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Volume 28, No. 05

Big Oil positioned to compete in Permian Basin

The road to profitability goes through West Texas, and US independents aren't the only ones who know it. ExxonMobil, Chevron and Shell are spending a combined \$10 billion drilling the Permian Basin this year—up from minimal investment only a few years ago as shorter-cycle projects have become more **E**xonMobil attractive in a volatile price environment. The supermajors

may have been late to shale, but they're now unlocking its value with their own technical precision.

Exxon, Chevron, Shell combine to spend \$10 billion this year.

Last month's issue of PetroScout detailed Exxon's plans, which include integrating a newly acquired New Mexico position that took its Permian resource base to 6.0 Bboe (75% liquids) and potentially running 15 rigs. Chevron plans to ramp to 20 operated rigs by YE18 as it considers the basin to be one of three anchors in its upstream portfolioand one that is early in its production life with 9.3 Bboe of unrisked resource potential.

Chevron CEO John Watson said recently that another 10 rigs are possible after 2018 to potentially reach 700,000 boe/d within the next 10 years. > Continues On Pg 4

Strong oil flow propels Newfield well to top of industry

Newfield Exploration reported an industry-leading STACK well. In Kingfisher County, Oklahoma, the Burgess 1H-18 recorded a 24-hour flow rate of 2,931 boe/d



(69% oil) and 20-day rate of 2,492 boe/d (70% oil). This well set records for average oil rate per 1,000 ft of gross perforated interval (GPI)—417 bo for 24 hours and 361 bo for 20 days, according to

public industry data across the STACK/ SCOOP. Burgess sports a 4,859-ft lateral.

Well flows over 400 bo per 1,000 ft in first 24 hours.

The Burgess well is part of a group of 16 wells that were completed using enhanced designs. Five of these wells have logged 90 days of production history, averaging 1,215 boe/d (65% oil). This is more than 40% above Newfield's 1.1 MMboe type curve when normalized to 10,000-ft lateral. The completion design utilizes 2,100 lb of proppant and 2,100 gallons of fluid per foot.

Newfield now projects that its 1Q17 production guidance will average 137,700 boe/d, which is 3,500 bo/d over its original forecast, because of outperformance.

RSP steadily increases YOY improvement in productivity

RSP Permian is seeing increasingly better productivity from its Midland Basin wells as a result of enhanced completions. The company has increased its type curves to reflect this performance. RSP's 2017 drilling program has an average type curve of 205,000 boe for one-year cumulative production with 8,500-ft laterals, up from ~180,000 boe in 2016 with 7,100-ft laterals. Comparatively, 2016's wells were 13% better than the

2014/2015 programs despite averaging a shorter lateral. Early performance of the

Raising type curves: Up to 35% EUR increase in Glasscock County.

most recent wells have supported changes to IP and decline parameters. RSP raised 45 type curves across its acreage position in the sub-basin, prepared by third-party firm Netherland Sewell & Associates. Increases are compared with prior-year levels. First- and second-year cumulative production was raised anywhere from 0-60%, and EURs were raised up to 35%. The type curves with the most dramatic increases were Wolfcamp A and B in Glasscock County, Texas, which were up ~60% for cumulative production and ~35% for EUR.

The Spanish Trail 10,000-ft Wolfcamp B type curve followed—up 30-40% for cumulative production and ~11% for EUR. Continues On Pg 17

EOG boosts activity YOY on premium locations drillout

EOG will invest \$3.7-4.1 billion in a 2017 program that is expected to grow oil volumes by 18% at midpoint, assuming \$50 oil. The company will average 23 rigs and complete 480 net wells, up from 445 net wells in 2016, with activity focused on the Delaware Basin, Rockies, Eagle Ford and Bakken. The shift to premium

Volumes down < 1% while spending down 42% in 2016.

drilling—which EOG characterizes as wells that generate at least 30% ATROR at \$40 oil—will be more pronounced this year with 80% of its completions being premium versus 50% last year.

EOG will maintain a tight focus on capital efficiency in 2017, following a year in which its crude and condensate volumes declined less than 1% to 282,500 bo/d while exploration and development spending decreased 42% compared with 2015. Continues On Pg 22

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Gulf of Mexico -

Chevron encounters oil at Anchor, striking 800 ft of net pay

Chevron has hit pay at its Anchor discovery in Green Canyon 807, according to partner Cobalt International Energy. The supermajor's Anchor #4 appraisal well was drilled to total depth and encountered 800 ft of net oil pay in multiple inboard Lower Tertiary reservoirs. Water depth is 4,954 ft, and the well was permitted to 34,100 ft, indicating it may

be targeting the Wilcox sand.

This most recent appraisal is larger than previous wells.

Cobalt may bring two leases on south flank into Anchor.

The discovery well hit 690 ft of net pay in January 2015 while later that year an appraisal well found 694 ft of net pay. At the time, results were said to confirm a Wilcox hydrocarbon column of at least 1,800 ft. Chevron owns 55% WI while Cobalt owns 20%, Samson Energy 12.5% and Venari Resources 12.5%.

Cobalt said that it was working with Chevron and the Bureau of Safety and Environmental Enforcement on folding two leases that it owns into the Anchor unit. The two leases are on the southern flank of the field, and the reservoir extends into the leases. Cobalt said stimulation indicates that wells drilled on these leases are needed to maximize recovery from Anchor.



41 Completions; 89 Permits; 44 Rigs Running.

Statoil resets Gulf of Mexico program, secures 13 leases

Two months after Statoil exploration chief Tim Dodson characterized the Norwegian giant's Gulf of Mexico operated program as "a failure," the company has changed its position. Statoil was the high bidder on 13 leases totaling \$44.5 million in the recent sale for the central Gulf region. Nine leases are in Walker Ridge, three in Keathley Canyon and one in Garden Banks. It paid the most for Walker Ridge Block 55 at \$21.2 million.



Tore Løseth, head of exploration in the US and Mexico said, "The leases awarded

Buys nine leases in Walker Ridge, near Yeti discovery.

reinforce Statoil's exploration strategy of securing prospective acreage, while taking advantage of the cycle to access these leases at favorable rates in the US Gulf of Mexico."

Løseth said these lease awards are part of a "targeted, step-wise approach to test our play concepts in the area." He added that the sale results stem from lessons learned from Statoil's past campaigns and from strengthening the company's subsurface understanding. Most recently, the company reported the Yeti discovery in Walker Ridge in spring 2015.

Statoil hopes to double its 60,000 boe/d in GOM by 2020.

The find was estimated to contain 120-270 MMboe in a Miocene-aged three-way trap. It was being considered as a tieback

to Anadarko's Heidelberg field. Anadarko is also a 37.5% partner in Yeti though Statoil operates and holds 50% WI. No movement has been made at Yeti, though.

Statoil produced an average 60,000 boe/d from its offshore US portfolio last year. The company says it will nearly double that by 2020, making it a top five Gulf producer.

Stronger market, Trump admin credited for successful sale—

The Gulf sales yielded \$275 million in high bids over 163 tracts across 913,542 acres. In total, 28 companies participated, submitting 189 bids. The results were a change from the year-ago sale, which yielded only \$156.4 million in high bids at a time when oil was trading around \$40/bbl. Although oil has dipped in recent weeks to the high \$40s, the market is bolstered by stronger sentiment and a friendlier presidential administration. The heavyweights came out for this sale. Statoil's was second only to Shell's \$55.9 million. Shell paid \$24 million for a single tract in Atwater Valley near its Vito discovery. Hess (12 high bids for \$43.9 million), Chevron (20 high bids for \$35.6 million) and Exxon (19 high bids for \$21.9 million) followed Statoil.

Drillbits -

■ 88 Energy will spud Icewine-2 on Alaska's North Slope in April with stimulation and flow testing of the HRZ shale expected this summer. The company and partner Burgundy

Xploration decided last fall on a vertical completion with multi-

stage stimulation because a vertical well is less risky and allows for testing of the entire primary HRZ interval as well as the HUE interval with potential for resource upgrade. The vertical also allows the company to complete the well within its cash position.

■ After surface issues, Abraxas' Caprito 98-301H was abandoned. The company is now drilling a two-well pad— Caprito 98-201H (Wolfcamp A1) and 98-301HR (Wolfcamp A2). It will follow this with another two-well pad targeting the Wolfcamp A2 and Wolfcamp B and then a third two-well pad in the Wolfcamp A1 and Third Bone Spring. CEO Bob Watson said after these wells, Abraxas believes it will have potentially derisked four prospective zones on the Caprito acreage.

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Petroscout (USPS 13410) is published every three weeks by PLS Inc.

PetroScout covers news and analysis on the E&P sector, including new well discoveries, drilling activities, acreage sales, statistics and technological updates.

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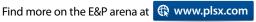
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2017 Upstream D&C activity centered on Permian

A major emerging trend in 2017 has been Big Oil's push into the Permian Basin. Exxon, Chevron and Shell will combine to spend \$10 billion in



the basin this year in a marked difference from the minimal investment of

a few years ago (PG 1). The attraction of short-cycle shale projects in a lower-priced environment paired with improving technical work have translated into a supermajor rig ramp in the Permian.

Permian continues as one of world's hottest plays.

It's with good reason, too, as Wolfcamp well productivity continues to climb. Led by the Permian, US producers are expected to account for 80% of the

additional 1.0 MMboe that companies are expected to produce this year. The Permian is expected to reach 2.29 MMbo/d in April (PG. 2). Companies continue to drill better wells. RSP Permian, for example, increased 45 type curves across its Midland Basin position (PG. 1). Also in the Midland, Parsley recently had a number of its top wells (PG. 6).

In the Delaware Basin, Jagged Peak has quickly accelerated, boosting volumes by 62% since the 2016 exit rate already (PG. 6). Newcomer Lilis Energy has its first wells online with strong rates flowing above the type curve (PG.7).

Newfield scores top STACK well in Kingfisher County.

It isn't all about the Permian though. Newfield hit an industry-leading STACK well in Kingfisher County with a 24-hour rate nearly 3,000 boe/d (PG. 3). Linn Energy has a fresh focus on the STACK as it comes out of bankruptcy (PG. 3). Both Exco and Goodrich are hoping to cash in on the high-proppant reward in the Haynesville (PG. 21).

Changing course in the Gulf of Mexico, Statoil picked up 13 new leases after saying in January that its program there was a failure (PG 1). Chevron hit pay at Anchor (PG. 2).

Midcontinent -

Linn Energy plans 25-well Merge program in 2017

Linn Energy recently emerged from financial restructuring with a fresh focus in Oklahoma's STACK/SCOOP. Specifically, the company's horizontal Merge program will see a third of its \$300 million development budget this year. Linn ran a single rig on the acreage in Canadian and Grady counties last year and planned to add a second during Q2. The company will drill 25 wells this year, leading to 2017 exit rate of 16,700 boe/d—



which would be 150% growth.

Linn brought seven operated wells on production

Best new well flows peak 30-day rate of ~2,300 boe/d.

in the area since November, targeting the Woodford and Mississippi. The best of these was the Hinparr 31-6-10-5 1XH, which delivered a peak 30-day IP of 2,268 boe/d (70% oil). The Mississippi well sports a 9,898-ft lateral. The peak 30-day average of six of the wells was 1,158 boe/d.

Has brought seven operated wells online since November.

Linn said these early results indicate the Merge play to be comparable to the

core STACK/SCOOP, yielding over 50% ROR at \$3 gas and \$50 oil. The company has more than 1,400 drilling locations assuming 15 wells per section and holds 49,000 net acres in the play. As for the STACK/SCOOP, Linn said it would participate in non-op wells this year and look to acquire, partner or evaluate other opportunities.

The company also intends to spend \$30 million at Jonah field in Sublette County, Wyoming, and \$20 million in the Williston Basin. Linn will drill two wells southeast

of Terryville field in North Louisiana, two wells in East Texas targeting the Cotton Valley and Bossier, and one well in Bluebell Altamont. It may add an operated rig in the Arkoma later this year. Non-op participation will take place at Washakie in Sweetwater County, Wyoming, and Bluebell Altamont in Duchesne County, Utah.

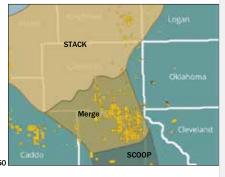


139 Completions; 217 Permits; 128 Rigs Running.

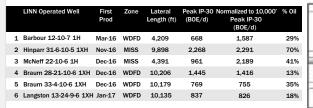
Linn's Merge Acreage Emerges As Core Asset

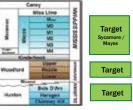
Asset Highlights

- ~49.000 net acres that are 89%+ held by production
- Production and geologic data from ~40 offset Merge drilled wells that have LINN participation
- · High-quality 3D seismic and 900+ well petrophysical analyses **Key Developments**
- · Seven operated wells producing with five two-mile laterals
- Three Mississippi and four Woodford with an average WI of 78%
- 30-day peak production for six wells averaged 1,158 BOE/d
 - The two Mississippi wells averaged 1,615 BOE/d
- The four Woodford wells averaged 930 BOF/d
- Type curves result in high rates-of-return of greater than 50% at \$3/\$50 Successful execution of drilling and completing two-mile laterals
- Building necessary infrastructure and strategically de-risking out concentrated acreage position



Potential for more than 1,400 gross locations in the Merge assuming 15 wells per section





Source: Linn February 28 Presentation via PLS docFinder www.plsx.com/finder

Permian -

Big Oil positioned to compete in Permian Continued From Pg 1

Since last summer, Chevron has added a rig every two months with 11 running as of early March. The Permian will see \$2.0 billion of a budgeted \$19 billion 2017 capex. Chevron owns 2.0 million net surface acres, but that translates to 11 million bench acres when factoring in known landing zones, EVP Jay Johnson said.



Like Exxon, Chevron continues to drive down costs while improving recovery. Its development and production costs per boe are down 30% since 2015, putting the supermajor

more in line with top independent operators. Chevron is also lengthening

Majors positioned to ramp up volumes as costs have declined.

laterals and evolving its completion design to yield better Midland Basin wells that are tracking with competitors. Johnson said Chevron's recovery per foot has grown 30-40% since 2015 and is expected to increase another 30-50% in 2017.

Johnson said these improvements—paired with Chevron's planning and ability to leverage global scale—have allowed it to execute its program. The company gets competitive prices with global suppliers, staggered rig contracts and indexed or performance-based contracts. The downturn allowed Chevron to secure pipeline capacity, gas processing and offtake at good rates, and it has access to multiple markets to support its planned ramp-up.

Chevron said it will increase recovery 30-50% in 2017.

Chevron's base case of 20 rigs and 15 non-op rigs by 2018 is forecast to yield

325,000-450,000 boe/d—a CAGR of 20-35%. This is a significant upward revision from the 2016 analyst day, at which Chevron projected 250,000-350,000 boe/d by 2020.

"To be clear, we are aggressively incorporating the learnings from this increasingly prolific asset into our forward plans and we will also continue to be disciplined in our approach to ensure we deliver full value," Johnson said. "Our objective in the Permian is to be fully competitive on an operational and offtake basis and then use our superior royalty position to generate leading financial performance."

Like Chevron, Shell will spend \$2.0-3.0 billion. CFO Simon Henry noted:

Shell looks to develop 'hidden jewel' Permian position.

"The profitability is improving." Shell has reduced well costs to \$6.0 million from \$15 million and moving to longer laterals and better recovery. Henry said Shell will selectively accelerate shale development—mostly in the Permian. "We could add 140,000 bo/d by 2020 from the liquids-rich plays in the Permian and the Fox Creek," he said.

Known more for deepwater, Shell's shale investment diversifies its portfolio. CEO Ben van Beurden said short-cycle shale was attractive because of the flexibility to ramp development up and down versus deepwater. "I think your observation is correct on both the fact that the Permian is perhaps a hidden jewel in our portfolio," van Beurden said in response to a question from UBS analyst Jon Rigby regarding Shell's position on shortcycle projects. "You're probably also correct when you assume that we actually would quite like to have a little bit more of it." Shell estimates it has an 11.0 Bboe resource base between the Permian and Canada's Fox Creek. Both deepwater and shale break even below \$40 for Shell.

Shell has reduced well costs by over half in the basin to \$6.0 million.

Unlike independents, the majors have the balance sheet to weather oil prices'

effect on short-cycle shale development. "The arrival of Big Oil is very significant for shale," Deborah Byers, consultant Ernst & Young, told Bloomberg. "It marries a great geological resource with a very strong balance sheet."

The quick-decline nature of shale hurts the supermajors less because they have the cash to keep drilling when prices fall. Therefore, Parsley Energy CEO Bryan Sheffield told Bloomberg, the big guys won't be hurting if prices fall. "Big Oil is cashflow positive, so they can take a longer-term view," Sheffield said. "You're going to see them investing more in shale."

Drillbits -

- Antero aims to complete just over 800 of its 3,400 core drilling locations over the next three years. CEO Paul Rady said, "This provides us with significant visibility around our long-term growth plans. Looking ahead, we are well positioned to achieve our production guidance of 20-25% in 2017 and our production targets of 20-22%, on a compounded annual basis through 2020."
- Approach Resources completed five Wolfcamp wells in 2016, all of which are tracking a 678,000 boe type curve. The company said its latest-generation frac design has generated encouraging enough well results to update its type curves in the near future. The company is running a rig in Crockett County, Texas.
- BOEM will offer 1.09 million acres in Cook Inlet off southern Alaska for lease in June. There will be 224 blocks on offer from Kalgin Island in the north to Augustine Island on the southern edge.
- Bonanza Creek anticipates starting up a drilling rig when it emerges from Chapter 11 protection, which is expected during 1H17. The capital budget will be \$160-180 million for May through December. This will go toward drilling 61 net wells and completing 53 net wells—all standard-reach-equivalent wells Wattenberg field. Of the completions, 65% are expected to be XRLs. Bonanza Creek will also invest \$3.0-5.0 million in the Midcontinent for recompletions.
- International Cobalt Energy estimates North Platte contains more than 500 MMboe in recoverable resources with potential to grow. The company drilled a sidetrack to the North Platte #4 appraisal well and found oil, confirming reservoir quality across the entire eastern flank of the field. Cobalt is drilling a second sidetrack to obtain core and fluid samples to better understand reservoir continuity, productivity and resource range ahead of

development. Cobalt operates and owns

60% WI; Total owns 40% WI.



