarta's new office project, he was assigned to Darwin, Australia, for three months.

"During my early career, it never crossed my mind to get an overseas assignment, but after the short assignment to Darwin, I was inspired and wrote it into my Individual Development Plan," Jumadil said.

Jumadil had to wait for several years. He became COPI Well Operations procurement supervisor, then Projects procurement supervisor. It was a busy time for COPI, with 11 projects running simultaneously.

When his supervisor, Rafael Lara, advised him of an opportunity in Norway, he didn't think twice. In less than two months, he became contract specialist for ConocoPhillips Norway Well Operations, handling the full cycle of procurement from contract development to closeout.

In August 2013, Jumadil moved with his wife and two children, Nisa and Argy, to Stavanger, 7,000 miles from Indonesia.

"I was a bit nervous because the Norway business unit is recognized as very mature in contract management; the employees are very smart and mostly specialists," Jumadil said. "But I was excited about the opportunity to learn and develop my skills."

"The first couple of weeks were very hard for my family. My daughter often cried at school and my wife did not want to leave the house without me."

To cope with homesickness, Henni cooked Indonesian dishes and asked Jumadil to deliver some to their neighbors and to his colleagues at the office. Everyone was surprised when he arrived with traditional Indonesian foods, such as *pempek*, a savory fish cake dish from Palembang, and *rendang*, a spicy meat dish from West Sumatra.

Unlike Thai food, Indonesian food is not common in Norway. Jumadil had to explain the ingredients before anyone would try it. Once they did, they instantly loved the exotic flavors.

"My wife became famous in the neighborhood and the office. Her foods were highly anticipated. It boosted her confidence."

After taking an intensive English course, Henni and Nisa started to enjoy the new environment.

Wherever he works — Grissik, Jakarta, Darwin or Stavanger — Jumadil believes in working with passion to deliver more than what is expected. He recognizes the importance of building networks beyond his team and knows that direct communication is always more effective.

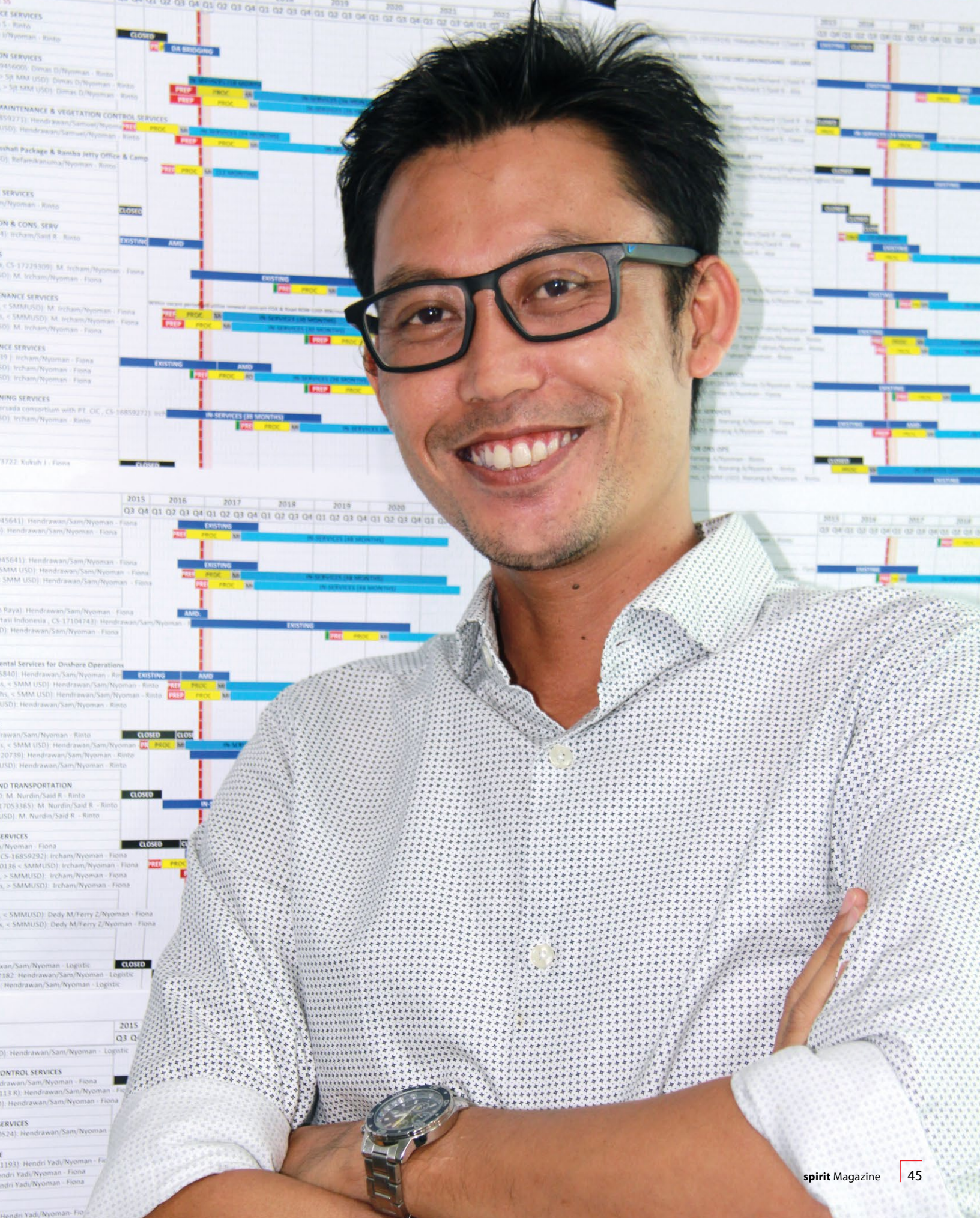
Jumadil returned to Jakarta in June 2016 and is currently working in Operations, having left a useful legacy for his group in Norway: an Excel-based tool that enables spend analysis from SAP data. He's pleased to be remembered for more than being the guy who brought delicious, exotic food. ■



From left: Nisa, Jumadil, Henni and Argy



ONSHORE OPERATIONS FUTURE CONTRACT STRATEGY



ConocoPhillips representatives attend IPIECA

A group of ConocoPhillips representatives recently attended the annual meeting of IPIECA, the global oil and gas industry association for environmental and social issues. The Houston conference focused on climate and energy, the environment, oil spills and social impact. Discussions also centered around the challenges and opportunities inherent in the Paris Agreement and U.N. Sustainable Development Goals.

"Involvement in IPIECA provides an opportunity to build relationships and discuss key issues facing the industry globally with a broad range of environmental and sustainable development leaders and subject matter experts," said Deena Clayton, global chief, Environmental Assurance.

Participants exchanged ideas and information with representatives from other member companies, including major integrated companies, independents, national oil companies and service companies. The program included panel discussions on a range of issues from spill response to the U.N. Sustainable Development Goals. Members also participated in issue-working group strategy sessions.

"Our IPIECA participation allows us to leverage member funding and support from across the industry to help undertake priority projects like the low emission pathway paper recently developed by the climate change working group," Clayton said. "It also allows us to deliver IPIECA tools and training, such as human rights training, within our business more efficiently than if we had to develop the tools independently." ■



Deena Clayton

Recent asset sales make a significant impact

BY JAN HESTER

AS PART OF ITS BUSINESS STRATEGY AND ONGOING COMMITMENT TO OFFERING SMART GROWTH AND SUPERIOR RETURNS, CONOCOPHILLIPS RECENTLY SOLD ASSETS IN WESTERN CANADA AND ANNOUNCED A DEAL TO SELL ASSETS IN NEW MEXICO'S SAN JUAN BASIN.

