

OPI NEWSLETTER

THE VOICE OF THE ONTARIO OIL AND NATURAL GAS INDUSTRY

WINTER 2017

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Encouraging responsible exploration and development of the oil, gas, hydrocarbon storage and solution-mining industries in

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OPI has a new President



Dale Holland

Dale Holland of Holland Testers Ltd. was voted in as OPI's President at the election of officers meeting held in London on November 25th, 2016.

The additional officers elected include First Vice-President, Jim McIntosh; Second Vice-President, Denis Marcus; Treasurer, Charlie Fairbank; and Secretary, Frank Kuri.

Also appointed were Committee Chairs for 2017: Jim McIntosh, Producers Committee; Ian Colquhoun, Conference Committee; Dale Holland, Membership Committee; Jack Norman, Governance Committee; Frank Kuri, Research and Education Committee; Jane Lowrie Tax Committee; and Dave Bond, Nominating Committee.

IMMEDIATE OPENING

RIG CREW MEMBER

Eastern Oilfield Services has an opening for a service rig crew member. Experience on oil and gas service rigs preferred. H2S Alive, BOP, Working at Heights, and AZ training desired -will train if necessary. Position is based from our Bothwell location.

Contact Bill Blake - office 519-695-2567 or email wblake@tributeresources.com

TRAINING

Check your tickets for expiry dates and advise Lorraine at OPI office if you require training in H2S Alive, First Line BOP or Well Service BOP.

Message from the Executive Director

The OPI has been in full swing in recent months in a number of areas. The fall and early winter begins with the OPI Annual General Meeting (AGM), the election of the 2017 Board of Directors and the first meeting of the new Board. As well, the preparation of the 2017 Ontario Oil, Gas and Salt Resources Library (Library) Business Plan and the approval on its annual budget by the Ontario Oil, Gas and Salt Resources Trust Advisory Committee (TAC) are all items that round out the calendar year. In addition the OPI was fully engaged in participating in the review of the 2017 Ontario Long-Term Energy Plan (LTEP).

The OPI AGM was held on Thursday, October 27, 2016 at the Stoneridge Inn in London. The members approved the 2016 OPI Financial Statement, appointed Scrimgeour & Company, Chartered Accountant auditor for the Ontario Petroleum Institute, Ontario Oil, Gas and Salt Resources Corporation and the Ontario Oil, Gas and Salt Resources Trust, and received the Executive Directors Annual Report.

The OPI Board of Directors was elected for 2017 at the AGM. Seven directors were elected for a two-year term and six directors were confirmed to complete the second year of their two-year term.

The OPI Board of Directors has a list of interests to address in particular the focus will be on having a successful OPI Conference and Trade Show which will have a new format for 2017, a concentration on increasing the OPI membership, and full engagement with the Ontario Ministry of Energy to promote the ideas in the OPI SUBMISSION – ONTARIO LTEP.

The end of the year coincides with work necessary for a new business year for the Ontario Oil, Gas and Salt Resources Trust (Trust). The Trust which operates the Library is managed by the Ontario Oil, Gas and Salt Resources Corporation (an entity established by the OPI) with financial oversight from the TAC.

The Corporation's 2017 Business Plan priorities to promote the Library as a resource centre for the oil and natural gas include an initiative to update geological studies in Southwestern Ontario, provide the most up-to-date data available and develop a broad selection of products from an expanding database, and provide

members and clients with ease of access to the store of information housed in the Library.

The Library budget is prepared and approved by the TAC. It's anticipated that the Library will post a surplus in 2017.

In the coming months the OPI will continue its efforts to stimulate new exploration with attendance at conferences with the first on the list the North American Prospect Expo in Houston in February. As well ongoing discussions will continue with the Government of Ontario on the industry's involvement in the long-term energy plan. And plans are being developed for the OPI to host information sessions throughout Southwestern Ontario to encourage membership in the OPI.

I want to thank the 2016 OPI Board of Directors for their work during the past year. And to acknowledge Frank Kuri for his leadership over the past two years in navigating the Board as it addressed various industry issues.

Please enjoy this issue of the OPI Newsletter and contact me anytime at 519-630-4204 or at hughmoran@ontpetroleuminstitue.com.

