SHELL MAKES HISTORY ON NEW YORK STOCK EXCHANGE
Shell Midstream Partners goes public.

SHELL IN THE ARCTIC
Answers to commonly asked questions.

UNLOCKING ENERGY IN ULTRA-DEEPWATER
3D printing saves months of work.

WIN AT DAYTONA
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A WORD FROM OUR EDITORS

We know that many of you as former Shell employees field questions from time to time on Shell projects and the direction of the industry. While our goal is to provide you with news about the business, some alumni expressed a need for messaging documents that would help explain Shell's stance on particular hot-button issues. This issue, we've sought to answer commonly asked questions about our role in the Arctic. We hope this information will prove helpful when discussing the project with friends and family.

Also in this issue, we've shared a major success at the Daytona 500—a big win for driver Joey Logano and for Shell as sponsor—how Shell made history on the New York Stock Exchange and news on the building of the “rational middle.”

In addition to finding regional news on pages 7-10, we hope you'll read how alumni are staying healthy in retirement in our new Noteworthy! section of the magazine. Make sure to send your responses and photos to this issue’s question - What do you like to do when the temperatures cool off in the fall?

And, don’t forget to send us your story ideas for the Alumni Features section of the magazine. Our contact details can be found at the bottom of this page.

We hope you have a cool, relaxing summer!

Natalie Mazey and Jackie Panera
Editors, AlumniNews magazine

GO GREEN
Sign up to receive the newsletter electronically by visiting www.shell.us/alumni. While you’re there, read the latest news and information about Shell. Thank you to those who have already chosen to go green!

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STORY IDEAS WELCOME!

AlumniNews magazine is looking for recent story ideas for our Alumni Features section! In this part of the magazine, we highlight alumni who are staying active and making a difference in retirement. If you know of someone who would make a great profile for the magazine, please send us his/her phone number and email address, along with a brief description of the story idea. To submit story ideas for the U.S., email ShellUSAlumni@shell.com or mail a letter to Shell Oil Company Communications – Natalie Mazey, P.O. Box 2463, Houston, Texas 77252-2463. To submit story ideas for Canada, email PublicAffairs-Canada@shell.com or mail a letter to Jackie Panera, Shell Canada Limited, 400 4th Avenue S.W., P.O. Box 100 Station M, Calgary, Alberta T2P 2H5, Canada.

CHECK US OUT ONLINE!
Visit www.shell.us/alumni for everything alumni.

Need forms? Want back issues of AlumniNews magazine? Visit our Shell alumni website for helpful links and phone numbers and the latest news on Shell. Also, connect with us by emailing ShellUSAlumni@shell.com to give us feedback and tell us what you’d like to see on the site.
After a strong 2014 season, Joey Logano, driver of the No. 22 Shell-Pennzoil Ford Fusion, kicked off 2015 with his first-ever Daytona 500 victory. With Shell technology under the hood, the win at the Daytona International Speedway is the first 2015 points race victory for the Shell-Pennzoil team.

“That feeling of winning the Daytona 500, I can’t explain how cool this is,” Logano says. “I said in an interview that this was our worst racetrack last year. We worked really hard to figure out how we could get better at it, and all the hard work got us the win.”

“We are honored to be part of the winning tradition with Team Penske and couldn’t be more thrilled that our lubricants technology helped Joey take home his first win of 2015,” says Colin Abraham, vice president of Lubricants Americas & Downstream LNG. Throughout the season, Shell and Pennzoil scientists work closely with Team Penske to develop bespoke racing oil formulations to help maximize performance and engine reliability. “But, what’s even more exciting is that our work at the track and the knowledge we gain is used to develop the next generation of high-quality products for our customers.”

Shell and Pennzoil scientists, with the help of Team Penske, use the extreme test bed of the NASCAR track to optimize the special formulation of Pennzoil racing oil that Logano uses in the No. 22 Pennzoil Platinum Ford Fusion. The Pennzoil race oil in the No. 22 car is formulated using PurePlus Technology, a unique process that converts pure natural gas into a first-of-its-kind, high-quality full synthetic base oil. This pure, clear PurePlus base oil has fewer of the impurities found in crude oil, allowing it to fully enhance the benefits of the additives in Pennzoil Platinum and Pennzoil Ultra Platinum Full Synthetic motor oils. In addition to blending a unique formulation for the Ford engine from week to week, Shell and Pennzoil scientists also tailor high-performance lubricants for the Team Penske gearbox.

“The relationship that Team Penske has with Shell and Pennzoil goes beyond a sponsorship. With their world-class knowledge and technical leadership, we are able to customize the racing motor oil which helps us to optimize performance, efficiency and engine reliability, giving us an edge on race day. We know that our work with Shell and Pennzoil scientists to develop racing motor oils gives us a unique advantage at the track and was a part of the win for Logano at the Daytona 500,” says Travis Geisler, director of Competition at Team Penske.