Drillbits -

Comstock's six-well 2016 Haynesville program yielded an average IP rate of 24.0 MMcfe/d, which is in line with the company's successful 2015 campaign.

The best recent well was the Pace James 5-8 #1, which achieved an IP rate of 25.0 MMcf/d in DeSoto Parish, Louisiana. This well sports a 7,593-ft lateral.

 Contango Oil & Gas has completed its first well in Pecos County, Texas, following its entry into the southern



Delaware Basin. The Lonestar-Gunfighter #1H tapped the Upper

Wolfcamp, reaching a maximum 24-hour IP rate of 966 boe/d (72% oil). After 30 days of flowback, it was producing 846 boe/d. The well has a 10,000-ft lateral and was completed in 50 stages.

■ Epsilon Energy has budgeted half of its \$1.0 million 2017 capex for upstream maintenance and completion

of four Marcellus wells. This is a change from 2016, during which the company devoted all of its \$300,000 capital spend to the Auburn gas gathering system. The Calgary-based company also reported that it has inked an agreement with an unknown seller to acquire an Anadarko Basin position, which would add a second growth platform for the company.

■ LLOG Exploration has begun drilling at Mormont in Green Canyon 478 of the Gulf of Mexico in 3,788 ft



of water. Mormont is 6 miles south of the private player's Khaleesi prospect,

where drilling took place earlier this year. LLOG operates Mormont (70% WI) and is partnered with Red Willow Offshore and Houston Energy.

■ Midstates Petroleum released a \$90-100 million capital budget for 2017 to support a one-rig drilling program in the Mississippian Lime. The company operated one rig for most of 2016 as well. During 2016, Midstates added 121 technical PUD locations. It also has reduced new-well costs by \$1.4 million to \$2.6 million and decreased drilling cycle time to 13.3 days from 22.8 days in 2014.

Permian -

Anadarko & Shell said to be ending Permian JV

Shell and **Anadarko** are rumored to be considering a breakup of their 10-year Permian Basin JV, according to a Reuters report citing Shell's head of unconventionals, Greg Guidry. The split would seek to accelerate development, Guidry said. Shell has indicated it will ramp up Permian development (PG. 1). The JV expires this summer. The companies may split up the acreage with each developing at its own pace.

The JV started in 2007 between Anadarko and Chesapeake, but Shell purchased the latter's Permian position in 2012. Anadarko would become operator of the acreage, totaling more than 350,000 acres in the Delaware Basin, with 60% interest if nothing is done upon expiration of the JV. Anadarko CEO Al Walker has said, "We think the economics are certainly compelling for us to be operator going forward."

Resolute maintains strong rates on spacing tests

Resolute Energy's first downspaced Wolfcamp A wells in Reeves County, Texas, are outperforming the company's type curve for the area. The wells tested 80-acre spacing at Resolute's Mustang area, where it primarily drills 7,500-ft laterals. The Boucher 2-3H has a peak 24-hour rate of 2,651 boe/d and peak 60-day rate of 2,107 boe/d. The Uinta 0204H achieved a peak 24-hour rate of 2,481 boe/d and peak 60-day rate of 2,061 boe/d.

Resolute

A second infill pair of wells came online in February, and Resolute says early results indicate further support for density. Ultimately,

Resolute will aim to drill 24 wells per section in the Wolfcamp A and B at both Mustang and Appaloosa (10,000-ft laterals). The company estimates it has 487 drilling locations

based on 80-acre spacing, including newly acquired Reeves County acreage.

Resolute added 112 Wolfcamp well locations through new acquisition.

The new acreage boosts Resolute's holding by 28% to 21,000 net acres over two project areas. Orla is adjacent to Appaloosa and immediately north of Mustang and contains six DUC wells that the company will have online by mid-July. Drilling upside exists in the Wolfcamp X/Y and C. One non-operated, 10,000-ft Wolfcamp well is currently drilling. Resolute may deploy a third rig later this year. The second area, Southwest Rim, is farther south near **Apache's** Alpine High.

Resolute also says that it is taking the first steps toward becoming a Permian pureplay operator by looking to divest its Aneth field assets in southeastern Utah.

Resolute Delivers Top Wolfcamp A Wells In Reeves County

| well information | Drilling a | ina com | pietion data | Production data (Boe per day) | | | | | |
|-----------------------------|----------------------------|----------------|-------------------------------|-------------------------------|-----------|-----------|-----------|------------|------------|
| Name | Lateral length (ft.) | Frac stages | Proppant (million lbs.) | 24 hour | 30 day | 60 day | 90 day | 120 day | 150 day |
| Jolly | 7,519 | 24 | 10.9 | 1,820 | 1,552 | 1,514 | 1,501 | 1,478 | 1,426 |
| Flying Dog | 7,602 | 27 | 13.0 | 1,573 | 1,475 | 1,469 | 1,443 | 1,378 | 1,315 |
| North Goat | 9,001 | 30 | 13.8 | 2,471 | 2,215 | 2,054 | 1,992 | 1,955 | 1,986 |
| North Mitre | 9,495 | 36 | 14.9 | 3,330 | 3,131 | 3,066 | 3,008 | 2,942 | 2,895 |
| South Elephant | 9,049 | 36 | 14.7 | 3,329 | 3,017 | 2,869 | 2,686 | 2,543 | 2,473 |
| North Elephant | 9,470 | 37 | 15.3 | 2,768 | 2,224 | 2,074 | 1,989 | 1,883 | 1,760 |
| Thunder Canyon | 7,324 | 29 | 12.1 | 2,272 | 1,607 | 1,581 | 1,495 | 1,375 | - |
| South Goat | 9,519 | 40 | 16.9 | 3,336 | 3,121 | 3,022 | 3,039 | 2,960 | - |
| South Mitre | 9,400 | 40 | 17.0 | 3,038 | 2,698 | 2,512 | 2,369 | - | - |
| Boucher 2 (80-acre spacing) | 7,525 | 32 | 13.5 | 2,418 | - | - | - | - | - |
| Uinta (80-acre spacing) | 7,438 | 31 | 13.4 | 2,651 | - | - | - | - | - |
| Harrison State | 7,000 | 30 | 12.6 | 2,826 | - | - | - | - | - |
| Source: Resolute Ian 11 | Drocontat | ion via | DI S docEin | dorwa | w ples | com/ | findor | | |

Source: Resolute Jan. 11 Presentation via PLS docFinder www.plsx.com/finder

Permian -

Parsley drills its best wells yet in Midland, Delaware

Parsley Energy notched a number of top wells for the company in Q4, including some company records, while also unlocking new target zones in the Wolfcamp A and Lower Spraberry. Additionally, Parsley noted that its wells are generating the most revenue per foot during their first three months among Midland Basin operators, which COO Matt Gallagher said owed to the oil-weighted production mix. "Results like this give us confidence to double down in the Midland Basin as we've done with the Double Eagle acquisition," Gallagher said.

In Reagan County, Parsley began production from its first

Wolfcamp C well flows over 3,200 boe/d to set IP-24 record.

Wolfcamp C well and achieved its fourth-highest IP-24 rate in the process. The Taylor 45-33-4601H flowed 2,414 boe/d with a two-mile lateral and is yielding 75% oil. Gallagher said results suggested the interval could be on par with Parlsey's Wolfcamp A and B. In another new zone, the company's two-mile Lower Spraberry well passed the 1.0 MMboe type curve at 240 days and could match the Wolfcamp A and B as it has low decline and high oil content.

Parsley also set two IP-30 records in the Midland Basin and one in the Delaware Basin. In Upton County, the Grace 45-1 #4306H achieved 2,194 boe/d in the Wolfcamp B By comparison, Parsley's 18 Q4 wells in the Midland Basin averaged 1,446 boe/d IP-30. Laterals averaged 8,500 ft. Also in Upton, Mary 18-18B-7-4202H and 4401H combined for the highest IP-30 on a two-well pad at 3,386 boe/d in the Wolfcamp A.

In Reeves County, the Lincoln 4-1-4307H delivered Parsley's highest IP-30 in the Delaware, flowing 1,929 boe/d. This well is the company's first well in the county and also its third-highest IP-30 company-wide. Parsley's second well in Reeves, Kauffman State C4-6-4307H posted a company-record peak 24-hour rate of 2,666 boe/d. Gallagher said Parsley just acquired 4,500 net acres adjacent to its Reeves County acreage.

Jagged Peak increases volumes 62% since 2016 exit rate

Since the beginning of the year, **Jagged Peak** has accelerated oil volumes with five new wells coming online to bring output to 10,510 boe/d as of the week ending March 15. This is up 62% from 6,470 boe/d for the last week of 2016. The southern Delaware Basin operator now has 25 operated wells online, and it started production on two in late March in the Whiskey River area of Ward County. Jagged Peak is running five rigs

 $currently, up \, from \, three \, at \, YE16.$

The growth trajectory for the newly public company is

Five of Jagged Peak's Q4 wells average EUR of 1.2 MMBoe.

expected to continue, with 2017 volumes projected to average 17,000-19,000 boe/d, up 220% at midpoint compared with 2016. Jagged Peak expects to exit the year producing 26,000-28,000 boe/d, which would be up 319% compared with 4Q16. Spending will come in at \$555-605 million in 2017, up from \$215.1 million in 2016. Jagged Peak now has 68,416 net acres with 1,349 identified drilling locations over four intervals in

Ward, Winkler and Pecos counties.

More than doubling spending in Permian from 2016.

"With financing from our recently completed IPO, we are well positioned to

realize the value of our acreage position as we ramp up production for years to come," said CEO Joe Jaggers. "We continually focus our efforts on well improvements while reducing both development and operating costs and we have an on-going effort to evaluate additional potential from our assets through well downspacing, pad drilling and delineating prospective formations that are above and below our current target zones."

Jaggers said on the Q4 call that the five wells completed during 4Q16 have an average EUR over 1.2 MMboe with 84% oil. The company's first Lower Wolfcamp B well, the State Eiland 9-33-1H well (10,273-ft lateral), produced 125,000 boe (81% oil) in the first 120 days and continues to produce 1,300 boe/d after 130 days of production.

Drillbits -

- Sanchez Energy is currently running two rigs each at Catarina and Maverick, but it expected to begin Comanche activity in March. The company will bring 141 net wells online: 53 at Catarina, 35 at Maverick and 21 at Comanche. Its total capital budget is \$425-475 million. As of now, Sanchez is eyeing a \$500 million capital program for 2018.
- WPX Energy produced 31,900 boe/d in the San Juan Basin in 4Q16. Oil volumes increased 21% sequentially. The company's 2016 WPXENERGY Gallup wells are all tracking well above the 650,000 boe type curve. WPX will spend \$150-170 million in the basin and complete 40-46 wells. One rig is currently running, and drilling will focus on the West Lybrook unit where eight well pads are ready to be drilled.
- Ultra Petroleum is planning a \$500 million capital budget for this year, which is projected to increase volumes by 7-10% compared with 2016 exit rates. Daily volumes are expected to be 795-820 MMcfe/d. Ultra will participate in 245 gross (193 net) wells in Wyoming. This is more than double 2016's wells (110 gross, 78 net).



E&P PLS



Permian -

Matador's Delaware Basin operations fuels growth

Matador Resources is largely Delaware Basin focused this year with the exception of a five-well operated Eagle



Ford program that the company thinks will yield comparable returns to its

Delaware wells. The company has started off 2017 with a bang, too. Oil production averaged 17,500 bo/d from Jan. 1 to mid-February—a 10% sequential increase. Total production averaged 31,500 boe/d during this period versus 20,700 boe/d in 4Q16 with gas production remaining flat. The basin now accounts for 70% of the company's production and 75% of its crude reserves.

Delaware Basin total volumes up 145% YOY to 5.8 MMboe in 2016.

Aside from a strong trio of wells reported last month in New Mexico, Matador released three new wells with encouraging rates. The Totum E 18-TTT-C24 NL #211H tapped the Lower Wolfcamp A in Loving County, delivering Matador's best result yet in the interval. The well flowed 2,247 boe/d (72% oil) on an initial 24-hour test. In Lea County, the Airstrip State Com 31-18S-35E RN #201H is believed to be the northernmost horizontal test in the Lower Wolfcamp A in the basin. The well tested at 926 boe/d (97% oil) over 24 hours, and COO David

Delaware accounts for 70% of the company's volumes.

Lancaster said it is 11-30 miles north of the nearest Wolfcamp A well. Finally, the Tom Walters 12-23S-27E RB #203H flowed 1,554 boe/d (74% oil) in Eddy County, confirming the prospectivity of the Wolfcamp A-XY across the Rustler Breaks operating area.

Matador expects to have five Delaware rigs running in 2017. The company will bring 88 wells on production—66 operated and 22 non-operated—compared with 55 wells in 2016 in the sub-basin leading to 30% growth in oil volumes this year. Capital budget for D&C is \$400-420 million, up from \$250 million in 2016.

Lilis Energy begins production in Delaware Basin

Lilis Energy's first two Wolfcamp B wells achieved strong initial rates. The DJ Basin driller became a Permian player last summer when it closed its acquisition of San Antonio-based Brushy Resources. Now, Lilis has divested its DJ asset and is a Permian pure-play with its first two operated horizontals in Winkler County, Texas, significantly exceeding expectations and a third well coming online this month.

The Bison #1H delivered a 24-hour rate of 2,375 boe/d (75% liquids), or 344 boe/d per 1,000 feet of lateral. The well recorded an IP-30 rate of 2,144 boe/d (74% liquids). The well sports a 6,897-ft lateral. It was completed in 35 stages with 200-ft spacing and 2,200 lb of proppant per foot.

The Grizzly #1H had a 24-hour rate of 1,666 boe/d (65% liquids), or 406 boe/d per 1,000 feet of lateral, and a 30-day rate of 1,323 boe/d (63% liquids). The well sports a 4,103-foot lateral and was completed in 20 stages with approximately 2,200 lb of sand per foot.

A third well, Hippo #1H, has been completed and will be tested in mid-April. Lilis is currently drilling the Lion #1H. Lilis set its 2017 capital budget at \$45 million and plans to drill 10 Wolfcamp B wells. The company projected a December exit rate of 5,000-5,300 net boe/d.



Callon targeting 24,000 boe/d—60% volume growth

After tripling its acreage position in 2016, Callon Petroleum will ramp up its drilling program in 2017 as it aims to deliver full-year volumes of 24,000 boe/d—60% volume growth over 2016 at midpoint. The company will target all four core operating areas: Monarch (Midland County), Ranger (Reagan/Upton), WildHorse (Howard County) and Spur (Ward County). The last two areas were acquired last year. Callon



now operates 56,258 net surface acres in the Midland and Delaware basins.

First Wolfcamp A well at Monarch flows over 1,300 boe/d.

"We are now entering a period that will be characterized by drillbit growth, planning to increase our horizontal development program to five rigs in both the Midland and Delaware basins by early 2018," CEO Fred Callon said. Callon is currently running three rigs—two at WildHorse and one at Monarch, but Fred Callon said the Spur area would start a rig by mid-year.

Callon shifting into development at WildHorse in Howard County.

All of Callon's 4Q16 completion activity took place at Monarch and included

the company's first Wolfcamp A well in that area. The Pecan Acres PSA 2 16AH reached a peak 30-day rate of 1,352 boe/d (89% oil). The well has produced nearly 100,000 boe in its first 90 days and is tracking above the 1.0 MMboe type curve for a 10,000-ft lateral.

Pecan Acres was drilled as part of a stacked two-well pad with an Upper Lower Spraberry well, so the strong rate supports future multi-zone development, Callon said. The company is now producing from five zones in this area: Upper and Lower Spraberry, Middle Spraberry and Wolfcamp A and B.

This year's program will be heavily weighted to Monarch and WildHorse, where Callon initiated development in Q4 and is running two rigs. The company will target the Lower Spraberry and Wolfcamp A and B at both areas. It will complete 25 wells at WildHorse and 14 wells at Monarch. Callon will also integrate Spur, completing three wells this year, and restart Ranger activity in Q2 with four completions planned this year. The capital budget is \$325-350 million.



Quick evaluations for everyone

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ARK-LA-TEX REGION

ARKANSAS & LOUISIANA NONOP SALE

16-Active Wells.

VAN BUREN CO., AR

CADDO & DE SOTO PH., LA

Operated By CHK, XTO & Indigo

Horizontal Gas Production.

Recent Fayetteville IPs: >4.0 MMCFD
Recent Cotton Valley IPs: >1,700 BOED
Varying NonOperated WI For Sale.

Net Production: ~370 MCFED (99% Gas) 3-Mn Avg Net Cash Flow: ~\$12,400/Mn Fayetteville EUR: 3.0 BCF Cotton Valley EUR: ~1,310 MBOE OFFERS DUE: APRIL 21, 2017 PP 5790DV

CALL PLS FOR INFO

DV

SEEKING

PARTNER

PLS

PP

ARKANSAS

MILLER CO., ARKANSAS PROSPECT

2 Wells Drilled.

PILL BRANCH FIELD

Jeter 1 & 2 Lime Targets

Fossiliferous & Oolitic Tidal Shoals

Target Depth ~6,000 Ft.

SEEKING JV PARTNER

Expected Well IP: ~40 BOPD

Offsetting Wells Avg ~100 MBO (49 Wells) Est Well EUR: 75 MBO/Well Potential Reserves: 1.4 MMBO

DHC: \$250,000; D&C Costs: \$600,000

DV 8829

UNION CO., AR PROSPECT

434-Acre Deal Defined By 3 Wells.

SMACKOVER SHORELINE
Prospect Identified By 3 Wells.

2D Seismic Interpreted.

100% OPERATED WI AVAILABLE
Potential Reserves: 1.05 MMBO
DHC: \$624,000; Completion: \$472,000
CONTACT SELLER FOR MORE INFO
DV 3286

EAST TEXAS

CHEROKEE CO., TX PROSPECT

3-Potential Wells. 1,991-Acres.

