

## The Upside in Unconventional Oil

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*Note: This is Part 2 of my 3 part Unconventional Oil theme write-up. In Part 1 ([here](#)), I describe why \$90 is the new “floor” for WTI. In Part 3, I’ll write-up a particularly compelling idea inside of this theme. But for now, onto Part 2: why North American unconventional oil demands my investment capital.*

As explained in “The Era of Cheap Oil is Over” ([here](#)), I’m bullish oil over any time frame: short, medium and long-term. It is unquestionably my highest conviction idea. But having conviction and making money are two very different things; a massive gap lies between being right and making money. What bridges that gap is implementation. **In investing, implementation is everything.**

So the real question is: what’s the best way to implement a bullish oil view?

To me, **the answer is via equity in North American unconventional oil producers.** The reasons I believe this to be true are worth sharing:

- **Exploration risk minimization:** compared with deepwater or the onshore ultradeep, unconventional oil carries virtually zero exploration risk. With low-risk, repeatable drilling opportunities, companies producing unconventional oil are more like manufacturing companies than exploration companies.
- **Confiscation risk minimization:** compared with most other oil-rich areas globally, North America carries zero geopolitical risk or confiscation risk.
- **In-place infrastructure:** well-developed oil infrastructure means when a producer locates oil, getting it to market and turning that oil into cash is relatively inexpensive. In other parts of the world, finding oil is just the beginning of a multi-year infrastructure project.

I believe North American oil companies are the perfect conduit to access oil producing assets because they have: (1) no exploration risk, (2) no foreign government risk, and (3) minimal infrastructure / development risk. I’m not aware of any other region on the planet that shares all three of these characteristics.

As to why I have chosen to express a bullish oil view via unconventional producers, those reasons are also instructive:

- **Huge optionality on better extraction technology:** three recent technology advances have led to the economic viability of shale oil: (1) 3D seismic, (2) horizontal drilling, and (3) multi-stage fracking. If you step back, you can really start to appreciate just how young these technologies are. Currently, North American E&Ps are only booking reserves on approximately 5% of the original oil in place. That’s not a typo. Just 5% of a Company’s shale oil is currently expected to be recovered. But that’s today’s estimate.

As unconventional oil companies better understand their reservoirs and optimize well spacing, explore different fracking methods and experiment with enhanced oil recovery techniques, that 5% will increase. And even small increases in the recovery rate will lead to step change increases in oil production, cash flow and company valuation.

- **Valuations not reflective of future earnings power:** In general, I believe the market significantly underestimates the growth these companies have ahead of them. Many unconventional oil companies have drilling inventories that guarantee decades of low-risk production growth, yet the market seems to value them as if future growth is uncertain. But it's not just future drilling inventory that will drive growth in cash flow per share; it's the combination of inventory and better extraction technology that will create a wall of cash flow for many of these companies. To understand why, just ask yourself what's more capital efficient: (a) buying land, acquiring infrastructure, drilling a new well and tying it in, or (b) injecting nitrogen down an already-producing well? Enhanced oil recovery methods don't just recover more oil; they recover more oil more profitably as incremental costs are dramatically lower. And as the profitability of each barrel goes up, future earnings power goes way up. I don't believe the market fully appreciates this point.
- **Consolidation provides an avenue to realize value:** It happens in nearly every industry... first, there's a land rush and abundant competition; then there's rationalization; then there's consolidation. I believe the great North American land grab is over and we are somewhere in the 4th - 8th inning of the rationalization phase. Consolidation is coming and smaller publicly traded companies that have amassed large land packages are obvious acquisition targets.

For these reasons, I believe North American unconventional oil producers provide the best risk-adjusted return opportunities in the oil market. Now that you know why I'm implementing a bullish oil view via North American unconventional oil producers, I'll get specific - here are the core questions you need to answer when evaluating unconventional oil companies:

### Location

- Has the Company's acreage ever produced conventional oil? Counter-intuitively, the most attractive place to look for oil is where it has already been found / produced.
- Have any majors purchased large blocks of land in the same play? If the answer isn't "yes", either the Company's geologists know something the rest of the market doesn't or they are holding worthless land. I always default to the latter.
- Does the property have easy access to existing infrastructure? A "yes" answer means less CapEx, a higher return on capital and a higher multiple.
- Does the existing infrastructure have excess capacity or are upgrades necessary?

