Oil Market Weekly

Rig activity dropping, supply impact still in the pipeline

Global Commodities Research

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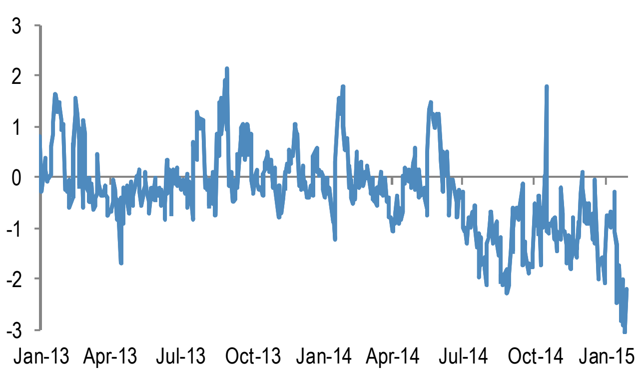
- Brent crude futures are little changed on the week, having traded in a $2.50 range. By contrast, WTI prices have fallen by $1.70/bbl as rising US crude stocks rise, driven by the over-supplied market in 1Q2015
- Strength in Brent cash markets through the first three weekly CFDs appears temporary and given our view that refinery demand for crude will taper off in coming weeks as refinery maintenance increases, we retain our bearish outlook on Brent crude futures prices
- In the absence of any material adjustment to the market balances from demand or OPEC supply, we expect the oil industry will need to alter supply in the coming months to rebalance the market. Short-term indicators such as rig counts have turned lower, particularly for US shale and high cost conventional areas. However, we still see the impact of these adjustments on supply as being likely from mid-year onwards
- The changing nature of the adjustment process to one that is driven by market signals, rather than government fiat, will likely make prices more volatile over the medium term and suggests that the oil market is more likely to see greater extremes in terms of price as industry activity levels overshoot to the downside initially, but ultimately to upside as well

Brent crude futures markets have traded in a $2.50/bbl range over the past week, little change from the levels of a week ago. By contrast, WTI futures have weakened progressively over the course of the week, as further builds in US crude inventories highlight the current degree of oversupply in the market. Reported stocks on the US Gulf Coast, Midwest and at Cushing have all surged in recent weeks, pushing US total crude inventories to their highest level since the monthly data began in 1982. Consequently, the Brent-WTI spread has widened to $4.67/bbl at the time of writing, its widest level in four weeks. Brent futures' relative strength likely reflects the rally in cash market spreads, with CFD prices strengthening to their highest level in nearly four weeks.

Exhibit 1: Dated Brent versus Brent front-month future

$/bbl

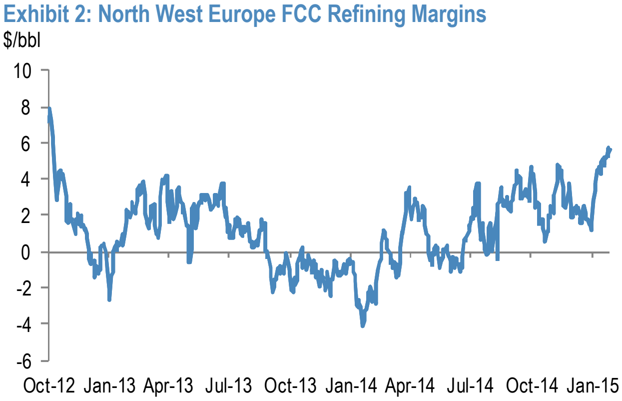


Source: ICE, Bloomberg, J.P. Morgan Commodities Research

See page 7 for analyst certification and important disclosures.

The pace of oil being placed in storage or moved to Asia from North Sea markets indicates that the stability in Brent prices may be linked to additional demand for crude facilitated by the steeper contango market structure now in place. However, with reports of Forties cargoes trading at record discounts to the screen, we would fade the rally in CFD spreads and look for renewed weakness in Brent futures in the coming weeks.