EAST TEXAS BASIN - RODESSA
Lower Gloyd At 9,400 Ft.
Defined By Subsurface Geology
80% OPERATED WI: 75% NRI
Est Net Rsrvs: 44.8 MBO & 4.48 BCF/Well
Est Project Rsrvs: 100 MBO & 12 BCF
DHC: \$530,000; COMPL: \$400,000
DV 2219

EAST TEXAS HAYNESVILLE PROSPECT

11,377-Gross Acres. 10,151-Net Acres.

ANGELINA & NACOGDOCHES CO., TX

Targets: Haynesville & Bossier

Leasehold Can Deliver 75% NRI

DV 4362

EAST TEXAS

EAST TEXAS MINERALS FOR LEASE

17,000-GMA & 8,500-NMA.

DELTA, FRANKLIN, HOPKINS.

LAMAR & RED RIVER COUNTIES

MINERALS FOR LEASE

L 2430M

EAST TEXAS PROSPECTS

~3,500-Acres. ~20-Locations Available.

ROBERTSON COUNTY
GOLDEN LANE OF REEFS
Objectives: Buda, Woodbine, Cotton
Valley & Pinnacle Reef
100 Sq Miles Of Excellent 3D Seimic
Over Analog Major Discoveries & Prospects
100% OPERATED WI; 75% NRI
Potential Reserves: 1 TCF
DV 4682

NACOGDOCHES CO., TX ACREAGE

~9,000-Gross Acres. ~8,000-Net Acres.

HAYNESVILLE & BOSSIER SHALE
Stack Play Potential.

Acreage Is 100% Held By Production
>100 Gross Operated Drilling Locations
25 Rigs Targeting Haynesville/Bossier ARKLATEX

ACREAGE FOR SALE
Dry Gas Production In Area.
Total Net Reserves: ~720 BCFE
CONTACT AGENT FOR UPDATE
L 2613

NACOGDOCHES CO., TX MINERALS

160-Gross & Net Mineral Acres.

EAST TEXAS
Objectives: Cotton Valley, Travis Peak, ARKLATEX
Haynesville/ Bossier
MINERALS FOR LEASE
RIVERSING

L 4654M

BUYERS! NO COMMISSIONS

PANOLA CO., TX LEASEHOLD

~3,354-Acres.

DEEP RIGHTS ONLY

Targeting The Haynesville Shale
Depths Below Cotton Valley

Acreage Contiguous & Held By Production.

Leases Can Deliver 75-81% NRI

CONTACT SELLER FOR MORE INFO

L 2632

UPSHUR CO., TX PROSPECT

3-Potential Well. ~1,043-Acres.

<u>EAST TEXAS BASIN</u>
Cotton Valley At 11,000 Ft.

100% OPERATED WI; 75% NRI
--- Via Term Assignment

<u>DV 2010</u>





www.plsx.com/advisory

NORTH LOUISIANA

NORTH LOUISIANA LEASEHOLD

+/- 4,410 Gross Acres for Lease.

SOUTHEASTERN RED RIVER PARISH
Cotton Valley Tops Range: 9,500-9,850 Ft.

Primary Targets: Paluxy, Pettet,
-- Rodessa, Hosston & CV.

O&G MINERAL RIGHTS FOR LEASE
Terms Negotiable.

DV 4383M

DV 4383M

CLAIBORNE PH., LA PROPERTY

28-Active Wells. 27-PDNP. 124-PUD.

OAKS & E. HAYNESVILLE FIELDS
~9,000-Net Acres.

Frac & Recompletion Upside.
HORIZONTAL COTTON VALLEY PUD

Mostly 100% OPERATED WI
Gross Production: >500 BOED
Net Production: ~400 BOED
Net Proved Reserves: ~15.7 MMBOE
Net Proved PV10: ~\$161,200,000

DEALS FOR SALE

PLS

CLAIBORNE PH., LA PROSPECT

CONTACT AGENT FOR UPDATE

PP 9050DV/RE

240-Gross/Net Acres; 4-Potential Wells. **NORTH LOUISIANA** DV Obj 1: 4,050' Sand Obj 2: 4,200' Sand 2D Seismic, Subsurface Geology ---- Geophysical Data Available. **NORTH** 45.23% Non-Operated WI; 75% NRI **LOUISIANA** Obj 1 IP Rates: 150 BOPD Per Well Obj 2 IP Rates: 150 BOPD Per Well Est Well Reserves: 292 MBO Per Well Est Proiect Reserves: 1.2 MMBO DHC: \$400.000: Completion: \$415.000 CONTACT SELLER FOR MORE INFO **DV 3856**

NORTH LOUISIANA PROSPECT

132,000-Acres. 825-Potential Wells.

MOREHOUSE, RICHLAND --- AND WEST CARROLL PARISHES

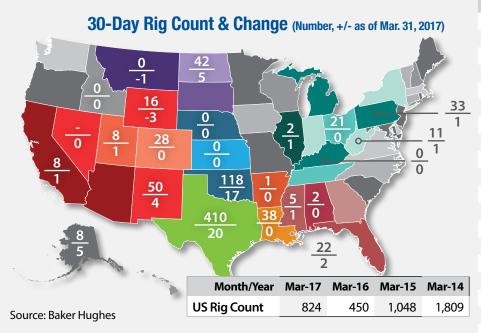
MONROE UPLIFT
Target: Brown Dense. 9,500 Ft.
Subsurface Geology & Seismic Data
20% NonOperated WI; 78.5% Lease NRI
Fresh Leasehold; Recently Renewed
Well Reserves: 400 MBO & 2.0 BCF
CWC\$4.1MM/Slotted Sleeve HZ;\$3MM/Vert
DV 9341L



E&P PLS



US Industry Activity as of Mar. 31



US Rig Count by Basin

| Play | New | Last | % Chg |
|---------------|-----|------|----------|
| Barnett | 5 | 4 | 25% |
| DJ-Niobrara | 23 | 24 | -4% |
| Eagle Ford | 73 | 68 | 7% |
| Fayetteville | 1 | 1 | 0% |
| Granite Wash | 14 | 11 | 27% |
| Haynesville | 38 | 36 | 6% |
| Marcellus | 44 | 41 | 7% |
| Mississippian | 6 | 3 | 100% |
| Other | 178 | 154 | 16% |
| Permian | 319 | 309 | 3% |
| Utica | 22 | 22 | 0% |
| Williston | 42 | 38 | 11% |
| Woodford | 59 | 57 | 4% |
| Grand Total | 824 | 768 | 7% |

Sources: Baker Hughes

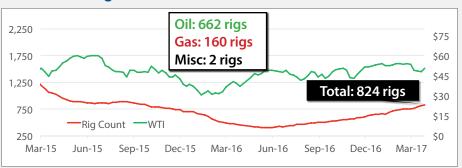
Double-digit rig gains on a monthlong streak in US

The US has added 56 rigs since PLS released its last issue of PetroScout in mid-March. The week ending March 31 marked a 15-rig gain—10 oil and five gas. Texas led the way with seven new rigs, followed by Louisiana with six new rigs. Of the major basins, four of the 10 oil rigs went to work in the Permian. The Mississippian doubled its rig count to six. This week followed two weeks that saw 20- and 21-rig gains. Overall, rig count is up by 420 since the low point last spring.

Crude Production by State (bo/d)

| State | Rigs | Jan-17 | Dec-16 |
|-----------------|------|-----------|-----------|
| Alabama | 2 | 21,000 | 22,000 |
| Alaska | 8 | 516,000 | 519,000 |
| Arizona | 0 | 0 | 0 |
| Arkansas | 1 | 14,000 | 14,000 |
| California | 8 | 485,000 | 492,000 |
| Calif. Offshore | 0 | 14,000 | 13,000 |
| Colorado | 28 | 298,000 | 294,000 |
| Florida | 0 | 5,000 | 5,000 |
| GOM | 22 | 1,748,000 | 1,729,000 |
| Hawaii | 0 | 0 | 0 |
| Idaho | 0 | 0 | 0 |
| Illinois | 2 | 22,000 | 23,000 |
| Indiana | 0 | 5,000 | 5,000 |
| Kansas | 0 | 93,000 | 94,000 |
| Kentucky | 0 | 6,000 | 12,000 |
| Louisiana | 38 | 140,000 | 142,000 |
| Michigan | 0 | 15,000 | 15,000 |
| Mississippi | 5 | 51,000 | 54,000 |
| Missouri | 0 | 0 | 0 |
| Montana | 0 | 58,000 | 58,000 |
| Nebraska | 0 | 6,000 | 6,000 |
| Nevada | 0 | 1,000 | 1,000 |
| New Mexico | 50 | 417,000 | 419,000 |
| New York | 1 | 1,000 | 1,000 |
| North Dakota | 42 | 974,000 | 940,000 |
| Ohio | 21 | 51,000 | 45,000 |
| Oklahoma | 118 | 391,000 | 404,000 |
| Pennsylvania | 33 | 16,000 | 16,000 |
| South Dakota | 0 | 4,000 | 3,000 |
| Tennessee | 0 | 1,000 | 1,000 |
| Texas | 410 | 3,195,000 | |
| Utah | 8 | 82,000 | 84,000 |
| Virginia | 0 | 0 | 0 |
| West Virginia | 11 | 22,000 | 21,000 |
| Wyoming | 16 | 186,000 | 188,000 |
| Total | 824 | 8,838,000 | 8,774,000 |

US National Rig Count



Eastern Scout

(Last Scout: 02/01/17 to 03/16/17)



| | Permits | Compls |
|---------------|-----------|--------|
| State/Region | (Number/d | hange) |
| Illinois | 12/-12 | -/- |
| Indiana | 8/3 | -/-2 |
| Kentucky | 7/-6 | -/- |
| Michigan | 4/3 | -/- |
| New York | 2/-5 | 1/-1 |
| Ohio | 85/1 | -/- |
| Pennsylvania | 63/-54 | -/- |
| Tennessee | 9/9 | -/- |
| West Virginia | 69/14 | -/-32 |
| | | |

| West Virginia | 02/ | 7 32 | | | | |
|-----------------------------|-------|-------|-------|--|--|--|
| New Permits by Formation | | | | | | |
| Formation | 03/21 | 02/28 | 02/07 | | | |
| Marcellus | 49 | 44 | 50 | | | |
| Utica-Point Pleasant | 36 | 42 | 24 | | | |
| Clinton | 19 | 7 | 9 | | | |
| Knox | 12 | 6 | 6 | | | |
| Point Pleasant | 12 | 13 | 8 | | | |
| Berea | 5 | 2 | 3 | | | |
| Trenton-Black River | 5 | - | - | | | |
| New Albany | 4 | - | - | | | |
| Oriskany | 3 | 1 | 1 | | | |
| Other | 114 | 191 | 130 | | | |
| TOTAL | 259 | 306 | 231 | | | |

| Top Counties by New Permits | | | | | | |
|-----------------------------|-------|-------|----------|--|--|--|
| County | State | Perm. | BHI Rigs | | | |
| Belmont | ОН | 25 | 8 | | | |
| Marshall | WV | 17 | - | | | |
| Ritchie | WV | 17 | 2 | | | |
| Susquehanna | PA | 12 | 6 | | | |
| Guernsey | ОН | 9 | - | | | |

| Top Operators by New Permits | | | | | | |
|------------------------------|-------|-------|-------|--|--|--|
| Operator | 03/21 | 02/28 | 02/07 | | | |
| EQT Production | 26 | 55 | 36 | | | |
| Rice Drilling D LLC | 20 | 11 | 7 | | | |
| Chesapeake | 15 | 3 | 1 | | | |
| Chevron | 12 | - | - | | | |
| Antero Resources | 11 | 17 | 20 | | | |

| Top Counties by Rig Count | | | | | | | |
|---------------------------|-------|-------|-------|-------|--|--|--|
| County | State | 03/17 | 03/02 | 02/03 | | | |
| Washington | PA | 9 | 9 | 9 | | | |
| Belmont | ОН | 8 | 9 | 9 | | | |
| Monroe | ОН | 7 | 6 | 7 | | | |
| Susquehanna | PA | 6 | 6 | 4 | | | |
| Greene | PA | 6 | 6 | 7 | | | |
| EASTERN | | 66 | 64 | 64 | | | |

Sources: BHI, DNR IL, DNR IN, KYEEC, MI MDEQ, NYSDEC, ODNR, PADEP, TDEC & WVDEP

Southeastern Scout

(Last Scout: 03/06/17 to 03/27/17)



| | Penits | Compls |
|----------------------|---------|----------|
| State/Region | (Number | /change) |
| Alabama | 3/-2 | -/- |
| Florida | -/- | -/- |
| Mississippi | 10/-105 | 2/- |
| South Louisiana | 13/4 | 29/-7 |
| Southeast TX (RRC 3) | 41/15 | 10/3 |
| Gulf of Mexico | 22/2 | -/- |
| | | |

| duii oi ivicxico | | | , | | | | |
|--------------------------------|-------|-------|-------|--|--|--|--|
| New Permits by Formation | | | | | | | |
| Formation | 03/30 | 03/09 | 02/16 | | | | |
| Eagle Ford | 7 | 9 | 11 | | | | |
| Woodbine | 4 | - | 1 | | | | |
| Austin Chalk (ALL | 3 | 1 | 1 | | | | |
| Wilcox 713-650-127 FOR YOUR | | 3 | 2 | | | | |
| Buda SAMPLE | 2 | 1 | 4 | | | | |
| Yegua | 2 | 1 | 1 | | | | |
| Cotton Valley | 1 | 19 | - | | | | |
| Paluxy | 1 | - | - | | | | |
| Tuscaloosa | 1 | 4 | 5 | | | | |
| Other | 65 | 137 | 277 | | | | |
| TOTAL | 89 | 175 | 302 | | | | |
| | | | | | | | |

| Top Counties by New Permits | | | | | | |
|-----------------------------|-------|-------|----------|--|--|--|
| County | State | Perm. | BHI Rigs | | | |
| Burleson | RRC 3 | 3 | 7 | | | |
| Iberia | SLA | - | 6 | | | |
| Fort Bend | RRC 3 | - | 6 | | | |
| Mississippi Canyon | GOM | 2 | 6 | | | |
| Green Canyon | GOM | 6 | 5 | | | |
| Jones | MS | 4 | - | | | |
| Madison | RRC 3 | 4 | 1 | | | |

| Top Operators by New Permits | | | | | | |
|------------------------------|-------|-------|-------|--|--|--|
| Operator | 03/30 | 03/09 | 02/16 | | | |
| Viceroy Petroleum | 6 | - | - | | | |
| WildHorse Resources | 6 | 5 | 5 | | | |
| Cargill Inc | 5 | - | - | | | |
| Shell | 5 | - | 5 | | | |
| Venture O&G | 4 | - | - | | | |
| | | | | | | |

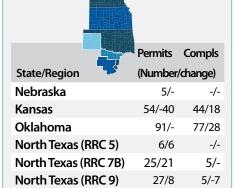
| Top Counties by Rig Count | | | | | | |
|---------------------------|------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| State | 03/24 | 03/03 | 02/10 | | | |
| GOM | 6 | 7 | 7 | | | |
| GOM | 4 | 4 | 4 | | | |
| RRC 3 | 3 | 3 | 3 | | | |
| V | 44 | 42 | 45 | | | |
| | State GOM GOM RRC 3 | State 03/24 GOM 6 GOM 4 RRC 3 3 | State 03/24 03/03 GOM 6 7 GOM 4 4 RRC 3 3 3 | | | |

Sources: BHI, AL OGB, BOEM, FL DEP, MSOGB, **SONRIS & TX RRC**

Midcontinent Scout

TX Panhandle (RRC 10)

(Last Scout: 03/03/17 to 03/17/17)



9/-1

8/-1

| New Permits by Formation | | | | |
|--------------------------|-------|-------|-------|--|
| Formation | 03/22 | 03/08 | 02/22 | |
| Mississippian | 40 | 41 | 33 | |
| Squirrel | 13 | 21 | 11 | |
| Woodford | 12 | 6 | 6 | |
| Arbuckle | 8 | 10 | 15 | |
| Barnett | 8 | 2 | - | |
| Cleveland | 8 | 8 | 6 | |
| Strawn | 7 | - | 3 | |
| MSSPN & WDFD | 6 | 5 | 13 | |
| Peru | 6 | 4 | - | |
| Other | 109 | 126 | 134 | |
| TOTAL | 217 | 223 | 221 | |

| rop Counties by New Permits | | | | | |
|-----------------------------|-------|-------|----------|--|--|
| County | State | Perm. | BHI Rigs | | |
| Kingfisher | ОК | 23 | 17 | | |
| Blaine | ОК | 9 | 25 | | |
| Wichita | RRC 9 | 9 | - | | |
| Miami | KS | 8 | - | | |

| Top Operators by New Permits | | | |
|------------------------------|-------|-------|-------|
| Operator | 03/22 | 03/08 | 02/22 |
| Marathon Oil | 10 | 2 | 3 |
| Mid-Con Energy | 9 | 1 | 3 |
| Chesapeake | 8 | 7 | 3 |
| RJ Energy | 8 | 6 | - |
| Newport Operating | 7 | 2 | - |

| Top Counties by Rig Count | | | | |
|---------------------------|-------|-------|-------|-------|
| County | State | 03/17 | 03/03 | 02/17 |
| Blaine | ОК | 25 | 28 | 25 |
| Kingfisher | ОК | 17 | 11 | 11 |
| Grady | ОК | 9 | 11 | 13 |
| Garvin | ОК | 8 | 6 | 7 |
| Canadian | OK | 7 | 6 | 5 |
| MIDCONTINE | NT | 128 | 115 | 119 |

Sources: BHI, KS KCC, NOGCC, OK OCC &TX RRC





(Last Scout: 02/27/17 to 03/20/17)



| 1 | Permits | Compls |
|---|---------|----------|
| | (Number | /change) |
| | 2/-5 | 15/-8 |
| | 36/-12 | 19/6 |
| | 14/9 | 4/2 |

24/11

11/10

103

73

| East Texas (RRC 6) | |
|--------------------|--|
| | |
| | |

East Texas (RRC 5)

