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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
GREAT FALLS DIVISION

WILDEARTH GUARDIANS, MONTANA
ENVIRONMENTAL INFORMATION
CENTER, DAVID KATZ, BONNIE
MARTINELL, and JACK MARTINELL,

Plaintiffs,

vs.

U.S. BUREAU OF LAND
MANAGEMENT, an agency within the
U.S. Department of the Interior; DAVID
BERNHARDT, in his official capacity as
Secretary of the United States Department
of the Interior;¹ DONATO JUDICE, in his
official capacity as Montana Bureau of
Land Management Deputy State Director,

Defendants.

No. 4:18-cv-00073-BMM

MEMORANDUM IN
SUPPORT OF MOTION FOR
SUMMARY JUDGMENT

¹ Pursuant to Fed. R. Civ. P. 25(d), Acting Secretary of the Interior David Bernhardt is substituted as a defendant for Ryan Zinke, who resigned effective January 2, 2019.

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INTRODUCTION

Plaintiffs WildEarth Guardians, *et al.* (collectively “Conservation Plaintiffs”) challenge Defendants U.S. Bureau of Land Management’s, *et al.* (collectively “BLM”) systematic failure to consider critical risks to Montana’s water supply before issuing 287 oil and gas leases covering 145,063 acres in the December 2017 and March 2018 lease sales.

Climate change threatens Montana’s water supply, iconic glaciers, and agricultural way of life. As the record demonstrates, in Montana, climate change causes more frequent drought, warmer summers, and earlier snowmelt, all of which diminish the availability of fresh drinking and agricultural water. Over time, this will make Montanans increasingly reliant on limited groundwater resources. Climate change is driven by human use of fossil fuels that emit greenhouse gases like carbon dioxide and methane. Oil and gas produced in Montana contributes to the existential threat that climate change poses to Montana’s water supply.

The same oil and gas production that is making Montana drier and more reliant on groundwater is also polluting that groundwater. Regulatory loopholes put Montana’s groundwater at risk in two ways: inadequate oil and gas well construction allows fluids to escape from the wells into the water supply, and, in parts of Montana, hydraulic fracturing occurs in shallow formations that directly abut drinking water aquifers.

The National Environmental Policy Act (“NEPA”) requires BLM to consider the direct, indirect, and cumulative impacts of issuing oil and gas leases. Yet BLM improperly split the challenged lease sales up into smaller NEPA analyses without considering their combined impacts on climate. Moreover, BLM ignored ample record evidence demonstrating that issuing the oil and gas leases could cause groundwater contamination, and refused to consider reasonable alternatives to better protect Montana’s groundwater. Through its segmented decision-making, BLM improperly concluded that issuing the leases would not significantly impact Montana’s environment. The Court should thus find that BLM violated NEPA, and set aside the leasing decisions so that BLM can make an informed decision about how issuing the leases will impact the climate and Montana’s groundwater.

BACKGROUND

I. National Environmental Policy Act

NEPA is “our basic national charter for protection of the environment.” 40 C.F.R. § 1500.1(a). NEPA’s goals are to (1) “prevent or eliminate damage to the environment and biosphere,” (2) “stimulate the health and welfare of” all people, and (3) “encourage productive and enjoyable harmony between [hu]man [kind] and [the] environment.” 42 U.S.C. § 4321.

To fulfill these purposes, NEPA requires that BLM take a “hard look” at the environmental impacts of its actions before taking those actions, ensuring “that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349–50 (1989). Among other things, as part of this NEPA review, BLM must assess the cumulative impacts that result “from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.” 40 C.F.R. §§ 1508.7, 1508.27(b)(7). BLM must also prepare a detailed statement regarding the alternatives to a proposed action. *See* 42 U.S.C. § 4332(2)(C)(iii), (E).

NEPA requires federal agencies to prepare an environmental impact statement (“EIS”) for all “major Federal actions significantly affecting the quality of the human environment.” *Id.* § 4332(2)(C). To help determine whether an EIS is necessary, BLM may first prepare an environmental assessment (“EA”). 40 C.F.R. §§ 1501.3, 1501.4(b)–(c). If the EA indicates that the federal action “may” be significant, the agency must prepare an EIS. *See Anderson v. Evans*, 371 F.3d 475, 488 (9th Cir. 2002). After preparing the EA, if BLM determines that the proposed action does not require preparation of an EIS, it must prepare a finding of no significant impact (“FONSI”) detailing why the action “will not have a significant effect on the human environment.” 40 C.F.R. §§ 1501.4(e), 1508.13; *see Ctr. for*

Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1185 (9th Cir. 2008) (describing procedure).

II. The Process of Oil and Gas Leasing on Public Land

Pursuant to the Mineral Leasing Act (“MLA”) and Federal Land Policy and Management Act (“FLPMA”), BLM manages oil and gas drilling on public lands using a three-stage process. *N.M. ex rel. Richardson v. BLM*, 565 F.3d 683, 689 n.1 (10th Cir. 2009). In the first stage, BLM prepares a resource management plan (“RMP”) pursuant to 43 U.S.C. § 1712 and 43 C.F.R. Part 1600. An RMP operates like a zoning plan, defining the allowable uses of public lands within the planning area. At the RMP stage, BLM determines generally what areas to make available for oil and gas leasing and under what conditions. An RMP does not require leasing any specific lands. In adopting a plan, BLM prepares an EIS evaluating, in general terms, the expected environmental impact of potential land management decisions made in that plan, including oil and gas development. *See Richardson*, 565 F.3d at 692, 703.

In the second phase, companies submit “expressions of interest” to nominate specific lands for oil and gas leasing. BLM then decides whether those lands are eligible and, if so, makes them available through a competitive leasing process, in accordance with 43 C.F.R. Part 3120. Prior to sale, BLM must comply with NEPA by evaluating the environmental impact of the lease sale. *Conner v.*

Burford, 848 F.2d 1441, 1449–51 (9th Cir. 1988). BLM may also subject leases to terms and conditions to protect the environment. *Id.* In the third and final phase, which occurs after BLM holds the lease sale and issues the leases, lessees submit applications for permits to drill (“APD”) to BLM. 43 C.F.R. § 3162.3-1(c).

The leasing stage represents a critical step in this process because BLM’s issuance of a lease constitutes an irretrievable commitment of resources, and generally confers the right to use the land for oil and gas development. *See* 43 C.F.R. § 3101.1-2; *Conner*, 848 F.2d at 1449–50. At the leasing stage, BLM can attach a no surface occupancy stipulation, which prohibits lessees from occupying or using the surface without further approval. *Conner*, 848 F.2d at 1444. It can also attach other types of stipulations to prevent or mitigate environmental harm from drilling. *Id.* However, absent a “no surface occupancy” stipulation on the entire lease parcel, once the lease is issued, BLM has made an “irreversible and irretrievable commitment of resources” binding the leased land and/or federally-owned minerals to development. *Conner*, 848 F.2d at 1446, 1449–50. For that reason, the Ninth Circuit has explained that a full NEPA analysis is necessary to address reasonably foreseeable impacts from developing a lease, prior to issuing a lease without a “no surface occupancy” stipulation. *Id.*; *accord Richardson*, 565 F.3d at 718; *Sierra Club v. Peterson*, 717 F.2d 1409, 1415 (D.C. Cir. 1983).

