THE PROFESSIONAL

EDGE

ISSUE 143, MARCH/APRIL 2013

Professional Development

A P E G S

Association of Professional Engineers & Geoscientists of Saskatchewan

83rd Annual Meeting

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Lives and Careers
A Balanced Approach

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Achieving a Safe and Prosperous Future through Engineering and Geoscience

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President's Report

An important part of any professional's career is the requirement for ongoing professional development and continuing education. Our professions are no different.

I believe that most engineers and geoscientists are naturally inquisitive and are always looking for new and innovative processes to improve the results for our clients, the public and the environment.

APEGS has a mandatory Continuing Professional Excellence (CPE) program, which requires our members to participate in and report their activities related to:

- **Professional practice**
- **Formal activity**
- **Informal activity**
- **Participation**
- **Presentations**
- **Contributions to knowledge**

Professional practice accounts for the learning that occurs on the job either as a result of attempting new tasks or maintenance of skills through continued professional work.

Participation in structured courses or programs of learning that may include an evaluation process, including those courses taken in pursuit of an advanced degree, counts towards the formal activities. While it is not specifically required, members are encouraged to include formal activities within their CPE program.

Activities such as self-directed study, attendance at conferences and attendance at other meetings of technical associations count towards the informal activities.

One of the most important components of the APEGS CPE program is participation. Participation includes any activities related to mentoring, presenting, serving on public bodies, committees and community service. The goal of participation is to encourage peer interaction and the sharing of ideas and new technologies.

Presentations at conferences and meetings are an important aspect of a CPE program. Developing the content of a presentation, whether it be the results of ongoing technical work or a business process, contributes to the transfer of knowledge.

Finally, contributions to knowledge such as the development of codes and standards, patents, publications in peer-reviewed journals and review of articles for publication all count towards this important area.

Many of our members are registered in multiple jurisdictions across Canada. APEGS is working with our sister associations across the country to develop CPE programs that are similar, to simplify our reporting processes, and to reduce the duplication of effort by our members.

APEGS and our many volunteers organize a number of opportunities for members to participate in professional development sessions throughout the year, including at the upcoming Annual Meeting. I encourage everyone to become active and to be sure to report your CPE credits.

The Year in Review

At this time, it is my turn to reflect on the past year. It is hard to believe that this is my last opportunity to provide some comments in the *Edge*. The year has flown by, and while I can't say we have closed all of the issues highlighted by my dear friend and our current past president, Peter Jackson, P.Eng., FEC, at this time last year, we have been making progress. While none of the issues that Peter identified have been fully resolved, we are making progress. Unfortunately not enough progress that our next president, Dwayne Gelowitz, P.Eng., FEC, can take his eye off them.

This year has been very fulfilling and busy. I am proud of the way in which our Association works, from Council to staff, and all of our

volunteers on the many committees and boards. While visiting our sister associations across the country, I have been impressed by the level of involvement of volunteers in the operations of those associations, similar to ours. Unfortunately there is also dysfunction on the part of some, which puts our self-regulating model at risk.

In the past year, APEGS was the Patron Sponsor for U of S College of Engineering centennial celebrations. It was an opportunity to rekindle old friendships and to honour the memory of C.J. Mackenzie, the first dean of the College of Engineering and the first president of the Association of Professional Engineers of Saskatchewan (now APEGS).

Our Association Council has chosen to establish a scholarship program to provide undergraduate and graduate scholarships at both the University of Saskatchewan and the U of R.

This year our membership topped 10,000 members and members-in-training for the first time. Our membership has more than doubled since 2005. While this is great news for the province, it also is an area of concern, as more than half of our members are resident outside of our provincial borders. We need to be vigilant to potential decreases in membership as some of the province's mega-projects come to an end.

And finally, I hope everyone has had the opportunity to see our new advertising campaign, "We See More." The goal of the campaign is to increase the visibility and awareness of our professions amongst the general public across this province. The campaign includes a combination of strategically located billboards along with television advertising.

I have been honoured and humbled to serve as your president this year. I hope I have met your expectations. Thank you to all of our volunteers for the many hours you contribute to this association. We could not achieve a fraction of what we do without you.

A special thanks to the executive committee, Peter Jackson, Dwayne Gelowitz and Andrew Loken, P.Eng., FEC, and to the APEGS staff for all of your support. You have made the year much easier. And finally, I wish to thank my wife, Susanne, and my kids, Kyla, Cody and Austin, for your support, and to allow me to spend even more time away from home on APEGS activities. This year wouldn't have been possible without you.

Leon C. Botham, P.Eng.

President

L to R: Lieutenant Governor Vaughn Solomon Schofield, Dennis Paddock, Honorable Wayne Elhard

Royal Honours for APEGS Members

Last issue, *The Professional Edge* had the pleasure of announcing that three APEGS members - Karim W. Nasser, P.Eng., Pieter Van Vliet, P.Eng., FEC, and Stephen K. MacDonnell, P.Eng. – were recipients of the Queen Elizabeth II Diamond Jubilee Medal. It is now our honour to announce that two further members of the association have received this distinction.

Dennis K. Paddock, P.Eng., FEC, FCSSE, FCAE

As Chief Executive Officer and Registrar of the Association of Professional Engineers and Geoscientists of Saskatchewan, Mr. Paddock's leadership has resulted in legislation which ensures the safety of Saskatchewan residents through the effective regulation of the practice of engineering and geosciences. He works to build a national framework and encourage private sector entities and non-government organizations to become full partners in Saskatchewan's membership in the Pacific Northwestern Economic Region (PNWER) to resolve problems and build valuable bridges.

C. James W. Biss, P. Eng., LL.B

Saskatoon lawyer C. James W. Biss, P.Eng., LL.B was awarded a 2012 Queen Elizabeth II Diamond Jubilee Medal on December 7, 2012 for dedicated service to his peers, his community and to Canada. During a ceremony at the Saskatchewan Abilities Council, special mention was made of his commitment of over 40 years of dedicated service as a board member and former president of that agency as well as to Easter Seals Canada.

This commemorative medal was created to mark the 2012 celebrations of the 60th anniversary of Her Majesty Queen Elizabeth II's accession to the Throne as Queen of Canada. The Queen Elizabeth II Diamond Jubilee Medal is a tangible way for Canada to honour Her Majesty for her service to this country. At the same time, it serves to honour significant contributions and achievements by Canadians.

THE BUSINESS CASE:

Management Training *for* Engineers & Geoscientists

BY MARTIN CHARLTON COMMUNICATIONS

Many of today's professionals seek to gain an edge in the workplace by pursuing various degrees and certifications.

For engineers and geoscientists, some of the most attractive career-advancing education options are the ones that promise greater skill in business and management practices. At the end of these paths lies the dream of moving one's career beyond basic engineering or geoscience work and into the realm of managing larger projects and larger teams, or perhaps even running one's own business.

But is this dream a reality? And if it is, which path is the best?

