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Western Environmental Law Center

December 14, 2012

Sent via Overnight Federal Express Delivery to BLM Colorado State Office

February 2013 Oil & Gas Lease Sale Final EA/FONSI

Helen Hankins, State Director
Bureau of Land Management
Colorado State Office
2850 Youngfield Street
Lakewood, CO 80215

**Re: Protest of the Tres Rios February 2013 Oil and Gas Lease Sale Parcels,
DOI-BLM-CO-S010-2012-0061 EA**

Dear Ms. Hankins:

The Western Environmental Law Center submits the following comments on behalf of San Juan Citizens Alliance ("SJCA"), EARTHWORKS, Great Old Broads for Wilderness, Sheep Mountain Alliance, Bruce Baizel, Natural Resources Defense Council, and Sierra Club, (hereafter referred to as the Protesters), in protest to the Bureau of Land Management ("BLM") Tres Rios Field Office ("TRFO") Final Environmental Assessment ("EA") and unsigned Finding of No Significant Impact ("FONSI") prepared for the February 2013 competitive oil and gas lease sale, pursuant to 43 CFR 3120.1-3, and identified as DOI-BLM-CO-S010-2012-0061 EA. The Protesters' interests in these parcels, and the statement of reasons supporting this protest, are set forth below.

Protesters challenge the inclusion of all Tres Rios parcels to be offered in the February 2013 lease sale, as identified by Serial Numbers:

COC75900, COC75901, COC75902, COC75903, COC75904, COC75905,
COC75906, COC75907, COC75908, COC75909, COC75910, COC75911.

In short, the Final EA and unsigned FONSI, dated November 16, 2012, are contrary to law for the same reasons that the draft EA and FONSI were deficient and contrary to law. Protesters submitted extensive comments on this draft assessment and preliminary finding to the TRFO and

BLM's Colorado State Office on October 2, 2012 ("Comments"). Despite the myriad concerns outlined in the Protesters earlier comments, the Final EA and unsigned FONSI are virtually identical to draft forms released by the TRFO. Accordingly, those comments, and the exhibits submitted in support thereof, are already part of the Administrative Record for these parcels and are therefore incorporated by reference, and Exhibits previously submitted will be referenced by the same exhibit number used in the Comments (collectively attached as Exhibit A). Additional, new exhibits submitted in support of these protests will be designated alphabetically and will be submitted along with this protest.

Protesters find it deeply troubling that earlier Comments have apparently not been considered in TRFO's Final EA. As Protesters continue to point out, Council on Environmental Quality ("CEQ") regulations provide that "public scrutiny [is] essential to implementing NEPA." 40 C.F.R. § 1500.1(b). In particular, the federal agency must "involve environmental agencies, applicants, and the public, to the extent practicable," 40 C.F.R. § 1501.4(b), and "[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures." *Id.* at § 1506.6(a); *see also, e.g., Bering Strait Citizens for Responsible Development v. U.S. Army Corps of Engineers*, 511 F.3d 1011, 1024 (9th Cir. 2008) (providing a framework for public participation in the NEPA process). "NEPA's public comment procedures are at the heart of the NEPA review process" and reflect "the paramount Congressional desire to internalize opposing viewpoints into the decision making process to ensure that an agency is cognizant of all the environmental trade-offs that are implicit in a decision." *California v. Block*, 690 F.2d 753, 770-71 (9th Cir. 1982). Moreover, as the Tenth Circuit has provided: "The purpose behind NEPA is to ensure that the agency will only reach a decision on a proposed action after carefully considering the environmental impacts of several alternative courses of action and *after taking public comment into account.*" *Forest Guardians v. U.S. Fish and Wildlife Service*, 611 F.3d 692, 717 (10th Cir. 2010) (emphasis added). Here, BLM seems intent on treating public participation as a box they can check off, rather than the type of meaningful engagement that CEQ regulations and the courts envision. BLM has now chosen proceed in a manner that has ignored public participation and engagement in the agency's NEPA process. As stewards of our public lands, more is required of BLM and its efforts to engage the public in the agency's oil and gas leasing and development decision-making. The agency's failure to consider and integrate public comments into the Final EA undermines the validity of BLM decision-making and its implementation of NEPA.

A. Protesters:

Founded in 1986, the **San Juan Citizens Alliance** ("SJCA") organizes people to protect our water and air, our lands, and the character of our rural communities in the San Juan Basin. SJCA focuses on four program areas: 1) *Wild San Juans Campaign*, preserving the San Juan National Forest lands and adjacent areas; 2) *Dolores River Campaign*, protecting the Dolores River watershed; 3) a *River Protection program*, safeguarding river flows and water quality in the San Juan basin; 4) *San Juan Basin Energy Reform Campaign*, ensuring proper regulation and enforcement of the oil, gas, and coal industry and transitioning to a renewable energy economy. SJCA has been active in BLM and National Forest oil and gas issues in southwest Colorado since the early 1990s, and has commented on virtually every multi-well drilling program, lease sale, and programmatic environmental review conducted in the region by the federal land management agencies since the early 1990s. Our members live, work, and recreate throughout

the San Juan Basin and San Juan Mountains. SJCA's members' health, use and enjoyment of this region is directly impacted by the sale of the parcels identified in this protest.

Earthworks is a nonprofit organization dedicated to protecting communities and the environment from the impacts of irresponsible energy and mineral development while seeking sustainable solutions. Earthworks' Oil & Gas Accountability Project (OGAP) works with people in tribal, urban, and rural communities across the country to protect their health, water, air, special lands, and the climate from energy development impacts and to promote a clean and renewable energy future. OGAP has worked on oil and gas issues in the Four Corners region since the organization was founded in 1999.

Great Old Broads for Wilderness is a national organization that uses the voices and activism of elders to preserve and protect wilderness and wild lands. Our vision is that wild places will have the respect and protection needed to preserve them for future generations. With more than two dozen chapters in 15 states Broads grassroots activism is making a difference. Our Four Corners Broadband, with 280 members, works on public lands issues in southwest Colorado.

Sheep Mountain Alliance is a grassroots citizens organization dedicated to the preservation of the natural environment in the Telluride region and Southwest Colorado. To this end, Sheep Mountain Alliance members live, work, recreate, and otherwise use and enjoy the lands that will be impacted by this proposal.

The **Sierra Club** is America's largest and most influential grassroots environmental organization with more than 1.4 million members and supporters nationwide. In addition to creating opportunities for people of all ages, levels and locations to have meaningful outdoor experiences, the Sierra Club works to safeguard the health of our communities, protect wildlife, and preserve our remaining wild places through grassroots activism, public education, lobbying and litigation. Sierra Club members live and recreate in the areas impacted by these sales.

The **Natural Resources Defense Council** (NRDC) is a non-profit environmental membership organization with more than over 565,000 members throughout the United States. More than 12,700 of these members reside in Colorado. NRDC's purpose is to safeguard the Earth: its people, its plants and animals and the natural systems on which all life depends. NRDC members use and enjoy public lands in Colorado, including lands within the Tres Rios Field Office, for a variety of purposes, including: recreation, solitude, wildlife viewing, drinking water sources, and conservation of natural resources. NRDC has had a longstanding and active interest in the protection of public lands in Colorado, the responsible development of oil and gas resources, and the protection of public health from environmental threats.

Bruce Baizel a property owner in close proximity (less than half a mile) to several of the nominated parcels for oil and gas leasing in the Hesperus area. My family and I have ridden on some of the parcels nominated, several of the parcels are likely to be accessed by the county road that essentially ends at entrance to our ranch, and the value of our house and property will be directly impacted by the truck traffic, noise, light and spills that will accompany development of some of these parcels. Black bear, deer, elk, wild turkey and eagles that are present on our ranch also use some of the parcels in question. Our sole source of water for the ranch is a well, which is down gradient from any wells that might be drilled on some of the parcels. Bruce submitted comments on the proposed leasing and has attended meetings held by the BLM over the years on

leasing in this area. When parcels in this area were previously nominated for leasing in 2008, he was assured by the BLM at public meetings, that no further leasing would occur until an amendment to the RMP had been completed. Bruce lives at “At Last Ranch,” 1072 CR 117, Hesperus, CO 81326. Bruce is Director, Energy Program, Oil and Gas Accountability Project, Earthworks.

B. Statement of Reasons

1. The FONSI cannot stand as it is premised on an environmental analysis that fails to comply with the National Environmental Policy Act and its implementing regulations.

a. Overview

The National Environmental Policy Act is based on a simple premise: prior to any major federal action, the acting agency must take a hard look at the reasonably foreseeable environmental impacts of that project, and it must disclose those impacts in a transparent and coherent way that the citizens of the United States can readily understand. *Marsh v. Or. Nat. Resources Council*, 490 U.S. 360, 371 (1989); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989).

Despite producing volumes of paper, the BLM has neither met the hard look requirement nor has it presented its analysis in a way that can be readily understood by the public, specifically but not limited to Protesters.

In response to comments, BLM revised its draft EA to include a clarification of the NEPA process in section 1, noting that leasing decisions, and the analysis of environmental impacts is tiered to a broader Resource Management Plan (“RMP”), as well as further detailed site specific analysis at the time of permitting. EA at 5-6. But this seemingly logical framing of its NEPA process does not withstand even cursory scrutiny. First, as BLM notes, the applicable RMP is over 20 years old. What BLM neglects to mention that this RMP is in the process of being revised, and that the sale of these very parcels was deferred in 2008 until the pending revision process could be completed. Second, BLM continues the position articulated in the draft EA, and which was repeatedly objected to by commenters, that there is really no need for any actual analysis of impacts for the lease sales because “[t]he act of leasing parcels would, in itself, have no direct effects on any resources....” *See, e.g.*, EA at 6. Nevertheless BLM has engaged in some limited analysis, claiming that “[t]his EA analyzes *likely* effects of mineral extraction under the parcel-specific stipulations”... but then eviscerating that process by claiming that “[*m*]any *possible effects* of mineral extraction cannot be considered “*likely*” since they depend on site-specific details” subject to “further NEPA analysis at the development stage.” *Id.*

This premise, that it is permissible to rely on 20-30 year old analyses until some future date when subsequent site-specific analysis will be conducted, is the unlawful foundation upon which the entire EA is built. It is a refrain repeated in every resource section throughout the EA and is used as a justification for not complying with BLM’s mandate to perform an EIS at the leasing stage. This approach neither complies with NEPA’s terms, its implementing regulations, nor binding case law interpreting NEPA. Simply put, saying there are no impacts at the lease stage is like saying there are no impacts from jumping off the roof of a building; while technically true, it

ignores the inevitability of impacts that are sure to follow. This head-in-the-sand approach does not comply with the demands of NEPA.

BLM's consideration of climate change illustrates its approach to each resource considered. First it claims it need not take a hard look at the impact of these sales on climate change because there is no direct emissions of Greenhouse Gas ("GHG") pollutants from the mere sale of parcels, EA at 58. Second, it claims that site-specific environmental impact analysis will be done at the permitting stage. *Id.* at 59. But it then contradicts itself, stating in response to Comments submitted on the draft EA, BLM that its' only obligation to take a hard look at climate change is as part of "broader planning initiatives such as the RMP." EA at 184 (yet it insists on pushing forward with these sales without any RMP level consideration. And finally, it further relieves itself of responsibility to analyze climate change by claiming that analysis of the impact of these particular lease sales at the site-specific stage is "not possible." *Id.* In other words, under BLM's approach there will *never* be *any* analysis of climate change impacts for these oil and gas leases, and the most significant environmental issue of the 21st century will get no consideration.

In sum BLM has created a confusing, inconsistent and contradictory methodology that considers little if anything prior to its act of entering into enforceable contracts with oil and gas producers that irretrievably commit our shared public resources to industrial scale oil and gas development. BLM's approach considers neither the big picture cumulative impacts of the leases – since, according to BLM, that occurs at the RMP level (and was last considered over 20 years ago) – nor the 'many possible effects' that are likely to occur when the leases are developed. To make matters worse, BLM's shell-game approach makes it impossible for anyone – including the agency – to understand the true potential impacts of this sale.

For all the reasons articulated herein, BLM must reconsider its approach to and analysis of significant impacts. In doing so, any subsequent "hard look" at impacts from the February 2013 lease sale should include a range of alternatives consistent with comments provided herein, and include alternatives that would forbid the sale of or withdraw the nominated parcels. *See* discussion at p. 20.

b. The BLM cannot rely on stale, twenty-year-old NEPA analysis as the basis of its decision as to whether this lease sale will have a significant environmental impact.

The illustration regarding climate change set forth above highlights the fundamental flaw with the proposed sale of these parcels. Significant environmental effects can occur from the direct, indirect, or cumulative impacts of individual parcel development. These impacts require consideration and management at a landscape planning level. The process for that is through the Resource Management Plan ("RMP"), which, here, is outdated and inadequate. The existing RMP does not provide sufficient analysis to provide an adequate baseline analysis for tiering of these lease sales. That RMP does not reflect the environmental changes that have occurred since 1991 (like climate change). Nor does that RMP reflect changes in the way oil and gas is developed today, with hydraulic fracturing at the core of these developments. If examined only from an individual lease perspective, it is easy to marginalize these impacts, claiming that any individual lease development is insignificant. Yet when considered together, the impacts are substantial.

i. BLM has historically chosen to undertake a new EIS process when evaluating a proposal for new oil and gas development in the region.