In March, the company signed an agreement with Cenovus to sell its 50 percent nonoperated interest in the Foster Creek Christina Lake oil sands partnership, as well as most of its western Canada conventional business.

ConocoPhillips Canada will retain its operated 50 percent interest in the Surmont oil sands joint venture and its operated 100 percent interest in the liquids-rich Blueberry-Montney unconventional acreage position. In addition, the company will receive five years of uncapped contingent payments, triggered when Western Canada Select (WCS) crude prices exceed \$52 Canadian per barrel.

"This transaction will make an immediate and significant impact on the company's value proposition by allowing us to rapidly reduce debt and double our share repurchase authorization," said Chairman & CEO Ryan Lance. "This means we will not only accelerate, but exceed, the three-year plan we laid out in November 2016."

The company also signed an agreement with Hilcorp to sell its interests in the San Juan Basin for \$2.7 billion in cash and a contingent payment of up to \$300 million. This transaction will enable the company to continue to reduce its exposure to North American dry gas, and the proceeds will contribute to financial strength by making an immediate positive impact on ConocoPhillips' balance sheet.

"Like our Canadian transaction, this news is bittersweet," said Lance. "The San

Juan Basin has been a tremendous asset for our company, and we have a long tradition in the area. I recognize that it's difficult to part with legacy assets like these, but I am confident that our buyers see significant opportunities to increase and extend the value of these properties."

Lance also noted that May 1, 2017, was ConocoPhillips' five-year anniversary as an independent exploration and production (E&P) company. "I think it's timely to remind ourselves of the strategic objectives we embraced at the spin: Smart Growth, Superior Returns,

"This transaction will make an immediate and significant impact on the company's value proposition by allowing us to rapidly reduce debt and double our share repurchase authorization." — RYAN LANCE

SPIRIT Values. I believe these objectives are as relevant today as they were then. Smart Growth means being disciplined about investing in lowest cost of supply opportunities, and Superior Returns means delivering double-digit returns to shareholders annually."

Lance also stressed the importance of maintaining a focus on being "low cost" without compromising safety. "Our SPIRIT Values transcend good times and tough times. They are the common, unifying core of our company — and will remain that way.

"Even after our planned asset sales, we will remain the largest producer among independent E&P companies. To succeed in a well-supplied world of greater price volatility, we must have a low break-even price, a low cost-of-supply resource base, capital flexibility and a strong balance sheet. These transactions strengthen our company across all these measures. For employees, this means being part of a company that will thrive through price cycles." ■

IT takes first place for innovation

ConocoPhillips Information Technology's (IT) Data Center Optimization and Consolidation Initiative took first place in the infrastructure category at the 2017 InformationWeek IT Excellence Awards. This is the company's fifth consecutive year to be recognized.

These awards recognize companies for applying advanced, innovative technology solutions to drive business results or improve outcomes for customers and stakeholders. Winners were announced at the InformationWeek IT Leadership Summit on May 16.

"The winners stand out as true innovators and leaders among their peers," said Susan Fogarty, director of content for InformationWeek. "The quality of the submissions

"The new strategy has benefited the entire company with a leaner, more-efficient and easier-to-manage solution, while saving significant dollars." — DEREK DAVIS

was impressive, but those chosen as winners clearly illustrate how organizations can take advantage of technology to redefine how their businesses operate and succeed."

The two-year initiative aimed to modernize and streamline the company's two major data centers, in alignment with a new IT infrastructure strategy.

"The Server, Storage & Data Center Operations teams began this

strategic initiative in mid-2014 to consolidate the computing and data storage equipment that supports the company," said Scott Duplantis, manager, Server, Storage & Data Center Operations. "This included all structured and unstructured data and the computing associated with all mission-critical applications and databases. The scale of this consolidation effort was massive."

Following the consolidation, the

business and no negative impact to mission-critical data.

"This strategy fundamentally changed the way we purchase, deploy and manage these large architectures of IT equipment," said Derek Davis, manager, IT Infrastructure & Operations. "The new strategy has benefited the entire company with a leaner, more-efficient and easier-to-manage solution while saving significant dollars."



Scott Duplantis, manager, Server, Storage & Data Center Operations

Houston and Bartlesville data storage footprint was reduced from 106 physical racks of equipment down to 41 supporting the same amount of data. In the server computing environment, roughly 850 physical devices were reduced to 600. This was accomplished with no interruption to the

"This team is truly deserving of this recognition," said Chief Information Officer Mike Pfister. "This shows how effective we can be with a well-articulated strategy, a relentless focus on innovation, a competitive supplier environment and a collaborative approach to problem solving." ■

Tech News

Field trials put fiber-optic sensors, laser cutters to the test

BY GUS MORGAN

TO ADVANCE AND DE-RISK PROMISING TECHNOLOGIES, CONOCO-PHILLIPS COLLABORATES WITH EXTERNAL PROVIDERS TO CONDUCT FIELD TRIALS, A PROCESS THAT CAN ACCELERATE A TECHNOLOGY'S ADOPTION AND COMMERCIALIZATION.

While ConocoPhillips pursues many field trials, the company's recent work with two innovative companies, Foro Energy and Ziebel, stands out. In the Southern North Sea (SNS), [Foro is testing laser technology](#) that could optimize plug-and-abandonment (P&A) operations. In the Permian and Bakken unconventional reservoirs, the company is using [Ziebel's fiber-optic sensing tool](#) for production logging. For both this tool and the laser P&A cutting tools, technology development and successful field trials are the result of collaboration between ConocoPhillips' Technology Value Optimization team, the business units and technology start-up companies.

These technologies are on track to follow flow control devices that the company has qualified and deployed to reduce cost of supply in its Canadian oil sands operations.

LASER TECHNOLOGY IN THE SOUTHERN NORTH SEA

Foro's laser cutters will undergo field trials this summer on the Ganymede ZD platform in the SNS. The offshore tests will involve seven wells and are designed to progress the transformational laser technology, which promises to shave a day off P&A operations per well, saving on rig costs.

Foro's technology offers an alternative approach to the traditional abrasive-cutting systems used to cut conductor pipe and tubing. Its integrated down-hole and topside tools work together. The laser cutter is run into a well until it reaches the depth where the pipe needs to be cut. The laser goes to work, slicing through the conductor pipe and cement. The cut section is pulled up by the rig, where the topside tool, nicknamed the Beast, pins the multiple casing strings

together before cutting the pipe into 40-foot sections for removal.

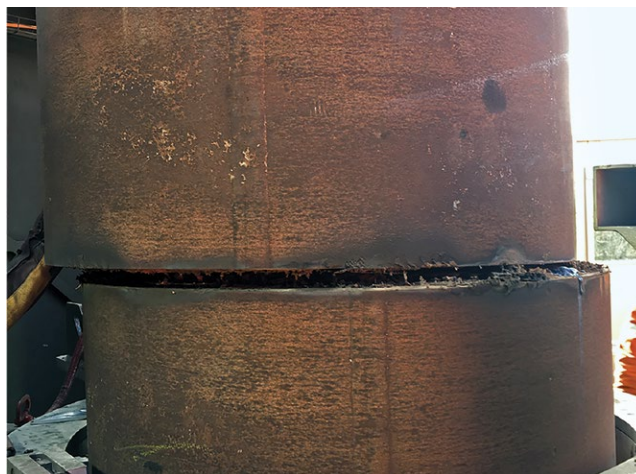
Matt Jenkins, engineering supervisor, U.K. Well Decommissioning, said the P&A industry has been searching for a new approach to cutting tubulars. In large-scale P&A campaigns, Jenkins said, the limitations of existing tools have been magnified, and the results have been inconsistent and unpredictable.

