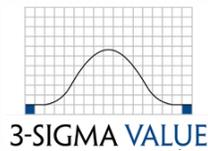


Energy Investing After the Price of Oil Drops – The Year is 2015 Part III: Oil Patch Blues

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Oil Patch Blues

The second wave of destruction in the energy patch is upon us as hedges roll off in the second half of 2015. Few companies are hedged for 2016 and no one is attractively hedged (some have hedges in the high \$40s).

Even as the number of rigs operating in the U.S. has fallen 60%, U.S. oil production through August was down only 3% from its peak¹. Production is resilient in the face of a significant decline in rig counts because recent advancements in drilling technology – horizontal drilling and hydraulic fracturing – have made drilling more efficient. For example, new drilling technology has extended the length of horizontal oil wells to reach nearly two miles. Nevertheless, production in the U.S. will eventually reflect the decline in capital expenditures. Due to advanced decline rates in oil shale basins (70%+ in year 1) production will drop more precipitously in 2016, which will likely trigger a rebound in oil prices. Even though the decline in U.S. production could be offset by Iran, OPEC, and/or other foreign sources of oil, this is the catalyst that will drive oil prices to mean-revert to \$50 to \$70 per bbl mid-range.

Oil Price Scenarios:

Base = \$50-\$70 as production declines in the U.S., and the price of oil mean reverts

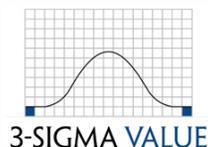
Downside = below \$50 as much of the oil supply goes bankrupt

Upside = \$70+ as the energy supply chain is back in business

Rig counts will not rise until the price of oil rises. With production stable despite a continuing decline in rigs, it is not until 2016 when rigs will bottom (at ~700, down ~1,200 rigs from 1,922 recorded on 10/2/14²). According to the Energy Department, U.S. oil production is expected to drop to 8.8 million bbls per day in 2016 (down 8% from the peak but still up from ~5 million before the shale revolution).

¹ U.S. oil production peaked in April 2015 at 9.6 million bbls per day.

² Based on the Baker Hughes Rig Count, 809 rigs were operating in the U.S. as of 10/2/15.



The combination of zero-bound interest rates and high commodity (oil) prices led to a massive expansion in capacity. In *Part II of Energy Investing After the Price of Oil Drops*, we analyzed publicly-traded frac sand companies in the context of a massive over build of commodity supply. In this report, we identify one E&P (exploration and production) and one service provider, both facing over-capacitation and the accelerating specter of financial distress.³

California Resources Corporation (CRC)

On November 30, 2014, Occidental Petroleum (OXY) spun-off 79.9% of California Resources Corporation (CRC) to its shareholders. In connection, CRC borrowed \$6.2 billion to pay a \$6.0 billion dividend to its former parent OXY.

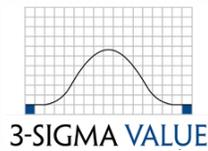
The size of the leverage used in this dividend recapitalization was determined in the middle of 2014 when oil was trading in a \$100+ per bbl world.

CRC Capitalization as of 6/30/15		
Share Price @ 10/9/15	\$4.71	
x FD Shares Out.	386.4	
= Market Capitalization	1,819.9	
- Cash & Equivalents	37.0	
+ Total Debt	6,590.0	
= Enterprise Value (EV)	8,372.9	
2014 EBITDA	2,251.0	3.7x
2015 EBITDA	683.0	12.3x
2016 EBITDA	839.6	10.0x

CRC is a 100% California-based E&P, the state's largest producer of oil⁴ and its only publicly-traded pure-play. The bulk of volumes (~71%) are produced in the San Joaquin basin. When

³ For more details on the rest of the positions in 3-Sigma Value's long/short energy portfolio, please contact Benjamin Weinger directly.

⁴ In 2014, CRC accounted for ~30% of California oil production.



marketing the spin-off to OXY shareholders, the CEO of OXY touted the new company's improved profitability ex. California. Cali is arguably the worst state in the country to drill for oil. The Cali assets were a drag on OXY margins, and securing a \$6 billion payout for these high cost assets ahead of oil's drop is one of the great moves in the history of energy.

