

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO**

DINÉ CITIZENS AGAINST RUINING OUR)
ENVIRONMENT;)

SAN JUAN CITIZENS ALLIANCE;)

SIERRA CLUB; and)

WILDEARTH GUARDIANS;)

Plaintiffs,)

v.)

DAVID BERNHARDT, in his official capacity)
As Secretary of the United States Department of)
The Interior;)

UNITED STATES BUREAU OF LAND)
MANAGEMENT, an agency within the U.S.)
Department of the Interior;)

TIM SPISAK, in his official capacity as Acting)
New Mexico State Director of the United States)
Bureau of Land Management;)

RICK FIELDS, in his official capacity as Field)
Manager of the United States Bureau of Land)
Management Farmington Field Office;)

Federal Defendants.)

Case No. 1:19-cv-00703

PETITION FOR REVIEW OF
AGENCY ACTION



INTRODUCTION

1. Plaintiffs Diné Citizens Against Ruining Our Environment, San Juan Citizens Alliance, Sierra Club, and WildEarth Guardians (collectively, “Citizen Groups”) bring this action for declaratory and injunctive relief to challenge the Federal Defendants United States Bureau of Land Management, *et al.*’s, (collectively “BLM”) decisions to approve at least 255 applications for permit to drill (“APDs”) into the Mancos Shale/Gallup formations (“Mancos Shale”), in accord with the Administrative Procedure Act (“APA”), 5 U.S.C. §§ 701 *et seq.*, for violations of the National Environmental Policy Act (“NEPA”), 42 U.S.C. §§ 4321 *et seq.* The specific final agency actions challenged herein are listed in Appendix A at the end of this Petition for Review. While BLM’s decisions are, individually, problematic, they also evidence a continuing pattern of approving individual drilling permits into the Mancos Shale through piecemeal, boilerplate environmental assessments (“EAs”), and without considering the cumulative impacts of development across the Greater Chaco Landscape.

2. BLM’s piecemeal approval of the challenged drilling permits is particularly problematic because oil and gas production from the Mancos Shale depends on the use of horizontal drilling and multi-stage hydraulic fracturing, or “fracking”—a technique that results in a far greater magnitude of impacts to water and air quality resources than traditional drilling practices. On May 7, 2019, the United States Court of Appeals for the Tenth Circuit held that BLM violated NEPA by failing to consider the cumulative impacts from 3,960 foreseeable Mancos Shale wells BLM projects will be developed over the next twenty years. *Diné C.A.R.E. v. Bernhardt*, 923 F. 3d 831 (10th Cir. 2019). That case challenged hundreds of individual

environmental assessments (“EAs”) that BLM relied upon for its approval of Mancos Shale wells from 2012 through 2016. Since the last amended complaint for that case in September 2016, BLM has continued approving Mancos Shale wells without considering the cumulative impacts of past, present, and foreseeable development across the Greater Chaco Landscape. The present case challenges the approval of 255 additional Mancos Shale drilling permits approved from 2016 to date, all of which suffer from the same deficient cumulative analysis as the permits vacated by the Tenth Circuit in *Diné C.A.R.E. v. Bernhardt*.

3. BLM has recognized that the current Resource Management Plan and Final Environmental Impact Statement (“2003 RMP/EIS”) never anticipated or analyzed the impacts of the type of horizontal fracking technology necessary for developing Mancos Shale, which, in turn, requires an EIS-level plan amendment for complete analysis. On this basis, BLM is preparing an RMP Amendment and EIS for horizontal drilling and fracking in the Mancos Shale (“Mancos RMPA/EIS”) to analyze the impacts of developing Mancos Shale that have thus far been ignored. BLM initiated the amendment process in 2014 and has yet to release a draft of its NEPA analysis. Despite this ongoing process, and the adverse decision from the Tenth Circuit, BLM continues to approve full-scale development of Mancos Shale through individual drilling permits.

4. Mancos Shale development results in ongoing and significant environmental and public health impacts which have not been sufficiently analyzed, including from the use of vast quantities of water resources in an arid region and the increased emission of hazardous air pollutants. The Greater Chaco Landscape in northwestern New Mexico is home to Navajo and other communities which suffer the brunt of this harm, on top of a long legacy of exploitation

from federal development of uranium, coal, oil, and gas. As long ago as the 1970s, a National Academy of Sciences report dubbed this area and its people a “national energy sacrifice zone.” Coal, oil, and gas exploitation is still rampant and has left a heavy footprint on this arid, culturally-rich landscape.

5. Citizen Groups seek declaratory relief against the BLM, in accord with the APA, for BLM’s ongoing and arbitrary approval of drilling permits targeting the Mancos Shale in violation of NEPA, and that statute’s implementing regulations and policies, as alleged herein. Citizen Groups also seek to vacate the EAs and accompanying findings of no significant impact (“FONSI”) challenged herein, which is the presumptive remedy for such violations and is consistent with relief granted by the Tenth Circuit in *Diné C.A.R.E. v. Bernhardt*. Finally, Citizen Groups seek injunctive relief, pending BLM’s full compliance with NEPA, prohibiting the approval of new wells and oil and gas development infrastructure targeting or enabling Mancos Shale development. Such extraordinary relief is necessary given BLM’s demonstrated history and stated intention of continuing the authorization of Mancos Shale drilling permits despite adverse judicial precedent, and as necessary to preserve judicial resources.

6. If they prevail, Citizen Groups will seek an award of attorneys’ fees, costs, and other expenses pursuant to the Equal Access to Justice Act, 28 U.S.C. § 2412.

