

# News of the Month - May

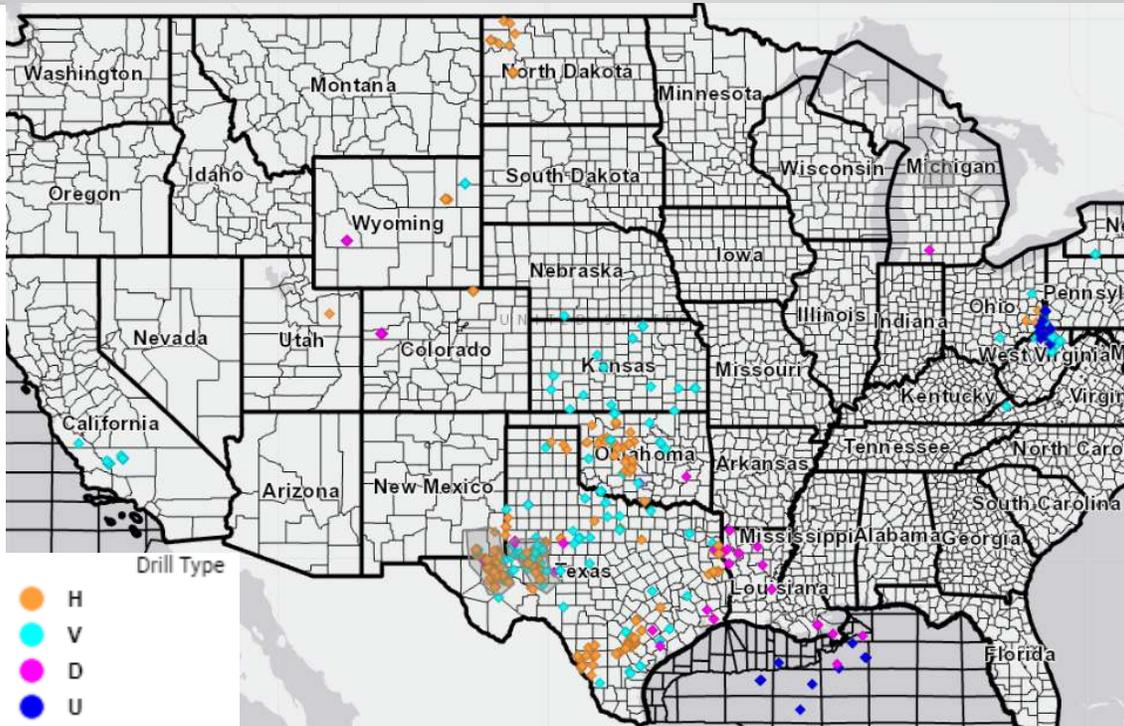
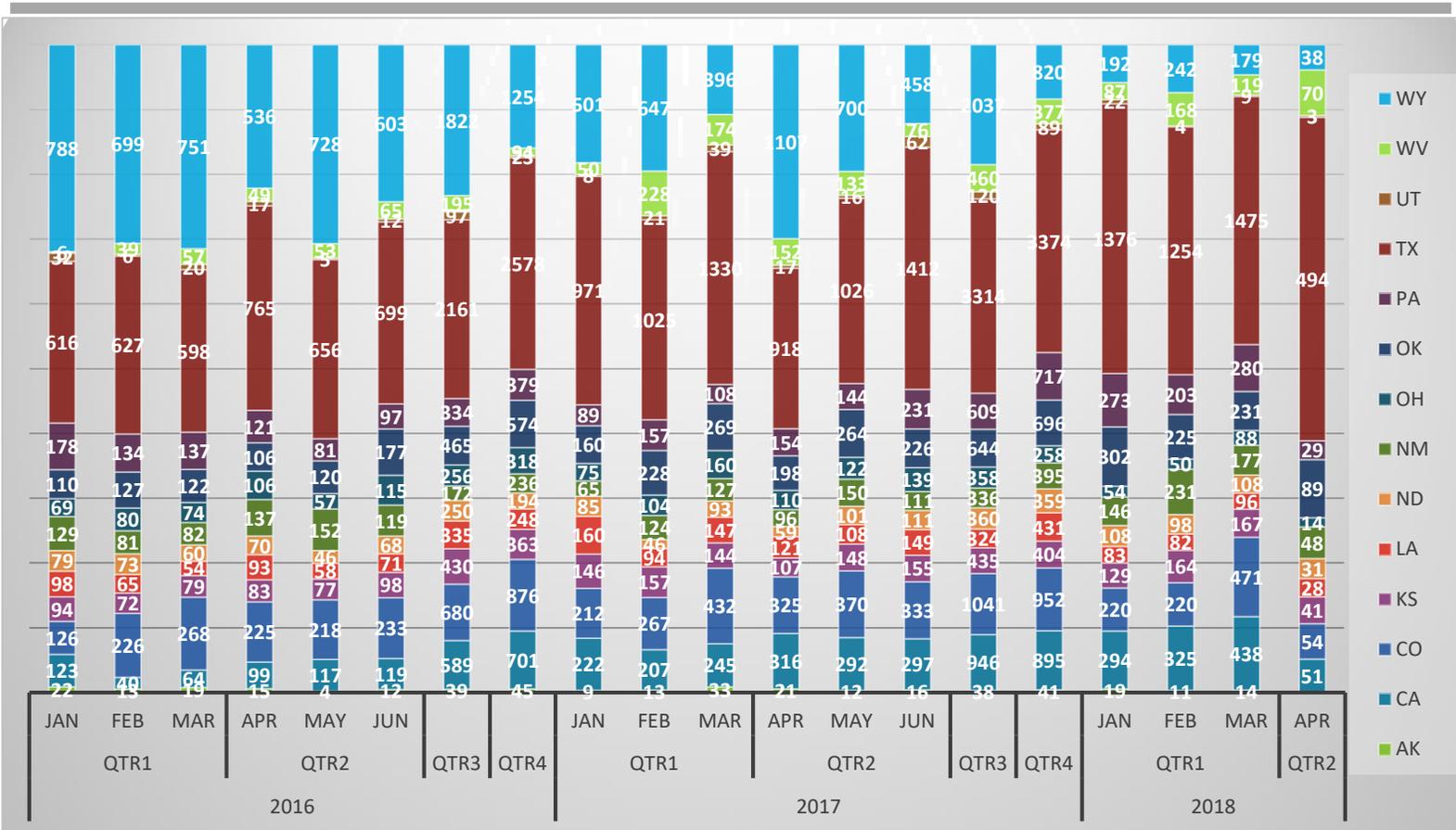
May 10 2018

