HEADQUARTERS
120 Shelton McMurphey Blvd.
Suite 340
Eugene, OR 97401
(541) 485-2471
info@westernlaw.org

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WESTERN ENVIRONMENTAL LAW CENTER

March 20, 2026

U.S. Bureau of Land Management
Montana/Dakotas State Office
Branch of Fluid Minerals
Attn: Hattie Payne
5001 Southgate Drive
Billings, MT 59101

Via Eplanning (*Exhibits sent via FedEx*)

Re: Protest Comments for the Montana-Dakotas Q2 2026 Oil and Gas Lease Parcel Sales (DOI-BLM-MT-0000- 2025-0010-EA)

The Western Environmental Law Center, along with along with Center for Biological Diversity, the Coalition to Protect America's National Parks, Montana Environmental Information Center, National Parks Conservation Association, Waterkeeper Alliance, and WildEarth Guardians ("Commenters"), submit the following protest on the Bureau of Land Management ("BLM") Montana-Dakotas Q2 2026 Oil and Gas Lease Parcel Sale ("Lease Sale"). This sale includes 23 nominated parcels of Federal minerals.[1] As detailed below, Commenters outline necessary components of an environmental review that must occur *before* BLM's proposed lease sales to meet its statutory obligations under NEPA, including informed decisionmaking and public disclosure, and under other substantive environmental laws. We protest the following parcels:

1	**ND-2026-04-6922** ND, Forest Service: Dakota Prairies Grassland, PD T. 147 N., R. 98 W., Fifth Principal Sec. 30 ALL McKenzie County EOI# MT00019876
2	**ND-2026-04-0854**

13	**ND-2026-04-6930 Split Estate** ND, Bureau of Land Management, ACQ T. 162 N., R. 102 W., Fifth Principal Sec. 25 NW1/4NE1/4, S1/2NE1/4; Sec. 33 SE1/4 Divide County EOI# MT00020282
14	**ND-2026-04-0881 Split Estate**

[1] A list of parcel numbers and serial numbers referenced in this comment letter is attached as **Appendix A** to this comment. A list of all exhibits to this comment is attached as **Appendix B**. Exhibits referenced herein and itemized in Appendix B and Appendix D were provided on a USB drive sent under separate cover via FedEx, postmarked on July 21, 2025. They were delivered at the Montana/Dakotas State Office on July 23, 2025, see delivery proof, **Appendix C**. Supplemental comments for the sale are provided in **Appendix D**.

	ND, Forest Service: Dakota Prairies Grassland, ACQ T. 147 N., R. 98 W., Fifth Principal Sec. 35 ALL McKenzie County EOI# MT00019876
3	**ND-2026-04-6852** ND, North Dakota Field Office, Forest Service: Dakota Prairies Grassland, PD T. 147 N., R. 99 W., Fifth Principal Sec. 24 E1/2NE1/4, E1/2SE1/4 McKenzie County EOI# MT00018736
4	**ND-2026-04-0770** ND, Forest Service: Dakota Prairies Grassland, ACQ T. 146 N., R. 100 W., Fifth Principal Sec. 1 LOTS 1 thru 4; S1/2NE1/4, S1/2NW1/4, S1/2 McKenzie County EOI# MT00019425
5	**ND-2026-04-6934** ND, Forest Service: Dakota Prairies Grassland, ACQ T. 146 N., R. 100 W., Fifth Principal Sec. 3 LOTS 3, 4; S1/2NW1/4 McKenzie County EOI# MT00019422
6	**ND-2026-04-0763** ND, Forest Service: Dakota Prairies Grassland, ACQ T. 146 N., R. 100 W., Fifth Principal Sec. 3 S1/2 McKenzie County EOI# MT00019422
7	**ND-2026-04-0765** ND, Forest Service: Dakota Prairies Grassland, PD T. 146 N., R. 100 W., Fifth Principal Sec. 10 ALL McKenzie County EOI# MT00019422
8	**ND-2026-04-0775** ND, Forest Service: Dakota Prairies Grassland, PD T. 146 N., R. 100 W., Fifth Principal Sec. 12 ALL McKenzie County EOI# MT00019425
9	**ND-2026-04-0776**

	ND, North Dakota Field Office, Forest Service: Dakota Prairies Grassland, ACQ T. 149 N., R. 103 W., Fifth Principal Sec. 19 NE1/4SW1/4, SE1/4; Sec. 20 SW1/4 McKenzie County EOI# MT00020257
15	**ND-2026-04-6932 Split Estate** ND, Bureau of Land Management, PD T. 159 N., R. 103 W., Fifth Principal Sec. 16 LAKEBED RIPARIAN TO LOTS 1-4 Williams County EOI# MT00020282
16	**ND-2026-04-6933 Split Estate** ND, Bureau of Land Management, ACQ T. 159 N., R. 103 W., Fifth Principal Sec. 9 W1/2NE1/4; Sec. 20 SE1/4 Williams County EOI# MT00020282
17	**ND-2026-04-0882 Split Estate** ND, North Dakota Field Office, Bureau of Land Management, ACQ T. 160 N., R. 103 W., Fifth Principal Sec. 3 POR OF LOT 2 EXCL CHURCH (2.00 AC); LOTS 1,3,4; S1/2NE1/4, S1/2NW1/4 Divide County EOI# MT00020307
18	**ND-2026-04-0866 Split Estate** ND, Bureau of Land Management, PD T. 160 N., R. 103 W., Fifth Principal Sec. 15 W1/2NW1/4, NW1/4SW1/4 Divide County EOI# MT00020130
19	**ND-2026-04-0875 Split Estate** ND, Bureau of Land Management, PD T. 160 N., R. 103 W., Fifth Principal Sec. 21 NE1/4NW1/4 Divide County EOI# MT00020284
20	**ND-2026-04-6928 Split Estate** ND, Bureau of Land Management, ACQ T. 160 N., R. 103 W., Fifth Principal Sec. 32 LOTS 1 thru 3; W1/2NW1/4 Divide County EOI# MT00020284
21	**ND-2026-04-0878 Split Estate**

	ND, Forest Service: Dakota Prairies Grassland, ACQ T. 146 N., R. 100 W., Fifth Principal Sec. 13 ALL McKenzie County EOI# MT00019425
10	**ND-2026-04-0768** ND, Forest Service: Dakota Prairies Grassland, PD T. 147 N., R. 100 W., Fifth Principal Sec. 22 ALL McKenzie County EOI# MT00019423
11	**ND-2026-04-0766** ND, Forest Service: Dakota Prairies Grassland, ACQ T. 147 N., R. 100 W., Fifth Principal Sec. 27 ALL; Sec. 34 S1/2 McKenzie County EOI# MT00019423
12	**ND-2026-04-6878** ND, Forest Service: Dakota Prairies Grassland, ACQ T. 147 N., R. 100 W., Fifth Principal Sec. 34 N1/2 McKenzie County EOI# MT00019423

	ND, Bureau of Land Management, PD T. 161 N., R. 103 W., Fifth Principal Sec. 3 LOTS 5, 6; Sec. 23 NE1/4NE1/4, SE1/4SE1/4; Sec. 24 SW1/4SW1/4 Divide County EOI# MT00020284
22	**SD-2026-04-0047 Split Estate** SD, Bureau of Land Management, PD T. 17 N., R. 4 E., Black Hills Sec. 8 N1/2NE1/4, N1/2NW1/4; Sec. 21 W1/2NE1/4, NE1/4NW1/4, S1/2NW1/4 Harding County EOI# MT00020094
23	**SD-2026-04-0048 Split Estate** SD, Bureau of Land Management, PD T. 18 N., R. 4 E., Black Hills Sec. 26 NE1/4, N1/2NW1/4, SE1/4NW1/4; Sec. 27 E1/2NE1/4; Sec. 35 N1/2SW1/4 Harding County EOI# MT00020094

The names, mailing addresses, and telephone numbers for each organization and individual filing this comment letter are listed below.

Meridian Wappett
Attorney-Fellow
Western Environmental Law Center
103 Reeders Alley
Helena, MT 59601
(406) 351-0105
wappett@westernlaw.org

Randi Spivak
Public Lands Program Director
Center for Biological Diversity
1411 K Street NW Suite 130
Washington, DC 20005
(310) 779-4894
rspivak@biologicaldiversity.com

Rebecca Sobel
Interim Climate and Health Program Director
WildEarth Guardians
301 N. Guadalupe St., Ste 201
Santa Fe, NM 87501
(505) 216-6826
rsobel@wildearthguardians.org

Derf Johnson
Deputy Director
Montana Environmental Information Center
P.O. Box 1184
Helena, MT 59642
(406) 443-2520, Ext. 103
djohnson@meic.org

Daniel Estrin
General Counsel

Beau Kiklis
Associate Director

Waterkeeper Alliance
180 Maiden Lane, Suite 902
New York, NY 10038
(212) 747-0622
destrin@waterkeeper.org

Energy and Landscape Conservation
National Parks Conservation Association
P.O. Box 4485
Whitefish, MT 59937
bkiklis@npca.org
(406) 599-9535

Emily Thompson
Executive Director
Coalition to Protect America's National Parks
2 Massachusetts Ave. NE
Unit 77436
Washington, DC 20013
emily_thompson@protectnps.org

I, Meridian Wappett, have been authorized to file this comment letter on behalf of the above groups.

INTERESTS AND PARTICIPATION OF COMMENTING PARTIES

The **Center for Biological Diversity ("Center")** is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center also works to reduce greenhouse gas emissions to protect biological diversity, our environment, and public health. The Center has over one million members and activists, including those living in the Montana-Dakotas who have visited these public lands for recreational, scientific, educational, and other pursuits and intend to continue to do so in the future, and are particularly interested in protecting the many native, imperiled, and sensitive species and their habitats that may be affected by the proposed oil and gas leasing.

The **Coalition to Protect America's National Parks ("Coalition")** is a nonprofit organization comprised of over 4,900 current, former, and retired employees and volunteers of the National Park Service ("NPS"), who collectively represent more than 50,000 years of experience protecting, interpreting, and maintaining America's national parks and public lands. The Coalition's membership includes former NPS directors, deputy directors, regional directors, superintendents, law enforcement and interpretive park rangers, maintenance professionals, administrative staff, and other dedicated career professionals. The Coalition is committed to upholding the NPS mission and advocating for national park solutions grounded in law and sound science. The Coalition and its members have deep recreational, scientific, cultural, aesthetic, and professional interests in the responsible stewardship of America's public lands, including those in Montana and the Dakotas. Many Coalition members have visited, worked in, and continue to use lands and waters in and adjacent to the proposed lease sale areas, and intend to continue to do so in the future. The Coalition and its members are particularly concerned about the potential impacts of oil and gas leasing and development near Theodore Roosevelt National Park.

Montana Environmental Information Center ("MEIC") is a nonprofit organization founded in 1973 with approximately 10,000 members and supporters. MEIC is dedicated to the preservation and enhancement of the natural resources and natural environment of Montana, particularly the protection of water quality, air quality, and the climate. MEIC is committed to assuring that state and federal officials comply with and fully uphold the laws of the United States and the State of Montana that are designed to protect the environment from pollution. MEIC and its members have intensive, long-standing recreational, aesthetic, scientific, professional, and spiritual interests in the responsible production and use of energy, and the land, air, and waters across the state. MEIC members live, work, and recreate on public lands that are adversely impacted oil and gas development. MEIC brings this action on its own behalf and on behalf of its adversely affected members.

National Parks Conservation Association ("NPCA") is a national organization whose mission is to protect and enhance America's national parks for present and future generations. NPCA, along with its 1.9 million members and supporters, is active nationwide advocating for strong park landscape protections.

Waterkeeper Alliance is a not-for-profit, member supported, international environmental organization based in New York City. Waterkeeper Alliance unites more than 300 Waterkeeper Organizations and Affiliates on the frontlines of the global water crisis, patrolling and protecting more than 5.9 million square miles of rivers, lakes, and coastal waterways on six continents. Waterkeeper Alliance's member and affiliate "Waterkeeper groups" defend our fundamental human right to drinkable, fishable and swimmable waters, and combine firsthand knowledge of their waterways with an unwavering commitment to the rights of their communities. Through its Climate and Safe Energy campaign, Waterkeeper Alliance engages in public advocacy, administrative proceedings and litigation aimed at reducing the water quality and climate change impacts of fossil fuel extraction, transport and combustion, including from BLM controlled lands, throughout the United States. Waterkeeper Alliance and our Waterkeeper groups have individual members, supporters and staff who have visited public lands in Montana and the Dakotas, including lands and waters that would be affected by actions under the challenged lease sale, for recreational, scientific, educational, and other purposes, who intend to continue to do so, and who are particularly interested in protecting these resources from water-intensive energy development.

The **Western Environmental Law Center ("WELC")** uses the power of the law to foster thriving, resilient western U.S. lands, waters, wildlife, and communities in the face of a changing climate. We envision a western U.S. abundant with protected and interconnected ecosystems, powered by renewable energy, and cared for by communities brought together in an ecology of kinship.

WildEarth Guardians ("Guardians") is dedicated to protecting and restoring the wildlife, wild places, wild rivers, and health of the American West. Guardians is a west-wide environmental advocacy organization with thousands of members, including members in Montana and the Dakotas and surrounding states. Guardians' members live in and regularly use and enjoy lands in the Lease Sale areas, and are interested in their conservation.

STATEMENT OF REASONS IN SUPPORT OF COMMENTERS' LETTER ON THE PROPOSED LEASE SALE

The above-named Commenters submit these scoping comments in response to the BLM's proposed sale and all respective proposed parcels. For reasons explained below, BLM must defer all parcels proposed for lease pending completion of programmatic review of the federal fossil fuel programs. Specifically, it must complete an analysis, under the National Environmental Policy Act of 1976 ("NEPA"), the Federal Land Policy and Management Act ("FLPMA"), the Endangered Species Act ("ESA"), and other laws and regulations, of those programs' cumulative greenhouse gas pollution, their associated climate impacts, and their compatibility with BLM's public-lands statutory mandates and the U.S. goal of limiting global warming to 1.5° Celsius. Importantly, that analysis is both legally required and has never been done. Each sold lease parcel would lock in more future greenhouse gas pollution at a time when it is imperative for the U.S. to reduce emissions. That pollution will worsen climate and extinction crises and their associated harm to people and the environment. Multiple studies show that there is simply no room left in the global carbon budget for new commitments of fossil fuel development. The world's already-producing oil and gas fields, if fully developed, will by themselves push global warming past the 1.5° Celsius limit (not accounting for emissions from coal production). Thus,

we again urge BLM, and by extension the Department of Interior, to exercise their full authority under federal law to end new federal fossil fuel leasing and enact a managed decline of production consistent with the U.S. goal of limiting global warming to 1.5° Celsius.

I. National Environmental Policy Act

A. BLM Must Prepare a Programmatic EIS to take a Hard Look at Federal Oil and Gas Leasing.

a. There Is a Small Remaining Window to Avoid the Most Catastrophic Effects of Climate Change and a Programmatic Review Is Necessary to Inform Future Action.

The science is clear: there is simply no room for continuation of a "business as usual" approach on the federal mineral estate if humanity is to have a meaningful chance of curtailing truly catastrophic warming. To maintain a coin flip chance of maintaining warming below 1.5°C, *global* fossil fuel production must decrease by approximately 6% per year between 2020 and 2030, and approximately 60% of global fluid mineral resources must be left in the ground.[2, 3] For developed nations, including the U.S., in order to maintain a 50% or better chance of avoiding 1.5°C of warming, "coal production needs to fall by 50% within five years and be effectively eliminated by 2030," while oil and gas production must be cut by 74% by 2030 and end by 2035.[4] To maintain a 67% chance of avoiding 1.5°C of warming, the U.S. must *end* oil and gas production by 2031.[5] The latest reports only paint a grimmer picture of the rapidly shrinking opportunity to avert the worst consequences of climate change. It is clear that extreme weather events, and their human, ecological, and economic costs, are already harming, killing, and displacing millions of people around the world.[6] Instead of falling, greenhouse gas concentrations continue to rise, and modest reductions have done little to check their trajectory.[7] Without drastic action, "the physical and socioeconomic impacts of climate change will be devastating. Irreversible physical changes in the climate system, known as tipping points, cannot be ruled out and could have significant global and regional consequences."[8] International pledges are insufficient to avert catastrophic temperature increases and are woefully insufficient to constrain global temperature rise below 1.5°C.[9] Moreover, most nations that pledged reductions

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[2] **Exhibit 1,** SEI, IISD, ODI, E3G, and UNEP, *The Production Gap Report: 2020 Special Report* (2021).
[3] **Exhibit 2,** Welsby, D., Price, J., Pye, S. et al. *Unextractable fossil fuels in a 1.5 °C world*. Nature 597, 230–234 (2021) (if 60% of remaining oil and gas is left in situ, we will retain a 50% chance of limiting warming to 1.5°C).
[4] **Exhibit 3,** Calverley, D. and Anderson, K. (2022), *Phaseout pathways for fossil fuel production within Paris-compliant carbon budgets*. Tyndall Centre, University of Manchester.
[5] *Id.*
[6] **Exhibit 4,** The 2022 report of the *Lancet* Countdown on health and climate change: health at the mercy of fossil fuels. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)01540-9/fulltext
[7] **Exhibit 5,** World Meteorological Organization (2022). United in Science 2022 A multi-organization high-level compilation of the most recent science related to climate change, impacts and responses. https://library.wmo.int/doc_num.php?explnum_id=11309; **Exhibit 6,** United Nations Framework Convention on Climate Change (October 26, 2022), Nationally Determined Contributions Under the Paris Agreement: Synthesis Report by the Secretariat. https://unfccc.int/documents/619180.
[8] *Id.*
[9] **Exhibit 7,** United Nations Environment Programme (2022). Emissions Gap Report 2022: The Closing Window — Climate crisis calls for rapid transformation of societies. Nairobi. https://www.unep.org/emissions-gap-report-2022.

are nowhere near meeting those pledges.[10] In light of ongoing production, BLM must not lease any further parcels for development, as doing so jeopardizes meeting the 1.5° C target.[11]

A fundamental disconnect exists between the reality of climate change, and how public lands are managed for energy production. A recent paper calculates that lifecycle emissions from federal fossil fuel development resulted in an average of 1,408 million metric tons (MMT) of Carbon Dioxide-equivalent (CO2e) per year since 2005—the equivalent of 377 coal-fired power plants, or the emissions from 303 million cars—and are projected to be around 1,130 MMT CO2e by 2030.[12] These emissions will amount to around 20% of total U.S. greenhouse gas emissions each year.[13]

Most recently, at COP28, the parties to the Paris Agreement acknowledged the need for a just transition away from fossil fuel energy sources and a phase-out of fossil fuel subsidies.[14] BLM's continued authorization of fossil fuel leasing and development is contrary to these international goals, and seriously undermines U.S. progress toward meeting them.

Similarly, the Intergovernmental Panel on Climate Change (IPCC) recently released the entirety of its sixth assessment report (AR6), including a synthesis of its findings.[15] The IPCC Sixth Assessment provided the remaining carbon budget from the beginning of 2020 as 400 $GtCO_2$ for a 67% probability of meeting the 1.5°C limit and 500 $GtCO_2$ for a 50% probability of 1.5°C.[16] At current emissions levels, the world will exceed the global carbon budget for a 50% chance of limiting warming to 1.5°C in just 10 years. The Sixth Assessment Report found that net anthropogenic greenhouse gas emissions during 2010 to 2019 were higher than any previous

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[10] *Id.*; United Nations Framework Convention on Climate Change (October 26, 2022), Nationally Determined Contributions Under the Paris Agreement: Synthesis Report by the Secretariat, https://unfccc.int/documents/619180, Exhibit 6.

[11] **Exhibit 8**, *Navigating Energy Transitions: Mapping the Road to 1.5° C*, Exhibit 11. Additional development also risks leaving stranded assets, as fields will need to be decommissioned before the end of their lifespan. *Id.*

[12] **Exhibit 9,** N. Ratledge et al., *Emissions from Fossil Fuels Produced on US Federal Lands and Waters Present Opportunities for Climate Mitigation*, 171 Climatic Change, no. 11, Mar. 14, 2022, at 2–5, https://link.springer.com/content/pdf/10.1007/s10584-021-03302-x.pdf.

[13] *Id*. at 6 fig. 2.

[14] *See* **Exhibit 10**, United Nations Framework on Climate Change (UNFCC), Conference of the Parties (COP28), First global Stocktake, Proposal by the President, Draft Decision (Dec. 13, 2023), at 5; *see also* **Exhibit 11**, UNFCC Conference of the Parties, Work Programme on Just Transition Pathways, Proposal By the President, Draft Decision (Dec. 13, 2023).

[15] **Exhibits 12** and **13**, IPCC, 2021: Summary for Policymakers and Technical Summary. **Exhibit 14,** In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson Delmotte et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 3−32, doi:10.1017/9781009157896.001; **Exhibit 15**, IPCC, 2022*: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla et al. (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926; **Exhibit 16**, IPCC, 2022: *Climate Change 2022: Impacts, Adaptation, and Vulnerability.* Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner et al.]. Cambridge University Press. In Press; **Exhibit 17,** IPCC 2023: *Synthesis Report of the IPCC Sixth Assessment Report* [Paola Arias et al. (eds.)], Cambridge University Press.

[16] Intergovernmental Panel on Climate Change, Summary for Policymakers In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (2021), https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/ at SPM-38, Exhibit 14.

time in human history.[17] Nationally determined contributions (NDCs) make it likely that we will exceed 1.5°C this century. Policies implemented at the end of 2020 are projected to result in higher global GHG emissions than even those implied by NDCs. Projected CO_2 emissions over the lifetime of existing and planned fossil fuel infrastructure exceed the CO_2 emissions in pathways that limit warming to 1.5°C.[18] In pathways that limit warming to 1.5°C with no or limited overshoot, global GHG emissions peak between 2020 and 2025, and then fall to 48% below 2019 level by 2030, reaching net-zero by early 2050s. Without strengthening policies beyond those at present, GHG emissions are projected to rise beyond 2025, leading to global warming of 3.2°C by 2100.[19] Reducing GHG emissions across the energy sector requires substantial reduction in overall fossil fuel use and the deployment of low-emission energy sources. The continued installation of unabated fossil fuel infrastructure will 'lock-in' GHG emissions.[20]

As UN Secretary-General António Guterres stated upon the release of the Intergovernmental Panel on Climate Change's (IPCC) 2022 report:

> Climate scientists warn that we are already perilously close to tipping points that could lead to cascading and irreversible climate impacts. But, high-emitting Governments and corporations are not just turning a blind eye, they are adding fuel to the flames. They are choking our planet, based on their vested interests and historic investments in fossil fuels, when cheaper, renewable solutions provide green jobs, energy security and greater price stability…. Climate activists are sometimes depicted as dangerous radicals. But, the truly dangerous radicals are the countries that are increasing the production of fossil fuels. Investing in new fossil fuels infrastructure is moral and economic madness. . ..[21]

BLM has yet to complete either a project or program-level NEPA document that analyzes the federal oil and gas program in light of these scientific conclusions and with an eye to developing alternatives that respond to them. A programmatic NEPA review is the ideal vehicle for such an analysis.

b. BLM Must Prepare a Programmatic EIS to take a Hard Look at the Impacts of the Resumption of Federal Oil and Gas Leasing and to Avoid Any New Greenhouse Gas Pollution.

Current policy commitments indicate that Federal agencies intend to take imminent action that will significantly impact our ability to fight climate change. The administration's January 20, 2025 "Unleashing American Energy" Executive Order, attempted freeze of federal

[17] IPCC, 2022: Summary for Policymakers. In: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.001, at SPM-4, Exhibit 17.
[18] *Id.* at SPM-15, 16.
[19] *Id.* at SPM-21.
[20] *Id. at* SPM-36.
[21] United Nations Secretary-General, António Guterres (UN Secretary-General) to the press conference launch of IPCC Report (February 28, 2022) (emphasis added), https://media.un.org/en/asset/k1x/k1xcijxjhp.

funding for climate mitigation, rollback of fuel economy standards, halting of all leasing of federal lands and waters for new wind farms, and targeting of electric vehicle rollout and tax credits are all evidence of this. The proposed lease sale thus is plainly part of a larger national initiative and must be analyzed in a Programmatic EIS.

BLM and Interior must therefore take a hard and comprehensive look at the cumulative climate change impacts of authorizing *any* new leasing when combined with committed emissions already under lease or permit, and immediately defer *any* sale of new leases and APD approvals pending demonstration of compatibility with global climate goals. The Department and BLM must conduct this analysis now, along with other relevant agencies that manage fossil fuel development on federal lands and waters, including BOEM. BLM must also consider a reasonable alternative of managed decline of GHG emissions from the approximately 13.5 million acres of fossil fuel estate already under lease but not producing.[22]

The climate crisis is fundamentally an incremental problem and the contribution of individual oil and gas development actions on the part of the BLM to climate change are difficult to assess, precisely because it is rare that such actions—taken in isolation—will be truly significant at a national or global scale. This is particularly true at the level of an individual lease sale, where the projected development of mineral resources on a given lease or set of leases will reduce the remaining global and national carbon budgets by vanishingly small fractions. Yet it is this creeping normalcy that results in fossil fuel development on BLM administered lands being responsible for 15.3% of total U.S. GHG emissions, 1.8% of global emissions, and nearly 21% of all emissions in the U.S. from fossil fuel production.[23] With respect to carbon dioxide, emissions from fossil fuels produced on federal lands represent a quarter of *all* CO_2 emissions in the U.S.[24]

It is precisely because of this incrementally small but collectively mammoth impact on the climate crisis that BLM must prepare a programmatic EIS for the federal oil and gas program—prior to committing a single additional acre to fossil-fuel development.[25] Such a programmatic examination would dovetail with an EIS that collectively analyzes the proposed lease sales, discussed below. At the outset, however, Commenters stress that BLM should prepare a programmatic EIS for the entire federal oil and gas leasing program before holding another lease sale. The purpose of a programmatic EIS or other programmatic NEPA review is to:

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[22] *See* 2021 BLM Specialist Report at Table 4-11, Five-Year Federal Oil and Gas Statistics, recording nearly 25 million acres under lease for oil and gas with over 12.6 million acres producing.

[23] 2021 BLM Specialist Report at Section 9.1 (Representative Concentration Pathways), ("Climate change is fundamentally a cumulative phenomenon, global in scope, and all GHGs contribute incrementally to climate change regardless of scale or origin."); Section 7.1. (BLM Share of 2020 Annual Global and U.S. GHG Emissions), Table 7-1.

[24] **Exhibit 18**, Merrill, M.D., Sleeter, B.M., Freeman, P.A., Liu, J., Warwick, P.D., and Reed, B.C., Federal lands greenhouse gas emissions and sequestration in the United States—Estimates for 2005–14: U.S. Geological Survey Scientific Investigations Report 2018–5131, 31 (2018).

[25] **Exhibit 19**, Members of petitioner groups made this point initially in their comments submitted in response to Executive Order 14008, with the title: WELC et al Recommendations for Scope and Criteria for Review of the Federal Fossil Fuel Programs**.** (April 16, 2021).

