

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

DINÉ CITIZENS AGAINST RUINING	)	
OUR ENVIRONMENT, SAN JUAN	)	Case No. 1:15-cv-0209-WJ-SCY
CITIZENS ALLIANCE, WILDEARTH	)	
GUARDIANS, and NATURAL	)	
RESOURCES DEFENSE COUNCIL,	)	
	)	
Plaintiffs,	)	SUPPLEMENTAL AND
v.	)	AMENDED PETITION FOR
	)	REVIEW OF AGENCY ACTION
	)	
SALLY JEWELL, in her official capacity as	)	
Secretary of the United States Department of	)	
the Interior, UNITED STATES BUREAU	)	
OF LAND MANAGEMENT, an agency	)	
within the United States Department of the	)	
Interior, and NEIL KORNZE, in his official	)	
capacity as Director of the United States	)	
Bureau of Land Management,	)	
	)	
Defendants.	)	
	)	

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**INTRODUCTION**

1. Plaintiffs Diné Citizens Against Ruining Our Environment, San Juan Citizens Alliance, WildEarth Guardians, and Natural Resources Defense Council (collectively, “Citizen Groups”) bring this action for declaratory and injunctive relief to challenge the United States Bureau of Land Management, *et al.*’s, (“BLM”) decisions to approve at least 239 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.*, and the National Historic Preservation Act (“NHPA”), 16 U.S.C. §§ 470 *et seq.* The specific final agency actions challenged herein are listed in Appendix A at the end of this Amended Petition for Review. While BLM’s decisions are, individually, problematic, they also evidence an egregious pattern

and practice of approving individual drilling permits into the Mancos Shale through piecemeal, boilerplate environmental assessments (“EAs”). Plaintiffs therefore also challenge, in accord with the APA, BLM’s pattern and practice of approving individual drilling permits for violating the fundamental requirements of NEPA and the NHPA.

2. BLM’s piecemeal approval of drilling permits is problematic given the practice of hydraulic fracturing, or “fracking,” that is used in and enables the drilling of oil and gas wells targeting Mancos Shale. The agency 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. BLM is, on this basis, preparing a 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. Nevertheless, BLM has begun full-scale development of Mancos Shale and has authorized at least 239 individual drilling permits for extraction of crude oil by purporting to tier to the 2003 RMP/EIS.

3. Horizontal drilling and multi-stage fracking of the Mancos Shale have oil and gas development impacts that are very different in both kind and intensity from previously employed drilling techniques in the San Juan Basin. Moreover, horizontal drilling and multi-stage fracking have altered the economics of drilling, making it, in the Mancos Shale, possible in the first place or at least intensifying the scale of reasonably foreseeable development. Fundamentally, there is great risk of significant environmental and public health impacts caused by hydraulic fracking and the intensity of development that such fracking enables, including the contamination of

surface and groundwater supplies, the emission of hazardous air pollutants and potent greenhouse gases, as well as the potential to threaten the area's rich cultural resources.

4. The San Juan Basin in northwestern New Mexico encompasses one of the richest and most extensive prehistoric Native American communities, comprising more than 100 Great Houses—the largest alone containing more than 400 rooms—together connected by hundreds of miles of ancient ceremonial roads. At the center of this 40,000 square-mile area lie well-preserved, thousand year-old standing masonry structures located in the Chaco Culture National Historical Park, a United Nations World Heritage Site. While the Chaco Culture National Historical Park represents the heart of these prehistoric communities, numerous masonry Great Houses and their associated cultural sites, as well as most of the ancient ceremonial roads, lie well outside the Park's boundaries, underscoring the Basin's broader cultural heritage.

5. This Greater Chaco Area is also home to contemporary, living Navajo and other communities that have been heavily impacted for more than a century by 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 as a “national energy sacrifice zone.” Coal, oil, and gas exploitation is rampant and has left a heavy footprint on this arid, culturally-rich landscape.

6. The area is also home to unique geology, stunning landscapes, and diverse plant and animal life, much of this on public lands. These resources are therefore highly valued from an ecological and natural resource perspective. Contemporary native communities utilize this treasured landscape for ceremonial and spiritual practices, and regard the entire ancestral landscape as culturally significant. Indeed, it is the intertwined ecological and cultural aspects of the area that give rise to a stark clash between the land, water, air, and peoples of the San Juan Basin with past, present, and reasonably foreseeable oil and gas development.

7. BLM has not been transparent in providing the public with adequate information to assess or comment on the approval of Mancos Shale fracking permits. To the best of the Citizens Groups' knowledge, BLM has approved at least 239 APDs that authorize horizontal drilling and fracking and associated infrastructure in the Mancos Shale. The agency has, however, not provided information necessary to determine the number of approved APDs that have thus far been completed or where ground-disturbing activity has commenced.

8. BLM's approval of drilling permits in the Basin and the agency's consequent violations of NEPA and the NHPA are premised on several agency transgressions including the agency's failure to:

- a. Complete the Mancos RMPA/EIS prior to authorizing drilling permits targeting Mancos Shale, or supplement the 2003 RMP/EIS based on significant new circumstances and information;
- b. Prepare an EIS or provide a convincing statement of reasons to justify its decision to forego an EIS prior to authorizing numerous drilling permits targeting the Mancos Shale;
- c. Take a hard look at the direct, indirect, and cumulative impacts of developing the Mancos Shale; and
- d. Consult with the New Mexico State Historic Preservation Officer and the public over the impacts of fracking on historic and cultural properties.

9. Further, BLM's APD approvals unlawfully prejudice and limit the choice of alternatives for the agency's pending revision the Mancos RMPA/EIS. By approving the construction of drilling infrastructure within the San Juan Basin, BLM prejudices and limits the efficacy of mitigation measures, including controls on the timing, pace, and location of

development, to protect the Basin's ecological and cultural resources, as well as controls that ameliorate climate, air, water, and public health impacts.