The Options

One of the first lessons one learns in business or economics is the value of competition, so it's appropriate that there is a certain level of competition among the management-oriented education options.

The Master of Business Administration (MBA) likely holds the highest level of prestige in society but this prestige comes at a cost. Tuition at a respected program can cost over $90,000 – and that's not including the opportunity cost of lost wages while at school. Accelerated full-time study can take a year and a half to complete while part-time study can soak up much of a working student's free time and holidays for over three years.

A popular alternative that requires less personal investment is the Project Management Professional (PMP) certification. A professional with a post-secondary degree can sit for the PMP exam after completing 4,500 hours of work experience ("leading and directing projects"), putting in 35 hours of course work and paying a few hundred dollars for the exam fee. Employers often provide the coursework for free as part of employee professional development programs but even if the student has to pay for it, the course seldom costs more than $3,000. However, the designation must be maintained by logging in a specified amount of professional development time every three years.

Although not as widespread as PMP and MBA, Six Sigma is also gaining in popularity in engineering circles. The designation – which has several martial arts-style levels from yellow belt to master black belt – involves a set of tools and strategies for managing and improving processes, particularly in industrial settings. In recent years, Six Sigma has also come to incorporate the so-called Lean workplace concepts. The designation can be acquired through either six to eight months of part-time online study or through more intensive full-time classroom study. As with PMP, many companies offer Six Sigma training on site for qualified employees. If pursuing it on one's own, the course costs $25,000-$30,000.

Why Do It?

When asked why they pursued managerial education upgrades, APEGS members who have pursued those paths gave a near unanimous response: to further their careers.

Shelley Pappas, P.Eng., an electrical systems engineer working as a senior project manager at SaskTel International, has a diploma in business administration, her PMP certification and will soon be receiving her MBA.

"The simple answer is that I'm ambitious. I always knew that I didn't want to be working on small teams in a lab my entire life. Even when I was studying engineering in university, I was more socially oriented and more prone to want to manage things on a large scale.

I always wanted to apply my engineering knowledge in a way that allowed me to work with large and varied groups of people," Pappas says.

Rajeev Chadha, P.Eng., a Continuous Improvement Lead at Mosaic Potash Colonsay had similar goals for his Six Sigma designation.

"My field is process engineering but I wanted to move on to operations management. As a senior engineer, I found I was increasingly dealing with broader functional groups including units from sales, marketing, human resources and so forth. The Six Sigma training allows me to help improve the processes for basically any unit within the company. That's the strength of it – when you get right down to it, anything is a process so process analysis is useful in any branch of a business," Chadha says.

Joe Toth, P.Eng., senior innovation officer at Springboard West Innovation, set his sights even higher when he completed his Executive MBA at the Kenneth Levene Graduate School of Business at the University of Regina.

"Even at the senior management level, there are many positions that require an MBA. My sights have always been set on what are called the 'C' level jobs – CEO, CFO and the like – and the fact is that an MBA is an absolute must for that level," Toth says.

But it's not all about money or career advancement. Management-bound APEGS members typically give a range of additional reasons for their choices.

"I have always considered myself a lifelong learner. It's just part of my nature. I had already taken M.Sc. in engineering and had been certified under the Canadian Securities Course so the MBA just seemed like the next logical step in improving my understanding of business and management," Toth says.

Pappas was looking to use her training to help her colleagues and employer as much as herself.

"The engineering department at SaskTel International tended to have more ideas flowing out of it than it had employees able to drive them to completion. Other departments had project managers but not ours, so my initial motivation was that if I acquired the project management skills I would be in a position to help bring these ideas to fruition."

Which Is Better?

Although there is little doubt that the MBA is more prestigious than other managerial education paths, is it really the best in terms of career development and skills? The answer isn't perfectly clear-cut.

John Reiling, PMP, MBA, a US-based columnist who runs a PMP coaching business, does not believe it's relevant to compare MBAs with certification programs like PMP or Six Sigma.

"I think they serve two different purposes, but there is great value in each," Reiling says.

A common saying about university education in general – even liberal arts education – is that it helps train people to think. To Reiling, this is the core value of the MBA but on an enhanced level.

"It helps to teach us how to think about a broad set of situations. This provides exposure to different ways of thinking in many situations and crosses virtually all business functions. It also builds skill in areas such as finance, marketing, operations, and more."

On the other hand, certifications are all about acquiring a skill, Reiling says.

"They provide a framework for handling certain common problem sets. They provide a clear skill for the workplace. But this is where they diverge from the education provided by an MBA."

As Reiling defines it, an education does not necessarily provide specific skills but instead provides a person with a background to do a range of things better.

Toth agrees with this assessment.

"You can't really compare a PMP and an MBA at all. A PMP teaches you how to manage projects. An MBA teaches you how to manage a business and gives you a much deeper understanding of a broader range of business and management principles."

Pappas likewise saw an MBA as a step up to the next level.

"After having managed projects for a while, I became more involved in developing other aspects of the business. I found in meetings that the CEO and CFO were often using

concepts and terminology with which they were more familiar so I thought an MBA would take me up to that level."

This doesn't mean that an MBA is the right choice for everyone. The workload, cost and commitment required to achieve an MBA may not suit everyone's goals.

"This becomes a very personal decision. Different people have different learning styles. It may be that one person would be better off getting a certification like the PMP, work in project management for a time, and gain exposure and experience, then advance their career from there. Some people learn much better by doing and could be wasting their time in school," Reiling says.

Chadha agrees with that assessment and his personal choice is clear.

"Six Sigma to me is definitely superior to PMP. The latter is focused on managing the project; in Six Sigma you are managing the results. In some ways, I think Six Sigma can be better than an MBA, depending on what you are looking for. An MBA leads you to an open area where you can choose your path whereas Six Sigma is very focused."

Is It Worth It?

No matter which managerial education path one takes, it requires considerable time, money, effort and sacrifice. Is it all worth it? Those who have been down the paths agree that it is, even if there isn't an immediate financial payoff.

Although his Six Sigma designation has not yet led to career opportunities, Chadha feels it is already making his current work better.

"In my job as continuous improvement lead, Six Sigma has been very important in helping me improve processes for many groups in the company."

While not yet at his goal of a 'C'-level job, Toth feels that his EMBA is providing him with an increasing range of management and entrepreneurial opportunities. More importantly, it has given him a deeper understanding of how enterprises function.

In Pappas's case, her PMP brought her an almost immediate monetary benefit.

"There is no doubt that I'm making more as a PMP than I would have with just my engineering degree. That's just a function of how the pay bands at SaskTel recognize different sets of qualifications."

Although she won't be receiving her MBA until next April, Pappas believes that it has already given her perhaps the most important benefit of all – the confidence to follow her dreams and the assurance that it will help her attain her goals.

"While I don't know what my eventual ideal job would be, I would not want to think that perhaps some day my dream job would come along and it would pass me by because I wasn't qualified for it on paper," Pappas says.