More information
For more information about the Shell-Pennzoil sponsorship, visit www.shell.us/racing.
For more information about Team Penske, visit www.penskeracing.com.
HOW A DISCONNECTABLE BUOY WORKS

In the event of storms or hurricanes that occur in the Gulf of Mexico during the yearly storm season, the FPSO will be able to disconnect the buoy with the mooring lines, risers and umbilicals, sail to safe areas, and then return after storms have passed in order to reconnect with the buoy and return to operations.

Three-dimensional (3D) printers promise a world where you can quickly make any object you want, just by hitting a “print” button. For the average consumer, that world may be some years off. But for Shell, that day is here.

Shell’s team at its Stones asset in the ultra-deepwater Gulf of Mexico saved months of work and prevented potential delays through the use of 3D printing and support from the company’s Innovation team in Technical and Competitive IT (TaCIT).

How it came about

The Stones project represents a series of firsts for Shell, however, innovation always comes with challenges. The floating, production, storage and offloading (FPSO) vessel features an in-line mooring connector (ILMC), which provides mooring tension adjustability and is a key component of the FPSO’s disconnectable capabilities.

Since the ILMC is a new technology in the Gulf of Mexico, the U.S. Bureau of Safety and Environmental Enforcement wanted to see a working model before granting approval for its use.

Under normal circumstances, building an accurate, working demonstration model that represents such an intricate, multi-component technology would take months—potentially setting back the project.

To reduce the time needed for a scale model, Capital Projects Information Management/Information Technology (IM/IT) used 3D printing. The team printed all of the components in the ILMC and also separately for the disconnectable buoy. This approach allowed them to test the design, identify the sequence in which the massive blocks that make up the disconnectable buoy should be put together and meet the regulatory requirements for the ILMC.

“With 3D printing technology, it took just four weeks to print the ILMC,” says Glenn Ruppert, planning integration manager for Stones. “We have learned the value of having a working model built on sound manufacturing techniques that engineering, design and construction can follow and apply in the field.”
Not only is Stones the deepest facility of its kind in the world, it will also be Shell’s first floating, production, storage and offloading unit (FPSO) in the Gulf of Mexico.

Instead of being permanently moored, the Stones FPSO, recently named Turritella, will feature the first use of disconnectable technology combined with lazy wave risers at record water depth. This capability allows the FPSO to operate safely in the face of tough ocean currents and adverse storm weather conditions.

The FPSO vessel will use a turret with a disconnectable buoy that integrates the large vertical moorings, risers and umbilicals that connect to the wells at the bottom of the ocean. As the FPSO vessel turns due to wind and wave shifts, the turret rotates and the buoy attached with mooring lines, risers and umbilicals remains at permanent compass setting.

“Shell and SBM Offshore, a leading FPSO contractor, are working together to safely deliver the groundbreaking Turritella FPSO. The use of 3D printing technology on Stones will improve the project’s safety and delivery performance while providing an example for other projects, both in Shell and the industry,” adds Curtis Lohr, Stones project manager.

Detecting design flaws earlier
The use of 3D printing was not only instrumental in demonstrating the new technology to regulators, but it has also helped advance decision-making at critical points of project execution. While preparing the disconnectable buoy model for 3D printing using design details provided by FPSO contractor SBM Offshore, the team identified defects that are typically revealed at later phases of a project.

“For the buoy section, we discovered several design flaws, misinterpretations of installation sequencing, and drawing naming and call-out inconsistencies that would have adversely affected the installation schedule,” says Carl Webb, Stones turret mooring and installation lead engineer.

Identifying these issues early on meant that the dimensions and angles of the foam blocks could be corrected well before they went into full size manufacture, saving time and money. “This is a great example of using IT innovatively to support safe, cost-effective and timely project delivery,” says Imran Khan, Stones information management lead. “We all worked together to achieve the same goal, and IM/IT understood the challenges the team faced and came up with the right solution.”

“A strong, integrated team involving IM/IT, Shell project leads and the contractor’s engineering team was able to work with the Shell deepwater community to use 3D printing technology to ensure early on in the project that we had the right design and construction approach. This is how we get it right the first time,” says Harry de Grijs, vice president, Capital Projects IMIT. «

Shell announced final investment decision for Stones in May 2013. This set in motion the construction and fabrication of the host FPSO vessel and subsea infrastructure. Subsea production wells will tie to the FPSO vessel, the deepest production facility in the world at approximately 9,500 feet (2,900 meters) of water.
The road to the Rational Middle is rising

The Rational Middle discusses ways to achieve a cleaner energy future.

