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# Intermediate & Junior Capitalization Companies

## *Leverage to Oil & NGL Prices, Regardless of Production Mix*

June 4, 2012

### Highlights

- In the current weak natural gas price environment, a disproportionate amount of both operator cash flow and single well economics are derived by crude oil and natural gas liquids. Specifically, companies with production weightings greater than 60% and 85% natural gas have 55% and 45% of their revenue derived from crude oil and liquids production, respectively.
- NGL prices remain volatile, with propane and butane prices declining considerably over recent weeks. Benchmark prices at Edmonton for butane and propane are currently averaging 75% and 23% of crude oil, versus five-year averages of 78% and 59%, respectively. In absolute terms, propane prices in Canada are down 55% from Q1/12 and butane prices are down 29% over the same period, while crude oil prices are down 10%. Weakness in propane prices have been offset by relatively strong condensate pricing, which is currently trading at an ~16% premium to Edmonton Par.
- The composition of a company's and natural gas play's liquids stream has a significant impact on corporate cash flow generating capabilities and per well economic values. Based on current spot NGL and natural gas prices, we estimate that a select group of liquids rich natural gas plays have a half-cycle rate of return which has decreased by 35% versus returns based on prevailing commodity prices from February 2012. Exposure to condensate remains preferable, as it is the easiest product to extract at field plants, it trades at a premium to crude oil, and a strong level of demand is forecast to persist for this product from the oil sands.

### Summary

In the current commodity price environment, crude oil and natural gas liquids production encompasses a significant portion of a company's revenue and cash flow, regardless of the company's production mix. On average, we forecast that crude oil and NGLs will contribute 81% of revenue for our Intermediate and Junior Capitalization coverage universe in 2012. This is pronounced for companies with significant natural gas weightings (greater than 80%), as they are forecast to receive 47% of total revenue on average from oil and natural gas liquids production in 2012.

Recently, benchmark prices for butane and propane have declined considerably, averaging 75% and 23% of crude oil, versus five-year averages of 78% and 59%, respectively. In absolute terms, propane prices in Canada are down 55% from Q1/12 and butane prices are down 29% over the same period, while crude oil prices are down 10%. Weakness in propane prices have been offset by relatively strong condensate pricing, which is currently trading at an ~16% premium to Edmonton Par. As highlighted in our recent report on the NGL market in Canada, the value received for liquids production streams varies significantly by play and depending on infrastructure access/ownership. Additionally, the composition of the NGL stream (butane, condensate, ethane, and propane) varies significantly by play and, as highlighted, liquids pricing remains very volatile. We have provided a comparison of the current economics of four liquids rich natural gas plays based on recent NGL prices and economics based on prices realized in Q1/12. While condensate pricing has remained strong, the decline in natural gas, propane, and butane prices have resulted in an average 35% decrease to the half-cycle rate of return over this period.

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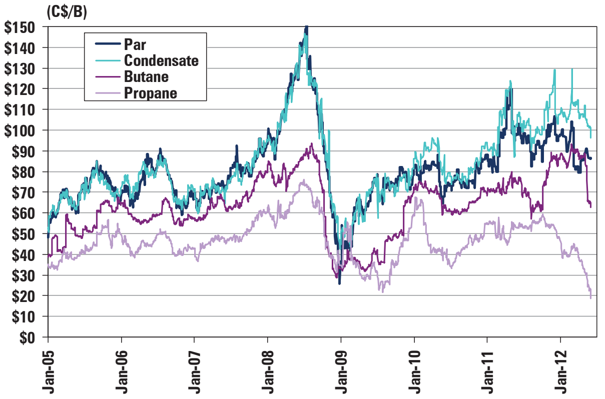
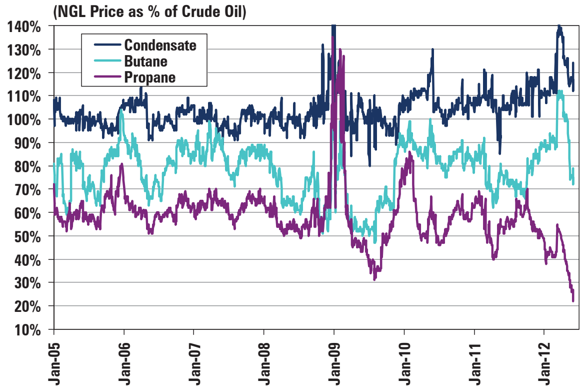
### Crude Oil and NGL Pricing (Edmonton)



Source: Peters & Co. Limited estimates, Bloomberg.

