

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Northeastern States District Office
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Milwaukee, WI 53202-4617

FINDING OF NO SIGNIFICANT IMPACT

**For Wayne National Forest Supplemental Environmental Assessment, Oil and Gas
Leasing, Wayne National Forest, Marietta Unit of the Athens Ranger District, Monroe,
Noble, and Washington Counties, Ohio**

DOI-BLM-Eastern States-M000-2023-0005-EA

INTRODUCTION

On April 9, the Bureau of Land Management (BLM) published a Supplemental Environmental Assessment (EA), DOI-BLM-Eastern States-M000-2023-0005-EA, which evaluated anticipated environmental impacts of leasing Federal mineral estate and permitting development within the Marietta Unit of the Wayne National Forest (WNF) in Ohio. The EA was prepared in response to orders of the United States District Court for the Southern District of Ohio in 2020 and 2021, in *Center for Biological Diversity et al. v. United States Forest Service et al.* (S.D. Ohio, No. 2:17-cv-372) (*CBD*). The 2020 order in *CBD* found on the merits that the challenged leasing decisions violated the National Environmental Policy Act (NEPA) in certain ways. See Appendix A. The 2021 remedy order declined to vacate either the leases or the challenged BLM leasing decisions but remanded the 2016 Environmental Assessment (2016 EA), FONSI and Forest Service consent authorizations to BLM and the Forest Service for further environmental analysis. The challenged leasing decisions and consent authorizations relied on the 2016 EA, which had studied possible sale of parcels within 40,000 acres of federal mineral estate in the WNF, Athens Ranger District, Marietta Unit, in Monroe, Noble, and Washington Counties in Ohio. In the 2020 order, the court found deficiencies in the following areas, involving issues that have now been analyzed in detail in the EA:

- Surface area disturbance associated with hydraulic fracturing including well pads, gathering pipelines, water impoundments, staging areas, access roads, and other typical infrastructure associated with hydraulic fracturing development,
- Cumulative impacts associated with hydraulic fracturing on the Indiana bat and the Little Muskingum River, and
- Impacts on air quality associated with hydraulic fracturing.

In the EA, BLM analyzed the No Action and Proposed Action Alternatives in detail. Based on this, BLM selected the Proposed Action (Alternative B) as described in Section 2.2 of the EA. The Proposed Action from the 2016 EA remains essentially the same in the 2025 EA, except for the circumstances of 65 leases, supported for NEPA compliance purposes by the 2016 EA, as discussed in Chapter 1 of the EA. Under the Proposed Action, parcels within 40,000 acres of federally owned mineral estate could be offered for lease at competitive sales, though it is expected that only a very small percentage of this acreage would actually be developed.

Environmental protection measures, lease stipulations, and avoidance and minimization measures (AMMs) associated with the Proposed Action are specified in Section 2.2.3 of the EA and Appendixes F and G of the EA. Should a lease or leases be issued, and an Application for Permit to Drill (APD) for a site-specific development proposal be received by BLM, the BLM will apply appropriate AMMs identified in Appendix G of the EA to all APDs (*see* EA sections 2.6.1.1, 2.6.1.2, 2.6.1.3, and 2.6.1.4) as conditions of approval, whether on new leases or on the 65 noted leases. These AMMs would be applied to APDs on both Federal land and private land development activities that access Federal minerals.

A Federal oil and gas lease is a legal contract that grants exclusive rights to the lessee to develop Federal mineral estate but does not, by itself, authorize surface-disturbing activities or obligate the lessee to drill a well on the parcel in the future. As described in Section 2.2.3.1 and Appendix F of the EA, leases to access Federal minerals from U.S. Forest Service (USFS) surface would include the stipulations, standards, notifications, and guidelines specified in the governing Forest Plan, the *Wayne National Forest 2006 Land and Resource Management Plan* (Appendix F). The forest-wide standards and guidelines are required components of every lease that is issued under the Forest Plan.

All anticipated resource impacts would be associated with future oil and gas development on Federal mineral leases in the Marietta Unit. Additional NEPA review would be completed on a site-specific basis once Applications for Permits to Drill (APDs) are received, either on National Forest System (NFS) lands in the Marietta Unit (the “Action Area” in the EA) and private lands within the Analysis Area (the Marietta Unit plus a 4-mile buffer, plus an additional 0.5-mile buffer). The 4-mile buffer discussed in chapter 3 of the EA is used to account for the lateral reach of horizontal wells that could be used to access the Federal minerals in the Marietta Unit and an additional 0.5-mile buffer is used to account for potential impacts that can extend outside the disturbance area such as noise, dust deposition, erosion, and sedimentation.

