

Peyto Exploration & Development Corp.

President's Monthly Report

June 2019

From the desk of Darren Gee, President & CEO

You have to applaud Texas for taking the bull by the horns. They have a new bill down there, about to become law, that would classify any civil disobedience against the construction of a pipeline as a third-degree felony. This would basically put it on the same level of felony as attempted murders. Wow. The proposed legislation is designed to elevate pipelines to the same level as other critical infrastructure like power plants or water treatment facilities. Apparently, this is the latest in a wave of anti-protest bills sweeping state capitals across the US in reaction to the protests like the Dakota Access Pipeline and Keystone XL protests. According to the article I read, in late 2018 there were 58 anti-protest bills moving through the legislatures of 31 states. Our Alberta Government needs to take note.

The concept of highlighting and protecting critical infrastructure is an important one and one that Canada must address. Those critically important pieces of infrastructure in our society like power plants, water treatment facilities, hospitals, fire trucks, schools, police cars, etc, all run on energy of various kinds. Canadians need to remember that. We have to ensure we can continue to supply that energy in a secure way, even though the sources for that energy will change location over time. That means we will have to be constantly building new transportation systems for that energy in order to continuously supply that critical infrastructure. Objecting to and obstructing new infrastructure like pipelines puts that critical infrastructure at risk, which I'm sure no Canadian wants.

As in the past, this report includes an estimate of monthly capital spending as well as our field estimate of production for the most recent month (see Capital Investment and Production tables below).

Capital Summary (millions\$ CND)*

	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Jan	Feb	Mar	Q1 19	Apr
Acq/Disp	4	-4	0	0	2	-2	1	0	0	1	0
Land & Seismic	17	1	1	5	2	8	1	1	1	3	1
Drilling	256	14	7	37	57	116	8	6	10	24	4
Completions	134	17	1	18	36	72	6	5	9	20	5
Tie ins	53	4	1	6	11	21	7	1	3	10	1
Facilities	57	4	5	5	4	18	2	2	1	4	1
Total	521	35	15	70	112	232	24	15	24	62	12

Production ('000 boe/d)*

	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Jan	Feb	Mar	Q1 19	Apr	May
Sundance	57	56	50	49	50	51	51	50	50	50	49	51
Ansell	21	20	18	16	16	18	18	17	17	18	16	15
Brazzau	21	24	19	16	15	19	16	15	14	15	14	13
Kakwa	2	2	2	2	2	2	2	2	2	2	2	2
Other	2	3	2	2	3	3	3	3	3	3	2	3
Total	103	105	92	85	87	92	91	87	87	88	83	83
Deferral			2	0							1	-
Capability	103	105	94	86	87	92	91	87	87	88	84	83
Liquids %		9.5%	10.1%	10.6%	11.5%	10.4%	12.6%	11.5%	11.8%	12.0%	13.0%	14.0%

*This estimate is based on real field data, not a forecast, and actual numbers will vary from the estimate due to accruals and adjustments. Such variance may be material. Tables may not add due to rounding.

Another Maunder Minimum?

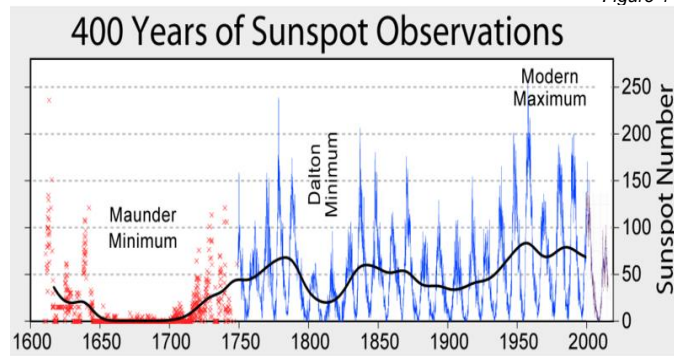
I guess I would say that I'm not a big fan of the IPCC (Intergovernmental Panel on Climate Change). And its not because I'm in the hydrocarbon production business, and since we're singularly blamed for causing the earth's climate to change, I naturally deny all their conclusions. It's also not because asking climate scientists to prove the climate is changing is a little like when Warren Buffett says, "you should never ask the barber if you need a haircut."

I think the real problem I have with the IPCC and some of their policy recommendations has more to do with the implied arrogance of mankind in thinking we're so significant as to affect and control the climate on this planet. As a humble energy scientist (I think I can call myself that), rather than a climate scientist, I've come to gain an appreciation for things like geologic timeframes, plate tectonics and depositional environments from millions of years ago. To think of the earth on those timelines makes it hard to believe that the modern human has been in existence on this planet long enough to make any lasting difference.