"This opened a real opportunity to use something new, and Foro came up with a credible alternative," Jenkins said. In September 2016, the Norway Decommissioning & Abandonment team collaborated with Foro during a proof-of-concept field trial on Ekofisk Alpha. Since then, Foro has continued to evolve

Foro's technology offers an alternative approach to the traditional abrasive-cutting systems used to cut conductor pipe and tubing.

its technology, and rigorous onshore tests this spring gave the two companies the confidence to take the technology offshore for testing.

"Offshore is where the real value will be generated," Jenkins said, "and the Southern North Sea is the perfect starting point. We still have 90 wells to P&A in the area, so 90 days of rig time is a



Foro Energy's laser technology can cut through conductor pipe, production tubing and cement.



Ziebel's fiber-optic sensing tool is run downhole to capture DTS and DAS data for production logging and well calibration.

huge saving overall."

Andrew Hood, SNS P&A team lead for the U.K. Well Operations & Decommissioning group, is managing the upcoming field trials. To prepare, Hood said, the team has been holding regular planning meetings and engaging stakeholders, from the rig contractor to Supply Chain and health, safety and environment (HSE) groups.

"We have made significant progress on our learning curve in the Southern North Sea P&A campaign to date," Hood said, "but conductor cutting is the only area where we have not seen significant improvement. The Foro technology is a potential game-changer. If successful, it creates the opportunity for conductor-cutting operations to be performed off the rig's critical path, freeing it up for other uses."

DATA ACQUISITION IN THE PERMIAN AND BAKKEN

ConocoPhillips has been working with Ziebel to field trial the company's fiber-optic sensing tool to access and visualize an entire wellbore in real time.

ConocoPhillips is using the tool for production logging and calibration. Data relayed by the tool help engineers and scientists better understand well performance.

The Ziebel rod includes distributed temperature sensing (DTS) and distributed acoustic sensing (DAS) fibers that measure temperature and strain rates. Data generated provide insight into well behavior, flow patterns and well integrity.

In 2015, ConocoPhillips conducted proof-of-concept field trials in the

Permian, where Ziebel's tool was used to create three production logs, including a water-influx survey, said Ben Lascaud, supervisor, Permian Reservoir Characterization. Those initial tests demonstrated the tool's potential and cleared some of the initial operational concerns.

In 2015 and 2016, ConocoPhillips used the tool in the Bakken to create four production logs and conduct two leak-detection tests. This year, follow-up surveys were performed on two wells to measure cluster efficiency over time.

Flow control devices

Field trials have played a key role in the evolution of flow control devices (FCD), a transformational technology that reached commercial-level application at Surmont, ConocoPhillips Canada's oil sands facility. Thirty-six new pad well pairs feature FCDs, and they're standard for all future steam-assisted gravity drainage (SAGD) wells.

The devices, which promote a more uniform distribution of steam along the injection well and fluid draw-down to the production well, have been so effective at improving well performance that ConocoPhillips is evaluating plans to retrofit its entire field, pending performance results from ongoing field trials.

Field trials have provided insight into how macro environments affect FCD performance, enabling teams to better understand the technology and develop simulation capabilities.

T.J. Wheeler, reservoir engineering fellow, said ConocoPhillips' FCD pilots resulted in a paradigm shift, enabling

Stephanie Erickson, Williston Reservoir Characterization & Base Engineering supervisor for the Rockies business unit, said the Ziebel technology has already shown its data collection value. Data from the surveys will help determine if the number of clusters per stage can be increased without impairing efficiency. Such information will help the business unit make better decisions on completions design and has led to decreased completions costs.

Adam Childs, Williston staff reservoir engineer, said the low-frequency DAS data collected in tandem with the DTS data allowed geophysicists and engineers in Subsurface Technology to assign a production value to each cluster. By combining the two data sets, Senior Geophysicist Ge Jin, Principal Geophysicist Baishali Roy and Completions Engineer Kyle Frieauf developed an industry-first workflow to estimate the production allocation at the cluster level. ■

the company to make a step-change in its SAGD well completions that led to enhanced well production and improved mechanical integrity.

"Any pilot you do brings value; even if it fails, it helps you make the right decision by reducing uncertainty. The whole reason you do a pilot is because you don't know."



Since 2006, ConocoPhillips has continued to progress the use of flow control devices in its SAGD operations in Canada, using field trials and lab tests. Wells with FCDs show a marked reduction in circulation time and a substantial uplift in production.

Eight companies recognized as part of 2017 Supplier Recognition Award program

BY CHRISTINA KUHL

In April, ConocoPhillips announced the winners of its third annual Supplier Recognition Award program. The eight recipient companies were honored for exhibiting exceptional leadership that celebrates the company's SPIRIT Values.

Awards were given in two areas: focus on execution and doing business better.

Business unit leadership around the world generated nominations internally, with winners chosen by a global cross-functional committee including representatives from senior management.

"2016 was another difficult year for the industry, and the strength of this year's nominations highlights the invaluable role suppliers play in helping us safely deliver on our goals despite a challenging cost environment," said Al Hirshberg, executive vice president, Production, Drilling & Projects. "These suppliers demonstrated differential performance by being flexible and adaptable or helping us improve the way we do business by developing fit-for-purpose solutions. This program is a great opportunity to recognize their commitment and innovation."

Focus on execution: Bristow Norway AS/Bristow Helicopters Ltd.

In April 2016, a helicopter crash in Norway resulted in the immediate and indefinite grounding of roughly 40 percent of North Sea airframes, posing a business-critical risk to ConocoPhillips' operations in the U.K. and Norway. Bristow Norway AS/Bristow Helicopters Ltd.'s exceptional response and subsequent efforts to mitigate operational impact and risk, including sourcing and repositioning aircraft, making them



ConocoPhillips Canada President Michael Hatfield and members of his team present the award to North Cariboo Air's (NCA's) leadership. Left to right: Debashis Ghosh, manager, Logistics, Material & WH Management; Randy Gee, NCA; Sarah Bragg, NCA; Paulett Buckley, NCA; Peter Scheiwiller, NCA; Steve Bradley, vice president, Oil Sands Operations; Paul Rudy, NCA; Michael Hatfield; John Green, NCA; Kevin Midkiff, general manager, Supply Chain Canada; Alex Kocen, lead, Aviation & Fleet Vehicles; Brad Duke, material analyst, Canada.



ABOVE LEFT: Nils Svanberg, manager, Supply Chain, IT & Facilities, Europe & North Africa (right) presents the award to Heidi Heimark of Bristow Norway (left). **ABOVE RIGHT:** Europe & North Africa President Trond-Erik Johansen presents the award to IKM Testing AS (from left): Roger Alsaker, business planning lead, Eldfisk Operations; Vidar Haugland, IKM; Ståle Kyllingstad, IKM; and Trond-Erik Johansen.



available at the earliest opportunity and implementing an immediate aircrew retraining and qualification program, allowed ConocoPhillips to achieve minimum business interruption.