> [A]ddress the general environmental issues relating to broad decisions, such as those establishing policies, plans, *programs*, or suite of projects, and can effectively frame the scope of subsequent site-and project-specific federal actions . . . [o]ne advantage of preparing a programmatic NEPA review *for repetitive agency activities* is that the programmatic NEPA review can provide a starting point for analyzing direct, indirect, and cumulative impacts.[26]

A programmatic approach is compelled for the following reasons: 1) the fundamentally incremental nature of the climate crisis; 2) the small and shrinking window that remains to avoid the most catastrophic effects of climate change, a reality that was not reflected in the Department's Report on the Federal Oil and Gas Leasing Program;[27] 3) the importance of completing an analysis BLM started with its issuance of the BLM Specialist Report and the Interior Report, by conducting a PEIS; and 4) the need for consistency with the pending federal coal review.

c. BLM Must Complete the Analysis Begun in the Specialist Reports.

A programmatic review is particularly critical following the release of the BLM Specialist Reports and Interior Report. The former constitutes—in large part—the quantification and context of federal mineral estate-associated GHG emissions. BLM must now take the logical next step, by completing the programmatic NEPA analysis it has effectively begun with the BLM Specialist Report. It must also do what it failed to do in the Interior Report – qualitatively and quantitatively discuss the climate change impacts of these emissions in the context of the federal program, leased but yet undeveloped federal lands, as well as national and global emissions. Failure to do so will represent a lost opportunity to meaningfully evaluate the outsized role the federal oil and gas leasing program plays in the climate crisis, and to explore alternatives to reduce its impacts through the federal oil and gas program.

BLM has, with the BLM Specialist Reports, fulfilled the lowest common denominator of quantifying federal emissions against the backdrop of federal laws and climate science. It must now meaningfully analyze those emissions in light of remaining national and global carbon budgets, and must apply tools such as the Social Cost of Greenhouse Gases to describe the actual economic, ecologic, and human costs of the program at national and global scales. The BLM Specialist Report briefly describes federal fossil fuel emissions in the context of various carbon budgeting mechanisms and global emissions commitments (such as under the Paris Agreement). However, more is required by NEPA, and it must be done at a programmatic level, as the quantification of GHGs in the BLM Specialist Report was done. Uncertainty about the United States' equitable share of the remaining carbon budget, or variability in carbon budgeting methods and social cost metrics does not justify a failure to analyze meaningful ways to address climate change and the oil and gas program's contributions to it.

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[26] **Exhibit 20**, Memorandum for Heads of Federal Departments and Agencies, *Effective Use of Programmatic NEPA Reviews*, Counsel on Environmental Quality, December 18, 2014 (emphasis added).

[27] **Exhibit 21**, *Report on the Federal Oil and Gas Leasing Program, Prepared in Response to Executive Order 14008* (November, 2021) (Hereinafter "Interior Report") (the Report focused entirely on necessary fiscal reforms but ignored climate, in direct contravention of the language of §208 of Executive Order 14008.)

The necessarily broad scale of an adequate analysis is indubitably best done once, and at the programmatic level, allowing the agency to tier to and place its subsequent, site-specific analyses within the context of the larger framework.[28] Thus while the BLM Specialist Report initiated this process, it has yet to be completed because BLM omitted a number of important considerations, including a meaningful analysis of fossil fuels currently committed to development under existing leases, a program-wide economic analysis of the climate costs of the oil and gas program, and a meaningful discussion about how BLM land management fits within the broader framework of global climate commitments and warming thresholds. In short, preparing a programmatic NEPA analysis will help the Agency to reduce or eliminate redundant and duplicative analyses and effectively address cumulative impacts, substantially reducing the administrative burden and economic costs to the Agency and assisting the Agency in formulating comprehensive mitigation measures that apply at the national level.

d. A Programmatic EIS for the Federal Oil and Gas Program Is Consistent with The Department's Review of the Federal Coal Leasing Program.

A final factor weighing in favor of the completion of a programmatic EIS is the Federal Coal Program Review. Originally initiated in response to Secretarial Order 3338 (January 15, 2016), the intent was to prepare a programmatic EIS and review of the federal coal program designed to address a range of concerns, including but not limited to questions as to the fair return to American taxpayers from federal coal royalties, market fluctuations and resultant impacts to coal-dependent communities, and the more fundamental question of whether the leasing and production of federal coal is consistent with the Nation's domestic and international goals to preserve a livable climate and meet international commitments to maintain global warming below certain critical thresholds, namely 1.5°C. Secretarial Order 3338 was rescinded by former Interior Secretary Ryan Zinke through Secretarial Order 3348, which also lifted the federal coal leasing pause that had been implemented by SO 3338. On August 20, 2021, the BLM issued a Federal Register notice in response to Secretarial Order 3398 (issued by Interior Secretary Deb Haaland), indicating its intent to reinstitute a federal coal program review and soliciting public comment. BLM received 214,866 comments in response to its request. The current status of the review itself is unknown. Until a programmatic NEPA review analyzing the climate, fiscal, and taxpayer impacts of all federal fossil fuel development occurs, no additional fossil fuel leasing should occur. BLM and Interior are compelled to do so by statutory mandates under FLPMA.

B. BLM Must Prepare an EIS to Address the Cumulative Impacts of All Proposed Lease Sales.

As discussed above, BLM's proposed lease sales are part of a larger national initiative to implement the federal administration's "Energy Dominance" agenda and must be analyzed as such under NEPA. That means preparing an analysis to address the cumulative impacts of the tens of millions of acres that may be leased both onshore and offshore, including not only those related to climate and greenhouse gases, but also wildlife habitat, water pollution, impacts to wildlife and recreation and other uses of these lands and waters, health and environmental

[28] *See, Effective Use of Programmatic NEPA Reviews*, Exhibit 20.

justice, cultural resources, and other relevant issues. And as NEPA requires an agency to prepare an EIS for any major federal action that may significantly affect the quality of the human environment, 42 U.S.C. § 4332(2)(C), taking NEPA's requisite hard look at these impacts will require an EIS given the significance of leasing on such a scale.

C. BLM Must Consider a Range of Alternatives.

a. BLM Must Consider a No-Leasing Alternative.

BLM must analyze a no-leasing or no action alternative to adequately inform the public and the decision maker under statutory NEPA requirements. The no-action alternative should evaluate and discuss the cumulative effect of not leasing any of the proposed parcels for oil and gas development. This analysis should not only quantify the total GHG emissions that would be avoided as a result of not leasing but should also quantify and evaluate the co-benefits of not leasing, including the benefits of avoided air pollution, avoided water use, avoided produced water disposal, and the ability to put lands not leased to other beneficial uses.[29] The co-benefits analysis should also reflect the cumulative value of the renewable energy-generating capacity of the federal lands and mineral estate that would be preserved under the no-action alternative. The impacts to GHG emissions and climate according to the no action alternatives considered must indicate the difference in estimated GHG emissions between the proposed alternatives and the no action alternatives.

b. BLM Must Consider an Alternative That Considers Adopting a Policy of Managed Decline of Fossil Fuel Production from the Entire Federal Mineral Estate.

In our scoping comments, we requested that BLM include an alternative that considers adopting a policy of managed decline of fossil fuel production from the entire federal mineral estate. BLM does not discuss this alternative, let alone analyze it in detail. We urge the agency to offer more than a cursory explanation for its dismissal of this and other alternatives. In other recent BLM lease sale EAs in other states, BLM has often failed to discuss—and thus, seemingly failed to consider— this and other proposed alternatives at all. Inconsistencies among BLM offices in determining the alternatives to consider exemplify the need to consider the proposed lease sales in a single impact statement rather than through individual EAs. They also underscore the need for a programmatic review of the BLM fossil fuel program. We request BLM explain the basis for how and why it determines whether to consider proposed alternatives, and we request that BLM consider an alternative involving a policy of managed decline of fossil fuel production from the entire federal mineral estate.

c. BLM Must Consider an Alternative That Protects Groundwater.

BLM must consider alternatives that would protect usable groundwater. Specifically, BLM should consider not leasing parcels within areas where there is less than 2,000 feet of vertical separation between the oil and gas formations likely to be targeted and any groundwater aquifer with 10,000 ppm TDS or less. BLM should also analyze an alternative whereby parcels would not be leased in areas overlying usable groundwater and surface water, and an alternative

[29] Interior Report at 4, 12, Exhibit 21.

that includes other measures to ensure that all usable groundwater zones are protected. This might involve pre-leasing groundwater testing and adding a lease stipulation or lease notice requiring specified casing and cementing depths. Alternatively, or additionally, BLM should consider requiring a lease stipulation or lease notice requiring the lessee to perform groundwater testing prior to drilling to identify all usable water, and consultation with the U.S. Geological Survey and other agencies to identify those waters with up to 10,000 ppm TDS. BLM did not consider such an alternative.

d. BLM Must Consider an Alternative that Minimizes Methane Waste Through both Technology and Regulatory Authority.

BLM must include in their analysis an alternative that applies a stipulation that mandates the use of best available methane reduction technologies to parcels. Research has demonstrated that the use of technically proven and commercially available methane emissions reduction technologies can together capture more than 80 percent of the methane currently going to waste in the oil and gas sector's operations. Such technologies include: green completions to capture oil and gas well emissions; plunger lift systems or other well de-liquification methods to mitigate gas well emissions; tri-ethylene glycol (TEG) dehydrator emission controls to capture emissions from dehydrators; desiccant dehydrators to capture emissions from dehydrators; dry seal systems to reduce emissions from centrifugal compressor seals; improved compressor maintenance to reduce emissions from reciprocating compressors; low-bleed or no-bleed pneumatic controllers used to reduce emissions from control devices; pipeline maintenance and repair to reduce emissions from pipelines; vapor recovery units used to reduce emissions from storage tanks; and leak monitoring and repair to control fugitive emissions from valves, flanges, seals, connections and other equipment.

In addition to these best available methane reduction technologies, BLM must also consider an alternative that implements its legal obligation to use all reasonable precautions to prevent waste, including a stipulation on leases that provides for no routine venting or flaring, similar to regulations that are already being implemented in the states of Colorado and New Mexico. Although BLM has completed a rulemaking effort pursuant to its authority to prevent waste under 30 U.S.C. §§ 187, 225, BLM's proposed rule does not go nearly far enough to prevent waste from routine flaring on BLM managed leases on Tribal and federal public lands, and is slated for suspension, revision, or recission under the Interior's Sec. Order 3418. Until methane waste is adequately addressed, BLM should not be holding lease sales or issuing leases, much less granting applications for permits to drill. Failing this, however, BLM must, at a minimum, use its existing authority under Notice to Lessees 4a (Jan. 1, 1980) ("NTL-4A) and the Inflation Reduction Act to condition such leases as it does issue to limit the environmental and human health harms caused by routine venting and flaring and to safeguard Tribal and publicly held resources from unreasonable and undue waste. Interior's standard lease form, Form 3100-11 (October 2008) provides, in section 4, that a "[l]essee . . . must prevent unnecessary damage to, loss of, or waste of leased resources," and that Interior "reserves right to specify rates of development and production in the public interest . . .." Such an alternative must also articulate the implementation of existing methane waste policies as described in NTL-4A, and provide guidance requiring strict compliance with, at a minimum, NTL-4a's existing measures as well as BLM's legal authority and responsibility pursuant to the Federal Land Policy and Management

Act to prevent or reduce methane emissions, independent of the agency's MLA duty to prevent waste.

In addition, such an alternative could use the following mechanisms to prevent methane waste:

- Removal of a lease parcel from proposed sale or denial of an application for permit to drill if Interior determines that methane, nitrogen oxides, or other harmful emissions are impermissible, whether because such emissions would constitute waste or impair or cause undue or unnecessary harm to non-mineral public lands resources and values, in particular but not exclusively "air and atmospheric" values.
- Controlling the timing, location, and pace of new drilling as well as the rate of production of new or existing wells to eliminate methane or other harmful emissions to align new drilling and production with midstream system capacity.
- A requirement, whether via stipulation or condition of approval, that a lessee or operator, once flowback establishes the level of gas production, connect an oil well producing associated gas to a natural gas line with sufficient capacity prior to the commencement of full production.
- A menu of drilling-stage of conditions of approval specifying known and readily available practices or technologies typically employed to reduce methane waste in accord with the MLA or methane and other harmful emissions in accord with FLPMA.

Again, BLM attempts to defer a hard-look analysis of methane waste impacts, or consideration of alternatives that eliminate or mitigate those impacts, to the APD stage.

We also recommend that BLM consider in this alternative a stipulation limiting flaring to situations where it is infeasible or unsafe to capture the gas and not allowing routine flaring where there is simply inadequate pipeline capacity or timing issues. Similar approaches to flaring have been adopted through regulations by New Mexico and Colorado.[30]

e. BLM Must Consider an Alternative that Provides for Meaningful And Measurable Mitigation Actions in the Context of Cumulative Climate Change Resulting from Global Emissions

Under FLPMA, BLM has an array of responsibilities, implicated by the impacts of climate change, that it must consider when deciding whether to approve new oil and gas lease sales, including to:

- Protect public land values including air and atmospheric, water resource, ecological, environmental, and scenic values, and to preserve and protect "certain public lands in their natural condition," and "food and habitat for fish and wildlife." 43 U.S.C. §1701(a)(8);
- Account for "the long-term needs of future generations." 43 U.S.C. § 1702(c);

[30] *See, e.g.*, 2 Colo. Code Regs. § 404-1:903; N.M. Admin. Code § 19.15.27.8.

- Prevent "permanent impairment of the productivity of the land and quality of the environment." 43 U.S.C. § 1702(c);
- "[T]ake any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C. § 1732(b); and
- Manage public lands on the basis of multiple use and sustained yield. 43 U.S.C. § 1732(a).

To carry out these responsibilities in the context of oil and gas leasing, BLM has a corresponding array of authorities to address the impacts of oil and gas leasing and development. These authorities include choosing not to lease the federal mineral estate for oil and gas development, withdrawing federal minerals from leasing, prohibiting leasing in resource management plans and through resource management plan amendments, requiring conditions of approval in new authorizations of oil and gas leases, as well as managing the rate of oil and gas production in federal leases.

The Mineral Leasing Act (MLA) also authorizes BLM to reduce the rate production over a defined period of time, limiting the amount of extraction and greenhouse gas pollution that would result. The MLA authorizes the Secretary of the Interior to "alter or modify from time to time the rate of prospecting and development and the quantity and rate of production under such a plan." 30 USCA § 226(m). Likewise, nearly all BLM leases for onshore oil and gas contain a clause which states that "Lessor reserves the right to specify rates of development and production in the public interest." *See* U.S. Department of the Interior, Offer to Lease and Lease for Oil and Gas, Form 3100-11 (Oct. 2008). According to these authorizations, the Secretary and BLM could set a declining rate of production over time that provides for an orderly phase-out of onshore fossil fuel production.

BLM's legal duty and authority provide a variety of mitigation actions BLM could take to meaningfully and measurably to address cumulative climate change resulting from global emissions. We request BLM perform its NEPA analyses in a way that correctly reflect its legal duties and authorities.

D. BLM Must Take a Hard Look at Reasonably Foreseeable Climate Consequences.

As described in a number of contexts below, BLM has failed to take the requisite "hard look" at the reasonably foreseeable environmental consequences of the proposed lease sales.

a. Federal Fossil Fuel Emissions Are Significant Under NEPA.

i. EPA GHG Equivalency Calculator

BLM evaluated GHG emissions estimated from the proposed lease sale and from the cumulative GHG emissions from BLM's onshore federal fossil fuel program using several analytical tools, all of which indicate federal fossil fuel emissions of GHGs are significant under NEPA. BLM used EPA's greenhouse gas equivalency calculator to express the estimated annual GHG emissions from the lease sale in terms of the GHG emissions produced from gas-fueled

vehicles driven for one year, or the emissions that could be avoided by operating wind turbines as an alternative energy source or offset by the carbon sequestration of forest land. However, we request BLM contextualize the GHG emissions of the 2025 lease sales by using the EPA GHG equivalency calculator to consider the GHG emissions over the average 30-year production life of the leases. We also request BLM contextualize the cumulative GHG emissions from the federal fossil fuel program using EPA's GHG equivalency calculator. BLM cannot fulfill its NEPA obligations with this type of comparison, which artificially minimizes significance and tells the public nothing about the actual impacts of emissions.

ii. Social Cost of Greenhouse Gases

BLM failed to use the social cost of greenhouse gases (SC-GHG) as another tool to assess GHG emissions and climate change effects from the proposed lease sales. The social cost of greenhouse gases provides an estimate of the monetized global damages associated with the incremental increases of GHGs.[31] BLM should not only provide the SC-GHG, but also an analysis of the decision making pursuant to those numbers.

BLM did not use the social cost of GHGs tool to assess the impacts of the cumulative cost of global damages from BLM's fossil fuel program in the BLM Specialist Reports, and BLM failed to explain the basis for its decision to omit this analysis. We request BLM contextualize the cumulative GHG emissions from the federal fossil fuel program using the social cost of GHGs. The cumulative cost of the federal fossil fuel program is an important consideration for BLM to weigh, as it is many orders of magnitude greater than the already significant costs of just the proposed 2025 lease sales.

As discussed elsewhere in these comments, there *are* scientifically established standards and findings that can inform BLM's analysis; BLM *must* analyze the significance of new emissions and put them into context. The agency should use existing, accepted methodologies, tools, and information such as the social cost of greenhouse gases and carbon budgeting, and the findings of the IPCC in the recently-released AR6, and develop a cumulative significance threshold for reasonably foreseeable greenhouse gas emissions from projects authorized by BLM.

Although the President's January 20, 2025, Executive Order directs agencies to rescind any social cost of carbon guidance issued by the Interagency Working Group, it does not absolve the BLM of its duty under NEPA and APA to meaningfully analyze the GHG emissions associated with proposed projects. Even in the absence of a mandated social cost of carbon metric, BLM must still apply a methodology that adequately quantifies and contextualizes GHG emissions to satisfy its legal obligations under NEPA and the APA. The analysis herein regarding the requirements of an agency to rationally contextualize GHG emissions related to a project applies throughout this entire Comment.

[31] We urge BLM to apply the Social Cost of Greenhouse Gas values contained in EPA's September 2022 Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances. Due to their incorporation of recent scientific data, as well as reliance on lower discount rates, the EPA estimates represent a more accurate and up-to-date estimate of the costs of greenhouse gas production and consumption than the 2021 Interim Estimates of the Social Cost of Carbon, Methane, and Nitrous Oxide produced by the Interagency Working Group.

iii. Carbon Budgeting

In addition to SC-GHG, BLM must use carbon budgeting to evaluate the impact of GHG emissions associated with BLM's onshore fossil fuel authorizations on the remaining atmospheric capacity to take on further GHG emissions without exceeding different degrees of additional warming. BLM may not improperly omit a carbon budget analysis of the United States' share of the global carbon budget, as GHG emissions from the onshore federal fossil fuel program consume a tremendous amount of the global budget – 1.47% of the budget consistent with a 66% chance of limiting warming to 1.5 C.

In addition to the tools BLM may use to contextualize and evaluate federal fossil fuel GHG emissions, we request BLM evaluate and consider the impacts of climate change that have already occurred as a result of the cumulative emissions of GHGs. BLM's NEPA analysis of GHGs and climate change tends to frame the impacts of climate change as long-term impacts, estimated to be realized at some future point in time. However, the climate has already changed as a result of anthropogenic GHG emissions and the consequences of global climate change are already being realized.

BLM's NEPA analysis of the proposed lease sales must acknowledge that anthropogenic GHG emissions over the past 60 years have resulted in impacts associated with the change in global climate. In fact, the 2021 BLM Specialist Report refers to the IPCC climate assessment report, which states: "Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentration of greenhouse gases have increased."[32] The IPCC AR6 report indicates that the globally averaged combined land and ocean surface temperature data, as calculated by a linear trend, show shows human caused warming of 1.07 ± 0.23°C over the period 1850 to 2019.[33] Warming of 1.07 C is over half the warming the 1.5 C of warming the U.S. has committed to avoid, and scientists are increasingly able to show the significant impacts of just 1.07 C of warming in terms of the intensification of wildfires, hurricanes, drought, and other weather-related phenomena.[34] We request BLM consider, discuss, and evaluate the climate science regarding past and present impacts from climate change to further contextualize the climate impacts from the cumulative emissions of GHGs associated with the proposed lease sales and the federal fossil fuel program.

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[32] 2022 BLM Specialist Report at Section 4.2, *citing* IPCC, 2023: Climate Change 2023.
[33] *Id.*
[34] Every extreme-weather attribution peer-reviewed study published to date is tracked and available at Carbon Brief, *Mapped: How climate change affects extreme weather around the world*, https://www.carbonbrief.org/mapped-how-climate-change-affects-extreme-weather-around-the-world (last visited Nov. 29, 2021); *see also The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (2021), Exhibit 14; **Exhibit 22**, Swain, Daniel L. *et al.*, *Attributing Extreme Events to Climate Change: A New Frontier in a Warming World*, One Earth (Jun. 2, 2020); **Exhibit 23,** Reed, Kevin A. et al., *Forecasted Attribution of the Human Influence on Hurricane Florence*, Science Advances 6 (1): eaaw9253, https://doi.org/10.1126/sciadv.aaw9253.

b. The BLM Must Analyze the Global and National Over-Commitment of Fossil Fuels Relative to Global Carbon Budgets Necessary to Avoid 1.5°C Warming.

BLM must analyze and evaluate the estimated GHG emissions from the lease sales and cumulative GHG emissions within the context of the widening production gap, or the difference between global fossil fuel production projected by governments and fossil fuel production consistent with the 1.5 C-warming pathway and other pathways.[35] The most recent UN Production Gap Report raises the alarm that despite the most recent IPCC findings, the world is running out of time to limit long-term global warming to 1.5°C as the world's governments continue to plan to produce more than double the amount of fossil fuels in 2030 than would be consistent with a 1.5°C-warming pathway.[36] We request BLM consider the United Nation production gap report discussed above, which indicates an imperative to rapidly transition away from fossil fuels using supply side policies.

BLM must also conduct an analysis of the monetized net harm to society associated with the cumulative increases in GHG emissions in the BLM Specialist Report. The BLM Specialist Report failed to analyze these cumulative impacts using the SC-GHG and failed to assess carbon budgets according to historic GHG contribution and equitable apportionment. In its social cost analysis of the cumulative GHG emissions attributable to all federal fossil fuel development and production, BLM should acknowledge that the Interagency Working Group (IWG) has consistently indicated that its Social Cost of Greenhouse Gas estimates represent an underestimation of the actual social costs associated with a given ton of GHG pollution. This fact has been borne out by the Environmental Protection Agency's November 2023 Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances, which reflects "recent advances in the scientific literature on climate change and its economic impacts and incorporate recommendations made by the National Academies of Science, Engineering, and Medicine." The fact that the EPA's social cost estimates, which are scientifically rigorous and reflect the best and most up-to-date scientific and economic data, are significantly higher than those of the IWG further illustrates the extent to which the IWG interim numbers may be considered an underestimate. Nonetheless, the IWG numbers represent the most current official estimate of social costs, and therefore constitute an important starting point for BLM's analysis, which must include a discussion of the ways in which the IWG estimates are likely to undervalue future climate damages.

BLM's Specialist Report must also further contextualize its carbon budget analysis by evaluating carbon budgets according to the United States' historic contributions. It is well-documented that the United States is the world's largest historic contributor of GHG emissions and, thus, bears a greater global responsibility to more quickly reduce the quantity of its GHG

[35] *See* **Exhibit 24,** SEI, Climate Analytics, E3G, IISD, and UNEP, *The Production Gap: Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises,* Stockholm Environment Institute, Climate Analytics, E3G, International Institute for Sustainable Development and United Nations Environment Programme (2023), https://doi.org/10.51414/sei2023.050.
[36] *See id*.

emissions.[37] The BLM Specialist Report attempts to cast doubt on the utility of assessing GHG emissions according to carbon budgets, stating: "Carbon budgets have not yet been established on a national or subnational scale, primarily due to the lack of consensus on how to allocate the global budget to each nation, and as such the global budgets that limit warming to 1.5°C or 2.0°C are not useful for BLM decision-making as it is unclear what portion of the budget applies to emissions occurring in the United States, or how to account for BLM's authorized portion of projected U.S. emissions, and whether or not to account/deduct any fraction of federal minerals that are consumed in other countries via exports."[38] However, uncertainty in other contexts of GHG and climate change analysis has not prevented BLM from using averages, estimates, and models to address uncertainty and provide the public and decision makers helpful information.[39] As such, BLM should consult the best scientific reports and data available to determine a representative carbon budget that reasonably applies to emissions in the United States, given its historic contributions.[40] The carbon budget analysis in the BLM Specialist Report, as currently drafted, is misleading because it inappropriately compares GHG emissions from the BLM federal fossil fuel program to the remaining global carbon budget. To the public or a decision maker, this analysis minimizes the GHG emissions from the BLM federal fossil fuel program and implies the emissions are insignificant to the global carbon budget, comparatively.

c. The BLM Specialist Report Fails to Adequately Quantify and Assess All Related Past, Present, and Reasonably Foreseeable Future GHG Emissions and Climate Impacts.

The BLM must properly complete a cumulative impacts analysis of the proposed lease sales, including both an assessment of the cumulative impact of greenhouse gas emissions from the federal fossil fuel program and an analysis of greenhouse gas emissions from all federal, state, and private fossil fuel leasing and development projects.

BLM must assess the cumulative greenhouse gas emissions from recent and reasonably foreseeable federal offshore oil and gas lease sales. BLM must also assess the cumulative greenhouse gas emissions from recent and reasonably foreseeable federal fossil fuel lease sales and similar federal actions, including the emissions from pending coal lease applications. And BLM must assess cumulative greenhouse gas emissions from recent and reasonably foreseeable non-federal oil and gas leasing and development projects. For example, in 2022, 10 states held

[37] **Exhibit 25,** Evans, Simon, *Analysis: Which countries are historically responsible for climate change?* Carbon Brief, https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change (last visited Nov. 29, 2021).
[38] 2022 BLM Specialist Report at Section 9.1.
[39] *See, e.g.,* 2021 BLM Specialist Report, Exhibit 16, at Section 3.4 (estimating global warming potentials), Section 4.0 (using various methods and assumptions to estimate emission factors for coal, oil, and gas and short- and long-term fossil fuel emissions projections), Sections 6.2–6.4 (projecting global and U.S. emissions).
[40] *See, e.g.,* **Exhibit 26**, Van den Berg, Nicole et al., *Implications of various effort-sharing approaches for national carbon budgets and emission pathways*, Climatic Change 162: 1805–1822 (2020), https://link.springer.com/article/10.1007%2Fs10584-019-02368-y; **Exhibit 27,** Dooley, Kate *et al*., *Ethical choices behind quantifications of fair contributions under the Paris Agreement*, Nature Climate Change 11: 300-305 (2021), available at https://www.nature.com/articles/s41558-021-01015-8.

45 lease sales, and in 2023, 10 states held 40 lease sales, selling tens of thousands of acres for oil and gas development.[41]

d. BLM Must Take a Hard Look at Methane Emissions and Waste.