Exhibit 2: North West Europe FCC Refining Margins



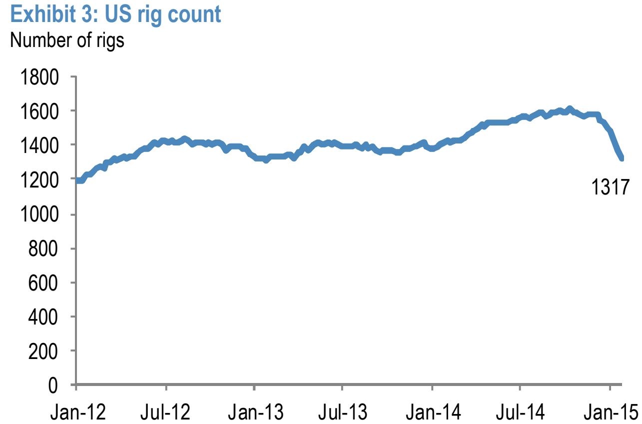
Source: Platts, Bloomberg, J.P. Morgan Commodities Research

European refining margins have strengthened further on the back of recent crude market weakness. Northwest Europe cracking margins reached their highest level in more than two years. The strength of the current margin environment may tempt some refineries to defer planned refinery maintenance, which we expect to increase towards a seasonal peak in March and April.

On balance we still expect that higher refinery maintenance towards the end of 1Q2015 in Europe will continue to pressure demand for crude in coming weeks and, in the absence of a slowdown in supply growth, we think the balance of probability favours lower prices over the next six-to-eight weeks. Similarly, we think that the Brent-WTI spread will likely narrow as bearish fundamentals in Brent crude markets reassert themselves and narrow the premium to the USGC.

As we have previously highlighted, we see little prospect of a material pick-up in demand to rebalance the oil market. Furthermore, OPEC action to reduce supply seems unlikely. Thus the market will need to rebalance through an adjustment to non-OPEC supply undertaken by oil companies cutting capex and, in some cases, closing high-cost production facilities. There are number of factors that one can consider to gauge the speed of the upstream oil industry’s response to the collapse in prices. Some of these are specific in nature and directly measurable, e.g. the weekly rig activity reports. To date, weekly data indicate a rapid adjustment in drilling activity underway in the various shale plays in the US. Similarly, areas which we consider as high cost conventional crude output, e.g. California and parts of Canada, are showing steep drops in activity. Other regions that are assessed on a monthly basis show a more mixed development in rig activity rates. It should be noted that monthly data is only available through to December.

Exhibit 3: US rig count



Source: Baker Hughes, J.P. Morgan Commodities Research

With US rig activity data released on a weekly basis, we expect market participants to follow this measure very closely in the coming months. We present on page 4 to 6 of this document a series of graphs tracking the rig count in key shale basins and US states. The peak in US oil drilling rig activity occurred shortly after the late-November OPEC meeting. Since the peak, US vertical and horizontal drilling rigs—deployed for conventional and unconventional production—have fallen by 30% and 11% to 225 and 994 respectively. Data by basin show that the decline in vertical rig activity is concentrated in the Permian basin, whereas the horizontal rig activity has declined primarily in the Williston basin, followed by Eagle Ford. This suggests that some producers appear comfortable at these price levels for unconventional production in the Permian basin.

However, falling rig counts are not necessarily an accurate guide to the future trajectory of output growth. Our view on supply must balance the bottom-up view of activity with qualitative factors, such as company guidance on production growth. We expect shale plays to be at the cutting edge of the non-OPEC supply adjustment because of the high initial decline rates of new wells - which we estimate at around 70-75% in the first year.

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For these sources of non-OPEC supply, factors such as better well design to reduce decline rates, high-grading of drilling locations to increase initial production rates and the estimated ultimate recovery (EUR) of each well will offset the impact of fewer rigs drilling. An example of these contrasting factors can be seen in the guidance released with fourth quarter results from US oil companies. Hess Corporation plans to drop its Bakken rig count from 17 rigs in 2014 to 8 by 2Q2015 with planned capex in the Bakken expected to fall by 18%. Contrast this with the number of wells drilled projected by the company to drop just 12%. The company expects these reductions to result in a yoy increase in production from its Bakken operations of 14-to-27%, compared to 34% yoy in 4Q2014.