Focus on execution: IKM Testing AS

IKM Testing AS played a critical role in a shutdown project, providing special cleaning and nitrogen helium leak testing services for more than 3,000 connections and flanges. They delivered this challenging scope on time, on budget and with zero health, safety and environment (HSE) incidents. They also inspired ConocoPhillips to implement new ways of working that saved

a significant amount of time and will be applied in future shutdowns.

Focus on execution: North Cariboo Air

During the 2016 Fort McMurray wildfires, North Cariboo Air provided air charter transport support and air terminal facility usage for 800 evacuees of Surmont and the surrounding area on short notice in the middle of the night. Their terminal was used as staging/muster point, a key component of ensuring the safety and comfort of the affected staff and contractors. In addition to their support during a crisis, they safely transported more than 300,000 passengers to and from the Surmont project.

Focus on execution: UGL Limited

UGL Limited (UGL) collaborated with the Australia East business unit to use an existing maintenance contract to support the startup of Australia Pacific Liquefied Natural Gas Train 2. During the startup, UGL ramped up their team from 53 people to 68 (with an additional 120 people for strainer shutdown) in a very short time frame while maintaining a high-quality workforce. This contributed to a 33 percent cut in schedule for startup. They proactively embraced ConocoPhillips' HSE initiatives, including verification of the Life Saving Rules, and pioneered the adoption of the ISNET World contract management system.

Doing business better: Clough Amec Pty Ltd.

Upon receiving the Bayu-Undan operations and maintenance contract in January 2016, incumbent contractor Clough Amec Pty Ltd. restructured their labor contracts, rationalized labor agencies and reviewed direct employment of personnel, resulting in significant savings. They also enhanced the training and development of local Timorese workers,



ConocoPhillips Alaska President Joe Marushack and members of his team present the award to Halliburton Energy Services, Inc.'s leadership (from left) Marty Marti, manager, Wells; Shon Robinson, manager, Drilling & Wells; Isaac Paterniti, Halliburton; Joe Marushack; Scott Odell, Halliburton; Renee Huntman, Halliburton; Chip Alvord, manager, Drilling; Ryan Plienness, Halliburton; Lisa Bruner, vice president, NS Operations & Development; and Dirk Retzlaff, director, Drilling & Operations Supply Chain.

leading to productivity improvements and an increase in the overall percentage of Timorese personnel in the workforce.

Doing business better: Halliburton Energy Services, Inc.

Halliburton Energy Services, Inc.'s openness to a new commercial model in Alaska and its willingness to collaborate to ensure proper implementation led to the successful delivery of 14 wells with vastly improved performance. This

effort allowed ConocoPhillips to mitigate inefficiencies, high costs and a difficult invoicing process associated with the previous commercial model.

Doing business better: MMA Offshore Ltd.

MMA Offshore Ltd. (MMA) collaborated with the Australia West business unit to develop a dual-function vessel that could supply goods and services to perform static tow work. To ensure the vessel would be successful, MMA also developed a sustainable officer training schedule and new ship handling techniques. In addition to achieving significant cost savings, this effort led to fewer vessels in the field and a reduction of 5 million liters of fuel consumption.

Doing business better: WorleyParsons Canada Services Ltd.

WorleyParsons Canada Services Ltd. (WorleyParsons) was hired by ConocoPhillips Canada to help execute a well pad manufacturing program that would drive down future costs at the Surmont project. WorleyParsons consistently challenged the status quo, ultimately delivering a fit-for-purpose design well below the targeted cost. Their full integration into the project team supported open communication and transparency throughout the project, reducing review cycles and encouraging collaborative decision-making. ■



ABOVE: UGL contractor workforce at the Australia Pacific LNG facility on Curtis Island

RIGHT: Members of the UGL workforce accept the award from ConocoPhillips representatives.



Global Aviation Services' "Captain for a Day" program continues to soar

BY DAVID AUSTIN

SHORTLY BEFORE RETIRING FROM CONOCOPHILLIPS AFTER 41 YEARS OF SERVICE, CRAIG BROCKMEIER ENJOYED ONE OF THE BEST DAYS OF HIS LIFE.

A senior analyst within Information Technology, Brockmeier was Global Aviation Services' (GAS) "Captain for a Day" on Jan. 26 after placing the winning bid during the annual eWay Auction benefiting the Bartlesville United Way.



Craig Brockmeier enjoys time in a flight simulator during his "Captain for a Day" experience.

Brockmeier flew in the OK-TX Air Shuttle jump seat, spent time in a flight simulator, toured three separate facilities and visited with members of the GAS team.

"I loved it," said Brockmeier. "It was really great. I was treated above and beyond my expectations. The experience was definitely one of the highlights of my life."

Brockmeier's day began at 5:45 a.m. After Rick Boswell, Bartlesville Municipal Airport manager and shuttle captain, led the daily aircraft inspection with Brockmeier at his side, the pair boarded the shuttle. On the morning leg, Boswell served as the nonflying copilot while Brockmeier sat in the jump seat.

Upon arriving in Houston, Brockmeier met the staff and toured the company hangar at George Bush Intercontinental Airport. Following lunch with Boswell and Olive Zanakis, shuttle flight attendant, the trio headed south to Houston Hobby Airport, where the flight simulator is located.

The simulator is owned by Flight-Safety International. Brockmeier toured their facilities, including a behind-the-scenes look at the computers that operate the simulators. His time in the simulator was donated by FlightSafety, which has supported the program since

its inception.

Brockmeier chose New York's LaGuardia as his first airport. Boswell served as his copilot.

"During the initial simulation, we went down the runway, rotated and took off," Brockmeier said. "It was so realistic that my heart was racing."

Brockmeier chose San Francisco as his second airport. Though he flew a little too close to the Golden Gate Bridge and triggered the simulator's alarms, he successfully landed the aircraft.

He concluded his day by flying home, again in the jump seat.

"It was a five-star experience," Brockmeier said. "I would recommend this program to anyone."

"I had trouble sleeping the night before. As excited as I was, the experience still exceeded my expectations."

The 2016 eWay Auction in Bartlesville marked the third time that the "Captain for a Day" package had been offered. It has proven to be the most popular auction item.

Assistant Chief Pilot Jeff Fellows and Zanakis organize the annual event.

"We are constantly looking for ways to refine and enhance the experience," Fellows said. "That is made easier by the fact that our whole GAS team is so committed to the program."

"It's a great way to offer insight into GAS while supporting an outstanding organization like the United Way." ■

Houston Development Series speaker challenges participants to 'Rewrite Your Story'

Motivational speaker Alvin Law, who was born without arms, shared his compelling life story during four presentations on May 15 and 16 in Houston, telling attendees to look beyond what is possible and dream big. Law delivered compelling and timely messages that resonate with ConocoPhillips employee engagement efforts today. He emphasized that attitude is a choice: "While you can't control your environment, you can control your attitude."

Law kicked off the Houston Development Series, a string of motivational and business presentations planned for the

Houston complex and Lower 48 that will run through August.

In the early 1960s, more than 13,000 babies around the world were born with deformities as a direct result of thalidomide, a drug prescribed to relieve morning sickness in pregnant women. Law was one of them. He shared how he was given up for adoption and raised by a foster family, learned how to use his feet for hands and discovered his musical ability during school. His adoptive parents raised him to not just survive, but to exceed expectations; Law said it was a natural



and essential part of their culture at home. His upbringing laid the groundwork for a successful career as a motivational speaker around the globe since 1982. ■

ConocoPhillips donation supports new Boys & Girls Club

BY DAVID AUSTIN

ConocoPhillips recently contributed \$250,000 to help construct a new facility for the **Boys & Girls Club (BGC) of Bartlesville**.

