Art Berman Interview: U.S. production still set to decline…but so is demand

October 1st 2020

Erik: Joining me now is petroleum geologist Art Berman. Longtime Macro Voices listeners know it wouldn't be an Art Berman interview without an Art Berman slide deck, registered users will find the download link in your research roundup email. If you're not registered yet just go to our homepage at macrovoices.com, look for the red button that says looking for the downloads right next to Art's picture.

Art, last time we had you on in June, what you told us was the shale patch was going to get through the summer just fine because there was an inventory of drilled but uncompleted wells that could be completed brought online. Production could probably be held up was your prediction, and sure enough, that has very much played out.

You also told us that the vicious price rally that was still in play when we spoke in June, was about to top out you nailed that call perfectly it ended up within a week topping out. You said it was probably going to roll over and there would be a downside correction over the course of the summer. I guess that's pretty much played out, it hasn't been as deep of a correction as you and I both expected, but their correction has been there.

But what you told us art was put your seatbelt on for Q4 because you said with the rig count depressed, there's just no way that anything else could happen but US production eventually falling off a cliff probably in Q4. I assure you art It is no coincidence that we brought you back on the very first day of Q4 for an update on that prognosis. So do you still expect US production to fall off a cliff which of course would be bullish for prices in Q4? Or maybe we need to get worried about demand falling off a cliff to which would be bearish for prices?

Art: Well Eric, those are two very important questions, which of course, I don't know the answer but my data and my sense of history and experience says that the answer to both is probably yes. The demand picture is easier I suppose to talk about because we get weekly updates. And I can tell you right now that the demand recovery in the United States is absolutely stalled, it's been stalled since the beginning of August.

And looking at the critical numbers, which we'll discuss later, which are really diesel or distillate and kerosene jet fuel, those numbers continue to go down and are at a fraction like maybe 60% of what they ought to be right now. So demand definitely a problem, as far as the shale patch you can't produce oil if you don't drill wells. And we are currently at a rig count of 143, in the title oil horizontal plays, as of the end of August, we were at 613 in November of 2019.

We're at about a third of what we need to maintain the production that equates to 11 or so million barrels a day us, which is what EIA and everybody else forecasts throughout the year. And so the question really is how many deactivated wells are going to be reactivated and how do we fill in the gap?

I think you called them docks, that's fine, call them whatever you will. They're productive wells that are not currently producing that will keep us going for a while, I said fourth quarter, I never say specifically beginning or end of because I don't know. But my guess is it remains by the end of fourth quarter or certainly in the fourth quarter we ought to see production declines.

We've already seen them decline, so they will decline more, that's my story, and I'm sticking to it because that's what the data tells me. It's not a story that I I'm happy about, it's terrible for every aspect of the United States economy in particular, so I I'd love to be wrong.

Eric: Let's quantify these numbers a little bit more closely Art because when you say that by the end of Q4 US production should fall off perhaps dramatically, how dramatically? Are we talking about how big of a number is that in terms of millions of barrels per day of production? And is this something where the likely fall off in demand could maybe balance it out? Or is it a bigger production decline than we could ever expect to see demand offset?

Art: Right, well, certainly US demand is a little complicated because obviously the US is a big importer of oil and so there's a simple solution. I mean, the US currently imports something like 6 million barrels of crude oil a day, so it's not as if our demand is anywhere close to being met by our field production.

So that's the way it's been pretty much forever, certainly since 1970. So let's just say for instance, that demand doesn't fall any further than it has and production continues to fall as it has, as I expect that it will, then, it's not like there's an emergency or something. We just have to import more oil from Canada, which will make the Canadians very happy. And it won't cost us any more to buy the oil from Canada, or Saudi Arabia or someone else, then it does to buy from a producer in the Bakken or the Permian basin.

It will send money out of the country, which is not an ideal circumstance but you we were doing that year after year after year, up until about 2011 or 2012. And then the Great Recession the US economy was reasonably okay with all that going on. So bottom line, I fully expect globally, that demand will not recover anywhere close to levels that a lot of people think it will, it certainly won't recover as fast as many people think it will.

And that will be adequately balanced by a decrease in production, which, I mean markets are not perfect, but they're pretty damn efficient. So as long as the supply demand balance is in some sort of slight surplus or slight deficit, everything's fine, price stays where it is.