Arkansas North Louisiana

TOTAL

| New F | ermits by Forma | ation |
|-------|-----------------|-------|
| _ | | |

| Formation | 03/23 | 03/02 | 02/09 |
|--------------------------|-------|-------|-------|
| Haynesville | 30 | 21 | 38 |
| Barnett | 10 | - | - |
| Cotton Valley | 10 | 5 | 14 |
| Travis Peak | 7 | 2 | 10 |
| Pettit | 3 | 3 | 1 |
| Wilcox (ALL 713-650-1212 | 3 | 2 | 2 |
| Goodland FOR YOUR SAMPLE | 2 | 1 | 3 |
| Gray | 2 | - | - |
| Holt Bryant | 2 | 2 | - |
| Othor | 7 | 27 | 25 |

Top Counties by New Permits

| County | State | Perm. | BHI Rigs |
|---------|-------|-------|----------|
| DeSoto | NLA | 18 | 18 |
| Panola | RRC 6 | 8 | 1 |
| Caddo | NLA | 7 | 1 |
| Tarrant | RRC 5 | 6 | - |
| Lincoln | NLA | 5 | 6 |

76

| Operator | 03/23 | 03/02 | 02/09 |
|-----------------------|-------|-------|-------|
| Indigo Haynesville | 7 | 4 | 2 |
| EXCO Operating | 6 | - | - |
| Sheridan Production | 5 | 1 | 2 |
| Chesapeake | 4 | - | 4 |
| GHA Barnett LLC | 4 | - | _ |

| County | State | 03/17 | 02/24 | 02/03 |
|---------------|-------|-------|-------|-------|
| DeSoto | NLA | 18 | 15 | 13 |
| Lincoln | NLA | 6 | 5 | 4 |
| San Augustine | RRC 6 | 6 | 6 | 5 |
| Red River | NLA | 5 | 5 | 5 |
| Cherokee | RRC 6 | 4 | 2 | 1 |
| ARK-I A-TFX | | 55 | 52 | 46 |

Permian Basin Scout

(Last Scout: 03/01/17 to 03/24/17)



| | Permits | Compls |
|---------------------|---------|----------|
| State/Region | (Number | /change) |
| West Texas (RRC 7C) | 33/-23 | 11/-14 |
| West Texas (RRC 8) | 277/-22 | 55/-30 |
| West Texas (RRC 8A) | 32/-1 | 23/-14 |
| | 26/40 | 42/2 |

New Permits by Formation

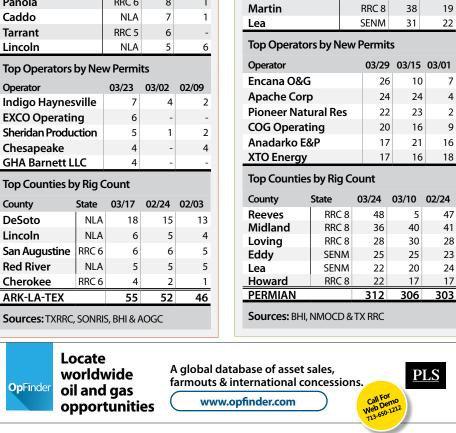
| Formation | 03/29 | 03/15 | 03/01 |
|-------------|-------|-------|-------|
| Spraberry | 150 | 125 | 114 |
| Wolfcamp | 87 | 138 | 106 |
| Bone Spring | 41 | 53 | 47 |
| San Andres | 15 | 14 | 32 |
| Wolfbone | 12 | 9 | 2 |
| Delaware | 6 | 2 | 3 |
| Clear Fork | 5 | 13 | 10 |
| Canyon | 3 | 1 | 3 |
| Devonian | 2 | 1 | 1 |
| Other | 57 | 108 | 77 |
| ΤΟΤΔΙ | 378 | 464 | 395 |

Top Counties by New Permits

| County | State | Perm. | BHI Rigs |
|---------|-------|-------|----------|
| Midland | RRC 8 | 57 | 36 |
| Reeves | RRC 8 | 42 | 48 |
| Loving | RRC 8 | 40 | 28 |
| Martin | RRC 8 | 38 | 19 |
| Lea | SENM | 31 | 22 |

| County | State | 03/24 | 03/10 | 02/24 |
|---------|-------|-------|-------|-------|
| Reeves | RRC 8 | 48 | 5 | 47 |
| Midland | RRC 8 | 36 | 40 | 41 |
| Loving | RRC 8 | 28 | 30 | 28 |
| Eddy | SENM | 25 | 25 | 23 |
| Lea | SENM | 22 | 20 | 24 |
| Howard | RRC 8 | 22 | 17 | 17 |
| PERMIAN | | 312 | 306 | 303 |

SE New Mexico 36/-40 13/-2 03/29 03/15 03/01 26 10 24 24 4 22 23 2 20 9 16 17 21 16 17 16 18







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| South Texas (RRC 1) | 97/-32 | 39/-15 |
|---------------------|--------|--------|
| South Texas (RRC 2) | 147/42 | 39/-1 |
| South Texas (RRC 3) | 18/-2 | 1/-2 |
| South Texas (RRC 4) | 15/-5 | 13/-7 |

| New Permits by Formation | | | | |
|--------------------------|-------|-------|-------|--|
| Formation | 03/16 | 02/23 | 02/02 | |
| Eagle Ford | 218 | 176 | 167 | |
| 41-A & 98-A Cons | 11 | 19 | 1 | |
| Austin Chalk | 10 | 17 | 9 | |
| Wilcox | 4 | 1 | - | |
| Buda | 2 | 5 | 6 | |
| Hockley | 1 | 1 | 4 | |
| Lobo | 1 | - | - | |
| Pecan Gap | 1 | - | - | |
| Woodbine | 1 | 1 | - | |
| Other | 28 | 54 | 37 | |
| TOTAL | 277 | 274 | 224 | |

| Top Counties by New Permits | | | | | | |
|-----------------------------|-------|----|----|--|--|--|
| County State Perm. BHI Rigs | | | | | | |
| Karnes | RRC 2 | 68 | 19 | | | |
| Dimmit | RRC 1 | 31 | 10 | | | |
| DeWitt | RRC 2 | 31 | 4 | | | |
| La Salle | RRC 1 | 23 | 7 | | | |
| McMullen | RRC 1 | 18 | 3 | | | |

| Top Operators by New Permits | | | | |
|------------------------------|-------|-------|-------|--|
| Operator | 03/16 | 02/23 | 02/02 | |
| Burlington Resources | 37 | 10 | 12 | |
| Chesapeake | 35 | 15 | 6 | |
| Carrizo LLC | 29 | 21 | 3 | |
| EOG Resources | 21 | 30 | 15 | |
| Hilcorp Energy | 17 | 26 | 4 | |

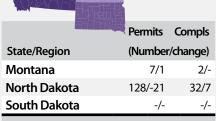
| Top Counties by Rig Count | | | | |
|---------------------------|-------|-------|-------|-------|
| County | State | 03/10 | 02/17 | 01/27 |
| Karnes | RRC 2 | 19 | 15 | 14 |
| Dimmit | RRC 1 | 10 | 10 | 10 |
| La Salle | RRC 1 | 7 | 6 | 8 |
| Webb | RRC 4 | 7 | 8 | 6 |
| Atascosa | RRC 1 | 6 | 4 | 5 |
| SOUTHTEX | AS | 85 | 79 | 70 |

Sources: TX RRC & BHI



Bakken Scout

(Last Scout: 03/06/17 to 03/30/17)



| New Permits by Formation | | | | | |
|--------------------------|-------|-------|-------|--|--|
| Formation | 04/04 | 03/14 | 02/21 | | |
| M Bakken | 31 | 29 | 34 | | |
| Three Forks | 25 | 12 | 13 | | |
| Three Forks B1 | 20 | 38 | 17 | | |
| Bakken | 18 | 12 | 16 | | |
| Three Forks B2 | 4 | 3 | 5 | | |
| Dakota | 2 | - | 1 | | |
| Swift | 1 | - | - | | |
| Three Forks B1 | 1 | 38 | 17 | | |
| Other | 33 | 23 | 41 | | |
| TOTAL | 135 | 155 | 144 | | |
| | | | | | |

Top Counties by New Permits

| County | S | tate | Perm. | BHI Rigs |
|-----------|--------------------------|------|-------|----------|
| Dunn | CALL | ND | 33 | 10 |
| McKenzie | 713-650-1212 FOR YOUR | ND | 28 | 18 |
| Mountrail | SAMPLE | ND | 25 | 5 |
| Williams | | ND | 25 | 7 |
| Burke | | ND | 10 | - |

Top Operators by New Permits

| Operator | 04/04 | 03/14 | 02/21 |
|-----------------------------|-------|-------|-------|
| Whiting O&G | 23 | 34 | 14 |
| Oasis Petroleum | 17 | 5 | 3 |
| Marathon Oil | 15 | 7 | 15 |
| Burlington Resources | 11 | 1 | 14 |
| Continental Resources | 9 | 11 | 12 |

Top Counties by Rig Count

| County | State | 03/31 | 03/10 | 02/17 |
|-----------|-------|-------|-------|-------|
| McKenzie | ND | 18 | 18 | 18 |
| Dunn | ND | 10 | 10 | 8 |
| Williams | ND | 7 | 5 | 5 |
| Mountrail | ND | 5 | 2 | 2 |
| BAKKEN | | 42 | 38 | 36 |

Sources: BHI, MBOGC, NDIC & SDDENR





Transactions Metrics and Comparables

Call For Web Demo 713-600-0115 www.plsx.com/ma

| Western Scout (Last Scout: 02/25/17 to 03/21/17) | | | | | | |
|---------------------------------------------------------|--------|---------|---------|----------|--|--|
| 24-1 | | | | | | |
| | | | | | | |
| | 才經 | | | | | |
| | | ermits | Com | pls | | |
| State/Region | | Number | | - | | |
| California | (ı | 195/54 | - | -/- | | |
| | | | - | | | |
| Colorado | | 262/28 | | 71/-23 | | |
| Nevada | | -/- | | -/- | | |
| NW New Mexic | :0 | 5/-11 | | 1/1 | | |
| Utah | | 24/7 | | 4/- | | |
| Wyoming | 2 | 44/-290 |) | 25/-3 | | |
| New Permits by | Forma | ation | | | | |
| Formation | | 03/28 | 03/07 | 02/14 | | |
| Niobrara | | 213 | 344 | 181 | | |
| Codell | | 57 | 158 | 86 | | |
| Frontier | | 48 | 52 | 39 | | |
| Tulare | | 34 | 10 | 17 | | |
| Lance | | 30 | 9 | 3 | | |
| Mowry | | 29 | 23 | 33 | | |
| Temblor | | 24 | 1 | 11 | | |
| lles Kern River | | 20 | 30 | 61 | | |
| Other | | 255 | 315 | 369 | | |
| TOTAL | | 730 | 942 | 800 | | |
| Top Counties by | Now | | | | | |
| | | | | | | |
| County | S | | | BHI Rigs | | |
| Weld | | CO | 216 | 24 | | |
| Kern | | CA | 137 | 6 | | |
| Converse | | WY | 127 | 6 | | |
| Campbell | | WY | 54 | 1 | | |
| Garfield | | CO | 35 | 5 | | |
| Top Operators b | y New | Permit | ts | | | |
| Operator | | 03/28 | 3 03/07 | 02/14 | | |
| Wold Energy | | 108 | 3 - | 7 | | |
| Chevron | | 98 | 43 | 100 | | |
| Extraction O&G | | 6 | 1 2 | 2 | | |
| Anschutz Oil | | 42 | 2 96 | 40 | | |
| Great Western C | Эp | 40 | 24 | 29 | | |
| Top Counties by | Rig Co | ount | | | | |
| County | State | 03/24 | 03/03 | 02/10 | | |
| Weld | СО | 24 | 20 | 21 | | |
| Sublette | WY | 7 | 7 | 8 | | |
| Kern | CA | 6 | 3 | 3 | | |
| Converse | WY | 6 | 5 | 4 | | |
| Garfield | co | 5 | 4 | 4 | | |
| D l | 1.1- | _ | - | | | |

UT

Sources: BHI, COGCC, DOGGR, NDOM NV, NMOCD, UDOGM & WOGCC

Duchesne

WESTERN

5

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3





CALL

PLS FOR

INFO

PLS

DV

GULF

PLS

GULF

COAST

OV/RI & M

NORTH LOUISIANA

OUACHITA PH., LA PROSPECT

4-Producing Wells. 3,150-Net Acres. NORTH LOUISIANA TREND Extension Of HZ Bossier Trend Bossier A Upper Red At 10,800 Ft. Bossier A Lower Red At 11,050 Ft.

PP

BOSSIER

TMS

BUYERS! NO

COMMISSIONS

30-Potential Wells.

2D Seismic & Subsurface Geology 100% OPERATED WI; 75-80% NRI Current Production: 330 MCFD Est Net Reserves: 13 BCF Per Well

Est Net Project Reserves: 390 BCF Total Net PV10: \$138,000,000 Existing Gathering System.

DHC: \$1,700,000; Compl: \$8,000,000

PP 2585DV

RAPIDES PH., LA LEASEHOLD

32,303-Contiguous Net Acres. **TUSCALOOSA MARINE SHALE LEASEHOLD FOR SALE** 5-Years Remaining Term. L 2615

RED RIVER PH., LA PROPERTIES

55-Producing Wells. 7,886-Net Acres. **COTTON VALLEY & HAYNESVILLE** PP 36-Operated Wells. 18-NonOperated. 74 HZ Drilling Locations Identified. Additional Behind Pipe Recompletions ~9.5 Operated & NonOperated WI Available Est Mar 2017 Production: 9.4 MMCFED MMCFED Est Mar 2017 Cash Flow: \$705,000/Mn Net Proved Reserves: 412 BCFE Net Proved PV10: \$225,000,000 ORIGINAL OFFERS DUE MAR 29, 2017 CONTACT AGENT FOR MORE INFO

UNION PH., LA PROSPECT

PP 2857DV

7,000-Acres. (HBP) **BROWN DENSE** Acreage Held By Production. 50% OF DEEP RIGHTS AVAILABLE **DV 9738L**

DV **BROWN** DENSE

ALABAMA

SOUTHERN ALABAMA 3D PROJECT

35-Square Miles. **COVINGTON COUNTY** DV Jurassic Smackover, Norphlet, Haynesville & Cotton Valley Shallow Well Depths At 11,000 Ft. SMACKOVER Delineate Structures Found 2D Seismic Data. 30% WI Available For Participation Potential Reserves: 12 MMBO

CONTACT SELLER FOR MORE INFO

DV 2268

PLS Fracture through your data barriers dataportal.plsx

MISSISSIPPI

AMITE CO., MISSISSIPPI PROSPECT

3-5 Potential Wells. 500-Acres. **LOWER TUSCALOOSA EXPLORATION** DV Lower Tuscaloosa 'A' Sand At 12,150 Ft. Subsurface Geology & 2D Seismic Data **GULF** Leases Can Deliver 72% NRI COAST Expected IP Rate: 250-350 BOPD Estimated Reserves: 700 MBO - 1 MMBO DHC: \$1,035,000; Compl: \$725,000 **DV 2496**

JACKSON CO., MS MINERALS

M 12,844-Gross Acres. 1,542-Net Acres. MINERALS FOR SALE **MINERALS** NonProducing Minerals. 12.5% Mineral Interest For Sale. CONTACT SELLER FOR INFO M 6007

JONES CO., MS PROSPECT 16-Potential Wells. 1,280-Acres.

INTERIOR SALT BASIN Cotton Valley At 11,700 Ft. On Trend With Heidelberg, West & Closure Against Salt Anticline. COTTON 2D Seismic & Subsurface Defined VALLEY 100% OPERATED WI; 72% NRI

Expected IP Rate: 300 BOPD Est Net Reserves: 500 MBO Per Well Est Net Project Reserves: 8 MMBO DHC: \$1,500,000; Compl: \$1,900,000

DV 2858

DV 5779L

MULTIPLE TEXAS GULF COAST

CONVENTIONAL EXPLORATION

GULF COAST LAND BANK High Impact Multiple Prospects. Capex Required \$12-\$15 MM PLS Orchestrating Syndicate QUALIFIED CAPITAL PLAYERS ONLY DV 2805L

FLORIDA

SOUTHERN FLORIDA PROSPECTS PLS

7-Prospects. 72-Potential Wells. SUNNILAND REEF TREND DV SOUTH FLORIDA BASIN ~23,000-Net Acres Leased. Additional ~106,000 Acres Optioned. 100% OPERATED WI AVAILABLE SUNNILAND Average Lease Is >80% NRI. Est Well EURs: 1.1 MMBO/Well Total (7-Prospects) EUR: 170+ MMBO Budgeting Or Looking To Raise \$20MM+ Estimated AFEs: ~\$3,000,000/Well

SOUTH LOUISIANA

ALLEN PH., LA PROSPECT

2-Potential Wells. DV **GULF COAST ONSHORE** Targeting 5,400 Ft. Upper Sand Total Vertical Depth 6,000 Ft. **GULF** Strat Trap w/3D Conforms To Well Control **COAST** --- Amplitude Leases Can Deliver 71% NRI Estimated IP Rates: 150 BOPD & 30 MCFD Unrisked Rsrvs: 1,270 MBO & 978 MMCF

IBERIA PH., LA PROSPECT

DHC: \$953.500: Compl: 476.900

DV 2812

DV

DEALS

FOR SALE

DV

GULF

COAST

3,400-Acres. DV **GULF COAST LOWER MIOCENE** Planulina. 20,500 Ft. 3D Seismic, SubSurface, & GeoPhysics. PLANULINA 100% OPERATED WI; 72%-75% Lease Est IP:1-2 MBOPD/ 750 BCD & 15 MCFD Well Reserves: 2.0 MMBO & 10-20 BCF Project Rsrvs:5-35 MMBO or 200-1,000 BCF DHC: \$12,526,615; Compl: \$17,736,615 CALL EXPLORATION COMPANY DV 2499

LARGE MINERAL PACKAGE

HEART OF SOUTH LOUISIANA DEEP EXPLORATION. Chris, Planulina & Brown Sand. Multi Pay Prospects: 9,200-16,000 Ft Solid Operators

New 3-D Seismic Available. Mineral & Royalty Sale Package PLS ADVISORS PREPARING PKG

M 9830RR

1-Proposed Well

SOUTH LOUISIANA PROSPECT

JEFFERSON DAVIS PARISH WOODLAWN FIELD 6 Potentially Productive Zones At 9,700' Subsurface & 3D Seismic Defined 75% Working Interest; 73% NRI Estimated Reserves: 929 MBO DV 4491

VERMILION PH.. LA MINERALS

12,190-Total Acres. (Fee/Royalty) LIVE OAK & ABBEVILLE **MULTI PAY EXPLORATION** 6,607+ Acres of Surface & Minerals 5,506+ Acres of Royalty Interest Shallow Production. Numerous Prospects. COAST All Acreage Includes 3D Seismic.