Hugh Moran, Executive Director

OPI Talking Points

2017 Ontario Long-Term Energy Plan

The Ontario Ministry of Energy has initiated its review to prepare the 2017 Ontario Long-Term Energy Plan. The OPI has responded to an invitation from the Hon. Glenn Thibeault, Ontario Minister of Energy to participate in the review of the 2017 Ontario Long-Term Energy Plan (LTEP). On Friday, December 16, 2016 the OPI filed its formal comment OPI SUBMISSION – ONTARIO LTEP to the Government of Ontario Environmental Registry. The key recommendation in the OPI Submission is the establishment of an Ontario Provincial Production Program to stimulate the exploration of the province's oil and natural gas resources.

OPI Website Advertising

The OPI Website www.ontariopetroleuminstitute.com
has developed into a highly active communication tool that offers visitors information on a range of topics on oil and natural gas production, hydrocarbon storage and solution mining. The OPI is preparing to launch a program that will offer all members, partners and stakeholders and an opportunity to participate in advertising to promote their services on the OPI Website. Information on the program will be available in the coming weeks.

Access to Natural Gas in Underserviced Ontario Communities

The Ontario Energy Board has now issued a decision on its generic hearing EB-2016-0004 on natural gas community expansion. The decision provides principles to guide the recovery of costs associated with expanding natural gas services: (i) new customers will pay the cost of expansion through a rate structure that reflects that cost; (ii) costs will not be subsidized by existing natural gas customers; (iii) gas utilities interested in expanding their services will need to apply to the OEB; and (iv) gas companies approved by the OEB to expand to new communities must provide a 10-year commitment to maintain rate stability to ensure that rates are reflective of long-term costs.

OPI-MNRF Hydrocarbon Sector Working Group

The Working Group has been meeting to review a preliminary list of industry topics and identify the necessary next steps to bring each item forward for discussion. The list included suspended wells, historical standards, inspector protocols, well abandonment standards, MNRF operational procedure, examination protocols, and the well permitting process. The MNRF is reviewing the Provincial Operating Standards and the OPI will have an opportunity to participate in that review.

Ontario Ministry of Agriculture, Foods and Rural Affairs

The OPI was invited to speak at the OMAFRA's Bioeconomy Research and Innovation Forum in Guelph recently. The event involved researchers, industry and government representatives promoting collaboration to advance research and how it contributes to Ontario's bio-economy sector by turning agriculture products and

waste into energy and expanding the re-cycling to convert waste into products.

Thames-Sydenham Source Water Protection Committee

The Source Water Protection Committee has appointed Earl Morwood Interim Chairman to replace Bob Bedggood whose term concluded in August 2016. The Committee has completed its main responsibility and will continue as a smaller group to monitor the implementation of its recommendation accepted by the Ministry of Environment and Climate Change.

From The Newsroom

A rallying cry for moderates in the energy wars

In the energy wars, the moderates have to get off their butts and storm the barricades.

On the important issues of economic development and climate, the microphones are being dominated by those at the extreme ends of the political spectrum. It's high time the masses in the middle wrested the discussion back

Canada is at a crucial point as it formulates a strategy on oil development, its role in the economy and how to balance it with the need to reduce carbon emissions and protect the rights of indigenous people and others.

This is a tough balancing act that has not been attempted before on such a grand scale.

Angry mobs can't make those complex decisions for the rest of the country. And yet, what do we see each day? Angry mobs, getting angrier.

The reason is understandable: As the U.S. presidential campaign and victory of Donald Trump showed, they're easily directed by agent provocateurs via social media to attack perceived enemies with increasing vitriol.

On the energy front, their so-called solutions are simple. They are to build pipelines hither and yon, damn it, scrap carbon taxes; or block all pipelines, damn it, and switch the country immediately over to 100-per-cent renewable energy.

Neither, of course, is realistic in the least, and a new militant middle has to confront the mobs and tell them they will fight them with informed discussion and courtesy until they cry uncle. Either that or try to ignore them.

It won't be easy. Some of the biggest developments in the energy wars have converged as the year draws to a close, and the discourse has been dominated by extreme views.

Prime Minister Justin Trudeau granted federal approval to Kinder Morgan Inc.'s \$6.8-billion Trans Mountain pipeline expansion to the Pacific, and to Enbridge Inc.'s Line 3 replacement, which will boost oil shipments to the U.S. Midwest. He nixed Enbridge's Northern Gateway proposal, but that does not guarantee the others will get built amid a new round of protests and court challenges.

Alberta Premier Rachel Notley's government is taking action against some of the potential impacts of new pipelines and oil sands production with policies such as a carbon tax, the proceeds of which would be used to fund environmental technology development.

It's not clear yet if that will be successful, but it represents real money directed at the problem. Indeed, Ms. Notley travelled to British Columbia this week to try to make the point.

