TAXPAYERS *for* COMMON SENSE

O & G REPORT

November 2019

Losing on Leasing: How Colorado Loses from Oil and Gas Development on Federal Lands

80,750 acres leased noncompetitively in Colorado, 2009-2018

$38.5 million in lost rental revenue from outdated rental rates for federal leases, FY2009-2018.

$15.1 million more in royalties collected by Colorado after royalty rate increase on state lands, 2014-2018.

53% of all parcels sold through competitive auction in FY2019 sold for $10/acre or less.

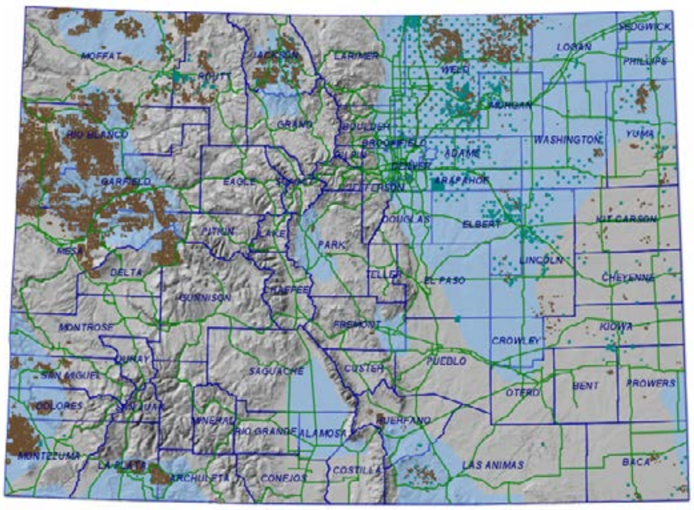
$1.3 Billion in est. revenue loss under the federal 12.5% royalty, FY2009-2018.

Federal taxpayers own significant oil and natural gas reserves on federal lands throughout Colorado and other Western states. The Bureau of Land Management (BLM) within the Department of the Interior (DOI) manages these reserves and is directed by law to collect fair market value from their development and sale. The agency is failing to ensure taxpayers receive a fair market value for these resources because its land management policies are weak and outdated.

Problems within the federal oil and gas leasing system have led to billions of dollars in lost revenue and simultaneously saddled taxpayers with associated pollution costs and long-term liabilities. This report will focus on the costs imposed by the following BLM policies:

- Royalty rates on the sales value of oil and gas extracted from federal lands that lag the rates imposed on production from federal waters and Colorado state lands;
- Annual rental rates and the minimum bid price for oil and gas leases that have not changed in more than 30 years;
- Natural gas waste that's ignored on federal lands while BLM refuses to charge producers for it, and
- Antiquated procedural carve-outs that allow companies to lease federal land without paying any bid;

The BLM manages more than 8.3 million surface acres in Colorado. At the end of fiscal year (FY) 2018, the agency reported 3,703 current leases for oil and gas development covering nearly 2.7 million acres of that land. Of those leases, 60 percent were actively producing oil or natural gas at the end of FY2018, leaving 1.2 million acres of federal land leased but lying idle.



Major oil and gas basins — BLM oil and gas leases
Source: COGCC

Federal Oil & Gas Leasing

Under federal law, the BLM is required to hold quarterly sales for leases in all states where federal land is eligible for oil and gas development, like Colorado.[1] Since 1987, the BLM has been required to offer all parcels for lease through a minimum acceptable bid of $2 per acre. Because companies can nominate the parcels to be auctioned, many parcels have only one interested bidder. If a parcel receives no bids, then according to BLM rules, a company can submit a noncompetitive offer – the very next day — with no minimum bid requirement. And From 2009 through 2018, the BLM issued 129 noncompetitive leases covering 80,750 acres of federal land in Colorado.

The option to acquire leases noncompetitively undermines the BLM's competitive auctions, and has likely contributed to the low revenues the BLM has generated from recent sales. In the first three federal lease sales in Colorado in 2019, oil and gas companies bid just $11.83 per acre, on average. That is roughly half of the average bid generated from lease sales over the preceding five years (2014-2018). In fact, more than half of all parcels sold for $10 per acre or less in FY2019.