Under various legal authorities, BLM and the Forest Service consider environmental impacts at each of the following three stages in the leasing and development of Federal mineral estate:

1. Stage 1: Environmental review in support of identifying areas that are available for or closed to oil and gas leasing, here the *Wayne National Forest 2006 Land and Resource Management Plan* (Forest Plan);
2. Stage 2: Environmental review in support of conducting competitive lease sales for parcels that are available for leasing and nominated in Expressions of Interest; and
3. Stage 3: Environmental review in support of approving APDs based on specific development proposals.

The EA completes the Stage 2 environmental review for the Marietta Unit for future BLM lease sales and for the 65 leases that relied on the 2016 EA. It also supports USFS reconsideration of its twelve consent authorizations made from 2016 to 2018 for the eight leasing decisions (65 leases) issued in reliance on the 2016 environmental assessment (2016 EA) challenged in *CBD*, pursuant to 36 C.F.R. § 228.102(e). Finally, the EA will support USFS’s consideration of future consent requests for BLM leasing proposals on the Marietta Unit.

Should a parcel be leased and should BLM receive, in an APD, a detailed plan for oil and gas development of the Federal mineral estate, the BLM would conduct Stage 3 site-specific

environmental analysis, obtain Forest Service consent, and complete required consultations prior to approving any ground-disturbing activities.

FINDING OF NO SIGNIFICANT IMPACT:

Based on my review of the EA and supporting documents, I have determined that the selected alternative is not a major federal action “significantly affecting the quality of the human environment.” 42 U.S.C. 4332(C). Therefore, an environmental impact statement (EIS) is not required. This finding is based on the “degree of effects” (40 CFR 1501.3(b)(2)) described in the sections which follow a discussion of the potentially affected environment.¹

Potentially Affected Environment

The WNF’s Proclamation Boundary was established by Congress in 1934 and comprises three separate administrative units that encompass parts of 12 counties: (1) the Athens Unit; (2) the Ironton Unit; and (3) the Marietta Unit. Of the approximately 855,532 acres within the WNF Proclamation Boundary, approximately 244,265 acres, or about 29 percent, are NFS surface lands that USFS owns and manages. The NFS surface lands overlie oil and gas resources that are both federally and privately owned, and are intermixed with small communities, roadways, and county or State-held lands. As of 2020, approximately 172,157 acres of Federal minerals were located within the WNF Proclamation Boundary (Appendix D, *Reasonably Foreseeable Development Scenario*). The Proposed Action would allow offering for lease, at competitive sales, parcels within 40,000 acres of the Marietta Unit that, if developed through future approved APDs, could result in up to 1,015 acres of surface disturbance (2.5 percent of the Action Area) during well construction and development and, following interim reclamation, up to 285 acres of long-term surface disturbance during the productive life of wells (approximately 0.7 percent of the Action Area).

As described in Section 2.2 of the EA, based on recent drilling activity in the Marietta Unit, the 2020 RFDS (Appendix D) forecast of proposed wells estimated that any wells developed would all be within the Marietta Unit and a 4-mile buffer, where operators can access the underlying Point Pleasant/Utica formations, Marcellus Shale, and Clinton sandstone. For this reason, the Analysis Area for most resources analyzed in the EA is the Marietta Unit plus a 4-mile buffer, excluding West Virginia, plus an additional 0.5-mile buffer. This area encompasses the extent of where potential surface impacts could occur from reasonably foreseeable development of the leases due to hydraulic fracturing technologies, allowing lessees up to 4 miles outside of the Proclamation Boundary to access federal subsurface minerals below the Marietta Unit. The additional 0.5-mile buffer is included in the Analysis Area to account for potential impacts that

¹ Executive Order 14154, *Unleashing American Energy* (Jan. 20, 2025), and a Presidential Memorandum, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity* (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 *et seq.* Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023) (pertaining to environmental justice). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The BLM confirms that in preparing this FONSI it has complied with applicable law, including the requirements of NEPA, guided by the CEQ regulations implementing NEPA, 40 C.F.R. 1500-1508 (2020), the Department’s NEPA regulations at 43 C.F.R. Part 46, Part 516 of the Departmental Manual, and the BLM NEPA Handbook H-1790-1 (BLM NEPA Handbook) (BLM 2008) consistent with the President’s January 2025 Order.

can extend outside the disturbance area such as noise, dust deposition, and erosion and sedimentation.