### Land Acquisition Cost

- When did the Company buy into the play? In the oil market, first mover advantage is real; buying in early and inexpensively lowers risk and enhances return on capital.
- What was the acquisition cost per acre? The lower the better. Generally, I would consider anything over \$15,000 / acre expensive, but it really depends on the economics

of the play (driven by cost / well, % of oil versus NGLs, etc).

- If the property is already producing, what is the enterprise value per flowing barrel? What price per flowing barrel did they pay to acquire the land? I've seen transactions range between \$60,000 - \$200,000 boe / d. Here's some insight: a strategic buyer is generally willing to pay 90% - 100% of the independent engineering value of an asset plus some % of the upside from undeveloped land. So let's assume the independent value of a play is determined to be \$90,000 boe / d and there are 1,000 boe / d of reserves plus another 10,000 net acres of undeveloped land (denoted here as "Y"). The price paid would be:  $(\$90,000 \times 100\% \times 1,000) + (\text{some } \% \text{ of } Y) = \$90\text{MM} + (\text{some } \% \text{ of } Y)$ . To figure out Y, an acquirer would make an educated guess based on the following:

$Y = (\text{Net acreage}) \times (\text{estimated } \% \text{ of acreage that is prospective}) / (640 \text{ acres per section}) \times (\text{est \# of wells per section}) \times (\text{NPV per well})$

So let's say 70% of the land is prospective based on the technical assessment and the Company can reasonably estimate well spacing and well economics. The math is:

$(10,000 \text{ net acres}) \times (70\%) / (640 \text{ acres per section}) = 10.94 \text{ prospective sections}$  (note that 1 section = 1 sq mile)

$(10.94 \text{ prospective sections}) \times (4 \text{ wells per section}) \times (\$3\text{MM NPV per well}) = \$131.25\text{MM}$

So the undeveloped acreage is estimated to be worth \$131.25MM. An acquirer might be willing to pay 30% of that figure. In this scenario, the total deal value for 1,000 boe / d of reserves and 10,000 net acres of undeveloped land would be:

$\$90\text{MM} + (30\% \times \$131.25\text{MM}) = \$129.375\text{MM}$ , or \$129,375 per flowing barrel.

## Reserves

- What's the enterprise value / booked reserves? What I'm looking for is a reasonable valuation based on current reserves with free optionality on undeveloped land.
- What percentage of reserves are developed and what percentage are undeveloped? If 75% of reserves are undeveloped, then much more capital is needed to extract the oil, which lowers returns to shareholders and increases the risk of dilution.
- Of the developed reserves, what percentage are producing and what percentage are non-producing? The higher percentage of reserves that are developed and producing, the less risk there is.

## Operations

- Does the Company operate most of their properties or are they a non-operating partner? A non-operating interest is worth significantly less given lack of control / minority rights issues.
- What is the Company's recycle ratio? Recycle ratio is profit per barrel (AKA netback) divided by cost per barrel (AKA F&D cost). If a Company sells oil for \$80 and it costs

them \$20 to extract and transport it, the recycle ratio is 3 (that is, \$60 in gross profit per barrel divided by \$20 in operating cost per barrel). The higher the recycle ratio, the better. 3 is amazing. 2 is really good. A recycle ratio under 2 can still provide adequate returns if the Company has a large contiguous land position. In general, I want to see a recycle ratio of >2 because a high recycle ratio allows a Company to get their capital back quickly and reinvest at high rates of return.

- What is the average payback period on a well? This is perhaps the single most important operating metric for unconventional oil companies, particularly for smaller companies. Why? Because access to the capital markets is never certain and a short payback period (= enterprise value, jump on them. Not only is your downside protected, but you'll acquire three significant call options: (1) prospective, undeveloped land, (2) greater future oil production, cash flow and per barrel profitability from better extraction technology, (3) direct exposure to progressively higher oil prices in the future.

**These three call options provide the upside in unconventional oil. And if you look hard enough, you can get them all for free.**