More broadly, the capex and production guidance that will be published during the company earnings reporting season over the coming weeks will provide us with more detailed information that should help to shape our outlook. Capex reduction is a common theme amongst those companies that have already reported and continues the trend that started in late-4Q2014. As flagged by the J.P. Morgan E&P analyst, Joseph Allman, companies are keen to protect balance sheet strength at the expense of short-term production growth, and/ or returning cash to shareholders.

Other earnings reports by integrated oil majors indicate that the capital expenditure reductions are weighed to US-based exploration and development capex. ConocoPhillips reported plans to cut its 2015 capex to \$11.5 bn, down 33% yoy from \$17.1 bn in 2014 – a reduction of \$2 bn from previous guidance, of which \$1.7 bn is toward US projects. Occidental Petroleum also expects a similar percentage reduction in capex, but the company also highlighted in its presentation that they expect the capital run rate in 1Q2015 to be higher than that level, and decline through the rest of the year.

This back-end loading of cuts to capex is likely to be repeated elsewhere in the sector, reflecting the time taken to adjust spending and activity rates given real-world constraints. We also note that this postponed reduction in capex – potentially weighed in the 2H2015 - presents a significant downside to the shale oil production growth rate by the end of 2015.

On balance, the process of adjusting supply now appears firmly underway. As the industry cuts back on new activity levels, the speed at which this feeds into prices is dependent on real-world constraints such as contractual commitments, and notice periods etc. Furthermore, as activity levels drop, they will start to weigh on the positive momentum that carries through from last year's strong growth – recall that US crude supply started 2014 at 8.0 mbd and is currently around 9.2 mbd – but it will take time for this to actually cut supplies. Currently we envisage non-OPEC supply turning negative on a qoq basis in 3Q2015, albeit in part due to seasonal maintenance. However, the fact that oil markets are reliant on this adjustment being driven by individual producers, raises risks around whether the cuts to supply will overshoot, and in turn create the foundations for a rapid recovery in prices. Our balances do not indicate that this will occur in the next 18 to 24 months, but if the nature of the market balancing adjustment has changed, so too will the volatility of prices over the medium term.

Exhibit 4: J.P. Morgan Crude Oil Price Forecast

$/bbl

J.P. Morgan Crude Oil Price Forecast (US$/bbl)

	1Q14	2Q14	3Q14	4Q14	2014	1Q15	2Q15	3Q15	4Q15	2015	1Q16	2Q16	3Q16	4Q16	2016	LT
Brent Forecast						42.0	43.0	53.0	58.0	49.0	50.0	52.0	60.0	65.0	56.8	90.00
Brent Actual To Date	107.9	109.8	103.5	77.1	99.4	49.6	…	…	…	49.6	…	…	…	…	…	…
WTI Forecast						40.0	41.0	50.0	53.0	46.0	45.0	47.0	55.0	60.0	51.8	80.00
Actual To Date	98.6	103.0	97.2	73.2	92.9	47.3	…	…	…	47.3	…	…	…	…	…	
Brent-WTI spread	9.56	6.77	6.21	4.00	6.54	2.0	2.0	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	10.00

Source: ICE, NYMEX, Bloomberg, J.P. Morgan Commodities Research.
Note: MR and SR refer to a Mild and Severe Recession respectively. LT means long term forecast. All Forecasts are period averages. Actual to date prices are as of Jan 29, 2015