“"We’d been trying to fund the idea of this series for about a year and a half before meeting Shell and pitching the concept. Not only did Shell believe this was an important conversation to have, they were also brave enough to give us artistic and intellectual control of the series from start to finish,” Kallenberg says.

It’s about a conversation

The Rational Middle isn’t about providing passive information related to energy challenges. It’s about a conversation. It’s about getting concerned citizens, industry and policy-makers together at one table, listening to one another and addressing our energy issues. The RMES is the starting point to a conversation that must continue long after the credits roll.

“At Shell, we’ve always known that it’s going to take a whole new level of collaboration and leadership to develop workable policies and solutions to meet the energy challenge,” says Fred Palmer, Upstream Americas Unconventionals business communications manager. “Rational Middle is an avenue to help drive that conversation, by exploring some of the most challenging energy issues through the power of film.”

Have you joined the movement?

Kallenberg says that it doesn’t matter if you’re an oil expert, pro-wind, anti-coal or lover of geothermal. “The fact is we’ve got to start working on this energy future together and now. We’ve all got a voice in this and we need to collaborate to evolve this energy future. We need to meet in the Rational Middle, sit down at this table, look each other in the eye and listen,” he says. “Together, we will decide where we are as an energy nation, where we want to go and most importantly, how we intend to get there in a rational, sensible and sustainable way.”

To learn more or to watch episodes of the RMES, visit www.rationalmiddle.com. «
À l’occasion du récent sommet des fournisseurs du domaine de l’exploitation des sables bitumineux, qui a récemment eu lieu à Calgary, Shell a eu l’occasion de discuter avec des dirigeants de 45 de ses principaux fournisseurs.

« Le but est de rencontrer les fournisseurs en début d’année et d’harmoniser nos priorités, explique Kerry Margetts, directeur général – passation de marchés et achats. En 2015, nous devons continuer à viser l’Objectif Zéro et atteindre nos cibles de production, en nous efforçant de comprimer nos structures de coûts. La faiblesse des prix du pétrole nous offre de nouvelles possibilités, ainsi qu’à nos fournisseurs. »

Zoe Yujnovich, vice-présidente, sables bitumineux et coentreprises, Peter Zebedee, directeur général – Shell Albian Sands et Michael Frigge, directeur général – usine de valorisation de Scotford, ont exposé les priorités et les attentes du secteur du pétrole lourd pour 2015. « Si nous avions à lancer un appel urgent à l’action, ce serait d’apporter dès maintenant des changements structuraux à notre manière de faire des affaires et de les maintenir pour l’avenir, déclare Zoe Yujnovich, qui fait remarquer que ces changements sont nécessaires, peu importe le prix du pétrole. La voie à suivre est claire : réduire notre structure de coûts de façon permanente afin que notre entreprise soit plus forte que jamais lorsque les prix remonteront. »

Au cours de trois ateliers (sécurité, façons de travailler/d’accéder au marché et productivité), les représentants des fournisseurs ont eu l’occasion de discuter ouvertement et de traiter de questions clés du secteur des sables bitumineux.

Shell a aussi cité les fournisseurs ayant réalisé de grandes améliorations sur les plans de la sécurité et de la valeur en 2014. Clean Harbors a été félicité pour ses 665 jours à l’Objectif Zéro et l’adoption d’une méthode simple de suivi de la productivité des employés, à l’aide de iPad et d’un court sondage après chaque quart. Chemco a reçu un prix pour ses 1 291 jours à l’Objectif Zéro – son rendement record – et ses 286 jours sans incident nécessitant des premiers soins. On a aussi souligné sa réduction des coûts de 12 %.

« Nous voulons que nos fournisseurs soient aussi nos partenaires d’affaires stratégiques, dit Zoe. Le sommet nous permet de raffermir nos liens et favorise la collaboration active nécessaire pour travailler tous ensemble à assurer un avenir économique durable au secteur des sables bitumineux. »
RÉDUIRE LA CONSOMMATION DE PAPIER
Shell économise 180 000 $ par année grâce à un employé

Le reçu obtenu à la station-service vous a-t-il déjà paru trop long? Oui, répondrait Keith Edwards, qui s’est penché sur la question.

Cherchant à réduire les coûts, le coordonnateur – technologie, détail a modélisé la consommation de papier nécessaire pour imprimer les reçus et a montré que chaque ligne de texte à hauteur simple coûtait 12 000 $ par année en papier.