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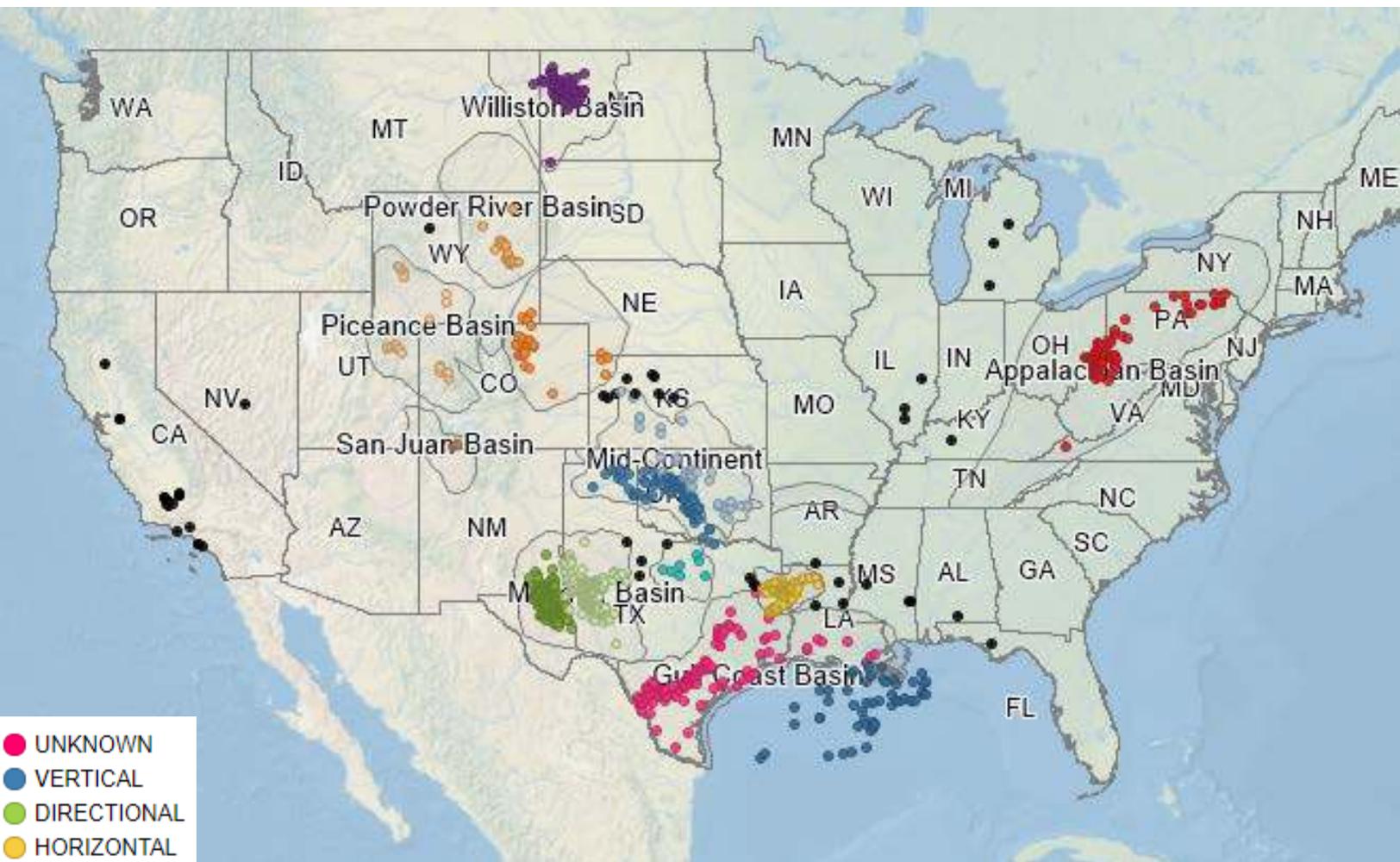
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# Permit Tracker