**10.** Citizen Groups seek declaratory relief against the BLM in accord with the APA for their unlawful approval of, and unlawful pattern and practice of approving, drilling permits targeting the Mancos Shale in violation of NEPA and the NHPA, and those statutes' implementing regulations and policies, as alleged herein. Citizen Groups also seek injunctive relief prohibiting, pending completion of the Mancos Shale RMPA/EIS:

- a. Development of approved APDs targeting Mancos Shale for those permits where ground-disturbing activity has not yet commenced;
- b. Development of approved APDs that have been drilled and shut in but not yet completed;
- c. Approval of new wells and oil and gas development infrastructure targeting or enabling Mancos Shale development; and
- d. Other such relief that the Citizen Groups seek to protect against oil and gas development impacts.

**11.** 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**

**12.** Jurisdiction is proper in this Court pursuant to 28 U.S.C. § 1331 because this civil action arises under the laws of the United States.

**13.** This action reflects an actual, present, and justiciable controversy between the Citizen Groups and the Federal Defendants; the Citizen Groups and their members will suffer adverse and irreparable injuries-in-fact to their legally protected interests in the environmental

and cultural 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.

**14.** The requested relief is authorized by 28 U.S.C. §§ 2201, 2202 and 5 U.S.C. §§ 705, 706.

**15.** The requested relief would redress the actual, concrete injuries to the Citizen Groups caused by the BLM's failure to comply with duties mandated by NEPA, NHPA, and the regulations promulgated pursuant to these federal statutes.

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

**17.** Citizen Groups have exhausted any and all available and requested administrative remedies.

**18.** Venue in this Court is proper pursuant to 28 U.S.C. § 1391(e). A substantial part of the events and omissions giving rise to the this case occurred in BLM offices located in New Mexico, and this case involves public lands and environmental interests located in New Mexico.

#### **PARTIES**

**19.** 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, 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 Defendants. Diné C.A.R.E. brings this action on its own behalf and on behalf of its adversely affected members.

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

**21.** Plaintiff WILDEARTH GUARDIANS is a non-profit membership organization based in Santa Fe, New Mexico, with offices throughout the West. Guardians has more than 65,000 members and activists, some of whom live, work, or recreate on public lands on and near the APDs challenged herein. Guardians and its members are dedicated to protecting and restoring the wildlife, wild places, and wild rivers of the American West. Towards this end, 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.

**22.** Plaintiff NATURAL RESOURCES DEFENSE COUNCIL (“NRDC”) is a non-profit environmental membership organization with more than 299,000 members throughout the United States. Approximately 3,360 of these members reside in New Mexico. NRDC members use and enjoy public lands in New Mexico, including lands managed by the Bureau of Land Management within the Farmington Field Office planning area. NRDC members use and enjoy these lands for a variety of purposes including recreation, solitude, and conservation of natural resources. NRDC has had a longstanding and active interest in the protection of public lands in New Mexico, the responsible development of oil and gas resources, and the protection of public health from environmental threats.

**23.** The Citizen Groups’ members use and enjoy the cultural resources, wildlands, wildlife habitat, rivers, streams, and healthy environment on BLM and other lands in New Mexico 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 this spring, summer, fall, and winter.

**24.** The Citizen Groups and their members have a procedural interest in BLM’s full compliance with NEPA and the NHPA’s planning and decisionmaking processes when



authorizing crude oil development on public lands within the San Juan Basin in general and in and around the Mancos Shale development area in particular, and BLM's attendant duty to substantiate its decisions in the record for these authorizations.

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

**26.** Defendant SALLY JEWELL is 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.

**27.** Defendant UNITED STATES BUREAU OF LAND MANAGEMENT is an agency within the United States Department of the Interior and is responsible for managing public lands and resources in New Mexico, including federal onshore oil and gas resources. In this managerial capacity, BLM is responsible for implementing and complying with federal law, including the federal laws implicated by this action.

**28.** Defendant NEIL KORNZE is Director of the Bureau of Land Management, an agency within the United States Department of the Interior, and is responsible for managing the public lands, 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.

## STATUTORY BACKGROUND

### I. National Environmental Policy Act

**29.** NEPA is our “basic national charter for the protection of the environment.” 40 C.F.R. § 1500.1. It was enacted—recognizing that “each person should enjoy a healthful environment”—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).

**30.** 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.

**31.** “Agencies shall integrate the NEPA process with other planning at the earliest possible time to insure 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.

**32.** 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 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.*

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

**34.** CEQ regulations provide that every agency shall prepare supplements to 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).

**35.** NEPA also requires that every agency must “study, develop, and describe alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources . . .” 42 U.S.C. § 4332(E). CEQ regulations provide that the alternatives evaluation “is the heart of the environmental impact statement.” 40 C.F.R. § 1502.14. It should “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public.” *Id.*

**36.** 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 EAs, EISs, FONSI, and notices of intents 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).

37. 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. National Historic Preservation Act**

38. The NHPA seeks to protect America’s historic heritage by establishing a federal-state partnership to administer such protection and by requiring that federal agencies take into account the impacts of their actions on historic properties. Careful compliance with the statutory and regulatory requirements of the NHPA assures that the loss of historic and cultural sites is kept to a minimum, and that adverse effects to such sites are adequately avoided, minimized, or mitigated.

39. The purposes of the NHPA are achieved by the “Section 106” consultation process that involves a dialogue between a proponent federal agency such as BLM with the State Historic Preservation Officer (“SHPO”), the public, and Indian Tribes. 16 U.S.C. § 470f.

**40.** The NHPA imposes the requirement on federal agencies to “take into account the effect[s] of [their] Undertaking[s] on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.” 16 U.S.C. § 470f.

**41.** The NHPA regulations require that a federal agency first establish whether a proposed action is an undertaking subject to Section 106 consultation and, if so, whether it is the type of action likely to affect historic properties. 36 C.F.R. § 800.3.