« J’ai alors proposé des solutions pour optimiser la présentation du reçu à mon superviseur, qui a vivement encouragé ma démarche, explique Keith. Certains éléments sont requis pour des raisons juridiques ou fiscales ou touchant les taxes, la marque ou les communications. Mais j’ai obtenu l’appui de collègues des équipes visées, qui ont compris les avantages des changements proposés. »

Keith a réduit la longueur du reçu en remplaçant tous les caractères à double hauteur par des caractères à hauteur simple. Résultat : six lignes de moins sans rien changer au contenu. D’autres modifications dans l’en-tête, la section sur les taxes et le pied de page ont permis de gagner cinq lignes de plus. Finalement, Keith et son équipe ont reformulé le message au sujet du sondage, ce qui a permis d’éliminer quatre autres lignes. Ils en ont aussi profité pour déplacer le code de lavage au bas du reçu afin que le client puisse le repérer plus facilement.

En tout, l’équipe a réussi à éliminer 15 lignes par reçu, ce qui équivaut à environ deux pouces de longueur. Au taux de 2013, Keith estime que le raccourcissement des reçus permettra d’économiser environ 180 000 $ par année. En outre, les détaillants Shell auront à remplacer les rouleaux et à en commander moins souvent, et les clients apprécieront les bienfaits de cette mesure pour l’environnement.

« Nous devons tous réfléchir à ce que nous pouvons faire pour éliminer le gaspillage et les pratiques inutiles », indique Keith. « »

SOUTENIR LES FEMMES DANS L’INDUSTRIE
Shell s’exprime lors d’une annonce au profit de WBF

Le gouvernement fédéral a récemment annoncé à Edmonton une subvention de 1 million de dollars à l’organisme Women Building Futures (WBF), qui forme les femmes aux métiers de la construction. Pour montrer l’appui de Shell à l’égard d’un milieu de travail diversifié, Anita Spence, directrice – projet Quest, était présente à cette occasion.

Depuis 2008, Shell a versé 400 000 $ à WBF. « Quand j’ai débuté, j’étais la première ingénieure à l’usine où je travaillais. De grands progrès ont été réalisés depuis, constate Anita.

Mais il reste des domaines où les femmes sont sous-représentées. Voilà pourquoi le travail de WBF a une telle importance. »

La subvention servira à financer le projet #4ME de WBF, qui vise à augmenter sa capacité d’attirer des femmes vers les métiers spécialisés, de les former et de les encourager à persévérer. D’ici la fin de 2017, le programme #4ME pourra offrir de la formation à 24 000 femmes et procurer un emploi à plus de 900 diplômées. « »
Récemment, Ryan Hartung, responsable du marketing – carburants commerciaux, s’est rendu compte des sommes exorbitantes qu’il dépensait auprès d’une agence de publicité externe.

« Au moment de dépenser, j’essaie de voir l’argent de Shell comme si c’était le mien », dit Ryan. Il a alors décidé de terminer lui-même le matériel requis pour son projet, économisant ainsi près de 6 000 $. « Pour la portion de travail déjà convenue, le prix proposé était de 13 000 $. J’ai demandé à l’agence de m’expliquer comment les frais étaient répartis pour arriver à ce montant. Après cinq minutes, le prix avait été réduit à 8 900 $. Beaucoup d’argent pourrait être épargné si des entretiens comme celui-ci avaient lieu plus souvent. »

En posant les bonnes questions et en se chargeant d’une certaine portion du travail pour deux autres projets, Ryan prévoit épargner en tout 20 000 $. « Voir passer Shell d’entreprise canadienne à société d’énergie intégrée mondialement a été pour moi une expérience unique et enrichissante, et je suis fier d’appartenir à une telle société. Après mon départ en juillet, Daryl prévoit passer du temps avec sa famille, notamment avec sa nouvelle petite-fille, voyager et profiter de sa propriété au bord d’un lac. »

**SHELL DIESEL EXTRA… SANS LES EXTRAS**

Un employé coupe dans les coûts de publicité

**MISER SUR LES ACTIVITÉS ACTUELLES**

Shell a annoncé le retrait de sa demande auprès des organismes de réglementation pour le projet proposé de la mine de la rivière Pierre, situé au nord de Fort McMurray, en Alberta.

« Cette mine demeure une occasion à long terme pour nous, mais elle n’est actuellement pas une priorité, déclare Lorraine Mitchelmore, présidente de Shell au Canada. Pour l’instant, nous voulons rendre notre secteur du pétrole lourd aussi concurrentiel que possible, tant au plan économique qu’environnemental. Nous conserverons les concessions et pourrions faire une nouvelle demande lorsque le bon moment sera venu. »

Shell a les approbations et les moyens qui lui permettraient de produire plus du double de sa production actuelle issue de l’exploitation des sables bitumineux. Étant donné que ce projet était à un stade préliminaire, l’incidence sur l’emploi sera limitée. «

**34 ANS DE CARRIÈRE**

En 1981, Daryl Van Hereweghe, directeur – impôt foncier, a vu un poste affiché pour le groupe des taxes et des assurances du service des finances et de l’administration de Shell Canada dans l’Edmonton Journal. Il ne savait pas que cela allait changer sa vie pour les 34 prochaines années.