# Rig Tracker

- Rig movements over the last week have remained consistent across all basins. There has been an increase in vertical rigs in the MidCon and Permian. The Rockies have seen a increase in rigs over the last year as the Powder and Bakken have had new life breathed into them with commodity prices and application of newer techniques. The App basin has seen a surge in activity in conventional plays.



# Comment Corner

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As I was giving a talk this past week at an SPE event, the question was asked “what are the biggest bottle necks you see affecting productivity and production in the US.” All I could think was, “what a loaded question,” as there are many viewpoints to answer that question. Let’s look at a few here today.

Lets start downhole and work our way up. One of the larger issues I see forming is the mentality of \$100 oil. When oil prices were high you could drill a half decent well and have good returns, it led to a lot of growth but also a lot of issues in the life of the asset. Discussing the problems with larger companies, the rise of PE backed companies has led to the race of the largest and best well. Companies are focusing on single well returns in order to pump up the value of the asset in order to sell. Once a larger company takes over the asset they will generally have to re-work the field plans as they are looking 30+ years down the road. This can lead to lower productivity gains, longer drilling times, etc. If we think of the issues that can occur over the life of the well based on its initial design: tortuosity not allowing for certain tools downhole, porpoising creating liquid loading, wrong proppant leading to crushing or flowback of solids over time, various skin factors from completion and production design, landing of well in strat column versus the zones you want to drill later, parent child relations, etc.

Many things that occur on the surface also affect downhole results. Think of trucking, water disposal, sand mines, personnel, etc. All of these categories are broken up into two sub-categories which is the technical aspect and the human aspect. Lets take a look at the technical aspect first. Trucking is the main source of transportation for much of the industry, from chemicals to water. DrillingInfo took a look just at oil hauling in the Permian and determined that there are over 1,000 trucks daily just in District 8 that are hauling crude from the tank to another location. That is not including the number of trucks that are out there transporting other materials. All of these trucks are traveling the same route which will stress the local road systems. Counties have already been seeing the issues with road repair due to the industry. The worst thing we can do is make the citizens of an area upset with us and one of the most annoying thing for anyone is driving on a road with potholes and ruts. In areas where it rains a lot it is also a hazard as it will increase hydroplaning. Water disposal and in general water generation for wells has been a hot topic in the parts of the US that are generally dry. Water recycling has helped reduce our impact on local aquifers but more work will have to be done to ensure that we are using the resources responsibly. We are starting to see more closed loop water recycling between pads, as we move into development mode in these basins where we move from one pad to another, moving water via pipe next door will be easier. Interbasin sand mines have been one of the top efficiencies we have seen in the past few quarters. As railways are constrained by weather and the shear volume of rail cars needed to sustain the industry (with finite railway and competing space with other consumer goods) they have allowed for the reduction of cost and volume of northern white. Now, some parts of the basin will continue to use northern white due to depth but the fineness of the interbasin sand on shallow wells or for the first chunk of proppant being used to get into microfractures will continue to grow. Sand in itself is dirty so new technologies in sand transportation and storage for EPA requirements and general safety will also grow. This will put some additional constraint on roadways though due to traveling from mine to location.