Erik: Okay, so now you're saying that even though we're going to be forced to import more oil because we're not going to produce it in the US, you're saying it's going to cost us the same as if we produced it locally? That seems like a pretty big change from our conversation in June. At that point, we were talking about this phenomenon of us production falling off a cliff creating a supply demand imbalance that would we've both thought push prices substantially higher.

It sounds like now you're saying, yeah, the production is definitely still going to fall off a cliff. But maybe between demand falling off, and other supplying countries making up for that deficit, probably the bullish price evidence that we thought was coming maybe isn't coming, or is it coming but just not yet. How do we pull this demand supply equation together and end up with a prognosis of where oil prices might be headed?

Art: Sure, well, let's go back. It was almost exactly three months ago I believe that we talked last, and three months ago I think I said that I was skeptical. Certainly skeptical about a V shaped recovery in in consumption and demand and I think you pretty much agreed with me on that. But let's face it, three months ago we didn't have any idea what that might look like. And now three months later, I think we have a very clear idea of what that looks like.

And what that looks like is demand is not recovering anywhere near as rapidly or as fully as might have been the case or certainly was a probabilistic case in my mind, three months ago. So that's changed, we have data that says that and most importantly, Eric, as I said in the beginning of this discussion, you can look at total petroleum consumption. And that's great, and I do, but as long as diesel is way down, that means that the economy is damaged, because it's diesel that we use to transport goods, diesel runs trains, diesel runs trucks, diesel runs ships, and if diesel consumption is down, that means people aren't placing orders.

Diesel price is relatively insensitive, in other words, if the price of oil goes to $100, and diesel price climbs up along with it, as long as people are placing orders, that's fine. You know, we'll just pass those extra costs along to the consumer when diesel consumption is low. That only means one thing and that's the economy is in trouble. So as long as the economy and of course, jet is a whole

other thing and we all expect I think we all expected jet consumption to be down because you know who the heck wants to get on an airplane even once there's a vaccine.
But jet fuel is something like 8 or 9% of global consumption, and then you start adding in how many people work in that industry and associated industries, travel business. And so that picture is kind of bleak, so, the demand side has changed. The other thing we didn't know three months ago, was how compliant OPEC+ was going to be on their agreement.

But remember, there's something like 7 to 10 million barrels per day that's being withheld from the market, and so US production can fall off a cliff and OPEC alone has plenty of spare capacity to fill that gap. So, I'm not changing the story, I don't think at all not, I mean believe me, I would gladly change the story if the data told me to. But what has changed?

Just to summarize, demand is going to be much lower and we see now that there is plenty of spare capacity to fill the gap. So that's the way I see things, will oil price ever get much higher? Sure, it will at some point. But in the near term of the rest of this year, and probably most, well certainly the first half if not all of next year, I would be very surprised to see oil breaks significantly out of the range boundaries that it's been in now for a couple of months.

Erik: Now, when we spoke in June you expected that at some point as demand did recover, it would set up a situation where demand recovers fairly quickly. It's when planes start flying and diesel starts getting consumed and so forth. Of course, the US shale industry would respond to that, and the rig count would come up but there's a delay of several months.

And you expected that there was a necessary price spike in oil coming, because at some point demand resumes, drilling resumes, but the completion of wells is lagged by several months. And that means there's an oil price spike, it sounds like you still expect that. But the expectation that we had that it might come as soon as Q4 is really pushed out to the second half of next year. Is that accurate?

Art: Well, it is and so when we talked last I showed a graph that is in this slide deck, I believe it's slide number 11, that shows the correlation between the tight oil rig count, which drives all of US production and the lagged tight oil production. And that lag is something on the order of 10 to 12 months depending on which play you're specifically talking about. So you know the number of wells drilled from a pad the length of the laterals, the depth to the objective, all that figures in to make it a little bit longer, a little bit shorter for different plays.

But since we had that conversation, I have done substantial research to convince myself that empirical fit is in fact legitimate because it seems like long time and 12 months is a huge lag. And so in the deck, looking at slide number 8, what I did here was I went into the database, this is for the Permian Basin, this is for wells drilled in 2019 and 2020. And just ask the question queried the

database, what is the time delay between beginning to drill a well, spotting a well, and first oil production? And the answer was about five to six months.
Okay, looking then at slide number 9, this is a sort of a familiar display by now, which just shows the decline rates. This is again the Permian Basin, the decline rates of the we call the vintage years, the wells that had first production in 2010 versus 11, verses 12, etc. And we all know they decline at rapid rates and those rates seem to increase through time.