Minerals & Surface Rights. Some Royalty & Lease Bonus Income.

CONTACT PLS ENERGY ADVISORS M 2166RR









SOUTH LOUISIANA

WASHINGTON PH., LA REENTRY

1-Re-Entry Well. 640-Acres. SOUTH LOUISIANA - GULF COAST RE Rodessa, Mooringsport, Fredricksburg & Tuscaloosa Zones REENTRY E-Log & NuTech Log Supported 75% WORKING INTEREST AVAILABLE Recoverable Rsrvs: 200 MBO & 8-15 BCF CONTACT OWNER FOR MORE INFO **RE 2756DV**

SOUTH TEXAS

FRIO & ZAVALA CO., TX PROJECT

18-Producing Hz Wells. 7,000-Acres. **SOUTH TEXAS - GULF COAST** Primary Obj: Eagle Ford At 6,000 Ft. Also Buda & Austin Chalk Potential. Acreage Is Contiguous. Expect To Drill 9 Hz Wells Q1 2017 Up To 45% OPERATED WI AVAILABLE Operators Plan 6,500 Ft EUR: 400 MBO/Well Drilling AFE: \$4,000,000 CONTACT SELLER FOR MORE INFO **DV 4484PP**

CALL PLS FOR INFO

DV

FRIO

DV

FRIO

<u>PLS</u>

CHALK

PLS

DV

EAGLE

FORD

JACKSON CO., TX PROSPECT

80-Acres. **SWAN LAKE FIELD** LOWER FRIO OIL Primary Obj: Frio At 8,700' Sand 3D Seismic & Subsurface Geology 30% WI AVAILABLE; 74% NRI Estimated Production: 120 BOPD Proven Highside Closure. 80' High To Cond. FT's & Cores. Potential Reserves: 316 MBO & 833 MMCF G&G. Land & Seismic: \$80,000 Drilling: \$600,000; Compl: \$400,000 DV 1343

JIM WELLS CO., TX PROSPECT

3-Potential Wells. 161-Acres.

ORAGNE GROVE FIELD Top Basal Frio At 5,800 Ft. Potential Targets At 10 Sands Potential Reserves: 2.1 MMBO & 4.0 BCF **DV 2868**

KARNES CO., TX PROSPECT

1-Well WOC. ~500-Acre Unit. 100% HBP. **AUSTIN CHALK & EAGLE FORD** Sugarkane & Eagleville Field Includes All Depth Rights. 5,000' & 7,000' Laterals Possible. Up To 100% OPERATED WI; 75% NRI --Includes 3D Seismic EURs From 300 - 1,700 MBOE/Well Offset AC IPs >3,500 BOED CALL PLS FOR STATUS UPDATE L 2093DV

SOUTH TEXAS

KLEBERG CO., TX PROSPECT

1-PUD Oil Prospect. SOUTH TEXAS - GULF COAST DV 12 Prospective Sands From 3,000' - 7,200' Total Depth Of 7,500 Feet Updip & Syncline Separated From Field **GULF** Supported By 3D Seismic & Well Control **COAST** 100% Working Interest; 75% NRI Expected IP Rates: 150 BOPD & 250 MCFD Potential For Shallow Sand Offsets Estimated Reserves: 542 MBO & 1.79 BCF DHC: \$750.000: Compl: \$450.000 SELLER HAS DETAILED PACKAGE **BUYERS! NO** COMMISSIONS **DV 2848**

NUECES CO., TX PROSPECT

2-Potential Wells. 110-Acres. DV **FARENTHOLD FIELD** Koehler & Frio/Vicksburg At 6,300 Ft. Potential In Upper & Lower Koehler Sands **GULF** & 11 Frio/Vicksburg Sands COAST Supported By Subsurface Data Lease Can Deliver 75% NRI Field Cum Prod: 1.5 MMBO & 8.5 BCF Potential Reserves: 1.4 MMBO & 1 BCF **DV 2863**

SOUTH TEXAS EAGLE FORD

7-Active Wells, 2,240-HBP Acres. MAVERICK & DIMMIT CO. PACKAGE IMMEDIATE POTENTIAL 2-PUDs & 47-Probable Locations. 100% OPERATED WI FOR SALE Complete Infrastructure In Place. Est P1 Reserves: ~347 MBO & 1.9 BCF Full Project EUR: 4.75 MMBO & 11.8 BCF PP 1366DV

SOUTH TEXAS NONOPERATED

18-Active Wells. FRIO & ZAVALA COUNTIES BRISCOE RANCH Eagle Ford Shale **NONOP** 5-10 PUD Wells Scheduled Near Term. 10%-20% NonOperated WI; 74.5% NRI Net Production: 200 BOPD & 66 MCFD Net Cash Flow: ~\$170,000/Mn (6-Mn Avg) Estimated PUD AFE: ~\$4,300,000/Well PP 5953DV

SOUTH TEXAS PROSPECT

4-Potential Wells. 1-ReEntry. 160-Acres. DV **NUECES COUNTY** EAST CLARA DRISCOLL FIELD **FRIO** Primary Target Frio At 7,600 Ft. Lease Can Deliver 75% NRI Potential Reserves: 1.3 MMBO & 0.66 BCF DV 2864



Complete transaction services PLS for sellers www.plsx.com/advisory

SOUTH TEXAS

SOUTH TEXAS SALE PACKAGE

93,381-Contiguous Net Acres. **LEE & BASTROP COUNTIES** PP CARBONATE RICH EAGLE FORD 32.000-Net Acres in "Development Core" >250 Operated Horizontal Locations. 26-HZ Wells Completed Across Position Avg 6,800 ft. Stimulated Lateral Length 815 89% OPERATED WI; 79% NRI **BOED** Net Production: 815 BOED (94% Oil) Est 2017 Cash Flow: \$1,916,666/Month Total Developed Reserves: 6.7 MMBOE Total Developed PV10: \$106,000,000 CONTACT AGENT FOR UPDATE **PP 2610DV**

SOUTHEAST TEXAS

GALVESTON CO., TX PROSPECT

2-PUDS; Multiple Wells and Targets ALTA LOMA E. FIELD FRIO TREND Middle & Lower Frio Sands. Depths Range from 12,000-14,500 Ft. Proprietary 3-D & Subsurface Control. 50% NonOperated WI; 75% Lease NRI Initial PUD EUR: 230 MBC & 4.6 BCF Project EUR: 1.56 MMBC & 32 BCF D&C Costs: \$3.9MM; Reentry \$1.5MM DV 2134

PUD/3D

DV

DEALS FOR SALE

HARRIS CO., TX FARMOUT

PLS

PP

EAGLE

FORD

PLS

PP

F0 8,300-Gross Acres. **HOCKLEY SALT DOME GULF** Multiple Pay Zones For Production COAST 100% OPERATED WI; 70% NRI Est Recoverable: 50-150 MMBOE & 5 TCF CONTACT AGENT FOR UPDATE FO 2060

LIBERTY CO., TX PROSPECT

600-Acres. 5-Potential Wells. **TEXAS GULF COAST** DV Obj 1: Upper Wilcox. 8,900 Ft. Obj 2: Middle Wilcox. 10,200 Ft. 2D Seismic, Subsurface & Geophysics Terms Negotiable & Operations Available WILCOX 100% OPERATED WI; 75% NRI Offset Oil IP: 50-120 BOPD Offset Gas IP: 500-2,000 MCFD Est Reserves/Well: 140 MBO & 1.0 BCF Est Rsrvs/Project: 700 MBO & 5.0 BCF DHC: \$700,000; Compl: \$1,200,000 DV 8452





PLS

PP

~220

BOED

DV

MIDLAND

BASIN

DEALS

SOUTHEAST TEXAS

MATAGORDA CO., TX PROSPECT

136 Acre Four Way Closure. **GULF COAST BASIN UPPER FRIO TREND**

Multiple Drilling Targets Proposed Total Depth: 10,000 Ft. Proven Oil and Gas Productive

3D Seismic Data and Well Control **LEASE WILL DELIVER 75% NRI** Expected Well IP: 300 BOPD

COMMISSIONS Estimated Potential: 1.4 MMBO Potential PV10 Value: \$8.469.000 DHC: \$744,000; Completion: \$506,000

DV 2948

SAN JACINTO CO., TX NONOP

8-Producing Wells. 31-Behind Pipe. SHEPHERD FIELD Wilcox Consolidated Formation Up to 9.25% WI & 7.23% NRI Est. Net Prod: 20 BOED (35% Oil)

Net Cash Flow: ~\$14,000/Mn Net Proved Rsrvs: 53.3 MBO & 1.6 BCF Net Proved PV10: \$2,703,910

CONTACT PLS ENERGY ADVISORS **PP 8416DV**

PP 7771DV

DV 8609

SOUTHEAST TEXAS SALE PKG

43-NonOperated Producing Wells. POLK LIBERTY & MONTGOMERY COS. PP Wilcox, Jackson, Yegua & Cockfield. ~10% NonOperated WI & ~7.43% NRI ~50 Est. Net Prod: 52 BOED (99% Oil) **BOED** Net Cash Flow: ~\$29,000/Month Net PDP Reserves: 1.4 MBO & 157.8 MMCF Net PDP PV10: \$2.121.430 CONTACT PLS ENERGY ADVISORS

WHARTON CO., TX PROSPECT

Proposed Shallow Gas Well. DV WEST BERNARD FIELD PROLIFIC PRODUCING AREA Miocene. ~3,200 Ft. **SHALLOW** 3-D Seismic Data Available 50% NonOperated WI For Sale Nearby Reservoir Prod 6.3 BCF (3 Wells) Potential P50: 1.6 BCF CONTACT OPERATOR FOR DETAILS

MULTISTATE PERMIAN

CROCKETT CO., TX ACREAGE

3,000 - 4,000-Net Acres. **PERMIAN** Wolfcamp, Spraberry & Clear Fork Rights

Access To Multiple Horizon Targets Up to 100% OPERATED WI; 75% NRI Leases Are 100% Held By Production **CLIENT UPDATING ENG & GEO** L 9981DV

MULTISTATE PERMIAN

ECTOR CO., TX ACREAGE

600-Net Acres. (100% HBP) **WOLFCAMP**

DV

FRIO

PLS

PP

WILCOX

PLS

PLS

TREND

BUYERS! NO

Wolfcamp, Spraberry & Clear Fork Rights Access To Multiple Horizon Targets Up to 100% OPERATED WI; 75% NRI PLS IS GATHERING BUYER LEADS L 9982DV

HOWARD CO., TX ACREAGE

560-Net Acres. (100% HBP) WOLFCAMP

Wolfcamp, Spraberry & Clear Fork Rights Access To Multiple Horizon Targets **WOLFCAMP** Up to 100% OPERATED WI; 75% NRI PLS IS GATHERING BUYER LEADS L 9984DV

PECOS CO., TX ACREAGE

834-Net Acres. **WOLFCAMP**

L 9985DV

Wolfcamp, Spraberry & Clear Fork Rights Access To Multiple Horizon Targets **WOLFCAMP** Acreage Is 100% HBP. Up to 100% OPERATED WI; 75% NRI PLS IS GATHERING BUYER LEADS

PERMIAN BASIN ACREAGE

5,000 -7,000 Gross/Net Acres ECTOR, PECOS, CROCKETT, **HOWARD & REAGAN CO., TX** Wolfcamp, Spraberry & Clear Fork Rights

WOLFCAMP Access To Multiple Horizon Targets Up to 100% OPERATED WI; 75% NRI Leases Are 100% Held By Production CALL

CLIENT ALSO UPDATING ENG & GEO L 2422DV

REAGAN CO., TX ACREAGE

480-Net Acres. (100% HBP) WOLFCAMP

Wolfcamp, Spraberry & Clear Fork Rights WOLFCAMP Access To Multiple Horizon Targets Up to 100% OPERATED WI; 75% NRI PLS IS GATHERING BUYER LEADS L 9983DV

WEST TEXAS SALE PACKAGE

70-Producing Wells. 24,386-Net Acres. CRANE, PECOS & TERRELL COS. **CENTRAL BASIN PLATFORM** Upper Devonian, Atoka, Strawn, Barnett, Woodford, Canyon, Montoya & Clearfork 50-100% OPERATED WI; 37.5-75% NRI Recent Net Production: 828 BOED Expected Cash Flow: \$550,000/Month Total Proved Reserves: 10,191 MBOE Total Proved PV10: \$89,955,000 ORIGINAL OFFERS DUE MAR 28, 2017 CONTACT AGENT FOR UPDATE PP 2780DV

PERMIAN / NEW MEXICO

SOUTHEAST NEW MEXCO SALE PKG

19-Producers. 7-Shut In. 2,650 Net Acres. LEA, CHAVES & EDDY COUNTIES **PERMIAN BASIN**

Extensive Development Potential ~93% OPERATED WI; ~73% NRI Gross Production: 18 BOPD & 93 MCFD Net Production: 14 BOPD & 59 MCFD SELLER WANTS OFFERS BY APR 2017

PP 9873DV

PLS

PLS

PLS

PLS

PLS FOR

INFO

PLS

PERMIAN / WEST TEXAS

IRION CO., TX PROJECT

2,000-Gross/Net Acres MIDLAND BASIN - STACKED PAYS Horizontal Wolfcamp A, B & C and Cline

WOLFCAMP Acreage Is Contiguous and HBP. 100% OPERATED WI; 75% NRI Offset By Devon and Broad Oak Energy.

L 1071

IRION CO., TX PROPERTY

2-Active HZ Wells. 2,900-Gross & Net Acres. PERMIAN BASIN - WOLFCAMP Wolfcamp B Bench Wolfcamp A, B, C & Ellenburger Potential 2 Additional Drilling Pads Built 6 Sq. Miles Of Proprietary 3D Seismic 100% OPEARTED WI; 74-83.375% NRI Nov 2016 Net Production: ~220 BOED Nov 2016 Net Cash Flow: ~\$157,000/Mn

Gross Prod: 90 BOPD & 1.114 MCFD 4 Water Supply Wells.

CONTACT AGENT FOR UPDATE PP 9201DV

FOR SALE

TOM GREEN CO., TX PROSPECT

6-Potential Wells. 247-Acres. MIDLAND BASIN - EASTERN SHELF Canyon Lime At 4,700 Ft. Canyon Lime At 4,900 Ft.

Low Risk Re-Entry Of Deep Dry Hole Defined By Subsurface Geology 100% OPÉRATED WI; 77% NRI

Expected IP Rate: 35-50+ BOPD Est Net Reserves: 70 MBO/Well DHC: \$178,000; Compl: \$259,000

DV 2605

UPTON & REAGAN CO., TX LEASEHOLD

3,500-Net Acres (HBP). **CORE MIDLAND BASIN** Horizontal Development

Spraberry, Cline, Wolfcamp A, B & C 7,500 Ft. - 10,000 Ft. Lateral Development MIDLAND

84 Drilling Locations Identified Position Is Highly Contiguous 100% OPERATED WI; Avg ~81% NRI CONTACT AGENT FOR UPDATE

L 2624DV

~830 **BOED**

PP



PERMIAN / WEST TEXAS

WEST TEXAS MINERALS FOR LEASE

1,423-Gross Acres. CROCKETT CO., TX 12.5% MINERAL INTEREST LEASE M 2498L

WEST TEXAS PROPERTIES FOR SALE

10-Wells. 1,600-Total Acres. **REAGAN & IRION COUNTIES** SPRABERRY PLAY Midland Basin Vertical Targets &

SPRABERRY Wolfcamp Shale Horizontal Targets 160 Acre Spacing.

PP

CALL

OPERATIONS NEGOTIABLE Current Production: ~6.6 BOPD CONTACT SELLER FOR MORE INFO **PP 2808DV**

PLS FOR INFO

ALPINE HIGH MINERALS FOR SALE PLS

1-Clean Section. REEVES COUNTY, TX Wolfcamp, Bone Springs, Barnett & **ALPINE** HIGH Woodford Objectives 2-Offset Wells Currently Being Drilled. MINERALS FOR SALE M 2283

ANDREWS CO., TX LEASEHOLD

430-Net Acres. **PERMIAN BASIN** Multiple Sections - Including Sec 16, SAN Blk A-30, et al. **ANDRES** NonProducing Leasehold w/ Potential in San Andres, Clearfork, & Wichita Albany. 100% OPERATED WI FOR SALE TERMS NEGOTIABLE L 5889

CRANE & PECOS CO., TX MINERALS

19.350-Net Mineral Acres. PERMIAN BASIN M S. Delaware Basin & Central Basin Platform HZ Development Upside. Acreage Offset Apache's Alpine High Play ALPINE Legacy HBP Position In Crane County HIGH 19.2% ROYALTY INTEREST AVAILABLE 2016 Income: \$208,333/Month CONTACT AGENT FOR UPDATE M 2690

GLASSCOCK CO.. TX ASSETS

8-Producing Wells. ~1,455-Net Acres. **MIDLAND BASIN** 7 Vertical & 1 Horizontal Well. Wolfcamp A, Middle & Lower Spraberry Upper Spraberry, Jo Mill, Wolfcamp B & Acreage Is ~95% HBP & Contiguous Avg 98% OPERATED WI AVAILABLE Net Production: 475 BOED Private SWD Owned & Operated. AGENT WANTS OFFERS APR 5, 2017 **PP 2751DV**

PERMIAN / WEST TEXAS

REEVES CO., TX PROPERTY 1-Producing Well. ~3,108-Net Acres.