"For many high-level positions, they won't even look at you unless you have an MBA. It doesn't matter how strong of an engineer you are or how much practical management experience you have; you have to have those letters after your name. So for me part of getting an MBA is future-proofing – making sure that I have my options open no matter what opportunity arises."

Masters of Their Domain

BY MARTIN CHARLTON COMMUNICATIONS

No matter what the context, there is something innately appealing about being called a master. No doubt that is part of the reason why many engineers and geoscientists from time to time ponder going back to school to seek their master's degree.

Is it worth it? The simple answer appears to be yes. There are many compelling reasons to advance one's education. Those who have been through the process typically describe it as a worthwhile and rewarding experience.

Not Just For the Dollars

Ben Deaton, Ph.D., a structural engineering researcher at the Georgia Institute of Technology, runs a popular blog called *Only A Model* that focuses on engineering professional development and education issues. Deaton is a strong advocate of master's programs.

"I think every undergraduate engineering student should seriously consider pursuing a master's degree. A graduate degree hasn't always been necessary for engineers, but the evolution of engineering education over the past decades has changed the professional outlook."

Deaton's main rationale is that the advanced degree dramatically increases an engineer's level of knowledge.

"A master's degree will significantly increase your technical background. An aspiring structural engineer will graduate with a bachelor's in civil engineering having taken roughly five to six courses covering the very basics of structural analysis and design. A master's degree will add 10 courses precisely in your focus area."

Lisa White, P.Eng.

Chris Richards, P.Eng.

Saskatchewan engineers likewise cite intellectual reasons among their top motivations in seeking a post-graduate degree.

"I might have had hopes for advancement or better jobs in the back of my mind but that really wasn't my main motivation. While advanced degrees can certainly help you get better pay or better jobs, they don't guarantee it. I was attracted more by the learning opportunities – the chance to get more in depth into an area in which I was interested," says Lisa White, P.Eng., a consultant at Clifton Associates.

Chris Richards, P.Eng., a mechanical engineer with environmental services at the City of Saskatoon, echoes that sentiment.

"I felt that my master's degree essentially completed my education. In undergrad studies, I was focused on writing a test. In master's studies, I was focused on results. My graduate studies helped me to more fully understand the concepts I'd learned in undergrad."

Still, having a postgraduate degree in one's pocket definitely doesn't hurt in the job scene.

"The APEGS salary survey says that engineers with master's degrees on average earn 13 per cent more. That's a statistic that I bring up whenever I'm in a wage negotiation," Richards says.

A World of Opportunity

Another commonly noted benefit of a master's degree is improved professional mobility.

For White, going back to school led quickly to overseas work.

"It was in graduate school that I connected with the Engineers Without Borders (EWB) group on campus that led to my work in the Philippines. It also started my ongoing interest in EWB and international development work," White says.

Richards - another EWB alumnus – also saw the advanced degree as providing him with more international options.

"I have a keen interest in travel and working overseas so that was another of my reasons for securing a master's. If, down the road, I was going to look at getting a job in Europe, I would likely need the advanced degree as that has become a more and more common requirement for engineering jobs there," says Richards.

The US may be on the brink of going even further. The number of course hours required for the American Professional Engineer designation has crept up over the years so that Canadian engineers already have to consider taking extra classes to achieve full cross-border mobility. But according to Deaton, the American Society of Civil Engineers (ASCE) may take things one step further and make a graduate degree mandatory. Deaton cites ASCE Policy Statement 465 – "Academic Prerequisites for Licensure and Professional Practice" that states:

"There are diametrically opposed forces trying to squeeze more content into the baccalaureate curriculum while at the same time reducing the credit hours necessary for the baccalaureate degree. The result is a baccalaureate civil engineering degree satisfactory for an entry-level position, but becoming inadequate for the professional practice of civil engineering."

In addition to this formal push, Deaton describes an equally important informal push from US engineering firms.

"Many high-level engineering firms are only interested in candidates with a master's — not only because of better technical qualifications, but also because these positions are highly competitive. Why should they settle for a candidate with limited advanced training?"

Big Picture Thinking

According to White – who not only has her master's but is also close to completing her Ph.D. - a common concern engineers have about graduate studies is that it will make them too specialized. Whereas many engineers and geoscientists work as generalists within their field of competence, graduate students focus on very specific research topics.

"I always encounter people who think that a master's or Ph.D. will narrow them down too much but really the opposite is true. Graduate studies give you the ability to think more strategically, to understand things in greater depth and see the bigger picture. Those are tremendous assets, especially in consulting engineering when you have to consider a number of connected projects and provide a broader vision for them," White says.

Deaton agrees that a master's degree provides numerous opportunities to enhance one's intellectual skills.

"For many, a master's degree will be a once-in-a-lifetime opportunity to conduct research and publish a thesis. Completing a research project and publishing it demonstrates a level of proactivity that will distinguish you. You will gain valuable analytical skills as well as the technical ability to understand research articles," Deaton says.

Richards' experience mirrored that description. His graduate studies, which involved working with the Saskatchewan Research Council, exposed him to research, information and mentoring that he wouldn't have had otherwise.

"I certainly learned how to deliver a big project with grey boundaries of when it would be considered complete. I now have a better ability to assess large-scale, open-ended projects and how much work they will involve. The experience also improved my writing since I basically had to write a book and then have it reviewed and edited."

Eyes Open

While there are many benefits to a master's degree, there are also sacrifices and challenges. At the top of the list for many graduate students is readjusting to an academic environment.

"It was interesting because I thought I was a pretty smart person and didn't think it would be much of a challenge to get back into the university mindset. But it was a tough adjustment. In fact, it was one of the most difficult things I've done in my life. It took a good while to get back into the swing of things," says White.

For working professionals, graduate studies can also bring financial and opportunity challenges since advanced science degrees typically involve full-time study. There are, however, many scholarships available as well as programs that pay a stipend for students contributing to larger research projects. Many employers also provide support for staff seeking advanced education.

"In my case, I had both an industry partner and a scholarship. Basically, SRC was my employer for that period and the NSERC scholarship was quite good. But if it hadn't been for that funding, I probably wouldn't have pursued a master's degree or else I would have had to drop out. I feel very lucky to have the support I needed," says Richards.

Despite the challenges, master's program graduates are unequivocal in their enthusiasm.

"I'm very thankful for educational opportunities I've had. They've been good for me and have given me many opportunities – career and otherwise – that I otherwise would never have had in my life. I'm very thankful to have been able to go back to school without any sacrifices to my quality of life," says White.

Member Profile

This month *The Professional Edge* chats with Shane McKechney, P.Eng., a civil engineer working as the manager of structural services at the University of Regina.

Tell us about your personal and professional background.

That's pretty simple: I was born and raised, and took all my schooling in Saskatoon, including attending the University of Saskatchewan.

Why did you choose to go into engineering?

I suppose I was influenced by my dad who was also an engineer. I was drawn to civil engineering because, as a kid, I liked to build Lego and draw so I guess it seemed like the best use of my skills at the time.