III. Oil and Gas Development Intensifies the Impacts of Climate Change

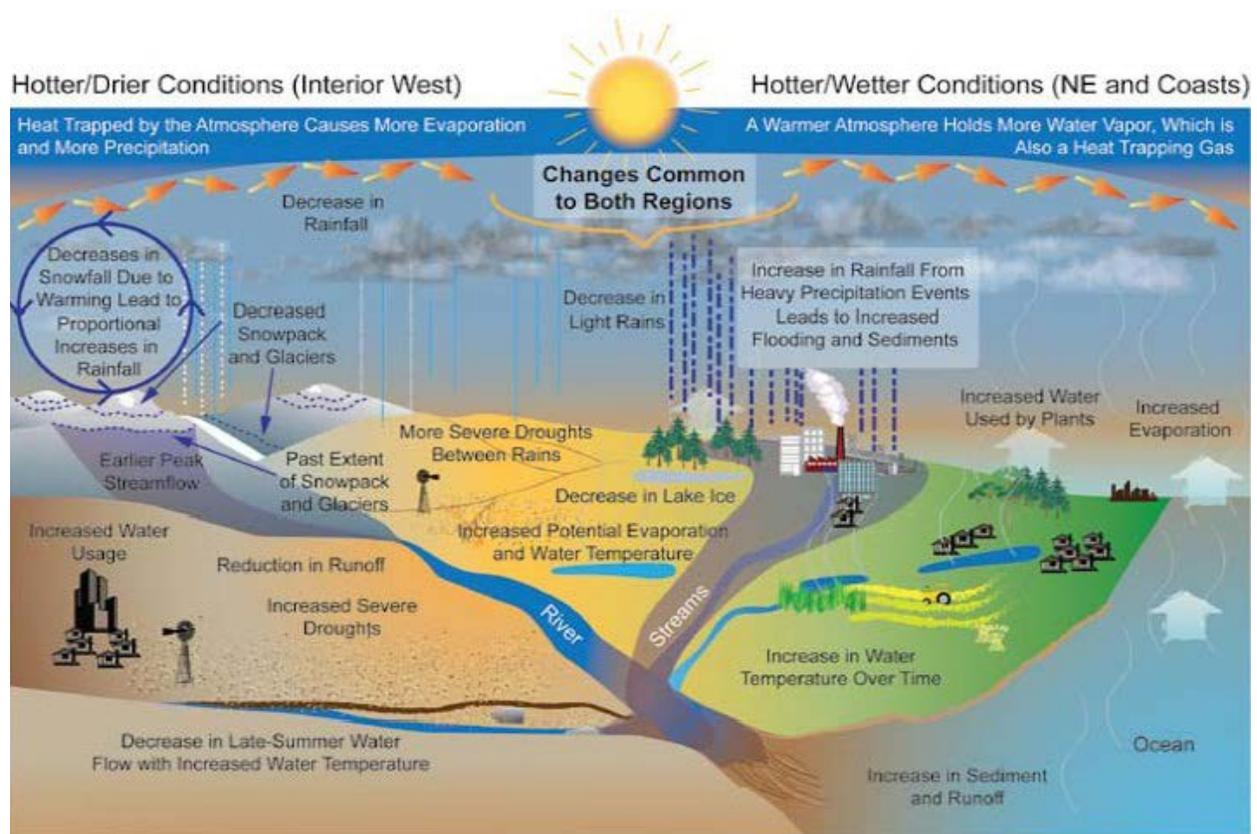
Climate change has already transformed Montana, and these effects are poised to intensify in the coming years and decades. First, scientists predict major changes to Montana's water system:

- By 2030 or earlier, Glacier National Park's iconic glaciers will have disappeared. AR MC 4809.¹
- Water supplies stored in mountain snowpacks will decline, reducing the availability of meltwater and altering hydrologic patterns. AR MC 4796, 4808.
- Streamflow will peak earlier in the spring, weeks before the greatest need of ranchers and farmers. AR MC 3149, 4808.
- With more evaporation and drier soils, farmers will have greater need for irrigation water. AR MC 3149.
- Drought will be more frequent and more severe. *Id.*

¹ Citations to the Administrative Record are formatted as follows: "AR MC" indicates a citation to the Miles City Field Office Administrative Record (BLM-MT-MC-XXXXX); "AR BI" indicates a citation to the Billings Field Office Administrative Record (BLM-MT-BI-XXXXX); "AR BU" indicates a citation to the Butte Field Office Administrative Record (BLM-MT-BU-XXXXX); and "AR HI" indicates a citation to the HiLine District Administrative Record (BLM-MT-HI-XXXX).

- In late summer, rivers, lakes, and reservoirs will be drier. AR MC 3149, 4808.
- Fish populations will decline due to warmer water temperatures. AR MC 4796, 4809.

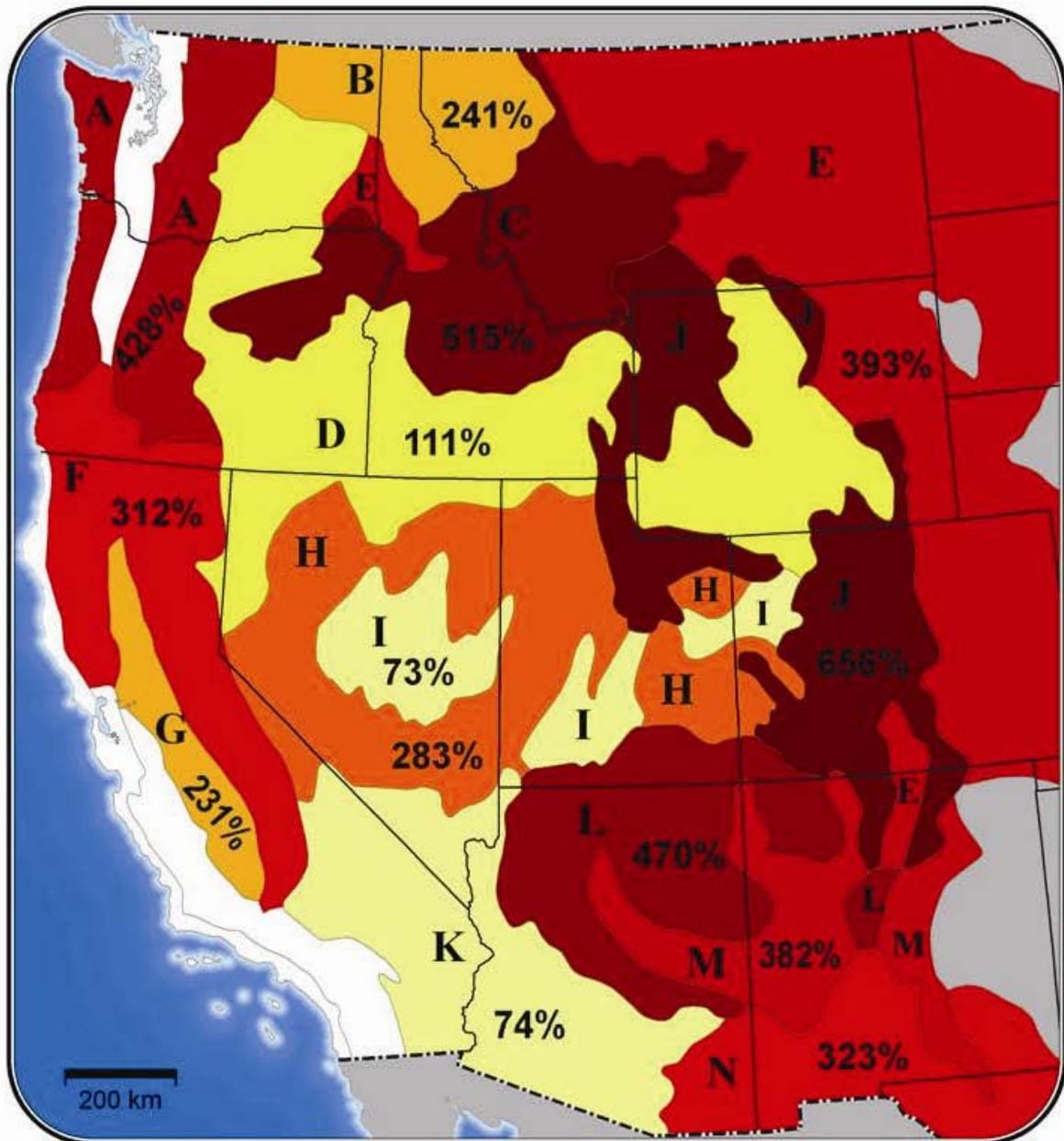
Below is a graphical representation of changes to the hydrologic system common to the Interior West, including Montana:



AR MC 4796.

Second, drier conditions will lead to significantly more wildfires in Montana. A one degree Celsius global average temperature increase is predicted to increase the area burned by wildfires in Montana by between 241% and 515%. AR

MC 4810; *see also* AR MC 3149 (explaining that drier conditions will make ponderosa and lodgepole pine forests more susceptible to fire). Wildfires in turn further contribute to climate change. AR MC 3149. Below is a graphical representation of the estimated increase in area burned by wildfire in the West, by percentage.