California oil fields are aging and require massive amounts of water, gas, and steam to maintain their pressure. The crude must be separated from the water and other junk, making the process expensive. Moreover, California regulatory risk is real. Fracking bans have been passed by wide margins in the counties of Medocino (67%) and San Benito (57%) despite neither one hosting hydrocarbon production; meanwhile, similar measures in actual active drilling counties such as Santa Barbara have failed to pass. Statewide legislation also did not pass in April 2014. Nevertheless, California is bound to follow in the footsteps of New York⁵.

On CRC's first call as an independent public company, management acknowledged CRC would trip its 4.5x TTM leverage covenant. In anticipation, its lender agreed to relax financial covenants for a 24-month period.

The key drivers of value are:

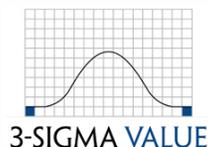
1. Volumes – 3 Products: Oil, NGLs, and natural gas.

Volumes are tied directly to capital expenditures. Base Case = correlation of production to capex = 1.0. In 2015, the capital budget is being slashed 75% to \$440 million (guidance as of 6/30/15). Going forward, capex is tied to the forward curve.

Because of the huge capex spend in 2014, CRC entered 2015 with a huge inventory and therefore has been able to slash capex without degrading production. This tailwind, though, is wearing off as 2016 requires a normalized level of capex in order to maintain production.

What is normalized capex?

⁵ New York State officially banned fracking, announced June 29, 2015.



Normalized Capex Calculation	2014	2015	2016
2014 Base Line - Exit Production (Mboed)	165.3	152.9	133.8
Decline Rate = 10-15%		-7.5%	-12.5%
Decline (Mboed)		-12.4	-19.1
Production Replaced via Capex		12.4	19.1
Net Production Change (Mboed)		0.0	0.0
Avg Production (Base = Flat)	158.7	158.7	158.7
Implied Maintenance Capex (\$/bped)		35.6	35.6
Capex Required to Offset Decline		440.0	680.6

2. Realized Prices – 3 Products: Oil, NGLs, and natural gas.

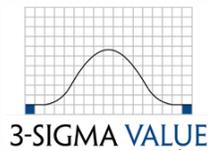
- a. Oil – *CRC is virtually unhedged for 2016.* Because 3-Sigma Value does not predict exogenous factors such as the price of oil, we employ a range of scenarios with a Base Case that applies the forward curve as a starting point to its price assumptions. As of October 15, 2015, 1-year and 2-year Brent traded at \$55 per bbl and \$60 per bbl respectively.
- b. Natural Gas Liquids (NGLs) – tied directly to oil.
- c. Natural gas – \$2.50 to \$4 (per MMcf/day) range.

3. Costs

- a. Production costs per boe = \$17.25 to \$17.75 per boe according to management’s guidance for the third quarter of 2015. In our Base Case operating scenarios we make the basic assumption going forward that inflation is offset by additional efficiency gains.
- b. SG&A per boe = \$5.10 to \$5.30 per boe, flattish going forward.
- c. DD&A per boe = \$17.25 to \$17.45 per boe, tied to capital expenditures.
- d. Taxes other than on income = \$2.85 to \$3.05 per boe, flattish
- e. Exploration expense = \$0.70 to \$0.90, tied to capital expenditures.

Add these costs up and **the total all-in cost per boe is between \$45 and \$47⁶.**

⁶ On a cash-cost basis (ex. DD&A), the cost per boe is between \$28 and \$29.



Interim Conclusion – CRC’s operations are underwater in the current oil price environment.

4. Capital Structure – all free cash is earmarked to pay down debt – unfortunately there is no free cash flow. The blended interest rate that CRC pays of 5.2% is cheap but when applied to \$6.6 billion of debt, the \$334 million of interest expense paid in 2015 is more than the \$263 million of EBIT.

The credit agreement was entered on September 24, 2014 and amended effective February 25, 2015 when it became clear CRC would trip its 4.5x leverage covenant by the end of 2015. The ratio was boosted to 6.25x (9/30/15), 8.25x (12/31/15), 8.00x (3/31/16), 7.25x (6/30/16), 6.75x (9/30/16), 6.25x (12/31/16), and 4.50x thereafter. Despite the relief, CRC trips its covenants in the Base Case operating scenario beginning in the fourth quarter of 2015, requiring either another round of bank negotiations or a restructuring.