JURISDICTION & VENUE

7. This action arises under NEPA, 42 U.S.C. §§ 4321-4370h.

8. This Court has jurisdiction over this action pursuant to 28 U.S.C. § 1331, because the action raises a federal question. The Court has the authority to issue the requested declaratory and injunctive relief pursuant to 28 U.S. C. §§ 2201, 2202, and 5 U.S.C. §§ 705, 706.

9. This action reflects an actual, present, and justiciable controversy between the Citizen Groups and the Federal Defendants. Citizen Groups and their members will suffer adverse and irreparable injuries-in-fact to their legally protected interests in the affected area's environmental resources if BLM continues to violate federal laws as alleged herein. These injuries are concrete and particularized and fairly traceable to BLM's challenged decisions, providing the requisite personal stake in the outcome of this controversy necessary for this Court's jurisdiction.

10. The requested relief would redress Citizen Groups' actual, concrete injuries caused by the BLM's failure to comply with duties mandated by NEPA and the regulations promulgated pursuant thereto.

11. The challenged agency actions are final and subject to judicial review pursuant to 5 U.S.C. §§ 702, 704, & 706.

12. Citizen Groups have exhausted any and all available and required administrative remedies.

13. Venue in this Court is proper pursuant to 28 U.S.C. § 1391(b)(2) because the property that is the subject of the action—the portion of the Greater Chaco Landscape administered by the BLM's Farmington Field Office—is located in New Mexico. Venue is also proper under 28 U.S.C. § 1391(e)(1) because officers of the United States in New Mexico are defendants, a substantial part of the events and omissions giving rise to this case occurred in BLM offices located in New Mexico, Plaintiff WildEarth Guardians resides in New Mexico, and Plaintiffs Diné Citizens Against Ruining Our Environment, San Juan Citizens Alliance, and Sierra Club maintain offices in New Mexico.

PARTIES

14. Plaintiff DINÉ CITIZENS AGAINST RUINING OUR ENVIRONMENT (“Diné C.A.R.E.”) is an all-Navajo organization comprised of a federation of grassroots community activists in the Four Corners region of Arizona, New Mexico, and Utah who strive to educate and advocate for their traditional teachings derived from Diné Fundamental Laws. Diné C.A.R.E.’s goal is to protect all life in its ancestral homeland by empowering local and traditional people to organize, speak out, and assure conservation and stewardship of the environment through civic involvement, engagement and oversight in decisionmaking processes relating to tribal development, and oversight of government agencies’ compliance with all applicable environmental laws. Diné C.A.R.E. members live in, use, and enjoy the areas and landscapes, including cultural resources in the area, that are affected and harmed by oil and gas development authorized by Federal Defendants. Diné C.A.R.E. brings this action on its own behalf and on behalf of its adversely affected members.

15. Plaintiff SAN JUAN CITIZENS ALLIANCE is a grassroots organization dedicated to social, economic, and environmental justice in the San Juan Basin. San Juan Citizens Alliance organizes San Juan Basin residents to protect our water and air, our public lands, our rural character, and our unique quality of life while embracing the diversity of our region’s people, economy, and ecology. With longstanding efforts to address the impacts of oil and gas development to these interests, San Juan Citizens Alliance is deeply concerned that impacts from the continued development of our public lands will irreparably harm these treasured landscapes. San Juan Citizens Alliance members live in, use, and enjoy the areas and landscapes that are affected by oil and gas development authorized by Federal Defendants. San

Juan Citizens Alliance brings this action on its own behalf and on behalf of its adversely affected members.

16. Plaintiff SIERRA CLUB was founded in 1892 and is the nation's oldest grassroots environmental organization, with over 779,000 members nationwide, and 9,040 members in New Mexico. Sierra Club is dedicated to the protection and preservation of the environment. The Sierra Club's mission is to explore, enjoy and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments. The Sierra Club has a New Mexico chapter, known as the Rio Grande chapter. The Northern New Mexico Group of the Rio Grande chapter, centered at Santa Fe, presently has approximately 3,225 members. Sierra Club has members that use the Greater Chaco area for recreation such as hiking, climbing, backpacking, camping, fishing and wildlife viewing, as well as for business, scientific, spiritual, aesthetic, and environmental purposes.

17. Plaintiff WILDEARTH GUARDIANS is a non-profit membership organization based in Santa Fe, New Mexico, with offices throughout the West. WildEarth Guardians has more than 231,000 members and activists, some of whom live, work, or recreate on public lands on and near the APDs challenged herein. WildEarth Guardians and its members are dedicated to protecting and restoring the wildlife, wild places, and wild rivers of the American West. Towards this end, WildEarth Guardians and its members work to replace fossil fuels with clean, renewable energy in order to safeguard public health, the environment, and the Earth's climate.

18. The Citizen Groups' members use and enjoy the wildlands, wildlife habitat, rivers, streams, and healthy environment on BLM and other lands in New Mexico and across the

Greater Chaco Landscape, including in and around the Mancos Shale development area, for hiking, fishing, hunting, camping, photographing scenery and wildlife, wildlife viewing, aesthetic enjoyment, spiritual contemplation, religious practices and ceremonies, and engaging in other vocational, scientific, and recreational activities. The Citizens Groups' members derive recreational, inspirational, spiritual, religious, scientific, educational, and aesthetic benefit from their activities on lands in and around the Mancos Shale development area. The Citizen Groups' members intend to continue to use and enjoy BLM and other New Mexico public lands, cultural resources, wildlands, wildlife habitat, rivers, streams, and healthy environments in and around the Mancos Shale development area frequently and on an ongoing basis long into the future, including during this summer, fall, winter, and spring.

19. The Citizen Groups and their members have a procedural interest in BLM's full compliance with NEPA's planning and decisionmaking processes for authorizing oil and gas development on public lands within the San Juan Basin in general and in and around the Mancos Shale development area in particular, and in BLM's attendant duty to substantiate its decisions in the record for these authorizations.