**42.** If an agency action is an undertaking subject to Section 106 consultation, the first step in the consultation process is for the agency to define the Area of Potential Effects (“APEs”) for the action, which the NHPA regulations define as:

the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties . . . The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

36 C.F.R. § 800.16(d).

**43.** The federal agency must make a “reasonable and good faith effort” to identify historic and cultural properties within the Area of Potential Effects. 36 C.F.R. § 800.4(b)(1).

**44.** The federal agency is required to consult with Indian Tribes and the New Mexico SHPO as to the results of its identification efforts, how the undertaking might adversely affect historic and cultural sites within the APEs, and resolution of adverse effects to historic and cultural sites. 36 C.F.R. §§ 800.4(b), 800.5(a), 800.6(a).

**45.** The federal agency must analyze all adverse effects to historic and cultural sites within the APEs including “reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.” 36 C.F.R. § 800.5(a)(1). Adverse effects are not limited to physical destruction of a historic or cultural site but also include, *inter alia*, “[c]hange of the . . . physical features within the property’s setting that

contribute to its historic significance” and “introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historical features.” *Id.* at § 800.5(a)(2)(v).

**46.** A Federal agency, like BLM, can establish a program alternative for complying with the NHPA Section 106 consultation requirements listed in Subpart B of the regulation. 36 C.F.R. §§ 800.3(a)(2), 800.14. In doing so, however, BLM must consult with a number of entities including the New Mexico SHPO, Indian Tribes, and the Advisory Council on Historic Preservation regarding the procedures in the program alternative, must seek public input on the program alternative, and must get approval from the Advisory Council on Historic Preservation to use the program alternative in lieu of the Subpart B regulations.

**47.** BLM has been approved the Advisory Council on Historic Preservation to use a program alternative in the San Juan Basin. Known as the “Protocol Agreement” between BLM and the New Mexico SHPO, BLM may use the alternative procedures outlined in the Protocol to comply with the Section 106 consultation requirements. However, BLM cannot use the Protocol Agreement—and must instead meet its Section 106 consulting requirements pursuant to Subpart B of the regulations—for any undertaking subject to unusual public attention or involving strongly opposing viewpoints.

### **III. Administrative Procedure Act**

**48.** The APA provides a right to judicial review for 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.*

**49.** 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

50. 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 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 are vastly different from the type of large-volume multi-stage fracking techniques currently employed. Despite this long history of fracking in the San Juan Basin, BLM’s current 2003 RMP does not discuss, let alone analyze or mitigate, the potential direct, indirect, or cumulative impacts of hydraulic fracturing.

51. As recently as BLM’s 2001 reasonably foreseeable development scenario (“2001 RFDS”), the agency stated that horizontal fracking is theoretically possible but not currently 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 previously was uneconomic, including in the San Juan Basin. Specifically, improvements and innovations in horizontal drilling technology and multi-lateral hydraulic fracturing have enhanced the economics of developing the Mancos Shale.

52. Hydraulic fracturing of horizontal shale wells is generally performed in stages. Lateral lengths in horizontal wells for development may range from 1,000 feet to more than

5,000 feet. 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 to create small fractures in the 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.

**53.** In the first several days to 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.

**54.** 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.

**55.** There are a number of significant environmental, cultural, and human health impacts associated with horizontal fracking. BLM is required to provide 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).



**56.** 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, or consider alternatives specific to the Mancos Shale formation and to the surface environment and people living above the Mancos Shale formation.

**57.** 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 the fracturing 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 fracturing operation, 15,000 to 60,000 gallons of chemical additives would generally be 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.

**58.** 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 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 also serve as pathways for the migration of contaminants into water sources. Spills of fracking fluids including the flowback 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.

**59.** According to the EPA, the oil and gas industry is the largest industrial source of emissions of VOCs, a group of chemicals that contribute to the formation of ground-level ozone. 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.”

**60.** In recent years, the San Juan Basin has seen elevated monitored 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 and coughing, decreased lung function and even long-term lung damage, all of which can contribute to premature deaths. 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<sub>x</sub>”) and VOCs. Any increase in emissions of ozone precursors will exacerbate the negative health effects of ozone in the region. The expansion of development into the Mancos Shale has the potential to significantly add to emissions of NO<sub>x</sub> and VOCs. 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.

**61.** On December 17, 2014, EPA published a proposal to revise NAAQS for ozone to 65 to 70 parts per billion (ppb) from the current 75 ppb. 79 Fed. Reg. 75234 (Dec. 17, 2014). This decision was driven by significant recent scientific evidence that the current standard of 75 ppb does not adequately protect public health and that ozone concentrations as low as 72 ppb can cause respiratory harm to young, healthy adults following exposure for less than eight hours. Under EPA’s proposed revised ozone standard, San Juan County would be in nonattainment of the NAAQS standard.

**62.** Fine particulate matter (“PM<sub>2.5</sub>” 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 of increased truck traffic on unpaved roads and the creation of fugitive dust. PM<sub>2.5</sub> can become lodged deep in the lungs or can enter the blood stream, worsening the health of asthmatics and even causing premature death in people with heart and lung disease. Even PM<sub>2.5</sub> concentrations lower than the current NAAQS are a concern for human health.

**63.** Even when the target of development is oil, hydraulic fracturing results in the release of associated gas production, predominantly methane. As the primary ingredient of

natural gas, the release of methane, whether through vented, flared, or fugitive emissions, results in the loss of an energy resource that could otherwise be used by 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 methane—or global warming potential (“GWP”)—as 34 times more potent than carbon dioxide over a 100-year period and 86 times more potent over a 20-year period, underscoring the importance of keeping methane out of the atmosphere. For fossil methane, the warming impact is even greater; methane is 36 times more potent than carbon dioxide over a 100-year period and 87 times more potent over a 20-year period.

**64.** In September 2014, scientists from the University of Michigan, NASA’s Jet Propulsion Laboratory, Los Alamos National Laboratory and 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 has been 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. This level of emissions represents an exceptionally large share of total natural gas methane emissions identified in the U.S.