# Comment Corner

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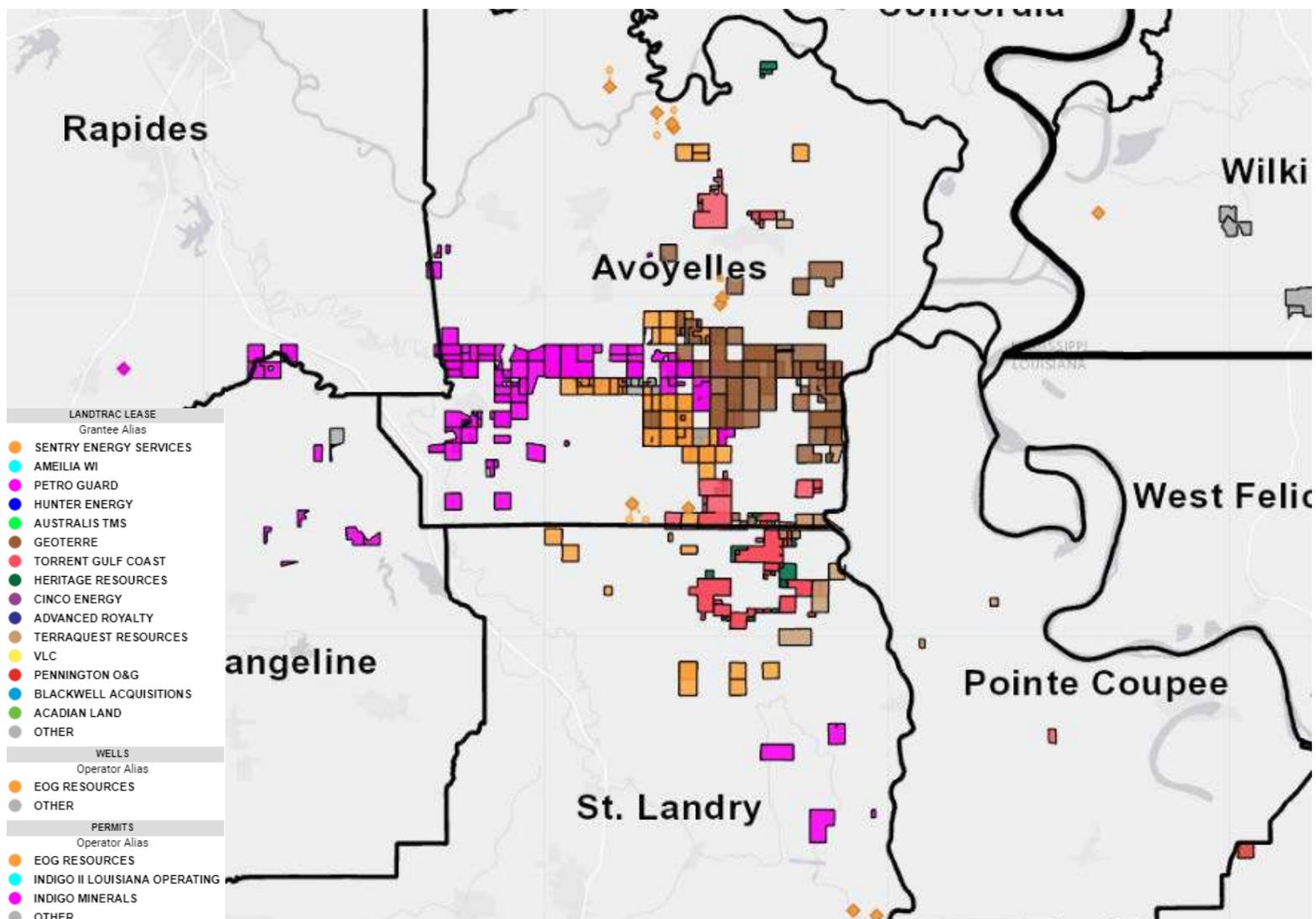
The second part of the equation is personnel. Now, I have read the articles on this being a “millennial” issue on why we have personnel shortages but is this really so different than the current employment gap we have in the industry that came about in the 80’s? When I worked in Appalachia the hardest thing for us was to get enough people to pass a drug test! We had plenty of applicants but due to the drug epidemic in the region we couldn’t find anyone who could pass it. This is a continuing issue around the US as drug laws are changing state by state but enforcement standards for truck driving, heavy machinery, etc. has not. As we continue to grow the industry in this “manufacturing” setting the need for these workers will continue to grow. The need for skilled trade craft as well, which is at an all time low, is also going to bottle neck us. I was not blessed with skilled labor abilities but the equipment we use whether it be a mechanic, welder, machinist, will also continue to grow. We push college as a country as the one thing that is required for a job but forget that the plumber we call to our house generally makes more than all of us. Not saying that college isn’t important but bringing to light the fact that we need electricity, supplies, trucking, etc. in order to survive as an industry. Some of these issues we can affect directly, with a push for the need of these workers, on the other end we can indirectly (or directly) impact the drug epidemic in the states where it is becoming an issue. As an industry, I believe, we are the single largest source of wealth creation for our country. Over the last 100+ years we have allowed the US to become the wealthiest nation in the world through our works and continue to be the most innovative industry, that has reinvented itself through multiple downturns to only come out stronger. We have given the Country the ability to change our foreign policy dynamic as we have allowed for the reduction of dependence on foreign oil. There is no reason why we, as an industry, will not continue to make life in the US better for all through our work and decisions. Most “oil” companies have shifted to “energy” companies, which again through innovation is driving new technologies to help supply energy to ourselves and the World. For all the negativity that is thrown our way, many forget the dependence they have on us. For all the protests, mean eyed looks we get I say.....**Stay Calm and Frac On!**