WEST TOYAH UNDEVELOPED LEASE **PERMIAN BASIN** 512-Net Acres Held By Production. OPERATED WI AVAILABLE Gross Prod: 28 BOPD & 568 MCFD CONTACT AGENT FOR MORE INFO PP 9170DV

HOCKLEY CO., TX PROSPECT

640-Acres. NORTHERN MIDLAND BASIN SHELF SMYER FIELD Upper Clear Fork Formation 50% NonOperated WI Available MIDLAND Smyer Field Cum Production: 55 MMBO BASIN Initial Well Expected To Spud Q2 2017

Estimated Ultimate Potential: >1.0 MMBO Operated Substantial Infrastructure In Area. Total Cost Thru Tanks: \$1,300,000 DV 2341

NORTH MIDLAND BASIN EXTENSION PLS

Significant Acreage Position. DV **UPPER WOLFCAMP PROJECT** Highly Technical & Scientifically Defined. Defined By Offset Well Logs & Geochem. Vertical Test Wells Drilled On Acreage. WOLFCAMP SEEKING CAPITAL & JV PARTNER Horizontal Upper Wolfcamp Proposals QUALIFIED BUYERS ONLY **BUYERS! NO** DV 2968L COMMISSIONS

NORTH MIDLAND BASIN PROSPECT

~8,600-Net Acres w/Running Room. DV DAWSON COUNTY, TEXAS 3D & Commingled Vertical Potential. **SPRABERRY** Horizontal Upside & PDP Targets. Subsurface & 3D Data Available. 100% OPERATED WI; 75% NRI Potential Reserves: 200-400+ MBOE/Well DV 5244

WEST TEXAS SUB PKG FOR SALE

56 Active. 21-SI. 2-SWD. 2 Inj. 9-Tas SOUTHERN PERMIAN BASIN 6.350 Gross Acres. 4.760 Net Acres **Extensive Development Potential** Garza, Andrews, Howard, Pecos, Midland, Upton, Reagan, Sterling, Irion. Also Edwards County. ~72% OPERATED WI; ~56% NRI Gross Prod: 164 BOPD & 584 MCFD Net Production: 64 BOPD & 351 MCFD SELLER WANTS OFFERS BY APR 2017 **PP 9872DV**



PERMIAN / WEST TEXAS

WINKLER CO., TX PROSPECT

PP

~120

BOED

PP

DV 2918

12-Potential Wells. 160-Acres. HENDRICK FIELD PUD OPPORTUNITY Yates, 7 Rivers & Capitan Formations Target Depths: 2,000-2,800 Ft. 100% OPERATED WI; 74% NRI Expected IP Rate: 30-45 BOPD Estimated Recovery: ~117 MBO/Well **DV 1396**

YATES

PLS

PLS

PLS

DV

WINKLER CO., TX REACTIVATION

27-Wellbores. 670-Gross/Net Acres. **HALLEY FIELD** RE Yates At 2,600 Ft. - 3,000 Ft. 10-Wellbores w/Pump Units & 3 -SWD 24-PDNP & 12- PUD Drilling Locations Subsurface & Interpretation Data Available. 100% OPERATED WI; 74% NRI PERMIAN Potential Production: 20-40 BOPD/Well Expected IP PUDs: 60-70 BOPD/Well Est Net Well Reserves: 60+ MBO/Well CONTACT SELLER FOR MORE INFO

GAINES CO., TX ACREAGE

RE 1385DV

~1,124-Net Acres **SOUTHEAST GAINES** MIDLAND BASIN Wolfcamp, Spraberry & Devonian Prospects Vertical or Horizontal Drilling Potential DEVONIAN 100% OPERATED WI; 80% NRI **DEALS** Leases Expire Q3 & Q4 2020 **FOR** Area IP Rates: >1,000 BOED SALE L 1360DV

KANSAS

EDWARDS CO., KANSAS PROSPECT

20-Potential Wells. 640-Acres. **MIDCONTINENT** DV Mississippian Sand At 4,500 Ft. Cherokee Sand At 4,700 Ft. MISSISSIPPIAN Subsurface Geology Available. 100% WORKING INTEREST; 80% NRI Expected IP Rate: 100 BOPD (Miss) Expected IP Rate: 75 BOPD (Cherokee) Est Net Reserves: 75 MBO/Well DHC: \$150,000; Compl: \$280,000 **DV 2919**

PAWNEE CO., KANSAS PROSPECT

20-Potential Wells. 640-Acres. MIDCONTINENT DV Mississippian Sand At 4,500 Ft. Cherokee Sand At 4,700 Ft. Subsurface Geology Available. 100% WORKING INTEREST; 80% NRI CHEROKEE Expected IP Rate: 100 BOPD (Miss) Est Net Reserves: 75 MBO/Well Est Project Reserves: 1.5 MMBO DHC: \$150,000; Compl: \$280,000

Find more listings at **E** www.plsx.com/listings

PP

475

BOED



NORTH TEXAS

JONES CO., TX PROSPECT

6-10-Potential Wells. 160-Acres. **EASTERN SHELF** Frye/Tannehill Sand At 1,650 Ft. Bluff Creek Sand At 1.900 Ft. 100% OPERATED WI; 77% NRI Expected IP Rates: 20-100 BOPD

TANNEHILL

Est Net Reserves: 10-40 MBO Per Well DHC: \$100,000; Compl: \$110,000 **DV 2474**

NORTH TEXAS ASSETS FOR SALE

1,346-Producing Wells. 73,000-Net Acres. **BARNETT SHALE** All Major Phase Windows Of Barnett

Acreage Is 93% Held By Production >1,300 HZ Development Locations Varying Operated & NonOperated WI

Jan 2017 Production: 185 MMCFED Production Is 65% Gas Est 2017 Cash Flow: \$9,916,666/Month

Total Reserves: 2,875 BCFE Total PV10: \$1,067,000,000 CONTACT AGENT FOR UPDATE PP 2587DV

CALL PLS FOR INFO

PP

MMCFED

PP

NORTH TEXAS ASSETS FOR SALE

17-SWD Wells. ~80,000-Net Acres. JACK, PALO PINTO & CLAY COUNTIES PP FORT WORTH BASIN 224-Behind Pipe Opportunities. 398-PUD & 232-Probable Drilling Locations ~2,600 ~100% OPERATED WI; ~75% NRI BOED Dec 2016 Net Sales: ~2,600 BOED Total 2P Reserves: 82,160 MBOE Total 2P PV10: \$357.000.000 CONTACT AGENT FOR UPDATE PP 2550DV

NORTH TEXAS SUB-PACKAGE

35-Wellls,. 20-Active 7-Injector. 7-Shut In. WILBARGER, BAYLOR & KING CO. 2,470 Net Acres. **Development Potential Identified** ~79% OPERATED WI; ~65% NRI Net Production: 47 BOPD & 49 MCFD CONTACT AGENT FOR UPDATE **PP 9871DV**

MULTISTATE MIDCONTINENT

OKLAHOMA & TEXAS PANHANDLE

1,900 Wells. Production Plus Net Minerals **ANADARKO & HUGOTON** 830,000 Acres Plus 49,000 Net Minerals ~50 Workover Opportunities **MMCFD OPERATED WI AVAILABLE** Current Production: 48 MMCFD (91% Gas) Acreage Is Held By Production. Compression & Midstream Optimization CONTACT AGENT FOR MORE INFO **PP 2669DV**

Permian -

RSP steadily increases in productivity **♦ Continued From Pg 1**

Recent well results in Midland County, Texas, have confirmed the company's enhanced completion design. The Mask 1004/1005 two-well pad flowed an aggregate peak 30-day rate of 2,932 boe/d (73% oil). With 9,500-ft laterals, one well targeted the Lower Spraberry and the other the Wolfcamp B. Four Spanish Trail wells sport



6,500-ft laterals—two each targeting the Wolfcamp A and B-and reached an aggregate

Ramping from 5 to 8 rigs this year, with 82-95% output growth.

peak 30-day rate of 6,212 boe/d (79% oil). COO Zane Arrott noted on the Q4 call that the four Spanish Trail wells flowed an aggregate peak 24-hour rate of 7,100 boe/d. These rates are the highest of recent RSP completions.

In the Delaware Basin, RSP has been working over wells to boost rates. The

Two-well pad flows ~3,000 boe/d (73% oil) in Midland County.

Brunson 1111 achieved 1,035 boe/d post ESP, up from 460 boe/d. The Avalon well has an 8,000-ft lateral and has been

producing for 206 days. The Ludeman 505 reached 1,033 boe/d from 337 boe/d. This Second Bone Spring well has been online 174 days and sports a 4,400-ft lateral. Arrott noted that most of Silver Hill's wells were brought online at a restricted rate.

Both of these wells' current rate are substantially above their IPs.

Will complete 85-95 wells, up from 59 wells during 2016.

Like most companies, RSP's 2017 plan is expected to build momentum in 2H17. It will run four Midland rigs and add rigs throughout the year in the Delaware to potentially end the year with eight total operated rigs. Spending will be 125% more than 2016 at midpoint, or \$625-700 million, with 60-70% slated for the Midland Basin and the remainder for the Delaware. RSP will complete 85-95 wells. It completed 59 wells in 2016. Production is expected to be 53,000-57,000 boe/d, up 82-95% over 2016.

RSP Raises 45 Type Curves Across Its Midland Position RSP increased average type curve for aggregate Midland Basin position ■ Adjusted IP and initial decline / slope of RSP type curves to match early time outperformance ■ Type curves prepared by RSP third party engineers, Netherland Sewell & Associates, Inc Across the 45 type curves RSP carries internally, range increases on a Boe basis are as follows (vs. prior year levels): ■ 1st Year Cuml: (0 – 60%) increase ■ 2nd Year Cuml: (0 -60%) increase ■ EUR: (0 – 35%) increase ■ Early production is the most important driver of a well's value (NPV / IRR); EURs are less impactful to well value and rate of return Certain areas and zones had more dramatic increases than the average RSP YOY TYPE CURVE INCREASES - BY AREA, ZONE AND LATERAL LENGTH (BOE BASIS) 70% ■1st Year Cuml Change 60% ■2nd Year Cuml Change ■ EUR Change 50% 40% 30% 20% 10% 0% Source: RSP Permian Feb. 27 Presentation via PLS docFinder www.plsx.com/finder



OKLAHOMA

ALFALFA CO., OK MINERALS

30-Net Mineral Acres. **NORTHERN OKLAHOMA MINERALS** MINERALS FOR SALE NonProducing Minerals. CONTACT SELLER FOR MORE INFO

CENTRAL OKLAHOMA ASSETS 59.746-Net Acres. 127-Sections. 4-SWD.

ANADARKO BASIN - STACK

M 2535

Garfield & Kingfisher Counties Osage, Meramec & Oswego Formations Position Is ~85% Held By Production Title Opinions Covering 100% Of Acreage 74% OPERATED WI AVAILABLE Current Net Production: ~2,200 BOED PV10: >\$50.000.000 AGENT WANTS OFFERS MAY 3, 2017 **PP 2000DV**

CALL **PLS FOR**

PP

STACK

INFO

PP

~2.200

BOED

COTTAGE GROVE HZ OIL PROGRAM

20-Potential Wells, 7,000-Net Acres. ELLIS & WOODWARD CO.'S. OK DV **ANADARKO BASIN** Obj 1: Cottage Grove. 7,200 Ft. Obj 2: De Moines/Oswego. 7,500 Ft. Offsetting Existing Hz Well Production. Petrophysics, Core Data & Subsurface ANADARKO 40-100% OPERATED WI; 77.25% NRI Exp IP (Cottage Grove): Up to 700 BOPD Exp IP (Des Moines/Oswego): 500 BOPD Estimated Reserves/ Well: Up to 300 MBO Estimated Reserves/Project: 10 MMBO Drill & Completion Costs: \$2,000,000 CONTACT SELLER FOR MORE INFO

OKLAHOMA ASSETS FOR SALE

DV 8837L

300,000-Net Acres. 58,000-NMA. WESTERN ANADARKO BASIN PP ~2,000-Producing Wells. Woodford, Springer, Cleveland, Tonkawa & Conventional Granite Wash Formations Current Production: 85 MMCFD (71% Gas) MMCFD CONTACT AGENT FOR MORE INFO PP 2665DV

OKLAHOMA NONOP PROPERTIES

220-Producing Wells. ~1,400-NRA. **MIDCONTINENT** STACK & Arkoma Woodford Formations Position In Rapidly Growing Plays. Balance Of Legacy Production & HZ Development Inventory. NONOPERATED WI FOR SALE Growing Cash Flow. AGENT WANTS OFFERS APR 25, 2017 **PP 2824DV**

More listings at **plsx.com/listings**

OKLAHOMA

OKLAHOMA UPSIDE PROSPECTS

93-Rigs Running. DV **MIDCONTINENT** >4,300 Future Development Locations. MIDCON Significant Regulatory Activity. UPSIDE DEVELOPEMT FOR SALE AGENT WANTS OFFERS APR 25, 2017 DV 2825

SOUTHEAST OKLAHOMA PACKAGE

2,000+ Producing Wells. ~226,600-Net Acres. ARKOMA & WOODFORD SHALE PP ~12,900-Net Mineral Acres. Drill Depths From 7,000 Ft. To 11,000 Ft. Identified & Quantified Woodford Development Large Contiguous Leasehold Position ~35 Varying Operated & NonOperated WI Ava Net Production: ~36 MMCFED **MMCFED** Dry Gas With Limited Water Production Monthly EBITDA: ~\$750,000 Per Month Infrastructure In Place. ORIGINAL OFFERS DUE MAR 31, 2017 CONTACT SELLER FOR MORE INFO PP 2590DV

MULTISTATE EASTERN

ILLINOIS & INDIANA PROPERTY

9-Wells. 1-SWD. 990-Net Acres. **ILLINOIS BASIN** PP 20% Of Acreage Held By Production Potential Upside. 100% OPERATED WI; 75-77% NRI **EASTERN** 6-Mn Gross Production: 87 BOPD 9-Mn Avg Net Cash Flow: \$61,734/Month PDP Reserves: 236 MBO PDP PV10: \$3,350,000 **BUYERS! NO** COMMISSIONS CONTACT AGENT FOR UPDATE **PP 2061DV**

NEW YORK

BROOME CO., NY PROSPECT

36-Potential Wells. 2,910-Acres **APPALACHIAN BASIN** DV Obj 1: Marcellus Shale. 5,000 Ft. Obj 2: Utica Shale. 6,500 Ft. MARCELLUS/ 100% OPERATED WI; 80% NRI UTICA Estimated IP: 10 MMCFD Estimated Well Reserves: 5.0 BCF Estimated Project Reserves: 180 BCF Part Of Coalition w/ 70,000+ Acres. CONTACT SELLER FOR MORE INFO DV 2671



OHIO

MONROE CO., OH MINERALS

+/-33.55-Net Mineral Acres. **WASHINGTON TOWNSHIP MINERALS APPALACHIA BASIN** Acreage Is Held By Production. 12.5% ROYALTY RATE M 5127

OHIO ACREAGE

2-Tracts. 500-Acres. UTICA &--- MARCELLUS **DV 9057L**

PLS UTICA

TUSCARAWAS CO., OH ACREAGE

1.500-Contiguous Acres. FAIRFIELD TOWNSHIP Drilling Tremendouc Clinton Oil Wells EASTERN -- Using Directional Drilling. ACREĂGE FOR LEASE L 2955

PENNSYLVANIA

CENTRAL PENNSYLVANIA LEASE

20,000-Acres. **BLAIRE & CENTRE COUNTIES** MARCELLUS / UTICA Primary Horizontal Objectives: Thick -- MARCELLUS Dry Marcellus & Utica Dry Gas Potential 100% OPERATED WI, NRI Negotiable Lease Term: 5 + 5 L 3810

GREENE CO., PA MINERALS

+/-54-Net Mineral Acres. **MONONGAHELA TOWNSHIP APPALACHIA BASIN** 12.5% ROYALTY RATE M 2391

MINERALS

PENNSYLVANIA

IPOTTER CO., PA MINERALS

+/-165-Net Mineral Acres. **GENESEE & OSWAYO TOWNSHIPS** APPALACHIAN BASIN MINERALS FOR SALE OR LEASE M 2794

MINERALS

NDIANA CO., PA ASSETS

116-Wells. 197,000-Acres. **NITTANY CBM PACKAGE** Significant Amount Of Undeveloped Acres Leases Can Deliver Avg 98.76% NRI Current Production: ~3.8 MMCFED No Drilling Commitments. Pipeline System, 3 Compressor Site & Water Discharge Site & Permits.

CONTACT SELLER FOR MORE INFO

PP 2299DV

PP

CBM

DEALS FOR SALE





PENNSYLVANIA

INDIANA CO., PA LEASE

2,000-Acres. DV WESTERN PENNSYLVANIA MARCELLUS / UTICA **MARCELLUS**

Primary Horizontal Objectives: Thick Dry Marcellus & Utica Dry Gas. 100% OPERATED WI, NRI Negotiable Lease Term: 5 Yr + 5 Yr Extension CONTACT SELLER TO LEARN MORE **DV 9779**

MARCELLUS PROSPECT

BUYERS! NO COMMISSIONS 15.000-Net Acres.

DV

NEW MARCELLUS FAIRWAY 2D Seismic Confirms Unfaulted Fairway Proprietary Core Labs Data.