- A - Cascade Mixed Forest
- B - Northern Rocky Mt. Forest
- C - Middle Rocky Mt. Steppe-Forest
- D - Intermountain Semi-Desert
- E - Great Plains-Palouse Dry Steppe
- F - Sierran Steppe-Mixed Forest
- G - California Dry Steppe
- H - Intermountain Semi-Desert / Desert
- I - Nev.-Utah Mountains-Semi-Desert
- J - South. Rocky Mt. Steppe-Forest
- K - American Semi-Desert and Desert
- L - Colorado Plateau Semi-Desert
- M - Ariz.-New Mex. Mts. Semi-Desert
- N - Chihuahuan Semi-Desert

AR MC 4811.

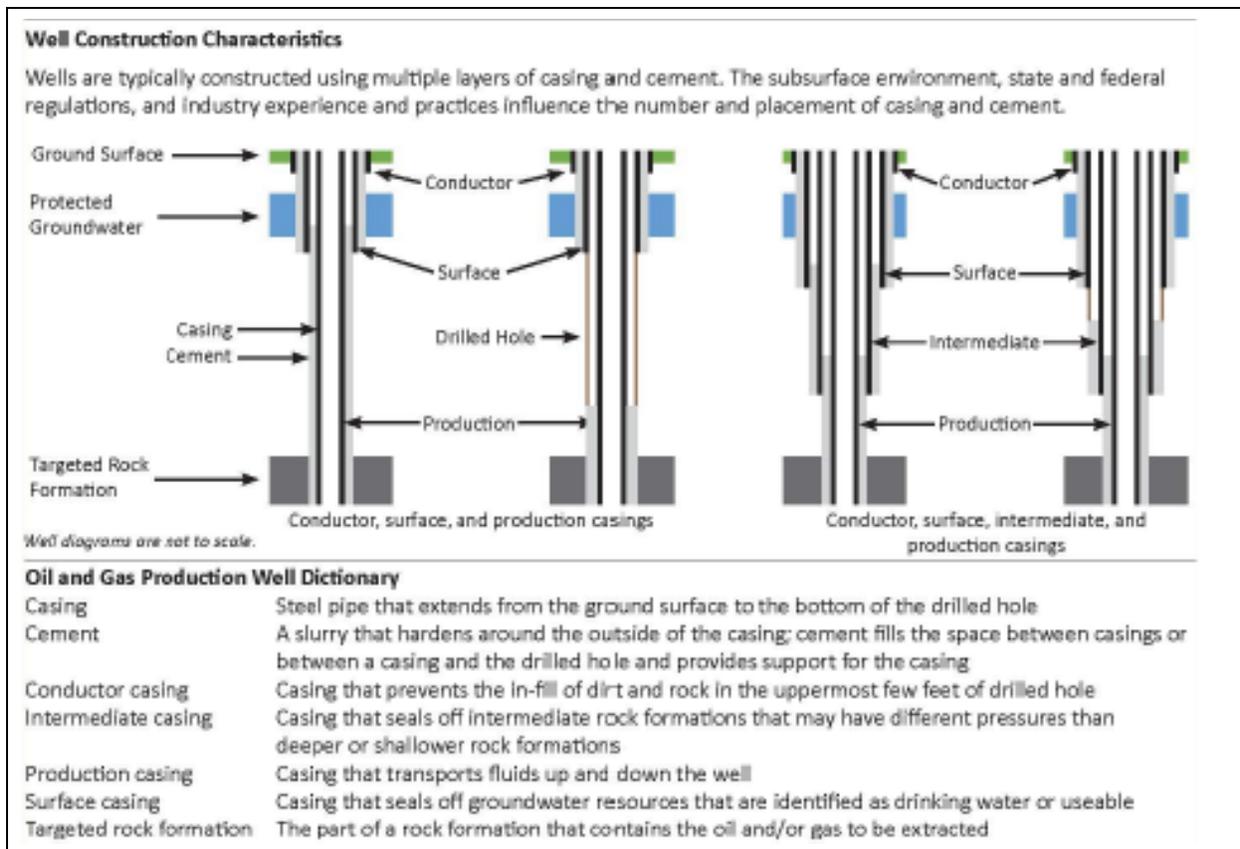
Oil and gas production and combustion are significant sources of greenhouse gas emissions and a primary driver of climate change. *See* AR MC 3149; AR BI 8052; AR BU 5282, 5400–04, 5422–28. About half of the carbon in technologically recoverable fossil fuels in the United States is on public lands, like those at issue in this case. AR MC 3407. Continuing to lease these public lands for oil and gas development perpetuates a path to climate disaster and is not the “concerted effort” needed to avoid the worst effects of climate change. AR MC 3377. Global temperatures have already risen one degree Celsius above preindustrial levels. AR MC 3377. At Montana’s latitude, temperatures have already risen an average of 2.1 degrees Fahrenheit since 1900. AR MC 814. Holding global temperatures to a level that may avoid the most severe impacts of climate change will require significant societal changes, such as to BLM’s management of our public oil and gas resources. *See* AR MC 3376–79.

Climate change is precisely the kind of problem that NEPA is designed to forestall, and that BLM is required to assess. Here, BLM’s analyses for the lease sales fall short of what NEPA requires.

IV. The Impact of Oil and Gas Drilling on Underground Drinking Water

At the same time that oil and gas development and combustion contributes to climate change (and the associated threats to Montana’s water supply), it also threatens to contaminate the groundwater that Montanans will increasingly rely on

for drinking and agriculture. Oil and gas development involves boring wells to depths of hundreds or thousands of feet below the surface, often through underground aquifers. In a comprehensive study, the U.S. Environmental Protection Agency (“EPA”) concluded in 2016 that without proper well construction, drilling can contaminate groundwater because drilling fluids, gases, and chemicals can seep out of the wellbore into groundwater aquifers. *See* AR BI 13403 (“EPA Hydraulic Fracturing Report”). A key measure to prevent groundwater contamination is installing and cementing “surface casing”—pipe set in the drilling hole to seal off groundwater from the oil and gas well—so that it extends below the deepest source of potential drinking water. *See* AR BI 13805 (“Cementing of the surface casing to below the lowest drinking water resource is a key protective measure to prevent . . . fluids, from reaching drinking water resources.”); *see also* AR BI 13403, 13412, 13458; Answer ¶ 30 (July 18, 2018), ECF No. 11 (“Defendants aver that [oil and gas] operators must properly install and cement metal surface well casing below the deepest protected water source.”). As EPA further cautioned, “if the surface casing is not set deeper than the bottom of the drinking water resource, the risk of aquifer contamination increases a thousand-fold.” AR BI 13458, 13687.



AR BI 13066 (figure from EPA’s Hydraulic Fracturing Report, depicting oil and gas wells with surface casing extending below protected groundwater).

It is particularly important—and legally required—for operators to protect groundwater aquifers that may provide sources of *drinking* water. Between 50–75% of Montana’s drinking water supply comes from groundwater, with more than 95% of rural households depending on groundwater for their drinking water. AR BI 13217, 13216. A BLM regulation governing oil and gas operations on federal lands, known as Onshore Oil and Gas Order No. 2, directs that oil and gas wells shall “protect and/or isolate all usable water zones,” and defines “usable water” as groundwater containing up to 10,000 parts per million (“ppm”) of total dissolved

solids. 53 Fed. Reg. 46,798, 46,805, 46,808 (Nov. 18, 1988) (“Onshore Order 2”). This standard mirrors the Safe Drinking Water Act, which similarly defines an “underground source of drinking water” as an aquifer with water that contains fewer than 10,000 milligrams per liter (equivalent to 10,000 ppm) of total dissolved solids. 40 C.F.R. §§ 144.3, 146.3.

While water with salinity approaching 10,000 ppm total dissolved solids is considered “brackish,” such aquifers are increasingly being used for drinking water. AR BI 13212–13, 13220. In fact, EPA adopted the 10,000 ppm standard based on the Safe Drinking Water Act’s legislative history, in which Congress explained its intent to “protect not only currently-used sources of drinking water, but also potential drinking water sources for the future.” H.R. Rep. No. 93-1185 (1974), 1974 U.S.C.C.A.N. 6454, 6484.