So, when it comes to factors that have long influenced the climate on this planet, I tend to look up (no, not to God, although maybe we should). I personally believe the behavior of our Sun has more to do with the climate on our planet than we do. And if we want to try and explain why the climate is changing and how to predict what will happen in the future, we should study the Sun.

Sunspots and the regular cycle of solar activity have long been tied to our climate and that makes sense to me. Usually, the number of dark, observable spots on the sun tends to rise and fall in a somewhat predictable 11-year Schwabe cycle. Interestingly, there was a time when sunspots effectively vanished from any record. This period was pointed out by British astronomers Edward and Annie Maunder (1890) who were later made famous by John Eddy (1976) when he named the period the Maunder Minimum (Figure 1).

Figure 1



Source: https://en.wikipedia.org/wiki/Solar_cycle#/media/File:Sunspot_Numbers.png

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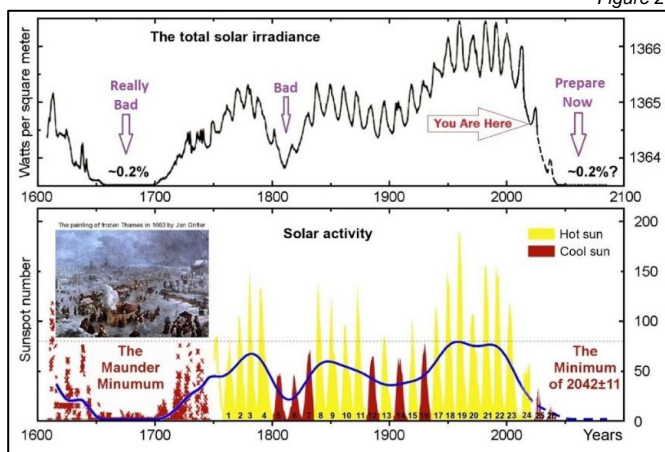
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What is important about this period called the Maunder Minimum is that it also coincides with a period called the "Little Ice Age". Unlike today, when according to some the earth is hotter than ever, the Little Ice Age was a time when it was much colder. Now, as a skier and winter sports enthusiast, I wouldn't mind a longer ski season, but only if I have a nice warm hearth to come home to. That warm hearth is also, by the way, provided by the Sun. The natural gas that Peyto produces today, which warms my hearth, is really just stored solar energy. It is the result of the growth and subsequent decomposition of all-natural, organic, terrestrial materials furnished by the Sun over 100 million years ago. We're effectively just liberating Mother Nature's biogas. But I digress.

Recently, there have been scientists who have spent more time studying and modelling the solar sunspot and magnetic activity in an attempt to predict the sun's behavior and its influence on Earth. Some are now suggesting that as early as 2020 we will be entering a period of much reduced activity, characterizing it as a Super Grand Solar Minimum not unlike the Maunder Minimum of 1675. The extrapolation of course, which is the point of significant debate, is whether it will cause a cooling effect even greater than the Little Ice Age.

NOAA predicts [solar cycle 25](#) (the next 11 years) won't be much different than 24. But others disagree. Professor Valentina Zharkova, of Northumbria University in the UK, caused quite a stir at the Global Warming Policy Foundation in October, 2018 by showing [her prediction](#) that the next several solar cycles will be significantly reduced, culminating in a minimum around 2040 (Figure 2).



Source: <https://i.ytimg.com/vi/SHGbr7qWVWw/maxresdefault.jpg>

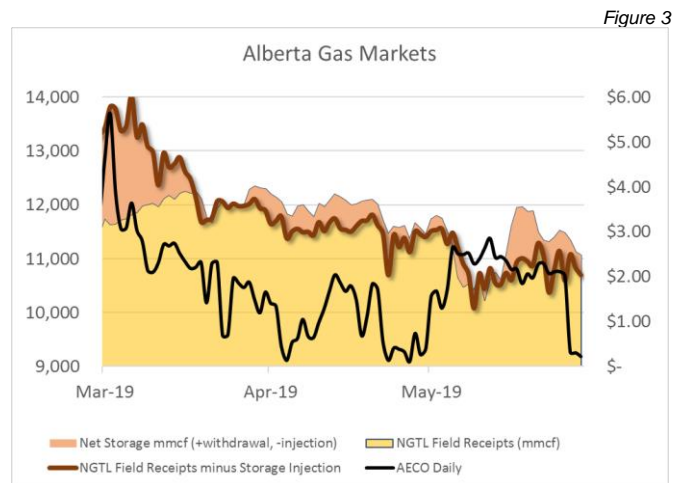
Again, I'm not a climate scientist, nor a solar astronomer, so I can't even begin to debate the validity of such hypothesis. Instead, I like the conclusion [Timothy Patterson](#) makes when summarizing his study of mud cores taken from the bottom of deep Western Canadian fjords. His core samples show 5,000

years worth of climate change that are consistent with the solar activity records. At the end of the day, and as he concludes, "it's global cooling, not warming, that is the major climate threat to the world, especially Canada. As a country at the northern limit to agriculture in the world, it would take very little cooling to destroy much of our food crops, while warming would only require that we adopt farming techniques practiced to the south of us." In my mind, changing from snow pants to shorts seems much easier than freezing and starving to death.