Degree of Effects

Guided by the 2020 CEQ regulations in making its “degree of effects” determinations, BLM has considered the four categories of effects enumerated in section 1501.3(b)(2).

The following have been considered in my evaluation of the selected alternative:

i. Short- and long-term effects

The EA included analysis of short- and long-term effects of the identified issues and discussion of reasonably foreseeable environmental trends and planned actions in relation to those issues. Unless otherwise stated, short-term effects would occur during construction and well development phases which usually last 30-60 days per well and would be stabilized or mitigated within five years. Long-term effects are defined as those impacts that would occur during well production, abandonment, and reclamation phases which are expected to take place over the next 55 years.

The interdisciplinary team evaluated the Proposed Action in the context of short- and long-term effects when considering other past, present, and reasonably foreseeable actions. Significant impacts from the Proposed Action are not expected, due in part to use of best practices and application of AMMs and other measures as conditions of APD approval. There are no construction, development, or surface-disturbing activities authorized at this leasing stage, but short- and long-term effects on resources from reasonably foreseeable future development are discussed in Chapter 3 of the EA. Not all leases that are issued proceed to development. If no subsequent development operations are proposed or conducted, there will not be short- or long-term effects.

For the majority of resource categories in the EA, the Cumulative Impact Analysis Area (CIAA) includes the Marietta Unit of the WNF and a 4-mile buffer surrounding the unit, excluding West Virginia, plus an additional 0.5-mile buffer. This area encompasses the extent of where potential impacts associated with the Proposed Action would overlap impacts from past, present, and reasonably foreseeable future actions and thus potentially result in cumulative impacts (Figures H-1, H-2, and H-3 in Appendix H).

The CIAA timeframe (temporal scope) considered is 75 years, including 20 years into the past and up to 55 years into the future. Oil and gas leases are typically issued for an initial 10-year period and continue for as long as oil or gas is produced in paying quantities. The average production life of unconventional wells is up to 40 years (BLM 2020), to which 15 years is added for initial lease development. Aside from air quality and climate impacts, the cumulative impacts analysis does not consider impacts of potential leasing in other units of the WNF (i.e., the Athens and Ironston Units), given their distance from the Marietta Unit (about 20 miles at the nearest point) and the fact that they fall outside of the CIAA. The Proposed Action would allow offering, at competitive sales, parcels within 40,000 acres of Federal mineral estate underlying NFS lands within Monroe, Washington, and Noble Counties, Ohio that, if developed through future approved APDs on federal or private surface lands, could result in up to 1,015 acres of short-term surface disturbance (2.5 percent of the Action Area) during well construction and development

and, following interim reclamation, up to 285 acres of long-term surface disturbance (0.7 percent of the Action Area). Some or all of the AMMs identified in Appendix G would be attached to future APDs as conditions of approval to limit the impacts that would occur from well development and production activities.

With respect to greenhouse gas emissions (GHGs), we note that there are no established thresholds for NEPA analysis to contextualize the quantifiable GHG emissions of an action in terms of the action's effect on the climate, incrementally or otherwise. The BLM acknowledges that all GHGs contribute incrementally to climate change and has displayed the greenhouse gas emissions in the EA in comparison to a variety of emissions sources and metrics. As of the publication of this FONSI, there is no scientific data in the record, including scientific data submitted during the comment period for these lease sales, that would allow the BLM, in the absence of an agency carbon budget or similar standard, to evaluate the significance of GHG gas emissions from this proposed lease sale. Short and long-term effects of Alternative B are within the impacts analyzed in the EA.

In the EA, the 2020 Reasonably Foreseeable Development Scenario (RFDS) (Appendix D) was used to estimate the extent of future oil and gas development in the Analysis Area and the associated potential impacts from reasonably foreseeable development in the Marietta Unit. Reasonably foreseeable development is also described in Section 2.2 of the 2016 EA. Section 3.2.1 of the EA describes the process of completing horizontally drilled wells using hydraulic fracturing. Table 3-2 in the EA summarizes the short-term and long-term effects of developing well pads and completing horizontally drilled and hydraulically fractured wells.