BLM must take a hard look at the impacts of methane, preferably in both a programmatic NEPA review, and an aggregated EIS for the proposed lease sales as discussed above. Methane is an incredibly potent greenhouse gas. Methane has contributed to approximately 30% of the global rise in temperatures to date. [42] Because of methane's potent short-term warming characteristics, curbing methane emissions is one of the most effective near-term ways to address the climate crisis. Methane emissions from fossil fuel operations represent nearly one-third of human-caused emissions.[43] These emissions represent both a major climate threat and also an opportunity. Slowing and ultimately halting fossil fuel demand will not by itself achieve needed GHG cuts, particularly in the near-term. This means that curbing wasteful methane emissions from oil and gas production are an essential element of reducing climate-warming emissions.[44]

In 2019, oil and gas operators vented or flared approximately 150 billion cubic feet of methane, resulting in the loss of over $50 million in federal royalty revenue. This is enough natural gas to meet the needs of 2.1 million households, which is nearly as many households as the states of New Mexico, North Dakota, Utah and Wyoming combined. This waste also means lost royalty revenues for taxpayers and Tribes. A recent analysis conducted by Synapse Energy Economics calculated natural gas methane emissions volumes from venting, flaring, and leaks in the production segment on federal and Tribal lands and determined the value of that lost gas in the form of (1) lost royalties, (2) lost state revenue from taxes, and (3) lost revenue from wasted natural gas that could be used for other purposes. It found that $63.3 million in royalties, $18.8 million in state revenue from taxes (from the top six states), and $509 million in gas value was lost due to venting, flaring, and leaks on federal and Tribal lands.[45] The report found that, in 2019, leaks accounted for 46% and flaring for 54% of lost gas.[46] This report also found that the six states with the highest volumes of gas lost from federal and Tribal lands are New Mexico, North Dakota, Wyoming, Utah, Pennsylvania, and Colorado.[47] The problem of flaring is particularly pernicious in North Dakota, which accounts for the vast majority of gas lost from flaring on federal and Tribal land and has the highest flaring intensity of any state in the U.S.[48]

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[41] Past state oil and gas lease sale data available at https://www.energynet.com/page/Government_Sales_Results.
[42] **Exhibit 28**, IEA (2021) Michaels, K.C., de Oliveira, Tomás, *Curtailing Methane Emissions from Fossil Fuel Operations, Pathways to a 75% cut by 2030*, International Energy Agency.
[43] *Id.*
[44] *Id. See also* **Exhibit 29,** *The Imperative of Cutting Methane from Fossil Fuels*, International Energy Agency (Oct. 11, 2023), https://iea.blob.core.windows.net/assets/9efb310e-94d7-4c46-817b-9493fe5abb0a/Theimperativeofcuttingmethanefromfossilfuels.pdf.
[45] **Exhibit 30,** Olivia Griot et al., Onshore Natural Gas Operations on Federal and Tribal Lands in the United States: Analysis of Emissions and Lost Revenue, Synapse Energy Economics Inc., 3 (Jan. 20, 2023), https://blogs.edf.org/energyexchange/files/2023/01/EMBARGOED_EDF-TCS_Public_Lands_Analysis.pdf (hereinafter "Synapse").
[46] *Id.* at 23.
[47] *Id.* at 24.
[48] *Id.*; **Exhibit 31**, Rystad Energy, *Cost of Flaring Abatement: Final Report* 6 (Jan. 31, 2022), https://blogs.edf.org/energyexchange/files/2022/02/Attachment-W-Rystad-Energy-Report_-Cost-of-Flaring-Abatement.pdf (hereinafter "Rystad Report").

Furthermore, further could worsen existing and disparate impacts to human health. According to a study conducted by HEI Energy in New Mexico, for example, samples show high levels of methane, ethane and other volatile organic compounds, indicating that the ozone comes from oil and gas production.[49] At a national level, such waste on federal and Tribal lands already has significant and disproportionate health and other impacts on minority and low-income communities, including Indigenous communities.[50] On federal and Tribal lands in the U.S., there are roughly 12,000 people living within a half mile of a well with flaring. This includes approximately 1,000 children under the age of five, more than 1,600 older Americans over the age of 65, 1,800 people living in poverty, and almost 6,000 people of color.[51] These groups live near flaring wells at much higher rates when compared to the nation at large. For example, Native Americans are 25% more likely to live within one mile of wells compared to the populations in the counties studied, while nationally they represent less than 2% of the country. [52] This proximity to oil and gas infrastructure creates disproportionate adverse health risks and impacts on Indigenous communities.[53] Moreover, the Indigenous people living on these lands are more likely to be living in poverty compared to the population of the encompassing state(s), which exacerbates the already disparate health burdens faced by these individuals and communities.[54] Waste from flared gas in particular has disparate health impacts on Indigenous

[49] *See* Jerry Redfern, *In This Tiny New Mexico Town, the Air Quality Is Worse Than in Downtown L.A*, Capital and Main (August 20, 2024), available at https://capitalandmain.com/in-this-tiny-new-mexico-town-the-air-quality-is-worse-than-in-downtown-l-a.

[50] **Exhibit 32** Jeremy Proville et al., *The demographic characteristics of populations living near oil and gas wells in the USA*, 44 Population and Environment 1 (2022), https://doi.org/10.1007/s11111-022-00403-2 (hereinafter "Proville, *The demographic characteristics*"); **Exhibit 33**, Cushing et al., *Up in Smoke: Characterizing the Population Exposed to Flaring From Unconventional Oil and Gas Development in the Contiguous U.S.*, 16 Environmental Research Letters 1, 1 (2021).; **Exhibit 34,** Caron-Beaudoin, *VOCs in indoor air and tap water samples*; **Exhibit 35**, Jill Johnston et al., *Environmental Justice Dimensions of Oil and Gas Flaring in South Texas: Disproportionate Exposure among Hispanic Communities*, Environ. Sci. Technol. (2020); **Exhibit 36**, Lara J. Cushing et al., *Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas*, 128 ENVIRONMENTAL HEALTH PERSPECTIVES , 077003 (2020).

[51] This data was compiled by analysts at Environmental Defense Fund (EDF). EDF used Enverus data to identify wells with reported flaring in 2019 for Texas, New Mexico, Colorado, North Dakota, Montana, Wyoming, and Mississippi. EDF then used GIS spatial files from BLM (oil and gas leases), U.S. Forest Service (mineral rights), and Bureau of Indian Affairs (surface ownership) to extract just those wells on federal and Tribal lands. (As there is not a comprehensive databased of tribal mineral ownership, surface ownership was used as a proxy for determining wells on tribal lands.) By identifying wells with flaring, we are also able to identify the local communities that are impacted by the air pollution from these wells. Using the methodology described in Proville, *The demographic characteristics*, Exhibit 53, U.S. Census Bureau's American Community Survey 5-year estimates for 2015–2019, and health data from the Centers for Disease Control and Prevention's Places dataset, we were able to estimate the populations living within a half mile radius of the previously identified wells using areal apportionment. *See* Centers for Disease Control and Prevention, PLACES: Local Data for Better Health, https://www.cdc.gov/places/index.html (last visited Jan. 30, 2023).

[52] Proville, *The demographic characteristics* at 10, Exhibit 34.

[53] *See, e.g.*, **Exhibit 37,** Clean Air Task Force, *Tribal Communities at Risk: The Disproportionate Impacts of Oil and Gas Air Pollution on Tribal Air Quality* 3, 2–5 (2018), https://www.catf.us/resource/tribal-communities-at-risk/.

[54] *Id*. at 4.

people and other overburdened communities. Studies have found that "flaring is an environmental justice issue."[55] The majority of lost gas on Tribal lands is flared.[56]

Flaring has significant health impacts, and those impacts are clearly in communities near oil and gas infrastructure. A recent study found that a 1% increase in flared natural gas in North Dakota increases the respiratory-related hospitalization rate by 0.73%, for example.[57] Such effects are clearly documented in communities living near oil and gas infrastructure. According to an Environmental Defense Fund (EDF) analysis, roughly 1,100 adults with asthma, 800 adults with chronic obstructive pulmonary disease, 700 adults with coronary heart disease, and 400 adults who have experienced a stroke live within a half mile of a flaring well.[58] Another study links flaring to shorter gestation and reduced fetal growth.[59] Indigenous communities bearing the brunt of excessive flaring therefore face significant adverse health impacts. Reducing waste from flaring on federal and Tribal lands would lessen these harms.

BLM must take a hard look at the direct, indirect, and cumulative methane emissions that will result from development of these leases and their commensurate impacts in accordance with NEPA. This includes Interior's duty to quantify methane emissions and, on that basis, to assess impacts and a range of reasonable alternatives and mitigation measures to cut those emissions. BLM must also consider the other environmental impacts of this wasted resource, including the public health and welfare impacts of flaring.[60]

e. BLM Must Consider Flaring and its Impacts in the EA.

BLM is well-aware that flaring results in waste of federal and tribal minerals, loss of revenue, and social and environmental impacts. Yet, BLM has repeatedly ignored flaring in its NEPA analyses for oil and gas lease sales. We urge BLM to correct this deficiency and consider flaring and its impacts in the EA for these lease sales. BLM must:

- Consider the direct, indirect, and cumulative socioeconomic impacts of flaring. A recent analysis conducted by Synapse Energy Economics calculated natural gas methane emissions volumes from venting, flaring, and leaks in the production segment on federal and tribal lands and determined the value of that lost gas in the form of (1) lost royalties, (2) lost state revenue from taxes, and (3) lost revenue from wasted natural gas that could be used for other purposes.
- Consider the direct, indirect, and cumulative human health impacts of flaring. For example, a recent study found that a 1% increase in flared natural gas in North Dakota

[55] Lara J. Cushing, et al., *Up in Smoke* at 7, Exhibit 33; *see* **Exhibit 38,** Wesley Blundell & Anatolii Kokoza, *Natural gas flaring, respiratory health, and distributional effect*, 208 Journal of Public Economics 104601, at 4, 10 (2022), https://doi.org/10.1016/j.jpubeco.2022.104601 (hereinafter "Blundell, *Natural gas flaring, respiratory health*").
[56] *Synapse* at 27, Exhibit 30.
[57] Blundell, *Natural gas flaring, respiratory health* at 1, Exhibit 38.
[58] *See supra* footnote discussing data compiled by analysts at Environmental Defense Fund (EDF).
[59] Cushing South Texas study at 077003-1, Exhibit 36.
[60] **Exhibit 39**, EDF, Flaring Aerial Survey Results (2021), *available at* https://www.permianmap.org/flaring-emissions/; *see also* **Exhibit 40**, Gvakharia et al., *Methane, Black Carbon, and Ethane Emissions from Natural Gas Flares in the Bakken Shale, North Dakota*, Environmental Science & Technology 5317, 5317 (2017); Cushing et al., *Up in Smoke*, Exhibit 33.

increases the respiratory-related hospitalization rate by 0.73%.[61] BLM must examine how flaring affects people living in the region.

- Consider the direct, indirect, and cumulative environmental justice impacts of flaring, as well as means of mitigating any adverse effects.

E. BLM Must Take a Hard Look at Impacts to Human Health.

BLM must include an analysis of reasonably foreseeable human health impacts resulting from oil and gas leasing and development, including issues related to health and safety risks and impacts.

a. Overview of Human Health Impacts and Sources of Peer-Reviewed Literature Related to Proximity to Oil and Gas Development.

An extensive and ever-growing body of peer-reviewed research has shown what people living near oil and gas operations already know firsthand—that proximity to drilling and fracking operations and other oil and gas facilities is linked to adverse health risks and impacts. These risks and impacts are discussed in further detail throughout this section, and in the numerous accompanying exhibits, but in general, they include (but are not limited to):

- Reproductive harms – including birth defects, low birth weight, preterm births, and miscarriages;
- Respiratory health effects – including asthma, lung disease, breathing difficulty, and, most recently, increased vulnerability to COVID-19;
- Eye, skin, and throat irritation and rashes;
- Cardiovascular effects – including higher blood pressure and other indicators of, or precursors to, heart disease;
- Possible disruption of the endocrine system (a system of glands producing hormones that regulate a variety of functions in the body, including metabolism, growth and development, reproduction, sleep, and mood);
- Cancer (lung cancer and other types of cancer);
- Motor vehicle injuries and fatalities, and other health and safety risks associated with increased vehicle traffic (and the air pollutants it emits) from oil and gas development;
- Injuries and fatalities from explosions, fires, spills, and leaks; and
- Trauma and psychological stress.

One excellent, frequently updated, and easy-to-use resource for keeping up with this growing body of peer-reviewed research is the Physicians, Scientists, and Engineers for Healthy Energy ("PSE Healthy Energy") database, the Repository for Oil and Gas Energy Research, or "ROGER."[62] ROGER is an extensive repository of peer-reviewed literature, "a near-exhaustive

[61] Blundell, *Natural gas flaring, respiratory health* at 1, Exhibit 38.
[62] *See* Physicians, Scientists, and Engineers for Healthy Energy ("PSE Healthy Energy"), "The ROGER Citation Database," https://www.psehealthyenergy.org/our-work/shale-gas-research-library/ (last visited November 4, 2022).

collection of bibliographic information, abstracts, and links to many of [sic] journal articles that pertain to shale and tight gas development."[63] This database is organized into several categories, and for the "Health" category alone, there are over 260 studies listed, including several recent studies from 2019-2022. BLM should avail itself of this invaluable resource in order to take NEPA's requisite hard look at health impacts.

There are several other notable scientific papers BLM should consider in order to analyze and disclose to the public the health risks and impacts associated with its leasing decisions.[64] Multiple peer-reviewed papers have identified adverse health effects and risks arising from exposure to unconventional oil and gas drilling operations, even within a large radius of residences—potentially up to ten miles.[65] For example, one study found that babies whose parents lived in close proximity to multiple oil and gas wells were 30% more likely to be born with heart defects than babies born to parents who did not live close to oil and gas wells.[66] Other

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[63] *Id.*

[64] *See, e.g.,* **Exhibit 41**, R.Z. Witter, et al*., Occupational exposures in the oil and gas extraction industry: state of the science and research recommendations*, AMERICAN JOURNAL OF INDUSTRIAL MEDICINE (2014); **Exhibit 42**, Jessica Gilman, et al., *Source signature of volatile organic compounds (VOCs) from oil and natural gas operations in northeastern Colorado*, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2013); **Exhibit 43**, Roxana Z. Witter, et al., *The Use of Health Impact Assessment for a Community Undergoing Natural Gas Development,* FRAMING HEALTH MATTERS (2013); **Exhibit 44**, Nadia Steinzor, et al., *Investigating links between shale gas development and health impacts through a community survey project in Pennsylvania*, NEW SOLUTIONS, vol. 23 iss. 1. (2013); **Exhibit 45**, John L. Adgate, et al., *Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development*, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2014); **Exhibit 46**, Christopher W. Moore, et al., *Air Impacts of Increased Natural Gas Acquisition, Processing, and Use: A Critical Review*, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2014); **Exhibit 47**, Avner Vengosh, et al., *The effects of shale gas exploration and hydraulic fracturing on the quality of water resources in the United States*, PROCEDIA EARTH AND PLANETARY SCIENCE (2014); **Exhibit 48**, Christopher D. Kassotis, et al., Estrogen and Androgen Receptor Activities of Hydraulic Fracturing Chemicals and Surface and Ground Water in a Drilling-Dense Region, ENDOCRINOLOGY (2014); **Exhibit 49**, Brian E. Fontenot, et al., *An Evaluation of Water Quality in Private Drinking Water Wells Near Natural Gas Extraction Sites in the Barnett Shale Formation*, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2013); **Exhibit 50**, Sherilyn A. Gross, et al., *Analysis of BTEX Groundwater Concentrations from Surface Spills Associated with Hydraulic Fracturing Operations*, JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION (2013); **Exhibit 51**, K.D. Retzer, *et al., Motor vehicle fatalities among oil and gas extraction workers,* ACCIDENT ANALYSIS & PREVENTION (2013); **Exhibit 52,** Gayathri Vaidyanathan, *Fracking Can Contaminate Drinking Water*, Climate Wire (April 4, 2016), available at: https://www.scientificamerican.com/article/fracking-can-contaminate-drinking-water/; **Exhibit 53**, A. Tustin, et al., *Associations Between Unconventional Natural Gas Development and Nasal and Sinus, Migraine Headache, and Fatigue Symptoms in Pennsylvania,* ENVIRONMENTAL HEALTH PERSPECTIVES (July 31, 2016), available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5289909/.

[65] *See, e.g.,* **Exhibit 54**, Lisa M. McKenzie *et al.*, *Birth Outcomes and Maternal Resident Proximity to Natural Gas Development in Rural Colorado*, 122 ENVIRONMENTAL HEALTH PERSPECTIVES 412 (April 2014) [Hereinafter McKenzie et al., *Birth Outcomes*) (Finding an increased risk of congenital heart and neural tube defects in babies born to mothers living within 10 miles of a natural gas well); **Exhibit 55**, Janet Currie *et al., Hydraulic Fracturing and Infant Health: New Evidence from Pennsylvania*, 3 SCIENCE ADVANCES e1603021(Dec. 13, 2017) (Finding evidence of negative health effects of in utero exposure to fracking sites within 3 km, or about 1.86 miles, of a mother's residence, with the largest health impacts seen within 1 km, or about 0.62 miles); **Exhibit 56**, Ellen Webb *et al., Potential Hazards of Air Pollutant Emission from Unconventional Oil and Natural Gas Operations on the Respiratory Health of Children and Infants*, 31 REV. ENVIRONMENTAL HEALTH 225–243 (Jun. 1, 2016), at 236 [hereinafter Webb et al.] (Noting that many unconventional oil and gas setback rules, for setbacks of 1000 feet or less, do not adequately protect health, especially children's respiratory health, that "the majority of municipal setback ordinances are not supported by empirical data," and calling for a one-mile minimum for setbacks between drilling facilities and schools, hospitals, and occupied dwellings).

[66] *See* McKenzie *et al.*, *Birth Outcomes*, *supra* Exhibit 54.

adverse health impacts documented among residents living near drilling and fracking operations include increased reproductive harms, asthma attacks, higher rates of hospitalization, ambulance runs, emergency room visits, self-reported respiratory problems and rashes, motor vehicle fatalities, trauma, and drug abuse. Moreover, one recent study found that fracking and drilling near people's homes "drives stress experiences that go beyond the mere presence of industrial land uses in neighborhoods," and identified two key institutional barriers driving negative mental health impacts for people living near UOG [unconventional oil and gas] production – namely: 1) uncertainty, due to inaccessible, transparent information about environmental and public health risks and 2) powerlessness to meaningfully impact regulatory or zoning processes.[67]

In turn, "these institutional barriers make UOG production a chronic stressor – which can be more insidious, negative, and, significantly, can generate longer- term mental health impacts such as self-reported depression."[68]

A 2023 review of literature on health impacts of fracking by Physicians for Social Responsibility ("PSR") concluded that:

> In sum, the vast body of scientific studies now published on hydraulic fracturing in the peer-reviewed scientific literature confirms that the climate and public health risks from fracking are real and the range of environmental harms wide. **Our examination uncovered no evidence that fracking can be practiced in a manner that does not threaten human health directly or without imperiling climate stability upon which human health depends.**
>
> The rapidly expanding body of evidence compiled here is massive, troubling, and cries out for decisive action. Across a wide range of parameters, the data continue to reveal a plethora of recurring problems that cannot be sufficiently averted through regulatory frameworks. The risks and harms of fracking are inherent in its operation. The only method of mitigating its grave threats to public health and the climate is a complete and comprehensive ban on fracking. Indeed, a fracking phase-out is a requirement of any meaningful plan to prevent catastrophic climate change.[69]

"No Surface Occupancy" (NSO) stipulations could be implemented within a certain distance of residences, schools, or other occupied areas that might mitigate some of these effects, but they do not eliminate BLM's obligation to take a hard look at health effects at the leasing stage, as NEPA requires. Stipulations and notices are used to comply with FLPMA and the MLA, and are not a substitute for a NEPA analysis. *See, e.g.,* 43 C.F.R. § 3101.1–3; 43 U.S.C. § 1732(a). Moreover, most existing oil and gas setbacks or NSO stipulations (typically < 1000 feet) are likely inadequate to protect people and communities against health and safety risks and

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[67] *See* **Exhibit 57,** Stephanie A. Malin, *Depressed democracy, environmental injustice: Exploring the negative mental health implications of unconventional oil and gas production in the United States*, 70 Energy Research & Social Science, 101720 at 2 (2020).
[68] *Id*.
[69] **Exhibit 58,** Physicians for Social Responsibility and Concerned Health Professionals of NY, Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking, 9th Edition (2023). [Hereinafter PSR 2023].

adverse effects. At minimum, some health experts have called for a one-mile minimum distance between drilling facilities and schools, hospitals, and occupied dwellings, in light of the heightened health risks of residing within close proximity to unconventional oil and gas drilling sites.[70] Many others call for setbacks of even greater distances. One study found adverse health impacts at distances of six miles.[71] Another study found increased risk of congenital heart and neural tube defects in babies born to mothers living within 10 miles of natural gas wells.[72] Even larger setbacks may not protect against certain health hazards, especially for people already facing disproportionate health risks due to cumulative social, structural, and environmental factors, or for children and the elderly. For example, a 2016 study and Health Impact Assessment ("HIA") in Maryland's Marcellus Shale Basin found that, even with a setback of 2000 feet from residential property as a "mitigating factor," Air Quality was a fracking-related hazard of High concern for its potential negative health impacts after taking into account additional evaluation criteria, such as presence of vulnerable populations, duration and frequency of exposure, and likelihood and severity/magnitude of health effects.[73] BLM must take a hard look at the adverse health risks and effects associated with proximity to oil and gas activity and facilities and disclose them to the public.

b. Cumulative Health Risks and Impacts to Social and Structural Factors Affecting Health.

BLM must take a hard look not only at direct health impacts and proximity-related health impacts of oil and gas development, but also at cumulative health risks and impacts. Cumulative health risks and impacts can arise not only from multiple pollutant exposures, and cumulative pollution exposures over time, but also from compounding structural, social, and economic factors, many of which are rooted in systemic inequities and injustices. Researchers have begun to apply a growing body of evidence documenting how social and environmental stressors lead

[70] *See* Webb *et al*., *supra* Exhibit 56.
[71] **Exhibit 59**, Kathy V. Tran et al., Residential Proximity to Oil and Gas Development and Birth Outcomes in California: A Retrospective *Cohort Study of 2006–2015 Births*, 128 Environmental Health Perspectives, 067001 (2020).
[72] Mckenzie et al., *Birth Outcomes*, *supra*, Exhibit 54.
[73] *See, e.g.*, **Exhibit 60**, *Meleah* D. Boyle et al., Hazard Ranking Methodology for Assessing Health Impacts of Unconventional Natural Gas Development and Production: The Maryland Case Study, 11 PLoS One e0145368 (Jan. 4, 2016) [Hereinafter Boyle et al.](Assigning setback effectiveness a "positive" value of 1 if it is anticipated to minimize health effects, and a "negative" value of 2 if it is not anticipated to minimize health effects, in evaluating the "hazard rankings" for a variety of unconventional natural gas drilling impacts. Notably, there is no "zero" value by which setbacks eliminate health risks or health effects. And, for effects related to water quality, seismic activity, social determinants of health, healthcare infrastructure, cumulative exposures/risks, and occupational health and safety, the authors determined that, at least in that study area (Marcellus Shale in Maryland), setbacks were not anticipated to minimize or mitigate health risks at all. *See* Table 3).

to health inequities and cumulative impacts[74] specifically in the oil and gas drilling context.[75] For example, the aforementioned 2016 Marcellus Shale study and Health Impact Assessment ("HIA") ranked "social determinants of health," (in this study, social determinants included crime, injuries, mental health, sexually transmitted infections, and substance abuse) as a fracking-related hazard of the highest concern with respect to public health impacts, along with air quality and health care infrastructure.[76] Cumulative risks, too, were considered their own category of fracking-related public health hazard, and ranked as a "moderately high" concern (along with water quality, noise, and traffic).[77]

In general, the research indicates that the potential cumulative effects of social and environmental stressors and "social determinants of health" in the context of oil and natural gas activity are as follows: (1) they can increase the *risk or magnitude of exposure* and the *number and/or severity of adverse health impacts* of oil and gas drilling (e.g. pollution sources are often located closer to "environmental justice" communities; underlying health conditions can increase vulnerability to pollution-related health impacts; and pollution-related risks and impacts can exacerbate existing health, social, and economic stressors and vice versa); and (2) they can present obstacles to diagnosing, managing, treating, and mitigating adverse health impacts (e.g.

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[74] *See, e.g.,* **Exhibit 61**, Rachel Morello-Frosch et al., *Understanding the Cumulative Impacts of Inequalities in Environmental Health: Implications for Policy*, 30 HEALTH AFFAIRS 879 (May 2011) (Identifying four key concepts underlying the emerging knowledge about cumulative impacts of environmental and social stressors: "First, health disparities between groups of different racial or ethnic makeup or socioeconomic status are significant and persistent, and exist for diseases that are linked to social and environmental factors. Second, inequalities in exposures to environmental hazards are also significant and persistent, and are linked to adverse health outcomes. Third, intrinsic biological and physiological factors—for example, age—can modify the effects of environmental factors and contribute to differences in the frequency and severity of environmentally related disease. And fourth, extrinsic social vulnerability factors at the individual and community levels—such as race, sex, and socioeconomic status—may amplify the adverse effects of environmental hazards and can contribute to health disparities."). In addition, the U.S. EPA and numerous states have called for, and developed guidance on, cumulative impact analyses, including cumulative risk assessments and health impact assessments (HIAs), that analyze multiple environmental stressors in conjunction with social stressors, environmental justice considerations, and social determinants of health. *See, e.g.*, **Exhibit 62**, U.S. ENVIRONMENTAL PROTECTION AGENCY, FRAMEWORK FOR CUMULATIVE RISK ASSESSMENT (May), *Available at* https://www.epa.gov/sites/production/files/2014-11/documents/frmwrk_cum_risk_assmnt.pdf; **Exhibit 63**, MINNESOTA POLLUTION CONTROL AGENCY, CUMULATIVE IMPACT ANALYSIS *Available at* https://www.pca.state.mn.us/air/cumulative-impact-analysis (Noting that "People's health is affected by many outside factors including multiple sources of pollution and other social conditions and stressors. Some people and communities are burdened by higher levels of pollution and more social stressors than others."; **Exhibit 64**, CUMULATIVE IMPACTS SUBCOMMITTEE, ENVIRONMENTAL JUSTICE ADVISORY COUNCIL TO THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, STRATEGIES FOR ADDRESSING CUMULATIVE IMPACTS IN ENVIRONMENTAL JUSTICE COMMUNITIES (March 2009), *Available at* https://www.nj.gov/dep/ej/docs/ejac_impacts_report200903.pdf (Identifying adverse cumulative impacts of exposures to multiple environmental burdens in "environmental justice" communities as one of "the most critical and pertinent Environmental Justice issues requiring state action and attention").

[75] *See, e.g.,* **Exhibit 65**, Susan Kinnear et al., *The Need to Measure and Manage the Cumulative Impacts of Resource Development on Public Health: An Australian Perspective* (May 15, 2013). Available at https://www.intechopen.com/books/current-topics-in-public-health/the-need-to-measure-and-manage-the-cumulative-impacts-of-resource-development-on-public-health-an-au (https://www.intechopen.com/books/current-topics-in-public-health/the-need-to-measure-and-manage-the-cumulative-impacts-of-resource-development-on-public-health-an-au; *See also* **Exhibit 66**, Jill Johnston & Lara Cushing, *Chemical Exposures, Health, and Environmental Justice in Communities Living on the Fenceline of Industry*, 7 CURRENT ENVIRONMENTAL HEALTH REPORTS, 48–57 (2020).

[76] Meleah et al., Exhibit 60.

