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## Take my well, please

Evan Lorenz writes:

Last week, natural-gas driller Arsenal Energy Holdings LLC filed its second Chapter 11 petition within the past nine months and Chesapeake Energy Corp., the very avatar of the fracking revolution, issued a going-concern warning in its 10-Q report. So acute is the distress that wells denoted "proved, developed and producing" are on the block for prices to yield unlevered internal rates of return of 15% to 20%.

To many an investor, oil and gas has come to resemble the cigarette business, only without the pricing power. To us, and a few doughty others, this particular segment of the oil and gas market, the "PDP opportunity," let's call it, looks more like value Disneyland.

For better or worse, it's an investment available only to so-called qualified investors, of whom you, by dint of your perusal of these exclusive pages, are probably one (if you invest in hedge funds or private-equity funds, you are certainly one). Anyway, read on, as we also deal with the prospects for energy prices—in preview, there may be hope for the upside.

It's no surprise that capital is giving the exploration and development business the widest possible berth. "The equity markets are fairly closed," David Zusman, the co-founder and managing partner of Talara Capital Management, an energy-focused private-equity company, tells me. "The IPO market is dead. The banks are pulling back on where and what they are going to lend against. The capital vacuum is impacting asset prices in the sector."

This is a particular problem for E&P

companies in the shale patch, as the decline rate for the first year of a horizontal well's production is around 75% of its initial output. In other words, to keep production flat, oil and gas companies must keep drilling, a costly obligation with prices as depressed as they are and with Wall Street turning a cold shoulder. For these reasons, among others, some producers are selling fiveto 10-year-old producing wells for what we take to be a song.

To understand the appeal of PDP investing, it helps to refamiliarize oneself with the concept of energy value. The Securities and Exchange Commission-approved standard is PV-10, a measure defined as cash flows after costs and taxes from proven reserves (as opposed to probable or possible ones) discounted at 10%. According to Zusman, distressed E&Ps are selling PDP wells at prices that offer those 15%–20% unlevered returns based on current futures prices for natural gas and oil. Hence the designations "PV-15" and "PV-20."

Investors who don't liken oil wells to cigarettes may compare them instead to shopping malls or coal mines or any other asset class whose days are thought to be numbered. Yet, Simon Property Group, Inc., the giant mall real-estate investment trust, delivers a dividend yield of 5.5%—not bad on a growing stream of income, but what's the future of mall-based retailing? Junk bonds, which may or may not exhibit through-the-cycle staying power, pay you only 5.8%.

"In my experience PV-15 is extremely cheap," Zev Abraham, the director of research at Capital Wealth Advisors and Fundamental Global Investors LLC, wrote in a Sept. 30 blog post. "In fact

I had never heard of values like that for proved reserves in my career. During most periods few, if any, publicly traded E&P companies trade below their PV-10 blow-down value." At the time he wrote, Abraham added, not a single such specimen existed among public companies with an equity capitalization of \$3 billion or more.

Up to a point, you can compare a well to a bond because, as Zusman observes, you can hedge the price of oil or gas out to five years. "Effectively," says our authority, "if you look at the five-year deferredoil price, it is in the low \$50s. You're buying that assumption out five years when you're buying one of these assets. Gas is at \$2.65 on the five-year deferred price. So you're buying that assumption. Your ultimate yield can vary based on the fiveyear deferred and outer-year commodity prices. But it will vary within a range. The hedging of the first five years is very important for protecting the current production, which is the bulk of the present value of the investment and secures the debt and creates a minimum yield and principal protection to a degree. If you look at where interest rates are today, near 2%, relative to risk, these assets are very attractive."

"You have a high degree of visibility about what amount of commodity you will get, and hedging markets are still wide open," Benjamin Banwart, a partner at Keewatin Asset Management LLC, tells me. "You can know, plus or minus 3%, how much commodity you will get each year for five years, and you can effectively hedge all of that and you get your equity paid back in that time. You can really hedge getting all your money back. You take some back-end

risk on commodity prices in the future, but that is your upside. Again, I think commodity-price risk is not so much a risk to your capital, it is a risk to your potential profits."

Of course, the bond analogy only goes so far. Oil and gas prices can and do oscillate. While you can hedge the first five to six years of future commodity risk, you can't hedge the costs of maintaining a well. Pumping equipment and pipes can fail. Experienced oil-field engineers don't work for free. And, when it can produce no more, a well must be plugged and laid to rest in the environmentally approved fashion.