The following is a summary of the short-term and long-term effects of the Proposed Action (from Table 3-2 in the EA):

- Disturbance Area
 - Short-term - The total acreage of surface disturbance by oil and gas drilling activity before interim reclamation averages approximately 6 to 35 acres per well pad. This disturbance lasts approximately 8 to 10 weeks and will typically include multiple wells per well pad. It may take up to five years for interim reclamation of the well pads.
 - Long-term - The total acreage of surface needed to support drilled wells that were completed for production (excess disturbance reclaimed) averages approximately 3 to 10 acres. This disturbance persists approximately 25 to 40 years, until reclamation is completed and the well plugged.
- Drilling Duration
 - Short-term - Although many variables can affect drilling time, a typical horizontal well takes from 5 days to 25 days to drill. Multiple wells may be drilled in succession, thus increasing the number of consecutive drilling days. Well pads used for horizontal drilling in the Marietta Unit and a four-mile buffer may contain one to 18 or more wells, with three wells per

well pad being common. Completing a well using hydraulic fracturing typically takes an additional 10 days. If there are multiple wells on a pad, completions would take longer for each well. There are no long-term effects of drilling.

- Noise Impacts per Pad

- Short-term - Drilling is a continuous operation until the total depth of the well is reached, typically about 5 days. Noise levels during well construction and drilling generally average 65 decibels (dBA) at 350 feet from the source. Noise levels during hydraulic fracturing of wells generally average 69 dBA at 350 feet from the source. Increased amounts of heavy-truck traffic, mainly for hydraulic fracturing and waste transport, would result in increased noise levels along access routes with noise level increases being higher closer to the source of the heavy-truck traffic.
- Long-term - Noise levels during well production generally average 47 dBA at 350 feet from the source. Truck traffic noise would decrease considerably once wells go into production, although to help retain a consistent production rate, a well may need to be hydraulically fractured on a periodic basis, which necessitates additional vehicle traffic for a day or two.

- Visual Impacts per Well Pad

- Short-term - Disturbance averages 6 to 35 acres and stays in the landscape for 8 to 10 weeks. The height of the drilling rig (its tallest component) is typically 80 to 100 feet, depending on well depth. Because drilling is a continuous operation until the total depth of the well is reached, sites are lit at night, and the rig masts are lit for aircraft safety. Short-term impacts associated with construction would also include heavy equipment, heavy-truck traffic, employee vehicles (stationary and traveling to/from well pad locations), and fugitive dust. The tallest hydraulic fracturing-related unit on site is typically a 43-foot-tall pump in place for limited days needed to conduct hydraulic fracturing on all wells. Short-term impacts are associated with increased amounts of heavy-truck traffic, mainly for hydraulic fracturing waste transportation.
- Long-term - Disturbance averages 3 to 10 acres and may last up to 40 years in the landscape. Wells might produce for many years, depending on the resource; drilling rigs are typically in place only during the drilling phase. Hydraulic fracturing would occur at any time during a well's productive life (typically lasting 1 to 2 days). To help retain a consistent production rate, a well may need to be hydraulically fractured on a periodic basis, which necessitates additional heavy equipment, water storage, and vehicle traffic.

- Air Emissions
 - Short-term - Additional vehicle trips required for hydraulic fracturing would increase tailpipe emissions. Increased emissions from drilling, completion and production activities.
 - Long-term - In addition to contributing to the formation of ozone, hazardous air pollutants (HAPs) from the oil and gas industry are known or suspected to cause cancer and other serious health effects, as well as adverse environmental impacts. HAPs include air toxics, such as benzene, ethylbenzene, and n-hexane. Increases in CO, VOCs, PM₁₀, and other criteria pollutants in the ambient air due to oil and gas operations can also affect health, especially in areas near the source of the emissions where concentrations are higher. During hydraulic fracturing's gas-collection process, it is estimated that 3.6 to 7.9 percent of methane, a greenhouse gas, leaks into the atmosphere during the service life of a hydraulically fractured well.
- Water Use
 - Short-term - Horizontal wells in Monroe, Washington, and Noble Counties have been reported to use between 19 and 27 Mgal (millions of gallons) of water per well during drilling and completion.
 - Long-term - Where recompletion of a well is required, horizontal wells have been found to use between 2 and 6 Mgal of water per well.
- Water Disposal
 - Short-term – Flowback from hydraulic fracturing is required to be treated separately. It is typically maintained in segregated tanks and disposed of per ODNR-DOGRM regulations. Approximately 98 percent of produced wastewater and fracturing flowback is disposed of via underground injection into Class II wells that USEPA and the State of Ohio regulate.
 - Long-term - Wastewater generation is concentrated in the early stage of production and declines with a well's production age, producing a larger amount of near-term wastewater volume and water discharge decreasing the longer they exist.
- Well Pad Operations
 - Short-term - Hydraulic fracturing can occur at any time during a well's productive life and lasts 1 to 2 days. This most frequently occurs as soon as a well drilling is complete, or shortly thereafter.
 - Long-term - Pad operations typically have a 25-to-40-year life span. Additional rounds of hydraulic fracturing may occur on a periodic basis during production to help maintain target production rates.