Despite Onshore Order 2’s broadly-stated requirement to protect usable water, neither that Order, nor any other BLM or Montana state regulations, specifically direct how the agency and companies will ensure that well casing and cementing extend deep enough to protect all usable water. *See* 53 Fed. Reg. at 46,798, 46,808; Mont. Admin. R. 36.22.101 to 36.22.1707. Nor do Onshore Order 2 or other regulations specifically require operators to test underground sources of water to identify all usable water zones before drilling may commence.

To address this regulatory void, in 2015, BLM adopted new standards to ensure that wells are properly constructed and protect all usable water zones. 80 Fed. Reg. 16,128, 16,128 (Mar. 26, 2015) (“the 2015 Rule”) (explaining that the Rule’s purpose is to “ensure that wells are properly constructed to protect water supplies” from oil and gas drilling). The 2015 Rule required operators to demonstrate to BLM that they would protect usable water as they drilled their wells. *Id.* at 16,218–20 (43 C.F.R. §§ 3162.3-3(b), (d)(1)(iii), (d)(6)(ii), (e)–(g) (2015)). Like Onshore Order 2, the 2015 Rule defined usable water as groundwater containing less than 10,000 ppm of total dissolved solids. *Id.* at 16,217 (43 C.F.R. § 3160.0-5 (2015)). But two years later, in 2017, BLM abruptly reversed course and rescinded the 2015 Rule. 82 Fed. Reg. 61,924 (Dec. 29, 2017). As a result, BLM’s 2015 Rule does not currently protect groundwater from contamination (though Onshore Order 2 remains in effect).

In opposing the 2015 Rule, two oil and gas industry trade associations admitted that “existing practice for locating and protecting usable water” does not actually comply with the 10,000 ppm standard set by Onshore Order 2 and the Safe Drinking Water Act. AR BI 7479. Instead, the trade associations acknowledged that companies in Montana are not required to demonstrate to BLM whether they will be drilling through usable water, and that BLM has required them to install protective casing only through a relatively shallow rock formation (known as the

Pierre Shale). The trade associations also explained that nationwide, actually requiring companies to comply with the 10,000 ppm usable water standard would cost industry nearly \$174 million each year in additional expenses. AR BI 7481–82.

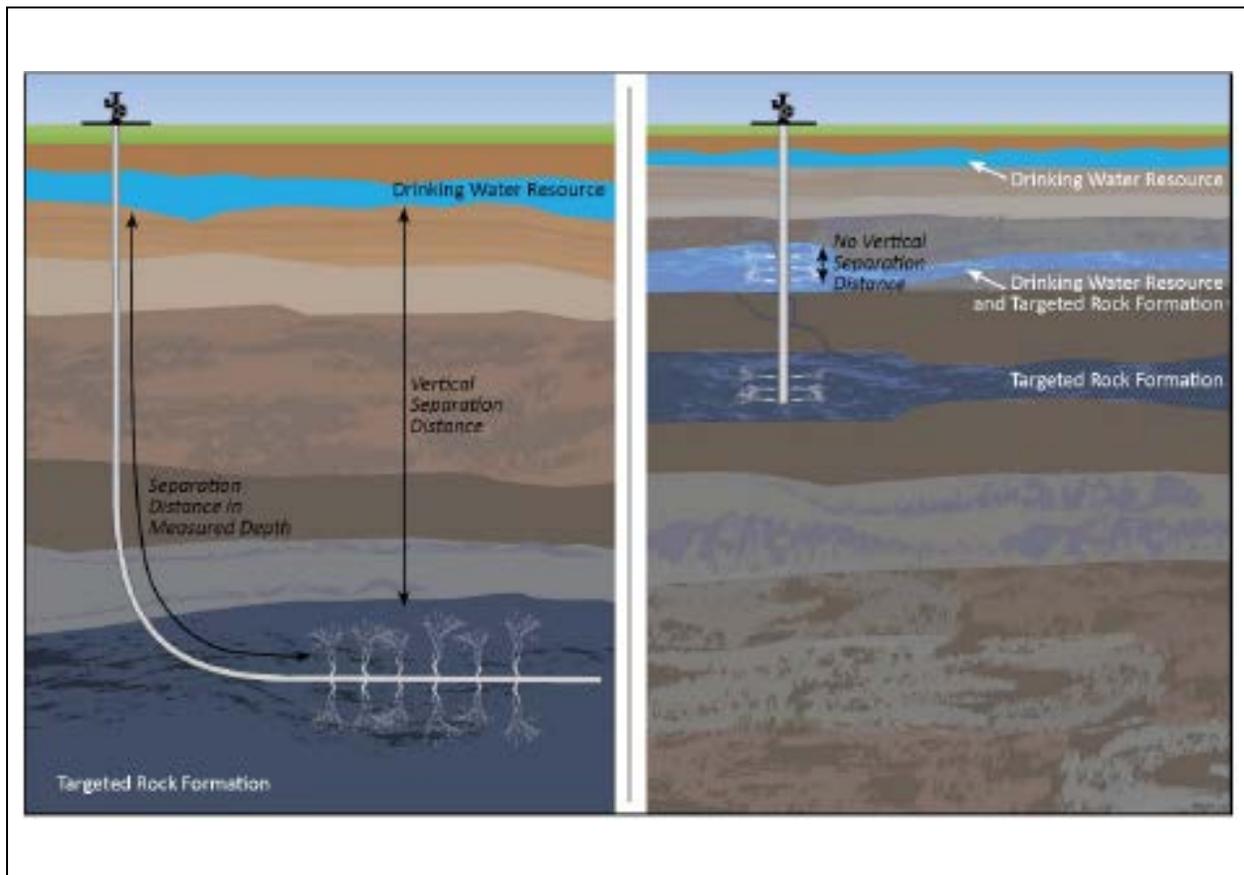
A recent report studying a sample of existing oil and gas well records in Montana confirms industry admissions that well casing and cementing practices do not always protect underground sources of drinking water. AR BI 5068 (“DiGiulio Report”). Surface casing for wells was generally shallow, extending only 288–617 feet below ground, even though the oil and gas wells themselves extended thousands of feet below ground and through deeper aquifers containing usable water. AR BI 5070. The report therefore concluded that “[b]ased on the shallow depth of surface casing and apparent lack of cement outside intermediate or production casing at depths in contact with usable water, it does not appear that usable water was protected during production at these wells as required by Onshore Rule #2.” *Id.*; accord AR BI 13404 (EPA Hydraulic Fracturing Report noting that when surface casing does not extend below drinking water resources, drilling is more likely to lead to aquifer contamination).

In addition to problems with well casing not extending below all sources of drinking water, oil and gas drilling practices in Montana also may contaminate usable water through a different pathway: by allowing hydraulic fracturing

operations to inject toxic chemicals into oil and gas formations that flow into groundwater. Hydraulic fracturing, or fracking, is an oil and gas stimulation technique in which large volumes of hydraulic fracturing fluid—a mix of water, sand, and often-toxic chemicals—are injected into an oil or gas well bore under sufficient pressure to break apart the targeted oil- and gas-bearing rock formation. AR BI 13188, 13647, 13228. After the fracturing, oil, gas, and other fluids flow through the fractures and up the well to the surface for collection. Fracking is used on about 90% of new wells on federal lands. 80 Fed. Reg. at 16,131; *see also* AR MC 911 (explaining that the “majority” of wells in BLM’s Miles City Field Office are hydraulically fractured).

Drinking water aquifers are often separated from the oil and gas formation being fractured by thousands of vertical feet of subsurface rock (see figure on left, below). In other cases, however, fracturing occurs at much shallower depths. Where such “shallow fracturing” occurs, the formation being fractured is very close to the drinking water aquifer—sometimes they are even the same formation (see figure on right, below). As the 2016 EPA Hydraulic Fracturing Report explained, in general, the less separation distance between an oil and gas production zone and a drinking water aquifer, the more likely hydraulic fracturing is to contaminate drinking water. AR BI 13429. EPA’s Hydraulic Fracturing Report found that in some areas in Montana there was *no* vertical separation

between the hydraulically fractured rock formation and the bottom of the underground drinking water resource. AR BI 13431. In such cases, the EPA report found hydraulic fracturing may introduce toxic fracturing fluid “into formations that may currently serve, or in the future could serve, as a drinking water source for public or private use.” AR BI 13177.



AR BI 13430 (figure 2, from EPA’s Hydraulic Fracturing Report, depicting examples of hydraulic fracturing with a relatively large separation distance between the shallowest fracture initiation depth in a well to the base of the

protected drinking water resource (first panel), and the absence of any separation distance (second)).