The new facility will be built on the site of the existing one and is expected to be completed in the summer of 2018. It will be named in honor of former Phillips Petroleum Company Chairman and CEO C.J. "Pete" Silas, who was a BGC member growing up and went on to assume the chairmanship of the national organization.

"We are proud to make this donation," said Mark Headley, manager of ConocoPhillips' Real Estate & Facilities Services

"The new facility will be a great asset as we continue to look for new ways to serve the youth of this outstanding community." — JASON BARTA

organization. "The Boys & Girls Club does great work for our community, and we feel this gift will help ensure they continue to do so well into the future."

Located near the intersection of Seminole Ave. and 5th St. on Bartlesville's west side, the C.J. "Pete" Silas Boys & Girls Club will feature a wide array of facilities to serve the community's youth, including a gymnasium, a café, a learning center, classrooms, a game room, a preteen center, teen rooms, meeting rooms, a dance studio and a music studio. The

grounds will feature a baseball diamond, a basketball court and a parking area.

"We certainly appreciate the generous donation made to the Boys & Girls Club of Bartlesville," said Jason Barta, the organization's CEO. "The new facility will be a great asset as we continue to look for new ways to serve the youth of this outstanding community."

A groundbreaking ceremony for the new facility took place on Sept. 18,

stated Priority Outcomes: Academic Success, Good Character & Citizenship and Healthy Lifestyles.

A member agency of the Bartlesville Regional United Way, the BGC has seen its total annual membership and average daily attendance grow in recent years. Today, it serves an estimated 1,000 children per year and has a daily attendance average of roughly 200.

"As a board member, I have enjoyed



ConocoPhillips' Mark Headley, manager, Real Estate & Facilities Services (far left) and Bob Heinrich, general manager, Financial Services (far right) present a \$250,000 check from the company to Jason Barta and Annah Fischer of the Boys & Girls Club of Bartlesville.

2016, and initial work on the project has commenced.

The Bartlesville chapter was the first Boys & Girls Club in Oklahoma and has made a positive impact on the lives of local youth for more than 60 years. The BGC offers programs to support its three

a first-hand view of the good work the Boys & Girls Club of Bartlesville does for our community," said Bob Heinrich, general manager, Financial Services. "They deserve a first-class facility, and I'm glad ConocoPhillips is helping to make that dream a reality." ■

ConocoPhillips cycling team raises funds in annual ride

Following a longstanding tradition, on April 29 and 30, the ConocoPhillips cycling team participated in the [2017 BP MS 150](#), raising more than \$200,000 to benefit the National Multiple Sclerosis Society. This year's team featured 130 riders, including team captain Steve Moskowitz, who participated for the 25th time.

"Weather presented a challenge for us," said Vikrant Joshi, senior advisor, Projects. "On the first day, it got into the high 80s, with a strong upfront wind. The second day, a cold front and storm passed through early. At the start of the ride, it was in the low 50s and the wind resistance of 25 to 30 knots lasted for the entire day."

The annual two-day event starts near Houston, Texas, and ends in Austin, Texas. Organized by the National MS Society, South Central Chapter, the ride is the largest event of its kind in North America, with 13,000 cyclists, 3,500 volunteers and many spectators along the route. ■

With the Texas Capitol Building in the background, Projects Senior Advisor Vikrant Joshi holds up his bicycle to celebrate finishing the 2017 BP MS 150.



Ken Tubman, vice president, Subsurface, right, presents a commemorative plaque to Frank Kelley, manager of Fisher House Houston.

Patriot Employee Network supports VA Fisher House

BY JAN HESTER

When U.S. veterans travel to Houston for treatment at the Michael E. DeBakey VA Medical Center, family members often come along to provide support. [Three VA Fisher House locations](#) in Houston offer a home away from home free of charge to families of veterans being treated for long-term illnesses. To enable these guests to conduct personal business while away from home, the ConocoPhillips Patriot Employee Network (PEN) recently presented one Houston location with supplies and equipment to properly furnish an office.

At a ceremony in late April, executive sponsor Ken Tubman, vice president, Subsurface, presented a plaque commemorating the new office to Frank Kelley, manager of Fisher House Houston.

"Fisher House does a great job supporting our veterans and their families," said Tubman. "We look forward to maintaining our strong relationship and identifying ways to have additional impact."

John Doran, director, Global TMS & Client Screening, and William Service,

Technology & Subsurface planning coordinator, serve as charity ambassadors for Fisher House.

"PEN put together hardware, software and office equipment, including three networked laptops, an all-in-one printer/copier/fax, software licenses, a desk and office chair," said Doran. "We got the equipment from excess ConocoPhillips inventory, used our funds to purchase software and leveraged group members' technology skills to put the whole thing together."

Over the past three years, PEN has donated two large storage containers to Fisher House, and members regularly prepare and serve dinners for the guests.

Fisher House Foundation operates 72 houses in the U.S., Germany and England. Each features a common kitchen, dining room, living room, library, family room and laundry facilities. Houston Fisher House One has 21 guest suites with private baths, and Fisher House Two has 20. All rooms are equipped with televisions. Fisher House One also features a playroom for guests with children. ■

ConocoPhillips honored by Houston Wilderness

During its 2017 annual luncheon on February 28, [Houston Wilderness](#) presented its 2017 Wild Partner Award to ConocoPhillips for the company's commitment to promoting economic growth, a healthy environment and vibrant communities.

"We are honored to present ConocoPhillips with the Wild Partner Award, which is presented to organizations that help preserve and enhance our region's most important natural landscapes," said Deborah January-Bevers, Houston Wilderness president and CEO. "For more than 10 years, the company has supported the programming that enables us to benefit the Houston region and its residents."

Since 2005, ConocoPhillips has been a proud supporter of Houston Wilderness and its commitment to promoting economic growth, a healthy environment and vibrant communities. The company has sponsored and supported programs and projects including the Houston Atlas of Biodiversity, the Wilderness Passport and the Gulf Houston Regional Conservation Plan, the first ecosystem



continuity and connectivity plan for the area.

"It's an honor to receive this prestigious award," said Natalie Riley, director, Community Relations. "Like Houston Wilderness, ConocoPhillips is committed to protecting the environment. We implement high standards to ensure that our actions today will provide the energy needed to drive economic growth and social well-being while securing a stable and healthy environment for tomorrow. Through our charitable investments, we partner with communities and institutions, such as Houston Wilderness, to identify innovative environmental solutions that advance conservation efforts essential for species survival and long-lasting ecological benefits."



Community Relations Director Natalie Riley

Houston Wilderness is a broad-based alliance of more than 100 business, environmental and government interests that work together to protect, preserve and promote the unique biodiversity of the 13-plus county Greater Houston Region's remaining ecological capital, from bottomland hardwoods and prairie grasslands to pine forests and coastal wetlands. To learn more, visit houstonwilderness.org. ■

Guitar for a cause

Larry McDougall, first assistant engineer in ConocoPhillips' Polar Tankers group and former recipient of the SPIRIT Award for Individual Lifetime Achievement, recently donated one of his custom-made guitars to be auctioned at a May 11 private fundraiser benefiting the [Danny Dietz Memorial Fund](#). The Panama City, Florida, event featured a concert by country music star [Charlie Daniels](#).

Bidding started at \$1,000 and the

guitar — signed by musicians Dave Bray and Charlie Daniels — brought in an impressive \$4,000. A total of \$40,138 was raised during the event.