[77] Meleah et al., Exhibit 60.

lack of access to health care providers makes it more difficult to manage asthma). BLM must take a hard look at the reasonably foreseeable cumulative health impacts of its actions, including cumulative impacts as they relate to social and structural factors—often referred to as social determinants of health—and environmental justice. These "social determinants" can include both positive and negative factors. Most broadly, "social determinants of health" that BLM should consider are:

> conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. Conditions (e.g., social, economic, and physical) in these various environments and settings (e.g., school, church, workplace, and neighborhood) have been referred to as 'place.' In addition to the more material attributes of 'place,' the patterns of social engagement and sense of security and well-being are also affected by where people live. Resources that enhance quality of life can have a significant influence on population health outcomes. Examples of these resources include safe and affordable housing, access to education, public safety, availability of healthy foods, local emergency/health services, and environments free of life-threatening toxins.[78]

BLM's full analysis and disclosure of health and safety risks and impacts, including cumulative impacts, is particularly important given that typical methods of collecting and analyzing emissions data have often underestimated health risks by failing to adequately measure the intensity, frequency, and duration of community exposure to toxic chemicals from fracking and drilling; failing to examine the effects of chemical mixtures; and failing to consider vulnerable populations.[79] Of high concern, numerous studies highlight that health assessments of drilling and fracking emissions often fail to consider impacts on vulnerable populations including environmental justice communities[80] and children.[81] For example, a recent analysis of oil and gas development in California found that 14 percent of the state's population totaling 5.4 million people live within a mile of at least one oil and gas well. More than a third of these residents, totaling 1.8 million people, also live in areas most burdened by environmental pollution.[82] BLM also cannot dismiss the potential for elevated pollution concentrations —and associated, potentially significant health risks and effects—in rural areas simply because those areas are sparsely populated. The potentially significant air pollutant emissions from those wells cannot be ignored simply because they are located in rural areas. BLM also acknowledges the potential for health and safety risks and impacts from increased vehicle traffic associated with oil and gas

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[78] Office of Disease Prevention and Health Promotion, *Healthy People 2020: Social Determinants of Health*, *Available at* https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health.
[79] **Exhibit 67**, Brown, David et al., *Understanding Exposure From Natural Gas Drilling Puts Current Air Standards to the Test.* 29 REVIEWS ON ENVIRONMENTAL HEALTH 277 (2014).
[80] **Exhibit 68**, NRDC [Natural Resources Defense Council], Drilling in California: Who's At Risk?, October 2014 ("NRDC 2014"); **Exhibit 69**, Clough, Emily & Derek Bell, *Just Fracking: A Distributive Environmental Justice Analysis of Unconventional Gas Development in Pennsylvania, USA*, 11 Environmental Research Letters 025001 (2016); **Exhibit 70**, McKenzie, Lisa M. et al., *Population Size, Growth, and Environmental Justice Near Oil and Gas Wells in Colorado*, 50 ENVIRONMENTAL SCIENCE & TECHNOLOGY 11471 (2016).
[81] **Exhibit 71**, Webb, Ellen et al*., Developmental and reproductive effects of chemicals associated with unconventional oil and natural gas operations*, 29 Rev Environ Health 307 (2014).
[82] NRDC 2014, Exhibit 68.

development in the region. That traffic, too, likely contributes to additional criteria pollutant emissions, particulate matter, and others.

The existing health status and pollution burdens experienced by individuals and populations in the lease sale areas, and the disproportionate health risks they face in light of social determinants of health and environmental justice concerns, are precisely the kinds of incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions that NEPA requires BLM to analyze here. BLM cannot simply dismiss the incremental addition of wells from a particular lease sale (or the incremental increase in air pollution from those wells) as insignificant merely because they constitute a small percent increase *compared to* state, regional/basin-wide, or national well counts or emissions, or a small percent of total air pollutant emissions. This misses the entire point of NEPA's requisite cumulative impacts analysis—it is not to determine what *fraction* of regional, state, or national wells and emissions the wells and emissions from a particular lease sale make up. Quite the opposite—as with GHG emissions, rather than breaking emissions from an individual lease sale down into annual fractions or "component parts" in attempt to dismiss them as insignificant, BLM must analyze *additive* short *and* long-term emissions and their direct, indirect, and cumulative health effects from these lease sales. And, as with GHG emissions, BLM must put these emissions into context and discuss their potentially significant *impacts*, including health risks and impacts.

In addition, BLM must not summarily dismiss health and safety *impacts* as temporary simply because some *exposures* (e.g., to emissions and fugitive dust from construction) are temporary. It is arbitrary, and contrary to scientific understanding, to assume that just because an exposure is temporary, so too are the effects resulting from that exposure. The health effects that can arise from environmental exposures, especially in conjunction with social determinants of health and environmental justice issues, may endure long after the acute exposure source is gone. BLM should explain how HAP emissions from this lease sale, coupled with other reasonably foreseeable direct, indirect, and cumulative emissions and effects, could affect these populations, take this into account in its decision-making, and articulate a rational connection between the facts found and the choices made regarding leasing.

We request BLM consider, and disclose to the public directly in its NEPA documents, context for EPA's risk ranges, even as there is no singular "safe" threshold for HAPs. While BLM acknowledges that there are populations who could experience increased risks associated with HAPs exposure, the agency should take the next step and discuss how this informs a determination of significance and articulate a rational connection between the facts found and the leasing decisions made. BLM must ensure that the additional information informs its decision-making, and articulate a rational connection between the facts found and the choices made. This is particularly important given the potential for cancer risks to the most exposed.

BLM also cannot dismiss cumulative health impacts as "temporary," and thus avoid taking a hard look at cumulative impacts, by simply assuming that wells will be properly plugged and reclaimed "at the end of their useful lives, and thus cease to cause health risks and impacts at that time. For one, a well's time in production can span decades. BLM must analyze cumulative emissions and their impacts over the full life course of a well, in conjunction with other wells in the lease sale areas *and* other past, present, and reasonably foreseeable future actions and

emissions. Moreover, information from several states, and nationally, indicates that wells often are *not* properly plugged and reclaimed at the end of their "useful lives." For example, while it is sometimes difficult to obtain an exact count of "orphaned" or improperly plugged and abandoned wells, reports indicate that there are hundreds, even thousands, of such wells across private, state, and federal lands in nearby Western states such as Colorado, New Mexico, and Wyoming.[83] These wells can leach toxic chemicals and contaminate water supplies, posing direct and cumulative health risks to nearby communities.[84] State and BLM bonding requirements are usually insufficient to meet the costs associated with plugging and abandoning these wells, retiring other equipment, and cleaning up the well sites. Thus, idle or orphaned wells and abandoned well sites pose not only health risks and impacts, but also financial ones,[85] which can further compound existing health impacts, including cumulative impacts, and related health inequities.[86]

c. Health and Environmental Justice.

BLM must also take a hard look at the inexorable relationship between health and environmental justice. The inequities at which BLM must take a hard look in an environmental justice analysis are not incidental, nor are they biologically determined—they are structural, systemic, and part of an unjust historical and ongoing pattern and practice of environmental racism, settler colonialism, and treatment of communities in the leasing areas as energy sacrifice zones. And, as discussed throughout these comments, there are several other health risks and impacts BLM should also analyze in the context of health and environmental justice, particularly in light of social and structural factors that affect health.

In conducting this analysis, BLM can and should synthesize existing local health, socioeconomic, and other data in the lease sale areas—for example, county health statistics and reports, locally-conducted health impact assessments,[87] where available, or mapping of pollution exposure risks and demographic data——and the best available science, including but not limited to the peer-reviewed studies and sources mentioned in these comments.

d. Air Pollution and Health Impacts.

Air pollution is of particular concern with respect to health impacts of these lease sales, including not only direct impacts, but also cumulative risks and impacts and historical patterns of

[83] *See, e.g.,* **Exhibit 72**, Joshua Zaffos, *'Orphaned' Oil and Gas Wells are on the Rise.* HIGH COUNTRY NEWS, Jan. 16, 2018. *Available at* https://www.hcn.org/issues/50.3/energy-industry-orphaned-oil-and-gas-wells-are-on-the-rise.
[84] *Id*. Exhibit 72.
[85] *Id.* Exhibit 72; *See also* **Exhibit 73**, U.S. Gov't Accountability Office, Oil and Gas Wells: Bureau of Land Management Needs to Improve its Data and Oversight of Its Potential Liabilities 1, GAO-18-250 (May 2018), available at: https://www.gao.gov/assets/700/691810.pdf; **Exhibit 74**, U.S. Gov't Accountability Office, Bureau of Land Management Should Address Risks from Insufficient Bonds to Reclaim Wells, GAO-19-615 (Sept. 2019).
[86] PSR 2023, Exhibit 58.
[87] Health Impact Assessment, or HIA, is a process that helps evaluate the potential health effects of a plan, project, or policy before it is built or implemented. HIA brings potential positive and negative public health impacts and considerations to the decision-making process for plans, projects, and policies that fall outside traditional public health arenas, such as transportation and land use. An HIA provides practical recommendations to increase positive health effects and minimize negative health effects." Centers for Disease Control and Prevention (CDC), "Health Impact Assessment" (Sept. 19, 2016), https://www.cdc.gov/healthyplaces/hia.htm.

multiple and cumulative exposures The potential harms resulting from exposure to dangerous air pollutants associated with fracking and drilling are serious and wide-ranging. A growing body of scientific research has documented adverse health impacts from air pollution related to unconventional oil and gas development or fracking, including studies showing air pollutants at levels associated with reproductive and developmental harms and increased risk of morbidity and mortality.[88] More broadly, a recent study found that if implemented, nationwide efforts to eliminate energy-related emissions, including from oil and gas production could prevent as many as 53,200 premature deaths each year and would provide $608 billion in benefits from avoided $PM_{2.5}$-related illness and death.[89]

The range of illnesses that can result from the wide array of air pollutants from fracking were summarized in a study by Dr. Theo Colburn, which charts which fracking chemicals have been linked to certain illnesses.[90] This study analyzed air samples taken during drilling operations near natural gas wells and residential areas in Garfield County, Colorado, and detected 57 chemicals between July 2010 and October 2011, including 44 with reported health effects.[91] For example:

> Thirty-five chemicals were found to affect the brain/nervous system, 33 the liver/metabolism, and 30 the endocrine system, which includes reproductive and developmental effects. The categories with the next highest numbers of effects were the immune system (28), cardiovascular/blood (27), and the sensory and respiratory systems (25 each). Eight chemicals had health effects in all 12 categories. There were also several chemicals for which no health effect data could be found.[92]

The study found extremely high levels of methylene chloride, which may be used as cleaning solvents to remove waxy paraffin that is commonly deposited by raw natural gas in the region. These deposits solidify at ambient temperatures and build up on equipment.[93] While none of the detected chemicals exceeded governmental safety thresholds of exposure, the study noted that such thresholds are typically based on "exposure of a grown man encountering relatively high concentrations of a chemical over a brief time period, for example, during occupational exposure."[94] Consequently, such thresholds may not apply to individuals experiencing "chronic, sporadic, low-level exposure," including sensitive populations such as children, the elderly, and

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[88] **Exhibit 75**, Hays, Jake & Seth B.C. Shonkoff , *Towards an Understanding of the Environmental and Public Health Impacts of Unconventional Natural Gas Development: A Categorical Assessment of the Peer-Reviewed Scientific Literature*, 11 PLoS ONE e0154164 (2016); Webb, Ellen et al.; **Exhibit 76**, Clean Air Task Force, Fossil Fumes: A Public Health Analysis of Toxic Air Pollution From the Oil and Gas Industry, June 2016, *available at* http://www.catf.us/resources/publications/files/FossilFumes.pdf.

[89] **Exhibit 77**, Mailloux, N. A., Abel, D. W., Holloway, T., & Patz, J. A. (2022). Nationwide and regional PM2.5-related air quality health benefits from the removal of energy related emissions in the United States. GeoHealth, 6, e2022GH000603. https:// doi.org/10.1029/2022GH000603. ($PM_{2.5}$ is fine particulate matter that results from a number of energy production activities, including oil and gas. This study also looked at the benefits of removal of sulfur dioxide, and nitrogen oxides, pollutants often released with $PM_{2.5}$, including from the oil and gas sector).

[90] **Exhibit 78**, Theo Colborn *et al.*, *An exploratory study of air quality near natural gas operations*, HUM. ECOL. RISK ASSESS. (Nov. 9, 2012) [Hereinafter Colborn 2012].

[91] *Id.* at pp. 21–22 (pages refer to page numbers in attached manuscript and not journal pages), Exhibit 78.

[92] *Id.* at 11, Exhibit 78.

[93] *Id.* at 10, Exhibit 78.

[94] *Id.* at 11–12, Exhibit 78.

pregnant women.[95] For example, the study detected polycyclic aromatic hydrocarbon (PAH) levels that could be of "clinical significance," as recent studies have linked low levels of exposure to lower mental development in children who were prenatally exposed.[96] In addition, government safety standards do not take into account "the kinds of effects found from low-level exposure to endocrine-disrupting chemicals . . ., which can be particularly harmful during prenatal development and childhood.[97]

A rigorous study by Johns Hopkins University, which examined 35,000 medical records of people with asthma in Pennsylvania, found that people who live near a higher number of, or larger, active gas wells were 1.5 to 4 times more likely to suffer from asthma attacks than those living farther away, with the closest groups having the highest risk.[98] Relatedly, a 2018 study of pediatric asthma-related hospitalizations found that children and adolescents exposed to newly spudded unconventional natural gas development wells within their zip code had 1.25 times the odds of experiencing an asthma-related hospitalization compared to children who did not live in these communities. Furthermore, children and adolescents living in a zip code with any current or previous drilling activity had 1.19 times the odds of experiencing an asthma-related hospitalization compared to children who did not live in these communities. Amongst children and adolescents (ages 2–18), children between 2 and 6 years of age had the greatest odds of hospitalization in both scenarios.[99]

BLM should analyze these asthma-related effects in relation to existing asthma rates and related impacts in the communities adjacent to and counties encompassing the proposed lease sales.[100] Air pollution-related asthma, in particular, can exert profound and widespread cumulative health effects throughout a person's life course, especially when combined with social determinants of health. For example, children with asthma are much more likely to miss school, hurting their educational prospects as well as their health (with some adverse health effects enduring into adulthood), and resulting in significant funding losses for local schools.[101] As the New Mexico Department of Health has noted,[102] and nationwide studies confirm,[103] "low-income" populations and "environmental justice" populations face not only disproportionate

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[95] *Id.* at 12, Exhibit 78.
[96] *Id.* at 10–11, Exhibit 78.
[97] *Id.* at 12, Exhibit 78.
[98] **Exhibit 79**, Rasmussen, Sara G. *et al.*, *Association Between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations,* 176 JAMA INTERNAL MEDICINE 1334 (2016).
[99] **Exhibit 80**, Willis, Mary D. et al., *Unconventional natural gas development and pediatric asthma hospitalizations in Pennsylvania,* 166 ENVIRONMENTAL RESEARCH 402 (2018).
[100] For example, NM Dept of Health provides Health Indicator Reports tracking asthma rates and Emergency Department visits by county and comparing the rates in each county to one another and to the state average. *See* **Exhibit 81**, New Mexico Department of Health, *Health Indicator Report of Asthma Emergency Department Visits Among Children* (Last Visited November 18, 2021). *Available at* https://ibis.health.state.nm.us/indicator/complete_profile/AsthmaEDChild.html. To the extent similar information is available for the proposed lease sale, BLM should take that information into account in its analyses and decision-making.
[101] *See* **Exhibit 82**, Attendance Works, *Mapping the Early Attendance Gap* (2017). *Available at* http://www.attendanceworks.org/wp-content/uploads/2017/05/Mapping-the-Early-Attendance-Gap_Final-4.pdf.
[102] **Exhibit 83**, New Mexico Dept. of Health*, The Burden of Asthma in New Mexico: 2014 Epidemiology Report* (Jan. 2014), at 41. Available at https://nmhealth.org/data/view/environment/54/.
[103] *See, e.g.,* **Exhibit 84**, Tim Kelley and Gregory D. Kearney, *Insights Into the Environmental Health Burden of Childhood Asthma*, 12 ENVIRONMENTAL HEALTH INSIGHTS doi: 10.1177/1178630218757445 (Feb. 20, 2018).

asthma risks, but also significant difficulty managing their asthma, in part due to lack of access to health care.

Ozone is a criteria pollutant of particular concern that contributes to asthma and missed school days (and one that can, in general, adversely affect health, especially for "sensitive groups" such as children, the elderly, and those with pre-existing health issues). Background concentrations of ozone in some of the lease sale areas are already at or exceed the National Ambient Air Quality Standards ("NAAQS"), leaving virtually no room for growth in emissions. Several studies that measured and/or modeled gas-related air emissions in various states have identified significant increases in ground level ozone as a result of natural gas development.[104] Ozone was once a summertime urban phenomenon but is now being seen increasingly in western rural areas during the winter due to the natural gas boom, so much so that some relatively small cities are no longer in compliance with the federal regulations that set allowable ozone levels.[105]

Ozone can cause difficulty breathing, coughing and sore throat. It can also inflame and damage the airways. It aggravates lung diseases like asthma, emphysema, and chronic bronchitis. It can make the lungs more susceptible to infection and it can continue to damage the lungs even when the symptoms have disappeared.[106] Children are particularly vulnerable because their lungs are still developing until about age 18.[107] As their lungs grow in the presence of ozone, their alveoli production is reduced, and they can end up with smaller, more brittle lungs. Women exposed during pregnancy deliver preterm, low birth weight babies with a high probability of developing asthma. In a letter to former EPA Administrator Lisa Jackson, a group of five national medical and public health groups wrote that the most vulnerable individuals, including children, teens, senior citizens, people who exercise or work outdoors, and people with chronic lung diseases like asthma, COPD, and emphysema, are most in danger of being sickened by ozone and that children who grow up in areas of high ozone pollution may never develop their full lung capacity as adults, which can put them at greater risk of lung disease throughout their lives.[108]

In addition, oil and gas air pollution exacerbates cancer risks. A recent Yale University study identified numerous fracking chemicals that are known, probable, or possible human carcinogens (20 air pollutants) and/or are linked to increased risk for leukemia and lymphoma (11 air pollutants), including benzene, 1,3-butadiene, cadmium, diesel exhaust, and polycyclic aromatic hydrocarbons.[109] And a 2018 study by McKenzie et al. conducted in the Denver Julesberg Basin on the Colorado Northern Front Range (CNFR) found that the established

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[104] *See, e.g.,* **Exhibit 85**, Seth Lyman and Howard Shorthill, *Final Report: 2012 Uintah Basin Winter Ozone & Air Quality Study*, UTAH STATE UNIVERSITY, February 1, 2013.
[105] **Exhibit 86,** Gabrielle Pétron, *et al*., *Estimation of emissions from oil and natural gas operations in northeastern Colorado*, Power Point available at: http://www.epa.gov/ttnchie1/conference/ei20/session6/gpetron_pres.pdf.
[106] *See* **Exhibit 87,** EPA, *Ozone – Good Up High Bad Nearby*, available at: http://www.epa.gov/oar/oaqps/gooduphigh/bad.html#7.
[107] *See* **Exhibit 88,** U.S. EPA, "Children are Not Little Adults," *https://www.epa.gov/children/children-are-not-little-adults.*
[108] *See* **Exhibit 89**, Letter from American Lung Association to U.S. EPA (November 30, 2011).
[109] **Exhibit 90**, Elliot, Elise G. et al., *A Systematic Evaluation of Chemicals in Hydraulic-Fracturing Fluids and Wastewater for Reproductive and Developmental Toxicity*, 27 JOURNAL OF EXPOSURE SCIENCE AND ENVIRONMENTAL EPIDEMIOLOGY 90 (2016).

setback distance of 152 m (500 ft) did little to protect people in that proximity. In analyses of nonmethane concentrations from 152 to >1600 meters from oil and gas facilities, the study found that the EPA's minimum cumulative lifetime excess cancer risk benchmark of 1 in a million was exceeded. Cumulative lifetime excess cancer risk increased with decreasing distance from the nearest oil and gas facility. Residents living within 610 meters of and oil and gas facility had an overall cancer risk in excess of the EPA's upper bound for remedial action of 1 in 10,000. Furthermore, residents within 152 meters of an oil and gas facility had an overall excess cancer risk of 8.3 in 10,000, along with an increased likelihood of neurological, hematological, and developmental health effects. Over 95% of the total risk was due to benzene, with additional risk due to the presence of toluene, ethylbenzene, xylene, and alkanes.[110] Other studies have found that residents living closer to drilling and fracking operations had higher hospitalization rates[111] and reported more health symptoms including upper respiratory problems and rashes.[112]

e. Water Quality and Quantity and Health Impacts.

With respect to water quality and quantity and health impacts, in addition to the considerations discussed *infra*, BLM should also consider how its authorization of these lease sales and reasonably foreseeable development of the leases could exacerbate water quality-related health impacts associated with PFAS contamination. For example, a 2023 report by Physicians for Social Responsibility (PSR) reveals the staggering amount of these health-harming "forever chemicals" known to be used in oil and gas operations in New Mexico—not to mention additional PFAS chemicals that are likely present but not disclosed due to trade secret protections.[113] BLM should take this report and the concerns it raises into account in its analysis and decision-making with respect to health impacts and potential impacts to groundwater and drinking water from PFAS "forever chemicals" used in oil and gas drilling and fracking.

f. Prenatal and Child Health Impacts.

Numerous studies also suggest that higher exposure to fracking and drilling during pregnancy can increase the incidence of high-risk pregnancies, premature births, low-birthweight babies, and birth defects.[114] A study of more than 1.1 million births in Pennsylvania found evidence of a greater incidence of low-birth-weight babies and significant declines in average birth weight for babies born to people living within 3 kilometers of fracking sites.[115] The study estimated that about 29,000 U.S. births each year occur within 1 kilometer of an active fracking site and "that these births therefore may be at higher risk of poor birth outcomes." A study of 9,384 pregnant people in Pennsylvania found that those who live near active drilling and fracking sites had a 40 percent increased risk for having premature birth and a 30 percent

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[110] **Exhibit 91**, McKenzie, Lisa et al., *Ambient Nonmethane Hydrocarbon Levels Along Colorado's Northern Front Range: Acute and Chronic Health Risks*, 52 ENVIRONMENTAL SCIENCE & TECHNOLOGY 4514 (2018).
[111] **Exhibit 92**, Jemielita, Thomas et al., *Unconventional Gas and Oil Drilling Is Associated with Increased Hospital Utilization Rates.* 10 PLoS ONE e0131093 (2015).
[112] **Exhibit 93**, Rabinowitz, Peter M. et al., *Proximity to Natural Gas Wells and Reported Health Status: Results of a Household Survey in Washington County, Pennsylvania*, 123 ENVT'L HEALTH PERSPECTIVES 21.
[113] **Exhibit 94,** Horwitt, Dusty and Gottlieb, Barbara, Physicians for Social Responsibility, *Fracking with Forever Chemicals in New Mexico* (April 12, 2023) *Available at https://psr.org/new-psr-report-reveals-oil-gas-companies-fracked-new-mexico-wells-with-pfas/.*
[114] *See, e.g.,* PSR 2023 at 263–265, Exhibit 58.
[115] Currie, Janet et al., Exhibit 55.

increased risk for having high-risk pregnancies.[116] Another Pennsylvania study found that pregnant people with greater exposure to gas wells during pregnancy—measured in terms of proximity and density of wells—had a much higher risk of having low-birthweight babies; the researchers identified air pollution as the likely route of exposure.[117] In rural Colorado, those people with greater exposure to natural gas wells during pregnancy had a higher risk of having babies with congenital heart defects and possibly neural tube defects.[118] A July 2020 study found that residential proximity to flaring (the open combustion of natural gas) from oil and gas development was associated with an increased risk of preterm birth, specifically for "Hispanic" women, in the Eagle Ford Shale of Texas.[119] Here, again, these documented risks are of particular concern in certain communities near the proposed lease sales in light of environmental justice concerns, like proximity of homes to multiple wells[120] (an exacerbating factor in the Eagle Ford Shale study), and social and structural inequities, such as limited access to prenatal care. BLM should have taken local health data like this into account as part of its "hard look" at health impacts, especially as they relate to social determinants of health and environmental justice.

g. Occupational Health and Safety Impacts

Those *living* near oil and gas development aren't the only ones at risk. Oil and gas *workers* also suffer high risks from toxic exposure and accidents.[121] One study of the occupational inhalation risks caused by emissions from chemical storage tanks associated with fracking wells found that chemicals used in 12.4 percent of wells posed acute non-cancer risks, chemicals used in 7.5 percent of wells posed acute cancer risks, and chemicals used in 5.8 percent of wells posed chronic cancer risks.[122] As summarized below:

> Drilling and fracking jobs are among the most dangerous jobs in the nation with a fatality rate that is four to seven times the national average. Irregularities in reporting practices mean that counts of on-the-job fatalities among oil and gas

[116] **Exhibit 95**, Casey, Joan A., *Unconventional Natural Gas Development and Birth Outcomes in Pennsylvania, USA*, 27 EPIDEMIOLOGY 163 (2016).
[117] **Exhibit 96**, Stacy, Shaina L. et al., *Perinatal Outcomes and Unconventional Natural Gas Operations in Southwest Pennsylvania*. 10 PLoS ONE e0126425 (2015).
[118] McKenzie, *Birth Outcomes* (2014), Exhibit 54.
[119] *Lara J. Cushing et al. Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas*, 128 ENVIRONMENTAL HEALTH PERSPECTIVES, 077003 (2020), Exhibit 36.
[120] *See* EDF, New Mexico Oil and Gas Data tool, available at https://www.edf.org/nm-oil-gas/, for one excellent resource for mapping proximity of homes to wells, along with other environmental-justice-relevant data, specifically in New Mexico. We recommend that BLM use this and other available tools for taking a hard look at cumulative health impacts and environmental justice impacts.
[121] **Exhibit 97**, Esswein, Eric J. et al., *Occupational Exposures to Respirable Crystalline Silica During Hydraulic Fracturing*, 10 JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL HYGIENE 347 (2013); **Exhibit 98**, Esswein, Eric et al., *Evaluation of Some Potential Chemical Exposure Risks during Flowback Operations in Unconventional Oil and Gas Extraction: Preliminary Results*, 11 J. OF OCCUPATIONAL AND ENVT'L HYGIENE D174 (2014); **Exhibit 99**, Harrison, Robert J. *et al*., *Sudden Deaths Among Oil and Gas Extraction Workers Resulting from Oxygen Deficiency and Inhalation of Hydrocarbon Gases and Vapors — United States, January 2010–March 2015*, 65 MMWR MORB. MORTAL WKLY. REP. 6 (2016); PSR 2023, Exhibit 58.
[122] **Exhibit 100** Chen, Huan & Kimberly E. Carter, *Modeling potential occupational inhalation exposures and associated risks of toxic organics from chemical storage tanks used in hydraulic fracturing using AERMOD*, 224 ENVIRONMENTAL POLLUTION 300 (2017).