Other recent studies have made similar findings. Researchers discovered oil and gas-related contamination in Pavillion, Wyoming due to shallow fracking. AR BI 7500. Their report explained that the contamination discovered in Pavillion, Wyoming, was also likely to occur in other places shallow fracking occurs, including in Montana. AR BI 7486, 7494.

As EPA explained, contamination from shallow fracturing “is of concern in the short-term if people are currently using these formations as a drinking water supply. It is also of concern in the long-term, because drought or other conditions may necessitate the future use of these formations for drinking water.” AR BI 13177, 13688–91. In Montana, where climate-change-driven drought will cause increased reliance on groundwater, the contamination of these underground sources of drinking and agricultural water threatens the future of our state.

V. Procedural History

Despite the climate crisis, in a recent push to open up more federal lands to oil and gas drilling, BLM has sold, and is proposing to sell, millions of acres of oil and gas leases in the western United States. This case challenges two of these sales in Montana, the December 2017 lease sale and the March 2018 lease sale, which are addressed by four EAs.

I. December Lease Sale

In December 2017, BLM offered 204 Montana lease parcels for sale in the Miles City Field Office, covering 98,889 acres. AR MC 3528. BLM did not prepare an EIS. Instead, BLM relied on an EA, which did not evaluate the potential for leasing to cause site-specific impacts on groundwater. AR MC 3543–44. It also entirely failed to quantify cumulative greenhouse gas emissions from other proposed lease sales in Montana and surrounding Western states. AR MC 3567–72. Even when the public, including Conservation Plaintiffs, submitted formal protests on the lease sale, pointing out that the EAs wrongly ignored the threats to groundwater and climate, BLM refused to analyze or mitigate these issues, asserting that it did not need to do so until the APD stage. AR MC 2158–2161; *see infra* pp. 26, 33–35, 37.

II. March Lease Sale

In March 2018, BLM offered 83 leases for sale in the Billings Field Office, Butte Field Office, and Northcentral (“HiLine”) District (which includes the Malta, Glasgow, & Havre Field Offices), covering 46,174 acres. AR BI 10; AR BU 9; AR HI 3710. Even though the sale occurred at a single auction, AR BI 4705, the agency segmented its NEPA analysis for the sale into three separate documents: An EA for BLM’s North Central Montana District Office, AR HI 13; an EA for BLM’s Billings Field Office, AR BU 18; and an EA for BLM’s Butte Field Office,

AR BI 19. As with the December sale, these EAs failed to analyze the reasonably foreseeable impacts of leasing on groundwater and climate change. *See* AR BI 53–56, 64–68; AR BU 47–50, 55–60; AR HI 41–44, 51. Once again, the public, including Conservation Plaintiffs, submitted comments and protests on the EAs and sale—again asking BLM to consider the impact of the sale on groundwater and climate. *See, e.g.*, AR BI 4967–71, 5974–86, 4859–75. Protesters also asked BLM to consider specific alternatives to leasing all parcels that would protect groundwater. *See, e.g.*, AR BI 4971–72. BLM refused, again deferring its analysis to the APD stage. AR BI 13; AR BU 12; AR HI 7.

Having exhausted their administrative remedies, Conservation Plaintiffs filed this lawsuit challenging BLM’s failure to analyze the lease sales’ impacts on Montana’s water supply caused by exacerbating climate change and direct groundwater pollution. Conservation Plaintiffs have standing based on the standing of their members Steve Gilbert, Art Hayes, Rebecca Fisher, Jeremy Nichols, and Wade Sikorski, as well as individual Plaintiffs Bonnie Martinell and David Katz, as detailed in the attached standing declarations.

STANDARD OF REVIEW

A party is entitled to summary judgment if “there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). Courts reviewing claims under NEPA pursuant to the

Administrative Procedure Act (“APA”) “shall 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). An action is arbitrary and capricious “if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *Motor Vehicle Mfr. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

ARGUMENT

I. BLM Failed to Consider the Cumulative Climate Effects of the Lease Sales.

BLM includes *no* cumulative impact analysis in its Lease Sale EAs, as required by NEPA. Under NEPA, BLM is required to consider the incremental impact of each leasing decision, “added to other past, present, and reasonably foreseeable future actions,” 40 C.F.R. § 1508.7, which here means including in its analysis other parcels in the same lease sale, and leases sold in recent, concurrent, and foreseeable future sales. Because climate change results from the aggregate contributions of numerous sources, “[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.” *Ctr. for Biological Diversity v. Nat’l Highway*

Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. 2008). By not giving a cumulative accounting of the climate impacts of recent, concurrent, and foreseeable future lease sales in Montana, BLM demonstrates only that the climate impacts of the parcels analyzed in each EA are “individually minor,” without confronting the question, mandated by NEPA, of whether those impacts, when considered cumulatively, are “collectively significant.” *Id.* (quoting 40 C.F.R. § 1508.7).

Instead, each EA only considers the greenhouse gas emissions resulting from the leases in that EA, while ignoring emissions from other recent, concurrent, and reasonably foreseeable future lease sales. AR MC 2523, 2524–26; AR BI 54–56; AR BU 48–50; AR HI 42–44. For example, the March 2018 Lease Sale— involving 83 leases covering 46,174 acres—was evaluated in *three* separate EAs: (1) one for the Billings Field Office; (2) one for the Butte Field Office; and (3) one for the North Central Montana District Office. Each EA, however, ignored the leases in the other two EAs—even though they were offered in the very same sale. Such a splintered analysis inaccurately portrayed the impacts of the March 2018 lease sale as isolated and de minimis. AR BI 55; AR BU 48–49; AR HI 43.

Moreover, BLM’s EAs do not address the cumulative emissions from the many other lease sales the agency was conducting during the same period. The EAs for BLM’s March 2018 sale ignore the greenhouse gas emissions from leases

sold at the December 2017 lease sale. *See* AR BI 50–56 (climate discussion omitting reference to December 2017 lease sale); AR BU 43–50 (same); AR HI 38–44 (same). More broadly, since early 2017, BLM has sold or proposed to sell millions of acres of new oil and gas leases on public lands in the western United States. BLM was well aware of those other lease sales, which included a total of at least 859 parcels covering 620,548.17 acres in 2017 alone. AR BI 5979; *see also* AR BI 5960–61 (discussing other recent lease sales). The EAs for the December 2017 and March 2018 lease sale completely fail to address the reasonably foreseeable greenhouse gas emissions from those other lease sales. *See* AR MC 2522–23, 2525–26; AR BI 50–56; AR BU 43–50; AR HI 38–44.

BLM’s piecemealing is improper under NEPA. *See Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1214–16 (9th Cir. 1998) (overturning Forest Service EA that analyzed impacts of only one of five concurrent logging projects in the same region). BLM’s cumulative effects analysis “must give a realistic evaluation of the total impacts and cannot isolate a proposed project, viewing it in a vacuum.” *Grand Canyon Trust v. Fed. Aviation Admin.*, 290 F.3d 339, 342 (D.C. Cir. 2002). BLM’s approach also failed its obligation to “take a ‘hard look’ at how the choices before [it] affect the environment, and then to place [its] data and conclusions before the public.” *Or. Nat. Desert Ass’n v. BLM*, 625 F.3d 1092, 1099 (9th Cir. 2008).

BLM attempts to paper over the gap in its analysis by tiering each EA to the programmatic EIS for the relevant BLM RMP. AR MC 2521; AR BI 53; AR BU 46; AR HI 41. This attempt fails because the climate analyses in the EISs for those RMPs (the RMP/EISs) were themselves unlawfully narrow, as this Court has already recognized. *See W. Org. of Res. Councils v. BLM*, No. CV 16-21-GF-BMM, 2018 WL 1475470, at *13 (D. Mont. Mar. 26, 2018) (finding Miles City RMP unlawful for failing to consider the indirect/downstream combustion of the coal, oil and gas resources open to development). Each of the RMP/EISs to which BLM attempted to tier its EAs suffers from the same flaw: it included an analysis of direct emissions in the respective planning area, but omitted analysis of foreseeable indirect (downstream) emissions. AR MC 1186, AR BI 2333–35, AR HI 1349.² Thus, there is no combination of analysis in the RMP/EISs or the lease sale EAs that provides a hard look at cumulative climate impacts as NEPA demands. Such analysis must be both cumulative—assessing each leasing decision when “*added to* other past, present and reasonably foreseeable future actions”—and must include direct and indirect (downstream) emissions. 40 C.F.R. § 1508.7 (emphasis added).