"I'm pleased to be part of this event," said McDougall. "And I'm very proud of our team, who made this happen while I'm still at sea."

Danny Dietz was a Navy SEAL who was killed in 2005 during a surveillance and reconnaissance mission in Afghanistan. Proceeds from the organization's fundraising events benefit the Navy SEAL community. ■

Charlie Daniels with Gold Star Mother Cindy Dietz



St Andrews Prize for the Environment goes to Plantwise

Global program helps smallholder farmers around the world

BY SANDRA DUNCAN

The [2017 St Andrews Prize for the Environment](#), a longstanding joint initiative by ConocoPhillips and the University of St Andrews in Scotland, was presented to Plantwise in recognition of their efforts to increase the environmental sustainability of food production across the globe. This year's winner was announced at a ceremony at the University of St Andrews on April 28.

The [Plantwise program](#) is led by the [Centre for Agriculture and Bioscience International](#), collaborating with more than 200 partners worldwide at a local, national and global level to increase food security and improve livelihoods while strengthening the environmental outcome for farming. It helps smallholder farmers around the world maximize yields and reduce the amount of pesticides in use by establishing networks of local plant clinics offering agricultural advice from trained plant doctors.

The clinics are reinforced by the

Plantwise Knowledge Bank, a gateway to actionable information. The bank collects data about farmers, crops and the pests affecting them, which is then shared with national stakeholders. This quick and cyclical flow of information means everyone can benefit from new discoveries, including Plantwise, who can then develop targeted best-practice guidelines for managing crop losses.

To date, Plantwise has reached more

than 9.8 million farmers in 34 countries, with 79 percent seeing crop yields increase after their clinic visits. The organization aims to be established in 40 countries by 2020. With plans to roll out tablets to clinics across Africa, Asia and the Americas, Plantwise is striving to improve the quality of recommendations given to farmers and the speed of data collection, allowing for real time tracking of pest outbreaks.

Dr. Washington Otieno from Plantwise was presented with the winning prize of US \$100,000. "It's a privilege and an honor to win the 2017 St Andrews Prize for the Environment," said Otieno. "The prize money will help scale up the use of our digital tools and applications, enabling plant doctors to make quicker and better diagnoses and recommendations."

"Our sponsorship of the St Andrews Prize lets us engage externally through collaboration with academia and non-government organizations to develop insights into issues faced by remote communities around the globe, including an increased knowledge of sustainable land



CLOCKWISE FROM ABOVE: A plant clinic in My Tho, Vietnam; A field visit near Machakos, Kenya; Diagnosing rice leaf folder pest in Puducherry, India



use," said ConocoPhillips U.K. President Terri King.

Professor Sally Mapstone, principal and vice chancellor of the University of St Andrews, said, "The university and ConocoPhillips are both interested in the pursuit of excellence. We look at things from a global perspective and, to invoke our university motto, 'we believe in 'Ever to Excel.'"



CLOCKWISE FROM LEFT:
Aquaponic Model 1;
Aquaponics harvest; Fish
feeds (duck weeds and
water cabbages)



THIS YEAR'S RUNNERS-UP

The pump, the fish and the garden: Aquaponics in the Philippines

[Community Hopes Alternatives Inc. \(CHAI\)](#), working with the Bureau of Fisheries and Aquatic Resources and the Pagbilao Municipal Government, uses aquaponics to provide food and nutrition to poor communities in the Philippines.

[Aquaponics](#) is a system of aquaculture where waste produced by farmed fish or other aquatic creatures supplies nutrients for hydroponically grown plants, which in turn purify the water. CHAI's system utilizes aquaponics to integrate hydroponic vegetable production with the closed fish production system. Their innovative modification of the traditional hydroponic process means that aquaponic pumps can be introduced at a household level, where resources and space are limited.

The aim is to provide three units per household. Harvests from the first are for household food to address nutrition issues; the second is for sale for household income; and net income for the remaining unit will be used by the project to recover costs and reach more beneficiaries.

Tested in a small village in the Philippines, one basic aquaponics set produced 80 to 100 kilograms (175 to 220

pounds) of fish and 100 to 150 kilograms (220 to 330 pounds) of vegetables per year.

After a year of implementation, previously malnourished children increased to a normal weight. Beyond health benefits, the system provides income to

families through selling excess fish and vegetables.

CHAI aims to increase the scale of production and install more systems to empower families to sustainably produce their own balanced food. Beyond households, their goals include installing systems in community centers and public schools and training local artisans to manufacture and distribute them.

The solar socket: Bringing light to health

Since 1985, [Dulas](#) has pioneered solar-powered medical equipment, with solar vaccine and blood refrigerators saving lives daily in war zones, unindustrialized regions and areas affected by natural disasters. During installation trips, the team witnessed recurring health care issues in these areas, including: complications during childbirth and other medical emergencies, due to lack of light; doctors unable to call the nearest hospitals; patients traveling long distances for medical care; and viable vaccines destroyed because of uncertainty that they were safe to use.

Dulas team members realized that, with a simple adaptation, they could convert refrigerators to stand-alone power sources, resulting in the Solar Socket. The small panel of USB and car charger sockets plugs directly into the front of the refrigerator, enabling a fully energized health center with lighting and medical equipment. Powering lamps, fans and laptops, the Solar Socket is ideal for charging a phone, which can become a hand-held blood pressure monitor; a vaccination barcode scanner; a medication scheduler; or simply a lifeline to call for help. Dulas plans to distribute 20,000 refrigerators per year before 2020, amounting to 80,000 potential solarized medical centers and more lives saved.

In 2018, the St Andrews Prize will celebrate its 20th anniversary. Since its inception, it has awarded \$1.67 million to environmental initiatives worldwide



CLOCKWISE FROM ABOVE:
The Solar Socket; Medical
aid in the Philippines; Solar
refrigerator installation in
Ethiopia



on a wide range of topics including biodiversity, sustainable development, urban regeneration, recycling, health, water and waste issues, renewable energy and community development. ■

Leading with an enterprise view: Looking at the bigger picture

BY MARIA LORENZO

From landmen to information technology analysts, ConocoPhillips employees' combined efforts help the company achieve its mission to power civilization. But they don't do it alone. It requires an enterprise view — an understanding of how each role contributes to the company's overall success.

Having an enterprise view is about making the greatest impact by looking at the bigger picture to decide what's best for the organization and understanding how everything fits together. This typically means looking beyond individual goals and working across teams. It also means making tough decisions or difficult tradeoffs at times on behalf of the organization.

This mindset isn't new for ConocoPhillips. It's been ingrained in the company's SPIRIT Values for years, and it's one of the leadership behaviors that ConocoPhillips identified as contributing to sustainable change. Here are some insights from ConocoPhillips leaders about the importance of taking an enterprise view:

On what an enterprise view means for ConocoPhillips:

"There are two distinct aspects to this. First, in the decisions that we make, we always take an overall view of the value to ConocoPhillips, not just the benefit to our particular segment of the company, business unit or group. Second, it's about leveraging our global scale and capabilities.



Dominic Macklon

We really need to be more than just the sum of our parts as a company. We're global, we're diverse, and we need to make that count. We have to look at how we can leverage that aspect and character of our company to be as competitive as possible."

— Dominic Macklon, vice president, Corporate Planning & Development

On the importance of keeping the long term in mind:

"Though our day-to-day priorities can be all-consuming, it's important to pause and consider longer-term implications. All employees can help the company prepare for a future built on the foundation of strong environmental, social and economic performance. An incident can become an issue for our company if it results in an injury or affects a community or the environment. Delivering safe and responsible performance can also lower costs and build global trust in our operations. So, there's value in thinking about both near and longer-term sustainability, with the whole company's performance in mind."