- Phillip Dunning  
Manager, Consulting Services



# Acquisitions and Divestitures

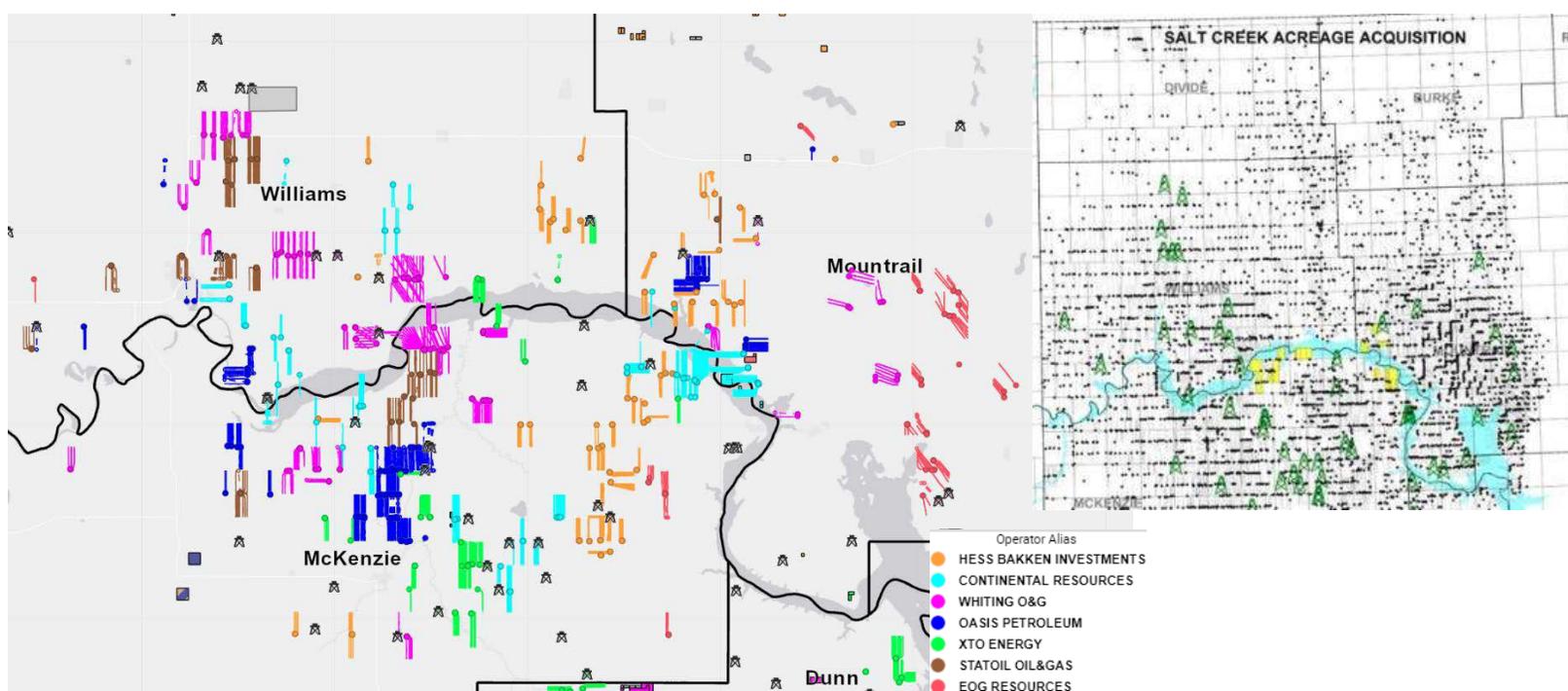
- **Marathon** has entered the Austin Chalk play of SE Louisiana, picking up over 250,000 net acres. The position was picked up for under \$1,000 an acre. This announcement is on the heels of ConocoPhillips announcement earlier this year that they had also entered the play. The play was largely under the radar until EOG reported some phenomenal well results. The problem with the play is that it looks fragmented and is a conventional style play. Seismic will need to be shot and that could reduce the drillable acreage to a much smaller foot print. None the less, this is following a trend that DrillingInfo has eluded to over the past year which is that as companies feel pricing is too high to enter “hot” basins they will go back to conventional plays and apply techniques learned over time.