What was your first job after college?

I went to work for McIntosh Lalani, a geotechnical engineering firm in Calgary. It was a good foundation for my current job. In fact, I've often reflected on how all the other mish-mash of things I've done previously in my career – including transportation design, geotechnical work, environmental, building envelope and so forth – all sort of led up to my current job where I'm not just responsible for the buildings but also the roads, much of the infrastructure and the earth around the buildings. It's great to have a job that pulls from all the facets of my experience.

What do you feel has been your single greatest career accomplishment so far?

I would have to say it was the opportunity the University of Regina gave me to use my experience and give back to a disadvantaged country by working in Malawi. I went there in June 2011 to do an environmental audit at the University of Malawi Polytechnic campus, and I've been back since to present my report. In some instances it was a much simpler audit than I had completed during my work experience in Canada and in other instances, more complicated. The simpler side was that almost all of the buildings and structures on campus were built using basic building principles: walls, windows and a roof. On the complicated side, it was hard to recommend items we use in Canada due to lack of availability or financial constraints. It was an amazing experience. I've come away very aware of the privileges we enjoy as Canadians – we are lucky – and awed by the ingenuity, determination and integrity of the people in Malawi who provide university education with few resources.

What are your interests outside of work?

I'm big into triathlons. I also enjoy cycling, golf, running, photography, travelling ... and of course, living in Regina, I'm a huge Rider fan.

Have you ever met anyone famous?

Through triathlons I met Simon Whitfield. I'm not only a fan but I've also always admired how he's been able to prolong his career in a tough sport. I found him to be a very down-to-earth guy considering how celebrated he is.

What is your favourite vacation spot?

I've been lucky enough to travel throughout the world so it's hard to narrow it down to one place. The places I've loved most are in Africa like Kenya, South Africa and Tanzania. Closer to home, I enjoy holidays at Emma Lake and California.

Who has had the greatest influence on your life and career?

For my life in general, of course I would have to say my parents. From my dad I got analytic thinking and from my mom I got drawing and design. From both of them, I got their work ethic. On the career side, I would have to say Mike Deitrich, P.Eng., who works for Morrison Herschfield in Calgary. He was a previous manager and mentor of mine. He always had calmness for dealing with engineering clients and projects. I've tried to learn from that and emulate it.

Award Winners & Banquet

Saturday, May 4, 2013

Hotel Saskatchewan - Radisson Plaza, Regina Saskatchewan

Reception 6:00 pm / Banquet 7:00 pm

Outstanding Achievement Award

Norman B. Beug, P.Eng.

The Outstanding Achievement Award was created in 1998 to honour members who show technical excellence and achievement in engineering and/or geoscience in Saskatchewan.

Promising Member Award

Cameron S. McNaughton, P.Eng.

The Promising Member Award was established in 1998 to recognize exceptional achievements by a professional member in the early stages of his/her career in Saskatchewan.

McCannel Award

Tim A.G. Jansen, P.Eng., FEC

The McCannel Award was established in 1983 to honour service to the Association of Professional Engineers and Geoscientists of Saskatchewan, and to the professions as a whole. The McCannel Award is named after Roy McCannel, a founding member of the Association.

Brian Eckel Distinguished Service Award

Ken B. From, P.Eng., FEC

This award was established in 1978 to recognize outstanding contributions in service to the community, the Association, technical and learned organizations, and to honour distinctive and outstanding achievements in professional and technical fields. The Distinguished Service Award is an honour given only to those who truly exemplify the best standards of engineering and geoscience in Saskatchewan. In 2004 this award was renamed the Brian Eckel Distinguished Service Award in recognition of Brian Eckel's contribution to society, the profession and the Association.

Friend of the Professions Award

Lyle Benko and Dean Elliot

This award was established in 2013 to recognize exceptional achievements or unique contributions by a non-member in the promotion of the professions.

Exceptional Engineering / Geoscience Project

Co-op Refinery Upgrader Expansion

This award, founded in 2001, recognizes accomplishments in engineering and/or geoscience. The project team must be predominantly made up of Saskatchewan engineers or geoscientists. The project may be located in or outside Saskatchewan.

Environmental Excellence Award

Yorkton Water Treatment Plant

The Environmental Excellence Award was established in 2005. It is given in recognition of exceptional achievements by an individual or team in the application of engineering, geological and/or geophysical methods related to environmental protection and preservation.

Tickets: $50 per person. **Contact:** APEGS, Suite 104 - 2255 13th Avenue, Regina Saskatchewan S4P 0V6
Tel: (306) 525.9547 - Toll Free: 1 (800) 500.9547 - Email apegs@apegs.sk.ca - Register online: **www.apegs.sk.ca**

In Memoriam

Koopman, Hendrik, P.Eng.
Bennetto, Robert C., P.Eng.

Announcing the **winner** of the **iPad draw**

APEGS held a draw for an iPad to encourage our members to use online services during the 2013 renewal season. The requirement to have your name entered in the draw was to do at least one of the following in APEGS On-Line Services:

1. Pay annual dues for 2013
2. Renew Permission to Consult for 2013
3. Report Continuing Professional Excellence Credits (CPE) for 2012
4. Update contact information

At least one of these items had to be completed in On-Line Services by January 31, 2013, and membership had to be renewed for 2013. 5,406 of the 10,164 members who renewed for 2013 were eligible for the draw.

The winner is....

Shelly Zhao, P.Eng.

Congratulations Shelly and thank you to all our members who used On-Line Services for the 2013 renewal season.

COUNCIL NOTES

February 7 and 8, 2013, Hotel Saskatchewan, Regina, SK

16 of 19 Councillors present

- The Registrar reported that the growth of the Association continued throughout 2012. A total of 2,543 applications were processed in 2012, representing a 14.5 per cent increase from 2011. There is an approximate 10 per cent increase for both Engineers-In-Training and Professional Engineers.
- Council formally considered and declined to participate in the harmonization proposed by APEGA. Council believes that the current Act and bylaws provide public safety in Saskatchewan and that it would not be further enhanced by harmonization of legislation with Alberta and British Columbia.
- Council adopted the terms of reference for the Budget Surplus Task Group.
- The Professional Practice Exam Committee reported that 314 candidates wrote the PPE in 2012. There were 11 failures and the highest mark achieved was 93.5 per cent. Doug Kelln, P.Eng. was appointed Vice-Chair of the committee.
- Council approved Life Membership for 48 members.
- Council appointed Robert Berry, P.Eng., FEC as Chair of the Communications and Public Relations Committee for a two-year term.
- Council approved the terms of reference for the Connection and Involvement Committee and Policy CI1.0 guideline for constituent society grants and special funding.
- Council approved the recommendations of the Awards Committee. The award recipients will be recognized at the 2013 APEGS Awards Banquet.
- Council recommended Engineers Canada and Geoscientists Canada, respectively, approve the recommendations of the Awards Committee and the recipients be awarded with a fellowship or honorary fellowship as applicable.
- The K-12 Committee proposed new wording for their terms of reference reflecting the activities that are taking place and softening the wording "making of recommendations on the math, science and practical and applied art" curricula. The proposed wording is consistent with the recommendation of the Ministry of Education. Council approved the changes, as proposed, to the terms of reference for the K-12 Committee.
- Council appointed Sheri Praski, P.Eng., FEC as Chair of the Environment and Sustainability Committee for a two-year term.
- Council reappointed Art Opseth, P.Eng., FEC as APEGS representative to the University of Regina Senate for a term of three years, commencing on July 1, 2013 and ending June 30, 2016.
- Council set polling day for the 2013 Council elections as April 29, 2013.
- The next Council meeting is scheduled for April 11-12, 2013 in Saskatoon.