### Crude Oil and NGL Pricing (Edmonton)



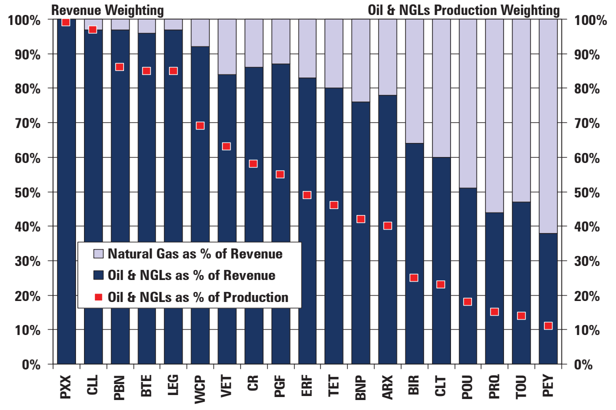
Source: Peters & Co. Limited estimates, Bloomberg.
Average pricing over period shown: Condensate – 104%, Butane – 78%, Propane – 59%.

The following report reviews the disproportionate contribution from liquids, both crude oil and NGLs, for our Intermediate and Junior coverage universe, as well as an analysis of the impact of different liquids yields on natural gas plays in the WCSB. Overall, the plays which provide the most exposure to high quality liquids (condensate) are Cardium horizontals, the Duvernay Shale, and horizontal Montney wells at Resthaven. Although the current commodity price environment has limited the cash flow generating capabilities for natural gas weighted producers, the companies which have been able to increase exposure to crude oil and liquids rich natural gas plays, specifically condensate, have been able to maintain acceptable cash flow generating capabilities, despite an average AECO spot price of C$2.05 per Mcf thus far in 2012. In addition to having significant exposure to liquids rich natural gas plays, natural gas weighted producers can maintain acceptable returns by having strong cash cost controls and ensuring that the value of the associated liquids is captured, the ability of which can be enhanced through infrastructure ownership. ***The gas weighted companies in our coverage universe which we believe have the best combination of these attributes are ARC, Bonavista, Celtic, Peyto, Tourmaline, and Trilogy.***

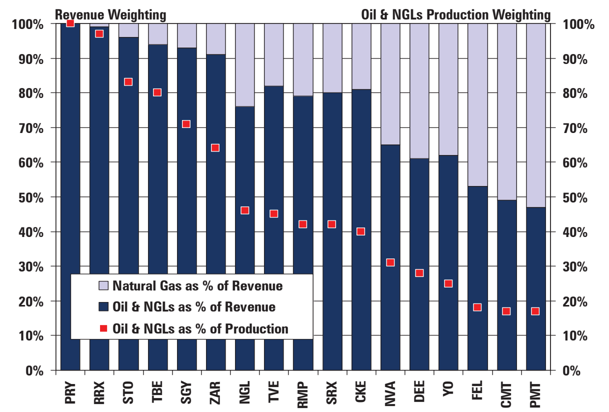
## Revenue Split by Company

In the current commodity price environment, oil and natural gas liquids represent a disproportionate amount of revenue and cash flow for all companies in our coverage universe, regardless of the production mix. Specifically, the level of revenue in 2012 forecast to be generated from oil and NGLs in our Intermediate and Junior Capitalization coverage universe is 83% and 80%, respectively, despite an overall production weighting of 50% oil and liquids. As the accompanying two charts highlight, the level of revenue derived from oil and NGLs is now greater than 50% for 30 of the 36 companies in these two subgroups. The companies with significant natural gas weightings (greater than 80%), are forecast to receive 47% of total revenue from oil and natural gas liquids production on average. Since the first quarter of 2012, our 2012 strip AECO assumption has declined by ~11% to $2.23 per Mcf, and our Edmonton Par assumption has declined by 21% to $82.86 per barrel. While the drop in AECO natural gas prices results in an ~$1.50 per BOE decline in revenue for natural gas produced (assuming a standard 6:1 ratio), the 21% decline in Edmonton Par prices since the first quarter decreases revenue from a light oil barrel by ~$22.00 per barrel, highlighting the significant relative leverage all producers have to oil and NGL prices.

### Intermediate Producers Revenue Split (Forecast 2012)



### Junior Producers Revenue Split (Forecast 2012)



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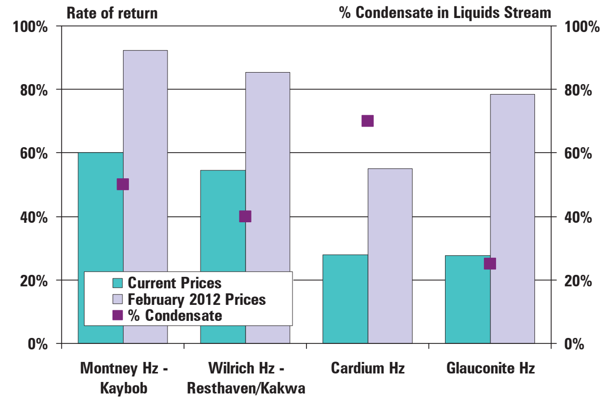
## Revenue Split by Play

Similar to the current break-down of revenue for producers, natural gas well economics are overwhelmingly carried by exposure to natural gas liquids in the current commodity price environment, with the recent decline in oil and NGL prices having a meaningful impact on a number of liquids rich natural gas plays. In the chart below, we have provide an analysis of economics for a select group of liquids rich natural gas plays, the Cardium at Sundance (90 to 45 B/MMcf, 70% condensate), the Glauconite at Hoadley (70 B/MMcf, 25% condensate), the Montney at Kaybob (26 B/MMcf, 50% condensate), and the Wilrich at Resthaven/Kakwa (25 B/MMcf, 40% condensate). We have compared our type curve economics for the four plays based on current strip oil and natural gas prices along with current NGL differentials, compared to prevailing prices at February 2012.