² The exception is the Butte RMP/EIS, which did not quantify greenhouse gas emissions at all. AR BU 980.

Importantly, BLM may not tier the site-specific leasing NEPA analyses to any of the programmatic EIS analyses, because the full reasonably foreseeable impacts of the site-specific actions were not addressed therein. *See* 40 C.F.R. §§ 1502.20, 1508.28; *Pennaco Energy, Inc. v. U.S. Dep’t of Interior*, 377 F.3d 1147, 1159–60 (10th Cir. 2004) (holding that BLM could not rely on an RMP/EIS for a lease sale where that RMP/EIS did not analyze the activities at issue in the lease sale); *see also* 43 C.F.R. § 46.140 (tiering to a broader EIS “must include a finding that the conditions and environmental effects described in the broader NEPA document are still valid or address any exceptions”). Here, BLM’s tiered analysis fails to account for the combined *indirect downstream* emissions from its oil and gas leasing decisions. Accordingly, the RMP/EISs cannot salvage the EAs for these two lease sales. *See San Juan Citizens All. v. BLM*, 326 F. Supp. 3d 1227, 1248–49 (D.N.M. 2018) (finding BLM violated NEPA by failing to address cumulative climate impacts, including downstream greenhouse gas emissions).

Just as in *San Juan Citizens Alliance*, BLM here fails to provide a cumulative impacts analysis that includes the “necessary contextual information” to make it meaningful: a quantification of both direct and indirect (downstream) emissions from all foreseeable sources, including other parcels in the same lease sale, and leases sold in other sales during the same time period.

BLM also attempts to avoid its obligation to consider cumulative greenhouse gas emissions by deferring such analysis to the APD stage. AR MC 2522; AR BI 53; AR BU 47; AR HI 41–42. This attempt also fails. BLM may not wait until the APD stage, but must conduct environmental analysis “at the earliest possible time.” 40 C.F.R. § 1501.2; *see also Kern v. BLM*, 284 F.3d 1062, 1072 (9th Cir. 2002) (“NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment. Rather, it is designed to require such analysis as soon as it can reasonably be done.”). Because the leases at issue are not fully covered by no-surface occupancy stipulations, BLM’s issuance of the leases constitutes an irreversible commitment of resources, requiring BLM to fully analyze the environmental impacts of leasing. *See Conner v. Burford*, 848 F.2d 1441, 1449–50 (9th Cir. 1988); *N.M. ex rel. Richardson v. BLM*, 565 F.3d 683, 718 (10th Cir. 2009); *Sierra Club v. Peterson*, 717 F.2d 1409, 1414–15 (D.C. Cir. 1983).

BLM failed to address the reasonably foreseeable cumulative emissions from its lease sales combined with other recent, concurrent, and foreseeable future lease sales. BLM’s failure to consider the context of its lease sales violated NEPA.

II. BLM Failed to Take a Hard Look at the Impact of the Lease Sales on Groundwater.

The droughts and increased temperatures caused by climate change will require Montanans to increasingly rely on groundwater supplies for domestic and

agricultural uses. But BLM also failed to take a hard look at the lease sales' impacts on groundwater, disregarding substantial record evidence that current oil and gas practices may be putting drinking water at risk.

NEPA's "hard look" obligation requires agencies to consider potential environmental impacts, including "all foreseeable direct and indirect impacts," and "should involve a discussion of adverse impacts that does not improperly minimize negative side effects." *N. Alaska Envtl. Ctr. v. Kempthorne*, 457 F.3d 969, 975 (9th Cir. 2006) (quoting *Idaho Sporting Congress, Inc. v. Rittenhouse*, 305 F.3d 957, 973 (9th Cir. 2002) and *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1241 (9th Cir. 2005)). Whether an impact is "reasonably foreseeable" depends on whether there is a "reasonably close causal relationship" between the agency's action and the environmental impact. *Ctr. for Biological Diversity v. BLM*, 937 F. Supp. 2d 1140, 1155 (N.D. Cal. 2013).

Here, the Conservation Plaintiffs gave BLM substantial evidence that surface casing does not always extend below drinking water, putting drinking water at risk. *See, e.g.*, AR BI 7479, 7481–82 (comments from oil and gas trade associations explaining that they do not always extend surface casing below usable water); AR BI 5068–71 (DiGiulio Report confirming that wells on BLM lands in Montana lack surface casing below usable water); AR BI 13458 (EPA Hydraulic Fracturing Report explaining that failing to extend surface casing below usable

water increases the risk of contamination a thousand-fold). The record also shows that shallow fracturing, where fracturing fluid is injected very close to or within drinking water aquifers, occurs in Montana, similarly putting drinking water at risk. *See, e.g.*, AR BI 13431 (EPA Hydraulic Fracturing Report showing that Montana includes areas at risk of shallow fracturing); AR BI 7500–7508 (Scientific American article describing scientific study documenting contamination from shallow fracturing); *see also* AR BI 7486–98 (scientific study); AR BI 7510–14 (article describing the study’s findings). Under NEPA, BLM was not permitted to ignore these risks. *N. Alaska Env’tl. Ctr.*, 457 F.3d at 975. Instead, to satisfy its “hard look” requirements under NEPA, BLM should have acknowledged this information, analyzed which leases posed the highest risk, and identified measures to avoid or mitigate the risk to usable water. Such measures could include refusing to lease areas that might impact drinking water, or imposing lease stipulations requiring specific measures for adequate water testing and well casing.

The information necessary to do such an evaluation was readily available at the leasing stage. For example, BLM could have reviewed its own permitting files for existing oil and gas wells, and produced water records on those existing wells to assess groundwater quality and depth, and to determine what surface casing depth should be required. *See, e.g.*, AR BI 5069–71 (DiGiulio Report analyzing BLM’s own leasing files and showing that wells were drilled through usable

groundwater without adequate surface casing). The agency could have also obtained information from other sources such as U.S. Geological Survey reports showing aquifer depth and quality to help determine which areas overlie usable groundwater and are most at risk for shallow fracturing. *See, e.g.*, AR BI 4974–78 (report submitted to BLM analyzing the depths and qualities of the aquifers underlying the lease sales).

But rather than review and assess this critical information on the risks to groundwater, BLM (1) wrongly assumed state and federal law would protect water quality, ignoring evidence to the contrary; and (2) illegally deferred its analysis to the drilling stage.

To the extent its EAs discussed groundwater protection at all, BLM arbitrarily and capriciously assumed that state and federal laws would require that surface casing extend below all usable water.³ This assumption was arbitrary and

³ *See* AR MC 2497–98 (Miles City Field Office EA failing entirely to discuss how groundwater will be protected by casing); AR BI 68 (Billings Field Office EA concluding that groundwater would be protected because “[a]ll wells would be cased and cemented to depths below accessible freshwater zones pursuant to [Montana Board of Oil and Gas Conservation] rules and federal regulations”); AR BU 56–57 (Butte Field Office EA stating that “[a]ll well casing and cementing operations that occur on Federal/Indian lands would be reviewed and approved by BLM and conducted in accordance with the applicable requirements specified in Onshore Oil and Gas Order No. 2 and the American Petroleum Institute (API) standards”); AR HI 50 (HiLine District EA failing to discuss how groundwater would be protected by casing).

capricious because it was contrary to the evidence in the record. *See supra* pp. 13–15 (describing evidence of inadequate surface casing); *see also supra* pp. 12–14 (explaining that neither Onshore Order 2 nor state regulations ensure adequate surface casing, and that BLM rescinded its 2015 Rule which would have provided this protection).