ensuring public safety

Saskatchewan's Professional Engineers and Geoscientists enhance our quality of life, meet the challenges of environmental sustainability and protect public safety. Because of their impact on society, the practice of professional engineers and geoscientists is strictly regulated by the Association of Professional Engineers and Geoscientists of Saskatchewan.

Join over 9,000 APEGS members in congratulating our newest members – dedicated professionals who have completed a minimum of 8 years of university study and work experience to earn the designation of Professional Engineer (P.Eng.) or Professional Geoscientist (P.Geo.).

Eric Kimani, P.Eng. | James Knight, P.Eng. | Logan Lacelle, P.Eng. | Clark Laing, P.Eng. | Dennis Lammers, P.Eng. | Alain Larouche, P.Eng. | Josua le Roux, P.Eng. | Scott Li, P.Eng. | Xiangning Li, P.Eng. | Devon Loehr, P.Eng.

Kris Lunde, P.Eng. | Kelsey Mayes, P.Geo. | Susan McFarland, P.Eng. | Cameron McNaughton, P.Eng. | Ernie Meheriuk, P.Eng. | Chad Michel, P.Eng. | Craig Miller, P.Eng. | Nick Mocan, P.Eng. | Jeff Nattress, P.Eng. | Michael Nemeth, P.Eng.

Doug Normand, P.Eng. | Jodi Olchowy, P.Geo. | Colin Olfert, P.Eng. | Voltaire Pascua, P.Eng. | Michael Phan, P.Eng. | Tomo Pokrajac, P.Eng. | Peyman Pourhaj, P.Eng. | Mario Prezelj, P.Eng. | Arnold Raisi, P.Eng. | Garreth Rempel, P.Eng.

Ellsworth Rustia, P.Eng. | Chad Salewich, P.Eng. | Geoffrey Schulmeister, P.Eng. | Tim Schwartz, P.Geo. | Dennis Sharma, P.Eng. | Mark Shaw, P.Eng. | Stacey Sirois, P.Eng. | Colin Smith-Windsor, P.Eng. | Blair Smith, P.Eng. | Chad Sorba, P.Geo.

Lucas Storey, P.Eng. | Kimberley Tang, P.Eng. | Howard Thomas, P.Eng. | Stan Torgunrud, P.Eng. | Tom Ukiomogbe, P.Eng. | Barry Unrau, Engineering Licensee | Anastasia Vander Most, P.Geo. | Michael Venhuis, P.Geo. | Yuanyuan Wang, P.Eng. | Raegan Wheler, P.Eng.

Greg Whittet, P.Eng. | Jared Wiens, P.Eng. | Evan Wilson, P.Eng. | Rory Windrum, P.Eng. | Josh Wright, P.Eng. | Lixin Wu, P.Eng. | Jason Yeung, P.Eng. | Xiaoyou Yun, P.Eng. | Ryan Zwarich, P.Eng.

We see more

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ilding Products • Potash Corporation of Saskatchewan • University of Regina, Faculty of Engineering • Vecima Networks Inc. •

News Beyond Our Borders

EnGenious.ca

An EnGenious New Way to Encourage Youth

APEGA, in partnership with Engineers Canada, unveiled EnGenious – a new online game and career website – at the Canada Science and Technology Museum in Ottawa. Designed for junior high students and their teachers, EnGenious.ca is comprised of 10 interactive games and webpages full of career and teacher resources that connect the games to real life. Engineers Canada President Catherine Karakatsanis, P.Eng., FEC, FCAE, and APEGA's Chief Executive Officer Mark Flint, P.Eng., outlined the importance of EnGenious at the unveiling. APEGA's Director of Outreach and Product Services, Jessica Vandenberghe, P.Eng., demonstrated the game to grade five students from école Reine-Des-Bois. EnGenious is now featured in a permanent station at the Canada Science and Technology Museum.

Source: Engineers Canada

International Qualifications Network Awards

Three engineering and geoscience initiatives have received honourable mentions in the federal government's 2012 International Qualifications Network (IQN) Awards.

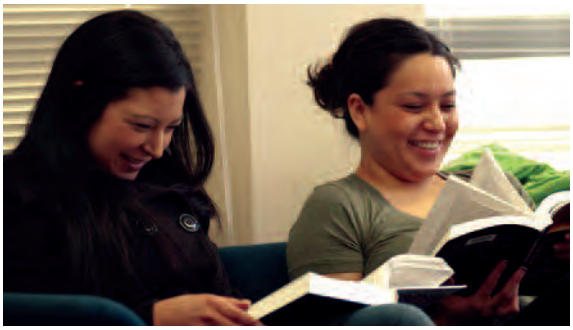
Engineers Nova Scotia received an honourable mention for their initiative, Internationally Educated Engineer Worksite in the Workplace Integration category.

The Internationally Educated Engineers Qualification Program at the University of Manitoba, Faculty of Engineering, received an honourable mention in the Innovation category.

Engineers Canada's International Institutions and Degrees Database also received an honourable mention in the Innovation category. The database contains information from over 3,000 international institutions and their respective degree programs related to engineering. The database is used by the registration departments of the 12 Canadian engineering regulatory bodies to help assess the academic credentials of applicants.

The IQN is administered by the Foreign Credentials Referral Office of Citizenship and Immigration Canada.

Source: Engineers Canada



www.usask.ca

PEO Considers Aboriginal Access Program

Professional Engineers Ontario (PEO) is considering its level of support to a program promoting engineering education to Aboriginal students.

The Queen's University Aboriginal Access to Engineering Program, operating under the school's Faculty of Engineering and Applied Science since the fall of 2011, now supports 10 native engineering undergraduates.

PEO has been asked to support the program materially and financially. PEO has also brought the access program to the attention of its Equity and Diversity Committee (EDC) for further study.

Program Director Melanie Howard said although the program is in its infancy, it has already received positive feedback and encouragement from industry and professional associations.

"It's not a program in the sense of an academic program or even an admissions program. We're focusing on outreach to encourage students to study math and science and look to a career in engineering. Once the students are on campus, there is the support element in terms of tutoring," Howard said.