20. The aesthetic, recreational, scientific, educational, spiritual, religious, and procedural interests of the Citizens Groups and their members who use lands in and around the Mancos Shale development area have been adversely affected and irreparably injured by the BLM's oil and gas development decisionmaking processes in the San Juan Basin. These are actual, concrete injuries caused by BLM's failure to comply with mandatory duties under NEPA. The injuries would be redressed by the relief sought.

21. Federal Defendant DAVID BERNHARDT is sued in his official capacity as the Secretary of the United States Department of the Interior, and is responsible for managing the public lands, and resources, and public mineral estate of the United States, including lands and resources in New Mexico and, in that official capacity, is responsible for implementing and complying with federal law, including the federal laws implicated by this action.

22. Federal Defendant UNITED STATES BUREAU OF LAND MANAGEMENT is an agency within the United States Department of the Interior and is responsible managing more than 245 million acres of public lands in the United States and nearly 700 million acres of federal subsurface mineral estate, including lands and resources in New Mexico.

23. Federal Defendant TIM SPISAK is sued in his official capacity as Acting New Mexico State Director of the Bureau of Land Management, and is responsible for managing public lands under BLM authority, including lands and resources in New Mexico subject to the decisions at issue herein, in accordance with NEPA and other federal laws and regulations.

24. Federal Defendant RICK FIELDS is sued in his official capacity as Field Manager of the Farmington Field Office of the U.S. Bureau of Land Management, and is responsible for managing public lands under BLM authority, including lands and resources in the Farmington Field Office administrative area subject to the decisions at issue herein, in accordance with NEPA and other federal laws and regulations.

STATUTORY BACKGROUND

I. National Environmental Policy Act

25. NEPA is our “basic national charter for the protection of the environment.” 40 C.F.R. § 1500.1. NEPA recognizes that “each person should enjoy a healthful environment,” and

was enacted to ensure that the federal government uses all practicable means to “assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings,” and to “attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences,” among other policies. 42 U.S.C. § 4331(b).

26. NEPA regulations explain, in 40 C.F.R. §1500.1(c), that:

Ultimately, of course, it is not better documents but better decisions that count. NEPA’s purpose is not to generate paperwork – even excellent paperwork – but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.

27. NEPA regulations direct that “Agencies shall integrate the NEPA process with other planning at the earliest possible time to ensure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts.” 40 C.F.R. § 1501.2.

28. To accomplish this purpose, NEPA requires that all federal agencies prepare a “detailed statement” regarding all “major federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(C). This detailed statement, known as an environmental impact statement (“EIS”), must, among other things, describe the “environmental impact of the proposed action,” and evaluate alternatives to the proposal. *Id.*

29. To determine whether a proposed action significantly affects the quality of the human environment, and whether an EIS is therefore required, regulations promulgated by the Council on Environmental Quality (“CEQ”) allow for preparation of an environmental

assessment (“EA”). Based on the EA, the federal agency either concludes its analysis with a finding of no significant impact (“FONSI”), or goes on to prepare a full EIS. 40 C.F.R. § 1501.4.

30. CEQ regulations require that every agency prepare supplements to any previously completed environmental impact statements if there are “significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.” 40 C.F.R. § 1502.9(c)(1)(ii).

31. Federal agencies must “[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures.” 40 C.F.R. § 1506.6(a). To the fullest extent possible, agencies must “[e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment.” 40 C.F.R. § 1500.2(d). At a minimum, agencies must “[p]rovide public notice of . . . the availability of environmental documents so as to inform those persons and agencies who may be interested or affected.” 40 C.F.R. § 1506.6(b). “Environmental documents” include EISs, EAs, FONSI, and notices of intent to prepare and/or consider EISs. 40 C.F.R. § 1508.10. The NEPA regulations stress that “NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken” and that “public scrutiny [is] essential to implementing NEPA.” 40 C.F.R. § 1500.1(b).

32. Pending completion of an EIS, an agency, *inter alia*, “shall not undertake in the interim any major Federal action covered by the program which may significantly affect the quality of the human environment unless such action: (1) Is justified independently of the program; (2) Is itself accompanied by an adequate environmental impact statement; and (3) Will not prejudice the ultimate decision on the program. Interim action prejudices the ultimate

decision on the program when it tends to determine subsequent development or limit alternatives.” 40 C.F.R. § 1506.1(c).

II. Administrative Procedure Act

33. The APA provides a right to judicial review to any “person suffering legal wrong because of agency action.” 5 U.S.C. § 702. Actions that are reviewable under the APA include final agency actions “for which there is no other adequate remedy in a court.” *Id.*

34. Under the APA, a reviewing court shall, *inter alia*, “hold unlawful and set aside agency action . . . found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A). Agency actions may also be set aside in other circumstances, such as where the action is “without observance of procedure required by law.” 5 U.S.C. § 706(2)(B)-(F).

STATEMENT OF FACTS

I. Environmental Impacts of Fracking in the Mancos Shale

35. Hydraulic fracturing, or “fracking,” is an oil and gas drilling “stimulation” technique involving the high-pressure injection of large quantities of water, proppants (typically sand), and chemical additives into the wellbore to fracture the targeted geologic formations in order to enhance the release of oil and natural gas. Some variation of oil and gas stimulation has been used in the San Juan Basin since the 1950s. However, these early stimulation techniques were vastly different from the type of large-volume multi-stage fracking techniques currently employed. Despite the long history of fracking in the San Juan Basin, BLM’s currently applicable RMP/EIS, finalized in 2003, does not discuss, let alone analyze or mitigate, the potential cumulative impacts of hydraulic fracturing.

