

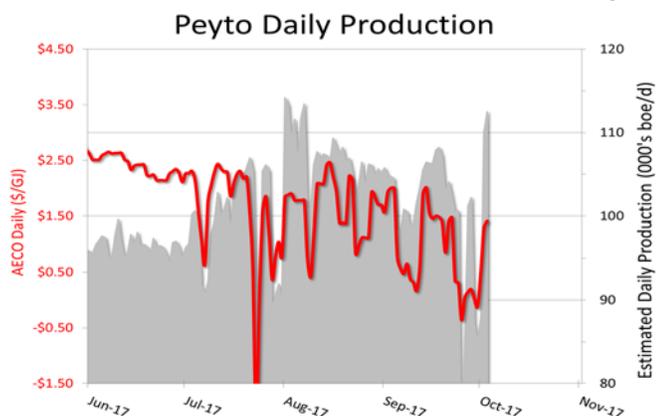
# Peyto Exploration & Development Corp. President's Monthly Report

October 2017

From the desk of Darren Gee, President & CEO

The first fall snowstorm hit Calgary at the start of this week which reminded everyone to get their snow tires on. It also brought with it a warning that winter is just around the corner and, thankfully, a seasonal end to the lack of natural gas demand. Our operations crew have been hopping over the last couple months, bringing on new production and then promptly shutting it in as prices dropped below threshold levels. As you can see in Figure 1, every time AECO daily price dropped below about \$1.50/GJ we were shutting in that volume exposed to the daily price (~10%) and saving it for the future. The biggest impact has been on September production where our Daily exposed volume of around 10,000 boe/d was shut in for 2/3<sup>rd</sup>s of the month (avg 6,700 boe/d deferral for Sept.).

Figure 1



Source: Peyto, NGX

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) as well as any production deferrals.

## Capital Investment\*

2016/17 Capital Summary (millions\$ CND)\*

	Q1 16	Q2 16	Q3 16	Q4 16	2016	Q1 17	Apr	May	Jun	Q2 17	Jul	Aug
Acq.	28	0	5	1	34	4	0	0	0	0	0	0
Land & Seismic	4	1	1	4	9	9	1	1	0	2	0	1
Drilling	63	30	64	63	219	67	10	13	26	48	25	23
Completions	33	8	27	37	105	36	4	5	12	21	15	11
Tie ins	12	3	13	14	42	13	2	3	4	9	7	4
Facilities	37	9	4	11	60	25	8	5	4	17	4	2
<b>Total</b>	<b>176</b>	<b>50</b>	<b>114</b>	<b>130</b>	<b>469</b>	<b>154</b>	<b>25</b>	<b>28</b>	<b>45</b>	<b>98</b>	<b>51</b>	<b>41</b>

## Production\*

2016/17 Production ('000 boe/d)\*

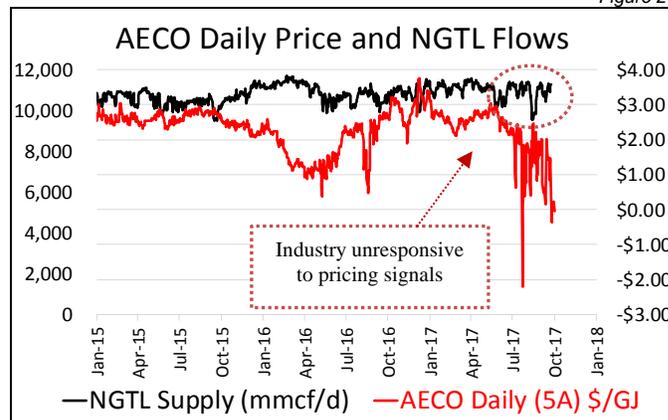
	2015	Q1 16	Q2 16	Q3 16	Q4 16	2016	Q1 17	Apr	May	June	Q2 17	Jul	Aug	Sept	Q3 17
Sundance	59	61	54	58	59	58	59	58	55	55	56	54	57	55	55
Ansell	17	25	20	21	22	22	21	20	19	21	20	20	23	22	22
Brazeau	7	12	11	14	17	14	18	18	20	18	19	21	22	19	21
Kakwa	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Other	2	2	1	1	1	1	1	2	1	1	1	1	3	2	2
<b>Total</b>	<b>86</b>	<b>101</b>	<b>88</b>	<b>96</b>	<b>102</b>	<b>97</b>	<b>101</b>	<b>100</b>	<b>98</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>107</b>	<b>100</b>	<b>102</b>

\* 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.

## The Importance of Storage

On several days over this past month we've seen what the world would look like if the Western Canadian natural gas complex had no access to storage reservoirs to buffer the seasonal demands. The result is extreme volatility in daily price as even the smallest imbalance in supply versus demand has a dramatic effect on price (see Figure 2).