Prospect Rock Qualities Analogous --- To Prolific Marcellus Producing Area. MARCELLUS FAIRWAY 100% OPERATED WI; 80% NRI

Potential Reserves: 1 TCF Potential EUR: 15 BCF Per Well Pipeline Within Prospective Area. **DV 4627**

WEST VIRGINIA

WEST VIRGINIA ACREAGE

PLS >4,000-Acres. 11-Area Tracts. **MARCELLUS PROJECT** >80% OPERATED WI; 75-80% NRI -Offset by Top Tier Marcellus Operators MARCELLUS EUR: 2.0-2.2 BCF Per 1.000 Ft Lateral PLS PREPARING SALE PACKAGE L 2750DV

COLORADO

COLORADO FARMIN OPPORTUNITY

2-Units. >33,000 Gross Acres. **RIO BLANCO & MOFFATT COUNTIES** DV **PICEANCE BASIN** Unitized on Niobrara Formation. **NIOBRARA** 13,100 Ft. Vertical to Frontier Formation ~22-100% OPERATED WI AVAILABLE 2014 HZ Niobrara Well Flowed 891 BOPD **DEALS** 21 Month Cum of 147 MBOE (69% Oil) **FOR** Offset Prospect Rsrvs: 200-500 MMBOE SALE **DV 2935FO**

DJ BASIN NONOP ASSET SALE

~3,800-Net Acres. 7-Producing Wells. ADAMS & WELD CO., CO PP South Wattenberg Brighton Area Codell & Niobrara A, B & C 5 Wells Being Completed & Online Q2 2017 940 450+ Gross Potential Locations. **NONOPERATED WI AVAILABLE BOED** Net Production: 940 BOED (70% Oil) Operators: Great Western, PDC Energy, Petro Operating & Ward Petroleum AGENT WANTS OFFERS EARLY MAY 17 **PP 2351DV**

GOM & Alaska PLS PetroWire Database Project Updates

| Date | Location | Abstract | | |
|-----------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Gulf of I | Mexico | | | |
| Mar 31 | Gunnison | Anadarko is preparing to decommission the Gunnison spar platform, which came online in late 2003. | | |
| Mar 30 | MP 270 (Hummer) | Eni awarded a turnkey contract in Jan. for FEED of production facilities and installation of the platform desk onto the jacket and for planning, installation & hook up of the pipelines connecting the platform to pipelines. First production is expected in late 3Q17. | | |
| Mar 27 | Kaikias | Technip has been awarded a contract for the delivery, integration and installation of the subsea production system (SPS) and SURF equipment for phase 1. | | |
| Mar 24 | Vito | Statoil says FID should come before YE17. The preferred development concept is a 100,000 boe/d semi-submersible production unit. | | |
| Mar 21 | Mad Dog | BP awarded OneSubsea (Schlumberger) an EPC contract to supply the subsea production system for the Mad Dog 2 development. It includes subsea manifolds, trees, control system, single and multiphase meters, water analysis sensors, intervention tooling and test equipment for producer and water injection wells. | | |
| Mar 17 | Green Canyon 250 | Results from BHP Billiton's Wildling exploration wel will likely become available in mid-2017. | | |
| Mar 17 | Julia Call | In Feb, ExxonMobil filed a permit to temporarily abandon the Julia 5 sidetrack. ExxonMobil is still evaluating forward plans for the well. The sidetrack was permitted to kick off at 14,067 ft. Julia-5 is permitted to a depth of 31,700 ft. | | |
| Mar 17 | Web Demo 713-650-1212 Anchor | Chevron has made significant oil discovery with the Anchor-4 appraisal well drilled with the Pacific Shara drillship in 1,579 m of water. The well found about 800 ft net oil pay in multiple Inboard Lower Tertiary reservoirs. The original Anchor discovery well was drilled in 2014 and was followed by two appraisals in 2015, each encountering high quality oil pay in multiple Lower Tertiary Wilcox sands. | | |
| Mar 14 | Mormont | LLOG began drilling Mormont-1 on Feb. 28. | | |
| Alaska | | | | |
| Mar 21 | Icewine | Doyon Drilling's Arctic Fox rig has been mobilized to the Icewine-2 location. Cellar and conductor installation is underway on the Franklin Bluffs pad. Spudding is on schedule for April. Stimulation and flow test of the HRZ shale is expected to commence in June or July. | | |
| Mar 19 | Colville River Unit | ConocoPhillips has postponed drilling of the Putu-1 exploration well due to strong opposition by the Inu piaq Nuiqsut village. The well is located 3 km from th village. However, the Alaska Natural Resources Commissioner requires the well to be drilled before June to comply with licence commitments and has called for \$12.5MM in performance bonds from ConocoPhilips and a further \$1.5MM in compensation if the we is not drilled. | | |



COLORADO

LARIMER CO., CO PROPERTY

18-Producers. 4,689-Acre Unit WELLINGTON OIL FIELD Muddy Sandstone Production. 4,250-5,100' Niobrara, Dakota, Lyons & Basement. 180,000 Acre Ft Reservoir in ---- 3.500 Ft. Structure Closure 100% OPERATED WI; 75% NRI Gross Production: 50-55 BOPD Seeking Capital for Muddy EOR Gross Cash Flow: \$125,000-\$150,000/Mn OOIP: >120 MMBO - Recovery <7% CALL SELLER FOR MORE INFO PP 3337DV

CALL PLS FOR INFO

PLS

DV

500+

MBOE

PP

BOPD

RIO BLANCO CO., CO ASSETS

123-Active Wells. ~25,000-Net Acres. WHITE RIVER DOME PP Rights Are Mostly Surface To Mesa Verde Acreage Is 98% Held By Production. 41-High Graded 40-Acre Drilling Locations **MESA** Avg 99% OPERATED WI; 83% NRI Current Production: 60 BOPD, 5 MMCFD **VERDE** & 180 BNGLD Projected 2017 Cash Flow: \$71,250/Mn CONTACT SELLER FOR MORE INFO PP 2614DV

MULTISTATE ROCKIES

WILLISTON BASIN MINERALS FOR LEASE

~6.000.000-Mineral Acres. MONTANA, NORTH & SOUTH DAKOTA **ROCKIES** MINERALS FOR LEASE CONTACT MINERAL OWNER FOR INFO M 2680

NORTH DAKOTA

BOWMAN CO., ND PROPERTY

1-Unit. 50.000-Acres. WILLISTON BASIN CEDAR HILLS ANTICLINE **ROCKIES** Red River C & D Benches **OPERATED WI AVAILABLE** CONTACT SELLER FOR MORE INFO L 2710PP

NORTH DAKOTA DEVELOPMENT

22,988 Acres. Scalable up to 64,761 ac. MISSION CANYON PROJECT **MIDALE & NESSON CARBONATES** Shallow Depths: ~5,000-6,000 Ft. New Age Horizontal Drilling Applications High Porosity. Low Permeability. FOR SALE OR CAPITAL RAISE Avg. Offset Hz IP Rates: >380 BOED EURs: 300 MBO (480 MBOE)/Well Horizontal D&C Costs: \$2.7-\$3.7 MM 2 Mile Lateral Delivers 80% IRR Full Development Could Require \$50MM **DV 9006L**



WILLISTON BASIN ASSETS FOR SALE

197-Total DSUs. 282-Producing Wells. DIVIDE & WILLIAMS CO., ND PP 123,790-Net Contiguous Acres. 905-Gross & 471-Het Undeveloped Locations 10,400 Varying Operated & NonOperated WI BOED Current Net Production: 10,419 BOED Proj'd 12-Mn Cash Flow: ~\$7,250,000/Mn Avg Original Oil In Place: ~18.3 MMBO Net PV10: ~\$299,000,000 AGENT WANTS OFFERS APR 26, 2017 PP 2971DV

UTAH

WEST-CENTRAL UTAH OIL PROSPECT

24-Potential Wells. >49,000-Acres. JUAB & MILLARD COUNTIES Shallow Drilling Depths At <6,000 Ft. Multiple Drilling Opportunities Along Fairway. Seismic. Proprietary Geophysics & --Geochemistry, Subsurface & Gravity Data SHALLOW Leases Can Deliver 87.5% NRI Well Reserves: 10+ MMBO/Well Project Reserves: 84 MMBO DHC: <\$1,500,000; Completion: <\$800,000 **DV 1190L**

MONTANA

VALLEY CO., MONTANA ASSETS

41-Wells. 4-SWD. 11,532-Net Acres. CONVENTIONAL OIL PP Charles C & Nisku Formations Acreage Is 76% Held By Production 31 Total Shallow 3P Locations Identified Additional WI In Acreage Pooling Agreement 100% OPERATED WI AVAILABLE Est Feb 2017 Net Prod: 160 BOPD CONVENTIONAL Estimated 3P Reserves: 2.9 MMBO Estimated 3P PV9: \$26,400,000 **DEALS** Pipeline Transport. FOR SALE CONTACT AGENT FOR UPDATE **PP 2100DV**

WYOMING

CARBON CO., WY ASSETS FOR SALE

105-Producing Wells. 19,637-Net Acres. <u> ATLANTIC RIM - COAL BED METHANE</u> PP **CHAPTER 11 BANKRUPTCY** Shallow Wells Drilling In Mesaverde Potential In Sussex/Shannon, Niobrara **BANKRUPTCY** & Lewis Formations Varying Operated & NonOperated WI Net Production: 9.5 MMCFD Total Proved Reserves: 45.1 BCFE Total Proved PV10: \$12,700,000 Owns Eastern Washakie Midstream That

Operates A Gas Pipeline. CONTACT AGENT FOR UPDATE

PP 2709DV

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- Marathon slashes costs with \$2.5B Canadian exodus
- Venado closes \$800MM non-op Eagle Ford buy from SM
- Hawkwood Energy seals \$500MM El Halcón acquisition
- RSP closes second half of \$2.4B Silver Hill purchase
- ▶ WPX wraps up \$775 million Panther/Carrier buy
- Northern Petroleum clinches Alberta wells near Rainbow
- ▶ Silver Run II launches upsized SPAC IPO for \$900MM
- Exco Resources issues almost \$1 billion in new securities
- Hess Midstream on verge of launching \$267 million IPO
- New Admiral Permian gets \$600MM line of equity
- NGP funds Luxe Minerals in \$254MM of commitments
- Lilis now on Nasdaq, raised \$20MM, cleaning up loose ends
- Kayne Anderson will IPO blankcheck acquisition vehicle
- White Star borrowing base increased 24% to \$285 million

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21 | **E&P** PLS



Ark-La-Tex -

Goodrich loading ~5,000 lb of proppant per foot

Goodrich Petroleum is testing the high-proppant theory in the Haynesville for itself following the success of the



Chesapeake-operated ROTC 1H well, in which Goodrich has 17.4% WI. That well

IP'd at 40.0 MMcf/d in Caddo Parish, Louisiana. Combined, the ROTC 1H and 2H delivered an IP rate of 72.0 MMcf/d. The 10,000-ft laterals were completed with 5,200 lb of proppant per

Chesapeake's ROTC wells produced 61.0 MMcf/d over 2 months.

foot. Goodrich reports that the wells have produced 4.0 Bcf (61.0 MMcf/d) in just over two months and are flowing above the company's internal high-case type curve of 2.5 Bcf per 1,000 ft of lateral.

Goodrich will load 4,000-5,000 lb of proppant when it completes the Wurtsbaugh 26H-1 (74% WI) well that it is drilling in DeSoto Parish. It sports a 4,600-ft lateral, but the company is planning to drill a 10,000-ft lateral next, the Wurtsbaugh 25-24H-2. Goodrich's 2017 capital program is \$40 million, and it will drill 12-16 (3-4 net) wells on the year.





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Exco Resources gets performance uplift in Haynesville

Exco Resources limited D&C spending in 2016 and focused on lifting well performance through longer laterals and enhanced completions—and it paid off. The company delivered increased type curves from 2015, particularly in the southern Shelby area of East Texas (up 73%) and the Holly core of North Louisiana (up 13%). Proppant load is currently 2,700 lb per lateral foot, but Exco plans to move higher to

3,500 lb per foot in 2017.

Over time, the wells shown sustained

COO: Significant change in East Texas will push up development.

improvement. In North Louisiana, long-lateral wells deliver 147% more cumulative volume at 200 days online (2.3 Bcf per 1,000 ft) versus standard-length wells completed with 1,600 lb of proppant per foot.

COO Harold Jameson said on the Q4 call that the larger completion has "yielded a breakthrough in reservoir performance" in the East Texas Haynesville, which is deeper than in North Louisiana. "This exceptional performance is direct support for higher crude reserve increases in this area. At year-end 2015, the PDP in this area was booked at 1.5 Bcf per 1,000 lateral feet, and we are currently booked at 2.6 Bcf per 1,000, or 73% increase. This is a significant change." He added that Exco will incorporate

the area into its development program earlier than expected because of this.

Exco will drill five wells in North Louisiana in Q1, turning them to sales in Q2-Q3. One will be a Bossier well to evaluate the formation. The company's East Texas activity will be limited to participation in wells drilled by third parties.



Developments & Trends -

Spending and production up; Permian DUCs at high levels

US oil and gas producers have increased their capital budgets by a combined \$15 billion this year, up 60% led by Permian Basin-focused producers, according to Wood Mackenzie. US producers account for 80% of the additional 1.0 MMboe that companies are expected to produce this year.

Crude output is currently increasing across the US—particularly in Texas.

EIA: 95 wells added to Permian DUC inventory in February.

The Permian Basin is expected to add 79,000 bold for a projected April figure of 2.29 MMbo/d, according to the latest EIA. That's the highest level on record dating to 2007. Eagle Ford output is expected to increase by 28,000 bo/d to 1.14 MMbo/d. Overall US shale output is expected to grow 109,000 bo/d to 4.96 MMbo/d, the highest level since October.

However, while drilling activity is at an 18-month high, wells are being left uncompleted despite the uptick in oil prices that would have suggested that operators would begin pumping oil from their wells. DUCs are at a record level in the Permian Basin—where 1,764 wells were uncompleted as of February, according to EIA. From January to February, 95 DUCs were added. Permian operators drilled 395 wells in February but completed only 300, translating to the highest drilling rate in the basin in two years, according to Reuters.

US to account for 80% of additional 1.0 MMboe expected this year.

The Eagle Ford had the secondhighest number of DUCs at 1,265, but the

inventory is growing at a slower clip with only 13 added from January to February. There were 10 Haynesville DUCs added in that period for a total of 170. Operators are working down the inventory in the Niobrara, going from 700 to 678 in Feburary.

"You would now be looking at the number of drilled and the uncompleted wells and not necessarily the rig count," said Bruce Bullock, director of the Maguire Energy **Institute** at SMU.

South Texas -

Carrizo's Eagle Ford wells outperform on better completions

Carrizo has optimized Eagle Ford completions to yield better productivity and increased its inventory as a result of downspacing. Newer completions have outperformed historical wells by 10%. The company tightened its stage spacing from 240 ft to 200 ft in 2016, completing 28 wells. This group is tracking 10% above previous wells with minimized frac interference between new and offset wells. Carrizo is now testing



175-180-ft stage spacing.

Additionally, Carrizo is adding more than 120

Increasing Eagle Ford drilling location count by 10% on spacing tests.

net locations to its de-risked inventory for a total of more than 1,200. The company has nine stagger-stack pilots underway, testing 200-285-ft effective lateral spacing with early results outperforming wells at 330-ft spacing. Carrizo also reports that its first infill test well, Irvin Ranch 1H, has produced 75,000 bo with a 4,800-ft lateral since December 2015. The two offset parent wells were completed in 2011 and have produced over 375,000 bo. Carrizo said the parent wells produced 15,000 bo of incremental crude after the infill was completed.

Plans to drill 107 wells, complete 99 wells in the Eagle Ford this year.

The company set its 2017 D&C capex at \$530-550 million, which is heavily

weighted to the Eagle Ford with three rigs running. The company will drill 107 (92 net) operated wells and complete 99 (87 net) operated wells in the play. This activity level should drive 23% oil volume growth at the midpoint of 31,400-31,900 bo/d guidance. Further out, Carrizo anticipates 20% three-year CAGR for crude based on a three-rig pace. Total production guidance for 2017 is 48,500-49,967 boe/d, up 16% YOY.

EOG boosts activity YOY on drillout **♦ Continued From Pg 1**

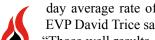
"EOG achieved near company-record returns on new capital in 2016 in spite of the lowest crude oil prices in 13 years," said CEO Bill Thomas.

Expanding completions in emerging plays—

While the Delaware Basin is the company's fastest-growing asset, EOG will also ramp up activity in two emerging plays—the Austin Chalk and Powder River Basin. The company completed 14 Austin

Chalk wells in 2016, with a strong 30day average rate of 2,200 boe/d.

Adds 9 wells to Austin Chalk program, 10 to Powder River.



EVP David Trice said EOG would drill 25 net wells in the formation this year. "Those well results, along with the work we did last year should get us closer to providing a resource estimate for this emerging play," he said.

In the Powder River, EOG will complete 30 net wells, up 10 from last year's plan. It will average two rigs. The Turner formation has been identified as a premium play, competing with the best of the

EOG will look to determine resource estimate in Austin Chalk.

company's inventory.

"Our 2016 drilling program in this play averaged over 1,600 boe/d, rate restricted for the first 30 days and cost about \$5.0 million to drill and complete," EVP David Trice said, adding that EOG returned to the Parkman formation in Q4 with its latest well techniques to deliver premium results. Three wells yielded a 30-day rate of 2,200 boe/d. Trice said EOG would look to block up acreage, drill longer laterals, add to its premium well inventory and explore the basin's 4,800-ft column of stacked pay.



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People & Companies -

- Admiral Permian Resources launched in Midland, Texas, backed by Pine Brook and Riverstone Holdings. CEO Denzil West is former president and COO of Reliance Energy, which sold the majority of its upstream Midland Basin asset base to Concho in 2H16. Other cofounders are Chief Commercial Officer Scott Parkison, CFO Jason Henderson and land EVP Paul Colwell. The management team brings together experience from Oxy, Concho and Reliance.
- Canyon Creek Energy-Arkoma (CCEA) has started up with investor backing from Fort Worth-based Vortus Investment Advisors. CCEA is led by president and CEO R. Luke Essman, who also co-founded Canyon Creek Resources and Canyon Creek Energy, all based in Tulsa. The brand has been operating since 2012.
- Concho Resources has announced that Susan Helms will join the board of directors. Helms retired from the US Air Force in 2014.

■ Denbury Resources CEO Phil

- Rykhoek will retire on June 30 after eight years at the CO2-flood company's helm, to be replaced by current president and COO Christian Kendall. In addition, Kendall is expected to take Rykhoek's place on the Denbury board. Kendall joined Denbury in September 2015 as COO and was named president last October. He has 27 years of oil and gas experience.
- Diamondback Energy created executive officer, SVP and VP levels to accommodate the company's growth. COO Michael Hollis DIAMONDBACK was promoted to the additional position of president; CFO Teresa Dick, general counsel and secretary Randall Holder, exploration and geoscience VP Paul Molnar and reservoir engineering VP Russell Pantermuehl were promoted to EVP; strategy and corporate development VP Kaes Van't Hof was promoted to SVP; and Adam Lawlis was promoted from manager to director of investor relations. Diamondback also hired Tom Hawkins. formerly of Oasis Petroleum, as land SVP and designated four new VP positions.