As mineral development has proceeded over the years in the northern San Juan Basin, the BLM has found it necessary to draft new EIS's that went beyond the scope of existing BLM documents. For example, in preparing an analysis of oil and gas development on the Southern Ute Indian Reservation, BLM observed that:

Management of oil and gas leasing and development is currently guided by the EA prepared by the BIA in 1990 and by several field development EAs prepared by the BLM. The BLM, BIA and SUIT have determined that additional data and analyses are needed to identify impacts of CBM development and to determine what changes in direction, if any are needed to the future management of oil and gas resources on the Reservation. [Additionally] a more in-depth analysis of potential impacts from CBM and enhanced CBM (ECBM) recover, including cumulative impacts, is possible now....

Oil and Gas Development on the Southern Ute Indian Reservation Final Environmental Impact Statement (2002), at 1-4.

Similarly, in 2006, the United States Forest Service and the BLM collaborated in writing the *Northern San Juan Basin Coal Bed Methane Project Environmental Impact Statement*, which provided that the project would serve to meet the goals for management of energy minerals set forth in the Land And Resource Management Plan ("LRMP") for the San Juan National Forest (FS 1983) and the RMP for the San Juan/San Miguel Planning Area (BLIM 1985). *See* Northern San Juan Basin Coal Bed Methane Project Environmental Impact Statement (2006), at xiv.

Additionally, the San Juan Public Lands Center's *Draft Land Management Plan/Draft Environmental Impact Statement (DEIS)/Supplement to the DEIS*, dated August 2011, stated:

We also received comments on the Draft LMP/EIS suggesting that the type of air quality model we used was inappropriate for the scale of the plan and that we had exceeded the capabilities of the model as used in the Draft EIS. We considered all this information, and through further technical evaluation, we determined that, 1) the GSGP was a high potential play that should be evaluated; and 2) a more detailed air quality model and analysis was needed to adequately represent potential air quality impacts in the planning area and disclose results specific to the new development projections for the GSGP area. We also determined that a Supplement to the Draft EIS was needed in order to incorporate this new information and analysis in the DRAFT LMP/EIS.

It is clear, and the BLM has repeatedly demonstrated that, in the development of any significant new project in this area, the starting point for the agency's NEPA process is consideration of whether the existing RMP is adequate to provide the baseline tiering function. Agencies have consistently determined that the existing RMP is insufficient. This proposed lease sale is no different.

ii. BLM must complete a single EIS for all proposed oil and gas actions within

the TRFO.

Under NEPA, BLM “must analyze not only the direct impacts of the proposed action, but also the indirect and cumulative impacts of ‘past, present, and reasonably foreseeable future *actions* regardless of what agency (Federal or non-Federal) or person undertakes such actions.’” *Wyoming v. U.S. Dept. of Agriculture*, 661 F.3d 1209, 1251 (10th Cir. 2011) (citing *Colorado Environmental Coalition v. Dombek*, 185 F.3d 1162, 1176 (10th Cir.1999) (quoting 40 C.F.R. § 1508.7)); *see also* 40 C.F.R. § 1508.25 (c) (stating that the “scope” of an EIS includes consideration of “cumulative” impacts). Where “several actions have a cumulative ... environmental effect, this consequence must be considered in an EIS.” *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1378 (9th Cir. 1998) (citing *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1312 (9th Cir. 1990)); *see also* 40 C.F.R. § 1508.25(a) (stating that the “scope” of an EIS includes consideration of “connected actions”). The purpose of this requirement is to prevent agencies from dividing one project into multiple individual actions “each of which individually has an insignificant environmental impact, but which collectively have a substantial impact.” *Thomas v. Peterson*, 753 F.2d 754, 758 (9th Cir.1985).

An EIS is not only warranted but also required under these circumstances – particularly because the TRFO is operating from a stale 1991 RMP that fails to address oil and gas development in the present context, and thus puts into serious question the accuracy of the agency’s reasonably foreseeable development assumptions.

As noted above, there is a pending revision to the area’s RMP and EIS – updating the out-of-date and inoperable 1991 TRFO RMP – and BLM has previously cancelled proposed leases in this region pending the completion of this updated RMP. Under these circumstances NEPA establishes a duty “to stop actions that adversely impact the environment, that limit the choice of alternatives for the EIS, or that constitute an ‘irreversible and irretrievable commitment of resources.’” *Conner v. Burford*, 848 F.2d 1441, 1446 (9th Cir. 1988).

When an EIS is underway, as here, NEPA regulations established by the Council of Environmental Quality (“CEQ”) prohibit an agency from taking any actions that would significantly impact the environment. 40 C.F.R. § 1506.1(c) (1997). Pursuant to these CEQ regulations:

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 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)(1)-(3).

Proceeding with the February 2013 Lease Sale – or any other major Federal action covered by

the stale 1991 RMP – is impermissible due to the inherent prejudice that this action will cause to the pending revision of the TRFO RMP and EIS. Revision of the outdated RMP is fundamental to the public land use decision-making process in the TRFO – creating the foundation upon which all mineral resource management decisions are made – and in its current form is woefully incapable of performing this function. The 1991 RMP does not provide adequate analysis of oil and gas drilling in the proposed lease area in general, much less any specific analysis of the impacts that could be caused by the kind of drilling that is done in 2012. The 1991 RMP, accompanying EIS, and technical report for oil and gas simply did not analyze the site-specific impacts of gas development using today’s modern extraction techniques – specifically the use of hydraulic fracturing, or fracking – much less any analysis of the parcels nominated in the February 2013 Lease Sale.

Moreover, there is no updated, current analysis that identifies what overall level of development – and the nature of that development (e.g., oil or natural gas, what technologies and drilling techniques, etc., would be used to extract resources) – is reasonably foreseeable. Without this analysis, it is self evident that there is considerable uncertainty and controversy regarding the size, nature, and impacts of leasing, in particular relative to cumulative impacts. BLM TRFO itself recognizes these shortcomings, and is currently engaged in the development of a revised RMP and EIS for this area.

The whole point of NEPA is to study the impact of an action on the environment before the action is taken. *See Conner*, 848 F.2d at 1452 (NEPA requires that agencies prepare an EIS before there is “any irreversible and irretrievable commitment of resources”). Where “[i]nterim action prejudices the ultimate decision on the program,” NEPA forbids it. 40 C.F.R. §§ 1506.1(c)(1)-(3). Action prejudices the outcome “when it tends to determine subsequent development or limit alternatives.” *Id.* In this case, once oil and gas lease rights are conveyed, lessees have a right to drill, and the impact on the environment from the exercise of those rights cannot be undone, which is exactly the situation NEPA disallows – allowing new activity that limits alternatives in the future.

While CEQ regulations require a moratorium on any further leasing until the revised RMP and EIS are completed, such a decision is also well within the discretion of the BLM state office. As provided in BLM Instruction Memorandum No. 2010-117 (May 17, 2010):

As outlined in the Land Use Planning Handbook (H-1601-1), the Resource Management Plan (RMP) underlies fluid minerals leasing decisions. Through RMP effectiveness monitoring and periodic RMP evaluations, state and field offices will examine resource management decisions to determine whether the RMPs adequately protect important resource values in light of changing circumstances, updated policies, and new information (H-1601-1, section V, A, B). The results of such reviews and evaluations *may require field office resource information updates* and land use plan maintenance, amendment, or revision. In some cases state and field office staff *may determine that the public interest would be better served by further analysis and planning prior to making any decision whether or not to lease.* (Emphasis added).

There can be no better example than the present situation of where the public interest would be better served by completing the RMP and EIS *before* deciding whether it is appropriate to lease

the public lands in the proposed lease areas. According to BLM oil and gas statistics, there are currently 4,380,275 acres of leased land that is “in effect” in Colorado. *See* BLM, Oil and Gas Statistics by Year for Fiscal Years 1988 – 2011 (attached as Exhibit 1). Given this vast quantity, as well as a current price of natural gas continuing at extremely low levels, it seems both ill advised and unnecessary to proceed with this Lease Sale given these conditions. *See* Steve Hargreaves, *Natural gas prices hit 10-year low*, CNN MONEY, March 9, 2012 (attached as Exhibit 3). We therefore strongly encourage you to not move forward with this Lease Sale pending completion of the TRFO RMP and EIS.

The BLM maintains, in its response to comments, that it need not wait for this revision because it has considered the draft RMP and an updated “Reasonable Foreseeable Development” to reflect comments received from the oil and gas industry during review of the Draft EIS and RMP.” EA at 131. But these draft documents are not a substitute for publication of the proposed final RMP and Final EIS, both of which are subject to public comment prior to a final Record of Decision. Decisions made behind closed doors at the behest of the oil and gas industry hardly qualify as an updated RMP that satisfies CEQ regulations or judicial precedent.

Furthermore, and in concert with completing the revised RMP and EIS, BLM should develop a Master Leasing Plan (“MLP”) for the entire area under TRFO jurisdiction. According to BLM IM 2010-117, the MLP process is to be conducted before lease issuance and will reconsider RMP decisions pertaining to leasing. The RMPs “identify oil and gas planning decisions, such as areas closed to leasing, open to leasing, or open to leasing with major or moderate constraints (lease stipulations) based on known resource values and reasonably foreseeable oil and gas development scenarios.” IM 2010-117. The MLP is a mechanism for completing the additional planning, analysis, and decision-making, and is required for areas meeting the listed criteria:

1. a substantial portion of an area is not currently leased;
2. it has a majority federal mineral interest;
3. the oil and gas industry has expressed a specific interest in leasing;
4. a moderate to high potential exists for oil and gas developments; and
5. that development may harm important resource values, such as natural/cultural resource conflicts, air quality, wildlife and wilderness.

See IM 2010-117. The proposed lease areas generally satisfy all such criteria. Accordingly, BLM should further engage in the MLP process through its revision of the TRFO RMP and EIS.

Many of the organizations that are submitting this protest submitted a proposal for a MLP as part of earlier comments to the San Juan Public Lands Office, which the TRFO was then part of, for the Draft Supplemental EIS for the Draft Land Management Plan and Draft EIS, dated August 26, 2011, (submitted previously to BLM). We incorporate those comments in full into this protest.

c. The BLM has failed to take a hard look at direct and indirect impacts, and must perform an EIS before the February 2013 Lease Sale can proceed.

NEPA’s ‘hard look’ requirement, *see Morris v. U.S. Nuclear Regulatory Commission*, 598 F.3d 677, 681 (10th Cir. 2010), “must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.” *Forest Guardians*, 611 F.3d at 712 (quoting *Metcalf v. Daley*, 214 F.3d 1135, 1142 (9th Cir.

2000)); *see also* 40 C.F.R. § 1502.2(g) (“Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.”); *id.* § 1502.5 (“The statement shall be prepared early enough so that it can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made.”). Here, BLM has failed to meet even the most primary threshold for its NEPA process – taking an honest hard look.

BLM’s failure is made evident by the TRFO’s consistent refusal in their draft EA to acknowledge and analyze *any* impacts that will result from the lease sale of 12,175 acres; and BLM’s constant refrain throughout the draft and now final EA has been: “The act of leasing parcels would, in itself, have no direct effects on any resources in the field office.” *See, e.g.*, EA at 6, 41, 42, 43, 44, 46, 47, 50, 52, 56, 57, 58, 61, 63. Following nearly every instance of this obfuscation, BLM went on to perfunctorily describe the reasonably foreseeable impacts that may or would result from parcel development, but which would only undergo actual analysis at the application for permit to drill (“APD”) stage.

BLM’s response to these comments in the final EA is to stay the course, claiming that it has “addressed effects from leasing and development to the extent possible given available information and assumptions” and that “site specific analysis will follow.” EA. p. 137. The agency’s primary assumption is that one well will be developed per parcel; yet, even this assumption offers no analysis of what those impacts will be, nor does the agency provide any explanation of why this assumption is rationale. Actual analysis of environmental impacts would include the consideration of known geologic formations for given parcels, and associated impacts thereof. For example, the agency’s analysis of Chromo area parcels should include full lease development and all reasonable alternatives relating to the use of shallow aquifer fracking; whereas the Hesperus and McKenna Peak parcels should consider extraction associated with that areas shallow Mancos shale formation.

NEPA instructs that an agency is required to “take a ‘hard look’ at the impacts of a proposed action.” *Citizens’ Committee to Save Our Canyons v. Krueger*, 513 F.3d 1169, 1179 (10th Cir. 2008) (quoting *Friends of the Bow v. Thompson*, 124 F.3d 1210, 1213 (10th Cir.1997)). This hard look promotes NEPA’s “sweeping commitment to ‘prevent or eliminate damage to the environment and biosphere’ by focusing Government and public attention on the environmental effects of proposed agency action.” *Marsh v. Or. Nat. Resources Council*, 490 U.S. 360, 371 (1989). NEPA achieves this focus through “action forcing procedures ... requir[ing] that agencies take a hard look at environmental consequences.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (citations omitted). These “environmental consequences” include direct, indirect, and cumulative impacts. 40 C.F.R. §§ 1508.7, 1508.8; *Custer Co. Action Assn. v. Garvey*, 256 F.3d 1024, 1035 (10th Cir. 2001). NEPA’s hard look should provide an analysis of impacts that is pragmatic and useful to the decision maker and the public. *Nat. Resources Def. Council v. Hodel*, 865 F.2d 288, 299 (D.C. Cir. 1988) (hard look premised on providing “analysis useful to a decision maker in deciding whether, or how, to alter [a project] to lessen cumulative environmental impacts”). BLM’s EA falls woefully short of this bar.¹ Indeed, BLM’s express determination not to perform any actual analysis at the lease sale stage – but rather delay this analysis until some future time – fundamentally and almost by definition fails to take a hard

¹ The lack of appropriate analysis on a resource specific basis is set forth herein at pages 26-57.

look at impacts.