<https://www.oilandgasinvestor.com/marathon-acquires-louisiana-austin-chalk-position-premium-1700301>

# Acquisitions and Divestitures

- **Northern Oil & Gas**, a non-op public entity in the bakken has acquired additional assets and acreage in the core of the Bakken. They acquired Salt Creek (a subsidiary of Deutsche Rohstoff AG) for \$40mm cash. The acquisition will add 1,319 net acres that are HBP in which they have a 86% NRI. There are an additional 85 gross wells that are on production or in some stage of being TIL'd with an upside of an additional 137 gross locations. Non-op companies have had some of the best returns as prices return due to their ability to acquire assets for very low multiples. There are many reasons for this but one of the main ones is that most non-op participants are either land owners, small family offices, etc. who took a wash in the downturn. Many people turned away from these investments due to the risk of being an actual WI partner, this paved the way for companies such as Northern who had a balance sheet that could weather the downturn. We expect to see continued activity in the non-op space (to include minerals and royalties) as investors, particularly PE enter the space.



# International

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- **Chevron** evacuates staff in Venezuela after staff arrests. Two workers were arrested over a contract dispute with PDVSA. Venezuela has a history of taking things to the extreme with contracts and especially anything relating to the oil industry as it is the backbone of their failing economy. Many remember Exxon Mobil's debacle in 2007 when then President Hugo Chavez expropriated their assets after failed contract talks. Similar issues have arisen with **ConocoPhillips** where they have won a \$2bb arbitration award in which they are attempting to seize PDVSA's assets and refinery in Curacao. Since the refinery is outside of the Country they have a better shot at it actually occurring. Along with a string of other events, to include Canadian mining company Rusoro is seeking additional damages on the country, that are putting continuous pressure on the country this will hopefully put the countries leaders on their heels. Venezuela is being squeezed from multiple directions, with failing infrastructure not allowing for export expansion, a failing economy, a humanitarian crisis of its own people it is only a matter of time before something breaks.

- **Canadian** refineries have had the opposite issues of US counterparts. Their refineries are tailored towards light crude while US counterparts are tailored towards heavier crudes. The irony is that the growth of production in Canada is heavy crude from the oil sands, while the US growth in production is light crude from unconventional. Strange how that works out. Canadian production has always had a bad rap for not having anywhere to go as midstream assets are outdated and most of the plays are in the middle of nowhere which makes transportation outrageous. Even with these issues there have been plenty of deals in the great white north over the past year, both state side and international. The resources are there but similar to the US the midstream and downstream components need to catch up in order to sustain growth. The other benefit that Canada has right now is with Venezuela imploding it is forcing the US to grab heavier crude from other places; how is that for a win-win.

<https://www.oilandgasinvestor.com/chevron-evacuates-venezuela-executives-following-staff-arrests-1697941#p=full>  
<https://www.oilandgasinvestor.com/northern-exposure-gulf-coast-canadian-heavy-crude-flows-south-1697266#p=full>

# US – Other News

- **Seneca Resources** has stated that it is using over 75% recycled water in their wells. As Operators become more efficient in their processes we begin to see more innovative ways to lower environmental impact which affects public opinion as well as costs. There is a large upfront investment in recycling water but the benefit is not having to go through the public forum or environmental issues that ensue from pulling from public sources. Much like disposal wells, Seneca has left some room for 3<sup>rd</sup> party recycling while they increase the amount of fluids they themselves pump into the system. By investing in the plant they have avoided an estimated 70,000 water truck trips. This makes a large impact on roads, emissions, and traffic. From the local counties perspective this shows how the industry understands the constraints we put on local roads and are willing to adapt. Back when the Utica/Marcellus was newer and everyone was drilling as many wells as possible up those windy roads there was a lot of concern over public safety and the sustainability to continue the way we were. Similar issues are now coming alive in the Permian, we are starting to see similar facilities coming online. This opens up an entirely new section of investment and opportunities for investors, the age of water handling, transportation, cleaning, etc.
- **Midstream** constraints in the NE might get a little better as Mariner has been cleared to continue. There are still some concerns over the sinkholes that have been created by the party constructing the pipeline. This has been one of the many holdups for multiple pipelines trying to get online in the NE in the past couple months. As prices have risen and investors are putting money to work in these basins the lack of additional capacity will have adverse affects on the basin. Hopefully the rest of the pipelines that have been halted for environmental issues will get back on track as well.
- **Electrical** constraints are one that are rarely talked about but are a real possibility in rural plays. In any play that requires pumps for wells, compressors for midstream, etc. there is an inherent need for electricity. For rural communities they are simply not build to handle that increase in load on the local infrastructure. Like all infrastructure projects there is a long time lag between realizing the problem and getting it solved due to the shear mass of the projects. With the boom in the Permian, along with the thousands of conventional wells that are back pumping with higher prices, the grid has the possibility of not being able to handle the shear need for power. We have seen many companies use solar to try to reduce their exposure to the increased costs of electricity but they can only run during the day when it is hot which can be taxing on equipment. As we think of constraints in the market we need to remember the external factors that can stop us in our tracks.