— Sabrina Watkins, manager, Sustainable Development



Sabrina Watkins

On how we keep our global employees safe with an enterprise view:

"In our health, safety and environment work, taking an enterprise view means that we learn from local incidents and implement measures globally to prevent similar incidents in the future. Applying this model

helps us improve our individual and collective safety performance and maintain our license to operate in each of our communities around the globe. This is how the Life Saving Rules were created. By targeting the highest-risk activities across the company, we have reduced our significant and high-risk incident rate by 75 percent since launching the rules."

— Wesley Heinold, manager, HSE Audits, Performance & CM&ER



Wesley Heinold

On how to apply an enterprise view:

"In my role, I work with a broad group of internal and external stakeholders to secure necessary permits, manage project approvals through the corporate authorization process and deliver overall value to ConocoPhillips. I have found the best way to engage these stakeholders is to talk with them directly and leverage existing relationships to find out what is most important to each party and how the team can address their goals to ensure we can achieve reasonable alignment. If there is a gap, it's my responsibility to understand what's causing that gap and find a solution that all stakeholders can accept."

— Brandon Viator, project integration manager, Greater Mooses Tooth Unit



Brandon Viator

ConocoPhillips' continued commitment to making decisions from an enterprise view ensures that individual actions contribute to the company's success. ■

CONOCOPHILLIPS: EMPLOYEES IN ACTION

Cleanup targets trash, invasive plants along Langham Creek

BY GUS MORGAN

During a recent community support project, ConocoPhillips employees from Lower 48 and Corporate HSE (health, safety and environment) removed trash and invasive plants from a thicket along Langham Creek near the company's main Houston campus. The half-day cleanup and habitat restoration concluded with volunteers planting native trees near the creek.

PROTECTING AND RESTORING HOUSTON'S WATERWAYS

The project, sponsored by the Energy Corridor District, was a collaborative effort with the [Bayou Preservation Association](#),



Among the ConocoPhillips employees taking part in the Langham Creek cleanup were (from left) Mid-Continent business unit Environmental Coordinator Danielle Sule, Mid-Continent business unit Regulatory Coordinator Maxine Madison and Gulf Coast business unit Environmental Supervisor Margaret Hutson.

a nonprofit organization committed to preserving and restoring Houston's bayous, streams and watersheds. The initiative was an example of how ConocoPhillips partners with communities and institutions to advance conservation and solve environmental challenges.

"The event was a great success, combining team-building, stream bank restoration and outdoor education," said Robert Rayburn, president of the Bayou Preservation Association and landscape

architect for the Energy Corridor District. "It was a win, win, win."

'WEEK OF HSE: HAPPILY SERVING OUR ENVIRONMENT'

Casey Hirschmann, optimization engineer in the Rockies business unit, said the environmental cleanup near Terry Hershey Park, which focused on the "E" in HSE, was formulated by the Lower 48 HSE employee engagement group. The cleanup was one of several environmentally focused community service projects conducted throughout the Lower 48 business unit during the "Week of HSE."

The initiative, Hirschmann said, was an opportunity to improve the environment and build camaraderie. In addition, she said, it was an educational experience for the group, amplifying the importance of Houston's bayous and waterways, which provide natural flood protection to the city and support a variety of plants and animals.

"Learning about the significant impact of invasive species on our migratory birds and knowing we were making a difference in helping wildlife was very



Emergency Response Consultant Paul Hamilton, left, discusses the Langham Creek cleanup with Robert Rayburn, president of the Bayou Preservation Association and landscape architect for the Energy Corridor District.

fulfilling," Hirschmann said. "And seeing coworkers in a more relaxed setting was very powerful in building new connections with each other."

SUPPORTING BIODIVERSITY CONSERVATION

The environmental cleanup at Langham Creek was an example of how ConocoPhillips collaborates with local stakeholders to conserve habitats and promote biodiversity.

"It was a great event," said Emergency Response Consultant Paul Hamilton. "It not only benefited the environment and local community but added value to ConocoPhillips by strengthening our HSE teams and building new connections." ■

Langham Creek, which flows into Buffalo Bayou, is just one of Houston's many waterways.





ABOVE: Teachers participate in a NEED training session.

ConocoPhillips supports energy education through teacher training

BY JAN HESTER

Since 2007, ConocoPhillips has supported the [National Energy Education Development \(NEED\) Project](#), providing teachers with training and resources that bring energy to life for K-12 students. ConocoPhillips-supported workshops have reached over five million students across the U.S. through 6,279 participating educators.

Mid-Continent business unit Stakeholder Relations Director Stuart Mussler oversees the Lower 48 business unit's involvement. "We support NEED workshops in our areas of operation," said Mussler. "All participating teachers leave the workshops with education modules tailored to elementary, middle or high school kids. Our sponsorship covers the materials, as well as the cost of hiring a substitute to take each teacher's class for the day."



Stu Mussler

The company also has an opportunity to provide a 30-minute presentation at each workshop, covering

ConocoPhillips' business and involvement in the local community. Field supervisors often deliver the presentation, adding a personal touch to the



Jason White, Permian Operations Support superintendent

information provided.

"Having a field person there really adds to the impact," Mussler said. "They can answer technical questions and explain how concepts apply to their daily work."

Permian Operations Manager Johnny Golden has a soft spot in his heart for the program. "My wife is a teacher, as well as both parents and my sisters," said Golden. "NEED is a great program that reinforces the connection ConocoPhillips has with the communities where we live and work."

NEED Executive Director Mary Spruill has been involved with NEED since 1995. "We are preparing the next generation of energy leaders," said Spruill. "We're honored to work with ConocoPhillips. Your investment helps us deliver focused energy education that stimulates and inspires students from kindergarten through Grade 12."

The program also benefits the company.

"We want people to understand our industry," said Natalie Riley, director, Community Relations. "Our partnership with NEED helps us share our commitment to communities as well as educate students on various facets of the energy industry." ■

Waving the flag for Norway and Ekofisk

NORWEGIANS CELEBRATE THEIR CONSTITUTION DAY — MAY 17, OR “SYTTENDE MAI” — WITH PARADES THROUGHOUT THE COUNTRY — AND IN THE MIDDLE OF THE NORTH SEA.

It's 8 a.m., and Ekofisk team members have just raised the Norwegian flag. Their celebration of [National Constitution Day](#) is just getting started.

Ekofisk was Norway's first oil field and already has a long tradition of celebrating Norwegian Constitution Day, with offshore workers participating in the celebration.

In the afternoon, Ekofisk's own small marching band takes to the bridges between platforms. Every town and

village in Norway has a parade, whether in front of the royal palace in Oslo, the nation's capital, in Stavanger, where ConocoPhillips has its Norway headquarters, or on the most remote island.

Later in the evening, Ekofisk team members enjoy a traditional Scandinavian smorgasbord, followed by entertainment and a friendly competition. The company showing the most creativity in the parade receives a prize. This year's winner was Bristow Helicopter.

Onshore, Norwegians dress in somewhat formal attire for the special day. Men wear a suit and tie, while many women (and some men) wear their traditional national costumes from various regions of the country. Ekofisk's attire is more informal, and most people wear work clothes in the parade, although some make an extra effort, bringing their national costumes from shore. Casual or in costume, every person has a flag to wave for Norway's freedom and for Ekofisk.