Regardless of whether the earth is getting warmer or colder (*that's climate change after all*) or whether humans can control the climate or not, I think from an energy perspective the conclusion is still the same. We need more, scalable, cleaner fuel for a growing human population. And that answer, today, is nature's gas.

Activity Levels and Commodity Prices

AECO natural gas prices have been extremely educational over the last month, illustrating exactly how close we are in Western Canada to a balanced market between supply and takeaway capacity.



Source: TCPL, Enerdata

For the first 3 weeks of May we saw NGTL (Nova) interruptible delivery service (IT-D) available at Eastgate (AB/SK border) for the storage operators to use, and curtailments on USJR firm receipt service (FT-R) that restricted supply onto the system. When you combine the storage draw with receipt volumes, the net effect is the dark red line in Figure 3 which shows that by reducing supply/increasing demand just 8% (1 BCF/d/12 BCF/d) results in AECO prices rising from near zero to between \$2 to \$2.50/GJ. That's arguably a much fairer price relative to other North American hubs and is a win for the industry and people of Alberta (royalty owners).

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Forward Looking Statements

Certain information set forth in this monthly report, including management's expectation of future natural gas prices and the reasons therefore and management's estimate of monthly capital spending, field estimate of production, production decline rates and forecast 2018 netback, contains forward-looking statements. By their nature, forward-looking statements are subject to numerous risks and uncertainties, some of which are beyond Peyto's control, including the impact of general economic conditions, industry conditions, volatility of commodity prices, currency fluctuations, imprecision of reserve estimates, environmental risks, competition from other industry participants, the lack of availability of qualified personnel or management, stock market volatility and ability to access sufficient capital from internal and external sources. Readers are cautioned that the assumptions used in the preparation of such information, although considered reasonable at the time of preparation, may prove to be imprecise and, as such, undue reliance should not be placed on forward-looking statements. Peyto's actual results, performance or achievement could differ materially from those expressed in, or implied by, these forward-looking statements and, accordingly, no assurance can be given that any of the events anticipated by the forward-looking statements will transpire or occur, or if any of them do so, what benefits that Peyto will derive there from. The forward-looking statements contained in this monthly report are made as of the date of this monthly report. Except as required by applicable securities law, we assume no obligation to update publicly or otherwise revise any forward-looking statements or the foregoing risks and assumptions affecting such forward-looking statements, whether as a result of new information, future events or otherwise.

All references are to Canadian dollars unless otherwise indicated. Natural gas liquids and oil volumes are recorded in barrels of oil (bbl) and are converted to a thousand cubic feet equivalent (mcf) using a ratio of six (6) thousand cubic feet to one (1) barrel of oil (bbl). Natural gas volumes recorded in thousand cubic feet (mcf) are converted to barrels of oil equivalent (boe) using the ratio of six (6) thousand cubic feet to one (1) barrel of oil (bbl). Boe may be misleading, particularly if used in isolation. A boe conversion ratio of 6 mcf:1 bbl is based in an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. In addition, given that the value ratio based on the current price of oil as compared with natural gas is significantly different from the energy equivalent of six to one, utilizing a boe conversion ratio of 6 mcf:1 bbl may be misleading as an indication of value.

Certain measures in this monthly report do not have any standardized meaning as prescribed by International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. These measures may not be comparable to similar measures presented by other issuers. Non-IFRS measures are commonly used in the oil and gas industry and by Peyto to provide potential investors with additional information regarding Peyto's liquidity and its ability to generate funds to conduct its business. Non-IFRS measures used herein include netback and funds from operations.

Netbacks are a non-IFRS measure that represents the profit margin associated with the production and sale of petroleum and natural gas. Netbacks are per unit of production measures used to assess Peyto's performance and efficiency. The primary factors that produce Peyto's

strong netbacks and high margins are a low cost structure and the high heat content of its natural gas that results in higher commodity prices. Funds from operations is a non-IFRS measure which represents cash flows from operating activities before changes in non-cash operating working capital and provision for future performance based compensation. Management considers funds from operations and per share calculations of funds from operations to be key measures as they demonstrate Peyto's ability to generate the cash necessary to pay dividends, repay debt and make capital investments. Management believes that by excluding the temporary impact of changes in non-cash operating working capital, funds from operations provides a useful measure of Peyto's ability to generate cash that is not subject to short-term movements in operating working capital. The most directly comparable IFRS measure is cash flows from operating activities.