Production & Royalties

Over the last 10 years, oil and gas companies produced 6.9 trillion cubic feet of natural gas from federal lands in Colorado, some of which was later processed and sold as natural gas liquids (NGL). This gas represents roughly one-fifth of all onshore federal gas production nationwide over the last decade and makes Colorado the third largest source of federal gas, behind only New Mexico and Wyoming. Colorado also ranked sixth in federal oil production with 47.2 billion barrels produced over the last decade.

Together, the oil, natural gas, and NGL produced from federal lands in Colorado in the last decade had a sales value of approximately $15.5 billion.[3] On the sales value of these resources, the Office of Natural Resources Revenue (ONRR) within the DOI collected $1.6 billion in royalties. Nearly half was shared with the state of Colorado. Though sizable, the royalties collected by ONRR do not capture the "fair market value" of the taxpayer-owned oil and gas resources sold. The low royalty rate of 12.5% for federal leases generally does not capture as large a portion of resource proceeds as the market would bear.

In fact, the federal royalty rate is considerably lower for new leases on federal land than new leases on private[4] or state trust lands in Colorado. The royalty rate charged by the Colorado State Land Board, the agency responsible for managing production on state trust lands, matched the federal rate of 12.5% until May 2011, when it was raised to 16.67 percent.[5] The Board then raised the rate for new leases on state trust lands again to 20% in February 2016.

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[1] Mineral Leasing Act of 1920, as amended, §17(b); 30 U.S.C. 226(b)

[2] U.S. Department of the Interior, Office of Natural Resources Revenue (ONRR), "Production by Year." Calendar year production download for 2003-2018. Available at: **https://revenuedata.doi.gov/downloads/federal-production/**

[3] Sales values for 2018 were estimated using effective royalty rates and sales values reported in prior years.

[4] The royalty rate on private lands on the Colorado Front Range is around 18-19% according to Lance Astrella, private lease negotiator, cited by Colorado Politics: "Oil and gas bill helps and hurts Colo. mineral owners, critics say." April 11, 2018.

[5] Colorado State Land Board, "Oil and Gas Lease Terms and Royalty Rate Revisions," January 14, 2016. **https://www.wslca.org/uploads/1/2/0/9/120909261/oil_and_gas_lease_terms_and_royalty_rate_revisions.pdf**

While deliberating the second rate increase, the State Land Board looked at royalties on production on state lands in other states, like New Mexico and Texas, which charge up to 20% and 25%, respectively.[6] The Board also noted that "private royalty rates of 20% are common."[7] Presumably because they found the market would bear it, the Board approved the increase. When interviewed later about the 2016 decision by the Government Accountability Office, state officials noted that "there had been no slowdown in interest in new leases" on state lands and, "they were unsure whether the higher royalty rate played much of a role in companies' decision making."[8]

State trust lands are concentrated in eastern Colorado and BLM Lands are concentrated in the west. But in some cases, producers now extract and sell the same quality oil and natural gas from wells on state lands just miles away from federal leases, and pay the Colorado State Land Board 20% of those resources' sales value and just 12.5% to ONRR.

In contrast to Colorado, the 12.5% royalty rate on federal lands was first set by Congress as the legal minimum almost 100 years ago, but the BLM has never increased it. The rate not only lags behind those charged by most states with large oil and gas industries, like Texas, Oklahoma, Colorado, Wyoming, and New Mexico, it's also less than the 18.75% royalty rate producers pay for oil and gas from federal waters.

If the prevailing federal offshore royalty rate of 18.75% had been imposed on the federal oil and gas that was produced in Colorado over the last decade, ONRR could have collected up to $1.3 billion more. Which means Colorado taxpayers would have received $600 million more in disbursements. And because the royalty rate would be comparable to those charged by the state, shifts in production from federal to state lands would be minimal.[9]

Colorado well. Source: Colorado State Land Board

Most federal production comes from leases issued decades earlier, so if BLM were to overhaul the royalty regime now, it would yield less prospectively in the short-term. But beyond the next few years, taxpayers could see a notable increase in receipts. If the BLM does not act, the loss of potential revenue gained under a higher royalty rate will accumulate into the billions of dollars.

Colorado State Lands: A Case Study in Raising Royalty Rates

In February 2016, the Colorado State Land Board (SLB) agreed to raise the royalty on oil and gas production from 16.67% to 20%. As of June 2019, SLB data indicate that no lease issued since 2016 with a 20% royalty has yet entered production. Nevertheless, the effect of a higher rate can be seen in a few unique leasing arrangements on state lands.