Daryl, qui part à la retraite cette année, a débuté comme analyste – impôt foncier chargé des raffineries et des installations pétrolières et gazières de l’Alberta. Gravissant les échelons, il est devenu responsable de toutes les propriétés de Shell dans l’Est et directeur – impôt foncier, Canada. Aujourd’hui, il travaille uniquement pour l’impôt foncier.

« Au fil des ans, j’ai établi plein de bonnes relations et je me suis créé un réseau solide parmi les professionnels du secteur au Canada, dit-il. C’a été une des principales raisons du succès de ma carrière. Mes collègues de Shell vont me manquer ainsi que toutes les personnes avec qui j’ai travaillé. Je me suis fait de nombreux amis avec qui je garderai contact. »

**DÉPARTS À LA RETRAITE**

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<td>Brian Goliss (décembre 2014)</td>
<td>Coordonnateur – environnement, centre de l’Alberta</td>
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<td>Steve Mattson (juin 2015)</td>
<td>Analyste – redevances</td>
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<td>Dave Patterson (juillet 2015)</td>
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<td>Erich P. Wonchala (mai 2015)</td>
<td>Ingénieur principal – énergie et services publics</td>
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RENNSEIGNEMENTS UTILES

Centre des avantages sociaux de Shell
Pour examiner votre couverture, obtenir des renseignements sur les régimes et apporter des changements, le cas échéant, communiquez avec le Centre des avantages sociaux de Shell :
- Téléphonez au numéro sans frais 1-877-550-3539 (ou au 1-416-390-2633 de l’extérieur du Canada ou des États-Unis) entre 6 h et 18 h, heure des Rocheuses, n’importe quel jour ouvrable, ou
- Allez à www.mybenefitscentre.com/Shell et utilisez le centre de messages.

Nom d’utilisateur : six derniers chiffres de votre matricule.
Dans l’éventualité du décès d’un retraité, du conjoint d’un retraité ou d’une personne à charge, communiquez avec le Centre des avantages sociaux de Shell. Le Centre des avantages sociaux de Shell vous aidera à engager le processus de règlement au titre de l’assurance applicable et à apporter les changements voulus à vos régimes d’avantages sociaux et de retraite.

Assurance médicale et dentaire
La Financière Sun Life administre les régimes de soins de santé et dentaires. Pour obtenir des renseignements sur les demandes de règlement et les options de couverture au titre des régimes de soins de santé et dentaires, communiquez avec le Centre de service à la clientèle de la Financière Sun Life :
- Téléphonez au numéro sans frais 1-866-203-4526 (ou au 1-800-9876-5470 de l’extérieur du Canada) entre 6 h et 18 h, heure des Rocheuses, n’importe quel jour ouvrable, ou
- Allez au www.masunlife.ca pour consulter le site Web des Services aux participants de la Financière Sun Life et sélectionnez Messages sécurisés.

Assurance-vie
Desjardins Sécurité financière (Desjardins) fournit l’assurance-vie des retraités sous le numéro de régime 530011. Pour examiner votre couverture au titre de l’assurance-vie des retraités, obtenir des renseignements sur les régimes et changer de bénéficiaire, allez au Centre des avantages sociaux de Shell :
- Sélectionnez Mes avantages.

Bureau d’aide RH des Amériques
Questions au sujet des prestations de retraite, des feuilles T4 et T4a, de l’impôt sur le revenu et autres
Communiquez avec le bureau d’aide RH des Amériques :
- Par téléphone au numéro sans frais 1-800-663-9898 (ou au 1-403-691-2900 de l’extérieur du Canada); ou
- Par courriel, à shloilhrservicedeskamericas@shell.com.

SECTION DE SARНИA, EN ONTARIO
Audrey Broer
T : 1-519-381-4251
C : broer49@gmail.com

ASSOCIATION DES RETRAITÉS DE SHELL CANADA
Fred Resch
946 Lawrence Ave. East, Unit #2,
PO Box 47634
Don Mills (ON) M3C 357
T : 1-905-471-1969
C : fredresch@rogers.com

CLUB DES OILTIMERS DE SHELL (ALBERTA)
C : info@shelloiltimers.com
www.shelloiltimers.com
It was another busy day of trading on the New York Stock Exchange (NYSE), considered the largest stock exchange in the world. Standing on a podium high above the traders, Shell Midstream Partners CEO Peggy Montana was ready to make history.