[http://www.bradfordera.com/news/seneca-resources-using-percent-recycled-water-in-shale-wells/article\\_ba4c461e-4501-11e8-a227-c34f1462ae39.html](http://www.bradfordera.com/news/seneca-resources-using-percent-recycled-water-in-shale-wells/article_ba4c461e-4501-11e8-a227-c34f1462ae39.html)

<https://www.oilandgasinvestor.com/etp-hopes-pennsylvania-will-allow-mariner-east-restart-week-1699161>

<https://oilprice.com/Latest-Energy-News/World-News/Permian-Oil-Boom-Threatens-To-Overtax-Electrical-Grid.html>

# US – Other News

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- **Canyon Creek** forms JV to accelerate their drilling program in the Arkoma. One of the conventional basins we have seen having a resurgence of activity like the Granite Wash (with Tecolote's newest well results). Pivotal Petroleum Partners II will be funding the development of the 100,000 gross acres. The benefit of these older basins is low initial investment in land costs, almost everything is HBP'd, infrastructure is in place, lower royalty rates, and due to shallowness lower well costs.
- **Jerry Jones** is at it again with Comstock. After agreeing to fund the company and JV'ing on acreage they are acquiring the properties for \$260mm. This is big news for Comstock which was hammered during the downturn. For Jones this will be another investment in the Bakken, and will definitely be another success for him within the basin. This acquisition is following the trends DrillingInfo has been mentioning on an increase in activity in older shale plays as the cost of entrance is low and the returns have gotten substantially better.
- **Samson Resources** trades noncore powder acreage for bolt on acreage. The deal only consists of around 7,000 net acres with some overrides in Converse county but will help them have a more contiguous position in Johnson county. Samson, after having a rough few years has emerged with one of the best positions in the Powder which has been on fire as of late with multiple deals, well results, and investments being announced.

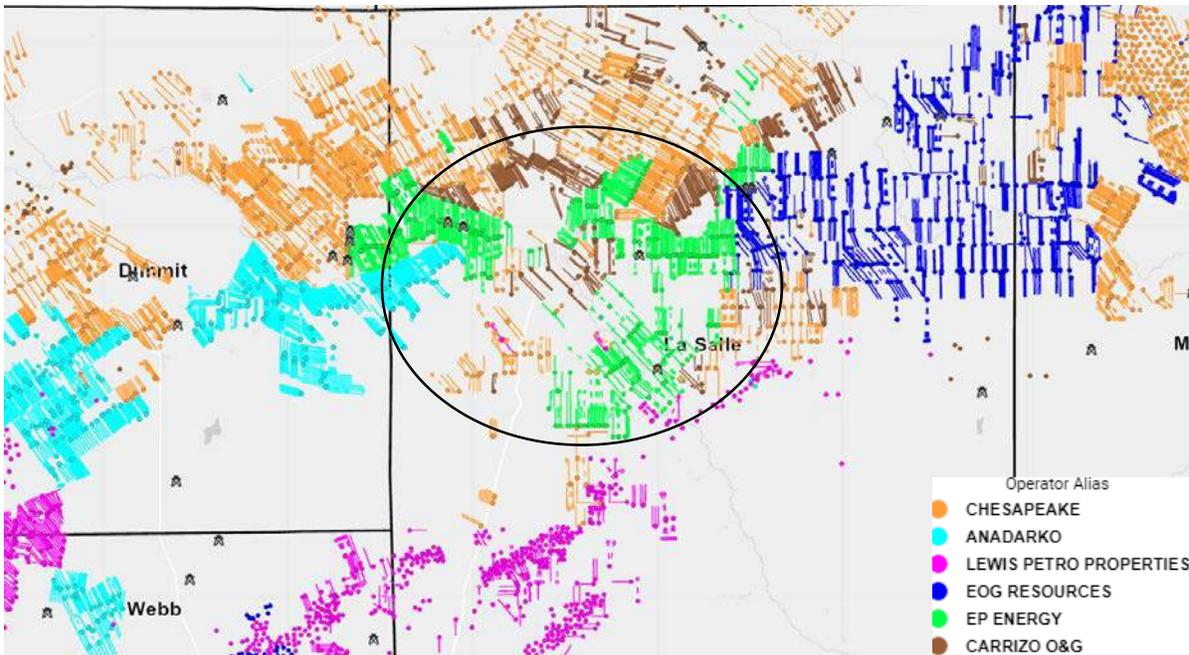
<https://www.oilandgasinvestor.com/canyon-creek-iv-arkoma-stack-drilling-1697306>

<https://www.oilandgasinvestor.com/comstock-resources-teams-jerry-jones-north-dakota-properties-announces-refinancing-plans-1698186#p=full>

<https://www.oilandgasinvestor.com/samson-resources-trades-powder-river-basin-1700541#p=full>

# US – Other News

- **EP Energy** announced a change in their JV with Apollo. Originally the JV was for wolfcamp development wells in the Permian but has been changed to allow for the development of Eagleford acreage. Apollo is investing up to \$225mm by funding 60% of the D&C costs. As prices have rebounded and acreage is HBP'd in the Permian we have seen Operators beginning to shift resources to other assets which may be back in the money or having better returns.