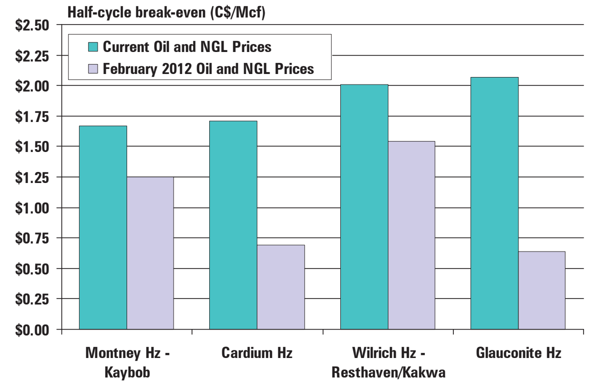
### Liquids Rich Natural Gas Economics



Source: Peters & Co estimates.

As shown in the accompanying chart, the relative decline in economics for these plays compared to Q1/12 is sensitive to the liquids yield and condensate component within the liquids stream. The recent change in economics has been most significant for the Glaucontie and Cardium plays, due to a high proportion of propane and butane production in the Glauconite, and the high overall liquids content in the Cardium.

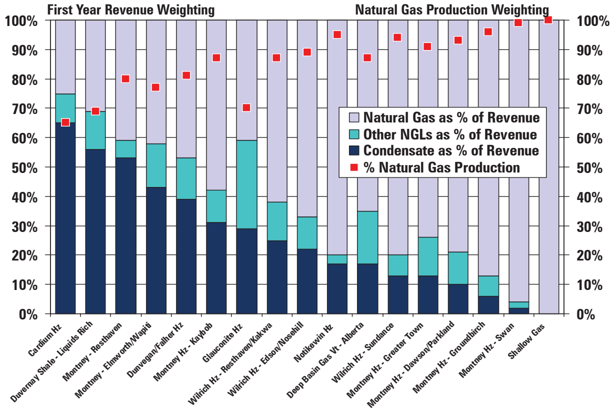
### Liquids Rich Natural Gas Break-Even



Source: Peters & Co estimates, implied break-even natural gas price assuming prevailing oil and NGL prices.

The accompanying charts highlights the break-down of revenue by product for a subset of 17 natural gas plays in the WCSB. Based on our type curves, Cardium horizontals, Duvernay Shale, Dunvegan/Falher horizontals, Glauconite horizontal, Montney at Elmworth/Wapiti, and Montney at Resthaven plays are all forecast to generate greater than 50% of total revenue from condensate and NGL production.

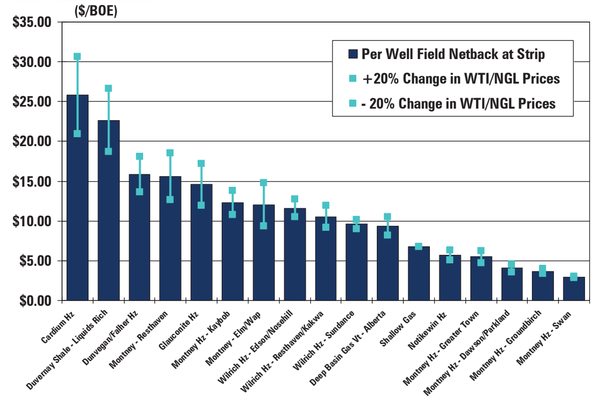
### First Year Revenue Breakout by Play (Strip Commodity Prices)



Based on average liquids contribution from our type curves and current strip commodity prices.

We have also highlighted the forecast first year field netback (excludes G&A and interest costs) for a subset of 17 natural gas plays in the current commodity price environment (~C$2.25 per Mcf) in order to show the materially different economic contributions from various liquids streams. In addition, we have conducted a sensitivity for this field netback to a 20% increase and decrease in natural gas liquids prices. Not surprisingly, the higher condensate rich natural gas plays, such as Cardium horizontals, Dunvegan/Falher, Duvernay Shale, and Montney at Resthaven have forecast field netbacks which exceed $15.00 per BOE, well above the median for this subset of plays (~$11.25 per BOE). However, as shown the economics of these plays are highly sensitive to condensate prices.

**First Year Per Well Field Netback Sensitivity**



Based on average liquids contribution from our type curves and current strip commodity prices. Field netbacks do not include G&A and interest costs.