BLM is required to make its threshold determination with respect to the significance of impacts based on a hard look at two factors: “context” and “intensity.” 40 C.F.R. § 1508.27. “Either of these factors may be sufficient to require preparation of an EIS in appropriate circumstances.” *Natl. Parks & Conserv. Assn. v. Babbitt*, 241 F.3d 722, 731 (9th Cir. 2001). Context “means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality” and “varies with the setting of the proposed action.” *Id.* § 1508.27(a). Intensity “refers to the severity of the impact” and is evaluated according to several additional elements, including:

- (1) Impacts that may be both beneficial and adverse;
- (2) The degree to which the proposed action affects public health or safety;
- (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas;
- (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial;
- (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks;
- (6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration;
- (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts;
- (8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources;
- (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973; and
- (10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

Id. §§ 1508.27(b). Most, if not all, of these elements are implicated in the February 2013 Lease Sale.

BLM's analysis neither adequately analyzes the context of its proposed action nor the intensity of the proposed action. For example, in terms of context, current natural gas price trends are low and don't support investment in drilling for natural gas alone, highly suggesting that oil is the desired target. Yet, no effort has been made, and no analysis has been provided, to determine or identify the different impacts associated with these two distinct resources and their associated extraction processes.

BLM does not even attempt any analysis of the intensity of its proposed action. Its analysis is limited to identifying the *type* of environmental impact that could occur to identified resources but there is no quantitative analysis of the magnitude and extent, i.e. the *intensity*, of the potential impacts. Lacking that critical data, this EA can neither reference or provide comprehensive information which would enable the public to discern the full scope and nature of the proposed project, including specific drilling and production aspects, as well as the action's direct, indirect and cumulative impacts.

For instance, the degree to which the effects on the quality of the human environment are likely to be highly controversial includes, but are not limited to, myriad issues associated with hydraulic fracturing, flaring and waste, water, air, and wildlife resources, as well as geology and landscape issues, all of which must be analyzed in far greater detail than they are in this EA. An action is "highly controversial" if 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 Mts. Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998). As discussed at pages 28-34 herein, the proposed project is highly controversial, even if one considers only the national and international controversy regarding hydraulic fracturing alone.

Similarly, the impacts from the February 2013 Lease Sale are "highly uncertain" and involve "unknown risks." An action is "highly uncertain or involve unique or unknown risks" where the "uncertainty may be resolved by further collection of data or where the collection of such data may prevent speculation on potential ... effects." 40 C.F.R. § 1508.27(b)(5); *Nat'l. Parks*, 241 F.3d at 732 (internal citations and quotations omitted) (holding that an agency must generally prepare an EIS if the environmental effects of a proposed action are highly uncertain); *see also, Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998) (holding that where questions remain as to the significance of a project's effects and the agency cannot state definitively that significant impacts will not occur, the agency must prepare an EIS).

Impacts to human health from hydraulic fracturing, a method of production likely to be used for development of the Mancos shale layer that lies below many of these parcels, represents a highly uncertain hazard, posing risks that are only now becoming known as a result of similar development in other areas of the country. Rapid oil and gas development – as the February 2013 Lease Sale calls for – has resulted in significant and undetermined public health concerns in communities throughout the country. For example, in Garfield County, Colorado, residents there have experienced health effects they believe to be caused from oil and gas development. "Community concerns range from mild complaints such as dizziness, nausea, respiratory problems, and eye and skin irritation to more severe concerns including cancer."² Additionally,

² U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry ("ATSDR"), *Health Consultation: Garfield County, Public Health Implications of Protest of the February 2013 Tres Rios Lease Sale*

the community has “environmental concerns related to noise, odors, dust, and ‘toxic’ chemicals in water and air.”³ After a thorough review of ambient air data across Garfield County, ATSDR determined that, “considering both theoretical cancer risks as well as non-cancer health effects and the uncertainties associated with the available data, it is concluded that the exposures to air pollution in Garfield County pose an indeterminate public health hazard for current exposures.”⁴ ATSDR further provided that “estimated theoretical cancer risks and non-cancer hazards for benzene [in the community], which is within the oil and gas development area, appear significantly higher than those in typical urban and rural area, causing some potential concern,” and later concluded that “[t]hese elevated levels are an indicator of the increased potential for health effects related to benzene exposure ... in the oil and gas development area.”⁵

Leading doctors and scientists studying these issues recognize the unknown risks inherent to fracking. “We don’t know the chemicals that are involved, really; we sort of generally know,” Vikas Kapil, chief medical officer at National Center for Environmental Health, part of the U.S. Centers for Disease Control and Prevention, said at a conference on hydraulic fracturing.⁶ “We don’t have a great handle on the toxicology of fracking chemicals.”⁷ Christopher Portier, director of the CDC’s National Center for Environmental Health and Agency for Toxic Substances and Disease Registry further provided that “additional studies should examine whether wastewater from wells can harm people or the animals and vegetables they eat.”⁸ “We do not have enough information to say with certainty whether shale gas drilling poses a threat to public health.”⁹

Ambient Air Exposures to Volatile Organic Compounds as Measured in Rural, Urban, and Oil & Gas Development Areas (2008), at 1 (attached as Exhibit 84).

³ *Id.*

⁴ *Id.*

⁵ *Id.*

⁶ Alex Wayne, *Fracking Moratorium Urged by U.S. Doctors Until Health Studies Conducted*, BLOOMBERG NEWS, January 9, 2012, available at: <http://www.bloomberg.com/news/2012-01-09/fracking-moratorium-urged-by-u-s-doctors-until-health-studies-conducted.html> (last visited Jan. 10, 2012); *see also*, Alex Wayne and Katarzyna Klimasinska, *Health Effects of Fracking for Natural Gas Need Study, Says CDC Scientist*, BLOOMBERG NEWS, January 4, 2012, available at: <http://www.bloomberg.com/news/2012-01-04/health-effects-of-fracking-for-natural-gas-need-study-says-cdc-scientist.html> (last visited Jan. 4, 2012).

⁷ *Id.*

⁸ Alex Wayne and Katarzyna Klimasinska, *Health Effects of Fracking for Natural Gas Need Study, Says CDC Scientist*, BLOOMBERG NEWS, January 4, 2012, available at: <http://www.bloomberg.com/news/2012-01-04/health-effects-of-fracking-for-natural-gas-need-study-says-cdc-scientist.html> (last visited Jan. 4, 2012).

⁹ *Id.*

Indeed, a new study demonstrates that animals, especially livestock, are sensitive to the contaminants released into the environment by drilling and by its cumulative impacts.¹⁰ Because animals often are exposed continually to air, soil, and groundwater and have more frequent reproductive cycles, animals can be used to monitor potential impacts to human health – they are shale gas drilling’s “canary in the coalmine.” The study evaluated all available fracking-related reports on sick or dying animals. Although secrecy surrounds the fracking industry, “a few ‘natural experiments’ have provided powerful evidence that fracking can harm animals.”¹¹ For example:

Two cases involving beef cattle farms inadvertently provided control and experimental groups. In one case, a creek into which wastewater was allegedly dumped was the source of water for 60 head, with the remaining 36 head in the herd kept in other pastures without access to the creek. Of the 60 head that were exposed to the creek water, 21 died and 16 failed to produce calves the following spring. Of the 36 that were not exposed, no health problems were observed, and only one cow failed to breed. At another farm, 140 head were exposed when the liner of a wastewater impoundment was allegedly slit, as reported by the farmer, and the fluid drained into the pasture and the pond used as a source of water for the cows. Of those 140 head exposed to the wastewater, approximately 70 died and there was a high incidence of stillborn and stunted calves. The remainder of the herd (60 head) was held in another pasture and did not have access to the wastewater; they showed no health or growth problems. These cases approach the design of a controlled experiment, and strongly implicate wastewater exposure in the death, failure to breed, and reduced growth rate of cattle.¹²

The health problems and uncertainties that proliferate in communities where oil and gas development takes place warrants the further collection of data and research, as contemplated under NEPA, before such development can be made possible through the February 2013 Lease Sale. The agency’s determination of whether a significant impact exists or not must be supported by an actual NEPA hard look at these issues; here, no such analysis is provided. BLM’s approach ensures that impacts will be below NEPA’s significance threshold, before analysis can determine whether a FONSI is justified. It is hard to imagine that a FONSI could be supported in the present context, suggesting that the preparation of an EIS is necessary to address the serious uncertainties that are known to exist.

Finally, in evaluating the degree to which this action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration, again, uncertainty creates a fundamental barrier to NEPA compliance. For example, it is unclear which

¹⁰ Michelle Bamberger and Robert E. Oswald, *Impacts of Gas Drilling on Human and Animal Health*, NEW SOLUTIONS, VOL. 22(1) 51-77 (2012) (attached as Exhibit 85).

¹¹ See Peter Montague, *Why Fracking and Other Disasters Are So Hard to Stop*, HUFFINGTON POST, Jan. 20, 2012, available at: http://www.huffingtonpost.com/peter-montague/why-fracking-and-other-di_b_1218889.html (last visited Jan. 23, 2012).

¹² Exhibit 85, at 60.

formation(s) will be developed under the lease and, consequently, the significant potential impacts of full-scale field development for natural gas and/or oil cannot be assessed. Before the ‘development horse gets out of the leasing barn,’ an EIS is necessary to address whatever unique and significant characteristics of developing a formation might be, as different formations can produce different impacts. This analysis is also necessary to ensure that the agency has considered reasonable alternatives necessary to protect the environment.

In sum, BLM’s EA is filled with only perfunctory, superficial evaluation of impacts. Contrary to BLM TRFO’s running hypothesis, the sale of 12,175 acres to oil and gas development is far more than a mere paper transaction: it commits oil and gas resources to development and will forever impact the nature of the proposed parcels, their residents and their ecosystem. *See New Mexico ex rel. Richardson*, 565 F.3d at 718 (holding the agency violated NEPA by failing to analyze site-specific impacts at the leasing stage). While BLM is mandated to give these impacts a true “hard look” – the failure of which is further discussed below – the citizens of the areas that will be impacted by the leasing and subsequent development also deserve more than BLM TRFO’s flippant and disingenuous treatment of their role as stewards of our public resources. Based on the standards established by CEQ regulations, 40 C.F.R. § 1508.27, significant impacts must be analyzed in an EIS before the lease sale can proceed.

Even setting aside potential human health related impacts, many courts have held that the issuance of a federal oil and gas lease may require an EIS simply because of the effects on surface lands. *See WildEarth Guardians v. U.S. Forest Service*, 828 F.Supp.2d 1223, 1241 (D.Colo. 2011) (citing *Sierra Club v. United States Dep’t of Energy*, 255 F.Supp.2d 1177, 1186 (D.Colo. 2002) (the government’s actions in granting access to a federally-owned surface estate for the purpose of exploiting the mineral estate is a federal action under NEPA); *see also Sierra Club v. Peterson*, 717 F.2d 1409, 1413-15 (D.C. Cir. 1983) (concluding that the agency was required to conduct a site-specific analysis through an EIS before it could authorize the issuance of oil and gas leases within two national forests).

In the absence of an EIS, BLM TRFO “must put forth a convincing statement of reasons’ that explains why the project will impact the environment no more than insignificantly. This account proves crucial to evaluating whether the [agency] took the requisite ‘hard look.’ ” *Ocean Advoc. v. U.S. Army Corps of Engrs.*, 402 F.3d 846, 864 (9th Cir. 2005). Nowhere in BLM’s scant EA/FONSI does there exist a convincing statement explaining the insignificance of impacts from this sale. To the contrary, BLM suggests that any real analysis of impacts can be pushed off until the APD stage – which, as described above, is wholly deficient.

d. The BLM has failed to analyze and take a hard look at the cumulative impacts of the February 2013 Lease Sale.

A cumulative impact is the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7. While BLM includes a “*Cumulative Effects Analysis*” section in their EA, *see* EA at 63, BLM fails to actually conduct any cumulative analysis of those impacts. *See Natural Resources Defense Council v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988) (providing that section headings without the “requisite analysis” are

insufficient); *see also* 40 C.F.R. § 1508.27(b)(7) (BLM must consider whether the proposed action is related to other actions that together may have cumulatively significant *impacts*. “Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.”).

Within BLM’s cumulative effects section, the TRFO references resource plans from the 1980s and early 1990s as the source of cumulative effects analysis. When one considers that by BLM’s own admission a cumulative effects analysis consists of the “past, present and reasonably foreseeable future actions, EA at 64, it is hard to understand how analyses that are over 20, and in some instances approaching 30 years old, can be adequate analysis of any of these actions.