- **Converse county WY** has shed more light on a project that spans over 1.5mm acres across 5 Operators. The project is expected to bring in over \$28bb in revenue from over 5,000 wells. The state is looking at this as one of the largest job creation projects in the states history with over 8,000 jobs being created over the next 10 years. For the counties around the Powder the question will be which ones have the ability to service all of these workers who will need food, clothing, and housing on top of things like basic services. WY has had booms and busts like Texas but the recent activity has residents and the state excited about what is to come. We will hopefully continue to get more information on the Operators involved and their capital plans to justify the reports.

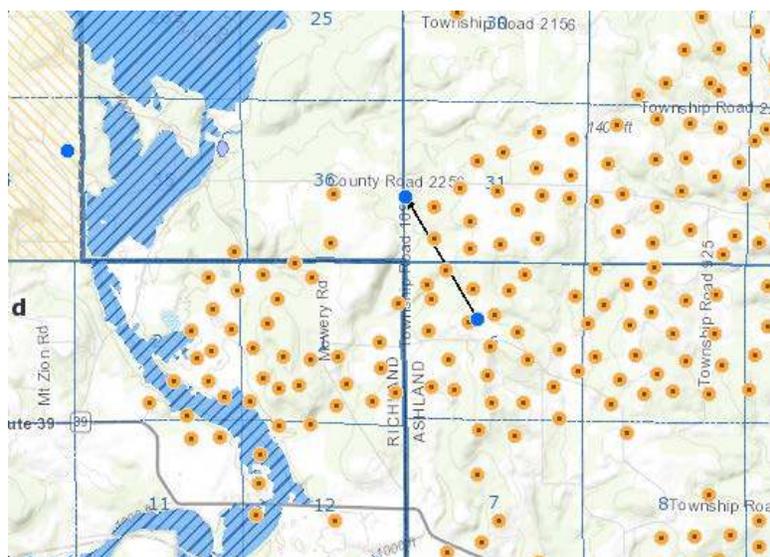
<https://www.oilandgasinvestor.com/ep-energy-modifies-permian-jv-focus-eagle-ford-instead-1700306>

[http://trib.com/business/energy/converse-county-oil-and-gas-project-likely-to-have-biggest/article\\_c5afdb65-30f3-580d-a52d-4a052cab29b3.html](http://trib.com/business/energy/converse-county-oil-and-gas-project-likely-to-have-biggest/article_c5afdb65-30f3-580d-a52d-4a052cab29b3.html)

# US – Other News

- **Cabot** will frac their permitted well in Ashland county even as pressure mounts for those that oppose the activity. What is interesting about the permit is that they are not targeting the Utica/Marcellus , Devon energy attempted to drill economic wells in the county many years ago with poor results. Cabot’s permit has them targeting the Knox group which is a common conventional formation in the state. Many vertical wells have produced over 200,000bbls from the formation which can have depth ranging from 2,000-5,000’+ depending on where you are in the state. This will be the first attempt to drill a horizontal well in the formation but one of many wells in the state that are targeting conventional formations. Enervest and Marksmen Energy have both drilled horizontal Clinton wells in the Southern part of the state.

TYPE OF TOOLS:	Air Rotary/Fluid Rotary	GEOLOGICAL FORMATION(S):	KNOX
PROPOSED TOTAL DEPTH	9972 FEET		
GROUND LEVEL ELEVATION	1343 FEET		



[http://www.richlandsource.com/ashland\\_source/fracking-plans-moving-forward-in-ashland-county/article\\_3b558f3a-43e6-11e8-9e1b-cbfd49a7e028.html](http://www.richlandsource.com/ashland_source/fracking-plans-moving-forward-in-ashland-county/article_3b558f3a-43e6-11e8-9e1b-cbfd49a7e028.html)

A photograph of several oil pumpjacks (jack-o'-lanterns) against a blue sky with scattered white clouds. The pumpjacks are silhouetted against the sky, with their long walking beams and counterweights visible. The counterweights have a distinctive orange and black triangular pattern. A solid green horizontal bar is positioned at the top of the image.

# Contact

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