> workers are likely underestimates . . .. Occupational hazards in the fracking industry include head injuries, traffic accidents, blunt trauma, burns, inhalation of hydrocarbon vapors, toxic chemical exposures, heat exhaustion, dehydration, and sleep deprivation. An investigation of occupational exposures found high levels of benzene in the urine of wellpad workers, especially those in close proximity to flowback fluid coming up from wells following fracturing activities. Exposure to silica dust, which is definitively linked to silicosis and lung cancer, was singled out by the National Institute for Occupational Safety and Health as a particular threat to workers in fracking operations where silica sand is used. At the same time, research shows that many gas field workers, despite these serious occupational hazards, are uninsured or underinsured and lack access to basic medical care.[123]

In addition, many oilfield workers may lack basic social and economic safety nets and lack support from their employer in mitigating risks and addressing harms such as those mentioned above. A recent survey of current and former oilfield workers in New Mexico's Permian Basin revealed that, there, about 57 percent of workers surveyed were not provided health insurance by their employer.[124] Just 21 percent got retirement benefits and 78 percent did not have access to unemployment, yet 69% reported being laid off or having their hours cut during dips in the volatile market.[125] Almost half of respondents (46%) said they had an accident on the job.[126] BLM should take information like this into account in its NEPA analysis of health risks and impacts, socioeconomics, and environmental justice, and in particular, should factor information like this into its consideration of any purported socioeconomic benefits of oil and gas development to individuals or communities associated with the proposed lease sales.

h. Naturally Occurring Radioactive Materials and Technology Enhanced Naturally Occurring Radioactive Materials.

Radioactive wastes from oil and gas production can be found in produced water, flowback water from hydraulic fracturing, drilling waste including cuttings and mud, and/or sludge. This material can concentrate in pipes, storage tanks and facilities, and on other extraction equipment, and may be left on site or be emitted into the environment. Some of these materials, such as Radium, can penetrate the skin and raise the risk of cancer.[127] BLM must consider the potential health impacts of radioactive materials, as well as all other potential health effects discussed herein.

Processes used to produce oil and gas often generate radioactive waste containing concentrations of naturally occurring radioactive materials (NORM) and Technologically Enhanced Naturally Occurring Radioactive Materials (TENORMS). The geological formations to be drilled will result in radioactive waste, containing both NORMS and TENORMs. The

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[123] PSR 2023 at 234, Exhibit 58.
[124] **Exhibit 101,** Sanchez *et al.*, *Southeastern New Mexico Oil and Gas Workforce Study* (January 2024), available at https://files.constantcontact.com/b6dfe469001/7eec220a-7cab-47d8-8370-62e981dc403a.pdf?rdr=true, *see especially* p. 16.
[125] *Id.*
[126] *Id.*
[127] *See, e.g.,* **Exhibit 102**, Agency for Toxic Substances and Disease Registry (ASTDR). *Radium.* (July 1999), *Available at* https://www.atsdr.cdc.gov/toxfaqs/tfacts144.pdf; (Beta and gamma particles can penetrate the skin).

radioactive materials will show up in formation drilling, production wastes, and operations. Every single shale well that uses an on-site pit for disposal of drill cuttings and/or fluids likely will leave behind some amount of concentrated radioactive materials.[128] Further, Alpha-emitting radioactive decay elements concentrate at the pipe scale, so the waste is much more radioactive than any of the constituent parts.[129] BLM must also evaluate radiation exposure risks as part of its obligation to take a hard look at public health and safety. Further, BLM should conduct a baseline groundwater analysis in the lease sale areas before any more leasing and development occurs, to ensure that no environmental contamination occurs from disposal of radioactive sludge/scale.

F. BLM Must Take a Hard Look at Environmental Justice.

BLM must also take a hard look at environmental justice—not just in relation to health, but also in its own right. Environmental justice means the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, in the development, implementation, and enforcement of environmental laws, regulations, and policies.[130] An environmental justice analysis must also include "the cultural values that the community and/or Indian Tribe may place on a natural resource at risk."[131] It is "essential" for the "NEPA analyst to consider the cumulative impacts from the perspective of these specific resources or ecosystems which are vital to the communities of interest."[132] BLM must incorporate Tribes' and community members' knowledge of, and concerns about, such cultural values and cumulative impacts in its NEPA analyses for the lease sales.

BLM must also adhere to the "process" requirements of environmental justice—fair treatment and *meaningful involvement*. If BLM ignores or excludes the very people and communities who are most affected by its leasing decisions, BLM is not only denying them fair treatment and meaningful involvement in decision-making—and, in the case of indigenous peoples and Tribes, abrogating the right to self-determination and free prior and informed consent[133]—but also depriving itself, and the general public, of invaluable knowledge and expertise that would enable better-informed and more transparent decision-making.

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[128] *See* **Exhibit 103**, Occupational Health and Safety (Oct. 01, 2012) "Radiation Sources in Natural Gas Well Activities," https://ohsonline.com/Articles/2012/10/01/Radiation-Sources-in-Natural-Gas-Well-Activities.aspx?Page=2.

[129] **Exhibit 104**, USGS (1999) Naturally Occurring Radioactive Materials (NORM) in Produced Water and Oil-Field Equipment—An Issue for the Energy Industry https://pubs.usgs.gov/fs/fs-0142-99/fs-0142-99.pdf.

[130] Although the U.S. Environmental Protection Agency under the current administration has removed online references to this term, the definition offered here has been commonly used by the agency in prior years.

[131] **Exhibit 105**, 1998 EPA NEPA Final Guidance https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_epa0498.pdf.

[132] *Id.* Exhibit 105.

[133] The duty to obtain free prior and informed consent (FPIC) from indigenous peoples is recognized by the International Labour Organization Convention ("ILO") 169 and the U.N. Declaration on the Rights of Indigenous Peoples ("UNDRIP"), Articles 10, 11, 19, 28, 29, and 32. *See* **Exhibit 106**, UN General Assembly, *United Nations Declaration on the Rights of Indigenous Peoples.* FPIC is embedded in the right to self-determination. "The duty of States to obtain Indigenous Peoples' FPIC entitles Indigenous people to effectively determine the outcome of decision-making that affects them, *not merely a right to be involved*." **Exhibit 107,** UN Expert Mechanism on the Rights of Indigenous Peoples, *Final report of the study on indigenous peoples and the right to participate in decision-making* (August 17, 2011), *see especially* para. 21.

G. BLM Must Take a Hard Look at Impacts to Resources Other Than Climate from Development of The Proposed Leases.

BLM must analyze and disclose the reasonably foreseeable impacts to a variety of non-climate resources from drilling on these particular leases. In particular, BLM must take a hard look at the impacts to groundwater, wildlife and other resources that will be harmed by oil and gas development resulting for its leasing decisions.

BLM may not simply provide broad descriptions of categories of impacts that result from oil and gas development generally, without examining how severe those impacts are likely to be for the particular leases being offered here. Such boilerplate could be applied to virtually any oil and gas proposal anywhere on public lands, and provides the agency and the public no useful information about the specific leases proposed in these lease sales.

a. BLM Must Take a Hard Look at Impacts to Groundwater from Well Construction Practices and Hydraulic Fracturing.

The EA violates NEPA by failing to adequately analyze the reasonably foreseeable impacts to groundwater from drilling on the proposed lease sale. The EA contains generic boilerplate about potential water impacts from oil and gas development and identifies the watersheds that will potentially be affected, but it tells the agency and the public little about the development of these leases.

Groundwater is a critical resource that supplies many communities, particularly rural ones, with drinking water. Protecting both the quality and quantity of these resources is imperative to protect human health and the environment, especially because groundwater will become more important as increased aridity and higher temperatures alter water use. The U.S. Environmental Protection Agency (EPA) has noted that existing drinking water resources "may not be sufficient in some locations to meet future demand" and that future sources of fresh drinking "will likely be affected by changes in climate and water use."[134] As a result, BLM must protect both aquifers currently used for drinking water, and deeper and higher-salinity aquifers that may be needed in coming decades.

Oil and gas drilling involves boring wells to depths thousands of feet below the surface, often through or just above groundwater aquifers. Without proper well construction and vertical separation between aquifers and fractured formations, oil and gas development can contaminate underground sources of water.[135] However, federal rules and regulations do not provide specific direction for BLM and operators to protect all usable water. Even rules that purport to do so, like Onshore Order No. 2's requirement to "protect and/or isolate all usable water zones," are

[134] U.S. Environmental Protection Agency, *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States*, EPA/600/R-16/236F, at 2–18 (Dec. 2016) (EPA 2016 Report).

[135] *See, e.g.*, *Fracking Can Contaminate Drinking Water*, Exhibit 52; **Exhibit 108**, Dominic C. DiGiulio & Robert A. Jackson, *Impact to Underground Sources of Drinking Water and Domestic Wells from Production Well Stimulation and Completion Practices in the Pavillion, Wyoming Field*, 50 Am. Chem. Society, Envtl. Sci. & Tech. 4524, 4532 (Mar. 29, 2016); EPA 2016 Report.

inconsistently applied and often disregarded in practice.[136] State regulations are similarly inadequate to ensure protection of groundwater.

Moreover, industry has admitted that it often does not protect usable water in practice. Western Energy Alliance and the Independent Petroleum Association of America have told BLM that the "existing practice for locating and protecting usable water" does not measure the numerical quality of water underlying drilling locations, and therefore does not consider whether potentially usable water would be protected during drilling.[137] For example, reports studying samples of existing oil and gas well records in Wyoming and Montana confirm industry admissions that well casing and cementing practices do not always protect underground sources of drinking water.[138] Similarly, a study of hydraulic fracturing in Pavillion, Wyoming, confirmed that oil and gas drilling had contaminated underground sources of drinking water in that area due to lack of vertical separation between the aquifer and target formation.[139]

In light of these risks to a critical resource, BLM must evaluate potential groundwater impairment. As a threshold matter, BLM must provide a detailed account of all regional groundwater resources that could be impacted, including usable aquifers that may not currently be used as a drinking water supply. The accounting must include, at minimum, all aquifers with up to 10,000 parts per million total dissolved solids, and it cannot substitute existing drinking water wells or any other incomplete proxy for a full description of all usable or potentially usable groundwater in the region. Second, BLM must use that accounting to assess how new oil and gas wells might impact these resources. That evaluation must assess the sufficiency of protective measures that will be employed, including wellbore casing and cementing and vertical separation between aquifers and the oil and gas formations likely to be hydraulically fractured.

b. BLM Must Take a Hard Look at Specific Impact Threats to Groundwater in Cave and Karst Landscapes

Additionally, adequate consideration must also be given for cave and karst landscapes which are currently known to or may exist in the proposed leasing areas – landforms characterized by underground drainage through solutionally enlarged conduits. Gypsum karst terranes may contain sinkholes, sinking streams, caves, and springs. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers of many regions. Cave and karst features provide direct conduits leading to groundwater, which can quickly transport surface and subsurface contaminants directly into underground water systems and freshwater aquifers without filtration

[136] *See* **Exhibit 109,** BLM, Regulatory Impact Analysis for the Final Rule to Rescind the 2015 Hydraulic Fracturing Rule, at 44–45 (Dec. 2017). Available at https://beta.regulations.gov/document/BLM-2017-0001-0464.
[137] **Exhibit 110**, Western Energy Alliance and the Independent Petroleum Association of America, Sept. 25, 2017 comments Re: RIN 1004-AE52, Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands; Rescission of a 2015 Rule (82 Fed. Reg. 34,464) (2017 WEA comments), at 59. Available at https://www.regulations.gov/document?D=BLM-2017-0001-0412.
[138] **Exhibit 111,** Rebecca Tisherman, et al., *Examination of Groundwater Resources in Areas of Wyoming Proposed for the June 2022 BLM Lease Sale* (May 12, 2022).
[139] DiGiulio, *Impact to Underground Sources of Drinking Water and Domestic Wells*, 50 AM. CHEM. SOCIETY, ENVTL. SCI. & TECH. at 4532 (Mar. 29, 2016). Exhibit 108.

or biodegradation.[140] Highly sensitive cave and karst areas with critical freshwater aquifer recharge concerns may have a number of special surface and subsurface planning and construction requirements based upon the risk of adverse impacts created by a specific location or process.

In cave and karst terranes, rainfall and surface runoff is directly channeled into natural underground water systems and aquifers. Changes in geologic formation integrity, runoff quantity/quality, drainage course, rainfall percolation factors, vegetation, surface contour, and other surface factors can negatively impact cave ecosystems and aquifer recharge processes.[141] Blasting, heavy vibrations, and focusing of surface drainages can lead to slow subsidence, sudden collapse of subsurface voids, and/or cave ecosystem damage.

Both construction and production operations can have specific impacts on cave and karst systems. The construction of roads, pipelines, well pads and utilities can impact bedrock integrity and reroute, impede, focus, or erode natural surface drainage systems. Increased silting and sedimentation from construction can plug downstream sinkholes, caves, springs, and other components of aquifer recharge systems and result in adverse impacts to aquifer quality and cave environments. Any contaminants released into the environment during or after construction can impact aquifers and cave systems. A possibility exists for slow subsidence or sudden surface collapse during construction operations due to collapse of underlying cave passages and voids, as well as uncontrollable losses of drilling fluid and gas kicks.[142] This would cause associated safety hazards to the operator and the potential for increased environmental impact. Subsidence processes can be triggered by blasting, intense vibrations, rerouting of surface drainages, focusing of surface drainage, and general surface disturbance. Blasting fractures in bedrock can serve as direct conduits for transfer of contaminants into cave and groundwater systems. Blasting also creates an expanded volume of rock rubble that cannot be reclaimed to natural contours, soil condition, or native vegetative condition. As such, surface and subsurface disruptions from blasting procedures can lead to permanent changes in vegetation, rainfall percolation, silting/erosion factors, aquifer recharge, and freshwater quality and can increase the risk of contaminant migration from drilling/production facilities built atop the blast area. During drilling, previously unknown cave and karst features could be encountered.[143] If a void is encountered while drilling and a loss of circulation occurs, lost drilling fluids can directly contaminate groundwater recharge areas, aquifers, and groundwater quality. Drilling operations can also lead to sudden collapse of underground voids. Cementing operations may plug or alter groundwater flow, potentially reducing the water quantity at springs and water wells. Inadequate subsurface cementing, casing, and cave/aquifer protection measures can lead to the migration of oil, gas, drilling fluids, and produced saltwater into cave systems and freshwater aquifers. Production facilities such as tank batteries, pump-jacks, compressors, transfer stations, and pipe may fail and allow contaminants to enter caves and freshwater systems. Downhole casing and

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[140] *See*, *e.g.*, **Exhibit 112,** Koosha Kalhor, et al., *Assessment of groundwater quality and remediation in karst aquifers: A review,* 8 GROUNDWATER FOR SUSTAINABLE DEV. 104 (2019).
[141] See **Exhibit 113,** BLM Handbook H-8380-1 20–24, *Cave and Karst Resources Management Handbook* (2015).
[142] *See*, *e.g.*, **Exhibit 114,** Danil Maksimov, et al. *Real-Time Detection of Karstification Hazards While Drilling in Carbonates*, 15 ENERGIES 4951 (2022).
[143] See **Exhibit 115,** Anthony H. Cooper, et al., *Dealing With Gypsum Karst Problems: Hazards, Environmental Issues And Planning*, TREATISE ON GEOMORPHOLOGY 451 (6th, 2013).

cementing failures can allow migration of fluids and/or gas between formations and aquifers. Facilities may also be subject to slow subsidence or sudden collapse of the underlying bedrock.

Any industrial activities that take place upon or within karst terranes or freshwater aquifer zones have the potential to create both short-term and long-term negative impacts to freshwater aquifers and cave systems. While a number of mitigation measures can be implemented to mitigate many impacts, it is still possible for impacts to occur from containment failures, well blowouts, accidents, spills, and structural collapses. It is therefore necessary to determine if current mitigations measures are sufficient enough to prevent long-term or cumulative impacts in order to prevent degradation unnecessary to, or undue in proportion to, the proposed mineral projects.

c. Other Resources

BLM must also take a hard look at impacts to other resources. For example, BLM must analyze foreseeable impacts to cultural and heritage resources, wilderness study areas and lands with wilderness characteristics, areas of critical environmental concern (ACECs), and special status species. BLM must also take a hard look at impacts to other resources, including endangered species.

d. BLM Must Analyze Impacts to State and Local Economies

BLM must also take a hard look at the economic impacts of the proposed lease sales on state and local economies. One measure of this impact is the growth and quality of oil and gas extraction ("OGE") jobs.

Job growth in the oil and gas industry has stalled. Although oil and gas extraction recently reached peak levels, OGE employment is beginning to lag behind production.[144] In New Mexico, for example, technological advances have led to a 50-700% increase in the production of natural gas and crude oil, while jobs remained steady—or even decreased—relative to production.[145] Jobs in the oil and gas industry are also precarious due to the industry's major boom-and-bust cycles. [146] Furthermore, OGE jobs have been outpaced in recent years by gains in renewable energy industries.[147] Policy changes under the Trump administration—including

[144] **Exhibit 117**, *See, e.g.*, Rebecca F. Elliot, *Why Oil Industry Jobs are Down, Even with Production Up*, New York Times, (Jan. 14, 2025), https://www.nytimes.com/2025/01/14/business/energy-environment/oil-gas-jobs.html ("[C]ompanies that extract, transport and process these fossil fuels employ roughly 25 percent fewer workers than they did a decade earlier. . . [producing] less fuel."); **Exhibit 118**, s*ee also* Megan Milliken Biven & Leo Lindner, *The American Oil & Gas Worker Survey*, True Transition, at 6 (Mar. 2023) [hereinafter True Transition], https://www.truetransition.org/_files/ugd/0ad80c_069ea867b3f044afba4dae2a1da8d737.pdf?index=true ("Workers complained that current trends places [sic] greater pressure on remaining, smaller crews and compounds the risk each worker must face each shift."). This is likely due to increases in efficiency, particularly from technological advances. *Id.*

[145] **Exhibit 119**, Rachel Moskowitz, *A Profile of Oil and Natural Gas Workers in New Mexico*, Labor Market Rev., 8 (Feb. 2022), https://www.dws.state.nm.us/Portals/0/DM/LMI/Oil_NaturalGas_Workers_NM.pdf.

[146] True Transition, *supra* note 1, at 24. While the COVID-19 pandemic led to massive OGE industry layoffs, many workers reported this was not the first time they were laid off. *Id.*

[147] Dep't Energy Off. Energy Jobs, United States Energy & Employment Report 2024, at xi, xxvi (2024). Gains in renewable industries were nearly twice those in the energy sector as a whole. *Id*.

measures to increase leasing—may negatively impact job growth across the energy sector as a whole.

BLM must also consider the quality of oil and gas extraction jobs, and the impacts of lease sales on OGE workers. General statements that OGE jobs are well paying and provide good benefits fail to account for local variances or the health and safety consequences that come with those benefits. For example, while a national level survey reported that 56% of OGE workers received retirement benefits, in New Mexico that figure is only 21%.[148] Similarly, for health insurance, 74% of workers surveyed nationally received health insurance; in New Mexico this figure was only 43%.[149] Additionally, while many OGE workers have access to higher wages, these higher wages are the result of dangerous work conditions and long hours—a tradeoff rarely considered in research.[150] Moreover, most discussions ignore the sizeable portion of workers who work long hours in dangerous conditions without receiving high pay.[151] Something also not accounted for is the emerging trend of companies increasingly using 1099 independent contractors instead of W-2 employees which is likely to depress industry wages and benefits.[152] Lastly, OGE workers are disproportionately at risk of heat-related illnesses and injuries and these risks will increase as the effects of climate change worsen.

Finally, BLM may not blindly assert that OGE jobs will have spillover, positive effects on local economies. Although some research appears to support this, it varies based on region and production levels.[153] BLM must consider and address these varied results, in addition to the impact that job growth and job quality will have on state and local economies.

e. BLM Must Take a Hard Look at the Impact of Waste, Including Produced Water, That Will Result.

Produced water is a term used in the oil and gas industry to refer to the water that comes out of a well during the oil and gas production process.[154] As the main waste stream arising from oil and gas development, which is typically heavily contaminated with multiple hazardous substances and must be disposed of carefully. As a potential significant source of environmental impacts to air, groundwater, surface water, and public health, the BLM must take a hard look at the impacts of produced water in particular.

Like oil and gas, water exists naturally underground. Depending on the chemistry of the rocks, it may contain many different chemical constituents, including mineral salts, organic

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[148] *Compare* N.M. Workforce Study, *supra*, at 16, *with* True Transition, *supra,* at 29, Exhibit 118.
[149] True Transition, *supra*, at 29, Exhibit 120; N.M. Workforce Study, *supra*, at 16. These disparities may be explained by the number of immigrant workers or 1099 workers employed in a particular location because they do not have access to the same benefits.
[150] N.M. Workforce Study, *supra*, at 36, (finding that many workers with good salaries worked twelve-hour days).
[151] *See* N.M. Workforce Study, *supra*, at 36, (finding nearly a quarter of workers surveyed made less than $25,000 a year).
[152] *See* True Transition, *supra*, at 5, (noting about 25% of respondents were independent contractors). Exhibit 118.
[153] *See e.g.* **Exhibit 120**, Zhengyu Cai, *Who Benefits from Local Oil and Gas Employment? Labor Market Composition in the Oil and Gas Industry in Texas,* Institute of Labor Econ., 7–8, 30–33 (2019) (discussing results from study on indirect impacts and summarizing other studies with varied results on impact).
[154] **Exhibit 121,** U.S. DOE, *Produced Water from Oil and Gas Development and Critical Minerals* (June 2024).

compounds, heavy metals, naturally occurring radioactive materials, critical minerals, and other minerals. When it flows back to the surface during oil and gas production the water will contain hydrocarbons as well as naturally occurring toxic substances like arsenic and radium,[155] salts and a mixture of chemical additives injected into the well to facilitate extraction. These additives can include carcinogens and numerous other toxic substances that have the potential to harm human health and contaminate the environment. The content and toxicity of produced water vary considerably, depending on the geology of the petroleum deposit.

Produced water is the largest waste stream from fossil fuel extraction.[156] Methods to extract fuels from aging oil fields and unconventional, or fracked, shale formations typically require far more water than conventional operations. Oil and gas operators recycle some of their wastewater to extract more fuels but some operations require freshwater. Produced water is generated wherever oil and gas is extracted. Depending on factors such as the level of contamination and the availability of water treatment options, some produced water may return to the drilling production cycle. The preferred method for industry to dispose of excess produced water is the injection of the waste into injection wells and saltwater disposal wells ("SWDs"),[157] which have been linked with induced seismicity.[158] Other than injection disposal, operators may seek to treat and reuse produced water outside the oilfields.[159] Produced water may be piped to disposal locations or alternatively transported by truck and/or rail. BLM must analyze the environmental impacts of produced water disposal, including transportation and storage of produced water, treatment for proposed reuse including associated air emissions, the potential for induced seismicity, potential for spills and leaks of produced water and concomitant hazardous substances, and ultimate disposal methods.

f. BLM's Analysis of Uncertainty is Inadequate

BLM's consideration of uncertainty in the Draft EA is inadequate. The Draft EA mentions uncertainty—for example in the context of factors that may affect actual GHG emissions and associated impacts, but fails to fully analyze the uncertainty. The 2022 BLM Specialist Report identifies countless areas of uncertainty regarding the analysis of GHGs and climate change, including:

- [Global warming potentials] have a large uncertainty: ±26 percent and ±11 percent for the 20-year and 100-year CH_4 GWPs, respectively, and ±118 percent and ±130 percent for the 20-year and 100-year N_2O GWPs, respectively.[160]

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[155] *See*, discussion of TNORM and threats from radioactivity associated with oil and gas development, *supra* at Exhibit 123.
[156] **Exhibit 122,** Molly C McLaughlin, et al., *Water quality assessment downstream of oil and gas produced water discharges intended for beneficial reuse in arid regions*, 15 SCI. TOTAL ENV. 136607 (2020).
[157] *See* **Exhibit 123,** Casee R. Lemons, et al., Spatiotemporal and stratigraphic trends in salt-water disposal practices of the Permian Basin, Texas and New Mexico, United States, 26 ENV. GEOSCI. 107 (2019).
[158] **Exhibit 124,** U.S. EPA, *Distribution of Final Work Product from the National Underground Injection Control (UIC) Technical Workgroup- Minimizing and Managing Potential Impacts of Injection Induced Seismicity from Class II Disposal Wells: Practical Approaches* (Feb. 6, 2015).
[159] **Exhibit 125,** Ground Water Protection Council, *U.S. Produced Water Volumes and Management Practices* (2021)**..** *See also* **Exhibit 126,** Scanlon et al., *Can we beneficially reuse produced water from oil and gas extraction in the U.S.?* 717 SCI. OF THE TOTAL ENV'T 137085 (2020).
[160] 2022 BLM Specialist Report at Section 8.5.

- The earth's climate system is complex and interwoven in ways that are not yet fully understood. There are several known climate feedback mechanisms that add uncertainty in terms of timing (fast and slow feedbacks) and overall sensitivity within the evaluation of the climate system.[161]
- As with the forcing components, there are also positive and negative feedback mechanisms, and there is a relatively large range of uncertainty concerning estimates of the climate sensitivity that leaves the subject open to further investigation.[162]
- Melting glaciers are likely to produce uncertainties for hydrologic power generation, which is an important resource in Alaska.[163]
- Analysis by IPCC scientists in AR6 suggest the 1.5°C temperature target is likely to be exceeded by 2030, which is in line with the carbon budget estimates. These estimates contain uncertainties that are characteristic of scientists' current understanding of the earth's climate-influencing systems, such as feedbacks and the forcing and response associated with the non-CO2 GHG species, and historical emissions accounting. The uncertainty range associated with the latest estimates is approximately ±400 Gt CO2.[164]
- As expected with such a complex model, there are multiple sources of uncertainty inherent in the SC-GHG estimates. Some sources of uncertainty relate to physical effects of GHG emissions, human behavior, future population growth and economic changes, and potential adaptation.

Well-documented scientific research and BLM's own analysis demonstrate that the potential effects of climate change are highly uncertain and involve unique and unknown risks. BLM must properly address this NEPA intensity factor in light of these impacts, and we request BLM do so for all its proposed lease sales in a single EIS.

g. BLM's Analysis of Controversy Over Impacts from GHGs is Absent

BLM's omission of the intensity factor of controversy in the Draft EA is improper. As the global body of scientific research and understanding of climate change reflects, there is controversy concerning critical aspects of the nature and effect of GHG emissions and their impact on climate change. This controversy is exemplified by the BLM's conclusions that the emissions from the proposed lease sales and the cumulative emissions from the federal fossil fuel program are not significant as compared to a robust scientific literature, indicating current and foreseeable fossil fuel development is not aligned with GHG reductions necessary to prevent warming exceeding 1.5°C.[165] We request BLM address the NEPA intensity factor for controversy and do so for all its proposed lease sales in a single EIS.

h. BLM's Analysis of State Law and Policy is Insufficient

[161] *Id.* at Section 8.2.
[162] *Id.*
[163] *Id.* at Section 8.4.
[164] *Id.* at Section 9.1.
[165] *See*, *e.g*. The Production Gap Report 2021, Exhibit 1 & 24.

BLM must analyze the potential for conflict between state laws and policies that set GHG emission reduction targets or commitments and the authorization of the proposed leases. Both Colorado and New Mexico, for example, have statutes and executive orders setting emission reduction goals. In Colorado, HB19-1261 requires the state to reduce GHG emissions by at least 26 percent in 2025, at least 50 percent by 2030, and at least 90 percent by 2050, relative to 2005 pollution levels. In New Mexico, Executive Order 2019-003 declares the state's support of the 2015 Paris Agreement goals and orders the state to achieve statewide reduction of GHG emissions of at least 45% by 2030, relative to 2005 levels. BLM's EA for the proposed lease sale must discuss and evaluate how the proposed lease sale and its estimated GHG emissions may threaten violation of these state laws and policies.

i. BLM Must Analyze Leasing Stage Commitments and Timing of NEPA Review.