There, she faces push-back to the concept of oil sands pipelines on environmental grounds. At home, she is blasted for the other part of the bargain – the carbon taxes. Indeed, some protesters on the weekend chanted "Lock her up" in an unimaginative resurrection of one of the cries of Trump rallies.

This all comes after months of protests by Standing Rock Sioux and supporters in North Dakota culminated in Washington denying Energy Transfer Partners a rivercrossing easement. Protesters claimed victory, though it could partly be a parting shot at the incoming U.S. administration by outgoing President Barack Obama.

We're still in the first days after these developments, with many months, and perhaps years, to go. Let's have some honest talk on the issues, rather than slogans. Carbon taxes are hard for Albertans and other Canadians to stomach, for sure, especially with the shaky economy caused by the collapse in crude prices. But Mr. Trudeau

said his green light for pipelines would have been impossible without Alberta's moves to limit carbon emissions.

Meanwhile, could environmentalists ever be satisfied with a record that is good and improving, though not perfect, on emissions and other concerns surrounding energy development? Some couldn't, but others have already come to that line of thinking, accounting other factors such as job creation and funding public services.

First Nations, meanwhile, have a paramount role in the debate, given important issues of traditional territory, culture and rights. Not all communities see eye to eye on energy development, and there's much negotiation ahead.

It's going to take study and give and take from all sides. That doesn't make for a stirring chant, I know, but that's not the main objective.

Jeffrey Jones, The Globe and Mail December, 2016

How to play the oil rally? Look to the drillers

The rally in crude oil this week has made one thing clear: Beaten-up drillers stand to benefit the most if there is a long-term recovery in energy prices.

For all the headlines devoted to oil itself, the bigger moves by far were made by companies that help producers get the stuff out of the ground.

Oil surged more than 8 per cent on Wednesday and continued to rise above \$51 (U.S.) a barrel on Thursday, after the Organization of Petroleum Exporting Countries (OPEC) agreed to its first production cut in eight years.

A broad index of Canadian energy stocks, which includes senior producers such as Suncor Energy Inc., followed the rally, rising more than 5 per cent – punctuated, no doubt, by Ottawa's approval of two major pipeline projects.

But oil and gas drillers enjoyed bigger moves, highlighted by the 17-per-cent jump by Calgary-based Precision Drilling Corp. on Wednesday, to its highest level in more than a year.

Who knows whether the rally in crude oil will continue (some observers are already questioning whether OPEC's production cuts will stick). But here's a reasonably sound prediction: If you want to bet on oil, drillers are the way to do it if you can handle some risk. These companies, which provide drilling rigs to energy producers and explorers, were hit especially hard during the dramatic collapse in crude oil. When prices fell close to 75 per cent between 2014 and February of this year, a lot of oil production became unprofitable and drilling rigs were left looking laughably out of place.

According to data from Baker Hughes, the U.S.-based oil-field services giant, the number of active rigs in North America fell as much as 80 per cent over this period, for the worst decline in decades. Precision Drilling reported seven straight quarterly losses, its annual revenue shrank by more than 60 per cent and its share price — which has tracked the price of oil remarkably well — shed more than two-thirds of its value.

This bad news, though, is looking increasingly out of date. Even before Wednesday's euphoric rebound, the price of crude oil had recovered by about 75 per cent from its February low of \$26.21, and oil and gas drillers have been sounding increasingly upbeat.

Okay, maybe they're paid to sound that way. But in the case of Precision Drilling, Canada's largest driller, the optimism is being supported by actions. The company rehired 1,000 workers in October and it has reactivated 56 North American rigs since May. It has even successfully raised prices on some of its rigs.

The market has noticed the shift. After this week's rally, the shares are trading above \$7 and have more than doubled from their lows in February of \$3.42.

Missed the rally? Don't worry: If the price of oil continues to recover, there's plenty of upside left in Precision Drilling. The shares would have to double just to get back to their 2014 highs above \$15 when oil traded at more than \$100 a barrel. This suggests greater potential than, say, a senior producer or pipeline stock.

Oil might not have to recover that much, either. Some observers believe that an oil price within the current range of \$50 to \$55 a barrel is the point at which many companies see value in exploring and producing again, so even modest gains in oil prices could have a profound effect on oil drillers.

Indeed, Scott Treadwell and Dave Wolters, analysts at TD Securities, noted that last month was the best November over the past four years for adding drilling

rigs – partly reflecting better ground conditions but also rising confidence among producers, in their view.