Source: Professional Engineers Ontario

Oil Sands Chemicals Show Up In Alberta Lakes

A new study suggests chemicals from 50 years of oil sands production are showing up in increasing amounts in lakes in northern Alberta. The effects are being felt much further away than previously thought.

The joint study between scientists at Queen's University in Kingston, Ont., and Environment Canada looked at core samples from five lakes close to the oil sands mining and upgrading operations in Fort McMurray, Alta. They also studied samples from Namur Lake, 90 kilometres northwest.

The authors focused on polycyclic aromatic hydrocarbons,

www.earthrandom.com

or PAHs. These are cancer-causing chemicals that are released when things are burned. They can occur naturally — from forest fires, volcanic activity and geological deposits — but burning petroleum in the production of the oil sands leaves a particular fingerprint, so the scientists were able to trace where the PAHs in the core samples came from.

The study found that the levels of PAHs in all six lakes had increased anywhere from two and a half times to 23 times background levels in the early 1960s, before the start of oil sands mining in the region. The PAHs fall into the water from air pollution and are deposited in the mud over time.

One of the study's authors says these formerly pristine northern lakes now have the same chemical composition as lakes near urban areas.

Source: Association of Professional Geoscientists of Ontario

Golder Associates Acquires NovaTec Consultants Inc.

Golder Associateshas acquired Vancouver-based NovaTec Consultants Inc. Founded in 1984, NovaTec is a specialist process engineering firm focused on industrial and municipal advanced water and wastewater treatment plant design, operations, process optimisation, and technology and process performance verification.

A Golder press release described the merger as presenting expanded opportunities to deliver greater value to mining and oil and gas clients. The merger is also seen as capitalizing on the reputation earned by the two companies in "government and infrastructure project streams".

"NovaTec's reputation and experience really further our water and wastewater treatment service offering in Canada and provide all of us with broadened horizons—opportunities to become involved in new business streams and to explore new technical applications," explains Ateesh Roop, National Leader of Mergers & Acquisitions for Golder in Canada.

Troy Vassos, President of NovaTec, described the merger as a benefit to employees and clients, saying "NovaTec enhances Golder's existing water treatment process design capabilities. Integrating the two organisations' services creates new opporutnities for our people, and enables us to better assist clients as we work together to develop sustainable water reclamation and reuse solutions."

NovaTec will operate as part of the Mine Water Group within the Mining Division of Golder Associates' Greater Vancouver (Burnaby) office.

Source: Golder Associates press release

Vancouver Company Garners International Appeal

Vancouver's Awesense Wireless is breaking on to the international scene with a technology solution that pinpoints power loss for utility companies.

The product consists of the hardware monitor known as the Raptor, a USB wireless data collector, and the software portion known as senseNET, a smart sensor platform. The senseNET system takes the data sent from one or more Raptors, compiles it and helps utility companies quickly spot losses and inefficiencies in their distribution grid.

Awesense's wireless remote monitoring system is being used by major utilities in BC and the United States. A new partnership was recently formed in South America with ELO Sistemas Eletronicos, a meter monitoring company that started pilot project trials in late 2012. In the early part of 2013, pilot projects using the Awesense system will be held in Europe and Asia, although confidentiality agreements prevent Awesense from releasing customer names.

Awesense was listed as one of *BC Business* magazine's Top 20 Innovators of 2012. In 2011, the company won BC Hydro's Sustainability Award as a part of the BC Innovation Council's New Ventures Competition

Source: Association of Professional Engineers and Geoscientists of British Columbia

News From the Field

www.newswire.ca

Feds, Saskatchewan, business fund Aboriginal job training for mining industry

Canadian Press - Nearly $10 million in government money is going to a job training program to increase the number of Aboriginal people working in northern Saskatchewan's mining industry.

The federal government is contributing close to $8 million and the province $1.5 million to train 800 First Nations people for jobs.

The money will go to the Northern Career Quest program.

The announcement was made at mining giant Cameco's head office in Saskatoon.

Visa cap cuts US immigrants with advanced degrees

USA Today - Because of annual caps on the number of work visas, thousands of immigrants with advanced degrees annually face the prospect of being forced to leave the United States. It's a situation that has existed for years and Congress has not yet resolved it.

Forcing graduates to leave the US will hurt an economy that faces a shortage of highly skilled workers in coming years, immigration reform advocates said.

One policy with wide support awards visas to workers with expertise in the high-demand areas of science, technology, engineering and math (STEM). However, the STEM Jobs Act that the House passed in November was doomed from the start. Democrats opposed it because it would have eliminated an equal number of visas in the diversity visa lottery program, which awards visas to a mix of low- and high-skilled workers. The president also opposed the legislation for similar reasons.

Canada has benefited from this restrictive US immigration policy. Saskatchewan in particular has an immigration policy that targets visas to match local needs and sponsors immigrants who are long-haul truck drivers, family members, doctors and recent graduates with advanced degrees.

Meka Okochi, P.Eng., who ran for mayor of Regina in the recent municipal elections, is one beneficiary of the more open Canadian policies.

"We encourage all our friends in America to come here. It's a faster path to citizenship," said Okochi, who nevertheless understands why people remain in the United States.

"America is the land of dreams. There's a romantic belief in hope. I don't think any other country has that."

Canadian engineering labour constrained

Journal of Commerce - Supply and demand imbalances are becoming more serious within the Canadian engineering community, found a report released by Engineers Canada.

"We've got the chronic shortage of mid-career professionals at the back end and we've got the chronic over-supply at the front end," said Kim Allen, P.Eng., chief executive officer of Engineers Canada.

"It's not that we don't have the raw talent . . . we're just not getting people to that stage where they're real productive, the senior engineers that are doing the real high-end work."

The Engineering Labour Market in Canada: Projects to 2020, looked at expansion demands, replacement demands, post-secondary programs and immigration.

idiotsandgenious.files.wordpress.com

On a national basis, expansion demand will create 16,000 engineering jobs from 2011 to 2020, a gain of 8 per cent.

Markets in Saskatchewan are more cyclical and more varied than in other provinces, but the supply constraints are an issue in the majority of markets across the decade. Since Saskatchewan is a small market with big project demands, local post-secondary programs aren't able to keep pace.

Engineering regulators across the country have worked towards a vision that engineers can receive a licence in another jurisdiction in a matter of minutes.

"We're down in a number of jurisdictions, down into days and certainly no more than weeks in other jurisdictions . . . (to) allow that mobility," said Allen.

Replacements demands related to retirement patterns are another major issue.

From a national perspective, the average age of engineers varies from a low of 34.6 for computer, petroleum, mining and geological engineers to 42.1 for civil engineers.

Large numbers in each group move into their early to mid-60s from 2011 to 2020.

Allen said there is a chronic shortage of experienced mid-career engineers with 10 to 15 years of good experience.

The report identifies that there is an abundance of young students enrolled in and completing engineering programs but lacking the practical skills relevant for the current workforce demands.

One of the goals of these forecasts is to inform engineering programs about where the labour market demands lie.