But then I took that exact same data, and in slide 10, I deconstructed them to see exactly how each one of these vintage gears of production increases and decreases. And what I learned from this is that, okay, it takes five or six months between beginning a well in first production then this slide 10 shows that it takes about five or six more months before that production builds to a sufficient level to offset the decline of all the rest of the production.

So, in fact, something like 12 months is indeed legitimate if you add to that, that it takes about a month or two to get a rig once a price signal has told producers, okay, price is high enough. Yeah, we're talking at least a year here Eric, and so that's the problem.

The problem is that when the rig count is a third of what it needs to be we could have everybody in the world write oil companies a check tomorrow and every oil company get on the phone, and contract a rig tomorrow. And it would still be a year before there was enough production to make a difference.

Erik: Okay, now it's really coming together in my mind Art, I want to just summarize this and make sure that I've got it right. What I'm hearing you say, if we go back to our conversation in June, we were talking about at some point we're going to see a resumption of normal demand.

And when that happens with the rig counts so low it's a setup for a price spike to occur in oil and it sounds like we're still saying that's true, but it's not yet. And what we should look for as investors is, when we get to the point where it becomes clear that, okay, the economy is really restarting, we can expect demand to go back to normal or close to normal levels because all the planes are flying again, all the diesels being consumed.

Again, if we're still looking at rig counts of less than 300, then what it tells you is it's going to take the shale industry a year to catch up. And we know that it's not going to take a year for demand to pick back up once it starts picking back up that's the point where you really expect, okay, now is time to speculatively go long, and expect that big move up in price.

Once the rig count really recovers back to where it's supposed to be at 600 or 700 that's where you start to say, okay, the industry is about to catch up, maybe it's time to take profits on that long

trade. That whole story doesn't start until sometime next year, when we get back to normal demand expectations. Is that a good summary?

Art: That's a perfect summary Eric, and that of course is predicated on the notion that sometime next year, we do in fact, get back to that level. And I think that again, I certainly hope that is the case, it would be good for everybody's business, including mine, if there were more business. So you know, I'm sometimes accused of being pessimistic, and that's really not true, if the data tells me that it looks a certain way that's what I say.

But let's keep in mind something very important here, and that is that most of the recovery in oil consumption has been driven by gasoline. And that wasn't meant as a pun, we do drive with it and that's to be expected, because the greatest portion of every barrel of oil is refined into gasoline.

But back up a minute and say well, okay, so where are people getting the money to buy gasoline? And the answer is, they're getting money from in the United States from unemployment benefits from paycheck protection and all that is going away or has gone away. And it doesn't look to me like anything is going to happen from the US Congress until after this election.

And so all of a sudden, those people that were happily filling up their gas tanks and buying goods, let's face that consumer spending has recovered more quickly in this recession or depression than in any of the last five according to data I've looked at from Pew Research. But let's remember that a lot of that spending has been fueled by checks that come in the mail, and those have stopped, so that's the concern.

Erik: Well, I'm going to share my own entirely conjecture based prediction here. Which is, first of all, I think it's probably going to take longer than most people expect before this is over, before we get to the point where the stage is set for demand to really resume. When it starts, I predict it is going to be vicious, I think that when you get people that have been cooped up for 18 months, or two years, or however long it's been at that point, and you tell them that they're allowed to go out and enjoy their liberty again.

They're not going to look at the price of gasoline and say, hey, let's not take the trip. The first trip that we've ever been allowed to take in the last two years because gasoline is $5 a gallon, it's a little expensive. They're not even gonna think twice, they're gonna say, we're getting the hell out of dodge. We're gonna go enjoy our vacation and I think you'll see a very rapid increase in demand when the conditions permit that increase in demand to occur.

And there's just no way that the oil industry will be able to keep up with the pace that that demand increase occurs on. And that's where you see the big upward spike in oil prices. Sounds like it's probably the second half of next year at the earliest and if there's no vaccine, it could be five years.

But the longer we wait, my prediction is the bigger and more dramatic that spike in demand becomes.

Art: And I agree with you notionally, let's take a look at slide number 7. So, this is showing all of the various components of the refined products that come out of a barrel of oil. And so the big stack of columns, on the left of center is total product supplied, so you can think about that as total consumption of oil and what that tells you is that we're at about 55% recovery.