Greenhouse Gas Inventory. The expansion of development into the Mancos Shale has the potential to significantly increase methane emissions in the San Juan Basin.

**65.** Hydraulic fracturing completions in the Mancos Shale are typically designed with nitrogen foam. While nitrogen foam fracking can minimize water usage and improve fluid recoveries, it necessarily requires flaring and thus contributes to air quality impacts and greenhouse gas emissions. The use of nitrogen foam in the fracking process initially results in upwards of 70% nitrogen content in produced gas, which must be flared for an average of 60-90 days until the nitrogen content is reduced to 10% or less before the gas can enter a pipeline. When the target of development is oil, flaring can take place for much longer. The flaring of produced gas not only wastes important federal mineral resources that could otherwise be used to heat our homes, but also reduces royalty payments to state and federal governments while significantly contributing to the greenhouse gas emissions. The higher permeability of nitrogen gas used in fracking also results in a greater likelihood of contamination to water resources.

**66.** Mancos Shale development is resulting in significant air, visual, and auditory impacts to the San Juan Basin's historic and cultural sites.

**67.** Mancos Shale development is affecting the area's view shed in a number of ways. Ozone is the main component of smog. Gas flares from fracking create light pollution which, when combined with smog, interfere with both the unobstructed view shed from Chaco Culture National Historical Park and with the clarity of night skies. Chaco Culture National Historical Park was recently designated an "International Dark Sky Park"—one of 20 in the world and one of only 12 identified as a "Gold Tier" park—for its "near-pristine night skies," which are important to nocturnal ecosystems and the visitor experience. Thousands visit the Park each year to participate in the Chaco Night Sky Program. The smog and other air pollution created by

fracking could shroud the Park and surrounding landscape in a noticeable haze and obstruct the natural view with industrial drill rigs and flaring.

68. Both fracking and the later injection of fracking wastewater can induce earthquakes when pressurized liquid is injected into wells. These earthquakes could damage any number of standing pueblo walls remaining in the Park or at other prehistoric and historic sites within the San Juan Basin.

## II. BLM's Oil and Gas Planning and Management

69. 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.

70. Oil and gas development is a multiple use 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." BLM, in 43 U.S.C. § 1701(a)(8), further provides that BLM must also 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.

71. In the first phase of oil and gas development, BLM prepares a Resource Management Plan ("RMP"). 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 projects present and future use of public lands and their resources by establishing management priorities, as well as

guiding and constraining BLM's implementation-stage management. With respect to fluid minerals leasing decisions, the RMP determines which lands containing federal minerals will be open to leasing and under what conditions.

**72.** Underlying BLM's assumptions regarding the pace and scope of fluid minerals 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.

**73.** 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. A 'yes' answer to any of these questions suggests the need to revisit existing decisions and/or the NEPA analysis."

**74.** BLM is further required to supplement its RMP/EIS if the agency makes substantial changes in the proposed action that are relevant to environmental concerns or 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)(i), (ii).

**75.** In the second phase of oil and gas development, BLM identifies the boundaries for lands to be offered for sale and proceeds to sell and execute leases for those lands through a lease sale.

**76.** Leases are sold in accordance with 43 C.F.R. §§ 3120 *et seq.*, with additional agency guidance outlined in BLM Instruction Memorandum ("IM") No. 2010-117, Oil and Gas Leasing Reform—Land Use Planning and Lease Parcel Reviews (hereafter "Leasing Reforms").

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

78. 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”) for approval by BLM prior to drilling.

79. NEPA allows BLM to tier oil and gas decisionmaking at the APD phase to analysis covered in a broader RMP/EIS. 40 C.F.R. § 1508.28. Where specific issues in subsequent oil and gas decisionmaking process are not covered in the RMP/EIS, the agency cannot tier to the RMP/EIS. In that case, a site-specific NEPA analysis must be prepared which includes analysis of relevant impacts.

80. The BLM Handbook offers guidance regarding the agency’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**

**81.** In 2001, BLM released a 20-year Reasonably Foreseeable Development Scenario (“2001 RFDS”) to support the agency’s decisionmaking for the then pending Resource Management Plan (“2003 RMP”) for the Farmington Field Office.

**82.** 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.”

**83.** 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.”

**84.** 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.

**85.** The 2001 RFDS did consider the possibility of production into 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 goes 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 is necessarily reduced to a maximum upside well count of 180 Mancos Shale wells.

**86.** The prospect of developing the Mancos Shale was so remote that the 2003 RMP/EIS did not quantify or analyze this 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 would have had no opportunity during the 2003 RMP/EIS process to understand whether and how the Mancos Shale would be developed, or to 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**

**87.** 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.

**88.** On or about May 28, 2014, Citizen Groups submitted scoping comments to the agency 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 the agency's decisionmaking process.

**89.** Among the issues raised, Citizen Groups identified the agency'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.

**90.** Citizen Groups further identified the agency's requirement to take a "hard look" at the direct, indirect, and cumulative impacts of Mancos Shale development and the need to consider impacts to certain resource values, including climate change, methane emissions and waste, hydraulic fracturing, water resources, human health, and living communities.

**91.** On or about October 27, 2014, Citizen Groups submitted to BLM supplemental comments on the Mancos RMPA/EIS and a second request for a moratorium regarding the agency's ongoing approval of APDs authorizing horizontal fracking of the Mancos Shale.

**92.** 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 impacts to air quality, greenhouse gas emissions and climate change, surface and groundwater, threatened and endangered species, as well as cultural resources from horizontal drilling and multi-stage fracking in Mancos Shale, thereby precluding the agency's approval of drilling permits targeting Mancos Shale.

**93.** On or about December 18, 2014, Citizen Groups met with BLM staff from the New Mexico State Office and Farmington Field Office to reiterate their concerns with the agency's ongoing approval of APDs for fracking in the Mancos Shale and to again request a moratorium of drilling authorizations until BLM completed the Mancos RMPA/EIS.