36. As recently as BLM's 2001 reasonably foreseeable development scenario ("2001 RFDS"), BLM stated that horizontal fracking was theoretically possible but not then applied in the San Juan Basin due to poor economics. Over the last 10 years, advances in multi-stage and multi-zone fracking have enabled development that was previously uneconomic, including in the San Juan Basin. Specifically, improvements and innovations in horizontal drilling technology and multi-lateral hydraulic fracturing have improved the economics of developing the Mancos Shale.

37. In 2014, BLM released a final report for Reasonably Foreseeable Development ("RFDS") for Northern New Mexico to capture "recent successes in the exploration and development for oil in U.S. shale plays," and, in particular, increased interest in the Mancos Shale formation. The 2014 RFDS predicted that operators would drill an additional 3,960 Mancos Shale wells from 2014 onward, requiring additional fresh water for stimulation at an average of 3.13 acre-feet per well (1.02 million gallons).

38. In 2018, BLM released a new RFDS for oil and gas activities in preparation for the Mancos Shale RMPA/EIS. The 2018 RFDS projected as a baseline scenario that 3,200 new wells will be developed from 2018 onward, which will require an estimated 60 million barrels (2.5 billion gallons) of water. The 2018 RFDS continued to use a mean water volume for fracturing horizontal wells of 1,020,000 gallons per well, but the RFDS also recognizes that necessary water volumes will increase as new technology allows operators to drill longer laterals.

39. Hydraulic fracturing of horizontal shale wells is generally performed in stages. Horizontal wells may range from 1,000 feet to more than 5,000 feet in lateral length. During the fracking process, within the horizontal portion of the wellbores, a series of charges are set

through the producing interval to perforate the production liner and casing and create small fractures in the targeted oil and gas formation. A fracking fluid mixture is then injected into the formation, at high pressure, to create cracks or fractures. The fluids open or enlarge fractures that typically extend several hundred feet, but can extend more than 1,000 feet away from the well bore.

40. In the first several days or weeks after fracking, the well pressure is released and a portion of the fracking fluid—known as “flowback”—returns to the surface of the wellbore. Over longer time periods, water naturally present in the targeted formation—known as “produced water”—continues to flow through the well to the surface. The flowback and produced water typically contains the injected chemicals as well as naturally occurring substances such as brines, heavy metals, radionuclides, and hydrocarbons. Very small quantities of some toxic fracking chemicals, such as benzene, are capable of contaminating millions of gallons of water.

41. Horizontal fracking also requires the development of new roads, gathering pipelines and other infrastructure. Moreover, each well typically requires thousands of truck trips to transport the water, nitrogen, and chemicals necessary for well completion and subsequent disposal of flowback and produced water.

42. There are a number of significant environmental and human health impacts associated with horizontal fracking. NEPA requires that BLM undertake a hard look analysis of these direct, indirect, and cumulative impacts before there are “any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” 42 U.S.C. § 4332(2)(C)(v); *see also* 40 C.F.R. §§ 1501.2, 1502.5(a).

43. BLM has recognized that “[a]s full-field development occurs [as a result of new horizontal drilling technology], especially in the shale oil play, additional impacts may occur that previously were not anticipated in the [2001] RFDS or analyzed in the current 2003 RMP/EIS, which will require an EIS-level plan amendment and revision of the RFDS for complete analysis of the Mancos Shale/Gallup Formation.” 79 Fed. Reg. 10,548 (Feb. 25, 2014). Notably:

- a. The 2001 RFDS is not a NEPA or “environmental document” as that term is defined by NEPA (*see* 40 C.F.R. § 1508.10); and
- b. The 2003 RMP/EIS did not take a hard look at the specific impacts of oil and gas development of the Mancos Shale using horizontal drilling and multi-stage fracking, nor did it consider alternatives specific to the Mancos Shale formation or protecting the environment and people living above the Mancos Shale formation.

44. Fracking fluid is a conglomeration of various chemicals and compounds, many of which are highly toxic. Although BLM points out that chemicals typically make up just 1% of the total volume of fracking fluid, when millions of gallons of water are being used, the amount of chemicals per fracking operation is very large. For example, the EPA has noted that for a 3-million-gallon fracking operation, 15,000 to 60,000 gallons of chemical additives are generally used. Many of these fracking fluid chemicals are known to be toxic to humans and wildlife, and several are known to cause cancer. Toxic substances used in fracking include petroleum distillates such as kerosene and diesel fuel (which contain benzene, ethylbenzene, toluene, xylene, naphthalene and other chemicals); polycyclic aromatic hydrocarbons; methanol; formaldehyde; ethylene glycol; glycol ethers; hydrochloric acid; and sodium hydroxide.

45. Given the use of such chemicals and their presence in flowback and produced water, the contamination of domestic and agricultural water supplies from hydraulic fracturing is a serious concern. Moreover, if the wellbore is not properly sealed, cased, or its integrity is otherwise compromised, chemicals and other toxic substances can escape into groundwater, soil, or the air as they move through the well. The fracking fluid can also migrate underground, through natural and induced fractures, and lead to contamination of groundwater. Active and abandoned wells can serve as pathways for the migration of contaminants into water sources. Fracking fluid or flowback spills can occur on the surface during storage, transportation and/or disposal. Flowback and produced water brought to the surface also contain volatile organic compounds (“VOCs”) and other Hazardous Air Pollutants (“HAP’s”), which vaporize and contribute to air pollution.