This is a week ago today, in fact, Wednesday's storage report, so on the one hand it kind of looks encouraging, on the other hand were only 55% from the low in April, or whatever that was, compared to the five year average. So, when we look at it, the kinds of stuff that gets published in the mainstream press, they're going to show you, well, gasoline or oil consumption is at 85% or 90% of normal, what that is, is 85% or 90% relative to the 5 year average.

But that's not what's important, what's important is how far we have come from the bottom and that's what I'm showing here. And that's a much more diagnostic number, okay, so your argument that I agree with, is that people are sick and tired of being at home, and they're going to get out and they're going to fill up their cars and they're going to drive. Well, this graph says they're already doing that, look at gasoline on the left, gasoline consumption has recovered 83% as of a week ago today.

So gasoline consumption is not almost where it needs to be, but it's way ahead of everything else. So they're already doing that to some extent, diesel have already explained why that's so important, economically it's only 60% recovered, go down the chart to kerosene jet over near the right it is 27%.

Now the demand response to making major purchases, I'm not talking about, ordering a new piece of electronics on Amazon, I'm talking about major equipment purchases, durable goods, that is not going to spring right back into action once everything is recovered. I mean, corporations are going to be very cautious about how quickly, they don't have the same pent up sort of anks that consumers do.

So, I agree with everything you said but let's be careful, because as a petroleum geologist, I'm telling you that gasoline is not the only measure. And it's the measure that has the least far to improve, we're at 83%, before the economy gets back to usual, we need to get diesel up from 60% and we need to get jet kerosene up from 27%.

Erik: I'm gonna go out on a limb here and disagree with you Art when you say it has the least far to go. It sounds like you're assuming from 83% that you've only got 17% to get as far as you can go. That's I assume 100% is previous before the crisis numbers, I think you're gonna see a boom in

travel and consumption, discretionary consumption of everything, when people get unlocked and let out of prison, so to speak. I don't think we go back to 100%, I think we go back to I don't know what the number is, but 100 and something percent.

Art: Well, 100% is again, the difference between the low and the 5 year average. So we might go above the five year average for a certain amount of time in a couple of months, maybe six months, whatever. But in the course of the year, the 5 year average is what it is and it's going to average out as things always do.

So, I'm going to disagree with you there Eric, I don't think that people start driving like crazy, I would be very surprised if people start traveling like crazy. I mean, there was a very good article, I think it was in the New York Times Sunday edition by Tomás Pueyo. This is the guy that wrote the hammer in the dance way back in March, which was by far the most accurate prognostication other than yours, of course, as to how COVID would affect things going forward.

Well, Tomás has written another article just a week or two ago, in which he explains that most of the resurgence of COVID, whether it be in US states or in countries around the world is because of travel and this article is titled something like "Build Fences". And so his point is that there is no way even with a vaccine, that we're going to get control of this virus until we are very tight on letting people move across state boundaries in their countries and international boundaries, meaning quarantine.

So, I want to agree with you but I think that discretionary travel will be limited by regulation and it will be limited by people being afraid to take the risk.

Erik: Art, let's switch to slide 3 in your deck now, which of course is the comparative inventory chart. Any new listeners that we may have who are not familiar with this concept of comparative inventory in Art's system for forecasting oil prices which has been incredibly accurate over the years. I encourage you to go to our homepage at macrovoices.com type Art Berman into the search page and look for some of Art's first interviews on Macro Voices where he describes and explains this comparative inventory system in detail, we're going to assume you understand the basics now.

Art, as we take a look at slide 3, I'm kind of curious, it seems like there's a trend here that the red curve, which was 2013, or I guess it was 2014 through June of 2017. That red curve really showed a lot of price sensitivity to inventory, you had a change in comparative inventory of just a few thousand barrels and boy, it could really do a number on prices. Then in the blue curve from July of 2017 to the end of 2018, on that blue curve it still was basically the same shape, but it was a lot less price sensitive to changes in inventory.

Now it seems that we're into a new yield curve so to speak, which is the green one, 2019 and 2020 that you have drawn in here. And it's showing even less price sensitivity to changes in comparative inventory. Why is that? What's going on here? And why is it that that price is no longer as sensitive to comparative inventory as it used to be?