**94.** In a letter dated December 11, 2014, and distributed to Citizen Groups at this meeting, BLM denied their request to place a moratorium on approval of all new APDs authorizing fracking in the Mancos Shale.

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

**95.** In October 2014, BLM finalized a new RFDS for Northern New Mexico ("2014 RFDS") specifically to estimate the scale of anticipated Mancos Shale development.

**96.** The 2014 RFDS divides the San Juan Basin into three regions when quantifying oil development potential in the Mancos Shale/Gallup formations: the high potential region (200,500 acres), the moderate potential region (211,900 acres), and the low potential region (756,000 acres). Allowing for full development, the 2014 RFDS estimates 1,600 new wells in the high potential region, 330 new wells in the moderate potential region, and 30 new wells in the low potential region.

**97.** According to the 2014 RFDS, horizontal well development in the Mancos Shale began in 2010 with two gas wells drilled in the northern part of the San Juan Basin. In September 2011, the first oil-producing horizontal well was drilled and fracked in the northwest part of the

Basin. In early 2012, the first horizontal oil well was drilled and fracked in the southern part of the Basin.

**98.** According to the 2014 RFDS, between early 2012 and April 2014, 70 horizontal wells were drilled and fracked in the Mancos Shale.

**99.** According to the 2014 RFDS, industry has been encouraged by early results and activity continues to be strong. From the beginning of 2014 to the end of July of 2014, industry had filed 99 horizontal well APDs targeting the Mancos Shale. The largest share of these—approximately 41—were in the southern portion of the Basin around Lybrook and Counselor.

**100.** When Citizen Groups met with BLM on December 18, 2014, the agency stated that it had approved approximately 119 APDs targeting Mancos Shale since the beginning of 2014. The agency continues to approve Mancos Shale APDs and, to the best of Citizen Groups' knowledge, has authorized at least 239 APDs to date.

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

**102.** As provided in *Michael Gold, et al.*, 115 IBLA 218 (1989), where an initial exploratory well has been successfully drilled and a lessee files an APD for additional development wells, the filing of the APD triggers the requirement for an EIS, unless an EIS has already been prepared which analyzes the impacts that can be expected from full field development.

**103.** Industry-submitted APDs to BLM 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 the agency receives, and then subsequently issuing a FONSI. The agency has

failed to provide any aggregated NEPA analysis considering the full scale of ongoing connected and cumulative development in the Mancos Shale.

**104.** As provided by BLM, APDs undergo an internal scoping process but are not made available for public review or comment. Because the agency 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 the agency has received, for which of those APDs BLM has completed corresponding NEPA documentation, and which BLM has approved. BLM has also failed to provide the public with information regarding the commencement of ground-disturbing activity pursuant to these APDs.

**105.** 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 1. These decisions represent the final agency actions challenged herein.

**106.** 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.

**107.** All of the EAs for the APD authorizations listed in Appendix 1 contain virtually identical language and justification for reaching a FONSI. None of the EAs analyze the direct, indirect, and cumulative impacts of the proposed actions. None of the EAs analyze site-specific impacts. None of the EAs consider a range of reasonable alternatives, let alone alternatives that address full-field development of the Basin in accord with reasonably foreseeable full-field development.

**108.** While individuals EAs for the approvals listed in Appendix 1 may contain minor differences in verbiage, they are virtually identical in most respects. When discussing the

“Affected Environment and Environmental Consequences” for the proposed APDs, the language in all the EAs is virtually identical throughout, including, for example, the entire air resources sections of those documents. For example, when discussing greenhouse gas emissions, each of the APDs provides:

The available statewide GHG summary combines GHG emissions from CO<sub>2</sub> and CH<sub>4</sub>. To compare the GHG emissions from the Proposed Action estimated by the calculator with statewide GHG emissions, CO<sub>2</sub>e emissions for both CH<sub>4</sub> and CO<sub>2</sub> were summed. The total statewide GHG emission estimate for 2007 was 76,200,000 metric tons CO<sub>2</sub>e (76.2 million metric tons (NMED 2010)). The estimated CO<sub>2</sub>e metric tons emissions from one horizontal oil well (609.2 metric tons) would represent a 0.0008 percent increase in New Mexico CO<sub>2</sub> emissions.

**109.** The cumulative impacts analysis for air resources in the EAs for the approvals listed in Appendix 1 are also identical, providing that “[a]nalysis of cumulative impacts for reasonable development scenarios and reasonably foreseeable development scenarios of oil and gas wells on public lands in the BLM-FFO was presented in the 2003 RMP.”

**110.** While the EAs all contain a description of fracking, none provides any actual analysis of the direct, indirect, or cumulative impacts that fracking will have on the environment or human communities in the area. Each APD provides only that:

Stimulation (i.e., hydraulic fracturing or “fracking”) is a process used to maximize the extraction of underground resources by allowing oil or natural gas to move more freely from the rock pores to production wells that bring the oil or gas to the surface. Fluids, commonly made up of water (99 percent) and chemical additives (1 percent), are pumped into a geologic formation at high pressure during fracking (EPA 2004). Chemicals added to stimulation fluids may include friction reducers, surfactants, gelling agents, scale inhibitors, acids, corrosion inhibitors, antibacterial agents, and clay stabilizers. When the fracking pressure exceeds the rock strength, the fluids open or enlarge fractures that typically extend several hundred feet away from the well bore, and may occasionally extend up to 1,000 feet from the well bore. After the fractures are created, a propping agent (usually sand) is pumped into the fractures to keep them from closing when the pumping pressure is released. After fracking is completed, a portion of the injected fracking fluids returns to the wellbore and is recovered for future fracking operations (EPA 2004) or disposal. Stimulation techniques have been used in the U.S. since 1949 and in the San Juan Basin since the 1950s. Over the last 10 years, advances in

multi-stage and multi-zone fracking have allowed for the development of gas fields that previously were uneconomic, including the San Juan Basin.

**111.** The EAs for the approvals listed in Appendix 1 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. Moreover, the EAs fail to consider a range of reasonable alternatives appropriate to the reasonably foreseeable prospects of full-field development.