While the EA purports to supplement these old plans, that effort is perfunctory at best. The analysis begins by recounting the history of mineral resource development in the region, but fails to analyze how future development will cumulatively impact the environment, and ignores that much of the proposed area much currently has not mineral development in it. In other words, BLM provides a list of impacts that is in no way related to information that would help inform the decision reached. “Conclusory remarks,” as are consistently provided throughout BLM’s EA, “do not equip a decision maker to make an informed decision about alternative courses of action.” *NRDC*, 865 F.2d at 298. For example, when BLM discusses the “cumulative effects” on various resources, the TRFO characteristically states: “conditions of approval at the development phase are expected to minimize these effects.” *See, e.g.*, EA at 66, 68 (discussing cumulative impacts on migratory birds and wildlife). BLM’s shell game approach to actual analysis cannot be maintained. “Perfunctory references do not constitute analysis useful to a decision maker in deciding whether, or how, to alter the program to lessen cumulative environmental impacts.” *NRDC*, 865 F.2d at 275. BLM’s conclusory treatment of their cumulative impacts analysis fails to meet their hard look requirement under NEPA.

For example, although BLM’s EA identifies coal mining and oil and gas development as occurring in the broader region, there is no analysis of the cumulative affect that proposed oil and gas development will have on the proposed lease parcels’ environment. BLM’s approach, which is to inventory impacts without conducting any analysis of those impacts, falls short of the agency’s duties under both NEPA and as trustee of our public lands. A true NEPA hard look analysis is required before BLM can proceed with the February 2013 Lease Sale, and must include the preparation of a comprehensive EIS incorporating all past, present and reasonably foreseeable future impacts from mineral development projects in the proposed lease areas.

e. The February 2013 Lease Sale represents an irretrievable commitment of resources that requires a thorough NEPA analysis.

BLM’s decision to wait until the APD stage before proceeding with its NEPA analysis is contrary to law as it results in a premature irretrievable commitment of resources. The most recent Tenth Circuit case addressing the issue of whether a federal agency, acting in compliance with NEPA, must analyze site-specific impacts at the leasing stage is *New Mexico ex rel. Richardson*, 565 F.3d 683. There, the court first analyzed the two prior Tenth Circuit precedents addressing the same issue: *Park County Resource Council, Inc. v. U.S. Department of Agriculture*, 817 F.2d 609 (10th Cir. 1987), and *Pennaco Energy, Inc. v. U.S. Department of the Interior*, 377 F.3d 1147 (10th Cir. 2004). Based on its analysis of those two cases, the court in

New Mexico ex rel. Richardson gave the following guidance for courts to follow in future cases addressing this issue:

Taken together, these cases establish that there is no bright line rule that site-specific analysis may wait until the ... [APD] stage. Instead, the inquiry is necessarily contextual. Looking to the standards set out by regulation and by statute, assessment of all “reasonably foreseeable” impacts must occur at the earliest practicable point, and must take place before an “irretrievable commitment of resources” is made. Each of these inquiries is tied to the existing environmental circumstances, not to the formalities of agency procedures. Thus, applying them necessarily requires a fact-specific inquiry.

New Mexico ex rel. Richardson, 565 F.3d at 717-18 (citations omitted).

When analyzing those two factors, the Tenth Circuit held that (1) environmental impacts were reasonably foreseeable at the leasing stage, and (2) that leasing constituted an irretrievable commitment of resources because oil and gas regulations entitle the leaseholder to drill. *Id.* at 718-19. Thus, the Tenth Circuit held that the agency violated NEPA by failing to analyze site-specific impacts at the leasing stage. *Id.* at 718-19. *See also Pennaco Energy*, 377 F.3d at 1160 (“Because the issuance of leases gave lessees a right to surface use, the failure to analyze CBM development impacts before the leasing stage foreclosed NEPA analysis from affecting the agency’s decision.”); *Colorado Environmental Coalition v. Office of Legacy Management*, 819 F.Supp.2d 1193, 1208 (D.Colo. 2011) (holding that DOE acted arbitrarily and capriciously for failing to analyze site-specific impacts in its EA). Here, as in *New Mexico ex rel. Richardson* and *Pennaco*, actual drilling and site-specific impacts are reasonably foreseeable and must be analyzed.

Here current oil and gas development in the proposed lease areas – which has proceeded without the guidance of a valid RMP – establishes a reference from which reasonably foreseeable site-specific impacts can be analyzed for the February 2013 Lease Sale. Corresponding to such region-wide development, in this case, reasonably foreseeable site-specific impacts can be analyzed at the lease sale stage. BLM’s express refusal to perform any site-specific analysis is in direct conflict with what the Tenth Circuit has held NEPA requires.

Moreover, the Tenth Circuit further noted that its conclusion – requiring site-specific impacts analysis at the lease sale stage – is supported by internal BLM documents. BLM Handbook H-1624-1 provides: “By law, these impacts must be analyzed before the agency makes an irreversible commitment. In the fluid minerals program, this commitment occurs at the point of lease issuance.” *New Mexico ex rel. Richardson*, 565 F.3d at 718, n. 44.

It is difficult to comprehend– in the face of unambiguous Tenth Circuit precedent and even BLM’s own Handbook – how BLM can persist in its assertion that it can put off any analysis of impacts until the APD stage, *after* the agency has made an irretrievable commitment of resources at the lease sale stage. Oil and gas leases confer “the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold.” 40 C.F.R. § 3101.1-2; *Sierra Club v. Hodel*, 848 F.2d 1068, 1093 (10th Cir. 1988) (agencies are to perform hard look NEPA analysis “before committing themselves irretrievably to a given course of action so that the action can be shaped to account for environmental values”).

BLM's failure to perform a hard look NEPA analysis, before the February 2013 Lease Sale, represents a fundamental error that cannot be overlooked.

Significant environmental impacts, based on those lease rights, may occur once a lease is issued. Following the February 2013 Lease Sale, BLM's authority will thereafter be limited to imposing mitigation measures consistent with the terms of the lease. In other words, BLM TRFO will not be able to impose conditions inconsistent with the lease terms and cannot deny the developer the right to drill altogether. Although it is possible that "some or all of the environmental consequences of oil and gas development may be mitigated through lease stipulations, it is equally true that the purpose of NEPA is to examine the foreseeable environmental consequences of a range of alternatives *prior* to taking an action that cannot be undone." *Montana Wilderness Ass'n v. Fry*, 310 F.Supp.2d 1127, 1145 (D.Mont., 2004) (citation omitted) (emphasis added); 40 C.F.R. § 1501.2. "[M]itigation measures, while necessary, are not alone sufficient to meet the [Agency's] NEPA obligations to determine the projected extent of the environmental harm to enumerated resources *before* a project is approved." *Northern Plains Resource Council*, 668 F.3d at 1085 (emphasis in original). Consequently, if BLM discovers significant impacts at the APD stage, it may no longer be able to prevent them.

f. In failing to perform a good faith NEPA analysis, BLM has impermissibly predetermined its outcome, violating NEPA and FLPMA.

BLM's shell game – which inevitably results in decisions that blindly sell our public lands for oil and gas development – presupposes that any site-specific impacts from oil and gas development can be mitigated without significant, unacceptable impacts at the APD stage before even knowing what those site-specific impacts are. The agency is also presupposing that oil and gas resources, if developed, outweigh non-oil and gas resources, like wildlife habitat, air quality, and water quality protection.

As soon as BLM sells an oil and gas parcel, that sale confers a guaranteed right to the leaseholder, which includes the right of occupancy. In other words, once a lease sale occurs, the train has already left the station. Without analyzing impacts from the lease sale itself, any subsequent analysis intrinsically shifts from *preventing* impacts (and managing lands for other resource values) to merely *mitigating* impacts (and allowing oil and gas lessees to exercise their surface use rights to the lease at the expense of other resource values). This approach is fundamentally incongruous with NEPA's mandate. In a recently released case from the Ninth Circuit, *Northern Plains Resource Council v. Surface Transportation Board*, 668 F.3d 1067, 1084-85 (9th Cir. 2011), the court provided: "In a way, reliance on mitigation measures presupposes approval. It assumes that – regardless of what effects construction may have on resources – there are mitigation measures that might counteract the effect without first understanding the extent of the problem. This is inconsistent with what NEPA requires." In the present case, this is precisely what BLM has done in determining that actual NEPA analysis can wait until some future date.

BLM, in making this predetermined conclusion, creates an unlevel playing field that benefits oil and gas leasing and drilling at the expense of other multiple use resources. There is a long line of cases that warn agencies against making a predetermined decision with respect to their NEPA analysis. The Tenth Circuit Court of Appeals has cautioned: "[I]f an agency predetermines the

NEPA analysis by committing itself to an outcome, the agency likely has failed to take a hard look at the environmental consequences of its actions due to its bias in favor of that outcome and, therefore, has acted arbitrarily and capriciously.” *Forest Guardians*, 611 F.3d at 713 (citing *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002)). The Tenth Circuit further stated that “[w]e [have] held that ... predetermination [under NEPA] resulted in an environmental analysis that was tainted with bias” and was therefore not in compliance with the statute. *Id.* (citing *Davis*, 302 F.3d at 1112–13, 1118–26)).

While the threshold for finding agency predetermination is high – “occur[ing] only when an agency *irreversibly and irretrievably* commits itself to a plan of action that is dependent upon the NEPA environmental analysis producing a certain outcome, *before* the agency has completed that environmental analysis,” *Forest Guardians*, 611 F.3d at 714 (emphasis in original) – here, BLM’s misguided process has met that threshold. BLM made the express determination that an analysis of impacts is not necessary at the lease sale stage – a determination that is made evident within the four-corners of the EA. This conclusion guarantees that a FONSI will be issued during the lease sale stage NEPA process. That FONSI is based not on any actual analysis of impacts, but rather on the predetermined decision to perform the necessary NEPA analysis at a later stage. Indeed, by not performing any genuine analysis, it is impossible to reach any conclusion other than a FONSI. By playing this shell game, BLM, at a minimum, creates an improper “inertial presumption” in favor of committing resources to oil and gas development before knowing the site-specific impacts. *Natl. Wildlife Fed. v. Morton*, 393 F. Supp. 1286, 1292 (D.D.C. 1975).

By reaching, in effect, a predetermined decision – or at least creating a presumption in favor of oil and gas leasing and development – BLM not only violates NEPA, but also, by elevating development of oil and gas over other multiple use resources, FLPMA. As the Tenth Circuit has explained:

It is past doubt that the principle of multiple use does not require BLM to prioritize development over other uses... Development is a *possible* use, which BLM must weigh against other possible uses – including conservation to protect environmental values, which are best assessed through the NEPA process.

New Mexico ex rel. Richardson, 565 F.3d at 710. BLM’s presupposition of outcome is a direct affront to both NEPA and FLPMA, and cannot be sustained.

g. BLM cannot rely on mitigation measures to avoid a finding of significance.

The mitigation measures proposed by the agency must be reasonably developed. “A ‘perfunctory description,’ or ‘mere listing of mitigation measures, without supporting analytical data,’ is insufficient to support a finding of no significant impact.” *National Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 735 (9th Cir. 2001). Courts, when determining the sufficiency of the mitigation measures, consider “whether they constitute an adequate buffer against the negative impacts that may result from the authorized activity. Specifically, [the court] examine[s] whether the mitigation measures will render such impacts so minor as to not warrant an EIS.” *Id.*; *see also, Hill v. Boy*, 144 F.3d 1446, 1451 (11th Cir.1998) (explaining that where an agency relies on an assumption to reach a FONSI, the assumption must be supported by substantial evidence).

Moreover, the proposed mitigation underlying the FONSI “must be more than a possibility” in that it is “imposed by statute or regulation or have been so integrated into the initial proposal that it is impossible to define the proposal without mitigation.” *Wyoming Outdoor Council v. U.S. Army Corps of Eng’rs*, 351 F.Supp.2d 1232, 1250 (D.Wyo. 2005). Similarly, with regard to cumulative impacts, the agency must provide *some* explanation of how or why compensatory mitigation will reduce the cumulative adverse impacts on the resources in question to insignificance. Bare assertions of mitigation are insufficient. *O’Reilly v. U.S. Army Corps of Eng’rs*, 477 F.3d 225, 235 (5th Cir.2007) (“[A] bare assertion is simply insufficient to explain *why* the mitigation requirements render the cumulative effects of this project less-than-significant, when considered with the past, present, and foreseeable future development in the project area.” (emphasis in the original)). The EA provides no analysis concerning how mitigation will create a sufficient buffer against cumulative impacts, nor is the suggested mitigation anything more than a list of possible measures or restrictions that may or may not apply at the APD stage. *See e.g.*, EA at 45 (to protect migratory birds “mitigation measures on potential future development *could* be applied as conditions of approval at the time of development.” (emphasis added)).