When the clock struck 4 p.m., Montana rang the closing bell—marking the successful launch of Shell Midstream Partners. “This was a chance to recognize some hard work by our team and to shine the financial spotlight on Shell’s groundbreaking achievement,” Montana says.

Shell Midstream Partners marks the first time that a major, integrated oil company has spun off midstream assets into a publicly traded partnership. The closing bell was met with cheers and high-fives and was a moment to celebrate for everyone gathered on that podium.

Shell Midstream Partners goes public

An MLP is a limited partnership that is publicly traded on a securities exchange (such as the NYSE). It combines the tax benefits of a limited partnership with the liquidity of publicly traded securities. The MLP structure is part of Shell’s strategy to improve capital efficiency. That includes making sure the company targets investments in the highest-returning growth projects and getting the best value from its existing portfolio.

The initial public offering (IPO) of Shell Midstream Partners in October 2014 received positive media attention. Bloomberg News noted it as “the best U.S. trading debut performance by an energy company this year.”

“The launch was the biggest MLP IPO offering at its inception,” Montana notes. “The strength of the Shell brand and our midstream assets made this an attractive offer for many investors.”

For Buckheit, the sense of history was matched by his sense of pride. “I was looking back at my 25 years with Shell Pipeline Company. I can’t think of too many bad days on the job, because we’ve always been as much of a family as a business. And this day, well, it was just about at the top,” he says. «
SHELL IN THE ARCTIC

Answers to commonly asked questions

Recently, Greenpeace members staged anti-Arctic demonstrations at a number of Shell-branded outlets across several states, and the White House proposed new and higher protection levels for Alaska’s Arctic National Wildlife Refuge. Major media outlets also have been publishing investigative stories on Shell’s past efforts in the state. Such activities are expected to continue and, in fact, increase as we near a possible drilling season in Alaska this year. They will also generate publicity on traditional and social media channels, and may prompt questions from friends and family members. We hope the information below will help you answer some of those questions.

WHY EXPLORE THE ARCTIC?
The Arctic is a region of great opportunity. It has the potential to ease the world’s growing need for energy, which could double from its 2000 level by 2050. The U.S. Geological Survey estimates the Arctic holds around 30% of the world’s undiscovered natural gas and 13% of its yet-to-find oil, most of which are believed to lie offshore.

While views differ on whether to develop the area, Arctic countries, including Canada, Greenland, Norway, Russia and the U.S., have decided to proceed with oil and gas exploration programs to achieve energy security and spark economic development opportunities for their populations. They are inviting oil and gas companies like Shell to help them explore for new hydrocarbon resources.

Shell is assessing early stage exploration opportunities in Alaska (our key priority in the near future), Greenland, Norway and Russia. We only go to the Arctic with great care and remain committed to establishing an Arctic exploration program that provides confidence to stakeholders and regulators, and meets the high standards Shell applies to its operations around the world. We must do it in a way that protects vital ecosystems, respects the way of life of indigenous populations, keeps people safe and encourages high standards of performance for every operator in our industry.

HOW DOES ARCTIC EXPLORATION IMPACT CLIMATE CHANGE?
Climate change remains a key issue for Shell. We accept the science that climate change is real and happening, and those impacts are felt in the Arctic. And while the impact of climate change can result in melting sea ice, rising sea levels, increased extreme weather events and changes in weather patterns, the underlying cause is temperature change driven by rising carbon dioxide (CO₂) levels in the atmosphere—not the safe and responsible development of Arctic resources.

SHOULD ARCTIC EXPLORATION CONTINUE IN A LOW OIL PRICE ENVIRONMENT?
Shell uses a long-term oil price formula to test the economic viability of new projects and future opportunities such as the Arctic. Shell has many decades of experience in estimating costs in frontier locations, and scrutinizes our plans to ensure they are sufficiently attractive and resilient for the longer term.

WHAT IS OUR SPECIFIC PLAN FOR ALASKA?
We have made no formal decision, but are undertaking activities to preserve the option of a 2015 season. Any final decision to go forward will depend on successful permitting, clearing any legal obstacles and our own assessment that we are prepared to explore safely and successfully. This is a multi-year program, and every step we take will be contingent on meeting all the conditions necessary to proceed safely and responsibly. Unfortunately, every year we are delayed from understanding the oil and gas resources under the Chukchi Sea only further delays the potential creation of tens of thousands of jobs, billions of dollars in tax revenue and much-needed new oil for the Trans-Alaska Pipeline.
The U.S. and Canada are emerging as leaders in carbon capture and storage (CCS) technology. Alberta Premier Jim Prentice met with officials from the U.S. Department of Energy (DOE) and Shell in Washington, D.C. to learn more about their proposed research collaboration on CCS monitoring technologies.