**112.** While many of the approved APDs are in the southern portion of the San Juan Basin, around Counselor and Lybrook—an area noted for a “patchwork” of State, Federal, Navajo Trust, Navajo Allotment, and private lands, and an area predominated by low-income Native American populations—there is only cursory mention of environmental justice issues. The environmental justice discussion is limited to statements that the proposed projects would result in no disproportionate, negative effects to minority or low-income populations.

**113.** None of BLM’s EAs for the Mancos Shale APDs include any landscape-level analysis of impacts to significant historic and cultural properties such as the Chaco Cultural National Historical Park, Chacoan Outliers, or other cultural components of the Greater Chaco Landscape. By defining the analysis area for each APD as the well pad and its associated features, BLM limited its impacts analysis only to historic properties within the APD footprint. BLM did not analyze noise, air, and visual impacts from activities on the well pads and their associated infrastructure to historic and cultural properties located outside the project footprint.



**114.** There is no evidence that BLM consulted with the New Mexico SHPO over the direct, indirect, or cumulative impacts of APD activities on historic and cultural properties located outside of the project footprint.

**115.** The approval of at least 239 APDs for fracking in the Mancos Shale has already led to substantial impacts to the environment, including to cultural resources 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. Further, BLM has signaled and further underscored the full-scale nature of current development during a just-completed scoping period to prepare an EA to build a 50,000-barrel per day crude oil pipeline that would quintuple the current production volume in the Basin.

**F. BLM's Failure to Allow for Public Participation in Agency Decisionmaking**

**116.** Upon receipt of an APD or notice of staking, BLM is required to post information for public inspection at least 30 days before taking action to approve the APD. 43 C.F.R. § 3162.3-1(g).

**117.** Public involvement is also a fundamental provision of NEPA, requiring BLM to involve the public to the extent practicable and to “[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures.” 40 C.F.R. §§ 1501.4(b), 1506.6. *See also* 43 C.F.R. § 46.305.

**118.** In BLM’s letter to Citizen Groups, dated December 11, 2014, the agency states that each APD is screened during an internal scoping process to identify the issues for analysis in

each EA. BLM further stated that “EAs for routine APDs do not generally require a public comment period because of their routine nature, the tight regulatory timeframes, and because numerous public involvement opportunities are provided during the initial stages of project development.”

**119.** Throughout the course of 2014, Citizen Groups periodically checked the BLM Farmington Field Office website “NEPA log” for documentation relating to Mancos Shale development. On each occurrence no information was available.

**120.** On or about October 2, 2014, a Citizen Groups representative visited the BLM Farmington Field Office Reading Room to review EAs prepared for oil and gas projects targeting the Mancos Shale. No EAs were available in the Reading Room for the public. The same day, Citizen Groups sent an email to BLM stating that no oil well related EAs were available to the public—either in the Reading Room or on BLM’s website—and identifying specific development areas of concern in the southern portion of the San Juan Basin.

**121.** On or about October 3, 2014, in an email response from BLM to Citizen Groups, the agency confirmed: “they’ve had some workload issues that have prevented them from getting EAs into the public room.”

**122.** On or about December 7, 2014, Citizen Groups sent a letter to BLM outlining their concerns with public participation and a general lack of transparency in the agency’s decisionmaking process. This letter reiterated concerns related to the availability of NEPA documentation for Mancos Shale wells, as well as identified the agency’s failure to post Notices of Staking for public review, which were also not available in BLM’s reading room or online.

**123.** In a letter dated January 26, 2015, BLM responded to Citizen Groups letter, noting that BLM “made arrangements to make those EAs available,” and “have since identified and are working to improve our process for getting EAs in the Public Room.”

**124.** Not until February, 2015, did BLM begin to post NEPA documentation for APDs in the San Juan Basin to the agency’s website.

**125.** Shortly after March 23, 2015 Citizen Groups received a response to a Freedom of Information Act (“FOIA”) request seeking all documents relating to oil and gas approvals in Mancos Shale. The responsive documents included additional APD approvals by BLM that were not listed on the agency’s website prior to the filing of the original Petition for Review. As a result, Citizen Groups has amended the Petition for Review to include 37 final agency actions that Citizen Groups were not aware of prior to filing their Petition for Review.

**126.** Since the filing of the original Petition for Review on March 11, 2015, BLM has authorized drilling of 10 APDs in five new decisions. Citizen Groups have supplemented their Petition for review to include these decisions. The complete list of challenged decisions is included in Appendix A.

## **CLAIMS FOR RELIEF**

### **FIRST CLAIM FOR RELIEF**

#### **(Violation of NEPA—Failure to Analyze Direct, Indirect, and Cumulative Impacts of Mancos Shale Fracking: Improper Tiering)**

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

**128.** 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.

**129.** 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).

**130.** Direct and indirect impacts of fracking the Mancos Shale include but are not limited to impacts from horizontal drilling technology and from multi-stage hydraulic fracturing that BLM neither anticipated nor analyzed in the 2003 RMP/EIS.

**131.** 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 of greenhouse gas pollution to the atmosphere on the communities and landscapes of New Mexico and the American West from surrounding oil and gas activities, as well as other greenhouse gas emission sources, such as coal mines and coal-fired power plants; cumulative impacts to air quality from the emission of criteria pollutants; cumulative impacts to surface and groundwater resources and water quantity; cumulative impacts to human health; and cumulative impacts to cultural properties listed on the National Register of Historic Places such as Chaco Culture National Historical Park.

**132.** 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.

**133.** 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.

**134.** BLM's approvals of APDs listed in Appendix A failed to take a hard look or to analyze fully the direct, indirect, and 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).

**135.** BLM's pattern and practice of approving APDs while failing to take a hard look or to analyze fully the direct, indirect, and cumulative environmental impacts of Mancos Shale fracking was 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).