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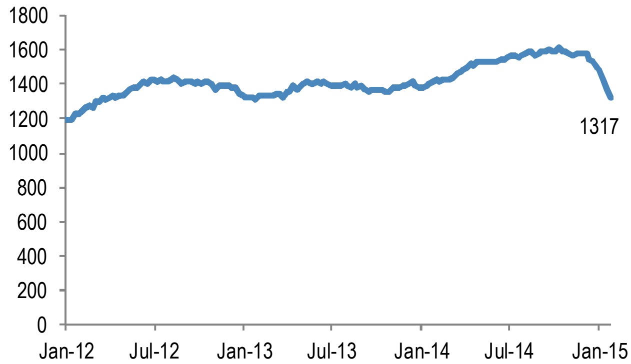
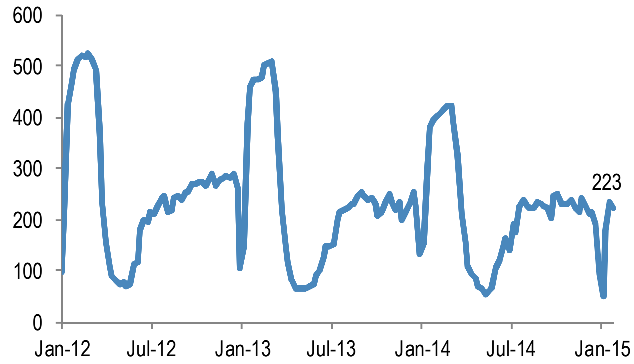
Baker Hughes Rig Count - week ending Jan 23, 2015 & month ending December 2014

Exhibit 5: US rotary oil rigs - weekly



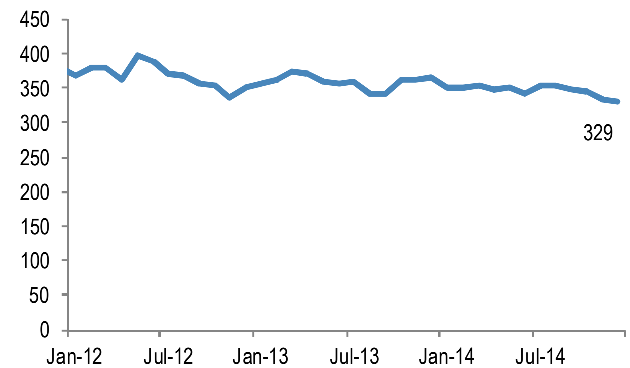
Source: Baker Hughes, J.P. Morgan Commodities Research

Exhibit 6: Canada rotary oil rigs - weekly



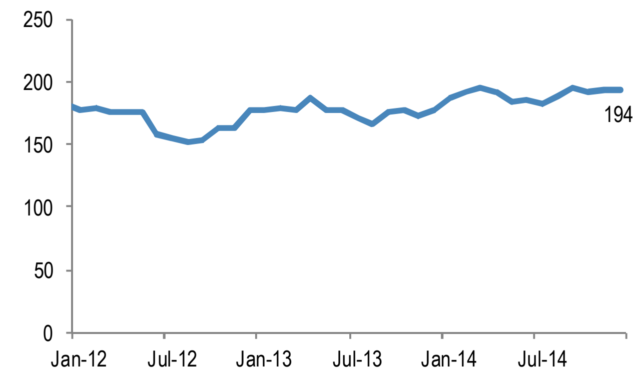
Source: Baker Hughes, J.P. Morgan Commodities Research.

Exhibit 7: Latin America oil rigs - monthly



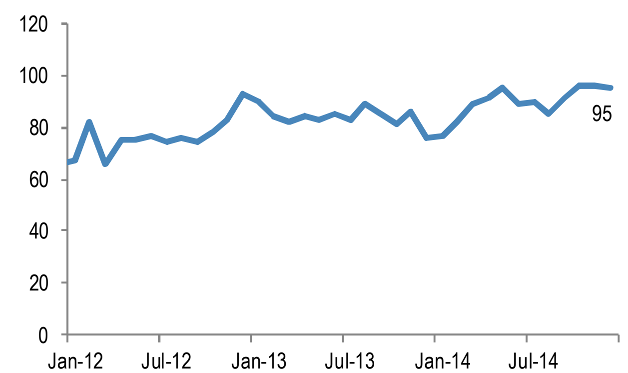
Source: Baker Hughes, J.P. Morgan Commodities Research