The Shell Quest team and technology developers, funded by the DOE and managed by the DOE’s National Technology Laboratory, have been discussing opportunities to field test monitoring technologies at the Quest carbon dioxide (CO₂) underground storage site. The DOE-funded technologies would be tested alongside the comprehensive monitoring program that Shell has already put in place for the Quest project.

Prentice highlighted the collaboration that can exist between Canada and the U.S. to advance technologies that are important to reduce CO₂ emissions. “As an energy-producing province, it’s important that we be innovative and explore new ways to reduce our impact on the environment. I’m pleased that experts in Alberta are working with the U.S. Department of Energy and Shell Canada to encourage global emissions reduction through new technologies. This work highlights the collaborative nature of Alberta’s CCS development program.”

HOW PREPARED ARE WE TO DEAL WITH AN OIL SPILL THERE?
In the unlikely event of a spill, Shell can mount an effective response within 60 minutes, 24 hours a day—government regulators demand this level of response before a permit to drill is issued. We have built an industry-leading capability in preventing spills and in our readiness to respond to any that occur. We regularly test our plans and preparedness, and take part in large-scale joint exercises with other industry partners, government agencies, scientists and oil spill experts. Our oil spill prevention capability includes multiple redundancies: if any system or device fails, a backup system or device immediately takes over to prevent a well blowout. We have a robust response program consisting of a dedicated onsite fleet, near-shore barges and response vessels and onshore response teams. And, in the event of a worst-case scenario, we have developed technologies that can track and remove spilled oil from solid and broken ice.

HOW MUCH DO WE KNOW ABOUT THE ARCTIC?
We have spent more than $100 million on scientific research in the Arctic—mainly in Alaska—since 2006. This body of science (our studies combined with other independent peer-reviewed research) has established an understanding of Arctic systems, how they operate, and how they respond to oil and gas operations—an understanding that functions both within Alaska and in other parts of the Arctic. This science provides a solid basis for decision-makers to advance exploration and development in the Arctic. Results have increased our understanding of marine mammal distribution, behavior and habitat use.

WHAT IS OUR VIEW TOWARD ANTI-ARCTIC PROTESTS AT SHELL LOCATIONS?
We respect the right of individuals and organizations to engage in a free and frank exchange of views about meeting the world’s growing energy needs. Recognizing the right of individuals to express their point of view, we only ask that they do so in a manner that is lawful and does not place their safety or the safety of others at risk. "

A UNIFIED APPROACH ON CCS
Alberta premier meets with Shell, Department of Energy
When Marlan Downey (‘87 Pecten International) first began his work as a blacksmith 30 years ago, he found it was the perfect stress reliever. “I had a 200-pound anvil, a hot piece of steel and a three-pound sledgehammer. I would talk to the steel and anvil about the week’s stresses. By the end of the weekend, I was calm, nice Marlan Downey again,” he says. “I sure beat the hell out of a lot of iron up there.”

Downey has two forges—one at his ranch 50 miles north of Dallas and the other at his cottage in Cornwall, England, where he serves as a blacksmith for the local fishing village three months out of the year. While a forge may seem a strange addition to the home for most, Downey grew up around a forge. “My grandfather was one of the last old-fashioned blacksmiths. He homesteaded in Nebraska in the 1880s, serving as justice of the peace and a farrier blacksmith for the city of Salem.” Downey spent his early years sweeping up around his grandfather’s shop, watching him shoe horses and the town folk play cards around a pot-bellied stove. His father worked on the second floor of the shop as a cabinet-maker. Downey would pick up woodworking as a hobby later on in life as well.

While he may have started blacksmithing as a way to relieve stress, Downey finds it a novel way to create unique gifts for friends and family. “I design something that’s one of a kind.” For former Shell Executive Vice President Charlie Blackburn, Downey created a knife to commemorate two successes they shared in Cameroon and Syria. “I crafted the knife handle from Cameroon elephant ivory (before it was illegal) and used Damascus steel for the blade.”

For family friend Herbert Hunt, patriarch of the Hunt family, Downey crafted a set of spurs out of one piece of steel, using 100-year-old silver pesos for the rowels. “What do you get a billionaire? This was something unique.”

Downey’s creations have even moved a quiet, reticent fisherman in the village of Cornwall. “One of the fishermen wanted a shark harpoon. He said he was running into 150- to 200-pound sharks and he knew they make good eating. I designed and crafted a six-foot harpoon, which he planned to hang over his boat cabin.”

When a dowager in a nearby manor house lost her century-old fireplace poker, Downey found the same type of wrought iron used to create the fireplace set. Once the iron was hot, the petite dowager twisted the iron herself with Downey’s assistance. “When that iron gets hot, it’s like taffy.”