**SECOND CLAIM FOR RELIEF**  
**(Violation of NEPA— Failure to Prepare an EIS or Supplement Existing EIS)**

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

**137.** NEPA obligates federal agencies to prepare an EIS for "major federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C).

**138.** An agency may first prepare an EA: (1) to provide evidence and analysis that establish whether or not an EIS or a FONSI should be prepared; (2) to help it comply with NEPA when no EIS is necessary; and (3) to facilitate preparation of an EIS when one is necessary. 40 C.F.R. § 1508.9.

**139.** If there are substantial questions whether a proposed action may significantly impact the environment, the agency must prepare an EIS.

**140.** Whether or not a proposed action “significantly” impacts the environment is determined by considering “context and intensity.” 40 C.F.R. § 1508.27.

**141.** BLM’s APD approvals listed in Appendix A for fracking in the Mancos Shale significantly impact air and water quality, human health, climate and cultural resources in the region. NEPA therefore requires BLM to prepare an EIS evaluating the impacts of fracking operations in the Mancos Shale before approving any APDs using this technology.

**142.** CEQ regulations provide that every agency shall prepare supplements to 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).

**143.** BLM’s Federal Register Notice for the Mancos Shale RMP/EIS, 79 Fed. Reg. 10,548 (Feb. 25, 2014), recognizes: “As full-field development occurs, especially in the shale oil play, additional impacts may occur that previously were not anticipated in the [2001] 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.”

**144.** This recognition is evidence that BLM’s APD approvals listed in Appendix A that target Mancos Shale were not covered by the 2003 RMP/EIS. Thus, these approvals represent significant new information relevant to environmental concerns, as well as a substantial change in implementation of the 2003 RMP/EIS for all oil and gas development targeting Mancos Shale. NEPA therefore requires BLM to prepare a supplemental EIS evaluating the impacts of fracking in the Mancos Shale.

**145.** BLM’s EAs prepared for individual Mancos Shale APDs challenged herein fail to cure the deficient analysis of such “additional impacts” which were not anticipated or analyzed in the 2003 RMP/EIS.

**146.** BLM has approved all of the decisions challenged herein for fracking in the Mancos Shale without supplementation of the 2003 RMP/EIS, and without completion of the Mancos RMPA/EIS.

**147.** BLM violated NEPA by failing to prepare an EIS or supplemental EIS before approving for the decisions challenged herein authorizing hydraulic fracturing operations in the Mancos Shale. The agency’s failure was 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).

**THIRD CLAIM FOR RELIEF**  
**(Violation of NEPA—Taking Action During the NEPA Process)**

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

**149.** NEPA requires all Federal agencies to consider the effects of their actions on the environment through compliance with its procedures. NEPA requires Federal agencies to “insure that environmental information is available to public officials and citizens before decisions are made and actions are taken”; and to “help public officials make decisions that are based on [an] understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.” 40 C.F.R. § 1500.1(b)-(c) (emphasis added).

**150.** NEPA provides: “While work on a required program environmental impact statement is in progress and the action is not covered by an existing program statement, agencies 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 that 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)(1)-(3).

**151.** BLM is in the process of preparing a Resource Management Plan Amendment and EIS to consider development of the Mancos Shale/Gallup formations. BLM has stated: “additional impacts may occur that previously were not anticipated in the [2001] 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.”

**152.** For all of the decisions challenged herein, BLM has authorized fracking in the Mancos Shale without having completed an EIS. These actions will impermissibly prejudice the decisionmaking process and limit the choice of alternatives in the pending Mancos RMPA/EIS development process.

**153.** BLM’s APD approvals that prejudice the Mancos RMPA/EIS and limit the choice of alternatives were 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).

**FOURTH CLAIM FOR RELIEF  
(Violation of NEPA—Failure to Involve the Public)**

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

**155.** NEPA regulations direct that BLM should “encourage and facilitate public involvement.” 40 C.F.R. § 1500.2(d).



**156.** BLM is further required to involve the public to the “extent practicable” and to “[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures,” including the preparation of Environmental Assessments. 40 C.F.R. §§ 1501.4(b), 1506.6. At a minimum, BLM “must notify the public of the availability of an environmental assessment and any associated finding of no significant impact once they have been completed.” 43 C.F.R. § 46.305.

**157.** “NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.” 40 C.F.R. § 1500.1. NEPA’s implementing regulations provide public involvement requirements. 40 C.F.R. § 1506.6.

**158.** BLM violated NEPA regulations which require that a FONSI shall be made “available to the affected public” and that the public and other affected agencies shall be involved in the NEPA process. 40 C.F.R. §§ 1501.4(e)(1); 1506.6.

**159.** For all of the decisions challenged herein, BLM has failed to make NEPA documents and information regarding drilling and development targeting Mancos Shale—including APDs, EAs, FONSIs—available to the public through either the Farmington Field Office Reading Room or online. BLM’s actions were 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).

**160.** BLM’s actions were also 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 because they evidence a pattern and practice of failing to provide

any opportunity for meaningful public involvement in the agency's approvals of APDs for Mancos shale development. 5 U.S.C. § 706(2)(A).

**FIFTH CLAIM FOR RELIEF**  
**(Violation of NHPA—Failure to Commence and Complete a Section 106 Consultation)**

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

**162.** All of BLM's Mancos Shale APD approvals challenged herein constitute undertakings under the NHPA that have the potential to adversely affect landscape-level historic and cultural properties such as Chaco Cultural National Historical Park, affiliated Chaco Great House sites, and ancient ceremonial roads. Therefore, BLM is required to consult with the New Mexico SHPO, Indian Tribes, and the public about the extent to which Mancos Shale fracking resulting from the APDs challenged herein adversely affect historic and cultural sites and compromise the characteristics that make these properties eligible for and listed on the National Register of Historic Places.

**163.** Prior to approving any of the APDs at issue in this lawsuit, there is no record showing that BLM consulted with Indian Tribes, the New Mexico SHPO, or the public regarding potential adverse effects to landscape-level historic and cultural properties from Mancos Shale fracking, or assessed such effects.