Issuance of federal oil and gas leases constitutes a commitment of public resources that materially constrains BLM's future discretion by conveying valid existing rights under the Mineral Leasing Act and foreclosing landscape level alternatives such as no leasing or broad deferral. Although BLM retains authority to condition or deny individual APDs, that retained discretion does not eliminate the agency's obligation to evaluate reasonably foreseeable environmental impacts before leasing, where the decision itself commits federal minerals to potential development. Accordingly, BLM may not rely solely on generalized assurances of future, site-specific review to support a finding of no significant impact where the environmental consequences of leasing are reasonably foreseeable at this stage.

II. Federal Land and Policy Management Act (FLPMA)

A. Leasing New Federal Fossil Fuels for Development Would Cause Unnecessary and Undue Degradation That Is Prohibited Under FLPMA.

The Federal Land Policy and Management Act ("FLPMA"), 43 U.S.C. § 1701 *et seq.*, directs that "the public lands be managed in a manner that will protect the quality of [critical resource] values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use." 43 U.S.C. § 1701(a)(8). This substantive mandate requires that BLM not elevate the development of oil and gas resources above other critical resource values in the planning area. FLPMA instead requires that where oil and gas development would threaten the quality of critical resources, conservation of these resources should be the preeminent goal.

Here, the actions that BLM must determine meet the substantive requirements of FLPMA as outlined above include: (1) the programmatic resumption of oil and gas leasing on federal lands; and (2) the decision of whether to offer to sell and issue oil and gas leases on each of the specific parcels identified. Critically, however, BLM's consideration of these substantive requirements must not be viewed in the abstract, but within the specific context of the agency's analysis and the scientific information available to it. Accordingly, and of foundational importance, is the question of whether the continued leasing and development of oil and gas will

result in unnecessary and undue degradation to lands, resources, and species as a result of climate impacts.

As discussed above, BLM has endeavored to satisfy the requirement to consider the cumulative climate impacts of its leasing decisions by preparing the 2020 and 2021 Specialist Reports. Setting aside the deficiencies of the Specialist Report, discussed above, the underlying conclusions are chilling. BLM must apply this analysis to its substantive duty to avoid unnecessary and undue degradation under FLPMA. 43 U.S.C. § 1732(b). BLM's failure to specifically account for unnecessary and undue degradation in its decision to continue the leasing and development of oil and gas—which is distinct from its compliance under NEPA—is actionable on procedural grounds and must occur before the leasing decision is approved.

BLM must define what constitutes "unnecessary or undue degradation" in the context of continued oil and gas leasing and development, either at a programmatic level or within these specific sales—and with particular consideration of greenhouse gas emissions and resulting climate impacts—and explain why its chosen alternative will not result in such degradation, as required by FLPMA, 43 U.S.C. § 1732(b).

B. BLM is Required by FLPMA to Take Every Opportunity to Reduce Methane Emissions from Mineral Production on Federal Lands.

As discussed above, methane represents an opportunity for BLM to meaningfully reduce GHG emissions associated with the federal oil and gas program. BLM is not only required to analyze alternatives that address this highly potent short-term GHG, it also has substantive mandates under FLPMA to prevent, reduce, or mitigate methane emissions, independent of the agency's MLA duty to prevent waste.

FLPMA's statutory directives enable Interior to take action before lease rights are conferred, whether at the planning or leasing stages, that will eliminate methane emissions and otherwise protect public lands. That includes the authority *and responsibility* to (1) reduce acres available for leasing to address the contribution of methane emissions to the climate crisis and the impacts of the crisis to public lands, (2) attach methane and other harmful emission reduction stipulations to an oil and gas lease to protect air and atmospheric resources and to mitigate climate impacts to public lands, and (3) condition lease development at the permitting stage. *See* 43 C.F.R. § 3101.1-2. In the absence of existing methane waste and air quality regulations, and even following the conclusion of current EPA and BLM rulemaking efforts with regard to methane, BLM has a duty to leverage its considerable authority under FLPMA to the fullest extent permitted by law, including by identifying stipulations and conditions of approval for *all* of the proposed lease sales, to minimize, reduce, and mitigate methane impacts to the greatest extent possible.

C. BLM May Not Arbitrarily Assume the Potential Benefits of Leasing Outweigh the Social and Environmental Costs.

BLM fails to justify its decision to proceed with these lease sales, despite the enormous associated social and environmental costs. Offering hundreds of leases that will impose billions

of dollars in social and environmental harms without offering any justification for such a decision would inconsistent with FLPMA.

D. BLM's Analysis of Uncertainty is Inadequate The BLM must address whether and how the Congressional Review Act affects the validity of the governing Field Office RMPs.

Under FLPMA, the BLM decisions such as leases, permits, rights of way, and other authorizations must be issued "in accordance with" a valid land use plan. 43 U.S.C. § 1732(a). FLPMA's implementing regulations likewise provide that all "resource management authorizations and actions . . . shall conform to the approved [RMP]." 43 C.F.R. § 1610.5-3(a). Necessarily, BLM cannot issue new leases or authorizations or otherwise take actions predicated on a plan that was not validly approved before it was put into effect. Such action would violate FLPMA, the recently enacted 2025 Reconciliation Act[166] (and the Mineral Leasing Act (MLA), 30 U.S.C. §§ 181-287, which it amended), and the Administrative Procedure Act's (APA's), prohibition against agency action that is arbitrary and capricious or not in accordance with law, 5 U.S.C. §§ 551-559.

The Congressional Review Act (CRA) requires federal agencies to submit rules to Congress for review before they can take effect. 5 U.S.C. § 801(a)(1)(A). Historically, land management agencies like the BLM have not submitted their land or resource management plans to Congress, taking the position that such plans are not "rules" for CRA purposes. However, after the Government Accountability Office (GAO) determined, at the request of members of Congress, that three BLM RMPs *were* "rules" for purposes of the CRA,[167] Congress voted in October 2025 to disapprove those three RMPs under the terms of the CRA, subjecting such plans to the CRA's procedural requirements for the first time.[168] Following this legislative action, some stakeholders have questioned whether land or resource plans or amendments approved after passage of the CRA in 1996 are in effect if they have not been submitted to Congress pursuant to the CRA. *See* 5 U.S.C. § 801(a)(1)(A).

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[166] Pub. L. No. 119-21, § 50101(c)(2)(A), 129 Stat. 72, 138 (2025) ("[The BLM] shall offer . . . parcels . . . *under the applicable resource management plan in effect*" (emphasis added)); *id.* at 138–39 (directing that certain lands meeting certain conditions be made available for leasing "if the Secretary determines that the parcel of land is open to oil or gas leasing *under the approved resource management plan applicable to the planning area in which the parcel of land is located that is in effect*" (emphasis added)); *id.* at 139 (explaining that issued leases "shall be subject to the terms and conditions of the *approved resource management plan*" (emphasis added)).

[167] U.S. Gov't Accountability Off., *Applicability of the Congressional Review Act to Central Yukon Record of Decision and Approved Resource Management Plan*, B-337200, at 5–6 (June 25, 2025); *accord* U.S. Gov't Accountability Off., *Applicability of the Congressional Review Act to North Dakota Field Office Record of Decision and Approved Resource Management Plan*, B-337175 (June 25, 2025); U.S. Gov't Accountability Off., *Applicability of the Congressional Review Act to Miles City Field Office Record of Decision and Approved Resource Management Plan Amendment*, B-337163 (June 25, 2025).

[168] H.J. Res. 104, 119th Cong. (2025) (providing for CRA disapproval of the Miles City Field Office Record of Decision and Approved Resource Management Plan Amendment); H.J. Res. 105, 119th Cong. (2025) (providing for CRA disapproval of North Dakota Field Office Record of Decision and Approved Resource Management Plan); H.J. Res. 106, 119th Cong. (2025) (providing for CRA disapproval of Central Yukon Record of Decision and Approved Resource Management Plan).

The BLM must address these questions before proceeding with this lease sale. The RMPs associated with this proposed lease sale were all implemented after 1996.[169] Since then, the BLM has not transmitted any of those RMPs to Congress under the CRA. Before proceeding with this lease sale BLM must address the impact of the CRA on the validity of the RMPs and how this sale is consistent with FLPMA, the 2025 Reconciliation Act, and the MLA.

E. Even assuming the RMPs are valid and in effect, BLM must evaluate whether they are inadequate to support leasing.

RMPs may grant the BLM authority to lease in certain areas. *See* 30 U.S.C. § 226(b)(1)(A); 43 C.F.R. § 3120.1-2(a). Before issuing leases, however, the agency must confirm that the applicable RMP is up to date and that the underlying environmental analysis will support a contemporary leasing decision. If an RMP is more than five years old, the BLM must reevaluate and confirm that the analysis and any underlying assumptions remain valid. *See* 42 U.S.C. § 4336b. An RMP would no longer support a new leasing decision if important new data, policies, or changed circumstances exist (such as changes in the law) that were not considered when it was approved. *See* H-1601-1 — LAND USE PLANNING HANDBOOK, SECTION VII.C, DETERMINING WHEN IT IS NECESSARY TO REVISE AN RMP; 43 C.F.R. § 1610.5-6. If an RMP is too old or stale to support a new leasing decision, the BLM must revise the RMP or undertake a new, thorough environmental analysis to support new leasing, such as an EIS.

Furthermore, Greater Sage-Grouse RMP Amendment relies on additional analysis at the lease sale or permitting stage, leaving the agency discretion to make decisions on whether to offer lands for lease and under what conditions. The plan amendment assumes additional density and disturbance impacts will be considered prior to authorizing development, which must be considered here. The underlying intent of the RMPA was to utilize the mitigation hierarchy to prioritize 1) avoiding, 2) minimizing, and 3) mitigating impacts to high priority wildlife. Given the importance of high priority habitat across the state, and the preference criteria established in the current oil and gas leasing regulations, the BLM can and should defer leasing in these parcels to prioritize leasing outside of important wildlife habitats. Absent deferral, BLM must fully analyze and disclose impacts or apply full No Surface Occupancy (NSO) stipulations to ensure significant impacts do not occur from the proposed decision.

Even where implicated RMPs were finalized within the last five years, the BLM must take a hard look at new resource inventories and stipulations to ensure that new leases comply with existing plans, reflect updated inventory data, and adequately protect sensitive resources. Failure to consider, analyze, and disclose these issues violates NEPA and FLPMA.

To the extent that BLM proceeds to sell the proposed parcels without deferral or additional analysis, the agency must attach full NSO stipulations to the leases to avoid making an irreversible and irretrievable commitment of resources as discussed in the "hard look" sections below.

[169] The White River Field Office RMP was approved in 1997. The White River Field Office RMP Amendment for oil and gas management was approved in 2015. The Grand Junction RMP was approved in 2015 and amended in 2024. The Kremmling RMP was approved in 2025. The Little Snake RMP was approved in 2011.

F. The Trump Administration's energy dominance agenda cannot override the BLM's statutory obligations under FLPMA.

Under FLPMA, the BLM must manage public lands according to "multiple use" and "sustained yield" and "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values." 43 U.S.C. §§ 1701(a)(7) & (8), 1712(c)(1), 1732(a). Multiple use obligates the agency to make the "most judicious use" of public lands and their resources to "best meet the present and future needs of the American people." *Id.* § 1702(c). This requires taking "into account the long-term needs of future generations," ensuring "harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment." *Id.* Sustained yield mandates "achiev[ing] and maint[aining] in perpetuity . . . a high-level annual or regular periodic output of the various *renewable* resources of the public lands consistent with multiple use." *Id.* § 1702(h) (emphasis added). The BLM must "take any action necessary to prevent unnecessary and undue degradation of the lands." *Id.* § 1732(b). "It is past doubt that the principle of multiple use does not require BLM to prioritize development over other uses. . . . Development is a possible use, which BLM *must* weigh against other possible uses including conservation to protect environmental values. . . ." *New Mexico ex rel. Richardson v. BLM*, 565 F.3d 683, 710 (10th Cir. 2009) (emphasis added).

The BLM is therefore not obligated to lease any *specific* parcel of public land for oil and gas development. The agency must retain the authority to defer lease sale parcels, even after bidding has concluded.[170] Where conflicts exist, the agency cannot simply invoke one aspect of multiple use—mineral development based on an alleged national energy emergency—as a magic talisman to ignore other principal uses and the multiple use requirement. Moreover, where conflicts with other uses exist, the agency must affirmatively evaluate deferral of parcels in its alternatives analysis under NEPA.

G. New Leasing Locks in Permanent Impairment of Land Productivity and Future Uses

Leasing federal minerals for oil and gas development commits public lands to decades of extraction, infrastructure build-out, and associated greenhouse gas emissions that cannot be meaningfully reversed once development proceeds. This lock-in effect constitutes permanent impairment of land productivity and environmental quality within the meaning of FLPMA, particularly where future land uses, wildlife habitat connectivity, air quality, and water resources are foreclosed or substantially constrained. BLM must evaluate whether authorizing new leases—given existing leased but undeveloped acreage—would result in unnecessary or undue degradation and permanent impairment, independent of downstream combustion emissions and separate from NEPA's procedural requirements.

[170] *See McDonald v. Clark*, 771 F.2d 460, 463 (10th Cir. 1985) (holding that the "fact that land has been offered for lease does not bind the Secretary to actually lease the land, nor is the Secretary bound to lease the land when a qualified applicant has been selected"); *see also W. Energy All. v. Salazar*, No. 10-cv-0226, 2011 U.S. Dist. LEXIS 98380, at *9–23 (D. Wyo. June 29, 2011) (holding that BLM is not required to issue leases after offering them at auction; it only needs to make a decision within 60 days on *whether* to issue the leases).

III. Endangered Species Act (ESA)

A. Greenhouse Gas Emissions Have Direct, Predictable, and Devastating Effects on Endangered Species and Habitats.

The science is overwhelmingly clear that climate change represents a stark threat to the future of biodiversity within the United States and around the world. The Fifth National Climate Assessment warns that "that "the effects of human-caused climate change are already far-reaching and worsening across every region of the United States."[171] The best available science shows that anthropogenic climate change is causing widespread harm to life across the planet, disrupting species' distribution, timing of breeding and migration, physiology, vital rates, and genetics—in addition to increasing species extinction risk.[172] Climate change is already affecting 82% of key ecological processes that underpin ecosystem function and support basic human needs.[173] Climate change-related local extinctions are widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed.[174] Nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds are estimated to have been negatively impacted by climate change in at least part of their range.[175] Furthermore, across the globe, populations of terrestrial birds and mammals that are experiencing greater rates of climate warming are more likely to be declining at a faster rate.[176] Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress.[177]

Species extinction risk will accelerate with continued greenhouse gas pollution. One million animal and plant species are now threatened with extinction, with climate change as a

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[171] **Exhibit 127,** U.S. Global Change Research Program, *Fifth National Climate Assessment,* (2023), https://nca2023.globalchange.gov.

[172] **Exhibit 128,** Rachel Warren et al., *Increasing impacts of climate change upon ecosystems with increasing global mean temperature rise*, 106 CLIMATIC CHANGE 141 (2011).

[173] **Exhibit 129,** Brett R. Scheffers*, The broad footprint of climate change from genes to biomes to people,* 354 SCIENCE 719 (2016).

[174] **Exhibit 130,** John J. Wiens, *Climate-related local extinctions are already widespread among plant and animal species*, 14 PLoS Biology e2001104 (2016).

[175] **Exhibit 131,** Michela Pacifici et al., *Species' traits influenced their response to recent climate change*, 7 Nature Climate Change 205 (2017). The study concluded that "populations of large numbers of threatened species are likely to be already affected by climate change, and … conservation managers, planners and policy makers must take this into account in efforts to safeguard the future of biodiversity."

[176] **Exhibit 132,** Fiona E.B. Spooner et al., *Rapid warming is associated with population decline among terrestrial birds and mammals globally*, 24 GLOBAL CHANGE BIO. 4521 (2018).

[177] **Exhibit 133,** Camille Parmesan & Gary Yohe, *A globally coherent fingerprint of climate change impacts across natural systems*, 421 NATURE 37 (2003); **Exhibit 134,** Terry L. Root et al., *Fingerprints of global warming on wild animals and plants*, 421 NATURE 57 (2003); Camille Parmesan, *Ecological and evolutionary responses to recent climate change*, 37 ANNUAL REVIEW OF ECOLOGY EVOLUTION AND SYSTEMATICS 637 (2006), Exhibit 182; **Exhibit 135,** I-Ching Chen et al., *Rapid range shifts of species associated with high levels of climate warming*, 333 SCIENCE 1024 (2011); **Exhibit 136,** Ilya M. D. Maclean & Robert J. Wilson, *Recent ecological responses to climate change support predictions of high extinction risk*, 108 PNAS 12337 (2011); *Increasing impacts of climate change upon ecosystems with increasing global mean temperature rise*, Exhibit 128; **Exhibit 137,** Abigail E. Cahill et al., *How does climate change cause extinction?*, 280 PROCEEDINGS OF THE ROYAL SOCIETY B 20121890 (2012).

primary driver.[178] At 2°C compared with 1.5°C of temperature rise, species' extinction risk will increase dramatically, leading to a doubling of the number of vertebrate and plant species losing more than half their range, and a tripling for invertebrate species.[179] Numerous studies have projected catastrophic species losses during this century if climate change continues unabated: 15 to 37% of the world's plants and animals committed to extinction by 2050 under a mid-level emissions scenario[180]; the potential extinction of 10 to 14% of species by 2100[181]; global extinction of 5% of species with 2°C of warming and 16% of species with business-as-usual warming[182]; the loss of more than half of the present climatic range for 58% of plants and 35% of animals by the 2080s under the current emissions pathway, in a sample of 48,786 species[183]; and the loss of a third or more of animals and plant species in the next 50 years.[184]

Methane emissions are particularly alarming. Immediate, deep reductions in methane emissions are critical for lowering the rate of global warming in the near-term, preventing the crossing of irreversible planetary tipping points, and avoiding harms to species and ecosystems from methane's intensive near-term heating effects and ground-level ozone production.[185]

IV. One Big Beautiful Budget Act (OBBBA)

The recently enacted OBBBA, Pub. L. No. 119-21, fundamentally alters the legal landscape governing federal oil and gas leasing in ways that heighten, rather than diminish, BLM's obligations to conduct thorough environmental review before proceeding with this sale. As amended by OBBBA, Section 17 of the Mineral Leasing Act now directs that leases "shall be subject to the terms and conditions of the approved resource management plan" and "may not require any stipulations or mitigation requirements not included in the approved resource management plan." *See* Pub. L. No. 119-21, § 50101(d)(1)(a)(2)(A). In other words, OBBBA strips BLM of the sale-specific discretion it has historically exercised to impose protective stipulations as conditions of individual lease sales. Under the prior statutory regime, BLM could and routinely did use such lease-level stipulations to address resource conflicts identified during NEPA review. That safety valve is now closed: the RMP is the ceiling, not a floor, for lease terms and conditions.

This structural change has direct and critical implications for the adequacy of existing RMPs as a legal predicate for leasing. Because BLM can no longer cure resource conflicts or

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[178] **Exhibit 138,** IPBES, Global Assessment Report on Biodiversity and Ecosystem Services (E.S. Brondízio et al eds., 2019), https://ipbes.net/news/Media-Release-Global-Assessment.
[179] Intergovernmental Panel on Climate Change, *Summary for Policymakers,* in Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (V. Masson-Delmotte et al eds., 2021), https://www.ipcc.ch/report/ar6/wg1/, Exhibit 22.
[180] **Exhibit 139,** Chris D. Thomas et al., *Extinction risk from climate change*, 427 NATURE 145 (2004).
[181] *Recent ecological responses to climate change support predictions of high extinction risk*, Exhibit 136.
[182] **Exhibit 140,** Mark C. Urban, *Accelerating extinction risk from climate change*, 348 SCIENCE 571 (2015).
[183] **Exhibit 141,** Rachel Warren et al., *Quantifying the benefit of early climate change mitigation in avoiding biodiversity loss*, 3 NATURE CLIMATE CHANGE 678 (2013).
[184] **Exhibit 142,** Cristian Román-Palacios & John J. Wiens, *Recent responses to climate change reveal the drivers of species extinction and survival*, 117 PNAS 4211 (2020).
[185] **Exhibit 143,** United Nations Environment Programme & Climate and Clean Air Coalition, *Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions* 11 (2021), https://www.unep.org/resources/report/global-methane-assessment-benefits-and-costs-mitigating-methane-emissions.

environmental deficiencies through sale-specific stipulations, the burden of ensuring that leasing will not cause unnecessary and undue degradation, as FLPMA requires, falls entirely on the RMP itself. An RMP that assumed BLM retained later discretion to impose protective conditions can no longer serve as an adequate legal foundation for leasing decisions made under OBBBA's constrained framework. This is analogous to the need, described above, for a programmatic EIS: just as the incremental and cumulative nature of the climate crisis compels a comprehensive programmatic analysis rather than piecemeal lease-level review, OBBBA's elimination of lease-level mitigation discretion compels a comprehensive RMP revision before any additional leasing proceeds. BLM cannot simply tier to stale RMPs that were developed under a different statutory framework and then disclaim responsibility for impacts it can no longer address at the leasing stage.

Accordingly, before proceeding with this sale, BLM must revisit and, where necessary, revise the applicable RMPs to ensure they affirmatively incorporate the full suite of protective stipulations and mitigation measures that can no longer be imposed on a sale-by-sale basis. OBBBA further provides that "[t]he initiation of an amendment to an approved resource management plan shall not prevent or delay the Secretary from making the applicable parcel of land available for leasing," Pub. L. No. 119-21, § 50101(d)(1)(a)(2)(B), but this provision cannot be read to authorize leasing predicated on an RMP that is facially inadequate to support a lawful leasing decision under either FLPMA or NEPA. To do otherwise would be to proceed with leasing based on plans that were never designed to bear the full legal weight OBBBA now places upon them, an arbitrary and capricious result that cannot withstand scrutiny under the APA. *See* 5 U.S.C. § 706(2)(A).

V. Conclusion

Prior to any decision to conduct new leasing of federal public lands for fluid mineral development, BLM must comply with its obligations under the National Environmental Policy Act, the Federal Land Policy and Management Act, and the Endangered Species Act, to consider the impacts of its nationwide policy with respect to federal fossil fuel production on resources including global climate, environmental justice, wildlife habitat, air quality, and surface and groundwater quality. BLM's current plan- and lease-level NEPA compliance cannot support a decision to lawfully engage in new leasing, and therefore all new leasing must be deferred until BLM prepares a comprehensive environmental review, including an analysis of the cumulative impacts of past, ongoing, and reasonably foreseeable fossil fuel development. In order to comply with the United States' legal and moral obligations to its citizens, and to future generations, that review must include meaningful consideration of alternatives that could allow the Department of Interior to fulfill its role in putting the nation on a path towards an emissions future compatible with limiting warming to 1.5°C and mitigating the worst effects of global climate change. The Commenters appreciate your consideration of the information and concerns addressed in this letter, as well as the information included in the attached exhibits, sent under separate cover.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

/s/ Meridian Wappett

Meridian Wappett
Attorney-Fellow
Western Environmental Law Center
103 Reeders Alley
Helena, MT 59601
(406)351-0105
wappett@westernlaw.org

On behalf of the organizations identified above.