46. According to the EPA, the oil and gas industry is the largest industrial source of VOC emissions, a group of chemicals that contribute to ground-level ozone formation. These emissions include air toxics such as benzene, ethylbenzene, and n-hexane, which are “pollutants known, or suspected of causing cancer and other serious health effects.” The EPA reports that the oil and gas industry: “emits 2.2 million tons of VOCs, 130,000 tons of air toxics, and 16 million tons of greenhouse gases (methane) each year (40% of all methane emission in the U.S.). The industry is one of the largest sources of VOCs and sulfur dioxide emissions in the United States.”

47. In recent years, San Juan Basin air quality monitoring has seen elevated levels for the 8-hour ozone National Ambient Air Quality Standard (“NAAQS”). Exposure to ozone is a serious concern as it can cause or exacerbate respiratory health problems, including shortness of

breath, asthma, chest pain, coughing, decreased lung function and even long-term lung damage, all of which can contribute to premature death. There is no room for growth in emissions that contribute to these harmful levels of ozone pollution in the San Juan Basin, in particular nitrogen oxides (“NO_x”) and VOCs. Any increase in ozone precursor emissions will exacerbate the negative health effects of ozone in the region. Expanded development into the Mancos Shale has the potential to significantly increase NO_x and VOC emissions. As stated by the Office of Surface Mining in their Draft EIS for the Four Corners Power Plant, San Juan County, New Mexico, has a particularly vulnerable population with high incidence of respiratory disease:

San Juan County has a higher incidence of chronic lower respiratory disease (CLRD) comprised of chronic bronchitis, asthma, and emphysema compared to New Mexico or the rest of the United States. Another study found that elevated levels of ozone in San Juan County were linked to incidence of asthma-related medical visits. The study found that San Juan County Residents are 34 percent more likely to have asthma-related medical visits after 20 parts per billion increases in local ozone levels.

48. Fine particulate matter (“PM_{2.5}” or particles with a diameter of 2.5 micrometers or less) is another potential source of major health impacts in the San Juan Basin, of particular concern here because increased development leads to fugitive dust created by increased truck traffic on unpaved roads. PM_{2.5} can become lodged deep in the lungs or can enter the blood stream, worsening asthma and causing premature death in people with heart and lung disease. Even PM_{2.5} concentrations lower than the current NAAQS are a concern for human health.

49. Even when the target of development is oil, hydraulic fracturing results in the release of associated gas, predominantly methane. As the primary ingredient of natural gas, methane is an energy resource that could otherwise be used to heat homes, schools, and businesses. Associated gas is commonly wasted through venting or flaring, as well as fugitive leaks, contributing significantly to global warming. The Nobel-prize winning Intergovernmental

Panel on Climate Change (“IPCC”) has identified the heat-trapping effect of fossil methane as 36 times more potent than carbon dioxide over a 100-year period and 87 times more potent over a 20-year period, underscoring the importance of keeping methane out of the atmosphere.

50. In September 2014, scientists from the University of Michigan, NASA’s Jet Propulsion Laboratory, Los Alamos National Laboratory, and the California Institute of Technology published the results of a study of atmospheric methane concentrations in the U.S. The study analyzed methane concentrations at a regional scale using both space-based and earth-based measurements. This study identified what it described as a methane “hot spot” over the San Juan Basin. Total oil and gas methane emissions in the San Juan Basin that have been reported to the U.S. EPA Greenhouse Gas Reporting Program were 330,000 metric tons for 2012. Reported methane emissions have grown by over 10% with a total for 2013 of almost 370,000 metric tons. The “hot spot” study conducted simulations of methane emissions for the region for 2012 to estimate what emissions rate would correspond to observed atmospheric methane concentrations. The simulations resulted in average methane emissions from all sources in the San Juan Basin of 590,000 metric tons per year. Operators reported only 330,000 metric tons of methane emissions to the U.S. EPA Greenhouse Gas Reporting Program in 2012. Reported methane emissions grew by over 10% in 2013, with a total of almost 370,000 metric tons reported. Continued expansion of Mancos Shale development has the potential to significantly increase methane emissions in the San Juan Basin.

II. BLM’s Oil and Gas Planning and Management

51. Oil and gas development is only one of the multiple uses managed in accord with the Federal Land Policy and Management Act (“FLPMA”), 43 U.S.C. §§ 1701 *et seq.* FLPMA,

in 43 U.S.C. § 1732(b), provides that, “[i]n managing the public lands,” BLM “shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.” FLPMA, in 43 U.S.C. § 1701(a)(8), further provides that BLM must manage the public lands:

[I]n a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological 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.

52. BLM manages onshore oil and gas development through a three-phase process. Each phase is distinct, serves distinct purposes, and is subject to distinct rules, policies, and procedures.

53. In the first phase of oil and gas development, BLM prepares a Resource Management Plan (“RMP”) for a particular area of public lands. RMPs are prepared in accordance with FLPMA and FLPMA’s planning regulations, 43 C.F.R. §§ 1600 *et seq.*, with additional guidance from BLM’s Land Use Planning Handbook (H-1601-1) (hereafter “BLM Handbook”). An RMP anticipates and limits present and future use of public lands and associated resources by establishing management priorities, as well as guiding and constraining BLM’s implementation-stage management. With respect to oil and gas leasing decisions, the RMP determines which lands containing federal minerals will be open to leasing and under what conditions.

54. Underlying BLM’s assumptions regarding the pace and scope of oil and gas development for the duration of the RMP is a reasonably foreseeable development scenario (“RFDS”). An RFDS is not a NEPA or “environmental document” as that term is defined by

NEPA. 40 C.F.R. § 1508.10.

55. The BLM Handbook provides that “[t]he determination whether to amend or revise an RMP based on new proposals, circumstances, or information depends on (1) the nature of new proposals, (2) the significance of the new information or circumstances, (3) specific wording of the existing land use plan decisions, including any provisions for flexibility, and (4) the level and detail of the NEPA analysis.” The existence of any of these circumstances “suggests the need to revisit existing decisions and/or the NEPA analysis.”