Similarly, to the extent that the EAs discussed the dangers of shallow hydraulic fracturing at all, they wrongly assumed that Montana state law would protect underlying sources of drinking water.⁴ But the EAs never explained how these regulations would actually protect drinking water. Like the federal regulations, Montana state regulations are vague and lack specific measures to ensure that all usable aquifers are protected. *See* Mont. Admin. R. 36.22.1001 (requiring surface casing to a depth necessary to protect water that is “reasonably accessible for agricultural and domestic use,” but not defining what “reasonably accessible” means); *see also id.* 36.22.302 (defining freshwater as containing less than 10,000 ppm total dissolved solids, but not requiring operators to take specific steps to protect this water). Moreover, BLM did not address the evidence before it

⁴ *See* AR MC 2761 (Miles City Field Office EA admitting that the EA does not discuss hydraulic fracturing); AR BI 68 (Billings Field Office EA concluding that Montana regulations would prevent contamination from hydraulic fracturing); AR BU 59 (Butte Field Office EA concluding same); AR HI 13–98 (HiLine District EA failing to mention or discuss hydraulic fracturing).

showing that, in practice, all usable aquifers are *not* being protected. *See supra* pp. 13–18.

BLM’s assumption that groundwater would be protected by current law was thus baseless. The EAs did not determine the basic information needed to assess the risk to groundwater, including what underground sources of drinking water were located under which leases and at what depths and quality. Nor did they evaluate what foreseeable oil and gas formations might be targeted on the leases and at what depths, and therefore which leases might pose the highest risk of contamination due to shallow fracking. And while BLM assumed state and federal law would protect underground drinking water from contamination because wells would be cased below usable water, AR MC 2497–98; AR BI 68; AR BU 56–57; AR HI 50, the agency entirely ignored evidence that companies do not routinely extend their well casing to such depths, AR BI 5069–71; AR BI 7479, 7481–82.⁵

⁵ In its protest denial on the March 2018 sale, BLM asserted for the first time and without evidentiary support that it would not “‘always’ be the most protective mitigation for groundwater resources” to seal the entire length of usable water. AR BI 4769. This contradicts BLM’s own assumptions elsewhere that “operators must properly install and cement metal surface well casing below the deepest protected water source” in order to protect groundwater. Answer ¶ 30; *see also* AR BI 68 (Billings Field Office EA explaining that wells must “be cased and cemented to depths below accessible freshwater zones”); AR MC 2161 (concluding groundwater would be protected because “all surface casing and some deeper, intermediate zones are required to be cemented from the bottom of the cased hole to the surface”). To the extent BLM now believes groundwater can be protected absent adequate surface casing—despite its repeated statements elsewhere—the

Moreover, while BLM assumed state law would protect groundwater from shallow fracturing, there is no Montana law that prohibits the practice, and the evidence before BLM demonstrates that shallow fracturing occurs in Montana and can lead to groundwater contamination. AR BI 4974–78, 7500–08, 13431.

BLM’s failure to address information demonstrating that current law does not protect drinking water makes this case similar to *Richardson*, 565 F.3d at 715. There, BLM concluded that issuing an oil and gas lease would have only a minimal impact on a groundwater aquifer in New Mexico, because state and federal regulations were in place that were aimed at preventing aquifer contamination. *Id.* However, the record contained evidence that gas wells had frequently contaminated New Mexico’s groundwater, and that the regulations did not therefore preclude the possibility of contamination. *Id.* The Tenth Circuit held that BLM failed to satisfy NEPA’s “hard look” requirement because evidence in the record indicated that impacts to groundwater were a possibility, and no evidence pointed to the opposite conclusion. *Id.* The court therefore declined to defer to BLM’s unsupported conclusion that the impact would be minimal. *Id.* at 713, 715.

agency failed to explain its reversal and provide an analysis to support it. *See Fed. Commc’ns Comm’n v. Fox Television Stations, Inc.*, 556 U.S. 502, 515–16 (2009). Moreover, even if BLM were correct that extending surface casing below usable water is not always the best mitigation, it had a duty to analyze what other mitigation measures would be effective and whether they would be applied.

The same result should be reached here. BLM wrongly assumed that state and federal regulations would protect usable water by requiring surface casing to be cemented below usable water, but there is ample evidence in the record that this has not happened in practice. *See supra* pp. 13–15. There is also evidence that shallow fracturing may contaminate drinking water in Montana. AR BI 13431; *see also* AR BI 7500–08 (parallel study in Wyoming). BLM cannot therefore ignore evidence that groundwater may be compromised by oil and gas drilling on the basis that there are some regulations in place. *See also Or. Wild v. BLM*, No. 6:14-CV-0110-AA, 2015 WL 1190131, at *12 (D. Or. Mar. 14, 2015) (holding that BLM failed to take a hard look at environmental impacts under NEPA where it was presented with information about potential impacts of its action that it then failed to adequately consider).

In addition to wrongly concluding that state and federal law would adequately protect groundwater, BLM also unlawfully attempted to defer meaningful evaluation until later, when it considers APDs. AR BI 4769–71, 4774; *see also Kern*, 284 F.3d at 1072 (“NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment. Rather, it is designed to require such analysis as soon as it can reasonably be done.”).

BLM stated that it would conduct “site-specific NEPA analysis” “upon receipt of an APD,” and concluded that the act of issuing the leases “would have

no direct impacts on water resources because no surface or subsurface disturbance would occur.” AR BI 4770–71. The agency characterized impacts from developing the leases as not being “direct” impacts. *Id.* BLM did not, however, dispute that these are indirect impacts, which “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” 40 C.F.R.

§ 1508.8(b). But whether an impact is direct or indirect is irrelevant because NEPA requires agencies to analyze *both* direct and indirect impacts. *Id.* §§ 1502.16(b), 1508.8(b), 1508.9(b), 1508.25(c). Because it is reasonably foreseeable that issuing a lease will lead to subsequent oil drilling—and potentially groundwater contamination—groundwater contamination represents an indirect effect of the lease sale that must be evaluated at the earliest possible stage. *Conner*, 848 F.2d at 1450-51; *Ctr. for Biological Diversity v. BLM*, 937 F. Supp. 2d 1140 at 1155–56 (holding that the threat of water contamination caused by hydraulic fracturing was a reasonably foreseeable indirect effect of BLM’s oil and gas lease sales and should have been addressed in the agency’s environmental assessment). Moreover, BLM’s issuance of leases is an irretrievable commitment of resources, and the agency may not delay evaluating the impact of the lease sale on groundwater until the APD stage. *Conner*, 848 F.2d at 1450–51. Making an irreversible commitment of resources, while deferring an assessment of groundwater, is “precisely the type of environmentally blind decision-making NEPA was designed to avoid.” *Id.*

This is true even though BLM may not know yet whether a particular parcel will be drilled. AR BI 4771. “The government’s inability to fully ascertain the precise extent of the effects of mineral leasing ... is not ... a justification for failing to estimate what those effects might be before irrevocably committing to the activity.” *Conner*, 848 F.2d at 1450. As discussed above, the information needed to assess which leases might have the highest risk for groundwater contamination—information critical to informing whether BLM should lease the parcels in the first place, or require additional stipulations to protect groundwater—was available at the leasing stage. *See supra* p. 15. BLM was required to evaluate these impacts at the leasing stage, but failed to do so. *See* 40 C.F.R. § 1501.2 (BLM must conduct environmental analysis “at the earliest possible time”).

The record reflects that BLM knew that in practice, operators do not routinely case and cement wells to protect all usable water sources, and that groundwater impacts can occur from shallow hydraulic fracturing in Montana. BLM’s refusal to evaluate this information before issuing the challenged leases constituted a failure to take a hard look at the impacts of issuing the leases, in violation of NEPA.

III. BLM Failed to Consider a Reasonable Range of Alternatives That Would Have Protected Groundwater.

BLM further violated NEPA in the March 2018 sale by refusing to consider alternatives to avoid or minimize the groundwater impacts of its leasing decisions.

NEPA mandates that BLM provide a detailed statement regarding the alternatives to a proposed action. *See* 42 U.S.C. § 4332(2)(C)(iii), (2)(E). This alternatives analysis is the “heart” of the environmental review. 40 C.F.R. §§ 1502.14, 1508.9(b). BLM is required to “[r]igorously explore and objectively evaluate all reasonable alternatives.” *Id.* § 1502.14(a). Considering reasonable alternatives is necessary to ensure that BLM takes into account all possible approaches to, and potential environmental impacts of, a particular project. *N. Alaska Env'tl. Ctr.*, 457 F.3d at 978. “NEPA’s alternatives requirement, therefore, ensures that the ‘most intelligent, optimally beneficial decision will ultimately be made.’” *Id.* The existence of “a viable but unexamined alternative renders an environmental impact statement inadequate.” *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 814 (9th Cir. 1999) (quoting *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985)).