- **Well Pad Construction Vehicle Trips**
 - Short-term - Vehicle trips during the construction phase include equipment trucks, worker trips, water trucks, and product transport. On average, 1,941 trips are needed for construction of one well pad with one horizontal well that is hydraulically fractured and on average, 6,414 trips are needed for construction of one well pad with three horizontal wells that are hydraulically fractured.
 - Long-term - If wells require additional rounds of hydraulic fracturing during the production lifetime, additional vehicle trips would occur. It is estimated that re-fracking a well can require up to 80 percent of the original truck trips needed during initial completions/fracking.
- **Well Operations Vehicle Trips**
 - Long-term - Increased vehicle trips during the operational phase of horizontal drilling could include trucking produced water to dispose of it. It is estimated that up to 349 truck trips for disposal purposes may be required during well operation/production activities for a single horizontal well.
- **Workers for Well Pad Construction and Drilling**
 - Short-term - Crews of two to five daytime workers are typically employed to construct each well pad. Well pad construction typically lasts seven to 10 days. Crews of approximately 12 workers are typically employed to drill each well. BLM data indicates that wells drilled in shallow formations typically take two to four days to drill with longer/deeper wells taking longer.
- **Workers for Well Pad Operations/Production**
 - Long-term - Typically, eight to 15 employees are required for each shift (typically a 12-hour standard shift), and usually no more than one shift is required per day. Additional personnel from the owner/operator may be on site to observe and run ancillary equipment, as necessary.

The Proposed Action is not expected to substantially contribute to effects on the issues analyzed. The project is not unique or unusual in the area; the BLM and State of Ohio have approved similar actions in the same geographic area. Oil and gas exploration has been ongoing in the region for many years. There are no known short- or long-term predicted effects on the human environment that are considered to be highly uncertain or involve unique or unknown risks.

ii. **Beneficial and adverse effects**

Potentially beneficial or adverse impacts related to the Proposed Action are disclosed and analyzed in Chapter 3 of the EA, *Affected Environment and Environmental Impacts*, and in Chapter 4, *Environmental Impacts*, of the 2016 EA. The environmental protection measures (see Appendices F and G) would avoid or reduce impacts on the resources and prevent unnecessary or undue degradation to public lands. Design features are included in

EA Section 2.1, *Proposed Action*. Resource based measures that reduce impacts beyond the AMMs and other design features are discussed and analyzed in Chapter 3 of the EA. In addition, adherence to existing laws, regulations, and policy further reduces and mitigates impacts on resources.

The reasonably foreseeable development of leases is expected to result in both beneficial and adverse effects on resources, as described in Chapter 3 of the EA.

Section 3.3.2.2 of the EA describes the adverse effects of future development following approval of APDs. Future oil and gas development would lead to air quality impacts from the emissions of air pollutants including carbon monoxide, nitrogen dioxide, particulate matter 10 micrometers or less in diameter and 2.5 micrometers or less in diameter, sulfur dioxide, and volatile organic compounds, which are ozone precursors. Additionally, other hazardous air pollutants, such as formaldehyde, benzene, toluene, ethyl benzene, isomers of xylene compounds, and normal-hexane, would also be emitted from developing leased parcels and from the subsequent combustion and end-use of oil and gas resources that may be produced. The adverse effects of these emissions are discussed in the EA in Section 3.3.2.2.

Section 3.4.2.2 of the EA notes the adverse effects of GHG emissions that would be emitted from equipment and vehicles used for construction and operation and from drilling, production, and processing activities associated with future oil and gas development, transmission, distribution, and combustion. These effects are described in further detail in Section 3.4.2.2 of the EA and are based on the levels of oil and gas development estimated in the 2020 RFDS.