Precision Drilling has also been laying the groundwork for a turn in the commodities cycle, implying that it should emerge as a stronger company if the price of oil plays along. For example, it has more than \$350-million in cash – plenty, according to Jason Zhang, an analyst at Cormark Securities, to pay for equipment upgrades that will win market share from rivals.

The company already appears to have made some headway, adding nine rigs in November.

"As activity continues to ramp up, we believe that Precision's top-tier fleet and high-quality crews will be in high demand both in Canada and the U.S.," the TD Securities analysts said in a note this week.

Oil's recovery is not a sure thing, but that's good – because when the recovery is a sure thing, oil and gas drillers may be out of reach.

David Berman, The Globe and Mail December, 2016

Rocks fuel a continent-size debate

They are among the oldest rocks in the world. Now, a team at the University of Alberta has made the most precise measurement yet of a stony outcrop located about 300 kilometres due north of Yellowknife.

Their verdict: Rocks found in one part of the Acasta Gneiss Complex in the Northwest Territories are 4.0196 billion years old, give or take a couple of million years, dating back to a time when Earth was about one-ninth its present age. In other words, they are staggeringly old and so provide a remarkably deep window into our planet's geological past.

"It's the oldest known rock that has a composition similar to what we think continents are like," said Jesse Reimink, lead author of the Alberta study and now a post-doctoral researcher at the Carnegie Institution in Washington, D.C.

But in addition to being really old, Dr. Reimink and his colleagues say the rocks are important for what they don't contain — any clear signs that they formed in a place where a continent was already present.

The new results, published Monday in the journal Nature Geoscience, are in line with a contentious theory the group first championed two years ago when they suggested that the Earth of four billion years ago was an ocean-dominated world where continents were relatively small, few in number and rather like the volcanically active Iceland of today.

That picture has generated an intense debate that touches on some of the most important questions about the planet's earliest chapters, including how and why its surface conditions were so amenable to the emergence of life.

Geodynamically, Earth is completely different than the other planets and we don't really understand why," said Jonathan O'Neil, a University of Ottawa researcher who was not involved with the Alberta study.

Dr. O'Neil's work has focused on another ancient formation, located in northeastern Quebec that he and his colleagues recently dated with a less precise technique at about 4.3 billion years old. But while the Quebec rock may turn out to be older than the Acasta Gneiss, there's no doubt that it represents something quite different. It is a remnant of a piece of ocean crust that was later incorporated into the North American land mass.

In contrast, the Acasta Gneiss has a chemical signature that is more like continental crust. First identified as geologically significant in the 1980s, the remote region on the border between boreal forest and Arctic tundra has become increasingly attractive to researchers looking for evidence of how and when the first continents formed.

That evidence comes in the form of tiny mineral grains called zircons that crystallize out of molten rock and can

offer a durable record of exactly when the parent rock formed and in what sort of environment.

In their latest study, the Alberta group examined trace isotopes of the element hafnium in the zircons they collected from the Acasta Gneiss sample. The results show that the rock melted and mixed with an older material as it was emerging from Earth's interior and that the older material, they conclude, was not continental crust.

Mark Harrison, a geochemist at the University of California, Los Angeles, disagrees with the team's conclusion that there was a continent-sparse period four billion years ago. He noted that rocks found on isolated islands in the Pacific, such as Samoa, would be expected to show a similar signature as the Acasta Gneiss, despite the fact that large continents are still present elsewhere on Earth.

Tom Chacko, who leads the Alberta group, concedes the point. "Part of the limitation of early Earth studies is that there are so few samples," he said. "You have to try to milk everything out of the actual samples you have."

Ann Bauer, a graduate student at the Massachusetts Institute of Technology who also studies the complex, said the Alberta group had been "very thorough" in its analysis.

"Canadians should be excited that they have the oldest rocks in the world in their country," she said. "That's pretty cool."

Ivan Semeniuk, The Globe and Mail September, 2016

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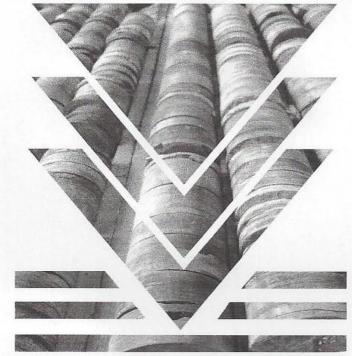
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2017 Upcoming Events

OPI Board of Directors Meeting

Friday, March 24, 2017 Boardroom at 555 Southdale Rd. E., London

OPI Golf Tournament and 55th Annual Conference & Trade Show May $24^{th}-$ May $26th,\,2017$

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