Graduates entering the labour market are the largest single source of supply to the market. Immigration has been a strong second source in the past.

Immigration of internationally trained engineers increased in 2011, but remains below the trend set in the past decade.

Engineers Canada recently launched a new website, www.newcomers.engineerscanada.ca, to help newcomers to Canada plan an engineering career. In many cases, newcomers are poorly informed of the licensure process in Canada, unaware of how long it takes or that requirements can differ from province to province. Many newcomers also lack the communication skills needed to successfully pursue an engineering career in Canada.

Schramm named honourary member of EIC

Laurier Schramm has been named an honorary member of the Engineering Institute of Canada (EIC). The Saskatchewan Research Council (SRC) president and CEO was honoured for his "outstanding distinction and service to the engineering profession."

The high distinction was announced alongside five senior medals and 18 fellowships. Schramm is one of only a few non-engineers ever named honorary member of the EIC. The last Saskatchewan recipient was John Diefenbaker in 1972.

The senior awards are the highest distinctions made by the EIC and are awarded to members of its technical societies. The awards will be handed out at the institute's annual awards banquet in Montreal at the Climate Change Technology Conference on May 28.

Schramm has more than 30 years of experience in colloid, interface and petroleum science; has received major national awards for his research; and is best known for his basic and applied research involving petroleum industry applications of suspensions, emulsions, foams and surfactants. He holds 17 patents, has published nine books, more than 350 other scientific publications and proprietary reports, and has given more than 150 national and international, plenary, invited and other scientific or technical presentations.

URANIUM AND NUCLEAR

AREVA continues to hire

Prince Albert Daily Herald - AREVA spokesperson Jarret Adams said at a luncheon hosted by the Prince Albert and District Chamber of Commerce that the uranium mining company will be "hiring aggressively" for its northern Saskatchewan projects.

"We expect to hire about 100 new employees by the end of this year," he said. "Our major focus is trying to hire people in the North."

AREVA currently employs 48,000 people worldwide. One of its major projects is of the uranium mill at McClean Lake, about 700 kilometres northeast of Prince Albert. The company is currently expanding its operations there.

According to Adams, the production of ore will increase from 12 million to up to 24 million pounds per year with the expansion.

"We expect 18 million pounds of that ore to come directly from Cigar Lake, and then we have the capability to process some more ore from other locations," he said.

Cameco optimistic despite lower production

CKOM - Cameco's chief financial officer says there's reason to be optimistic about the future of Saskatchewan uranium production and the sale of nuclear fuel to Japan and Germany.

At an investors conference in Whistler, BC this week, Grant Isaac said although the company has scaled back its growth predictions, it remains optimistic that the uranium market will continue to grow over the next decade.

"We continue to view the uranium market as being in transition," Isaac said, "transitioning from what has historically been a supply driven, or inventory driven market, to one that's truly becoming a demand driven market."

Isaac said demand for uranium currently exceeds supply, leaving room for growth. He also said construction of new reactors is pushing expansion.

There are 64 reactors under construction globally today and Cameco predicts a total of 80 new reactor projects by 2023. Cameco bases its projections on run rate purchases over the course of a plant's lifetime and does not factor in one-off startup uranium purchases.

Isaac said the company's cautious optimism is based on near-term uncertainty but favourable long-term markets.

UNIVERSITIES AND RESEARCH

University of Saskatchewan science and tech students show off at Spectrum

Metro Saskatoon - It's an event that takes three years to plan, a group of dedicated student volunteers and a whole lot of innovation. And with robot wars, chemical experiments, chocolate welding and many more exhibits, Spectrum 2013 is proving to be a success.

"We feel it's one of the best ways to branch out to the general public and especially the young minds and get them interested in science and technology and engineering," said Spectrum coordinator Rick Casson. "It really shows what people in this college are capable of."

www.cbc.ca

ENERGY

Clean coal "on time, on budget"

Financial Post - A technology that holds the hope for cleaner use of coal will be tested on a commercial scale for the first time in Canada next year, aiming to resolve big uncertainties about the vast amount of power it will need.

Saskatchewan Power Corp. (SaskPower) hopes that a $1.24-billion refit of its 45-year-old Boundary Dam power plant to capture carbon dioxide emissions will make investors think twice about shifting to gas-fired plants from dirtier coal.

"This will come in on time and on budget," Michael Monea, P.Eng., P.Geo., head of SaskPower's carbon capture and storage (CCS) initiatives, told Reuters in an interview.

The company hopes that its carbon capture technology will reduce Boundary Dam's power output by only a quarter or thereabouts, making it the world's first commercially viable large-scale CCS project at a coal-fired power plant.

Many observers around the world share SaskPower's hopes for the plant.

"We need this as an example of carbon capture and storage actually happening," said Camilla Svendsen Skriung, of the Norwegian environmental group Zero.

There are a few other commercial carbon capture projects, such as the one at the Sleipner natural gas field off Norway run by Statoil, which reinjects a million tonnes of carbon dioxide a year beneath the seabed.

However, high costs and low penalties for emitting carbon mean that such projects have failed to catch on for coal-fired plants as part of efforts to slow climate change.

"Once people hear that the economics are very good, maybe we won't have everybody dash to gas and throw out coal," Monea said. "We hope the rest of the world can learn from our plant."

Big piece of Estevan clean coal project

Estevan Mercury - Some of the biggest ductworks in the world crawled across southeastern Saskatchewan side roads on their way to Boundary Dam power station. Power wires needed to be lifted along the delivery routes as the slow moving semi-trailers carrying the multi-tonned equipment moved across the snow-drifted prairies.

The three duct monsters fabricated by SaskArc Industries Inc. of Oxbow consisted of the main duct for flue gas casing, along with the inlet and outlet pieces. The 90-ton unit required two 150-ton cranes to lift it into place. The duct work inlet and outlet followed.

Steve Lodge, P.Eng., an engineer contracted by Stantec and seconded to SaskPower for the installation, said the work had to be planned around weather conditions since they were unable to move the huge pieces after winds reached certain velocities, which was the case for several hours.

birdscalgary.wordpress.com.

OIL AND GAS

"Big crew change" coming to resources field

Globe and Mail - Jordan Meyer is a 23-year-old chemical engineering student at the University of Calgary. Still months away from graduation, he already has a plum job lined up as an exploitation engineer in Saskatchewan.

While Canada's youth unemployment rate has been hovering around 14 per cent for the past two years, petroleum and gas companies are snapping up engineers to work in the oil sands and energy sector.

Canada's oil and gas industry directly employed 186,635 workers in 2011, says a report published by the Petroleum Human Resources Council of Canada (PHRCC) in May of 2012. Approximately 8 per cent of the industry's workforce is expected to retire by 2015.

Even with the total number of workers in the oil and gas extraction sector in Canada down 16 per cent in January from a year earlier, this "big crew change" has put the energy sector on a hiring spree with not enough supply to meet the demand.