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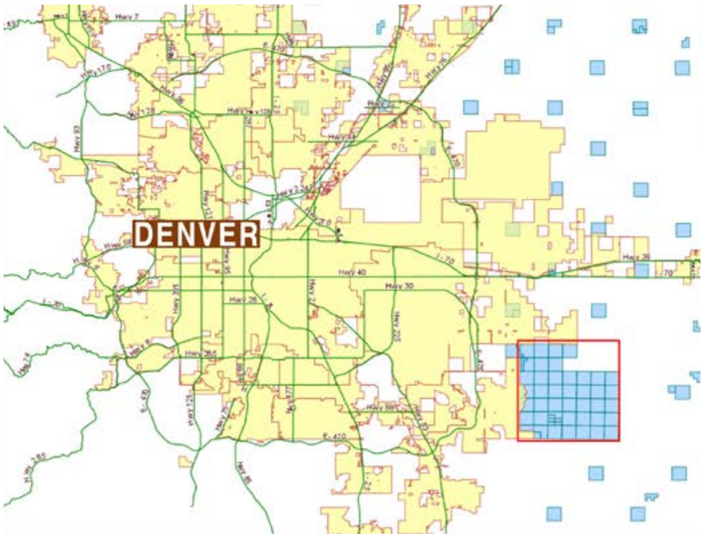
[6] Ibid.
[7] Ibid.
[8] Government Accountability Office, GAO-17-540, "OIL, GAS, AND COAL ROYALTIES: Raising Federal Rates Could Decrease Production on Federal Lands but Increase Federal Revenue." June 2017. **https://www.gao.gov/products/GAO-17-540**
[9] Congressional Budget Office. "Options for Increasing Federal Income from Crude Oil and Natural Gas on Federal Lands." April 2016. Page 23



The Lowry Range leases. Source: COGCC

In January 2012, ConcoPhillips submitted the highest bid to lease a contiguous parcel covering 26,000 acres of state trust lands on the outskirts of Denver, on what was formerly the Lowry Bombing and Gunnery Range (see map). In addition to a high bonus bid, the company agreed to pay a 20% royalty on all future production from the area to the State Land Board, rather than the standard 16.67% for new leases that had been established the year before.[10]

Similarly, in August 2012, the SLB agreed to lease[11] parcels interspersed among the 70 Ranch property in Weld County, Colorado to Bonanza Creek Energy in exchange for a sizable bonus and a 20% royalty rate on future production.

From 2014 to 2018, more than 60 wells on the 70 Ranch and Lowry Range leases extracted more than 5 million barrels of oil and produced roughly $340 million worth of oil, natural gas, natural gas liquids, and residue gas. From this production, the SLB collected more than $56 million in royalties, which is $13.9 million more than it would have collected under the 12.5% royalty rate in place the year prior to when the leases took effect.

In addition, a handful of leases for state trust lands issued since 2011 at the 16.67% royalty rate have started producing oil and gas in recent years. With the added revenue from that production, the SLB has generated an estimated **$15 million more** in total over the last five years than if it had kept its royalties at 12.5% for all its leases.

The extra royalty revenue is certainly good for Colorado taxpayers, but more could be generated if the BLM followed the SLB's example and raised royalty rates for leases on federal land in the state. Over time, increased royalty rates on both state and federal land would generate billions of dollars in additional revenue.