Figure 2



Source: Peyto, NGX

The cause of this most recent volatility is due to a prioritizing of service on TCPL's NGTL system which has at times eliminated the interruptible service that storage operators relied upon to take gas off (or put gas on) the system. This type of daily volatility is likely to continue as too much contracted supply competes for the limited NGTL capacity.

Our response at Peyto has been to shut in the small percentage of unhedged volumes we have exposed to the daily price when it drops below our supply cost and to save those reserves for a day when the price is sufficient to make us a return on the capital we used to build them. Unfortunately, there are few that can respond like we can. As you can also see in Figure 2, there has been very little in the way of industry supply response to the recent low prices. This likely comes as a surprise to TCPL who may have thought this would be a mechanism to control upstream receipts.

For a significant portion of the supply, producers have put hedges in place that protect against the daily volatility. But there is still a significant portion that is exposed to daily prices, so why has there been no supply response? There are many reasons why companies are unable or unwilling to respond to low gas prices. Here are a few to consider:

### They don't operate their production

For many producers, joint interest with other E&P companies means they don't operate a significant portion of their production. This also means they have no ability to run out and

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shut in or turn on wells as the price bounces from acceptable to unacceptable. By the time they've contacted the operator and discussed the situation, the price changes.

### They have take-or-pay midstream commitments

Many producers have signed contracts with midstream providers for the processing of their production. Smaller companies in particular who can't afford their own processing facilities take advantage of midstream companies to aggregate and process volumes in certain areas. Of course, these midstream processors are usually indifferent to gas price and are unmotivated to respond as they are compensated on throughput. Plus, their contracts are normally take-or-pay meaning you're paying their fee regardless if you flow or not which also causes a reluctance for producers to respond.

### Shutting in will cause damage to their reservoirs

Conventional reservoirs in the WCSB often have water drive or active aquifers and optimal gas recovery involves outrunning the water influx. By shutting in the gas production, the water has a chance to catch up and potentially drown out the gas flow. In these cases, you can't afford to shut in the wells or the gas production won't be there when you turn them back on.

### They've made promises to the market

Many companies give guidance on forecast production volumes. Since they can't control price but they can control production, many companies feel that they need to "hit their numbers" regardless if that means they lose money.

### Don't care about gas prices

At 100+ bbl/mmcf, rich gas producers may be able to make enough revenue off the liquids that they can afford to "give the gas away." While this may be true in certain circumstances you still have to conserve the gas and that requires you to send it down a pipeline somewhere. Considering restrictions on pipeline access are prevalent these days that may prove difficult. So if you can't produce the liquids without producing the gas and if in extreme cases you have to pay someone to take away the gas, then that detracts from your liquids revenue.

### They will be forced to abandon the wells and facilities

Wells that are shut in and suspended for a longer period of time while they await higher gas prices may be subject to a downhole abandonment notice from the Crown. Currently in Alberta for low risk, sweet wells, you have up to 10 years after the well is suspended to properly isolate the producing zone but that may be changing. The Crown is currently evaluating a maximum 1-2 year period between suspension and abandonment notice. Similarly, it is expensive and impractical to suspend facilities for an extended period.

### Reserves and value will be written off for suspended wells

Wells that are suspended due to uneconomic prices will eventually have reserves reclassified as uneconomic and be written off the books. This in turn can drive an impairment to be

recorded on a company's financial statements as a loss or at the very least drive up current year F&D costs through reserve revisions.

With all of the above, I suppose we shouldn't be so surprised that there is little production response to low prices. At the same time, if industry is unable or unwilling to respond to the price signals in a timely fashion, it reinforces the importance of storage as a means to buffer both the price volatility and speed at which prices can change from good to bad.

Unfortunately, Western Canada is at a disadvantage to the US when it comes to natural gas storage. The US has some 4,000 BCF of useable storage for approximately 74 Bcf/d of supply (or 54 days), while Western Canada has approximately 490 BCF of storage for 15 BCF/d of supply (33 days). But in Western Canada a single company controls access to virtually all of that storage and can negate it with one sweeping change.

Without access to storage, Canada will have to become much more seasonal in its natural gas production and get accustomed to much more volatile prices. Low prices in the summer but also high prices in the winter during those cold snaps. It will be just like when I was a kid growing up in Grande Prairie and the temperature would drop below -40C. Rather than reach for the thermostat we may all have to heed my father's call to "put a sweater on!"

### Activity Levels and Commodity Prices



For many, market diversification strategies to deal with AECO volatility have involved long term (10+ years) transportation commitments to eastern US markets. While this seems like a good idea today, if Canadians ever do get their act together and succeed in accessing Asian markets through west coast LNG facilities, those dedicated volumes won't be able to reverse direction. As much as I'm not very optimistic about the current LNG projects, I still want to retain this optionality as this strategy for market diversification makes the most sense for Canada.