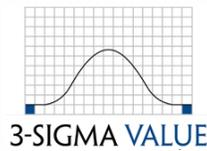
5. Taxes – no cash taxes

6. Valuation – three valuation methodologies are compared and contrasted; they are: DCF, EV/EBITDA & P/E. Because the valuation derived from all three are consistent, we have high conviction in these results.

CRC Target Price Calculation		
	Low	High
DCF	\$0.39	\$2.40
EV/EBITDA	\$0.50	\$1.83
P/E	\$1.89	\$2.54
Mean	\$0.93	\$2.26
Midpoint	\$1.59	
Upside (Downside)	-66.2%	

Conclusions

Todd Stevens, CEO of California Resources Corporation (CRC) said on the company’s second quarter of 2015 earnings conference call, “*Our balance sheet was built for \$100 oil.*” CRC is insolvent on a marked-to-market basis unless oil immediately rises above \$70 per bbl. Below \$70 and a restructuring becomes necessary.



While the downside and probable outcome is that CRC's equity is worthless, we employ a scenario-based approach and calculate a **probability-weighted target price of \$1.59**⁷.

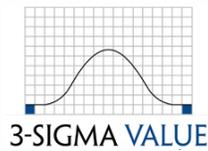
Badger Daylighting (BAD.TO)

Some people call it excavating. Others call it potholing. Still others call it digging. Until recently I had never known the term daylighting. According to Badger Daylighting's Corporate Presentation 2015, "*Daylighting is simply exposing underground facilities, such as utilities and pipelines, to daylight.*" In other words, daylighting is a fancy way of saying digging.

BAD.TO Capitalization as of 6/30/15	
Price as of October 7, 2015	C\$21.30
FD Shares Outstanding	37.0
Market Capitalization	789.1
Debt	101.5
Share-based Plan Liability	8.4
Legal Provision	21.8
Cash & Equivalents	5.2
Enterprise Value (EV)	915.7
EV / Revenue - 2014	2.2x
EV / Revenue - 2015	2.6x
EV / Revenue - 2016	3.2x
EV / Revenue - 2017	3.1x
EV / EBITDA - 2014	7.6x
EV / EBITDA - 2015	12.4x
EV / EBITDA - 2016	28.9x
EV / EBITDA - 2017	24.1x

What is a digging services company worth?

⁷ \$1.59 per share is equal to a \$615 million market capitalization.



Badger is a subcontractor; its clients are mainly contractors and facility owners in the utility and petroleum sectors. Badger's asset is a fleet of proprietary, purpose-built, hydrovac trucks. Specifically, Badger buys a chassis and puts its equipment on top, including a hose (the hydro in hydrovac; for pressurized water stream excavation) and a vacuum (the vac in hydrovac, for removing soil and debris). The advantage of a Badger truck, according to the Company, is that it is safer, saves time, and lowers a project's cost.

Badger has more than doubled its truck fleet over the past 5 years, from 412 at the end of 2010 to 1,019 at the end of the second quarter 2015 (626 in the U.S., 393 in Canada), with plans to double the size of the U.S. fleet (from 2014 YE) within 5 years to 1,176 trucks, while maintaining 10-15% organic truck growth in Canada.

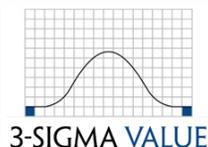
Management's growth plan is only feasible in a scenario where **average revenue per truck per day** (a key factor driving valuation) reverses its current free fall. In the second quarter of 2015, revenue per truck fell 22% year-over-year to \$23,317; this followed the first quarter in which revenue per truck also fell 22%. Management used to target \$30,000 per truck per day – now, \$20,000 appears more likely.

In Badger's June 30, 2015 MD&A⁸, management targeted the level of new truck build to remain at a level of 1 to 3 per week (48 to 144 per year). Offsetting this in part is the plan to retire 25-30 trucks in 2015 (18 through 2Q15), representing those older than 10 years. The net effect is blind building of capacity. The entrance of new trucks into a soft market will only make it softer. 3-Sigma Value's Base Case operating scenarios anticipate collapsing margins and the burning of cash.

Searching online on google, there are plenty of hydrovac trucks for sale, from as low as \$50,000 for older trucks to \$300,000+ for newer models. Hydrovac trailers are available for less than \$100,000 – which implies the extra expense is for the truck not the equipment. Competitors include Peterbilt, Freightliner, HydroSpade, International, Econopa, etc.