**164.** Because fracking in the Mancos Shale is and has been subject to unusual public attention and has involved strongly opposing viewpoints about fracking's impacts to historic and cultural properties, BLM cannot use the Protocol Agreement with the New Mexico SHPO to meet BLM's Section 106 compliance obligations. BLM was required to follow the Subpart B regulations for NHPA Section 106 consultation for all of the APD approvals challenged herein.

**165.** BLM's failure to consult with the New Mexico SHPO, Indian Tribes, and interested members of the public or assess adverse effects to identified historic properties prior to approving the APDs challenged herein that authorize fracking in the Mancos Shale violated the NHPA and its implementing regulations and was arbitrary, capricious, and contrary to law in violation of the APA, 5 U.S.C. § 706(2)(A).

**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 and the NHPA;

**B.** Vacate BLM's approvals of all APDs challenged herein approving horizontal drilling and hydraulic fracturing in the Mancos Shale to date;

**C.** Enjoin all future horizontal drilling or hydraulic fracturing in the Mancos Shale previously approved by BLM, pending full compliance with NEPA and the NHPA;

**D.** 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 and the NHPA;

**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 8th day of May 2015,

/s/ Kyle J. Tisdell  
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**APPENDIX 1. Final Agency Actions Challenged Herein**

**2012**

DOI-BLM-NM-F010-2012-0060-EA  
DOI-BLM-NM-F010-2012-0064-EA  
DOI-BLM-NM-F010-2012-0094-EA  
DOI-BLM-NM-F010-2012-0105-EA  
DOI-BLM-NM-F010-2012-0182-EA  
DOI-BLM-NM-F010-2012-0189-EA  
DOI-BLM-NM-F010-2012-0198-EA  
DOI-BLM-NM-F010-2012-0268-EA  
DOI-BLM-NM-F010-2012-0391-EA  
DOI-BLM-NM-F010-2012-0410-EA

**2013**

DOI-BLM-NM-F010-2013-0012-EA  
DOI-BLM-NM-F010-2013-0063-EA  
DOI-BLM-NM-F010-2013-0065-EA  
DOI-BLM-NM-F010-2013-0080-EA  
DOI-BLM-NM-F010-2013-0081-EA  
DOI-BLM-NM-F010-2013-0103-EA  
DOI-BLM-NM-F010-2013-0105-EA

DOI-BLM-NM-F010-2013-0115-EA  
DOI-BLM-NM-F010-2013-0144-EA  
DOI-BLM-NM-F010-2013-0177-EA  
DOI-BLM-NM-F010-2013-0219-EA  
DOI-BLM-NM-F010-2013-0225-EA  
DOI-BLM-NM-F010-2013-0242-EA  
DOI-BLM-NM-F010-2013-0288-EA  
DOI-BLM-NM-F010-2013-0324-EA  
DOI-BLM-NM-F010-2013-0332-EA  
DOI-BLM-NM-F010-2013-0356-EA  
DOI-BLM-NM-F010-2013-0391-EA  
DOI-BLM-NM-F010-2013-0393-EA  
DOI-BLM-NM-F010-2013-0358-EA  
DOI-BLM-NM-F010-2013-0414-EA  
DOI-BLM-NM-F010-2013-0473-EA  
DOI-BLM-NM-F010-2013-0531-EA  
DOI-BLM-NM-F010-2013-0535-EA

**2014**

DOI-BLM-NM-F010-2014-0004-EA  
DOI-BLM-NM-F010-2014-0005-EA  
DOI-BLM-NM-F010-2014-0006-EA  
DOI-BLM-NM-F010-2014-0008-EA  
DOI-BLM-NM-F010-2014-0009-EA  
DOI-BLM-NM-F010-2014-0012-EA  
DOI-BLM-NM-F010-2014-0024-EA  
DOI-BLM-NM-F010-2014-0029-EA  
DOI-BLM-NM-F010-2014-0039-EA  
DOI-BLM-NM-F010-2014-0047-EA  
DOI-BLM-NM-F010-2014-0049-EA  
DOI-BLM-NM-F010-2014-0057-EA  
DOI-BLM-NM-F010-2014-0065-EA  
DOI-BLM-NM-F010-2014-0080-EA  
DOI-BLM-NM-F010-2014-0087-EA  
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DOI-BLM-NM-F010-2014-0261-EA  
DOI-BLM-NM-F010-2014-0262-EA  
DOI-BLM-NM-F010-2014-0272-EA  
DOI-BLM-NM-F010-2014-0274-EA  
DOI-BLM-NM-F010-2014-0292-EA  
DOI-BLM-NM-F010-2014-0293-EA  
DOI-BLM-NM-F010-2014-0294-EA

## **2015**

DOI-BLM-NM-F010-2015-0007-EA  
DOI-BLM-NM-F010-2015-0015-EA  
DOI-BLM-NM-F010-2015-0028-EA  
DOI-BLM-NM-F010-2015-0036-EA  
DOI-BLM-NM-F010-2015-0045-EA  
DOI-BLM-NM-F010-2015-0057-EA  
DOI-BLM-NM-F010-2015-0060-EA  
DOI-BLM-NM-F010-2015-0066-EA  
DOI-BLM-NM-F010-2015-0070-EA (S)<sup>1</sup>  
DOI-BLM-NM-F010-2015-0088-EA (S)  
DOI-BLM-NM-F010-2015-0093-EA (S)  
DOI-BLM-NM-F010-2015-0102-EA (S)  
DOI-BLM-NM-F010-2015-0116-EA (S)

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<sup>1</sup> (S) indicates final agency action taken since the filing of the original Petition for Review on March 11, 2015.

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing SUPPLEMENTAL AND AMENDED PETITION FOR REVIEW was served on all counsel of record as an Exhibit to Plaintiffs' Motion for Leave to File a Supplemental and Amended Petition for Review through the Court's ECF system on this 8th day of May 2015.

/s/ Samantha Ruscavage-Barz