"The labour challenge is very real and will likely get worse before it gets better with a large demographic retiring in the next several years," said Travis Davies, spokesman for the Canadian Association of Petroleum Producers (CAPP).

"The growing labour shortage, particularly for skilled trades people, is an opportunity well worth considering by current and future job seekers."

The PHRCC report further stated the oil and gas industry will need to fill at least 9,500 job openings by 2015, but approximately 3,400 – or 36 per cent – of these openings may not be filled due to gaps in labour demand and supply.

"And the current phenomenon is chronic, not cyclical like past labour shortages," Davies said.

CAPP says the industry needs to expand its ability to recruit and retain Canadian workers, including women, minorities, Aboriginals and older workers.

Bakken oil pipeline expansion project complete

Regina Leader-Post - The Bakken pipeline expansion project is completed and coming to service on time and under budget, Enbridge Energy Partners and Enbridge Income Fund announced Monday.

The project reversed and expanded an existing pipeline running from Berthold, N.D., to Steelman in southeastern Saskatchewan and constructed a new 16-inch pipeline from a new terminal near Steelman to the Enbridge Pipelines Inc. mainline terminal near Cromer, Man.

The project provides 145,000 barrels of oil per day (BOPD) of capacity for light crude oil production from the Bakken and Three Forks formations located in Montana, North Dakota, Manitoba and Saskatchewan.

About 25,000 BOPD of capacity was placed in service during the first quarter of 2012.

Production from the Bakken formation in the Williston Basin has grown from 200,000 to over 700,000 BOPD in the past five years with potential to expand to 1.2 million BOPD or more in the next six years.

Enbridge Energy Partners owns and operates crude oil and natural gas transportation systems in the United States and is the largest transporter of oil production from Western Canada, accounting for approximately 15 per cent of total US oil imports, while deliveries to Ontario supply about 70 per cent of refinery demand in that region.

Sask. forecast to drill 3,199 wells in 2013

Regina Leader-Post - Saskatchewan oil and natural gas drilling will remain steady at just under 3,200 wells this year, according to the updated 2013 drilling activity forecast released by the Petroleum Services Association of Canada (PSAC).

Last year, Saskatchewan saw a total of 3,218 wells drilled, including 3,208 oil wells and 10 gas wells, according to an official with the Ministry of the Economy. In 2011, 3,578 wells were drilled, including 50 gas wells. PSAC increased its forecasted number of wells drilled across Canada to 11,475 wells, an increase of 75 wells from PSAC's original forecast for 2013 released in early November.

Bakkens plays differ in US and Canada

Petroleum News – Not only is Canadian bacon different but so is the Canadian Bakken, according to industry analyst Gibson Scott, energy research director at ITG Investment Research.

Speaking at a recent energy conference in Calgary, Scott noted that geology plays a key role in creating two very different resource plays.

"In terms of economics, the Canadian Bakken truly shines," Scott stated.

The estimated cost of completing a US Bakken well has climbed to US $9 million from US $6 million in 2009, compared with an increase in Canada to C$2.0 million-$2.9 million from C$1.6 million over the same period.

One of the distinguishing features is that the Canadian

www.enbridge.com

Bakken exists in localized pools that have risen over time and become trapped in small pockets along an incline into Canada, while the US Bakken formation is deeper and more widespread.

The end result is that the Bakken-rich plays of southern Saskatchewan offer shallow pockets that are comparatively easy and cheap to access.

On the flip side, the Saskatchewan pockets do not yield the same large volumes of oil as North Dakota.

Currently, Scott estimates, the US Bakken has topped 800,000 barrels of oil equivalent per day, up about eight-fold from the Canadian Bakken.

“My financial advisor strongly suggested that I increase my current Engineers coverage through Manulife. It was confirmation that I had made the right choice.”

– Trent H., Saskatoon, SK

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	Male	Female	Male	Female	Male	Female
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36 to 40	3.08 ~~6.20~~	2.28 ~~4.60~~	6.16 ~~12.40~~	4.56 ~~9.20~~	9.24 ~~18.60~~	6.84 ~~13.80~~
41 to 45	4.84 ~~9.68~~	3.04 ~~6.08~~	9.68 ~~19.36~~	6.08 ~~12.16~~	14.52 ~~29.04~~	9.12 ~~18.24~~

*The rates for new or additional Term Life coverage of up to $500,000 are automatically discounted by 50% during the anniversary period from April 1, 2013, to March 31, 2014. Regular premium rates will resume on April 1, 2014.

†Premiums shown above are for non-smokers. Non-smoker premiums apply to Members and Spouses who have not smoked cigarettes in the last 12 months and who meet Manulife Financial's health standards. Once insured, you must notify Manulife Financial of any change in your smoking status.

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Calendar of Events

www.ridebooker.com

Project Management Institute North Saskatchewan Chapter
Professional Development Day
April 11, 2013 , Saskatoon, SK
www.pminorthsask.com

Responsibility in Concrete Construction
April 14-18, 2013, Minneapolis, MN
www.concrete.org/EVENTS/ev_upcoming_conventions.htm

PLS Dealmakers Prospects and Properties Expo
April 30, 2013 , Calgary, AB
www.plsx.com/dealmakers

21st Williston Basin Petroleum Conference
April 30-May 2, 2013, Regina, SK
www.wbpc.ca

CIM Convention 2013
Canadian Institute of Mining, Metallurgy and Petroleum
May 5-8, 2013, Toronto, ON
web.cim.org/toronto2013

Canadian Conference on Electrical and Computer Engineering
"Electrical and Computer Engineering - The Enabler of the New Economy"
May 5-8, 2013, Regina, SK
www.ccece2013.org

Wave 2013 Micro and Nano Product Conference
May 5-8, 2013 , Lake Louise, AB
www.wave2013.com

APEGS Annual Meeting
May 3, 2013, Regina, SK

CSCE 21st Canadian Hydrotechnical Conference
May 14-17, 2013, Banff, Alberta
registration.cgi-pco.com/CSCEhydrotechnicalconference/index.html

2013 Joint Scientific Congress of the CMOS, CGU and CWRA
Canadian Meteorological and Oceanographic Society
Canadian Water Resources Association
Canadian Geophysical Union
May 26-30, 2013, Saskatoon, SK
www.cmos.ca/congress2013

Engineering for Global Sustainability
May 27-29, 2013, Montreal QC
www.cctc2013.ca

CSCE Annual Conference
May 29-June1, 2013, Montreal, QC
www.csce2013.ca

Geoscientists Canada Annual Meeting
May 31-June 1, 2013, Winnipeg, MB

Canada Green Building Council National Conference and Expo 2013
June 4-6, 2013, Vancouver, BC
www.cagbc.org

Association of Consulting Engineering Companies – Canada Summit
Lake Louise, AB, June 20-22, 2013
www.acec.ca

2013 World Petroleum Council's Youth Forum
October 22-25th, 2013 , Calgary, AB
www.wpcyouthforum.com

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