The Norwegian constitution, signed on May 17, 1814, has been celebrated with parades and other traditions since the 1860s. ■



ABOVE: Hip hip hooray. Enthusiastic North Sea workers take part in the “Syttende mai” parade at the Ekofisk Complex.

LEFT: The ConocoPhillips Janissary Band entertains the crowds in downtown Stavanger.

ConocoPhillips sponsors Wood Bat Baseball Tournament

BY STU MUSSLER

Led by Systems Foreman Lane Monden, who covers the Anadarko Basin region, company employees in the Texas Panhandle organized the first-ever ConocoPhillips Wood Bat Classic to jump-start the 2017 high school baseball season.

large operating area in the Texas Panhandle, allowing them to stage a single event while supporting ConocoPhillips community relations efforts in as much of the region as possible.

"I greatly appreciate everything the people of ConocoPhillips did to make

Monden added his enthusiasm for the tournament. "Coach Smith from West Texas High, the host school, let me know all the teams from this year hope to be invited back in the future. The response from all participating coaches, players and parents was overwhelming. They were impressed with our company's willingness to work in the communities."

Also impressive was the state-of-the-art stadium where games were played over the three-day Wood Bat Classic.



PHOTO BY LAUREN MONDEN

The tournament was hosted March 2-4 by the West Texas High School Comanches in Stinnett, Texas.

"We liked the idea of bringing back old-fashioned baseball played with real wood bats," said Monden. "Schools typically use aluminum bats for their durability, but the kids truly enjoy the feel and authenticity of playing ball with wood bats. It's a unique experience."

Eight high school teams from seven counties were represented at the Wood Bat Classic. Lane and his colleagues invited schools from the company's

"Schools typically use aluminum bats for their durability, but the kids truly enjoy the feel and authenticity of playing ball with wood bats." — LANE MONDEN



PHOTO BY STU MUSSLER

the Wood Bat Classic such a great tournament," said visiting coach John Moffett from Claude Independent School District (ISD).

Completed in 2015 by the Plemons-Stinnett-Phillips Consolidated ISD, the stadium features new basketball, football and softball facilities. ■

York achieves both gold and silver

Supply Chain Coordinator Steven York competed in the Battle of H-Town on Saturday, April 8. He submitted his first opponent for gold in the Gi. He then earned silver in a grueling double elimination No Gi challenge with three matches against a tough

opponent. York is continuing a tradition of excellence begun in 2013 by his coach, Physical & Technical Security Director Luis Morales, when he started Studio 3 Jiu Jitsu in the ConocoPhillips Houston Wellness Center. ■



2017 *Energy in Action!* challenge encourages physical activity and fun

Nearly 4,000 ConocoPhillips employees around the world participated in *Energy in Action!*, an eight-week challenge focused on fitness, fun and friendly competition. The annual challenge is a signature event of the company's ongoing *Good for You!* campaign, aimed at promoting health and well-being.



ABOVE: Australia West business unit participants complete a bike ride that contributed to its second Division 1 trophy.

FAR LEFT: The D'Dili Deadly Dingos in Action team completes a 12-kilometer (7.5-mile) hike on Malinamuk Comoro Hill and supports local farmers by purchasing fresh produce on the hilltop. **LEFT:** Anchorage team participates in the 2017 Alaska Heart Run. **BELOW:** In Beijing, China, an *Energy in Action!* team gets active, walking inside the Forbidden City and climbing the Jingshan (Jing Mountain).



From hiking and fun runs to encouraging coworkers and eating local produce, employees earn and record physical activity points using an online application. Bonus points are awarded for activities such as watching TED talks related to well-being. Approximately 180 million hours of activity were logged this year. That's equivalent to runners completing 45 million marathons on average in four hours.

During *Energy in Action!*, business units and functions also compete for the Wellness World Cup, awarded to groups with



the most participants reaching 20,000 points based on total population. Australia West and E&P China took first place in their respective categories as the 2017 Wellness World Cup champions. This is Australia West's second year in the top spot and China's first win.

"Thank you *Energy in Action!* for getting me motivated and back in the gym," said ConocoPhillips Alaska Construction Manager John Schuelke.

While the global competition has ended for 2017, the campaign keeps employees motivated throughout the year. ■

spirit

On Assignment

LUCINDA CALLIE (*Living and working in Perth, page 34; Dan Trotter, page 42*), originally from South Africa, has been at ConocoPhillips for nearly five years, working in Internal Communications & Digital Media for the Australia business unit. Originally trained in web, social media and digital design, she now works within the external communications team in the Perth Ord Street office. While Perth is ideal for her active lifestyle and love of running, it's the call of adventure and travel that is her passion — climbing to Base Camp Everest last year and Kilimanjaro three years ago. She plans on going into the jungles of Uganda at the end of the year to see the gorillas.



JOSH DEMORRETT (*Company of choice reputation built on trust and integrity, page 22*) is advisor, stakeholder relations for Lower 48. In his current role, Josh handles Stakeholder Relations duties for the Bakken in North Dakota and Montana and the Powder River and Wind River Basins in Wyoming. He began his career with ConocoPhillips as a multi-skilled operator in 2010, transferring to a health, safety and environment lead before assuming his current duties in June of 2014. Josh graduated from the University of North Dakota in 2008 with a bachelor's degree in history.

DAVY KONG (*Teamwork is the heart of Bakken success, page 10*) is senior advisor, Communications for Lower 48. She has been with ConocoPhillips since January 2011. In her current role, Davy serves as a media spokesperson and develops integrated internal and external communications plans in support of the business unit's objectives. A seasoned communications strategist, Davy has implemented communications initiatives for a presidential campaign, a major television network, an international economic development agency and a member of Congress. She graduated from Smith College with a bachelor's degree in government.



GUS MORGAN (*Data analytics, page 24*) is a writer, photographer and contributing editor for *spirit Magazine*. For more than 21 years, Gus has used his communications skills to inform and inspire. He spent 16 of those years in the newspaper industry, working as a reporter, photojournalist and editor. Prior to joining ConocoPhillips in 2014, he served as a communications consultant for Shell Oil Company and BG Group. Gus holds bachelor's and master's degrees in journalism.



spirit Magazine is published quarterly by ConocoPhillips Investor Relations & Communications.

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This issue of *spirit Magazine* was printed at Southwest Precision Printers, L.P. in Houston, Texas.

DISTRIBUTION: Jesse Bluejacket, Trinnise Henry, Teresa Houston, Christopher Merritt, Alfred Owusu and Pat White

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ConocoPhillips

How ConocoPhillips uses analytics



Matt Fox
Executive Vice President, Strategy,
Exploration & Technology

People across the company are using new analytics tools and techniques in innovative ways to optimize operations and lower costs. Their efforts are driving excellence in execution by improving time-to-insight and unlocking new levels of efficiency. Recognizing the opportunity this organic innovation presents, we are making strategic investments in our analytics capabilities.

The company's exploitation of 21st century analytics capabilities is changing how we work, accelerating our value proposition and positioning us for success.

I'm especially excited about giving problem solvers and decision makers in operations, engineering and other functions both the leadership support and the technology they need to build on our strong foundation of using analytics to improve processes and decision quality.

The Global Analytics Playbook provides a roadmap to the role analytics play as we continue to do business better.

Learn more. Search **Global Analytics Playbook** on *The Mark*.



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spirit

Second Quarter 2017

The Bakken

Resilient through industry cycles