Exhibit 8: Asia Pacific oil rigs - monthly



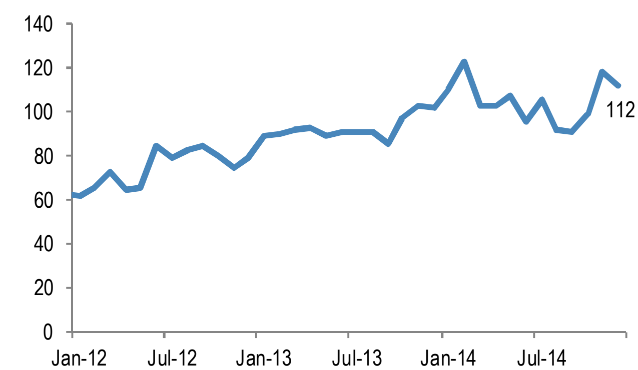
Source: Baker Hughes, J.P. Morgan Commodities Research

Exhibit 9: Europe oil rigs - monthly



Source: Baker Hughes, J.P. Morgan Commodities Research.

Exhibit 10: African oil rigs - monthly



Source: Baker Hughes, J.P. Morgan Commodities Research.

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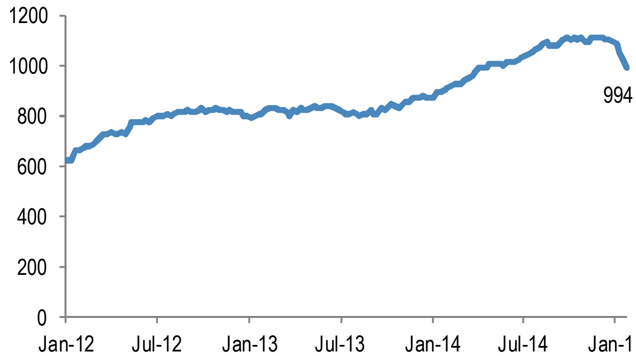
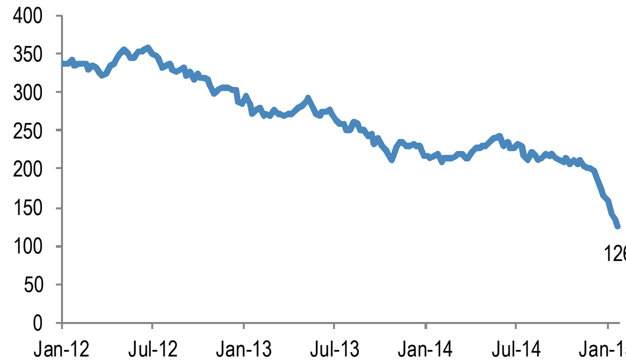
Baker Hughes Rig Count by US Basins- week ending Jan 23, 2015

Exhibit 11: US oil - horizontal



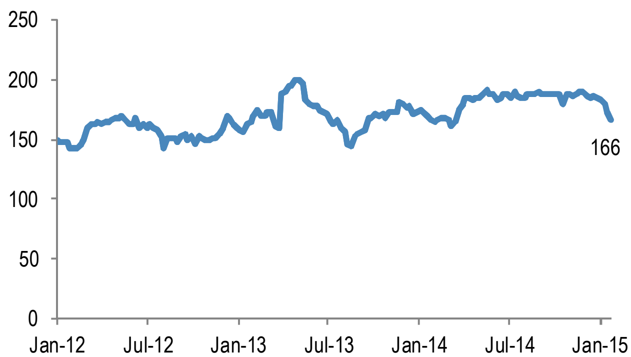
Source: Baker Hughes, J.P. Morgan Commodities Research

Exhibit 12: Permian oil – vertical



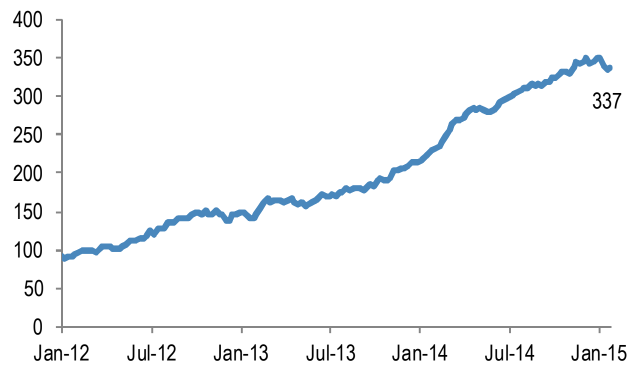
Source: Baker Hughes, J.P. Morgan Commodities Research.