Art: Well, it's a great question Eric. And so first of all, some people say, well, the fact that your yield curve, your curve fitting if you will, changes means that your method doesn't work well. Okay, that's really kind of ridiculous because the bond yield curves change. Yeah, of course they do, all these kinds of things change when the market reprice as a commodity, it's just that simple.

And so the red curve was originated in a time when oil prices were super high, they were over $100 a barrel for several years back in 2011 through 2014. And so, there was a lot of urgency and that's what that that steep curve says, it says the market perceives a lot of supply urgency. So, you know, Libya goes offline we lose a million barrels a day and price of oil goes way up.

Alright, so then we go to the blue curve, and this is after the price collapse in 2014 through 2016 and the world says, well, we don't feel quite the same sense of insecurity. And so, maybe something happens like galar refinery gets bombed by Iranians or whoever, and what happened to the price of oil? It went up about $5 for a couple of days and then went back down.

Oh my goodness, if that would have happened in 2013, the price of oil would have gone to $200. Everybody was saying, oh my god, we're losing the biggest oil fields in the world, the prices got to go to the ceiling. No, in April of 2019 when that happened the price of oil went from $60 to $65, no big deal because oil had been repriced and the market knew as lots of spare oil out there.

Well, once COVID came in and world demand dropped the market repriced oil again, they said, now we feel even less insecure about what interruptions and supply might mean. And that works both ways, so in other words, when that curve has a flat slope, as it does right now, then you can change comparative inventory by a whole lot and it doesn't change the price very much and that's exactly what we're seeing.

Erik: I'm going to go back to my prior prediction, I'm very curious if you'd agree with me, and admittedly, this is this is all speculation at this point. But I think that when you get to the point, and clearly it's not now it's sometime next year or later than next year. When you get to the point where you fully reopen the economy, let's say there is an effective vaccine, you can go back to everybody can fly as much as they want to, and so forth.

I think we go back to a slope, probably close to where the red curve slope was and the reason I say that is right now, let's face it, if you have a deficit of supply in Cushing, Oklahoma, which would normally worry people about upside in oil prices. Look, everybody knows that OPEC+ has plenty

of spare capacity, they've been fighting with each other about who's in compliance and who's not in compliance with the cuts they've agreed to.

We all know that they could turn up the volume if they wanted to, if we get to a situation where you've still got a very low rig count and all of the sudden demand is increasing exponentially and there's that 11 to 12 month lag time for US shale to catch up with demand. That's where I think you get back to that urgency and everybody's saying, boy, if Cushing draws down, we don't know where we're going to get more oil to replace it, we got a problem, Houston. That to me, suggests that we're headed back towards a much steeper slope when everything is fully reopened, not just partially reopened. Would you agree with that?

Art: So Eric, I agree with you notionally, everything you said is perfectly logical. And the question where I have some reservation is whether or not we can, not whether we want to, whether we can get back to full oil consumption. And I say that because we are, I believe, near the end of a 50 or 60 year debt cycle.

And for those of you that don't believe me because I'm not an economist go read what Ray Dalio has for free on the changing world order on the internet and he talks about this at considerable length and with far more authority than I have. But the point is that the debt productivity has gone to very low levels, and the level of debt is so high that we're at a point where we just can't do much more to boost the economy by creating by creating money.

So, looking at slide 13, this is a slide that is US admittedly, some people will chafe at that, but that's where the data is and what this shows is really two things. It shows credit growth, or negative growth and it also shows something which is called the credit impulse, and the credit impulse is just the change in flow of credit compared to economic activity, or GDP.

And what we see in this graph, and it goes clear back to the 1960s, this covers the whole debt cycle, that is the big spike, the blue spike that's on the right, right underneath the text 2020. That was the positive credit impulse that has resulted from all the US government spending since COVID and that's the highest level of both credit impulse and credit growth in certainly decades.

And now look what's happened in the second quarter, we've now gone to negative credit growth, one of the deepest negatives ever if not the deepest, and we've gone to a very low level of credit impulse. And so what's happening with this chart tells me is that it's credit that runs the real economy. And what we can anticipate, at least in coming quarters, is there gonna be a whole lot less credit available because there already is to get the economy back to where it needs to be.

So this can change and hopefully it does, but this is the data we have and the data tells me that an economic recovery and an oil consumption recovery is not in the near term cards and you may be right. You know that out there in 2021, all of this goes away but I'm a little skeptical.