Bureau of Land Management
Montana/Dakotas State Office
Branch of Fluid Minerals
Attn: Hattie Payne
5001 Southgate Drive
Billings, MT 59101

Via Eplanning

Re: Protest Comments for the Montana-Dakotas Q2 2026 Oil and Gas Lease Parcel Sales (DOI-BLM-MT-0000-2025-0010-EA)

Appendix A

Appendix A

April 2026 Oil & Gas Parcel List

Total Parcel Count: 23 Total Acres: 8,992.22

	PARCEL NUMBER	PARCEL DESCRIPTION	PROPOSED STIPULATIONS FOR ENTIRE PARCEL IF LEASED	PROPOSED FOR DEFERRAL OR NO LEASING
1.	**ND-2026-04-6922**	ND, Forest Service: Dakota Prairies Grassland, PD T. 147 N., R. 98 W., Fifth principal Sec. 30 ALL McKenzie County 619.2 Acres 12.50% Royalty Rate EOI# MT00019876 FS Parcel#LMNG-1470N-0980W-0006	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 30 portions of Lots 2-4' Sec. 30 portions of E1/2, E1/2W1/2; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 30 portions of Lots 1-4; Sec. 30 portions of E1/2, E1/2W1/2;	

			Wildlife **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** Sec. 30 Lots 1,2; portions of Lots 3, 4; Sec. 30 E1/2, E1/2W1/2; **LMG2020-TL-03** Sec. 30 Lot 1; portions of Lots 2-4; Sec. 30 E1/2, E1/2W1/2; *Other Resources* **LMG2020-N-01**(ALL LANDS) **LMG2020-CSU-08** Sec. 30 Lots 1-4; Sec. 30 E1/2, E1/2W1/2; **LMG2020-NSO-13** Sec. 30 Lots 1-4; Sec. 30 E1/2, E1/2W1/2; **LMG2020-NSO-14** Sec. 30 Lots 1-4; Sec. 30 E1/2, E1/2W1/2;	
2.	**ND-2026-04-0854**	ND, Forest Service: Dakota Prairies Grassland, ACQ <u>T. 147 N., R. 98 W., Fifth Principal</u> Sec. 35 ALL. McKenzie County 661.12 Acres 12.50% Royalty Rate EOI# MT00019876 FS Parcel#LMNG-1470N-0980W-0007	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01**	

			Sec. 35 portions of Lots 1,3,4; Sec. 35 portions of NE1/4, N1/2NW1/4, SE1/4NW1/4, SE1/4NW1/4, N1/2S1/2; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 35 portions of Lots 1-4; Sec. 35 portions of NE1/4, NW1/4NW1/4, N1/2SE1/4; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** Sec. 35 Lots 1-3; portions of Lot 4; Sec. 35 N1/2, N1/2S1/2; **LMG2020-NSO-07** Sec. 35 portions of NW1/4, N1/2SW1/4; **LMG2020-TL-01** Sec. 35 Lots 1-3; portions of Lot 4; Sec. 35 NE1/4, N1/2SE1/4; portions of NW1/4, N1/2SW1/4; **LMG2020-TL-03** Sec. 35 Lots 1-3; portions of Lot 4: Sec. 35 N1/2, N1/2S1/2; *Other Resources* **LMG2020-N-01** (ALL LANDS) **LMG2020-CSU-08** Sec. 35 portions of N1/2NW1/4; **LMG2020-NSO-13** Sec. 35 portions of N1/2NW1/4; **LMG2020-NSO-14**	

			Sec. 35 portions of N1/2NW1/4;	
3.	**ND-2026-04-6852**	ND, North Dakota Field Office, Forest Service: Dakota Prairies Grassland, PD <u>T. 147 N., R. 99 W., Fifth Principal</u> Sec. 24 E1/2NE1/4, E1/2SE1/4. McKenzie County 160 Acres 12.50% Royalty Rate EOI# MT00018736 FS Parcel#LMNG-1470N-0990W-0016	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 24 portions of E1/2E1/2; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 24 portions of E1/2E1/2; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** Sec. 24 E1/2E1/2; **LMG2020-TL-01** Sec. 24 portions of NE1/4NE1/4; **LMG2020-TL-03** Sec. 24 E1/2E1/2; *Other Resources* **LMG2020-N-01** (ALL LANDS)	

			LMG2020-CSU-07 Sec. 24 portions of NE1/4NE1/4; **LMG2020-CSU-08** Sec. 24 E1/2E1/2; **LMG2020-NSO-13** Sec. 24 E1/2E1/2; **LMG2020-NSO-14** Sec. 24 SE1/4NE1/4, E1/2SE1/4; portions of NE/14NE1/4; **LMG2020-TL-07** Sec. 24 portions of NE1/4NE1/4;	
4.	**ND-2026-04-0770**	ND, Forest Service: Dakota Prairies Grassland, ACQ <u>T. 146 N., R. 100 W., Fifth Principal</u> Sec. 1 LOTS 1 thru 4; Sec. 1 S1/2NE1/4, S1/2NW1/4, S1/2. McKenzie County 640.28 Acres 6.25% Royalty Rate EOI# MT00019425 FS Parcel#LMNG-1460N-1000W-0037	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 1 portions of Lots 1-4; Sec. 1 portions of S1/2N1/2, S1/2; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 1 portions of Lots 1-4; Sec. 1 portions of S1/2N1/2,S1/2;	

			Wildlife **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** Sec.1 Lots 1-4; Sec. 1 S1/2N1/2, S1/2; **LMG2020-TL-01** Sec. 1 E1/2SE1/4; portions of SE1/4NE1/4, W1/2SE1/4; **LMG2020-TL-03** Sec. 1 Lots 1-4; Sec. 1 S1/2N1/2, S1/2; *Other Resources* **LMG2020-N-01** (ALL LANDS) **LMG2020-CSU-07** Sec. 1 portions of E1/2SE1/4; **LMG2020-CSU-08** Sec. 1 Lots 1-4; Sec. 1 S1/2N1/2, S1/2; **LMG2020-NSO-13** Sec. 1 Lots 1-4; Sec. 1 S1/2N1/2, N1/2SW1/4; portions of S1/2SW1/4; **LMG2020-NSO-14** Sec. 1 Lots 1-4; Sec. 1 S1/2N1/2; SW1/4, W1/2SE1/4;portions of E1/2SE1/4; **LMG2020-NSO-19** Sec. 1 portions of S1/2SW1/4; **LMG2020-TL-07** Sec. 1 portions of SE1/4NE1/4, E1/2SE1/4;	
5.	**ND-2026-04-6934**	ND, Forest Service: Dakota Prairies Grassland, ACQ <u>T. 146 N., R. 100 W., Fifth Principal</u> Sec. 3 LOTS 3, 4;	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS)	

		Sec. 3 S1/2NW1/4. McKenzie County 158.02 Acres 12.50% Royalty Rate EOI# MT00019422 FS Parcel#LMNG-1460N-1000W-0035	**HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 3 portions of Lot 3,4; Sec. 3 portions of S1/2NW1/4; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 3 portions of Lot 3, 4; Sec. 3 portions of S1/2NW1/4; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** (ALL LANDS) **LMG2020-NSO-05** Sec. 3 portions of Lots 3, 4; Sec. 3 S1/2NW1/4; **LMG2020-NSO-09** Sec. 3 portions of S1/2NW1/4; **LMG2020-TL-03** Sec. 3 portions of Lots 3, 4; Sec. 3 S1/2NW1/4; *Other Resources* **LMG2020-N-01** (ALL LANDS)	

			LMG2020-CSU-07 Sec. 3 portions of Lot 3,4; Sec. 3 portions of SW1/4NW1/4; **LMG2020-CSU-08** Sec. 3 Lot 3; portions of Lot 4; Sec. 3 S1/2NW1/4; **LMG2020-CSU-09** Sec. 3 portions of Lot 4; **LMG2020-NSO-13** Sec. 3 portions of Lots 3, 4; Sec. 3 S1/2NW1/4; **LMG2020-NSO-14** Sec. 3 portions of Lots 3, 4; Sec. 3 SE1/4NW1/4; portions of SW1/4NW1/4;	
6.	**ND-2026-04-0763**	ND, Forest Service: Dakota Prairies Grassland, ACQ <u>T. 146 N., R. 100 W., Fifth Principal</u> Sec. 3 S1/2. McKenzie County 320 Acres 6.25% Royalty Rate EOI# MT00019422 FS Parcel#LMNG-1460N-1000W-0035	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 3 portions of S1/2; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic*	

			LMG2020-NSO-01 Sec. 3 portions of S1/2; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** (ALL LANDS) **LMG2020-NSO-05** (ALL LANDS) **LMG2020-NSO-09** Sec. 3 SW1/4; portions of W1/2SE1/4; **LMG2020-TL-03** (ALL LANDS) *Other Resources* **LMG2020-N-01** (ALL LANDS) **LMG2020-CSU-08**(ALL LANDS) **LMG2020-NSO-13** Sec. 3 N1/2SE1/4; portions of S1/2SE1/4; **LMG2020-NSO-14** (ALL LANDS)	
7.	**ND-2026-04-0765**	ND, Forest Service: Dakota Prairies Grassland, PD T. 146 N., R. 100 W., Fifth Principal Sec. 10 ALL. McKenzie County 640 Acres 12.50% Royalty Rate EOI# MT00019422 FS Parcel#LMNG-1460N-1000W-0036	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 10 portions of NW1/4, N1/2SW1/4, SE1/4SW1/4, SE1/4;	

			Paleontological **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 10 portions of ALL; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** (ALL LANDS) **LMG2020-NSO-05** Sec. 10 portions of NW1/4NE1/4, N1/2NW1/4, S1/2S1/2. **LMG2020-NSO-09** Sec. 10 SW1/4NE1/4, W1/2, SE1/4; portions of NW1/4NE1/4, SE1/4NE1/4. **LMG2020-TL-01** Sec. 10 portions of W1/2SW1/4, SE1/4SW1/4; **LMG2020-TL-03** (ALL LANDS) *Other Resources* **LMG2020-N-01** (ALL LANDS) **LMG2020-CSU-08** (ALL LANDS) **LMG2020-NSO-14** (ALL LANDS) **LMG2020-NSO-19** (ALL LANDS)	
8.	**ND-2026-04-0775**	ND, Forest Service: Dakota Prairies Grassland, PD <u>T. 146 N., R. 100 W., Fifth Principal</u> Sec. 12 ALL. McKenzie County 640 Acres 12.50% Royalty Rate	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS)	

		EOI# MT00019425 FS Parcel#LMNG-1460N-1000W-0038	*Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 12 portions of ALL; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 12 portions of ALL; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** (ALL LANDS) **LMG2020-TL-01** Sec. 12 N1/2NE1/4, SE1/4NE1/4, E1/2SE1/4; portions of SW1/4NE1/4, W1/2SE1/4; **LMG2020-TL-03** (ALL LANDS) *Other Resources* **LMG2020-N-01** (ALL LANDS) **LMG2020-CSU-08** (ALL LANDS) **LMG2020-NSO-13** Sec 12. portions of E1/2NE1/4; **LMG2020-NSO-14** (ALL LANDS) **LMG2020-NSO-19** Sec 12. W1/2, W1/2E1/2, E1/2SE1/4; portions of E1/2NE1/4	
9.	**ND-2026-04-0776**	ND, Forest Service: Dakota Prairies Grassland, ACQ T. 146 N., R. 100 W., Fifth Principal	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS)	

		Sec. 13 ALL. McKenzie County 640 Acres 12.50% Royalty Rate EOI# MT00019425 FS Parcel#LMNG-1460N-1000W-0039	**HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 13 portions of ALL; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 13 portions of ALL; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** (ALL LANDS) **LMG2020-TL-01** Sec. 13 E1/2E1/2, SE1/4SW1/4, SW1/4SE1/4; portions of W1/2NE1/4, N1/2SW1/4, SW1/4SW1/4, NW1/4SE1/4; **LMG2020-TL-03** (ALL LANDS) *Other Resources* **LMG2020-N-01** (ALL LANDS) **LMG2020-CSU-08** (ALL LANDS) **LMG2020-NSO-13** Sec. 13 portions of E1/2E1/2 **LMG2020-NSO-14** (ALL LANDS)	

			LMG2020-NSO-19 (ALL LANDS)	
10.	**ND-2026-04-0768**	ND, Forest Service: Dakota Prairies Grassland, PD <u>T. 147 N., R. 100 W., Fifth Principal</u> Sec. 22 ALL. McKenzie County 640 Acres 12.50% Royalty Rate EOI# MT00019423 FS Parcel#LMNG-1470N-1000W-0033	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 22 portions of ALL; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 22 portions of ALL; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** (ALL LANDS) **LMG2020-NSO-09** Sec. 22 SW1/4NW1/4; portions of N1/2NW1/4, SE1/4NW1/4, N1/2SW1/4, SW1/4SW1/4; **LMG2020-TL-03** (ALL LANDS) *Other Resources* **LMG2020-N-01** (ALL LANDS)	

			LMG2020-CSU-08 (ALL LANDS) **LMG2020-NSO-13** (ALL LANDS) **LMG2020-NSO-14** (ALL LANDS)	
11.	**ND-2026-04-0766**	ND, Forest Service: Dakota Prairies Grassland, ACQ T. 147 N., R. 100 W., Fifth Principal Sec. 27 ALL; Sec. 34 S1/2. McKenzie County 960 Acres 12.50% Royalty Rate EOI# MT00019423 FS Parcel#LMNG-1470N-1000W-0032	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 27 portions of ALL; Sec. 34 portions of W1/2SW1/4, SE1/4SW1/2, SE1/4; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 27 portions of ALL; Sec. 34 portions of N1/2SW1/4, SW1/4SW1/4, SE1/4; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-NSO-09**	

			Sec. 27 W1/2SW1/4; portions of NW1/4, E1/2SW1/4, W1/2SE1/4, SE1/4SE1/4; Sec. 34 portions of N1/2SW1/4, NW1/4SE1/4; **LMG2020-TL-01** Sec. 27 SE1/4SE1/4; portions of SE1/4NE1/4, N1/2SE1/4, SW1/4SE1/4; Sec. 34 portions of NE1/4SE1/4; **LMG2020-TL-03** (ALL LANDS) *Other Resources* **LMG2020-N-01** (ALL LANDS) **LMG2020-CSU-04** (ALL LANDS) **LMG2020-CSU-07** Sec. 34 portions of N1/2SW1/4, NW1/4SE1/4; **LMG2020-CSU-08** Sec. 27 ALL; Sec. 34 portions of N1/2SW1/4, NW1/4SE1/4; **LMG2020-CSU-09** Sec. 34 S1/2S1/2, NE1/4SE1/4; portions of N1/2SW1/4, NW1/4SE1/4; **LMG2020-NSO-13** Sec. 27 ALL; Sec. 34 portions of the N1/2SW1/4, W1/2SE1/4, SE1/4SE1/4; **LMG2020-NSO-14** Sec. 27 ALL;	
12.	**ND-2026-04-6878**	ND, Forest Service: Dakota Prairies Grassland, ACQ <u>T. 147 N., R. 100 W., Fifth Principal</u> Sec. 34 N1/2. McKenzie County 320 Acres	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS)	

		6.25% Royalty Rate EOI# MT00019423 FS Parcel#LMNG-1470N-1000W-0034	**LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LMG2020-LN-03** (ALL LANDS) *Hydrological* **LMG2020-LN-01** (ALL LANDS) **LMG2020-CSU-01** Sec. 34 portions of N1/2; *Paleontological* **LMG2020-LN-04** (ALL LANDS) *Soils/Geologic* **LMG2020-NSO-01** Sec. 34 portions of N1/2; *Wildlife* **LMG2020-LN-02** (ALL LANDS) **LMG2020-CSU-04** (ALL LANDS) **LMG2020-TL-01** Sec. 34 NE1/4NE1/4; portions of W1/2NE1/4, SE1/4NE1/4; **LMG2020-TL-03** (ALL LANDS) *Other Resources* **LMG2020-N-01** (ALL LANDS) **LMG2020-CSU-07** Sec. 34 portions of NE1/4NE1/4, S1/2N1/2; **LMG2020-CSU-08** Sec. 34 N1/2N1/2, S1/2NW1/4; portions of S1/2NE1/4; **LMG2020-CSU-09** Sec. 34 portions of S1/2NE1/4; **LMG2020-NSO-09**	

			Sec. 34 SE1/4NW1/4; portions of NE1/4, N1/2NW1/4, SW1/4NW1/4; **LMG2020-NSO-13** Sec. 34 N1/2N1/2, S1/2NW1/4; portions of S1/2NE1/4; **LMG2020-NSO-14** Sec. 34 NW1/4NE1/4, N1/2NW1/4; portions of NE1/4NE1/4, SW1/4NE1/4, S1/2NW1/4;	
13.	**ND-2026-04-6930**	**Split Estate** ND, Bureau of Land Management, ACQ <u>T. 162 N., R. 102 W., Fifth Principal</u> Sec. 25 NW1/4NE1/4, S1/2NE1/4; Sec. 33 SE1/4. Divide County 280 Acres 50 % US Mineral Interest 12.50% Royalty Rate EOI# MT00020282	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LN 14-33** (ALL LANDS) *Hydrological* **CSU 12-5** Sec. 25 W1/2NE1/4, SE1/4NE1/4; Sec. 33 NE1/4SE1/4, S1/2SE1/4; **NSO 11-33** Sec. 25 W1/2NE1/4, SE1/4NE1/4; Sec. 33 NE1/4SE1/4, S1/2SE1/4; *Wildlife* **LN 14-15** (ALL LANDS) **LN 14-20** (ALL LANDS)	
14.	**ND-2026-04-0881**	**Split Estate** ND, North Dakota Field Office, Forest Service: Dakota Prairies Grassland, ACQ	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS)	

		T. 149 N., R. 103 W., Fifth Principal Sec. 19 NE1/4SW1/4, SE1/4; Sec. 20 SW1/4. McKenzie County 360 Acres 12.50% Royalty Rate EOI# MT00020257	**HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LN 14-33** (ALL LANDS) **DPG LN 23-3** (ALL LANDS) *Hydrological* **DPG LN 23-1** Sec. 19 NW1/4SE1/4, N1/2SE1/4, SE1/4SE1/4; Sec. 20 SW1/4; *Paleontological* **DPG CSU 16-1** Sec. 19 NW1/4SE1/4, N1/2SE1/4, SE1/4SE1/4; Sec. 20 SW1/4; *Soils/Geologic* **LN 14-54** (ALL LANDS) **DPG NSO 14-1** (ALL LANDS) *Wildlife* **DPG TES 18a** (ALL LANDS) **DPG LN 23-2** (ALL LANDS) *Other Resources* **DPG LN 19a** (ALL LANDS)	
15.	**ND-2026-04-6932**	**Split Estate** ND, Bureau of Land Management, PD T. 159 N., R. 103 W., Fifth Principal	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS)	

		Sec. 16 LAKEBED RIPARIAN TO LOTS 1-4 LYING WITHIN THE LINEAR CONFINES OF SEC. 16. Williams County 80.21 Acres 12.50% Royalty Rate EOI# MT00020282	**HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LN 14-33** (ALL LANDS) *Hydrological* **CSU 12-5** (ALL LANDS) **NSO 11-33** (ALL LANDS) *Wildlife* **LN 14-20** (ALL LANDS)	
16.	**ND-2026-04-6933**	**Split Estate** ND, Bureau of Land Management, ACQ T. 159 N., R. 103 W., Fifth Principal Sec. 9 W1/2NE1/4; Sec. 20 SE1/4. Williams County 240 Acres 50 % US Mineral Interest 12.50% Royalty Rate EOI# MT00020282	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LN 14-33** (ALL LANDS) *Hydrological* **CSU 12-5** (ALL LANDS) **NSO 11-33** (ALL LANDS) *Wildlife* **LN 14-20** (ALL LANDS)	
17.	**ND-2026-04-0882**	**Split Estate** ND, North Dakota Field Office, Bureau of Land Management, ACQ	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS)	

		T. 160 N., R. 103 W., Fifth Principal Sec. 3 POR OF LOT 2 EXCL CHURCH (2.00 AC); Sec. 3 LOTS 1,3,4; Sec. 3 S1/2NE1/4, S1/2NW1/4. Divide County 319.52 Acres 50 % US Mineral Interest 12.50% Royalty Rate EOI# MT00020307	**HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LN 14-4** (ALL LANDS) **LN 14-33** (ALL LANDS) *Hydrological* **CSU 12-5** Sec. 3 LOTS 1, 3, 4; Sec. 3 S1/2NW1/4; **NSO 11-33** Sec. 3 LOTS 1, 3, 4; Sec. 3 S1/2NW1/4; *Wildlife* **LN 14-20** (ALL LANDS) *Other Resources* **LN 14-25** Sec. 3 portions of SE1/4NW1/4, SW1/4NE1/4;	
18.	**ND-2026-04-0866**	**Split Estate** ND, Bureau of Land Management, PD T. 160 N., R. 103 W., Fifth Principal Sec. 15 W1/2NW1/4, NW1/4SW1/4. Divide County 120 Acres 12.50% Royalty Rate	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural*	

		EOI# MT00020130	**LN 14-33** (ALL LANDS) *Hydrological* **CSU 12-5** (ALL LANDS) **NSO 11-33** (ALL LANDS) *Wildlife* **LN 14-20** (ALL LANDS)	
19.	**ND-2026-04-0875**	**Split Estate** ND, Bureau of Land Management, PD <u>T. 160 N., R. 103 W., Fifth Principal</u> Sec. 21 NE1/4NW1/4. Divide County 40 Acres 12.50% Royalty Rate EOI# MT00020284	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LN 14-33** (ALL LANDS) *Hydrological* **CSU 12-5** (ALL LANDS) **NSO 11-33** (ALL LANDS) *Wildlife* **LN 14-20** (ALL LANDS)	
20.	**ND-2026-04-6928**	**Split Estate** ND, Bureau of Land Management, ACQ <u>T. 160 N., R. 103 W., Fifth Principal</u> Sec. 32 LOTS 1 thru 3; Sec. 32 W1/2NW1/4. Divide County 192.99 Acres 50 % US Mineral Interest	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS)	

		12.50% Royalty Rate EOI# MT00020284	*Cultural* **LN 14-33** (ALL LANDS) *Hydrological* **CSU 12-5** Sec. 32 LOTS 1-3; Sec. 32 SW1/4NW1/4; **NSO 11-33** Sec. 32 LOTS 1-3; Sec. 32 SW1/4NW1/4; *Wildlife* **LN 14-20** (ALL LANDS)	
21.	**ND-2026-04-0878**	**Split Estate** ND, Bureau of Land Management, PD T. 161 N., R. 103 W., Fifth Principal Sec. 3 LOTS 5, 6; Sec. 23 NE1/4NE1/4, SE1/4SE1/4; Sec. 24 SW1/4SW1/4. Divide County 160.88 Acres 12.50% Royalty Rate EOI# MT00020284	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LN 14-33** (ALL LANDS) *Hydrological* **CSU 12-5** Sec. 3 LOT 6; Sec. 23 NE1/4NE1/4, SE1/4SE1/4; Sec. 24 SW1/4SW1/4; **NSO 11-33** Sec. 3 LOT 6; Sec. 23 NE1/4NE1/4, SE1/4SE1/4; Sec. 24 SW1/4SW1/4; *Wildlife*	

			LN 14-20 (ALL LANDS) *Other Resources* **LN 14-25** Sec. 23 portions of NE1/4NE1/4;	
22.	**SD-2026-04-0047**	**Split Estate** SD, Bureau of Land Management, PD <u>T. 17 N., R. 4 E., Black Hills</u> Sec. 8 N1/2NE1/4, N1/2NW1/4; Sec. 21 W1/2NE1/4, NE1/4NW1/4, S1/2NW1/4. Harding County 360 Acres 12.50% Royalty Rate EOI# MT00020094	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **LN 14-33** (ALL LANDS) **NSO 11-107** (ALL LANDS) *Hydrological* **CSU 12-25** Sec. 21 NW1/4NE1/4; **NSO 11-70** Sec. 21 NW1/4NE1/4; *Soils/Geologic* **LN 14-54** (ALL LANDS) **CSU 12-24** Sec. 8 N1/2NE1/4, N1/2NW1/4; Sec. 21 SW1/4NW1/4, E1/2NW1/4, SW1/4NE1/4; *Wildlife* **NSO 11-97** Sec. 8 portions of NE1/4NW1/4, N1/2NE1/4;	

			Sec. 21 portions of NE1/4NW1/4, NW1/4NE1/4, SE1/4NW1/4, SW1/4NE1/4; **LN 14-11** (ALL LANDS) **LN 14-15** (ALL LANDS) **LN 14-20** (ALL LANDS) **LN 14-31** (ALL LANDS) *Other Resources* **LN 14-1** Sec. 8 NE1/4NE1/4; **CSU 12-23** (ALL LANDS) **CSU 12-44** (ALL LANDS)	
23.	**SD-2026-04-0048**	**Split Estate** (320 ac) SD, Bureau of Land Management, PD <u>T. 18 N., R. 4 E., Black Hills</u> Sec. 26 NE1/4, N1/2NW1/4, SE1/4NW1/4; Sec. 27 E1/2NE1/4; Sec. 35 N1/2SW1/4. Harding County 440 Acres 12.50% Royalty Rate EOI# MT00020094	*Standardized for all parcels* **Standard 16-3** (ALL LANDS) **HQ-CR-1** (ALL LANDS) **HQ-MLA-1** (ALL LANDS) **HQ-TES-1** (ALL LANDS) **LN 14-2** (ALL LANDS) **LN 14-3** (ALL LANDS) **LN 14-11** (ALL LANDS) **LN 14-12** (ALL LANDS) **LN 14-15** (ALL LANDS) **LN 14-18** (ALL LANDS) *Cultural* **NSO 11-107** (ALL LANDS) **LN 14-33** (All Lands) *Hydrological* **CSU 12-25** (ALL LANDS) **NSO 11-70** (ALL LANDS) *Soils/Geologic* **LN 14-54** (ALL LANDS) **CSU 12-24** (ALL LANDS)	

			Wildlife **LN 14-20** (ALL LANDS) **LN 14-31** (ALL LANDS) **NSO 11-97** Sec. 26 portions of N1/2N1/2, S1/2NE1/4; Sec. 27 portions of NE1/4NE1/4, SE1/4NE1/4; Sec. 35 portions of NW1/4SW1/4, NE1/4SW1/4; **CSU 12-40** Sec. 35 portions of Sec. 35 N1/2SW1/4; **CSU 12-41** Sec. 35 portions of N1/2SW1/4; *Other Resources* **CSU 12-23** (ALL LANDS) **CSU 12-44** (ALL LANDS)	

U.S. Bureau of Land Management
Montana/Dakotas State Office
Branch of Fluid Minerals
Attn: Hattie Payne
5001 Southgate Drive
Billings, MT 59101

Via Eplanning

Re: Protest Comments for the Montana-Dakotas Q2 2026 Oil and Gas Lease Parcel Sales (DOI-BLM-MT-0000-2025-0010-EA)

Appendix B

Exhibit 1, SEI, IISD, ODI, E3G, and UNEP, *The Production Gap Report: 2020 Special Report* (2021).

Exhibit 2, Welsby, D., Price, J., Pye, S. et al. *Unextractable fossil fuels in a 1.5 °C world*. Nature 597, 230–234 (2021).

Exhibit 3, Calverley, D. and Anderson, K. (2022), *Phaseout pathways for fossil fuel production within Paris-compliant carbon budgets*. Tyndall Centre, University of Manchester.

Exhibit 4, The 2022 report of the *Lancet* Countdown on health and climate change: health at the mercy of fossil fuels. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)01540-9/fulltext

Exhibit 5, World Meteorological Organization (2022). United in Science 2022 A multi-organization high-level compilation of the most recent science related to climate change, impacts and responses. https://library.wmo.int/doc_num.php?explnum_id=11309.

Exhibit 6, United Nations Framework Convention on Climate Change (October 26, 2022), Nationally Determined Contributions Under the Paris Agreement: Synthesis Report by the Secretariat. https://unfccc.int/documents/619180.

Exhibit 7, United Nations Environment Programme (2022). Emissions Gap Report 2022: The Closing Window — Climate crisis calls for rapid transformation of societies. Nairobi. https://www.unep.org/emissions-gap-report-2022.

Exhibit 8, International Institute for Sustainable Development, *Navigating Energy Transitions: Mapping the Road to 1.5° C*, October 2022.

Exhibit 9, N. Ratledge et al., *Emissions from Fossil Fuels Produced on US Federal Lands and Waters Present Opportunities for Climate Mitigation*, 171 Climatic Change, no. 11, Mar. 14, 2022, at 2–5, https://link.springer.com/content/pdf/10.1007/s10584-021-03302-x.pdf.

Exhibit 10, United Nations Framework on Climate Change (UNFCC), Conference of the Parties (COP28), First global Stocktake, Proposal by the President, Draft Decision (Dec. 13, 2023).

Exhibit 11, UNFCC Conference of the Parties, Work Programme on Just Transition Pathways, Proposal By the President, Draft Decision (Dec. 13, 2023).

Exhibits 12 and **13**, IPCC, 2021: Summary for Policymakers and Technical Summary.

Exhibit 14, In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

Exhibit 15, IPCC, 2022*: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*.

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Bureau of Land Management
Montana/Dakotas State Office
Branch of Fluid Minerals
Attn: Hattie Payne
5001 Southgate Drive
Billings, MT 59101

Via Eplanning

Re: Protest Comments for the Montana-Dakotas Q2 2026 Oil and Gas Lease Parcel Sales (DOI-BLM-MT-0000-2025-0010-EA)

Appendix C

October 27, 2025

Dear Customer,

The following is the proof-of-delivery for tracking number: 394347724185

Delivery Information:

Status:	Delivered	**Delivered To:**	Shipping/Receiving
Signed for by:	M.Blm	**Delivery Location:**	5001 SOUTHGATE DR
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday; Direct Signature Required		BILLINGS, MT, 59101
		Delivery date:	Oct 20, 2025 10:46

Shipping Information:

Tracking number:	394347724185	**Ship Date:**	Oct 16, 2025
		Weight:	0.5 LB/0.23 KG

Recipient:
HATTIE PAYNE,
5001 SOUTHGATE DR
BILLINGS, MT, US, 59101

Shipper:
meridian wapptt, WELC
829 N PARK AVE
HELENA, MT, US, 59601

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Bureau of Land Management
Montana/Dakotas State Office
Branch of Fluid Minerals
Attn: Hattie Payne
5001 Southgate Drive
Billings, MT 59101

Via Eplanning (*Exhibits sent via FedEx*)

Re: Protest Comments for the Montana-Dakotas Q3 2026 Oil and Gas Lease Parcel Sales (DOI-BLM-MT-0000-2026-0001-EA)

Appendix D

I. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

A. Failed to Consider a Range of Alternatives.

1. BLM Failed to Consider an Alternative That Prioritizes Conservation of All Greater Sage-Grouse Priority and General Habitat.

Under the governing Resource Management Plans, BLM is required to prioritize leasing outside of sage-grouse habitat. In light of the unabated nationwide decline of sage-grouse populations, due in part to BLM's systemic practice of deprioritizing habitat relative to development, BLM must not only consider, but *adopt* an alternative that removes from consideration, or at a minimum defers, *all* parcels containing General Habitat Management Area and Priority Habitat Management Area from consideration.