As provided in a recently released case from the Ninth Circuit, *Northern Plains Resource Council v. Surface Transportation Board*, 668 F.3d 1067, 1084-85 (9th Cir. 2011): “In a way, reliance on mitigation measures presupposes approval. It assumes that – regardless of what effects construction may have on resources – there are mitigation measures that might counteract the effect without first understanding the extent of the problem. This is inconsistent with what NEPA requires.” In other words, NEPA requires the *analysis* to dictate whether mitigation is appropriate not, as here, an assumption that mitigation can satisfy the effects of development and, without any analysis, support a FONSI. NEPA requires more; and the public deserves more. The BLM’s EA/FONSI cannot be sustained in the face of such disregard for NEPA. An EIS, analyzing actual impacts and specific mitigation measures, must be performed before the proposed lease sale can proceed.

h. By failing to analyze impacts in its EA, BLM has also failed to establish baseline data from which future impacts can be measured.

The approach BLM has taken in its EA not only delays or averts any actual NEPA analysis – instead relying on future mitigation – but it further fails to establish any baseline information from which a future impacts analysis can be measured. NEPA requires that the agency provide data on which it bases its environmental analysis. *See The Lands Council v. McNair*, 537 F.3d 981, 994 (9th Cir. 2008) (holding that an agency must support its conclusions with studies that the agency deems reliable). Such analysis must occur before the proposed action is approved, not afterward. *See LaFlamme v. F.E.R.C.*, 852 F.2d 389, 400 (9th Cir. 1988) (“[T]he very purpose of NEPA’s requirement that an EIS be prepared for all actions that may significantly affect the environment is to obviate the need for speculation by insuring that available data is gathered and analyzed prior to the implementation of the proposed action.”) (citation omitted). “[O]nce a project begins, the ‘pre-project environment’ becomes something of the past” and evaluation of the project’s effect becomes “simply impossible.” *Id.* *See also Sierra Club*, 848 F.2d at 1093 (holding that analysis must occur before the point of commitment) (overturned on other grounds).

Moreover, baseline data and analysis is fundamental to public involvement and participation in

the study process. NEPA § 102(2)(C) provides for broad-based participation. *See* 42 U.S.C. § 4332(2)(C). CEQ regulations implement this mandate by requiring that agencies “shall involve environmental agencies, applicants, and the public, to the extent practicable, in preparing [environmental] assessments [required by NEPA].” 40 C.F.R. § 1501.4(b). *See City of Aurora v. Hunt*, 749 F.2d 1457, 1465 (10th Cir. 1984).

Public participation and involvement is also a central theme in BLM’s recently established leasing reform policy. *See* BLM Instruction Memorandum, No. 2010-117. The Court in *Northern Plains Resource Council* further provided:

NEPA aims (1) to ensure that agencies carefully consider information about significant environmental impacts and (2) to guarantee relevant information is available to the public. The use of mitigation measures as a proxy for baseline data does not further either purpose. First, without this data, an agency cannot carefully consider information about significant environmental impacts. Thus, the agency “fail[s] to consider an important aspect of the problem,” resulting in an arbitrary and capricious decision. Second, even if the mitigation measures may guarantee that the data will be collected some time in the future, the data is not available during the [NEPA] process and is not available for public comment.... The [NEPA] process cannot serve its larger informational role, and the public is deprived of their opportunity to play a role in the decision-making process.

Northern Plains Resource Council, 668 F.3d at 1085 (citations omitted). “Without establishing baseline conditions ... there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA.” *Half Moon Bay Fisherman’s Marketing Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988). As federal courts have recognized, this requirement is “critical to” developing a reasonable range of alternatives, as more fully discussed below. *American Rivers v. F.E.R.C.*, 201 F.3d 1186, 1195 n.15 (9th Cir. 1999) (internal quotations and citation omitted).

“The purpose of NEPA is to ensure that federal agencies are fully aware of the impact of their decisions on the environment.” *Oregon Environmental Council v. Kunzman*, 817 F.2d 484, 492 (9th Cir. 1987). In the case at bar, BLM must establish baseline information including, but not necessarily limited to: greenhouse gas emissions, air quality, water resources (encompassing both quality and quantity, and the use and need for that quality and quantity), wildlife and endangered species (including those species’ habitat, and that habitat’s connectivity and health), and farmland productivity. BLM’s EA fails to collect or study any baseline information, which is fundamental to reaching a reasoned decision under NEPA. This baseline data, even in the absence of a specific proposal to drill, may compel BLM to rethink its decision to offer the proposed leases for sale in February 2013, in particular relative to the pending revision of the TRFO RMP. Failing to conduct an honest NEPA analysis at the lease sale stage also circumvents any opportunity for the public to meaningfully participate – which makes the need for baseline data even more important. *See* 40 C.F.R. § 1501.4(b). In other words, while BLM identifies several resource values at stake in this action, it fails to identify what the impacts to those resources will be. NEPA’s informational purpose requires the agency to identify impacts to resource values so that BLM and the public can make an informed decision about executing leases which commit oil and gas resources to development.

i. BLM has failed to sufficiently analyze and promote a range of reasonable alternatives in its EA.

A properly drafted EA must include a discussion of appropriate alternatives to the proposed project. *Davis v. Mineta*, 302 F.3d 1104, 1120 (10th Cir. 2002) (citing 42 U.S.C. § 4332(2)(E); 40 C.F.R. § 1508.9(b)). Even where impacts are “insignificant,” BLM must still consider alternatives. *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1229 (9th Cir. 1988) (agency’s duty to consider alternatives “is both independent of, and broader than,” its duty to complete an environmental analysis); *Greater Yellowstone Coalition v. Flowers*, 359 F.3d 1257, 1277 (10th Cir. 2004) (duty to consider alternatives “is operative even if the agency finds no significant environmental impact”). Moreover, the treatment of alternatives must be measured against the standards in 42 U.S.C. § 4332(2)(E) and 40 C.F.R. § 1508.9(b) (requiring the agency to study, develop and discuss appropriate alternatives and to briefly describe those alternatives). *Davis*, 302 F.3d at 1120. Consideration of reasonable alternatives is necessary to ensure that the agency has before it and takes into account all possible approaches to, and potential environmental impacts of, a particular project. NEPA’s alternatives requirement, therefore, ensures that the “most intelligent, optimally beneficial decision will ultimately be made.” *Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Comm’n*, 449 F.2d 1109, 1114 (D.C. Cir. 1971). This reflects the agency’s multiple use and environmental protection responsibilities imposed by FLPMA.

“Clearly, it is pointless to ‘consider’ environmental costs without also seriously considering action to avoid them.” *Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Comm’n*, 449 F.2d 1109, 1128 (D.C. Cir. 1971). “[T]he heart” of an environmental analysis under NEPA is the analysis of alternatives to the proposed project, and agencies must evaluate all reasonable alternatives to a proposed action. *Colorado Environmental Coalition*, 185 F.3d at 1174 (quoting 40 C.F.R. § 1502.14). An agency must gather “information sufficient to permit a reasoned choice of alternatives as far as environmental aspects are concerned.” *Greater Yellowstone*, 359 F.3d at 1277 (citing *Colorado Environmental Coalition*, 185 F.3d at 1174); *see also Holy Cross Wilderness Fund v. Madigan*, 960 F.2d 1515, 1528 (10th Cir. 1992). Thus, agencies must “ensure that the statement contains sufficient discussion of the relevant issues and opposing viewpoints to enable the decision maker to take a ‘hard look’ at environmental factors, and to make a reasoned decision.” *Izaak Walton League of America v. Marsh*, 655 F.2d 346, 371 (D.C. Cir.1981) (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n. 21 (1976)). Operating in concert with NEPA’s mandate to address environmental impacts, BLM’s fidelity to alternatives analysis helps “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public.” 40 C.F.R. § 1502.14. For each of the alternatives, the agency must “[d]evote substantial treatment to each alternative ... including the proposed action so that reviewers may evaluate their comparative merits.” 40 C.F.R. § 1502.14(b).

BLM’s EA considers three alternatives: (1) the Proposed Action, (2) the Deferred Alternative, and (3) the No Action Alternative. EA at 12-19. The Proposed Action consists of offering 12 parcels and over 12,000 acres of federal and split estate lands for oil and gas development. EA at 12. The Deferred Alternative proposes the deferral of approximately 60 acres of parcel 6447 to protect the view-shed of the San Juan Scenic Byway. EA at 17. Pursuant to the No Action Alternative, the proposed action would not take place and parcel nominations would be denied or rejected. EA at 19.

As frequently identified above, BLM's EA expressly rejects the notion that they are required to perform any analysis of impacts or alternatives at the lease sale stage and, instead, chooses to defer such analysis until the APD stage – a decision which as noted is in direct conflict with settled Tenth Circuit precedent. *See New Mexico ex rel. Richardson*, 565 F.3d at 717-19; *Pennaco*, 377 F.3d at 1160. Arising from BLM's void of analysis, the EA's discussion of the three alternatives is similarly perfunctory. In the absence of any true analysis of alternatives, it is impossible for the BLM to make the type of reasoned decision on this proposal that is required under NEPA – even under the minimal requirements for an EA.

Moreover, NEPA does not exempt an agency from its duty to consider alternatives simply because impacts are cumulative. *See NRDC*, 865 F.2d at 299 (a “hard look” is premised on providing “analysis useful to a decision maker in deciding whether, or how, to alter [a project] to lessen cumulative environmental impacts”). Indeed, NEPA, by mandating consideration of cumulative impacts, rejects that very notion, acknowledging the complexity of the environment, and humanity's interactions with that environment; alternatives are expressly designed to help address “unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(E), and, thus, as noted above, to “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public,” 40 C.F.R. § 1502.14.

In addition, CEQ regulations require agencies to “[r]igorously explore and objectively evaluate all reasonable alternatives” to a proposed action in comparative form, so as to provide a “clear basis for choice among the options.” 40 C.F.R. § 1502.14. Accordingly, and in addition to alternatives already identified, BLM must consider and compare the following additional reasonable alternatives in its NEPA analysis prior to the February 2013 Lease Sale:

(1) An alternative that affirmatively removes these parcels from further consideration, pursuant to FLPMA.

Differing from the No Action Alternative, this alternative would require the affirmative removal of the subject lease parcels from further consideration, pursuant to BLM's authority under FLPMA, which delegates authority to permanently withdraw lands. 43 U.S.C. § 1714. This authority is independent of BLM's land use planning process, as provided through a RMP, and authorizes the Secretary to “make, modify, extend, or revoke withdrawals.” *Id.* Therefore, BLM must consider as a reasonable alternative to the proposed action an alternative that affirmatively withdraws all 12 parcels and over 12,000 acres available in the February 2013 lease sale from present and future oil and gas development.

Furthermore, and to the degree that BLM thinks or finds that this alternative can only be considered at the RMP stage, rather than through 43 U.S.C. § 1714, this alternative underscores the need for BLM to defer the February 2013 Lease Sale pending revision of the subject RMP/EIS. Pursuant to FLPMA, BLM is required to develop and revise land use plans so as to “observe the principles of multiple use.” 43 U.S.C. § 1712(c)(1). “Multiple use” means “a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values.” *Id.* at § 1702(c).

FLPMA does not mandate that every use be accommodated on every piece of land; rather, delicate balancing is required. *See Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55, 58 (2004). “Multiple use’ requires management of the public lands and their numerous natural resources so that they can be used for economic, recreational, and scientific purposes without the infliction of permanent damage.” *Public Lands Council v. Babbitt*, 167 F.3d 1287, 1290 (10th Cir. 1999) (citing 43 U.S.C. § 1702 (c)). As held by the Tenth Circuit, “[i]f all the competing demands reflected in FLPMA were focused on one particular piece of public land, in many instances only one set of demands could be satisfied. A parcel of land cannot both be preserved in its natural character and mined.” *Rocky Mtn. Oil & Gas Ass’n v. Watt*, 696 F.2d 734, 738 n. 4 (10th Cir.1982) (quoting *Utah v. Andrus*, 486 F. Supp. 995, 1003 (D. Utah 1979)); *see also* 43 U.S.C. § 1701(a)(8) (stating, as a goal of FLPMA, the necessity to “preserve and protect certain public lands in their natural condition”); *Pub. Lands Council*, 167 F.3d at 1299 (citing § 1701(a)(8)). As further provided by the Tenth Circuit:

BLM’s obligation to manage for multiple use does not mean that development *must* be allowed on [a particular piece of public lands]. Development is a *possible* use, which BLM must weigh against other possible uses – including conservation to protect environmental values, which are best assessed through the NEPA process. Thus, an alternative that closes the [proposed public lands] to development does not necessarily violate the principle of multiple use, and the multiple use provision of FLPMA is not a sufficient reason to exclude more protective alternatives from consideration.

New Mexico ex rel. Richardson, 565 F.3d at 710.

Accordingly, BLM has authority to both permanently withdraw these lands pursuant to 43 U.S.C. § 1714, as well as to defer this Lease Sale pending revision of the RMP/EIS and “preserve and protect [these] public lands in their natural condition” for the benefit of “future generations” under BLM’s multiple use mandate, 43 U.S.C. § 1701(a)(8). Pursuant to either option afforded to BLM under FLPMA, BLM TRFO must consider and analyze the permanent withdrawal and preservation of lands included in the February 2013 lease sale as a reasonable alternative.

(2) An alternative that includes a NSO stipulation as a condition that attaches to all lease parcels.