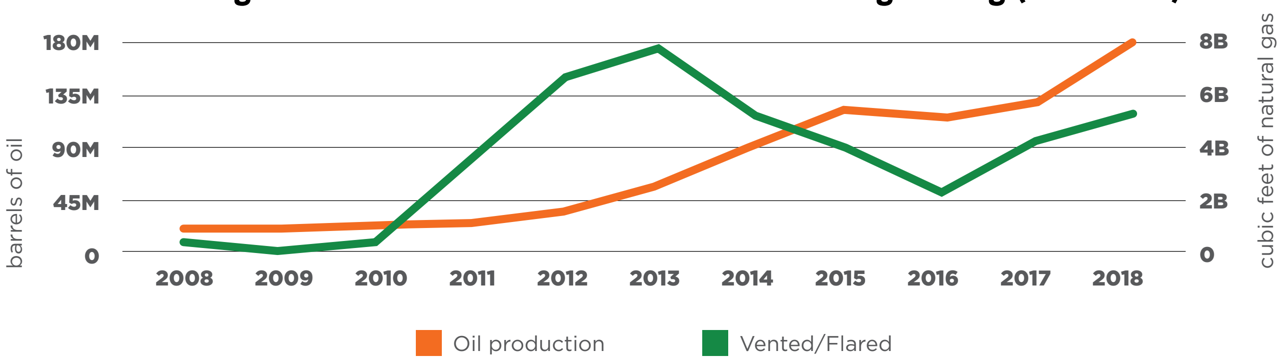
Lost Gas

With the advent of new technologies and techniques like fracking and horizontal drilling, production of natural gas and, in particular, oil has boomed in the U.S. over the last 10-15 years. As producers raced to drill more wells on federal lands, they began burning off ("flaring") or simply releasing ("venting") huge volumes of natural gas, which is mostly made up of methane, into the atmosphere. In response to the trend on federal lands and elsewhere in the state, Colorado implemented new rules in 2014 that have effectively reduced gas waste, in contrast to federal rules that have failed to limit venting and flaring on most federal lands.

Colorado's response to the surge in overall venting and flaring in the state helped moderate methane losses from federal lands compared to other states. In February 2014, the Colorado Air Quality Control Commission adopted new standards for oil and gas operations and revised its **Regulation Number 7** in order to reduce methane emissions from various sources during the oil and gas production process. The regulation requires operators to flare rather than vent gas whenever possible, reduce emissions from equipment like storage tanks and pneumatic controllers and during certain operations like well maintenance and liquids unloading. The regulation also

[10] The Denver Post, "State Land Board clears oil and gas lease for 26,000 acres east of Aurora," February 2 2012. **State Land Board clears oil and gas lease for 26,000 acres east of Aurora**
[11] The Denver Post, "Colorado Land Board will net nearly $60 million from Weld County lease," August 3 2012. **Colorado Land Board will net nearly $60 million from Weld County lease**

Figure 1: Colorado Total Oil Production and Venting/Flaring (2008-2018)



requires all operators to implement Leak Detection and Repair (LDAR) programs to find sources of fugitive methane emissions and plug them.

Though the rules imposed new requirements on oil and gas operators, their implementation has not led to a decline in oil and gas production. To the contrary, oil production in Colorado boomed from 66.2 million barrels in 2013, the year before Regulation 7 was revised, to more than 177 million barrels in 2018.[12] Venting and flaring in the state, meanwhile, was nearly one-third less in 2018 than in 2013 (see Figure 1).[13] The data demonstrate that producers can operate more responsibly without hampering overall production, and could likely do more to increase capture of lost gas.

The adoption of the Regulation 7 revisions has also stimulated the growth of businesses providing services to help oil and gas operators comply with the rules' requirements, like those providing equipment and expertise for LDAR programs. According to trade association sources, there were 130 companies headquartered in the U.S. in the methane mitigation industry in 2018.[14] Seven firms performing LDAR on oil and gas leases in Colorado, Wyoming, and Ohio, which have all introduce LDAR requirements since 2014, reported growing between 5 and 30 percent by 2017.[15]

Venting and flaring also decreased on federal lands following the implementation of the state's new rules in 2014. Specifically, venting and flared volumes reported by operators on federal lands decreased from 1.1 billion cubic feet in 2013 to just 187 million cubic feet in 2017. Operators reported wasting 239 cubic feet of natural gas for every barrel of oil produced in 2013, compared to just 37 cubic feet per barrel in 2017.[16]

While Colorado's rules about reducing emissions are binding for operators even on federal lands in the state, BLM rules still govern when wasted gas is charged a royalty. The BLM's rules for most of the last decade were written in 1979, long before fracking and horizontal drilling existed. The BLM's administration of the antiquated rules has not only failed to prevent prolific venting and flaring, it has allowed operators to largely avoid paying royalties on the wasted gas.

Of the 3.9 billion cubic feet of gas reported lost by operators on federal lands in Colorado between 2008 and 2017, ONRR reported collecting royalties on just 102 million cubic feet, or 2.6 percent. That is, on the estimated sales value of the wasted gas, $14.8 million, ONRR collected $26,775 in royalties. Even under the low federal royalty rate of 12.5%, that same gas brought to market would've generated roughly $1.9 million in royalties for taxpayers.