While blacksmithing used to require a great deal of heavy lifting, power equipment has made the craft more accessible to women. “Some of the best blacksmiths in the world today are women. They have a much more artistic eye.”

Trying his hand at blacksmithing was no big deal for Downey, who has always thought he can do just about anything. “I might not do things as well as others, but better than most,” he jokes. In his early years, Downey built radios, a TV set from Radio Shack and put together his first computer from parts. He’s also tried oil painting, woodcarving and even built bombs. “You could buy a dynamite fuse from the local hardware store. I’d make rockets and high-quality bombs for pond catfish, but I’d be careful about it.”

One of his proudest creations was a log cabin that he built himself, in the Big Thicket, north of Houston, while still with Shell Pecten. “I made everything myself. I cut down the trees with a double-bitted ax—never used a chain saw. I wanted to see if I was the man my ancestors were.”

After the former president of Pecten International retired in 1987, Downey barely took a breath before accepting the role of president at Arco International. Today, he serves on the board of directors for three oil and gas companies, travels around the globe to speak on energy issues and helps manage Roxanna Oil, in Houston, which he founded in 1987.

Though he expects his father and grandfather would be proud of his work as a blacksmith and a woodworker, he feels fortunate that they saw his success at Shell. “They got to read about me in the paper and saw me doing things all over the world. They were proud of me.”

Downey encourages others to give blacksmithing a try. “When you heat that iron, it behaves like clay. You mold it, bend it and turn it any way you want. The secret is that it’s dead easy; it’s only hard to do it really well.” Downey adds that if you want to learn more—or just catch up—send him an email at marlandowney@mindspring.com.

“I love hearing from old friends from my Shell days.”
MENTORING ABORIGINAL STUDENTS
Alumnus passes on love of learning

Whether on the field or in the classroom, Georg Gerlach (’10 Carmon Creek - VSI) knows that kids need to be challenged. “I have high expectations, and more often than not, kids exceed those expectations.”

For 30 years, Gerlach has coached kids’ soccer. In 2013, he brought those coaching skills into the classroom as a science/math mentor at the Morley Community and Nakoda Elementary schools. Located on the Stoney Reserve west of Calgary, Alberta, the schools serve approximately 1,000 children of the Stoney Nakoda First Nation.

Gerlach initially became involved when the Association of Professional Engineers and Geoscientists of Alberta (APEGA) put out a call for student mentors. “APEGA seeks to promote science and math in the aboriginal communities and was looking for volunteers,” he says.

When he first signed up, Gerlach thought he’d give a presentation once a month, share his life story and tell students why they should go into engineering. “I saw pretty quickly that the kids didn’t need another person talking at them. Once a month wasn’t enough.”

Working with the math and science teacher at Morley, Gerlach began visiting once a week, designing labs, leading class discussions, answering questions and expanding on the information in kids’ textbooks. This year, he’s working with grades 4, 7, 8 and 11.

“In the 4th grade class, we’ve grown plants from seeds. I showed them how to set up experiments and record their observations.” Gerlach also put together a lab experiment on light, helping kids learn how light is reflected and refracted and how a prism works. “Most of these students haven’t had that type of hands-on learning before.”

Since funding can be a challenge, Gerlach works with teachers to secure supplies needed for labs. “Sometimes I bring the supplies, sometimes the teacher or school can order them. We try to design labs with home supplies whenever we can.” For example, students learned about chemical reactions during a lab on making common foods. “We made ice cream in a plastic bag.”

With his 8th grade students, Gerlach enjoys teaching about geology and water studies—study topics he is quite familiar with. “I can actually apply things I used to be involved in at Shell.”

Another huge issue is absenteeism. “Many students lack good role models. They might miss the bus or need to stay home to look after younger siblings. The reasons are numerous. Some may only show up a couple of times a week.” And, if you’re not at school, you’re not learning. “I marvel at the teachers’ level of patience with this. They have to teach in a way that keeps the students who actually show up engaged, but gives the kids who missed the opportunity to catch up. Often they end up teaching to the lower level of students, which negatively impacts the better-performing students who may start disconnecting from school.”

That’s where Gerlach hopes he can help. “I’m there for the kids who want more. That’s the motivation for me. Last year, I had a 14-year-old student who showed up two months after school started. She was shy and lacked confidence, but by the end of the year, she was one of my top math students. She worked so hard and discovered that she was able to accomplish so much more than she thought she could. “I tell students that life can be a tough place if you’re not prepared. School is an opportunity to make your life easier. Aboriginal students need role models and mentors who believe in them and help give them an understanding of what it takes to further themselves in life. These kids doubt themselves, but they are so smart and so capable. I enjoy being around them. They give me energy.” «
Shell Oil Company
Communications - Natalie Mazey
P.O. Box 2463
Houston, Texas 77252-2463

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