Credit is not quite unavailable. The same bank that's trimming its lending lines to exploration companies may stand ready to lend against PDP wells. "We've talked with multiple lenders," Banwart says, "and the response from them is even though they are tightening their belts with the kind of business they are willing to do with the industry, their response is that this is very attractive because they only want to lend against PDP nowadays." He notes he could finance 50% to 70% of the price of a well at a rate of 200–300 basis points above Libor.

This is not a do-it-yourself opportunity any more than it is a neatly packaged, mutual-fund type of opportunity. Zusman speaks to some of the fine points:

"You obviously have to do your own work. You never just trust sellers' data. You hire a third-party engineer to look at the requirements on the assets. Most importantly, you have to look at the potential for plugging and abandonment liabilities. A lot of people who buy these assets underestimate the work or the capital involved in the longer-term plugging and abandonment." Such geological funeral arrangements can cost you an average of \$75,000 or \$80,000, he adds.

Talara is buying PDP wells for the limited partners in its latest buyout fund, although the manager has the flexibility to allow new L.P.'s to invest along existing L.P.'s for special situations. Banwart is in the process of buying its first collection of wells for the Keewatin Energy Income Opportunity fund, which is open to qualified individuals and institutional investors.

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Highly prolific shale wells, especially in the Permian basins in West Texas and New Mexico, have flooded the world with oil. Shale drillers, according to the third-quarter letter of Goehring & Rozencwajg Associates LLC, investors in natural resources, have achieved prodigious production in recent years by high-grading their efforts in tier-1 wells, i.e., by drilling only the most promising geological formations within a resource basin. The International Energy Agency expects more of the same, estimating that total U.S. liquids production will rise by 1.6 million barrels per day (mbpd) in 2019 from 15.5 mbpd in 2018; they're slated to increase by an additional 1.3 mbpd in 2020.

Unfortunately, write Goehring & Rozencwajg, oil companies are running out of tier-1 inventory to drill. The eponyms Leigh Goehring and Adam Rozencwajg note that U.S. liquid production expanded by only 300,000 bpd in the first half of 2019. In order to hit the IEA's 2019 production estimates, "U.S. liquids production would have to surge by one mbpd between June 30 and December 31, completely bucking the trend of the first half.... Never before has the global oil industry been so dependent on one field in such a concentrated geographic area for all of its future growth. What happens in the dozen counties that make up the Permian will make or break the global oil market over the next 10 years."

Oil-field service providers, for one, don't see any uptick in activity. "Customer spending has decreased and is largely concentrated in the first half of the year," Halliburton Co. CEO Jeff Miller told dialers-in on the company's Oct. 21 earnings call. "The U.S. land-rig count declined 11% from the second to the third quarter for the first time in 10 years. And, while historically the third quarter used to be the busiest in terms of hydraulic-fracturing activity in the U.S., stage counts declined every month this quarter. As a result, the market for both drilling and completion services in North America softened during the third quarter, impacting service-company activity, and Halliburton was no exception." In

consequence, Miller told listeners, Halliburton is stacking fracking-related equipment in warehouses.

As the Permian has driven U.S. oil production, so the Marcellus Shale in Pennsylvania and West Virginia has sparked the gas boom—in the case of natural gas, to the point of glut. But change is coming if precedent holds. On form, production rates in oil and gas fields decrease after half of the recoverable commodity has been extracted.

"We estimate the Marcellus has produced 37 tcf [trillion cubic feet] of gas to date, or 40% of the total recoverable reserves," according to Goehring & Rozencwajg. "This implies that the Marcellus can continue to grow until another 8 tcf of gas has been produced. At today's production levels this amounts to only another 12 months before the Marcellus has produced half of its ultimate recoverable reserves. . . . If this analysis is correct, then the largest bearish factor in today's natural-gas market (i.e. Marcellus production) may be nearing an end."

Few would be happier about resurgent prices for oil and natural gas than today's bargain-hunting investors in PDP wells. But, as usual, misery is the catalyst for the surfacing of deep value.

"You have a record number of people who are trying to divest assets now for ESG reasons," says Zusman. "You have lots of people in the energy sector who got killed when the commodity price went down in 2014-15 and never recovered and whose returns are terrible. It has been one of the worst-performing asset classes in most people's portfolio over the past seven years. This is an industry that is very cyclical in nature, and what I have seen over my 22-year career is that when people are running for the hills and there is a capital vacuum, that is when you actually want to put capital to work. And when everyone is chasing the thing when oil is \$100 a barrel, that is when you want to be running for the hills."

Like Zusman, our central bankers might be rooting for the Goehring & Rozencwajg energy-rebound scenario to come to fruition. It would go a long way toward generating the inflation that they so devoutly seem to wish for.

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