Exhibit 13: Eagle Ford oil - horizontal



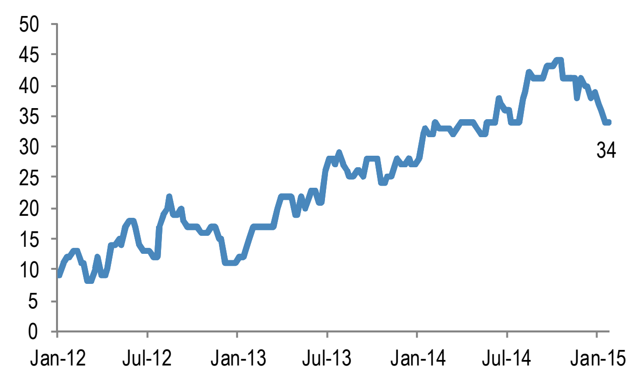
Source: Baker Hughes, J.P. Morgan Commodities Research

Exhibit 14: Permian oil - horizontal



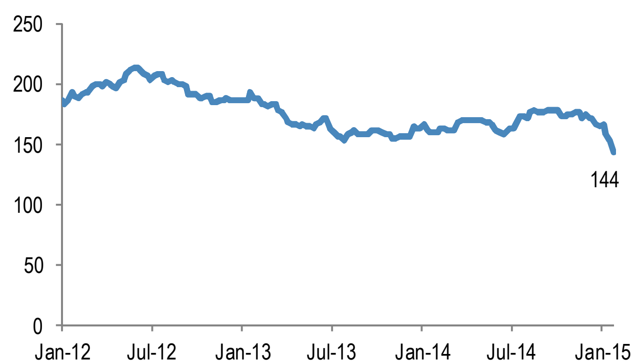
Source: Baker Hughes, J.P. Morgan Commodities Research.

Exhibit 15: DJ Niobrara oil - horizontal



Source: Baker Hughes, J.P. Morgan Commodities Research

Exhibit 16: Williston oil - horizontal



Source: Baker Hughes, J.P. Morgan Commodities Research.

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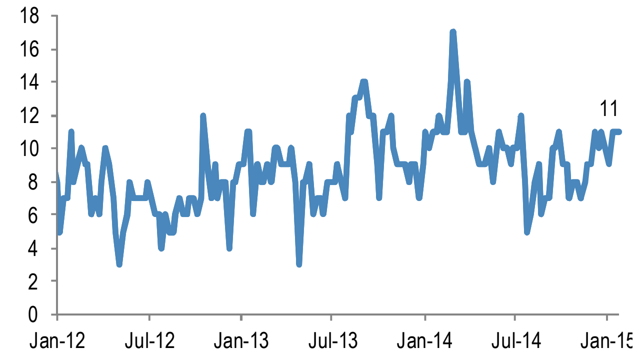
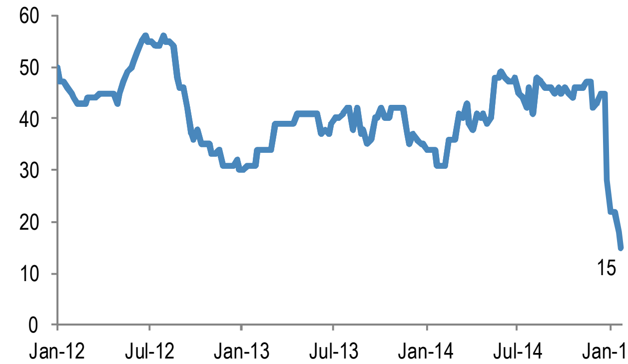
Baker Hughes Rig Count by US States- week ending Jan 23, 2015