B. BLM Must Take a Hard Look at Reasonably Foreseeable Environmental Consequences.

1. BLM Must Take a Hard Look at Methane Emissions and Waste on Fort Berthold.

As discussed in the main comments, BLM must take a hard look at the impacts that a disproportionately high rate and intensity of flaring have on human health. This disproportionate impact can be clearly seen in North Dakota, where people living in the Fort Berthold Indian Reservation are 2 times more likely, to live within a half-mile of an oil and gas facility compared to the populations in the encompassing states.[1] This proximity to oil and gas infrastructure creates disproportionate adverse health risks and impacts on Indigenous communities.[2] Moreover, the Indigenous people living on these lands are more likely to be living in poverty

[1] **Exhibit v,** Clean Air Task Force, *Tribal Communities at Risk: The Disproportionate Impacts of Oil and Gas Air Pollution on Tribal Air Quality* 3, 6-7 (2018), https://www.catf.us/resource/tribal-communities-at-risk/.
[2] *See, e.g.*, *id.*

compared to the population of the encompassing state(s), which exacerbates the already disparate health burdens faced by these individuals and communities.[3] An analysis of satellite data found that nearly 20% of all flaring from 2012 to 2020 in North Dakota occurred on the Fort Berthold Indian Reservation.[4] BLM *must* adequately address the impacts of methane waste from these sales both individually and collectively, and identify pathways to mitigate both the emission of methane and its impacts.

2. **All Parcels in Priority Habitat Management Areas and General Habitat Management Areas for Greater Sage-Grouse Should Be Deferred**

BLM should defer all parcels that contain acreage designated as a Priority Habitat Management Area (PHMA) or General Habitat Management Area (GHMA) under the 2015 Greater Sage-Grouse Resource Management Plan Amendments (the 2015 Plans). Deferral is required in light of BLM's ongoing consideration of revisions to the 2015 Plans. While Instruction Memorandum 2021-027 states that "BLM will not routinely defer leasing when waiting for an RMP amendment or revision," it also recognizes that where "necessary terms and conditions under which leasing would be appropriate are not in conformance with the RMP, it will be necessary to amend the RMP before leasing is appropriate." In such cases, "the affected lease parcels must be withdrawn or deferred from leasing until a plan amendment or revision can be completed at a later date." BLM's pending RMP revision process requires deferral of parcels in sage-grouse habitat because the terms and conditions of the 2015 Plans must be strengthened to ensure protection of the grouse and avoid the need for an Endangered Species Act listing. Sage-grouse populations have continued to decline under the 2015 Plans.[5] In addition, implementation and enforcement of the prioritization objective and other key components of the 2015 Plans have proven very challenging. Maintaining and increasing sage-grouse populations will require amending the 2015 Plans to add new terms and conditions, such as closing PHMA and/or GHMA to new leasing. In the meantime, leasing in PHMA and GHMA must be deferred to avoid committing additional habitat to mineral development under terms that are inadequate to protect the sage-grouse.

3. **Special Status Species.**

DOI Manual 632 DM 1 and BLM Manual 6840 require conservation of special status species and the ecosystems upon which they depend on BLM-administered lands. For example, DOI Manual 632 at 1.4(D) requires that the Secretary "utilize all authorities . . . to prevent additional species from becoming endangered or threatened." *Id.* at 1.4(D). BLM Manual 6840 further directs that actions requiring authorization or approval by the BLM must be consistent with the conservation needs of special status species and must not contribute to the need to list these species under the Endangered Species Act (ESA). *Id.* at 1.4(J)(8).

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[3] *Id*. at 4.

[4] **Exhibit vi,** Isaac Stone Simonelli et al., How one native American Tribe is battling for control over flaring, Gaslit, Howard Center for Investigative Journalism (Feb. 24, 2022), https://cronkitenews.azpbs.org/howardcenter/gaslit/north-dakota.html.

[5] *See e.g.*, **Exhibit i,** Montana Fish, Wildlife & Parks, *Montana Greater Sage-grouse Population Report* (Aug. 20, 2025).

i. **Greater Sage Grouse**

Greater sage-grouse is a BLM special status species. BLM must therefore consider the duties associated with special status species, including whether the proposed lease sale would contribute to the need for ESA listing for greater sage-grouse. Sage-grouse population trends in Wyoming indicate that the 2015 ARMPA conservation measures are insufficient to restore sage grouse populations to abundant levels or even reverse the bird's downward trajectory toward extinction, undermining the 2015 "Not Warranted" determination.[6] Accordingly, BLM must analyze whether the proposed lease sale is consistent with the conservation and recovery of the species.

ii. **Pallid Sturgeon**

The Pallid Sturgeon, an endangered species listed in 1990, is another special status species. 55 Fed. Reg. 36,641, 36,641 (Sept. 6, 1990). The Pallid Sturgeon are:

> among the rarest surviving fish species in North America and are a federally endangered species in the Missouri River Watershed which includes the Yellowstone River and [Powder River Basin]. Once estimated to support over 1,000 adults, now, fewer than 125 naturally produced pallid sturgeon are estimated to live in the Upper Missouri Basin above Lake Sakakawea in North Dakota. Surviving wild sturgeon in the Upper Missouri River Basin are estimated to be at least 44 years old.[7]

The Yellowstone River and its tributaries are critical to the survival and recovery of this unique species because—unlike the upper Missouri River—the Yellowstone River provides vital spawning habitat for a small group of Pallid Sturgeon that has not hybridized with other sturgeon species. *Id*. at 9. Since 2014, Pallid Sturgeon have repeatedly migrated up the Powder River in Montana, traveling as far as 96 miles beyond the confluence with the Yellowstone River. *Id.* at 1.

Oil and gas operations may harm both water quality and water quantity in the Powder River Basin. *See* Synthesis Report at 8; Contaminants Assessment. The cumulative impacts of oil and gas development, other fossil fuel development, and climate change may adversely impact the survival and recovery of pallid sturgeon in the Yellowstone and Powder Rivers (and indeed, in the upper Missouri River basin). Synthesis Report at 8, attached. This habitat—in which Pallid Sturgeon populations have not hybridized—is impacted by fossil fuel development in the Powder River basin and oil and gas development in the Bakken. Both cause water pollution, which threaten Pallid Sturgeon.[8]

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[6] *See* **Exhibit ii,** Sarah Stellberg, *Re: BLM Wyoming Supplemental EA for WildEarth Guardians (WEG) and Western Watersheds Project (WWP, DOI-BLM-WY0000-2025-0004-EA* (Oct. 17, 2025). This letter is hereby incorporated by reference.

[7] **Exhibit iii**, Marcus Griswold, Pallid Sturgeon Synthesis Report at 8 (2021) (Synthesis Report).

[8] **Exhibit iv**, Contaminants Assessment; US Army Corps of Engineers, Yellowstone River Cumulative Effects Analysis at 206-07 (Apr. 2016) (discussing increased pollution from pipeline ruptures and spills of produced water from oil development in Bakken).

BLM must take a hard look at the reasonably foreseeable impacts to the Pallid Sturgeon. In addition, Commenters note that the Miles City Field Office has already reinitiated consultation with the Fish and Wildlife Service regarding the impacts of the Mile City RMPs on the Sturgeon. Under Endangered Species Act Section 7(d), 16 U.S.C. § 1536(d), BLM may not "make any irreversible or irretrievable commitment of resources," such as issuing new oil and gas leases, that would foreclose alternative measures to protect the Sturgeon.

iii. **Big Game**

BLM must fully evaluate the reasonably foreseeable impacts to big game from development on the proposed leases. This extends beyond a description of: (a) the regulatory and management frameworks applicable to big game species, along with the scientific literature, (b) existing conditions, and which lease parcels are in different categories of habitat (such as crucial winter habitat and migration corridors), (c) the lease stipulations that would apply, and (d) how BLM selected which parcels in big game habitat to offer or defer. Such information would provide a basis for analyzing the likely impacts to big game from development on the proposed leases—but it would not substitute for that analysis.

BLM must analyze the site-specific, direct, indirect, and cumulative impacts of leasing the parcels on the biology, ecology, reproduction, migration, connectivity, and viability of individual herds and entire populations of pronghorn,[9] mule deer,[10] and other big game species. This must be done for the proposed parcels in connection with parcels sold in other, past federal and non-federal oil and gas lease sales and developments.

iv. **Other Special Status Species**

In addition to the species identified above, BLM must demonstrate that the proposed lease sale will not harm other special-status species with overlapping habitat. Two such species are the pinyon jay and pygmy rabbit, both of which are currently under review for ESA listing and will foreseeably be impacted by development of the subject leases.

II. FEDERAL LAND POLICY AND MANAGEMENT ACT (FLPMA)

A. BLM is Required by FLPMA to Prioritize Greater Sage-Grouse Habitat.

BLM should defer all leases in General Habitat Management Area (GHMA) or Priority Habitat Management Area (PHMA) while it revisits the 2015 RMP amendments. At a minimum,

[9] *See* **Exhibit vii,** Sawyer et al., *Mule deer and energy development—long-term trends of habitation and abundance*, 2017; **Exhibit viii,** Wyckoff et al., *Evaluating the influence of energy and residential development on the migratory behavior of mule deer*, 2018; **Exhibit ix,** Aikens et al., *Industrial energy development decouples ungulate migration from the green wave*, 2022.

[10] *See* **Exhibit x,** Sawyer et al., *Long-term effects of energy development on winter distribution and residency of pronghorn in the Greater Yellowstone Ecosystem*, 2019; **Exhibit xi,** Donovan et al. 2024, *Declining pronghorn (Antilocapra americana) population productivity caused by woody encroachment and oil and gas development*, 2024.

however, it must comply with the prioritization requirement of the 2015 RMP amendments. Those plans require the agency to prioritize new oil and gas leasing outside of PHMA and GHMA in order to protect that habitat from future disturbance. In May 2020, BLM's national policy addressing prioritization, Instruction Memorandum 2018-026, was struck down by a court. *Montana Wildlife Federation v. Bernhardt*, No. 18-cv-69-GF-BMM, 2020 WL 2615631 (D. Mont. May 22, 2020). BLM has not adopted new national guidance on the prioritization requirement, and has represented to the Montana court that the agency's previous prioritization guidance (adopted in 2016) also is not in effect. As a result, there is currently no national guidance providing direction on how prioritization is to be applied. Complying with the prioritization requirement of the 2015 Plans must be a central consideration for any lease parcels in PHMA and/or GHMA.

BLM must comply with the prioritization requirement because it is prioritizing leasing only outside of PHMA, but not GHMA. Under FLPMA, BLM must manage public lands "in accordance with the [applicable] land use plans . . . ." 43 U.S.C. § 1732(a); see also 43 C.F.R. § 1610.5-3(a) ("All future resource management authorizations and actions…shall conform to the approved plan."). The Supreme Court has explained that the statutory directive that BLM manage "in accordance with" land use plans, and the regulatory requirement that authorizations and actions "conform to" those plans, prevent BLM from taking actions inconsistent with the provisions of a land use plan. Norton v. Southern Utah Wilderness Alliance, 542 U.S. 55, 68 (2004). Specifically, BLM must:

> prioritize oil and gas leasing and development outside of identified PHMAs and GHMAs . . . to further limit future surface disturbance and to encourage new development in areas that would not conflict with GRSG. This objective is intended to guide development to lower conflict areas and, as such, protect important habitat and reduce the time and cost associated with oil and gas leasing development. It would do this by avoiding sensitive areas, reducing the complexity of environmental review and analysis of potential impacts on sensitive species, and decreasing the need for compensatory mitigation.

Rocky Mountain Region ROD at 1-25 (emphasis added).

BLM is required by FLPMA to apply prioritization to GHMA to the proposed lease sale. BLM must direct new leasing away from both PHMA and GHMA in its prioritization analysis.

B. BLM Must Prevent Unnecessary or Undue Degradation and Permanent Impairment to Greater Sage Grouse.

The proposed lease sale would violate BLM's FLPMA duties to avoid unnecessary or undue degradation and permanent impairment of public lands. In particular, the "non-impairment" requirement requires BLM to ensure its actions will not have a fixed or enduring impact damaging, weakening or diminishing the environmental quality of the public lands. However, development of the subject leases will irreparably impair the ability of large swaths of

public lands to support greater sage-grouse populations and other wildlife species. This would also violate FLPMA's requirement to "maintain in perpetuity [ ] a high level" of the sage-grouse species. These harms are both unnecessary and undue.

C. BLM Must Ensure Lease Terms Comply with the 2015 Sage Grouse ARMPAs.

The governing RMPs provide that all future resource authorizations and actions in GRSG habitat must conform to decisions contained in the ARMPA. Accordingly, BLM must ensure that the lease notices and stipulations associated with this lease sale contain the stipulations required by the governing RMPs, including but not limited to those adopted under the 2015 sage-grouse ARMPAs.

III. THEODORE ROOSEVELT NATIONAL PARK AND THEODORE ROOSEVELT WILDERNESS AREA

Theodore Roosevelt National Park (THRO) stretches 70,000 acres over three distinct units across the dramatic badlands, prairies, and forests of North Dakota. The park preserves the history and legacy of our 26th President, a longtime rancher, sport hunter, conservationist, and adventurer, and includes nearly 30,000 acres of designated wilderness across its North and South Units. The park holds immense value for national park enthusiasts, historians, sportsmen, and conservationists alike, and is designated as a Class I area under the Clean Air Act, affording it the strongest available protections from air pollution and visibility impairment.

The parcels at issue in this sale are situated on U.S. Forest Service land. That does not resolve BLM's obligations. As set forth below, BLM retains independent authority and independent duties with respect to mineral leasing regardless of surface ownership. The combination of an antiquated governing RMP, new statutory constraints on stipulation authority, and inadequate environmental analysis renders the proposed leasing near THRO legally deficient.

A. Park Significance, Resources, and Values

Per National Park Service (NPS) planning guidelines, every NPS unit is required to have a Foundation Document outlining its purpose, significance, and fundamental resources and values. THRO's 2014 Foundation Document identifies the following Significance Statements (partial list):

- Theodore Roosevelt National Park's Little Missouri River Badlands, a rugged landscape of colorful geological formations, varied habitats, and abundant wildlife, provide a strikingly dramatic contrast with the rolling mixed-grass prairies in the surrounding region.
- Theodore Roosevelt National Park's night skies, clean air, and wilderness qualities offer exceptional beauty, silence, and solitude, which encourage personal growth, inspiration, and healing, just as they did for Theodore Roosevelt in the 1880s.

- *In the midst of continuing significant energy development in western North Dakota*, Theodore Roosevelt National Park **retains a high degree of resource integrity and is an unspoiled example** of the Little Missouri River Badlands. [11] (emphasis added)

The Foundation Document also identifies Fundamental Resources and Values (FRVs) that "are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance."[12] NPS determined the following FRVs for THRO (partial list):

- **Scenic Views and Clean Air.** The park's clean air, dark night skies, and dramatic terrain offer visitors sweeping views of unspoiled nature—the same unspoiled landscape that inspired Theodore Roosevelt. The protection of these resources is supported by the park's designation as a Class I area under the Clean Air Act.
- **The Theodore Roosevelt Wilderness and Wilderness Qualities Throughout the Park.** Protecting wilderness values is central to the purpose of the park and is a reflection of the conservation ethic advocated by Roosevelt. Opportunities for solitude and adventure—exemplified by wilderness—drew Theodore Roosevelt to the North Dakota Badlands in the 1880s. Subsequently, the Theodore Roosevelt Wilderness was designated in 1978 and spans 29,920 acres of the park's North Unit and South Unit. In addition to the designated wilderness, the park's remote setting, natural soundscape, and rugged topography create a sense of solitude for visitors throughout the park's three units. [13]

B. BLM's Independent Mineral Authority and the Legally Deficient Governing RMP

BLM retains independent authority over federal mineral availability regardless of surface ownership. Where the surface is administered by the U.S. Forest Service, the Forest Service holds a right of consultation and right of refusal under 30 U.S.C. § 226(h), but that right does not displace BLM's independent obligations under FLPMA and NEPA, nor does it permit BLM to satisfy those obligations by pointing to the USFS land use plan. BLM must conduct its own analysis and must make its own determination that leasing is consistent with applicable law.

BLM cannot do so here. Congress voted in October 2025 to overturn the North Dakota Field Office Record of Decision and Approved Resource Management Plan under the Congressional Review Act.[14] That CRA disapproval means BLM is now operating under the 1988 North Dakota RMP, a plan nearly forty years old, developed before the advent of modern unconventional drilling and hydraulic fracturing, and long before the noise, air quality, viewshed, and wildlife impacts of Bakken-era development on THRO were understood.

This deficiency is compounded by the One Big Beautiful Budget Act (OBBBA). Under the pre-OBBBA framework, BLM retained at least nominal authority to address site-specific

[11] **Exhibit xii,** National Park Service, U.S. Department of the Interior, *Foundation Document: Theodore Roosevelt National Park*, (April, 2014), at 7.
[12] *Id.*, at 8.
[13] *Id.*, at 9.
[14] *See* H.J. Res. 105, 119th Cong. (2025).

resource conflicts near THRO through sale-stage stipulations, even where the underlying RMP was outdated. OBBBA eliminates that flexibility entirely: BLM may not impose any stipulation or mitigation measure not already contained in the governing RMP.[15] The result is a compounded legal deficiency– an antiquated plan incapable of addressing modern drilling impacts on one of the nation's most iconic park units, now made the immovable ceiling for any lease issued in the area. BLM must suspend leasing of all parcels in proximity to THRO until the North Dakota RMP has been comprehensively revised to reflect current law, current science, and the full suite of protections that the park's documented resource conflicts demand.

C. **BLM Must Analyze a Deferral or Buffer Alternative Under NEPA**

NEPA requires BLM to study, develop, and describe reasonable alternatives, including alternatives that do not involve leasing. Even if outright deferral is not legally required, the parcels located within three miles of THRO and the Theodore Roosevelt Wilderness present a distinct and well-documented resource conflict that independently requires analysis of a deferral or buffer alternative. BLM's own prior practice of deferring parcels within a three-mile buffer zone, combined with the 2014 THRO Foundation Document's catalogue of ongoing documented harms from adjacent energy development, makes a deferral alternative plainly reasonable within the meaning of NEPA. BLM's failure to analyze that alternative is an independent legal deficiency. The EA also fails to engage with whether leasing this close to a Class I area is consistent with the Federal Land Manager's obligations to protect visibility and air quality under the Clean Air Act. That analysis is required and absent.

D. **February 2026 USFS Regulatory Changes Undermine BLM's Rationale**

BLM's response to comments regarding THRO suggests that USFS will address resource conflicts at the Application for Permit to Drill (APD) stage, including through stipulations USFS has already approved.[16] Commenters note that USFS approved leasing on the relevant parcels with stipulations and has indicated it will seek to apply those stipulations.

However, the February 2026 USFS Oil and Gas Resources final rule narrows Forest Service discretion at the APD stage. This directly undermines BLM's reliance on downstream USFS review as a backstop for resource protection near THRO. If APD-stage review is now constrained by regulation, the tiered NEPA approach BLM employs may no longer be legally adequate. BLM cannot rely on a future regulatory step that the Forest Service is now precluded from conducting in the manner BLM assumes.

E. **Documented Impacts to THRO and Inadequate Cumulative Effects Analysis**

In 2014, the NPS had already identified the "Widespread and Severe Impacts of Encroaching Energy Development and Associated Industrial Infrastructure" as a key parkwide issue at THRO and had *already* documented impacts to the park, as noted in the Foundation Document:

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[15] *See* Pub. L. No. 119-21, § 50101(d)(1)(a)(2)(A).
[16] *See* Draft EA Appendix K, Response No. 7 at 125.

> The direct and indirect impacts on park resources and the visitor experience during seismic, drilling, and production activities include air emissions, increased noise, night sky degradation, and operations intruding upon the viewshed. **Most notably, oil and gas wells, flares, and infrastructure are already present within the viewshed in all three park units.** Infrastructure build-out and transportation issues—for example, each new well requires an average of 2,000 trucking events—create impacts well beyond the areas of drilling and production and affect the local communities, park visitors, and park staff.[17] (emphasis added)

Moreover, NPS identified the following threats to the Theodore Roosevelt Wilderness and Wilderness Qualities throughout the park (partial list):

- Energy development outside the park threatens the wilderness character of the Theodore Roosevelt Wilderness as well as the quiet and chance for solitude in other areas of the park such as the Elkhorn Ranch. These threats impact the whole park but may be seen as especially damaging to designated wilderness because the National Park Service is legally required to manage for the preservation of wilderness character.
- The dark night skies in the park could be threatened by light sources such as flares or lighted drilling rigs. [18]

More than a decade later, BLM still has not conducted a meaningful cumulative effects analysis that identifies, quantifies, and addresses the long-term impacts of incremental and ongoing increases in oil and gas drilling activity on park resources, wilderness character, and scenic values. BLM's approach of directing commenters to independently locate well data in lieu of disclosing it in the EA is both legally and analytically inadequate. Moreover, framing existing documented harm as a neutral baseline rather than as an escalating problem that each new lease incrementally worsens is legally improper. The cumulative impacts of BLM's own repeated leasing decisions near the park remain within BLM's jurisdictional purview regardless of the Seven County decision or other pending litigation.

As of December 2024, McKenzie County, surrounding the North Unit of THRO, had 3,387 producing oil wells, 2,212 producing gas wells, and 707 shut or inactive wells, for a total of 6,306 wells, more than any other county in the state, and 29% of all wells statewide. BLM should disclose in the final EA the number of existing wells within 3, 5, and 10 miles of the national park boundary as a starting point for meaningful cumulative effects analysis.

F. Air Quality Impacts and Regional Haze

THRO's designation as a Class I area under the Clean Air Act is not a formality. It creates affirmative obligations for Federal Land Managers to protect visibility and air quality, obligations that BLM's EA does not engage with in any meaningful way. To improve air quality in our most treasured landscapes, Congress enacted the Clean Air Act's (CAA) Regional Haze

[17] **Exhibit xii,** National Park Service, U.S. Department of the Interior, *Foundation Document: Theodore Roosevelt National Park*, (April, 2014), at 14.
[18] *Id.*, at 27.

Program, establishing "as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution."[19] In order to protect the "intrinsic beauty and historical and archeological treasures"[20] found in national parks, wilderness areas, and other "Class I" areas, the Regional Haze Program is the framework for which states must design and implement plans to curb haze-causing emissions within their jurisdictions. To meet Congress's natural visibility goal, the Environmental Protection Agency (EPA) issued the Regional Haze Rule (RHR), which requires states (or EPA where a state fails to act) to make "reasonable progress" toward eliminating human-caused visibility impairment at each Class I area.[21] Class I areas are afforded the strongest protections from air pollutants through the RHR; Theodore Roosevelt National Park (THRO) is designated as a Class I area.

In 2022, the North Dakota Department of Environmental Quality (NDDEQ) proposed a Round 2 regional haze plan that, while it acknowledged oil and gas sources within the states' control account for "…72% of nonpoint NOx emissions [in the state],"[22] did not propose any technological controls or emissions limits for the oil and gas nonpoint sources. Nitrogen oxides (NOx) are one of the main haze pollutants that cause visibility impairment at THRO and NPCA and partners disagreed with NDDEQ's decision to not require pollution controls on these sources. The National Park Service (NPS) had even urged NDDEQ in early consultation with the state on the haze plan for the agency to consider oil and gas emission reduction opportunities[23] but NDDEQ ignored that recommendation. NDDEQ's failure to address pollution from oil and gas sources is even more egregious now that the BLM is acknowledging that "[p]ast and present actions that have affected and would likely continue to affect air quality are too numerous to list here but would include… the development of energy sources such as oil and gas… These types of actions and activities can reduce air quality through emissions of criteria pollutants… as well as contribute to deposition impacts and a reduction in visibility."[24] BLM is problematically acknowledging the negative impacts of North Dakota's air pollution to air quality and visibility without offering any lease stipulations or mitigation measures.

Figure 3.6 tracks THRO's progress towards the CAA goal of natural visibility and demonstrates that the national park is not on track to reach the goal – recent measurements of the visibility tracking metric (deciviews or dv) are above the uniform rate of progress (URP). Although the North Dakota Field Office Record of Decision and Approved Resource Management Plan is no longer valid (*see* Section B above), BLM identified concerning trends around increases in air pollution diminishing visibility in that document that a "…modeling study [of] predicted impacts to visibility at Class I areas in eastern Montana and western North Dakota in which a portion of the predicted impacts can be attributed to future federal oil and gas development (more than 0.5 and 1.0 dv thresholds) at the Theodore Roosevelt, Fort Peck, and

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[19] 42 U.S.C. § 7491(a)(1).

[20] H.R. Rep. No. 95-294, at 203-04 (1977), reprinted in 1977 U.S.C.C.A.N. 1077, 1282.

[21] 40 C.F.R. § 51.308(d)(1)-(3), (f)(2)-(3).

[22] Air Plan Partial Approval and Partial Disapproval; North Dakota; Regional Haze State Implementation Plan for the Second Implementation Period, 89 Fed. Reg. 95126 (December 2, 2024); North Dakota Department of Environmental Quality, North Dakota State Implementation Plan for Regional Haze (August 10, 2022), EPA Docket ID No. EPA-R08-OAR-2023-0495-0014, https://www.regulations.gov/document/EPA-R08-OAR-2023-0495-0014 [hereinafter "ND 2022 SIP"], at 112.

[23] ND 2022 SIP Appendix D, at D.2.a-7.

[24] Draft EA at 28-29.

Medicine Lake Class I areas[25]…New federal oil and gas development has a maximum potential impact of 1 dv at the federal Class I areas (Lostwood Wilderness and Theodore Roosevelt NP)…"[26] If the modeling in the 2024 Dakota Field Office Record of Decision and Approved Resource Management Plan comes to pass, and visibility measurements continue on their current trajectory established in Figure 3.6, then visibility of scenic views at THRO on the haziest days will be measured with an additional 1.0 dv, therefore making THRO to continue to be above its uniform rate of progress.

Finally, commenters refute the claim in the Draft EA that visibility trends "…do not appear to have changed significantly for the period of 2000 to 2023.'[27] Figure 3.3 clearly demonstrates that since 2022, a steep uptick in the haze index has occurred for the haziest days, the most impaired days and indeed all days at THRO, underscoring a deeply concerning trend of worsening air pollution trends and hazy days in this treasured Class I area. It is also clear that the haze index for the most impaired days has not exhibited a consistent downward trend since 2015. Moreover, NPS noted in its consultation documents on the state's regional haze plan a similar observation: "While overall visibility impairment trends are improving, in recent years (2016-2019) haze has increased on the most impaired days in NPS Class I areas most affected by North Dakota emissions."[28] Given the noted contribution of NOx emissions by oil and gas operations, and the lack of emissions controls or emissions limits on these operations, it is unsurprising – and extremely concerning – that hazy days at THRO have increased in the last 10 years as represented in Figure 3.3 and identified by NPS, *and* that BLM does not recognize that increase.

[25] Draft EA, at 24.
[26] *Id.* at 29.
[27] *Id*. at 19.
[28] ND 2022 SIP Appendix D, at D.2.a-7.

Appendix D Exhibit List

Exhibit i: Montana Fish, Wildlife & Parks, *Montana Greater Sage-grouse Population Report* (Aug. 20, 2025).

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