BLM’s analysis should include an alternative that applies a “no surface occupancy” (“NSO”) stipulation to all 12 parcels and over 12,000 acres of the proposed action. As noted above, and as identified by the Tenth Circuit, without a NSO stipulation that attaches to each lease parcel, BLM will no longer be able to “prevent the impacts resulting from surface use after the lease is issued.” *New Mexico ex rel. Richardson*, 565 F.3d at 718. Accordingly, BLM should preserve its ability to prevent impacts, apply a NSO stipulation to all lease parcels, and include this reasonable alternative in the TRFO’s alternative analysis.

(3) An alternative that applies best management practices for oil and gas development as stipulations that attach to all lease parcels.

BLM’s NEPA process should include analysis of an alternative that applies best management practices (“BMP”) for oil and gas development as stipulations that attach to all the parcels

offered in the February 2013 Lease Sale. BMPs are mitigation measures applied to areas being developed for oil and gas to promote energy development in an environmentally sensitive manner. Such measures are both reasonable and immediately deployable and should be mandated, via stipulation, at the least stage.

The Intermountain Oil and Gas BMP Project, which is maintained by the Natural Resources Law Center at the University of Colorado Law School, provides supplemental information, including construction specifications, illustrations, pictures, maps, monitoring reports, and evaluations of the potential of the practice for mitigating impacts of development. *See* Intermountain Oil and Gas BMP Project, available at: <http://www.oilandgasbmps.org/> (last visited March 27, 2012). Among other resources, the Intermountain Oil and Gas BMP Project maintains a database that addresses a variety of resources and issues, including:

- Air Quality and Emissions
- Aquatic and Riparian Values
- Community
- Cultural/Historic
- Grazing and Agriculture
- Human Health and Safety
- Land Surface Disturbance
- Noise
- Soils (Conservation, Pollution, Reclamation)
- Vegetation
- Visual Aesthetics
- Water Quality and Pollution
- Water Quality and Rights
- Wildlife

Each individual resource contains hundreds of additional BMPs aimed at developing oil and gas reserves in a manner that protects the many human and environmental resources at stake. BLM should evaluate these BMPs thoroughly, including their efficacy, in light of a hard look at impacts and include stipulations mandating use of these BMPs in its alternatives analysis keyed to a baseline analysis of the resources and values of the proposed lease parcels and the broader Tres Rios area.

Moreover, and as identified above, this alternative should further consider as a stipulation the ten technical proven and commercially available methane emissions reduction technologies identified in the Harvey Report at 18, Table 4, attached as Exhibit 72, which together can capture more than 80 percent of the methane currently going to waste.

2. BLM must evaluate the impacts to all relevant resources prior to the scheduled February 2013 lease sale.

a. Significant impacts from hydraulic fracturing must be considered prior to the lease sale.

The scant references to hydraulic fracturing in the EA are insufficient to meet the requirements of the February 2013 Tres Rios Lease Sale

of NEPA. There is a high degree of likelihood that a successful bidder would employ hydraulic fracturing. This is particularly true for the parcels in the Chromo region (parcel 6401 – COC75910 and parcel 6402 – COC 75911) as well as other parcels in the Hesperus and McKenna Peak areas that overlay Mancos Shale. See M. Johnson, *Hydraulic Fracturing in the Chromo Area* (2012), submitted herewith as Exhibit B. Mr. Johnson's analysis bears extensive review, as it provides some of the fracturing analysis so lacking in the BLM's EA. First, Mr. Johnson reviews the background of drilling in the Chromo region:

There has been drilling in the Chromo Anticline & Navajo River valley area since the early 1930s based primarily on surface geology. The area is dominated by the asymmetric Chromo Anticline, which is cored in the Cretaceous Lower Mancos shale. Three field areas have been delineated:

- Price Gramps (Field Code 70600): Oil production from an asymmetric anticline in the Cretaceous Dakota sandstone at about 1100'. Basement was penetrated above TD 1172'. The field was discovered in 1935 and production ceased in the 1990s. [1]
- Chromo (Field Code 11100): Small amounts of oil and gas discovered in drilling from the early 1930s to 1960. Shows and production were from the Cretaceous Mancos shale at depths of 500' – 600'. (2&3)
- Navajo (Field Code 57110): Minor production averaging 150 bbl./month/well from the Cretaceous Mancos shale at depths of 800 – 1000'. [2,3]

Id. Mr. Johnson then reviews the geology of the area:

The area is on the east flank of the prolific San Juan Basin, one of the country's largest gas fields. Most of the associated producing formations (Fruitland Coal, Pictured Cliffs, Mesa Verde and Dakota) have been eroded away or are very shallow due to significant uplift & tectonic deformation. Exposures of the producing Fruitland and Pictured Cliffs formations outcrop several miles to the west of the Chromo area.

As mentioned previously, the area is dominated by the asymmetric Chromo Anticline, a major component of the Gallina-Archuleta Arch (also known as the Archuleta Anticlinorium) which separates the San Juan Basin from the Chama Basin (also known as the Chama Platform) and has a dramatic cliff forming surface expression due to the cap rock of Cretaceous Mesa Verde sandstone around the edges. The west flank of the Chromo Anticline dips about 10° to the west and the east flank dips 60-80°. The anticline is cored with Cretaceous Mancos shale. Near the axis of the anticline, the Cretaceous Dakota sandstone was reported at a depth of 263' in the Crowley #4 (API05-007-05203, SENW14-32N1E). Off the east flank of the anticline, the top Mancos shale is reported at a depth of 724' in the PC Crowley Heirs #1 (API 05-007-05016, NESE7-32N-2E). Further east, the Price Gramps field was drilled on a faulted, asymmetric anticline with production from the Dakota sandstone at a depth of about 1100'. There is a very thin remnant of Jurassic

Morrison and Entrada formations between the Dakota and Precambrian basement.
[2,3,4,5,6,7]

The main conclusions to be drawn are that the Cretaceous Mancos & Dakota producing formations are very shallow and highly faulted.

Id. Mr. Johnson then address potential adverse impacts:

While there is production from the lower Mancos shale, as noted above, the rates are very low. It would seem logical for a company to try horizontal drilling and/or Hydraulic Fracturing to improve the production rates. Hydraulic Fracturing is a well-known stimulation technique that pumps water, a proppant (usually sand) and a variety of chemicals under high pressure down the well bore to fracture and/or enlarge existing fractures in a specific formation or interval. The most common formulation is approximately 90% water, 9% proppant and 1% various chemicals.

The Chromo area is a very rural and mostly ranching community with some areas of retirement homes. Everyone depends on shallow wells for their drinking water. One of the main concerns about hydraulic fracturing is the possibility of fluids moving from the well bore and induced fractures into the overlying water table. As explicitly noted in the Background section (p. 7 & 8) of the “REVIEW OF HYDRAULIC FRACTURING TECHNOLOGY AND PRACTICES” Hearing before the COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY HOUSE OF REPRESENTATIVES, ONE HUNDRED TWELFTH CONGRESS, MAY 11, 2011 Serial No. 112-17:

“The use of hydraulic fracturing has raised questions regarding the potential effect of this technology on drinking water supplies. The purpose of injecting fracking fluids into the ground is to create enough pressure to fracture subsurface structures. There are two distinct areas of concern regarding this process: first, the injection itself, or the creation of subsurface fractures, could allow fracking fluid to contaminate underground sources of water, and second, the handling and disposal of fracking fluids to the surface.

The risk of contamination of underground water sources is managed in different ways. Risks associated with leakage of the fracking fluid during the injection and fracturing job are reduced by: adherence to state well construction requirements; the vertical distance between the fractured zone and ground water, and, the presence of vertically impermeable zones between the fractured zone and the deepest ground water; and the presence of vertically impermeable formation that act as geologic barriers to the movement of fluid from the fractured zone into ground water resources.” [Department of Energy, State Oil and Gas Regulations Designed to Protect Water Resources. May 2009]

The direction, size and extent of hydraulically induced fractures depend on the stress field in the formation being fracked, which is controlled by the lithology, depth of burial and tectonic stresses. The characterization of fractures is a rapidly evolving

science but most recent work using reservoir modeling, downhole tiltmeters and microseismic analysis suggests that most induced fractures have a half length of 400' – 1500' (distance from wellbore to tip of fracture) and a height of 100'-300' (vertical distance) in both vertical and horizontal wells. [8, 9, 10]

However, nearly all hydraulic fracturing has been performed in formations that are significantly deeper than in the Chromo area. For instance, the average depth of the fracturing horizon is 4500' for the Fayetteville Shale; 7400' for the Barnett shale, 9000' for the Eagleford shale and 7100' for the Marcellus shale. [8, 9] In addition, these shale plays are relatively flat and unstructured. It is noted that in the Barnett shale play, horizontal wells often cross small faults. Even when the perforations for fracking are placed away from the faults, microseismic activity was still concentrated around the fault planes and fracturing was influenced by these faults. [11] As noted previously, the Chromo area has been subjected to significant tectonic activity and contains many faults that may be both a focus for increased fracturing.

Id. Finally, Mr. Johnson, who spent 35 years as an Exploration/Producing Geophysicist for a major oil company, offers the following conclusions:

Hydraulic Fracturing should be avoided in the Chromo area as it fails to satisfy the criteria set forth in the Congressional Hearing referenced above:

- *the vertical distance between the fractured zone and ground water* – this is clearly not the case in the Chromo area where the distance between groundwater and the fracked formation may be as little as 200', clearly in the half fracture height zone.
- *the presence of vertically impermeable zones between the fractured zone and the deepest ground water* – the Mancos shale is does not contain any significant impermeable zones.
- *the presence of vertically impermeable formation that act as geologic barriers to the movement of fluid from the fractured zone into ground water resources* - given the tectonic activity (faulting and folding) and uplift any impermeability inherent in the Mancos shale is very likely to have been breached . This is evidenced by 'hot springs' and oil seeps in the area.

Id. Neighbors who live near these parcels in Chromo share Mr. Johnson's concerns and recommendations. Mr. Paul Bendheim, the owner of parcel 6401 (COC75910), and David and Edith Blake, who live in Crowley Ranch Reserve, which borders parcel 6401 are filing separate protests, raising the same concerns.

The BLM has neither analyzed the impacts from fracking nor has it utilized no surface occupation stipulations or any other stipulation that would protect against the reasonably foreseeable, likely impacts of fracking on the leases under protest. Given the possible contamination of groundwater aquifers that provide water for drinking, ranching, wildlife; all

aspects of life in the region, it is unconscionable to offer leases, with neither analysis nor protective measures that imperil these resources.

These foregoing concerns and objections to these leases are easily understood. The potential impacts that may result from fracking are significant, and include impacts to water quality and supply, impacts to habitat and wildlife, as well as impacts on greenhouse gas emissions and air quality.¹³ The New York Times recently uncovered a 1987 U.S. Environmental Protection Agency (“EPA”) report to Congress which found, among other things, that fracking can cause groundwater contamination, and cites as an example a case where hydraulic fracturing fluids contaminated a water well in West Virginia.¹⁴ The EPA report was further summarized and reviewed in an Environmental Working Group report.¹⁵ Indeed, with growing concerns and national attention on the fracking process, additional research is consistently being published warning against the dangers and impacts that fracking can produce.¹⁶ It is remarkable, given the zeitgeist around fracking, that it receives such little attention in the subject EA.

Fracking fluid is a conglomeration of many highly toxic chemicals and compounds. The Endocrine Disruption Exchange (“TEDX”) has documented nearly 1,000 products energy companies inject into the ground in the process of extracting natural gas. Many of these products contain chemicals that are harmful to human health. According to TEDX:

In the 980 products identified...[for use during natural gas operations], there were a total of 649 chemicals. Specific chemical names and CAS numbers could not be determined for 286 (44%) of the chemicals, therefore, the health effects summary

¹³ See, e.g., National Wildlife Federation, *No More Drilling in the Dark: Exposing the Hazards of Natural Gas Production and Protecting America’s Drinking Water and Wildlife Habitats* (2011), available at: <http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2011/No-More-Drilling-in-the-Dark.aspx> (last visited Dec. 20, 2011) (attached as Exhibit 6); see also United States Forest Service, *Chloride Concentration Gradients in Tank-Stored Hydraulic Fracturing Fluids Following Flowback* (Nov. 2010), available at: <http://nrs.fs.fed.us/pubs/38533/> (last visited Dec. 20, 2011) (attached as Exhibit 7).

¹⁴ See U.S. Environmental Protection Agency, Report to Congress, *Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy* (Dec. 1987), at Ch. IV, Damages Caused by Oil and Gas Operations (attached as Exhibit 8); see also *Drilling Down, Documents: A Case of Fracking Related Contamination*, THE NEW YORK TIMES ONLINE, available at: <http://www.nytimes.com/interactive/us/drilling-down-documents-7.html#document/p1/a27935> (last visited Dec. 20, 2011).

¹⁵ See Environmental Working Group, *Cracks in the Façade: 25 Years ago, EPA Linked “Fracking” to Contamination* (Aug. 2011), available at: <http://www.ewg.org/reports/cracks-in-the-facade> (last visited Dec. 20, 2011) (attached as Exhibit 9).