Exhibit 17: Alaska oil and gas



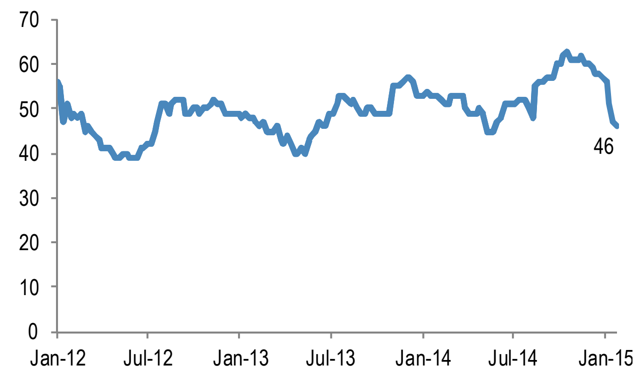
Source: Baker Hughes, J.P. Morgan Commodities Research

Exhibit 18: California oil and gas



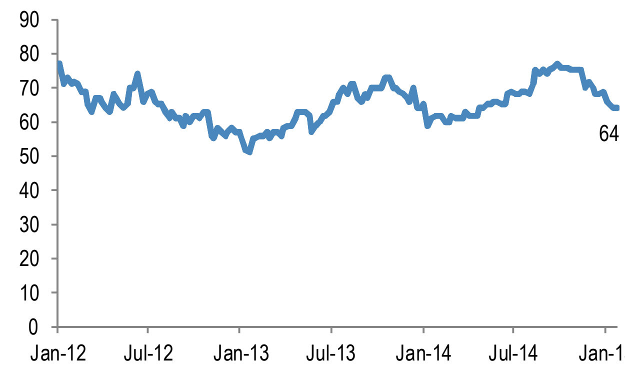
Source: Baker Hughes, J.P. Morgan Commodities Research.

Exhibit 19: Wyoming oil and gas



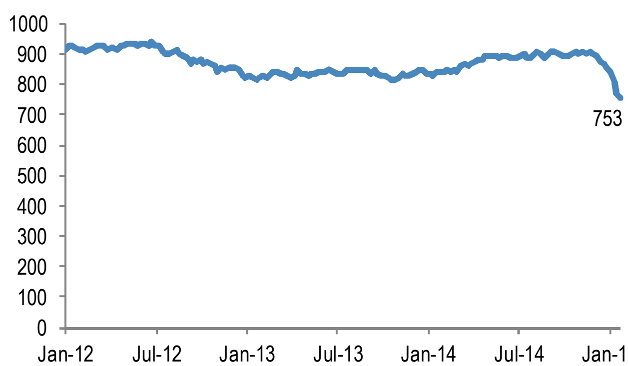
Source: Baker Hughes, J.P. Morgan Commodities Research

Exhibit 20: Colorado oil and gas



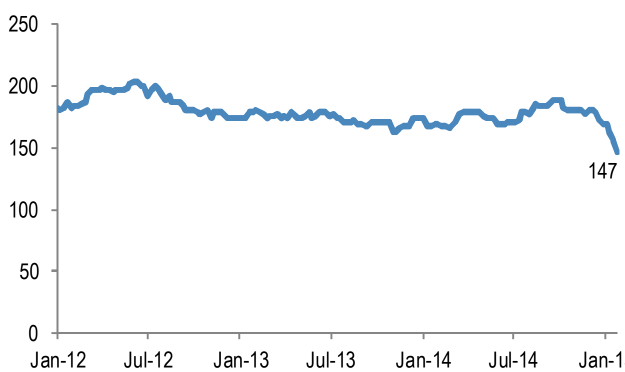
Source: Baker Hughes, J.P. Morgan Commodities Research.

Exhibit 21: Texas oil and gas



Source: Baker Hughes, J.P. Morgan Commodities Research

Exhibit 22: North Dakota oil and gas



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