Whether or not Badger burns cash, its valuation is ultimately supported by the value of its assets (trucks) less the value of its liabilities (debt and other). Therefore, we begin with an

⁸ Management's Discussion and Analysis in the 10-Q.



asset/liquidation-based valuation and follow with 3-Sigma Value's standard discounted cash flow (DCF) valuation sanity-checked by price-to-earnings (P/E).

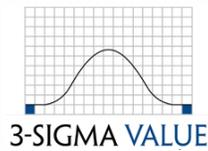
Asset-Based Valuation of Badger Daylighting as of 6/30/15				
in thousands of C\$	<u>Book Value</u>	<u>Market Value per truck @</u>		
		\$200,000	\$250,000	\$300,000
Cash	5.2	5.2	5.2	5.2
Other Current Assets	112.7	90.2	90.2	90.2
PP&E, net	320.4	203.8	254.8	305.7
Total Assets	438.4	299.2	350.2	401.1
Liabilities @ 100%	212.5	212.5	212.5	212.5
Equity Value	225.9	86.8	137.7	188.7
per share	6.10	2.34	3.72	5.09
% Upside (Downside)	-71.4%	-89.0%	-82.5%	-76.1%

Conclusion: not much asset support.

In terms of DCF, we identify 8 key drivers of value:

<p>Key Drivers of Value:</p> <p>(1) # of Trucks in Fleet</p> <p>(2) Average Revenue per Truck per Month</p> <p>(3) Other Services</p> <p>(4) Gross Margin</p> <p>(5) SG&A</p> <p>(6) Capex - Maintenance and Growth</p> <p>(7) WACC</p> <p>(8) Terminal Value Multiple</p>
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- (1) **# of Trucks in Fleet** – we employ management’s guidance of 1 to 3 per week in the second half of 2015 (= 12-36 per q); Base = midpoint in 2H 2015 then low end in 2016/2017; Downside = zero in 2016/2017.
- (2) **Average Revenue per Truck per Month** – revenue per truck will not bounce back to management’s target of \$30,000. The market is flooded with hydrovac’s, and pricing is already below the \$24,700 low in 2009. Only in Upside Case scenarios does revenue per

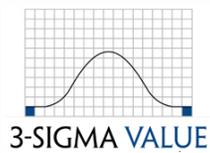


truck hold around the \$23,317 level reported in the second quarter of 2015. More likely, revenue per truck will continue its downward spiral until capacity growth is halted.

- (3) **Other Services** – mainly includes Fieldtek tank cleaning services in Western Canada, and Benko sewer services in Ontario. Assume growth is tied to hydrovac services.
- (4) **Gross Margin** – Badger’s network of 109 Operating Centers is expensive infrastructure. We estimate fixed costs ~ 2/3 of direct costs. Wages and fuel are the largest components of variable costs.
- (5) **SG&A** – Estimate \$4 million per q (\$4.133 million in 2Q15).
- (6) **Capital Expenditures** – cost per truck (~\$400,000) and ongoing maintenance requirements are based on historical averages.
- (7) **WACC** = 11.2%.
- (8) **Terminal Value Multiple** – 5x to 10x depending on scenario.

Probability-weighted DCF-based Target Price Calculation			
Base (7.5x, WACC)	7.32	60.0%	4.39
Upside (10x, WACC)	25.91	20.0%	5.18
Downside (5x, WACC)	0.00	20.0%	0.00
Probability-weighted Target Price			9.58
			-55.0%

Only in an Upside Case does Badger generate meaningful earnings in 2016 & 2017, rendering P/E analysis useless except in the most bullish of scenarios. In any event, if management is successful in growing the fleet at \$30,000 per truck per day then Badger could earn as much as \$1.42 per share in 2017. At 20x, Badger is worth \$28.44, a data point that supports a bullish DCF analysis.



Badger Daylighting (BAD.TO) Target Price Analysis						
	DCF	P/E	Asset	Average	Probability	Weighted
Upside - DCF & P/E	25.91	28.44	NM	27.18	20%	5.44
Base - DCF & Asset	7.32	NM	3.72	5.52	60%	3.31
Downside - Asset	NM	NM	2.35	2.35	20%	0.47
				Probability-weighted Target Price		9.22
Price as of October 7, 2015						21.30
% Upside (Downside) to Target Price						-56.7%