¹⁶ See, e.g., Abrahm Lustgarten, *New Study Predicts Frack Fluids can Migrate to Aquifers Within Years*, PROPUBLICA, May 1, 2012 (attached as Exhibit 90); Josh Fox, *The Sky is Pink: Annotated Documents* (attached as Exhibit 91); Abrahm Lustgarten, *The Trillion Gallon Loophole: Lax Rules for Drillers that Inject Pollutants Into the Earth*, PROPUBLICA, Sept. 20, 2012 (attached as Exhibit 92).

is based on the remaining 362 chemicals with CAS numbers... Over 78% of the chemicals are associated with skin, eye or sensory organ effects, respiratory effects, and gastrointestinal or liver effects. The brain and nervous system can be harmed by 55% of the chemicals. These four health effect categories... are likely to appear immediately or soon after exposure. They include symptoms such as burning eyes, rashes, coughs, sore throats, asthma-like effects, nausea, vomiting, headaches, dizziness, tremors, and convulsions. Other affects, including cancer, organ damage, and harm to the endocrine system, may not appear for months or years later. Between 22% and 47% of the chemicals were associated with these possibly longer-term health effects. Forty-eight percent of the chemicals have health effects in the category labeled 'Other'. The 'Other' category includes such effects as changes in weight, or effects on teeth or bones, for example, *but the most often cited effect in this category is the ability of the chemical to cause death.*¹⁷ (emphasis added).

A Congressional Report issued in April 2011 reveals that energy companies have injected more than 30 million gallons of diesel fuel or diesel mixed with other fluids into the ground nationwide in the process of fracking to extract natural gas between 2005 and 2009.¹⁸ In Colorado, 1.3 million gallons of fluids containing diesel fuel was used in fracking natural gas wells.¹⁹ The EPA has stated that "the use of diesel fuel in fracturing fluids poses the greatest threat" to underground sources of drinking water.²⁰ According to Congresswoman Diana DeGette of Colorado, fracking with diesel fuel was done without permits in apparent violation of the Safe Drinking Water Act.²¹

¹⁷ The Endocrine Disruption Exchange. Undated. *Chemicals In Natural Gas Operations: Health Effects Spreadsheet and Summary*, available at: <http://www.endocrinedisruption.com/chemicals.multistate.php> (last visited Dec. 20, 2011) (emphasis added) (summary attached as Exhibit 10).

¹⁸ U.S. CONGRESS, HOUSE OF REPRESENTATIVES, COMMITTEE ON ENERGY AND COMMERCE, *Chemicals Used in Hydraulic Fracturing* (April 2011), at 10 (attached as Exhibit 11); *see also* Memorandum from Chairman Henry A. Waxman and Subcommittee Chairman Edward J. Markey, to Committee on Energy and Commerce, Examining the Potential Impact of Hydraulic Fracturing (Feb. 28, 2010) (attached as Exhibit 12).

¹⁹ Karen Frantz, *States probe use of diesel fuel*, DURANGO HERALD, February 5, 2011, available at: <http://www.durangoherald.com/article/20110206/NEWS01/702069922/-1/s> (last visited Dec. 20, 2011).

²⁰ David O. Williams, *U.S. House probe alleges Halliburton, others illegally used diesel in gas fracking*, COLORADO INDEPENDENT, February 1, 2011, available at: <http://coloradoindependent.com/73593/u-s-house-probe-alleges-halliburton-others-illegally-used-diesel-in-gas-fracking> (last visited Dec. 20, 2011).

²¹ Letter from U.S. CONGRESS, HOUSE OF REPRESENTATIVES, COMMITTEE ON ENERGY AND COMMERCE, Representatives Henry A. Waxman, Edward J. Markey, & Diana DeGette, to Lisa Jackson, Administrator, U.S. ENVIRONMENTAL PROTECTION AGENCY (Jan. 31, 2011), available at: http://degette.house.gov/index.php?option=com_content&view=article&id=1048:energy-a-Protest-of-the-February-2013-Tres-Rios-Lease-Sale

Earlier this year, a former staffer responsible for investigating and managing groundwater contamination for New York State warned that allowing the controversial hydraulic fracturing practices would lead to contamination of the state's aquifers and poison its drinking water. In staffer Paul Hetzler's letter to an upstate New York newspaper, he provided:

I'm familiar with the fate and transport of contaminants in fractured media, and let me be clear: hydraulic fracturing as it's practiced today will contaminate our aquifers.

Not *might* contaminate our aquifers. Hydraulic fracturing *will* contaminate New York's aquifers. If you were looking for a way to poison the drinking water supply, here in the northeast you couldn't find a more chillingly effective and thorough method of doing so than with hydraulic fracturing.²²

Despite the energy industry's explanation that a thick layer of bedrock safely separates the gas-containing rock layer being fractured from ground-water used for drinking and surface water sources, evidence is emerging which warns that contaminants from gas wells are making their way into groundwater. Evidence suggesting contaminants from drilling operations have migrated towards the surface include:

- In March 2004, gas was discovered bubbling up in West Divide Creek and a few nearby ponds in Garfield County. The Colorado Oil and Gas Conservation Commission ("COGCC") took samples of the water and discovered they contained benzene, toluene, and m- & p-xylenes at concentrations of 99, 100, and 17 micrograms per liter (mg/l), respectively. This indicated that the gas seeping into West Divide Creek probably was not biogenic methane gas (gas made by the decomposition of organic matter by methanotrophic bacteria), but rather thermogenic gas. Further testing indicated that the gas seeping into West Divide Creek was thermogenic gas from the Williams Fork Formation where EnCana had been drilling for natural gas.²³ EnCana was subsequently fined \$371,000 as a result of contaminating West Divide Creek.

commerce-committee-fracking-investigation-reveals-millions-of-gallons-of-diesel-fuel-injected-into-ground-across-us&catid=76:press-releases-&Itemid=227 (last visited Dec. 20, 2011) (attached as Exhibit 21); *see also* Environment News Service, *Toxic Diesel Fuel Used Without Permits in Fracking Operations*, February 4, 2011, available at: <http://www.ens-newswire.com/ens/feb2011/2011-02-04-092.html> (last visited Dec. 20, 2011).

²² Karen McVeigh, *Damning New Letter from NY State Insider: 'Hydraulic Fracturing as It's Practiced Today Will Contaminate Our Aquifers,'* THE GUARDIAN, January 6, 2012, available at: http://www.alternet.org/water/153684/damning_new_letter_from_ny_state_insider%3A_%27hydraulic_fracturing_as_it%27s_practiced_today_will_contaminate_our_aquifers%27/ (last visited January 11, 2012).

²³ Colorado Oil and Gas Conservation Commission, *Mamm Creek Gas Field - West Divide Creek Gas Seep – April 14, 2004 Update* (2004), available at: http://cogcc.state.co.us/Library/PiceanceBasin/WestDivide4_14_04summary.htm (last visited Dec. 20, 2011); *see also* Margaret Ash, Environmental Protection Supervisor, Colorado Oil and Protest of the February 2013 Tres Rios Lease Sale

- The COGCC investigated complaints from Weld County, Colorado that domestic water wells were allegedly contaminated from oil and gas development. The COGCC concluded after investigation that the Ellsworth’s well contained a mixture of biogenic and thermogenic methane (from gas drilling operations) that was in part attributable to oil and gas development. Ms. Ellsworth and the operator reached a settlement in that case.²⁴
- In 2007, EPA hydrologists sampled a pristine drinking water aquifer under the Jonah Well Field near Pinedale, Wyoming. They found high levels of benzene, a known carcinogen, in 3 wells and low levels of hydrocarbons in an additional 82 wells (out of the 163 wells sampled).²⁵ These contaminated wells are located in an area stretching across 28 miles in an undisturbed landscape in which the only industry that exists is natural gas extraction.
- In Pavillion, Wyoming, EPA found 11 of 39 water samples collected from domestic wells were contaminated with chemicals linked to local natural gas fracking operations. The EPA found arsenic, methane gas, diesel-fuel-like compounds and metals including copper and vanadium. Of particular concern were compounds called adamantanes – a natural hydrocarbon found in natural gas – and a little-known chemical called 2-butoxyethanol phosphate, or 2-BEp. 2-BEp is closely related to 2-BE, a substance known to be used in fracking fluids.²⁶
- Pennsylvania state regulators have uncovered more than 50 cases where methane and other contaminants have exploded out of wells or leaked underground into drinking water supplies.

Known and suspected adverse effects of drilling operations include:

- Garfield County, Colorado, Commissioners recently expressed their health and safety concerns regarding natural gas drilling by stating in a legal filing that, “No agency...can guarantee Garfield County residents that exposures to oil and gas emissions will not produce illness or latent effects, including death.” They cited the cases of three people –

Gas Conservation Commission, *Investigation into Complaint of New Gas Seep, West Divide Creek, 2007-2008* (attached as Exhibit 15).

²⁴ Letter from David Neslin, Director, Colorado Oil and Gas Conservation Commission, to Mr. and Mrs. Ellsworth (August 7, 2009) (attached as Exhibit 16).

²⁵ BLM Wyoming News Release, *BLM, Wyoming DEQ Require Test of Water Wells Within the Pinedale Anticline and Jonah Fields* (April 26, 2007), available at: http://www.blm.gov/wy/st/en/info/news_room/2007/04/26pfo-DEQ-BLMwatertests.html (last visited Jan. 29, 2012).

²⁶ See Exhibit 16.

Chris Mobaldi, Verna Wilson, and Jose Lara – who died after suffering from drilling-related illnesses in Garfield County.²⁷

- In April 2008, a nurse at a hospital in Durango, Colorado, became critically ill and almost died of organ failure as a result of second-hand chemical exposure acquired while treating a drill rig worker who had fracking fluid on his clothes.²⁸
- In Texas, which now has approximately 93,000 natural-gas wells, up from around 58,000 a dozen years ago, a hospital system in the six counties with some of the heaviest drilling reported in 2010 a 25 percent asthma rate for young children, more than three times the state rate of about 7 percent.²⁹
- A house in Bainbridge, Ohio exploded on November 15, 2007. The Ohio Department of Natural Resources attributed the explosion to a methane leak from a nearby hydraulic fractured well. The faulty cement casing of the well developed a crack allowing methane to seep underground and fill the couple's basement.³⁰

Abraham Lustgarten, an investigative reporter with ProPublica who has won the George Polk Award for Environmental Reporting for his work on the dangers of natural gas drilling writes:

Dennis Coleman, a leading international geologist and expert on tracking underground migration, says more data must be collected before anyone can say for sure that drilling contaminants have made their way to water or that fracturing is to blame. But Coleman also says there's no reason to think it can't happen. Coleman's Illinois-based company, Isotech Laboratories, has both the government and the oil and gas industry as clients. He says he has seen methane gas seep

²⁷ David O. Williams, *GarCo officials blast state gas drilling rules in case requesting more well density*, THE COLORADO INDEPENDENT, January 19, 2011, available at: <http://coloradoindependent.com/72246/garco-officials-blast-state-gas-drilling-rules-in-case-requesting-more-well-density> (last visited Jan. 29, 2012).

²⁸ Eric Frankowski, *Gas industry secrets and a nurse's story*, HIGH COUNTRY NEWS, July 28, 2008, available at: <http://www.hcn.org/wotr/gas-industry-secrets-and-a-nurses-story> (last visited Jan. 29, 2012).

²⁹ Ian Urbina, *Regulations Lax as Gas Well's Tainted Waters Hits Rivers*, THE NEW YORK TIMES, February 26, 2011, available at: <http://www.nytimes.com/2011/02/27/us/27gas.html?pagewanted=all> (last visited January 29, 2012).

³⁰ See Ohio Department of Natural Resources, Division of Mineral Resources Management, *Report on the Investigation of the Natural Gas Invasion of Aquifers in Bainbridge Township of Geauga County, Ohio* (September 1, 2008) (attached as Exhibit 17); see also Joan Demirjian, *Insurance company [sues] driller over home explosion*, CHAGRIN VALLEY TIMES, January 7, 2010, available at: <http://www.chagrinvalleytimes.com/NC/0/1571.html> (last visited Jan. 15 2012).

underground for more than seven miles from its source. If the methane can seep, the theory goes, so can the fluids.³¹

However, perhaps the most thorough evidence of groundwater contamination from hydraulic fracturing is found in EPA's draft report investigating ground water contamination near Pavillion, Wyoming ("Pavillion Report").³² Among its findings, the Pavillion Report provides:

Elevated levels of dissolved methane in domestic wells generally increase in those wells in proximity to gas production wells. Pavillion Report, at xiii.

Detection of high concentrations of benzene, xylenes, gasoline range organics, diesel range organics, and total purgeable hydrocarbons in ground water samples from shallow monitoring wells near pits indicates that pits are a source of shallow ground water contamination in the area of investigation. Pits were used for disposal of drilling cuttings, flowback, and produced water. There are at least 33 pits in the area of investigation. When considered separately, pits represent potential source terms for localized ground water plumes of unknown extent. When considered as whole they represent potential broader contamination of shallow ground water. *Id.* at 33 (emphasis added).

The explanation best fitting the data for the deep monitoring wells is that constituents associated with hydraulic fracturing have been released into the Wind River drinking water aquifer at depths above the current production zone. *Id.* (emphasis added).