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[12] U.S. Energy Information Administration, "Colorado Field Production of Crude Oil," **https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPCO1&f=A**

[13] Data compiled from Colorado Oil and Gas Conservation Commission (COGCC) annual Production Summaries downloads, available at: **https://cogcc.state.co.us/data2.html#/downloads**

[14] Patrick Von Bargen, Executive Director of the Center for Methane Emissions Solutions in testimony before the Royalty Policy Committee meeting in Denver, Colorado, 13 September 2018. Available at: **https://www.methanesolutions.org/news**

[15] Datu Research. "FIND AND FIX: Job Creation in the Emerging Methane Leak Detection and Repair Industry." March 2017. Page 13. **https://www.edf.org/sites/default/files/find-and-fix-datu-research.pdf**

[16] Data from Oil and Gas Operations Reports (OGOR) submitted by operators for 2008-2017 to the Office of Natural Resources Revenue received by TCS via FOIA request.

Colorado pumpjack. Source: Flickr, Creative License/Baker

Borrowing from Colorado's example, the BLM issued new rules[17] in 2016 that imposed limits on emissions from certain equipment and operations on federal leases and required operators to institute LDAR programs. In 2018, however, the Trump administration rescinded these rules and issued a much weaker one[18] that removed any incentive for companies to capture valuable gas resources.[19] As a result of the new rule, not only will fewer royalties be collected, but the increased emissions of methane—a potent greenhouse gas—will also create additional liabilities for taxpayers.

At the state level, Colorado now has the opportunity to further decrease waste, increase revenues, and provide more public safeguards in a new oil and gas rulemaking process it is undertaking related to the passage of **CO Senate bill 181**.

Losses from Other Lease Terms

In addition to royalties, BLM also charges companies rent to capture the value of privileged access to federal land, and it collects bonus bids that reflect the value of exclusive rights to develop certain parcels of federal land. Neither the annual rental rate nor the minimum acceptable bonus bid has been adjusted since 1987.

Congress first established a formal system for leasing federal land to develop oil, gas, coal and other resources through the Mineral Leasing Act (MLA) of 1920, which set the annual rental rate at, "not less than $1 per acre per annum." Through later legislation, Congress enacted changes to the rental rate over time. In 1935, the rent due for oil and gas leases was reduced to $0.25 per acre. In 1960, it was increased to $0.50 per acre. Finally, in 1987, Congress set the current rates at, "not less than $1.50 per acre per year for the first through fifth years of the lease and not less than $2 per acre per year for each year thereafter."[20]

Through these periodic amendments to the MLA, Congress had effectively accounted for inflation. The

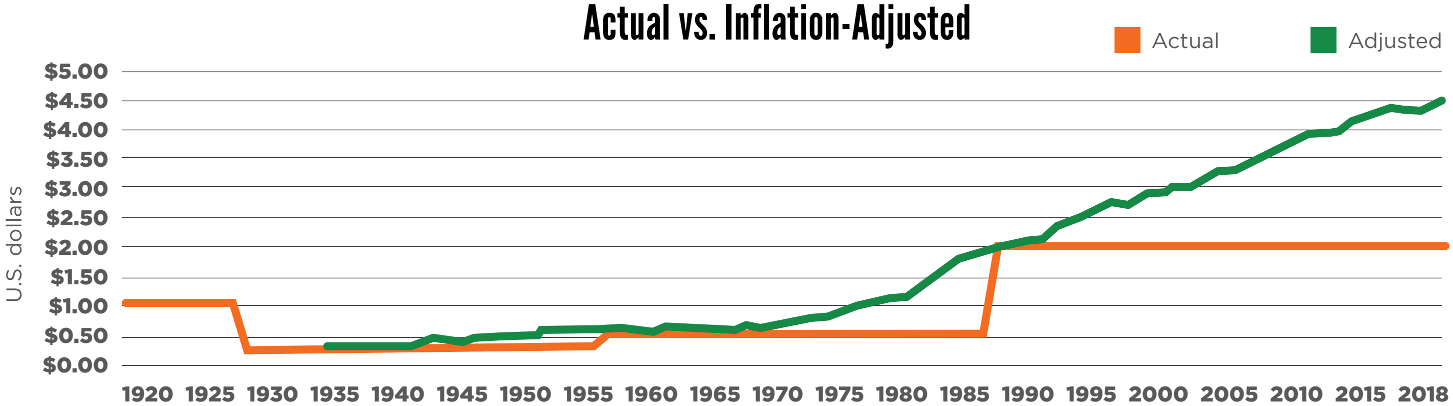
[17] Bureau of Land Management, Final Rule: "Waste Prevention, Production Subject to Royalties, and Resource Conservation," November 18, 2016. 81 FR 83008