Section 3.5.2.2 of the EA identifies the adverse effects of the Proposed Action on rare plants and vegetation. Increased surface disturbance, truck traffic, and potential for hazardous spills associated with horizontal drilling and hydraulic fracturing could affect rare plants and vegetation in the Action Area.

Section 3.7.2.2 of the EA addresses potential impacts on aquatic wildlife species. Impacts on aquatic wildlife species could result from physical disturbance to, or removal of, aquatic wildlife individuals and habitats as well as from water withdrawals, especially during low-flow conditions, or through contaminants from spills or runoff. During site-specific development, impacts on aquatic wildlife species could also occur from introduction of nonnative or invasive species, decreased aquatic habitat quality and quantity, soil compaction, increased sedimentation from erosion and runoff, brine and wastewater removal, impervious surfaces, and increased surface water withdrawals.

Section 3.8.2.2 of the EA addresses impacts on terrestrial wildlife. Impacts on terrestrial wildlife from the Proposed Action may include surface disturbance and associated habitat removal, habitat fragmentation, increased edge effects, increased potential for take resulting from wildlife-vehicle collisions, exposure of wildlife to contaminants from water impoundments and other sources, and disturbance from noise and human presence; increases in visual elements, such as light or physical structures; and noise that may cause stress or reduce prey sources and habitat. For bat species, impacts during drilling-site construction could also include loss of unknown roost trees, short-term impacts from noise or human presence, and alteration of foraging habitat. Increased water withdrawals

for hydraulic fracturing could affect or reduce insect production. Indiana bats may be forced to expend more energy searching for food, affecting individual fitness rather than causing population-level impacts.

As described in Section 2.2.3.2 and Appendix G (*Wayne National Forest Oil and Gas Leasing Biological Assessment*) of the EA, agency coordination with the U.S. Fish and Wildlife Service (USFWS) resulted in identification of a set of AMMs designed to avoid and minimize potential impacts on federally listed species. These AMMs include measures for federally protected species that have potential to occur in the Analysis Area. During the Stage 3 environmental review of site-specific APDs, the BLM would evaluate and analyze specific development plans that are proposed by operators who secure leases under the Proposed Action. Design features, including AMMs, and best management practices (BMPs) would be applied to each approved APD, as appropriate. These are measures that have been proven effective in minimizing impacts to resources.

BLM retains discretion to deny development proposals that do not accord with applicable Federal statutes, regulations, and lease terms, including the requirement to comply with applicable state laws. Compliance with Federal, state and local laws, and application of appropriate AMMs and other protective measures to oil and gas development activities, as identified in the EA, would not cause impacts that rise to the level of significance as defined by the Council on Environmental Quality. Thorough environmental reviews would be required for APDs proposing site-specific surface disturbances on Federal or private lands to analyze the impacts of proposed development on resources such as air quality and climate, rare plants and vegetation, groundwater and surface water, wetlands, riparian areas, federally listed aquatic and terrestrial species, transportation, and socioeconomics and local economics.

The beneficial effects of oil and gas production include the production of fossil fuels to contribute to the national, State, and local supply in response to public demand, in furtherance of the objectives of Executive Order 14154. In addition, issuance of leases and potential future development of the leases has beneficial economic impacts on local, State, regional, and national social and economic conditions, which may be perceived as either positive or negative, depending on the standpoint of a stakeholder.

iii. Effects on public health and safety

The administrative act of leasing would have no direct effects on public health and safety. Any potential adverse effects on public health and safety would be associated with future oil and gas development of Federal mineral leases and would be addressed in more detail through additional site-specific analysis and in compliance with State and Federal laws and regulations, as required, during the Stage 3 environmental review of APDs.

Effects on public health and safety are detailed in Sections 4.3.6, 4.6 and 4.8 of the 2016 EA and in Sections 3.3, 3.6, 3.9, and 3.10 of the EA. Effects could include decreased air quality (Section 3.3, Air Resources), increased potential for surface water and groundwater contamination (Section 3.6, Water Resources), and increased heavy-truck traffic and light pollution (Section 3.9, Transportation), that could result in possible safety concerns, health concerns, traffic, noise, and other effects on the existing environment. An increase in traffic and related air pollutants may affect local

communities by adding more transportation-related pollution to the area, increasing the risk for negative health impacts, and increasing demands on maintaining roads and road conditions.

As identified in Section 3.3 of the EA, development of these wells would result in the emission of direct (upstream) and indirect (downstream) GHGs and would contribute to cumulative GHG emissions at a global scale. Adverse effects could result from the contribution to global climate change and its effects.