Erik: Art, I just want to compare the sentiment that you're expressing now because it seemed to me in June like you were really kind of saying, hey, not yet but once we get to Q4, you know prices are going straight up, baby. And now you're saying I'm not sure we're gonna get back to that full oil utilization.

Now, I understand the logic of what you're saying, but how do I reconcile that with what I see in the EIA weekly data reports? Because, frankly, for a while there were a lot of bills and everything. Now we're seeing consistent draw downs on inventory, basically bullish signals, not super urgently bullish.

But it seems like a trend is developing in the data that looks like it's a resumption of a bullish trend, which might take a while to play out, but it looks pretty bullish. On the other hand, you went from what felt to me, more bullish in June than you are now, what's going on? Is the comparative inventory model not accurately forecasting, the same things that the EIA models are forecasting or what?

Art: Another good question, Eric. So, first of all, yeah, we've had like two months of comparative inventory and crude oil and everything else withdrawals, meaningful draw down by any measure you want, for every week.

This past week, the report that came out today was about half the average, but you know, the week before was one of the largest reductions, so all that's very positive. But what what's driving that? Okay, we've already discussed that consumption isn't driving that.

And when I say consumption I mean domestic US consumption, which is a little different than demand because demand includes exports. And so what I would argue here is a couple of things are going on that if you look at, let's say, slide number 4, slide number 4 shows US crude imports, imports in red, exports in black and net imports in the orange bars. And what you see is that net imports of crude oil have been decreasing consistently pretty much since the middle of June since the last time we talked.

Okay, so that means that we're importing less and exporting somewhat more, so this is driving the crude oil draw downs. If we look at the next slide, which is 5, it's the same kind of slide except with refined product exports, imports and nets. And so again, it's mixed from week to week but overall, petroleum product exports have come back pretty strong.

So, this is what is principally driving the draw downs of crude oil and refined products is that we're sending it overseas, either to places whose demand is stronger than ours or, and this is key to China. And I think what has changed in my thinking, it was in my thinking the last time we talked, but China has formed, call it a Buyers Club. It's like Costco, it's like Walmart, and what China has done, China has driven the crude oil recovery by buying tons of everybody's oil at very cheap prices and that is what drove prices back from the hubs of hell, back up to $40 a barrel.

It was largely the impulse of China buying well, China turns around and it dumps products on the world. And China's not alone in doing this, they've got their friends and neighbors. And so what's what's happening is this sort of colossal battle setting up between the world's producers, OPEC+ if you will, who have tried their best to dictate price to the market in one way or another now for 40 or 50 years.

And the consumers of the world the have nots, who are mostly in in Asia, who are saying, wait a minute, guys, we're the customers here, you don't care about us and so we're going to control the price of oil by our flow with our cash of buying crude and exporting products. And so we had a very nice rally that got us up to WTI of something like $43 or $44, and for no particular reason, it just went away. And we went down below 40 for at least no particular reason I could see other than sentiment, what was that sentiment about?

That sentiment was about, oh my gosh, demand isn't recovering as quickly as possible. What was the root of that sentiment? China's not buying oil at the same rate they used to. So, I think it's speculative right now to say that China and its friends have effectively checked OPEC+, not that OPEC+ was hugely successful to begin with. But I think there's a force out there to be considered that is equally potent in controlling oil price, price gets too high, they just stop buying crude and it goes back down.

Erik: Art, I can't thank you enough for another terrific interview. Before I let you go though I want to just remind our listeners if you're not already subscribed to all of the terrific free content at artberman.com, if you want to see slides like these much more frequently, that's the place to get it, there's also a blog there.

But Art you've also expanded your services, when I first met you, you really only did consulting for producing oil companies, you help people drill oil wells, and so forth. You weren't really offering services directly to investors and that's changed in the last few years. Tell us a little bit more about your product offerings.

Art: Sure, Eric. So I have a weekly offering, it's called oil comparative inventory and storage report. Every week I tell my subscribers what I'm telling you right now only in much more detail and specific to this week's report that's available for about 50 bucks a month if you buy it on an

annual basis. I do the same for natural gas again, once a week, same price and then for those that are a little bit more casual in their interest in investing in oil.

I've got a newsletter and rig count subscription, which is about 200 bucks a year that tells you every week the details of how the rig count is being distributed across the shale plays and other plays and a monthly letter that summarizes my sense of where the oil markets going. So those are all available, but you're right everything else is completely free. You got to sign in got to give me your login and password, but it's absolutely free.

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