56. BLM is further required to supplement its RMP/EIS if BLM makes substantial changes to the proposed action that are relevant to environmental concerns, or if there are significant new circumstances or information that are relevant to environmental concerns and bear on the proposed action or its impacts. 40 C.F.R. §§ 1502.9(c)(1)(i), (ii).

57. In the second phase of oil and gas development, BLM identifies the boundaries for lands it will offer for sale and proceeds to sell and execute leases for those lands through a lease sale. Leases are sold in accordance with 43 C.F.R. §§ 3120 *et seq.*

58. After a lease is issued, BLM may impose conditions of approval (“COAs”) that are delimited by the terms and conditions of the lease.

59. The third phase of oil and gas development occurs once a lease is issued, where the lessee is required to submit an application for permit to drill (“APD”), which the BLM must approve before the lessee may drill a well.

60. NEPA allows BLM to tier oil and gas decisionmaking at the APD phase to an analysis completed in an overarching RMP/EIS. 40 C.F.R. § 1508.28. Where specific issues in subsequent oil and gas decisionmaking processes are not covered in the RMP/EIS, BLM cannot

tier to the RMP/EIS. In such a case, a site-specific NEPA analysis must be prepared which includes analysis of all relevant impacts.

61. The BLM Handbook offers guidance regarding BLM's decisionmaking process at this final stage of oil and gas development, and provides that:

upon receipt of a proposal to develop an oil and gas field, the BLM would evaluate the proposal for conformance with the RMP. If the proposal is consistent with the reasonably foreseeable development analyzed in the RMP/EIS and the proposal is consistent with the RMP decisions, changes to the RMP/EIS are probably not necessary. In this instance, the BLM would work with the lease holders to obtain appropriate site-specific information, then prepare an activity-level EA or EIS to approve some or all of the wells in the field and set the stage for subsequent application for permit to drill approvals.

...

If the proposal exceeds the reasonably foreseeable development analyzed in the current RMP/EIS, a new reasonably foreseeable development scenario and NEPA analysis supplementing the RMP/EIS would be warranted. If the proposal exceeds and is substantially different from the reasonably foreseeable development analyzed in the RMP/EIS, and the new NEPA analysis could reasonably be expected to result in changes to RMP decisions, a plan amendment may also be warranted.

III. BLM's 2003 Resource Management Plan and 2001 Reasonably Foreseeable Development Scenario

62. In 2001, BLM released a 20-year Reasonably Foreseeable Development Scenario ("2001 RFDS") to support BLM's decisionmaking for the then pending Resource Management Plan ("2003 RMP") for the Farmington Field Office.

63. While BLM used the 2001 RFDS in the 2003 RMP decisionmaking process to project fluid mineral development for the New Mexico portion of the San Juan Basin, the RFDS is not a NEPA document subject to public comment and does not provide any analysis of environmental impacts for the projected development. The goal of the RFDS was simply to "determine the subsurface development supported by geological and engineering evidence, and

to further estimate the associated surface impact of this development in terms of actual wells drilled.”

64. With respect to development of the Mancos Shale, the 2001 RFDS provided: “existing Mancos Shale and Gallup Sandstone reservoirs are approaching depletion and are marginally economic. Most are not currently considered candidates for increased density development or further enhanced oil recovery operations. It is anticipated that many Mancos/Gallup wells will need to be plugged within the term of this RFD.”

65. The 2001 RFDS mentioned horizontal drilling as a possibility but ultimately dismissed it as not feasible:

Horizontal drilling is possible but not currently applied in the San Juan Basin due to poor cost to benefit ratio. If horizontal drilling should prove economically and technically feasible in the future, the next advancement in horizontal well technology could be drilling multi-laterals or hydraulic fracturing horizontal wells.... These techniques are currently complex and costly, and therefore typically inappropriate for most onshore U.S. reservoirs. Comprehensive engineering and geologic research will be required in the near future in order for these techniques to become viable within the 20-year time frame anticipated by this RFD.

66. The 2001 RFDS did consider the possibility of future production from the Mancos Shale, but stated that such development “would likely be achieved through addition of behind-pipe reserves in new and existing Dakota wells rather than drilling of new Mancos-specific wells,” concluding that, over the 20-year life of the 2001 RFDS it was possible that 300 exploration and development wells targeting Mancos Shale/Gallup Sandstone would be drilled using conventional vertical drilling techniques. However, the RFDS went on to explain that due to the commingling of multiple zones into a single well and further reductions to account for the proportion of wells on BLM’s federal lands, the potential for up to 300 Mancos Shale wells was

necessarily reduced to a maximum upside well count of 180 Mancos Shale wells.

67. The prospect of developing the Mancos Shale was so remote at the time that the 2003 RMP/EIS was issued it did not quantify or analyze potential Mancos Shale development at all, let alone consider alternatives to assess whether and how this development should proceed. In fact, nowhere in the 2003 RMP/EIS does BLM even mention the Mancos Shale. Nor does the 2003 RMP/EIS mention or analyze the type of horizontal drilling and hydraulic fracturing technology necessary to develop Mancos Shale. The public therefore had no opportunity during the 2003 RMP/EIS process to understand or provide input to help shape whether and how the Mancos Shale would be developed.

IV. BLM's Pending RMP Amendment and EIS to Address Fracking of Mancos Shale

68. On February 25, 2014, BLM posted a Federal Register Notice of Intent to prepare an RMP Amendment and EIS ("Mancos RMPA/EIS") for the Farmington Field Office, 79 Fed. Reg. 10,548 (Feb. 25, 2014), which provided in part:

The RMP amendment is being developed in order to analyze the impacts of additional development in what was previously considered a fully developed oil and gas play within the San Juan Basin in northwestern New Mexico.