[18] Bureau of Land Management, Final Rule: "Waste Prevention, Production Subject to Royalties, and Resource Conservation; Rescission or Revision of Certain Requirements." September 28, 2018. 83 FR 49184

[19] Taxpayers for Common Sense, "The New Interior Methane Rule – Breakdown and Analysis," September 21, 2018. **https://www.taxpayer.net/energy-natural-resources/the-new-interior-methane-rule-breakdown-and-analysis/**

[20] Mineral Leasing Act of 1920, §17(d) [30 U.S.C. 226(d)], as amended by the Federal Onshore Oil and Gas Leasing Reform Act of 1987, P.L. 100–203 §5101(c)

Figure 2: Federal Oil & Gas Lease Rental Rates, Actual vs. Inflation-Adjusted



rental rate increases in 1960 and 1987 approximately reflected the 1935 rate of $0.25/acre adjusted for inflation in those years (see Figure 2). By not updating the rates since 1987, however, Congress has neglected to account for inflation for longer than any period since the MLA was enacted in 1920. As a result, rent collection now yields roughly half of what it would have under inflation-adjusted rates.

Over the last ten fiscal years, FY2009-2018, ONRR collected $44.4 million in rent for oil and gas leases in Colorado. If the 1987 rental rates had been annually adjusted for inflation, as measured by the Bureau of Labor Statistics, ONRR could have collected $83 million in rental payments over the decade. That is, taxpayers have lost approximately $38.5 million in rental revenue from rental rates that were set more than 30 years ago.

Rental rates have outsized importance on federal receipts from leasing in part because first-year's rent makes up most of the revenue BLM collects when companies acquire oil and gas leases noncompetitively. In 1987, Congress enacted the Federal Onshore Oil and Gas Leasing Reform Act[21] to improve the fiscal return from oil and gas leasing, in particular, by introducing more competition into the market for federal leases. As its biggest reform, the law required the BLM to offer up all parcels available for oil and gas development in competitive lease sales.

But the law left in a vestige of the system in place before 1987 and requires the BLM to make all parcels that don't receive at bid at a competitive auction available for noncompetitive lease. Companies or other parties may submit noncompetitive offers for the parcel the day immediately after a lease sale is held. If multiple offers are submitted, the BLM holds a drawing to see who gets the right to lease the parcel. If no offers are submitted on the first day, the parcel is eligible for noncompetitive lease for the next two years, and the BLM must award a lease to the first eligible party to submit an offer. If the parcel is leased, the new lessee is only required to pay a filing fee currently set at $425, and first year's rent.[22] No bonus bid is collected for parcels leased noncompetitively.

In Colorado, less acreage goes unsold at auction and becomes available for noncompetitive lease than in other states. Yet Colorado had the third-most parcels of federal land leased noncompetitively in the last five years (2014-2018), with 66. Those 66 leases, represented 12 percent of all leases issued by the BLM in Colorado over the five-year stretch.

[21] Enacted as Subtitle B in Title V of the "Omnibus Budget Reconciliation Act of 1987," P.L. 100–203; 101 STAT. 1330-256

[22] U.S. Department of the Interior, Bureau of Land Management. Final Rule, "Minerals Management: Adjustment of Cost Recovery Fees," September 28, 2018. 83 FR 48957. **https://www.govinfo.gov/content/pkg/FR-2018-09-28/pdf/2018-21298.pdf**

Conclusion

Federal lands and the vast resources they offer are precious assets for taxpayers. The weight of the public trust and the current federal budget picture demand that the Bureau of Land Management maximize the fiscal return by administering oil and gas development strategically on federal lands in Colorado and across the country.

Current policies fail this standard and have led to billions of dollars in lost revenue from development in Colorado alone over the last decade. But the Bureau of Land Management is not beholden to the decisions from decades past. The agency has existing statutory authority to independently change each of the policies discussed here, including royalty rates, rental rates, and treatment of natural gas waste. By updating lease terms for federal oil and gas development now, the Bureau of Land Management can substantially increase the returns to the Treasury, and the amounts disbursed to the state of Colorado.

Colorado well, Arapaho National Forest. Source: United States Forest Service