People & Companies

- EP Energy announced that former **Citigroup** executive *Michael Helfer* plans to retire from the board after the company's May 8 annual meeting.
- **Epsilon Energy** named *Henry N*. Clanton as COO. Clanton comes from a private E&P startup that he co-founded and ran for 14 years. Prior to that, he worked with Schlumberger.
- **Jagged Peak Energy** announced the resignation of co-founder and development planning and acquisition EVP Greg Hinds to pursue other opportunities. Hinds' business development responsibilities will be assumed by land and acquisitions EVP Mark Petry while his development responsibilities planning fall development planning and geoscience VP John Roesink.
- Luxe Energy management launched an affiliate called Luxe Minerals. Both companies are led by CEO A. Lance Langford and president XE Jeff Larson, who worked

together at Burlington Resources, **Brigham Exploration** and **Statoil** before founding Luxe in mid-2015.

- Marathon Oil hired Tom Hellman to run operations on its new northern Delaware Basin position. Hellman joins the company from WPX Energy, where he had served as drilling and completions VP since April 2015.
- Noble plans to shut down Clayton Williams Energy's Midland office by year's end after closing a \$3.2 billion acquisition of the Permian driller, it said in a notice sent to the Texas government. Noble also plans to lay off most of Clayton's 197 employees starting in May.
- Swift Energy hired Gleeson Van Riet as EVP and CFO to succeed Alton Heckaman. Van Riet was CFO of Sanchez Energy from April 2013 to March 2016. Swift's board also appointed Christopher M. Abundis as SVP, general counsel and secretary.



South Texas -

Cabot projects 15% oil growth from Eagle Ford

Cabot has adjusted its guidance to capitalize on higher oil prices and improved wells in the Eagle Ford. The company reiterated 5-10% volume growth, but it now says it will also grow oil production 15%, up from 0% growth projection when it issued preliminary guidance in October. CEO Dan Dinges said Cabot expected



to grow exit-to-exit crude production by 50%.

> The company raised

Adjusts guidance with incremental capital going to South Texas.

of higher oil prices later in 2017, we have

its capital budget from \$575 million to \$650 million, with incremental funds largely directed toward the Eagle Ford. Cabot is seeing productivity gains in the play as a result of enhanced completions. A recent three-well pad is outperforming older wells with the best results coming from a well completed with 1,800 lb of proppant. "Based on the improved economics and the expectation

Cabot raises type curve in Marcellus to 4.4 Bcf per 1,000 ft from 3.8 Bcf.

increased our spending in the Eagle Ford to help pivot this asset back into growth mode as opposed to holding pattern that it's been in, in the last couple of years. Accordingly, we anticipate growing our exit oil volumes this year by 50% as opposed to the 5% we forecasted in the original budget," Dinges said.

Cabot has also increased its type curve for the Marcellus to 4.4 Bcf per 1,000 ft of lateral from 3.8 Bcf. The move is based on performance from 21 wells completed with the company's fourth-generation design. "The EURs for our fourth-

generation wells further highlight the peer-leading productivity from our Marcellus assets in the core of the dry gas window in Northeast Pennsylvania," said CEO Dan Dinges.

Cabot will drill 60 net wells and complete 51 net wells in the Marcellus, and it will drill 30 and complete 39 net wells in the Eagle Ford this year.



Cabot's Eagle Ford Wells Outperform Recent Pad - Well #1 (1,800#/Ft. w/ Diverter) Recent Pad - Well #2 (1,607#/Ft. w/ Diverter) Recent Pad - Well #3 (1,582#/Ft. w/ Diverter) Cumulative Oil Production Per Ft. - Offset Pad - Well #1 (1,486#/Ft. w/o Diverter) - Offset Pad - Well #2 (1,448#/Ft. w/o Diverter) Early-time results from a recent threewell pad utilizing increased proppant loading and diversion technology have outperformed wells from an offset pad completed with an older generation completion design Cabot is currently testing >2,000 lbs/ft of proppant and increased cluster spacing throughout its 2017 program 10 15 20 25 30 **Normalized Producing Days** Source: Cabot March 27 Presentation via PLS docFinder www.plsx.com/finder



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Eastern -

Rex sees improved rates at **Warrior North**

Rex Energy has updated its type curve for the Warrior North operating area in Ohio. Several of its recent wells



are outperforming 1.6 MMboe YE16 type curve, so Rex's upside case

for 2017 is 1.9 MMboe. With 13 wells brought to sales in 2016, the company looked to optimize well design, increase proppant and adjust fluid composition. It also modified landing zone within the Point Pleasant formation.

Rex's wells outperforming 1.6 MMboe type curve.

With these efforts, Rex has decreased well costs for a 6,500-ft lateral from \$7.1 million to \$6.2 million. The ROR at Warrior North has increased from 28% at YE15 to 47% at YE16. Rex will devote only 20% of its \$70-80 million capex to Warrior North this year. The remainder will be dedicated to its Butler area in Pennsylvania.

People & Companies

- Synergy Resources has begun doing business under the new name SRC Energy and has changed its ticker on the NYSE MKT from SYRG to SRCI effective March 6. The change will be finalized upon approval by shareholders at the company's 2017 annual meeting in June.
- Whiting Petroleum finance VP and treasurer Brent Jensen resigned after more than 11 years with the Denverbased company. Jensen's treasurer role and designation as Whiting's principal accounting officer have been assigned to Sirikka Lohoefener, who will also continue to serve as controller. Lohoefener joined Whiting in 2006 as senior financial accountant and was named controller in March 2015.
- Viper Energy Partners, a sub of Diamondback Energy, appointed Spencer D. Armour to the board of its general partner. He will serve on the audit committee. Armour is president of Midland-based PT Petroleum.

Range 2017 program heavily weighted to Marcellus

Range Resources will dedicate two-thirds of its \$1.15 billion capital budget to Marcellus development—and 80% of that to Range's liquids-rich acreage in southwest Pennsylvania as a stronger NGL market has improved the company's expected returns. The company will run five rigs this year, drilling a third of its wells from existing pads to reduce costs. This year marks a return to spending

after two years of capital cuts.

Range will bring 118 Marcellus wells online, up only slightly

Four-well wet gas pad delivers 2x the resource of offset wells.

from 2016's 109 wells. Lateral lengths will average over 8,000 ft, up from 6,500 ft in 2016. Broken down, the majority of activity will be in southwest Pennsylvania: 56 wells in the wet window (\$6.8 million well cost; 24.6 Bcfe EUR), 35 wells in the super rich area (\$7.3 million; 20.4 Bcfe) and 25 wells in the dry area (\$6.1 million; 22.3 Bcf). Two wells will be completed in the northeast Pennsylvania dry area (\$5.0 million; 16.0 Bcf). Production is forecast to be 2.07 Bcfe/d, 33-35% YOY growth.

The company said returning to core areas to drill longer laterals is expected to yield stronger results. Range noted a recent four-well pad on its wet gas area delivered an average peak 24-hour IP rate of 35.1 MMcfe/d, which his twice the average of offset pads. These wells featured longer laterals (9,265 ft), enhanced completion design (46 frac stages) and improved landing.

Per 1,000 feet, the average cost per well was \$651,000 with an average EUR of 3.9 Bcfe. Range said that on an absolute basis, this pad showed 47% improvement in recovery and 11% lower costs compared with the company's most recent averages.



Bakken -

Producers gain market access with Dakota Access open

With oil beginning to flow on Dakota Access pipeline, some industry players are projecting an uptick in Bakken volumes. The pipeline will be able to carry roughly half of the Bakken's oil output, which is projected to be 964,000 bo/d in April. Over 1.0 MMbo/d was being produced in the Bakken as of last summer. The line may reach full capacity by late April, according to Reuters. Analysts have said the

470,000 bo/d pipeline will cut transport costs for producers by \$3-\$5/bbl.

Half of Bakken volumes could fill the new pipeline, reducing rail reliance.

"Economics for drilling in the Bakken will look better because of DAPL," Rusty Braziel of RBN Energy, told Reuters. Rig count is up 40% in the Bakken since early February and is expected to increase another 10% by year's end, according to Reuters. There are 42 rigs running in the Williston, up four from last issue.

Dakota Access Pipeline may reach capacity by late April.

Hess is one company expecting to grow volumes this year, projecting a 10-

12% increase. CEO John Hess said recently, "We're back to growth in the Bakken." Hess is ramping up from two to six rigs. The company produced 95,000 boe/d in the Bakken in Q4. It will transfer 30% of its volumes to the pipeline from rail, according to Reuters. Oasis CEO Tommy Nusz has also said Dakota Access would offer

increased market access. The company anticipates an exit rate of 72,000 boe/d this year, up 16%.

North Dakota's largest producers, Whiting and Continental, aren't contracted with Dakota Access. Continental, however, said the line would offer an across-the-board capacity solution, reducing rail use.



What the Analysts are Saying About E&P -

Abraxas (AXAS; \$2.10-Mar. 21; Neutral)

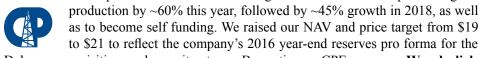
Stacking a rich set of internal catalysts for later this year. AXAS is cataloging a number of development-related catalysts, beginning with May completions at the four-well Stenehjem pad in the Williston and June fracking of the two-well Caprito 98 pad in the Delaware that should bring rapid growth in production <u>ABRAXAS</u> and operating cash flows as the back half begins. These events could illustrate material long-term economic upside in the company's acreage and compel valuation higher. —Baird

Cabot Oil & Gas (COG; \$22.53-Feb. 28; Neutral)

Pricing weighs despite continued crisp execution. Gas macro remains the hurdle for this top-tier producer. Though COG continues to demonstrate attractive cost and productivity gains, the company's financial results remain constrained by a punk gas pricing environment. While we continue to hold affinity for the company's acreage footprint and operational prowess, the outlook for shares remains muddled by these top-line headwinds.

Callon Petroleum (CPE; \$12.62-Mar. 1; Buy)

Firing on all cylinders. Callon is emerging from the downturn better capitalized and with a larger footprint in four areas. CPE finally has enough rigs to be simultaneously involved in development and delineation drilling in both basins. CPE is poised to grow



Delaware acquisition, and we reiterate our Buy rating on CPE. —Wunderlich

Carrizo (CRZO; \$33.03-Feb. 23; Buy)

CRZO's initial 2017 production guidance is 48.5-50.0 MBoe/d (62% oil) on a D&C capex budget of \$530-550M. We are now modeling 50.2 MBoe/d and capex of ~\$541M vs. 48.3 MBoe/d and capex of \$445.8M previously. We believe the added spend in 2017 will have a much bigger impact on 2018; we are now modeling 60.6 MBoe/d for next year vs. 53.5 MBoe/d previously. The company is also targeting a three-year oil production CAGR of 20% based on a three-rig program. —Canaccord

EOG Resources (EOG; \$96.99-Mar. 1; Overweight)

2017 outlook supports long-term projections. EOG announced 2017 oil production growth guidance of 18% (within cash flow, after the dividend, assuming a \$50 oil price) that supports its outlook that it can grow oil volumes 15-25% per year within cash flow if oil prices averages \$50-60/bbl. We maintain our Overweight rating but are lowering our price target by \$2 to \$111 largely to reflect modestly lower capital spending and production and higher expenses. -Barclavs

Jagged Peak (JAG; \$12-Mar. 23; Buy)

The 2017 plan includes capex and production of \$555-605 million and 17-19 MBoe/d, above Street/SF estimates by 2%/2% and 0%/3% at the midpoint. Volumes are expected to grow 220% YOY vs our prior estimate of 207%. 1Q17 production

guidance of 9.1-9.3 MBoe/d is 8%/5% below prior Street/SF estimates as growth is expected to be weighted toward the back half of the year. Reiterate Buy. The stock is currently valued at price/NAV and EV/2018 EBITDA multiples of 81% and 6.1x implying a 7% discount and 10% premium to Permian and mid-cap peer groups, respectively (based on EV/2018 EBITDA). We expect the stock to outperform as it delineates its position and de-risks additional formations across its acreage. -Stifel

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~17,026-Gross & Net Acres. **WIND RIVER BASIN** Frontier, Phosphoria, Tensleep & Madison FRONTIER 100% OPERATED WI; 85% NRI Long Term Leases - Avg 6 Year Remaining AGENT WANTS OFFERS APR 19, 2017 <u>L 2114</u>

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DV Desolation Road Unit. **EASTERN GREEN RIVER BASIN** WAMSUTTER FIELD Multi-Well Development Opportunity. OPPORTUNITY SEEKING JV PARTNERSHIP Potential Reserves: 2 BCFE/Well DV 2946

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3-Lots. ~270-Net Acres. **POWDER RIVER BASIN** PP Converse & Natrona Counties 6 Permitted HZ Wells In Frontier Formation 6 Permitted Wells In Frontier & Niobrara ~290 Varying NonOperated Working Interest **BOED** 6-Mn Gross Prod: 228 BOPD & 348 MCFD 12-Mn Avg Net Income: \$3,003/Month AGENT WANTS OFFERS APR 13, 2017 PP 2544L

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9 Conventional Exploration Targets KERN CO., CALIFORNIA **BELRIDGE & LOST HILLS AREA** Citrus, Cassini & Thorndyke Prospects SEEKING JV PARTNERS Total Potential: 50-80 MMBOE Exposure to 170 MMBOE (Recoverable)

DV 2953



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BOED

DV

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GULF OF MEXICO

GULF OF MEXICO PROPERTIES

94-Total Wells. 36-Active (Producing). OFFSHORE LOUISIANA, TEXAS,----& ALABAMA 18 Blocks. ~11,388 Net Acres. ~33% NonOp WI; ~27% NRI Gross Prod: 4,319 BOED (39% Oil) Net Prod: 707 BOED (52% Oil)

May 2016 Net Cash Flow: \$376.650/Mn Net PDP Reserves: 395 MBO & 1.1 BCF Net PDP PV10: ~\$8.1MM

PP 5342DV

MULTISTATE

MULTISTATE NONOPERATED PKG

>280 Total Wells.7-Behind Pipe. 86 PUDs. TEXAS, OKLAHOMA, NEW MEXICO, NORTH DAKOTA, ALABAMA & WYOMING Multiple Horizontal Drilling Potentials in --Bone Spring and Avalon (TX & NM) --Cottage Grove and Woodford Shale (OK). NonOperated WI Available For Sale Gross Prod: 3,880 BOPD & 29.3 MMCFD Net Production: 35 BOPD & 309 MCFD Proved Reserves: 1,223 MBO & 5.9 BCF Net Proved PV10 Value: ~\$29,000,000 Net PDP PV10: ~\$6,300,000 SELLER HAS SOLD PART OF PKG PP 4272DV

What the Analysts are Saying About E&P -

Newfield Exploration (NFX; \$33.50-Mar. 27; Sector Weight)

Guiding to stronger 1Q. NFX announced an encouraging ops update in conjunction with conference attendance, sharing that it achieved a record oil IP rate in the STACK play of 417 BOD/1k ft of lateral, or total IP24 of 2.931 Mboe/d, at its Burgess well in Kingfisher County. Additionally, the company said it will beat domestic production guidance by ~3%. The Burgess shows certain promise for enhanced completions in the STACK that may catalyze higher EURs this year, potentially creating at least 6% upside to our 2018E growth of 14%. -KeyBanc

Noble Energy (NBL; \$34.31-Mar 31; Hold)

NBL update – NAV +35% to \$45/sh at \$70 LT. Valuation and leverage multiples higher vs. large-caps, but see DJ, Delaware and asset sale catalysts. Model refresh increases NAV and reveals a solid 35% US onshore three-year oil CAGR from '17-20,



driven by the DJ and Delaware leading to multiple compression to $\sim 5.5x$ at \$55/bbl in 2020, higher vs. diversified large-caps at ~5x. Important to note that wells in the growth engines of the DJ (Wells Ranch and

Mustang) and the Delaware (Wolfcamp A) are still outperforming our updated curves by 25-30% over ~5 months (risked outperformance baked into TPHe prod'n), positively biasing valuation / growth if results hold. —Tudor, Pickering, Holt & Co.

RSP Permian (RSPP; \$39.49-March 1; PT: \$55; B)

Better wells with each vintage. RSP Permian (RSPP) was one of the first movers in the Midland Basin and excels in drilling and completing exceptional wells. It continues to show better results in Midland Basin and shorten the pay-out period year after year. While ~61% of this year's \$625-700 million capex will be spent drilling in the Midland Basin, with time, more of the capital will migrate into the Delaware Basin. The company has already initiated workovers on existing Delaware Basin wells and with good results. -Wunderlich

Matador Resources (MTDR; \$25.56-Feb. 22; Buy; PT: \$36)

Delaware Basin pioneer delivers positive stepouts. Raising our target 10% to \$36 as MTDR remains a leader in delineating the Delaware Basin with positive Wolfcamp A stepouts at Ranger and Rustler Breaks. An upcoming Twin Lakes test could be a 2Q17 catalyst.

Parsley Energy (PE; \$29.49-Feb. 27; Buy)

Parsley started the year with two back-to-back acquisitions and grew its footprint and inventory significantly. Parsley has been very acquisitive since going public and the company is now in digestive mode; having ramped up to 10 rigs, the focus now is

on execution. Midland Basin will continue to be its bread and butter; in addition to development projects, the company is testing Wolfcamp B both in the Upper and Lower intervals in additional to seeing promising results from the Wolfcamp C. We believe 2017 is going to be an interesting year for Parsley and we expect its inventory count to expand substantially. We reiterate our Buy rating on this high growth and returns-driven Permian pure play. -Stifel

Resolute Energy (REN; \$36.15-Mar. 13; Market Perform)

Continued operating momentum in Reeves County with successful 80-acre spacing pilot, acreage acquisition and planned addition of third rig. Formally announced marketing efforts underway to sell Aneth properties (could fetch

roughly \$210MM assuming \$35k/boe), which could help fund Resolute additional activity or shore up liquidity. Only concern is that given relatively tight liquidity, uncertain commodity tape, and already robust forecasted growth rates at current activity levels, we view contemplation of fourth rig as aggressive at this stage. -Wells Fargo



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