Subsequent improvements and innovations in horizontal drilling technology and multi-stage hydraulic fracturing have enhanced the economics of developing this [Mancos Shale/Gallop Formation] stratigraphic horizon.

As full-field development occurs, especially in the shale oil play, additional impacts may occur that previously were not anticipated in the RFD or analyzed in the current 2003 RMP/EIS, which will require an EIS-level plan amendment and revision of the RFD for complete analysis of the Mancos Shale/Gallup Formation.

69. On or about May 28, 2014, Citizen Groups submitted scoping comments to BLM regarding the Mancos RMPA/EIS. These scoping comments included extensive technical information, reports, and legal analysis regarding critical resources, issues, and alternatives

necessary for consideration in BLM's decisionmaking process.

70. Among the issues they raised, Citizen Groups identified BLM's duty to suspend oil and gas leasing and development targeting the Mancos Shale pending completion of the Mancos RMPA/EIS, identifying the inherent prejudice and limitation of alternatives to the ultimate decision that would result from such action.

71. Citizen Groups further identified BLM's requirement to take a "hard look" at the cumulative impacts of Mancos Shale development and the need to consider impacts to certain resource values, including methane emissions and waste, water resources, and the resulting impacts on living communities.

72. On or about October 27, 2014, Citizen Groups submitted to BLM supplemental comments on the Mancos RMPA/EIS and a second request for the BLM to institute a moratorium on ongoing approvals of APDs authorizing horizontal fracking of the Mancos Shale.

73. Specifically, Citizen Groups identified BLM's inability to "tier" project-level APD analyses targeting Mancos Shale to the underlying 2003 RMP/EIS because that document did not analyze the impacts of such development or consider alternatives designed to assess whether and how that development should proceed. Citizen Groups also noted that the 2003 RMP/EIS did not analyze, amongst other things, impacts to air quality or surface and groundwater from horizontal drilling and multi-stage fracking in Mancos Shale, thereby precluding BLM's approval of drilling permits targeting Mancos Shale.

74. BLM subsequently reinitiated the scoping process for the Mancos RMPA "specific to the extension of analysis in that EIS to BIA decision-making where BIA manages mineral leasing and associated activities in the RMPA Planning Area." 81 Fed. Reg. 72,819 (Oct.

21, 2016).

75. On February 20, 2017 Citizen Groups submitted a second round of scoping comments to BLM.

76. In May 2017 BLM issued a scoping report for the Mancos RMPA/EIS.

77. To date, BLM has not released a draft of the Mancos RMPA/EIS.

V. Current Fracking of the Mancos Shale and BLM's Approval of APDs

78. On May 7, 2019, the United States Court of Appeals for the Tenth Circuit issued a decision in *Diné C.A.R.E. v. Bernhardt*, 923 F. 3d 831 (10th Cir. May 7, 2019), holding that BLM violated NEPA for failing to consider cumulative impacts prior to its authorization of hundreds of drilling permits within the Mancos Shale Formation. The Tenth Circuit remanded the case to the District Court with instructions to vacate the associated APDs for the EAs contained in the record, and to “remand those EAs to the BLM to conduct a proper NEPA analysis.” *Id.* at 859.

79. BLM continues to approve Mancos Shale APDs and, to the best of Citizen Groups' knowledge, has authorized at least 255 APDs in addition to those considered by the Court in *Diné C.A.R.E. v. Bernhardt*.

80. BLM has failed to provide sufficient information to the public to determine the exact number of APDs BLM has approved, and which of those wells have been drilled to date.

81. Industry-submitted APDs commonly seek approval for multiple wells in one permit. BLM has been routinely preparing individual, piecemeal EAs for each APD or small groups of APDs BLM receives, and then subsequently issuing a FONSI. BLM has failed to provide any aggregated NEPA analysis considering the full scale of ongoing connected and

cumulative development in the Mancos Shale.

82. As provided by BLM, agency policy is for APDs undergo an internal scoping process. Although BLM invites the public to participate in onsite inspections at the location of Mancos Shale drilling sites, NEPA documentation authorizing APD development is not made available for public review or comment. Because BLM has failed to provide sufficient information to the public, Citizen Groups do not know the exact number of APDs for fracking in the Mancos Shale that BLM has received, for which of those APDs BLM has completed corresponding NEPA documentation, and which APDs have been approved. BLM has also failed to provide the public with sufficient information regarding the commencement of ground-disturbing activity or the current status of those wells.

83. A list of all final agency decisions obtained by Citizen Groups for approving Mancos Shale APDs, as identified by NEPA identification number and organized by year, is provided at the end of this document as Appendix A. These decisions represent the final agency actions challenged herein.

84. All of the EAs obtained by Citizen Groups tier to and incorporate by reference the information and analysis contained in BLM's 2003 RMP/EIS.

85. All of the EAs for the APD authorizations listed in Appendix A contain virtually identical language and justification for reaching a FONSI. None of the EAs analyze the cumulative impacts of the proposed actions based on past, present, and foreseeable Mancos Shale development across the Greater Chaco Landscape.

86. The cumulative impacts analysis for air resources in the EAs for the approvals listed in Appendix A fail to provide an analysis of the past, present, and future impacts from all

reasonably foreseeable Mancos Shale development across the Greater Chaco Landscape.