Here, BLM violated NEPA by considering only two alternatives in each of the EAs it prepared for the March 2018 lease sale: leasing all of the parcels, and the no action alternative. AR BI 29–32; AR BU 26–27; AR HI 23–24. It refused to evaluate alternatives suggested by Conservation Plaintiffs that would have protected groundwater, including not leasing areas overlying usable groundwater, and an alternative adding lease stipulations to protect all usable groundwater zones,

such as stipulations requiring pre-leasing groundwater testing and specified casing and cementing depths. AR BI 4774–75.

BLM claimed that it would consider alternatives to protect groundwater at the APD stage. AR BI 4771. But at the APD stage, BLM generally cannot prevent drilling on a lease altogether. *Conner*, 848 F.2d at 1446, 1449–51. By then, the agency will be unable to reasonably evaluate some alternatives, including not leasing areas with a high likelihood of drinking water contamination. Moreover, the record undercuts BLM’s suggestion that such an analysis will actually happen at the APD stage. BLM offered no evidence showing that it considers such NEPA alternatives at the APD stage. On the contrary, the record contains substantial evidence showing that at the APD stage, BLM does not always enforce the 10,000 ppm usable water protection standard, that operators do not routinely test for whether groundwater is protected, and do not routinely cement well casing below the deepest protected water source. *Supra* pp. 13–18. It was arbitrary and capricious for BLM to refuse to even consider an alternative that would have required additional protective measures as a condition of the lease sale itself. This is especially true given that, just three years earlier, BLM itself recognized the need for stronger groundwater protections when it promulgated the now-rescinded 2015 Rule. 80 Fed. Reg. at 16,128; *see supra* p. 14.

Courts have routinely rejected agencies' failure to consider reasonable alternatives that would present a middle ground between full and no development. For example, in *Nat. Res. Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 813–14 (9th Cir. 2005), the Ninth Circuit rejected an EIS that refused to consider a viable alternative to a timber program that would have been sufficient to meet market demand projections for timber while providing greater protection for old-growth habitat. And in *Wilderness Soc'y v. Wisely*, 524 F. Supp. 2d 1285, 1312 (D. Colo. 2007), the court rejected an EA for oil and gas leasing that considered only the proposed action and a no-action alternative, holding that BLM should have considered a “potentially appealing middle-ground compromise between the absolutism of the outright leasing and no action alternatives” that would have reduced environmental impacts. *See also Muckleshoot Indian Tribe*, 177 F.3d at 813 (holding that the Forest Service failed to consider an adequate range of alternatives when the “EIS considered only a no action alternative along with two virtually identical alternatives”); *W. Org. of Res. Councils*, 2018 WL 1475470, at *9 (reaching similar conclusion about BLM's failure to consider middle-ground alternative for RMP); *Wilderness Workshop v. BLM*, 342 F. Supp. 3d 1145, 1166–67 (D. Colo. 2018) (similar); *Colo. Envtl. Coal. v. Salazar*, 875 F. Supp. 2d 1233, 1248–50 (D. Colo. 2012) (holding that BLM unlawfully failed to consider an

alternative to oil and gas leasing that would have involved minimal surface disturbance).

So too here: BLM violated NEPA by failing to consider middle ground solutions that would have protected groundwater.

IV. BLM’s Findings of No Significant Impact are Arbitrary and Capricious, and BLM Should Have Prepared an EIS or EISs.

Because BLM unlawfully failed to consider the climate and cumulative impacts of the lease sales, and because it arbitrarily and capriciously disregarded evidence of impacts to groundwater, BLM’s FONSIIs are also invalid. The record demonstrates that impacts may be significant, and, accordingly, BLM should have prepared an EIS or EISs.

NEPA requires that agencies develop an EIS before committing resources to each major federal action “significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). When considering whether an agency acted arbitrarily or capriciously in issuing a FONSI instead of completing an EIS, the reviewing court “must determine whether the agenc[y] that prepared the [environmental assessment] took a ‘hard look’ at the environmental consequences’ of the proposed action.” *Anderson v. Evans*, 371 F.3d 475, 486 (9th Cir. 2004). “[T]o prevail on a claim that the agency violated its statutory duty to prepare an EIS, a plaintiff need not show that significant effects will in fact occur. It is enough for the plaintiff to raise substantial questions whether a project may

have a significant effect on the environment.” *Ctr. for Biological Diversity v. BLM*, 937 F. Supp. 2d at 1154.

To determine whether a proposed project’s impacts will be “significant,” an agency must evaluate, among other factors, “the degree to which the effects on the quality of the human environment are likely to be highly controversial,” “the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks,” “whether the action is related to other actions with individually insignificant but cumulatively significant impacts,” and “the degree to which the proposed action affects public health or safety.” 40 C.F.R. §§ 1508.27(b)(4), (5), (7), (2).

First, there is controversy and uncertainty regarding the impact of greenhouse gas emissions from the Lease Sales. An action is controversial when there is “a substantial dispute about the size, nature, or effect of the major Federal action rather than the existence of opposition to a use.” *Blue Mountains Biodiversity Project*, 161 F.3d at 1212 (quoting *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1335 (9th Cir. 1992)). On the one hand, BLM frames the climate effects of greenhouse gas emissions from the Lease Sales as trivial. *See* AR MC 2523 (expressing the emissions as a tiny percentage of statewide and national greenhouse gas emissions); AR BI 55 (same); AR BU 49 (same); AR HI 43 (same). On the other hand, Conservation Plaintiffs presented evidence that the

economic damages to society of greenhouse gas emissions are far from trivial, ranging from \$10 to \$212 per metric ton of carbon dioxide released to the atmosphere. *See, e.g.*, AR BI 4751. BLM, in response, asserted that there is “uncertainty” regarding the translation of environmental impacts into economic damages. AR MC 2832–33. “Therein lay the controversy.” *Nat’l Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 737 (9th Cir. 2001) (mandating EIS due to uncertainty and controversy in light of dispute over project’s impacts). This Court reached the same conclusion on the same issue in *Montana Environmental Information Center v. OSMRE*, 274 F. Supp. 3d 1074, 1104 (D. Mont. 2017) (holding that “uncertainty” over greenhouse gas emissions “militates in favor of an EIS, not against it”).⁶

Second, as described above, the record contains substantial questions about the cumulative impacts of these lease sales. *See* 40 C.F.R. § 1508.27(b)(7). “If several actions have a cumulative environmental effect, ‘this consequence must be considered in an EIS.’” *Blue Mountains Biodiversity Project*, 161 F.3d at 1214 (quoting *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1378 (9th Cir. 1998)). As in *Blue Mountains Biodiversity Project*, here, each EA fails to

⁶ The extent to which hydraulic fracturing is causing groundwater contamination is also a subject of scientific controversy. *See, e.g.*, AR BI 7511–13 (describing controversy in scientific community over the results of a study of groundwater contamination in Pavillion, Wyoming).

address, or even mention, other sales, even those occurring in the same geography with simultaneous timing. *Id.* at 1215 (timber sales).

Third, the record contains substantial evidence that current industry practice and state and federal law will not adequately protect usable groundwater, and that the lease sales may have a significant effect on the environment. *See supra* pp. 13–18. Because it failed to address that evidence in evaluating the significance of the action and issuing its FONSI, BLM had no rational basis for concluding that the leases would have no significant impact on groundwater. *See* AR MC 5–8; AR BI 11–17; AR BU 10–16; AR HI 5–12. The agency accordingly violated NEPA in approving the sales. *See, e.g., Ctr. for Biological Diversity v. BLM*, 937 F. Supp. 2d at 1154–56 (concluding that BLM had unreasonably concluded that oil and gas lease would have no significant impact on the environment when it failed to consider evidence that hydraulic fracturing would put municipal water supplies at risk).

V. Conclusion

For the reasons explained above, BLM has violated NEPA. The Court should thus find that BLM has violated NEPA, and set aside (1) the environmental assessments for the December 2017 and March 2018 lease sales; (2) the associated findings of no significant impact; (3) the associated decision records; (4) the decisions to dismiss Plaintiffs’ protests of the lease sales; (5) and the leases.

Respectfully submitted,

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