Section 3.3.2.2 of the EA discusses the air quality–related measures presented in Appendix F (*Existing Stipulations, Notifications, Guidelines, and Standards*) which have been demonstrated effective in reducing impacts on air resources to meet Federal, State, and local goals for air quality. Environmental review during APD permitting would assess specific equipment types, numbers of equipment needed, and methodologies proposed in order to analyze air emissions and identify additional site-specific measures that may be applied to APDs as conditions of approval, to meet Forest Plan objectives (Appendix F, Reference Number GFW-AIR-1), and to reduce emissions to ensure compliance with Federal and State air quality standards and limit potential impacts to public health.

Required health and safety measures per Federal and State regulations help reduce potential impacts on public health and safety. In accordance with Ohio Revised Code Chapter 1509 and Ohio Administrative Code Chapter 1501, a permit would be required whenever an operator planned to drill, deepen, reopen, plug back, convert, or plug a well on private surface. The Ohio Environmental Protection Agency's Division of Air Pollution Control requires a Permit-to-Install and Operate, which includes requirements such as emission limits, operating restrictions, monitoring requirements, and reporting requirements. This permit would address emissions associated with internal-combustion engines, generators, dehydration systems, storage tanks, and flaring in oil and gas operations.

The BLM has developed BMPs designed to reduce emissions from field production and operations. BMPs may include limiting emissions from stationary combustion sources, mobile combustion sources, fugitive sources, and process emissions that may occur during development of the lease parcel. Analysis and approval of future development may include the application of BMPs within the BLM's authority, included in APDs or Records of Decision as conditions or approval, to reduce or mitigate GHG emissions. Additional measures proposed at the APD stage may be incorporated as applicant-committed measures by the project proponent or added to necessary air quality permits.

BLM well casing requirements are described in Section 3.6.2.2 of the EA. These requirements minimize the potential for fluid migration between the fractured formation and drinking-water resources. Additionally, various measures are available to prevent and respond to any hazardous material spills resulting from oil and gas development.

Section 3.6.2.2 of the EA identifies levels of impairment in the 32 watersheds in the Analysis Area. Increased water required for horizontal drilling and hydraulic fracturing could affect water resources by increasing withdrawals of surface water and may reduce

available quantities of water for wetlands and riparian areas, public drinking water, aquatic habitat, and recreational uses. However, there is a possibility that water withdrawn from sources outside of the Analysis Area may be trucked into the Analysis Area for well development and production and could result in decreased impacts if withdrawals from surface water or groundwater sources are not needed, as described in section 3.6.2.2. Section 3.6.2.2 of the EA also describes the conditions under which water withdrawals for oil and gas operations can occur. Withdrawals from lakes, rivers, and reservoirs, the most likely sources of water to be utilized for well development and production in this area, require approval from the source owner/manager and water withdrawal registration with ODNR and may entail potential requirements from the U.S. Army Corps of Engineers. As described in Appendix G, Section 2.6.1.2 and Appendix F of the EA, for all leases issued under the Proposed Action, the BLM will prohibit water withdrawals from Little Muskingum River and Muskingum River (these are the Group 2 and 4 streams that currently occur within the Action Area), and any additional Group 2 and 4 streams and eastern hellbender streams that may be identified in the future. As such, the Proposed Action, and reasonably foreseeable development of leases issued under the Proposed Action, are expected to cause only limited impacts on water quantity.

Section 3.9.2.2 of the EA discusses transportation impacts of the Proposed Action. The Proposed Action could result in an increased network of access roads and increased heavy-truck traffic in the Analysis Area that would be used for oil and gas development. Increased heavy-truck traffic required for horizontal well development has been documented to increase the expected rate of road deterioration. Per Ohio Revised Code Section 1509.06(A)(11)(b), ODNR requires that all applications for a horizontal well permit include a road use maintenance agreement (RUMA) between the operator and local jurisdiction concerning maintenance and safe use of the local roads, streets, and highways. During the Stage 3 environmental review of site-specific APDs, the BLM would further assess proposed transportation routes, proposed types and volumes of vehicles, and other potential impacts on transportation based on individual development proposals and would apply appropriate protective measures as conditions of APD approval to avoid, minimize, and reduce impacts on the transportation network, traffic, and roads in the area.