87. The EAs listed in Appendix A fail to provide any meaningful analysis of the impacts of hydraulically fracturing the Mancos Shale. The EAs also fail to discuss or aggregate the current and foreseeable cumulative impacts from all APDs targeting Mancos Shale, or existing active oil and gas wells in the San Juan Basin that do not target horizontal drilling and hydraulic fracturing in the Mancos Shale.

88. BLM's approval of at least 255 APDs for fracking in the Mancos Shale has already led to substantial impacts to the environment and the people living in and visiting the area. The presence of drilling rigs, pump jacks, wells, flaring, tanks, pipelines, related infrastructure, and extensive new road systems have led to impacts including but not limited to degradation of visual landscapes, increased air pollution, increased noise pollution, reduced recreational opportunities, reduced opportunities for solitude and spiritual use of the land, increased safety hazards, and significantly increased truck traffic.

CLAIM FOR RELIEF

(Violation of NEPA—Failure to Analyze the Cumulative Impacts of Foreseeable Mancos Shale Fracking: Improper Tiering)

89. The allegations made in all preceding paragraphs are re-alleged and incorporated by this reference.

90. Pursuant to NEPA and NEPA's implementing regulations, BLM must take a hard look at the direct, indirect, and cumulative environmental consequences of a proposed action. 42 U.S.C. §§ 4332(2)(C)(i)-(v); 40 C.F.R. §§ 1502.14(a), 1502.16, 1508.7, 1508.8, and 1508.14.

91. BLM is required to provide a hard look analysis of these impacts before there are

“any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” 42 U.S.C. § 4332(2)(C)(v); *see also* 40 C.F.R. §§ 1501.2, 1502.5(a).

92. Cumulative impacts from current and foreseeable fracking in the Mancos Shale include the combined impact of oil and gas development with other past, present and reasonably foreseeable development in the area, including but not limited to the cumulative impacts to air quality from the emission of criteria pollutants, and cumulative impacts to surface and groundwater resources and water quantity.

93. When BLM approved the APDs for Mancos Shale fracking challenged herein and listed in Appendix A, it did not conduct any analysis of fracking’s impacts on the environment. Instead, BLM purported to tier to an analysis of environmental impacts from conventional oil and gas development in the 2003 RMP EIS.

94. BLM’s attempts to tier to the 2003 EIS were arbitrary and capricious because that EIS never analyzed the impacts of fracking in the Mancos Shale. BLM has done no analysis of environmental impacts from this extraction technology being currently employed in the Mancos Shale.

95. BLM’s approvals of APDs listed in Appendix A failed to take a hard look or to fully analyze the cumulative environmental impacts of Mancos Shale fracking and were therefore arbitrary, capricious, an abuse of discretion, in excess of statutory authority and limitations, short of statutory right, and not in accordance with the law and procedures required by law. 5 U.S.C. §§ 706(2)(A), (C), (D).

RELIEF REQUESTED

WHEREFORE, Plaintiff Citizen Groups respectfully request that this Court:

A. Declare that BLM's approvals challenged herein allowing horizontal drilling and hydraulic fracturing in the Mancos Shale to date violate NEPA;

B. Vacate BLM's approvals of all EAs and FONSI's challenged herein which approve horizontal drilling and hydraulic fracturing in the Mancos Shale;

C. Enjoin BLM from approving any pending or future APDs that permit horizontal drilling or hydraulic fracturing in the Mancos Shale formation pending full compliance with NEPA;

F. Retain continuing jurisdiction of this matter until BLM fully remedies the violations of law complained of herein;

G. Award the Citizen Groups their fees, costs, and other expenses as provided by applicable law;

H. Provide any further relief that the Court views as just and equitable.

Respectfully submitted this 1st day of August 2019,

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APPENDIX A. Final Agency Actions Challenged Herein
APDs relying on the following EAs and Findings of No Significant Impact:

2015

DOI-BLM-NM-F010-2015-0161-EA
DOI-BLM-NM-F010-2015-0163-EA
DOI-BLM-NM-F010-2015-0220-EA

2016

DOI-BLM-NM-F010-2016-0007-EA
DOI-BLM-NM-F010-2016-0054-EA
DOI-BLM-NM-F010-2016-0229-EA
DOI-BLM-NM-F010-2016-0251-EA
DOI-BLM-NM-F010-2016-0252-EA
DOI-BLM-NM-F010-2016-0260-EA

2017

DOI-BLM-NM-F010-2017-0015-EA
DOI-BLM-NM-F010-2017-0017-EA
DOI-BLM-NM-F010-2017-0018-EA
DOI-BLM-NM-F010-2017-0028-EA
DOI-BLM-NM-F010-2017-0029-EA
DOI-BLM-NM-F010-2017-0038-EA
DOI-BLM-NM-F010-2017-0039-EA
DOI-BLM-NM-F010-2017-0042-EA
DOI-BLM-NM-F010-2017-0057-EA
DOI-BLM-NM-F010-2017-0058-EA
DOI-BLM-NM-F010-2017-0085-EA
DOI-BLM-NM-F010-2017-0095-EA
DOI-BLM-NM-F010-2017-0103-EA
DOI-BLM-NM-F010-2017-0115-EA
DOI-BLM-NM-F010-2017-0126-EA

2018

DOI-BLM-NM-F010-2018-0016-EA
DOI-BLM-NM-F010-2018-0017-EA
DOI-BLM-NM-F010-2018-0035-EA
DOI-BLM-NM-F010-2018-0042-EA
DOI-BLM-NM-F010-2018-0047-EA
DOI-BLM-NM-F010-2018-0063-EA
DOI-BLM-NM-F010-2018-0103-EA

2019

DOI-BLM-NM-F010-2019-0047-EA

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing PETITION FOR REVIEW was served on all counsel of record through the Court's ECF system on this 1st day of August 2019.

/s/ Kyle Tisdell