Potential impacts on socioeconomics and local economic conditions from all activities in the oil and gas program were analyzed in Section 4.15 of the 2016 EA and impacts on public health and safety were analyzed in Section 4.8 of the 2016 EA. Section 3.10.2.2 of the EA addresses the impacts of the Proposed Action on social and local economic conditions. Communities in southeastern Ohio and the adjacent portion of West Virginia are above average for some environmental burden, health, climate, and critical service indicators, as noted in Section 3.10.1.3 of the EA.

As noted in Section 3.10.2.2, the relatively low pollutant emissions associated with development and production under the proposed action would not be expected to notably affect socioeconomics and local economic conditions. During the Stage 3 environmental review of site-specific APDs, the BLM would further assess potential impacts on socioeconomics and local economic conditions based on specific locations of proposed development, proposed workforce, where workers would come from, capital expenditures

on projects, potential environmental impacts, and other factors. If potential impacts on socioeconomics and local economic conditions are identified during the Stage 3 environmental review of APDs, the BLM would consider and apply appropriate protective measures as conditions of APD approval, as well as monitoring measures, to avoid, minimize, and reduce potential impacts.

In addition to the BLM, other Federal, State, and local agencies regulate oil and gas exploration and drilling operations to protect public health and safety. The BLM will continue to coordinate with other Federal, State, and local agencies as APDs are received. As a result, impacts on public health and safety from the Proposed Action with appropriate AMMs and other protective measures, are not expected to be significant.

iv. Effects that would violate Federal, State, Tribal, or local laws protecting the environment

Consultations with the Ohio State Historic Preservation Office (OH SHPO) pursuant to Section 106 of the National Historic Preservation Act (NHPA), the USFWS pursuant to Section 7 of the Endangered Species Act (ESA), and Government-to-Government consultations with Tribal governments were conducted regarding the Proposed Action and are further detailed in Section 4.1 of the EA.

In the course of these consultations, BLM concluded that the Proposed Action described in Section 2.2, with protective measures in place (i.e., required stipulations, USFWS-recommended AMMs, COAs, and BMPs), does not violate any known Federal, State, Tribal, or local law or requirement imposed for the protection of the environment.

The effects of the Proposed Action would not violate the NHPA. In a letter to the BLM dated May 2, 2023, the OH SHPO concurred with the BLM that the proposed leasing would not result in adverse effects on historic properties and committed to engaging in additional coordination with the BLM when leases are issued and an APD is submitted.

The effects of the Proposed Action would not violate the ESA. The BLM and USFS consulted with the USFWS under Section 7 of the ESA with respect to Federally listed species and proposed and candidate species. The BLM prepared a Biological Assessment (Appendix G of the EA) to analyze impacts on Federally listed species that are anticipated to occur in the Analysis Area and concluded that the Proposed Action may affect, but is not likely to adversely affect, certain Federally listed species and is not likely to jeopardize the continued existence of certain other ESA candidate or proposed species. The USFWS concurred in these determinations in a letter dated April 15, 2025. At the APD stage, the USFWS will utilize the BA in making further determinations regarding potential impacts on the species and AMMs to be considered and applied in APD approvals. The AMMs in Appendix G include measures for Federally protected species that have potential to occur in the Analysis Area. These measures may be further refined as consultation with USFWS continues during the ESA consultation process at the APD stage.

No Tribes have suggested that the Proposed Action is in violation of any Tribal laws. The BLM sent certified tribal consultation letters on April 3, 2023, to 16 federally recognized

Native American Tribes who have a known connection to the area, notifying them of the Proposed Action and asking them to identify any concerns with respect to the Proposed Action. To date, the BLM has received two responses, one from the Shawnee Tribe (May 12, 2023) and another from the Eastern Shawnee Tribe of Oklahoma (May 26, 2023), indicating no concerns with the Proposed Action at this time but requesting additional consultation during oil and gas development phases or in the event archaeological materials are encountered during construction.

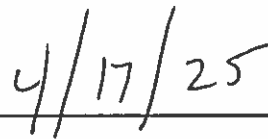
The effects of the Proposed Action would not violate any state or local laws. The state of Ohio has broad authority to regulate oil and gas development and production on private lands and the BLM cannot approve APDs that would conflict with, or contradict the authority vested in the state or in local laws, such as local authority over road maintenance activities.

Based on these considerations, and recognizing the substantial number of design features and protective measures available at the APD stage, I conclude that the selected alternative is not a major federal action significantly affecting the quality of the human environment and thus no EIS is required.

APPROVAL:



Leah Baker, Acting State Director



Date