Although some natural migration of gas would be expected above a gas field such as Pavillion, data suggest that enhanced migration of gas has occurred to ground water at depths used for domestic water supply and to domestic wells. *Id.* at 37 (emphasis added).

A lines of reasoning approach utilized at this site best supports an explanation that inorganic and organic constituents associated with hydraulic fracturing have contaminated ground water at and below the depth used for domestic water supply.... A lines of evidence approach also indicates that gas production activities have likely enhanced gas migration at and below depths used for domestic water supply and to domestic wells in the area of investigation. *Id.* at 39 (emphasis added).

Although the Pavillion Report is currently released as a "draft," the EPA has shared preliminary data with, and obtained feedback from, Wyoming state officials, EnCana, Tribes, and Pavillion

³¹ Abrahm Lustgarten, *Hydrofracked? One Man's Mystery Leads to a Backlash Against Natural Gas Drilling*, PROPUBLICA, February 25, 2011, available at: <http://www.propublica.org/article/hydrofracked-one-mans-mystery-leads-to-a-backlash-against-natural-gas-drill/single> (last visited Dec. 20, 2011).

³² EPA Draft Report, *Investigation of Ground Water Contamination Near, Pavillion, Wyoming* (Dec. 2011) (attached as Exhibit 18).
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residents, prior to release. Moreover, a second round of testing in the Pavillion area was recently performed by the U.S. Geological Survey, which supported EPA's preliminary findings that hydraulic fracturing resulted in groundwater contamination.³³ Even in draft form, the Pavillion Report and its troubling findings – as well as other evidence of fracking related contamination from around the country – satisfies the low threshold for requiring the preparation of an EIS before the February 2013 Lease Sale.

Given the weight of both new and old evidence documenting the risk of water contamination from gas drilling across the country, BLM's approach is untenable, in particular given the absence of any scientific analysis that conclusively finds that these documented problems do not exist in the area of the proposed lease sale. The simple fact of the matter is that natural gas development has the potential for poisoning our water with toxic, hazardous, and carcinogenic chemicals as well as naturally occurring radioactive radium, and BLM must provide a thorough analysis of these potentially significant impacts in an EIS.

The bottom line is this – energy companies have told us, 'Trust us, our fracking ingredients and process for extracting natural gas are harmless.' We now know they have not been truthful and cannot be trusted. Without implementation of a precautionary approach to these risks, BLM will continue to place the health of our community, and our environment at risk.

b. Impacts from hydraulic fracturing resulting in seismic activity must be considered prior to the lease sale.

Mr. Johnson's analysis documents the susceptibility of fracking in these lease areas to seismic activity. This concern is so significant that the Bureau of Reclamation is protesting these sales out of fear for its Oso Diversion Project, which is a dam and tunnel feeding water from the Navajo River to Heron Lake, Santa Fe, Albuquerque, etc.

The scientific communities recognition of the relationship between hydraulic fracturing and seismic activity is not new. Indeed, the USGS freely admits, "earthquakes induced by human activity have been documented."³⁴ The largest and perhaps most widely known incident to date resulted from fluid injection at the Rocky Mountain Arsenal near Denver, Colorado, in 1967, where an earthquake of magnitude 5.5 followed a series of smaller earthquakes. Further, in a 1990 report studying the incident, the USGS confirmed, "the link between fracking fluid injection and the earlier series of earthquakes was established."³⁵

³³ Peter Wright, et. al., U.S. Geological Survey, *Groundwater-Quality and Quality-Control Data for Two Monitoring Wells near Pavillion, Wyoming*, April and May 2012 (attached as Exhibit 93).

³⁵ Craig Nicholson and Robert Wesson, *Earthquake Hazard Associated with Deep Well Injection – A report to the U.S. Environmental Protection Agency*, U.S. Geological Survey Bulletin 1951 (1990), at 74 (attached as Exhibit 29) (also citing other well-documented examples of seismic activity induced by fluid injection, including: Denver, Colorado; Rangely, Colorado; southern Nebraska; western Alberta and southwestern Ontario, Canada; western New York; New Mexico; and Matsushiro, Japan).

Just recently, “[a] northeast Ohio well used to dispose of wastewater from oil and gas drilling almost certainly caused a series of 11 minor quakes in the Youngstown area since last spring, a seismologist investigating the quakes said.”³⁶ After the latest and largest quake Saturday, December 31, 2011, which registered at 4.0 magnitude, “state officials announced their beliefs that injecting wastewater near a fault line had created enough pressure to cause seismic activity. They said four inactive wells within a five-mile radius of the Youngstown well would remain closed.”³⁷ As Andy Ware, deputy director of the Ohio Department of Natural Resources, which regulates gas drilling and disposal wells, stated, “the state asked on Friday that injection at the well be halted after analysis of the 10th earthquake, a 2.7-magnitude temblor on Dec. 24, showed that it occurred less than 2,000 feet below the well.”³⁸

The events in Youngstown unfortunately don’t seem to be isolated. “A string of mostly small tremors in Arkansas, Oklahoma, Texas, British Columbia and other shale-gas-producing areas suggest that [fracking] may lead, directly or indirectly, to a dangerous earthquake.”³⁹ The commonality of circumstances suggests that a strong correspondence between seismic activity and development techniques used by the oil and gas industry does indeed exist. For example, “[t]he number and strength of earthquakes in central Arkansas have noticeably dropped since the shutdown of two injection wells in the area.”⁴⁰ Scott Ausbrooks, the Geohazards Supervisor for the Arkansas Geological Survey, provided, “[w]e have definitely noticed a reduction in the number of earthquakes, especially the larger ones. It’s definitely worth noting.”⁴¹

Moreover, the U.S. Geological Survey (“USGS”) has recently released a report that links a series of earthquakes in Oklahoma, in January 2011, to a fracking operation underway there. The USGS determined after analyzing earthquake data that “the character of seismic recordings

³⁶ Thomas J. Sheeran, *Ohio Earthquakes Caused by Drilling Wastewater Well, Experts Say*, HUFFINGTON POST, January 2, 2012, available at: http://www.huffingtonpost.com/2012/01/02/ohio-earthquakes-caused-by-wastewater-well-drilling_n_1180094.html (last visited Jan. 3, 2012).

³⁷ *Id.*

³⁸ Henry Fountain, *Disposal Halted at Well After New Quake in Ohio*, THE NEW YORK TIMES, Jan. 1, 2012, available at: <http://www.nytimes.com/2012/01/02/science/earth/youngstown-injection-well-stays-shut-after-earthquake.html?scp=3&sq=fracking%20earthquake&st=cse> (last visited Jan. 3, 2012).

³⁹ *Id.*

⁴⁰ Sarah Eddington, *Ark. Quakes Decline Since Injection Well Closures*, HUFFINGTON POST, March 14, 2011, available at: <http://www.huffingtonpost.com/huff-wires/20110314/us-arkansas-earthquakes/> (last visited Jan. 3, 2012).

⁴¹ *Id.*

indicate that they are both shallow and unique.”⁴² The report continues, providing: “Our analysis showed that shortly after hydraulic fracturing began small earthquakes started occurring, and more than 50 were identified, of which 43 were large enough to be located. Most of these earthquakes occurred within a 24-hour period after hydraulic fracturing operations had ceased.”⁴³

Colorado has also been central in the discussion surrounding the link between fracking and earthquakes. In August 2011, an earthquake measuring 5.3-magnitude near Trinidad, Colorado, was the largest in more than 40 years.⁴⁴ However, seismic activity near Trinidad is not new. Indeed, a September 2001 swarm of earthquakes near Trinidad prompted a USGS investigation. The USGS report provided, “In recent years, a large volume of excess water that is produced in conjunction with coal-bed methane gas production has been returned to the subsurface in fluid disposal wells in the area of the earthquake swarm;” and later continues, “Because of the proximity of these disposal wells to the earthquakes, local residents and officials are concerned that the fluid disposal might have triggered the earthquakes.”⁴⁵ The USGS investigation concluded: “the characteristics of the seismicity and the fluid disposal process do not constitute strong evidence that the seismicity is induced by the fluid disposal, though they do not rule out this possibility.”⁴⁶

Given the clear evidence that impacts from seismicity closely follow oil and gas development activity, *the total absence of these impacts in BLM’s NEPA analysis represents a fatal flaw* that must be addressed prior to the lease sale.

c. The EA has failed to sufficiently analyze air quality and climate change.

Incorporated by reference hereto are comments SJCA submitted in November 2011, regarding the Air Quality Analysis for the San Juan Public Lands Center (“SJPL”) Draft Land Management Plan and Draft Environmental Impact Statement (“SDEIS”), attached as Exhibit F. While these comments specifically address Air Quality and climate impacts in the SDEIS, these comments have equal relevance to this current EA and should be considered by BLM, here.

⁴² Austin Holland, Oklahoma Geological Survey, Examination of Possibly Induced Seismicity from Hydraulic Fracturing in Eola Field, Garvin County, Oklahoma (Aug. 2011), at 1 (attached as Exhibit 30).

⁴³ *Id.*

⁴⁴ Jordan Steffen, *5.3 quake in Trinidad, Colo., area unnerves regions residents*, DENVER POST, August 24, 2011, available at: http://www.denverpost.com/news/ci_18744329 (last visited Jan. 3, 2012).

⁴⁵ Mark E. Mermonte, et al., USGS, *Investigation of an Earthquake Swarm Near Trinidad, Colorado, August – October 2001* (2002), available at: <http://pubs.usgs.gov/of/2002/ofr-02-0073/ofr-02-0073.html> (last visited Jan. 3, 2012) (attached as Exhibit 31).

⁴⁶ *Id.*

The air quality and climate impacts analysis provided in the subject EA falls significantly short of NEPA's mandate. For example, the EA states:

The decision to offer the identified parcels for lease would not result in any direct emissions of air pollutants. EA at 58.

While the act of leasing the parcels would produce no significant air quality effects, potential future development of the lease could lead to increases in area and regional emissions. Id.

Conditions of approval (COAs) may be added at the permitting stage based on the review of site-specific proposals, other applicable analysis of future exploration/development activities, or if new information becomes available and the mitigation proposed is supported by concise site-specific NEPA analysis. COAs cannot take away lease rights or prevent development. EA at 59.

There is broad scientific consensus that humans are changing the chemical composition of our atmosphere. EA at 37.

Activities such as fossil fuel combustion ... are resulting in the accumulation of trace greenhouse gasses.... Id.

The future development of these leases will result in emissions of ...GHG pollutants. EA at 58. ... it is not possible to accurately quantify potential GHG emissions in the affected areas as a result of making the proposed tracts available for leasing Id.

Research on climate change effects is an emerging and rapidly evolving area of science, but given the lack of adequate analysis methods it is not possible to identify specific local, regional, or global climate change effects based on potential GHG emissions from any specific project's incremental contributions to the global GHG burden. EA at 59.

These excerpts are emblematic of the lack of seriousness that BLM affords in its analysis regarding air quality and climate change. The Protesters agree that there is indeed broad scientific consensus that humans are changing the chemical composition of our atmosphere, and that research has identified the general potential effects of anthropogenic GHG emissions and their effects on global climatic conditions.⁴⁷

⁴⁷ See, e.g., UNITED NATIONS, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Climate Change 1995: The Science of Climate Change* (1996) (attached as Exhibit 39); U.S. Climate Change Science Program, *Abrupt Climate Change* (Dec. 2008) (attached as Exhibit 40); James Hansen, et. al., *Global Surface Temperature Change*, REVIEWS OF GEOPHYSICS, 48, RG4004 (June 2010) (attached as Exhibit 41); see also, Richard A. Muller, *Conversion of a Climate Change Skeptic*, NEW YORK TIMES, July 28, 2012 (attached as Exhibit 42) (citing Richard A. Muller, et. al., *A New Estimate of the Average Earth Surface Temperature, Spanning 1753 to 2011*, (attached as Exhibit 43); Richard A. Muller, et. al., *Decadal Variations in the Global Atmospheric Land Temperatures* (attached as Exhibit 44)).

While BLM acknowledges climate change, the EA states that due to “the lack of adequate analysis methods it is not possible to identify specific local, regional, or global climate change effects based on potential GHG emissions from any specific project’s incremental contributions to the global GHG burden.” *Id.* This conclusion is troubling. Framing their climate change discussion in terms of speculation and lack of analysis – rather than the very real and occurring threat it represents – is indicative of the lack of seriousness with which BLM approaches their analysis with regard to climate impacts. Atmospheric GHG concentrations are already far too high. These concentrations are no longer speculative, but are causing observed climate change. As Dr. James Hansen has explained:

Paleoclimate evidence and ongoing global changes imply that today’s CO₂, about 385 ppm, is already too high to maintain the climate to which humanity, wildlife, and the rest of the biosphere are adapted. Realization that we must reduce the current CO₂ amount has a bright side: effects that had begun to seem inevitable, including impacts of ocean acidification, loss of fresh water supplies, and shifting of climatic zones, may be averted by the necessity of finding an energy course beyond fossil fuels sooner than would otherwise have occurred.

We suggest an initial objective of reducing atmospheric CO₂ to 350 ppm, with the target to be adjusted as scientific understanding and empirical evidence of climate effects accumulate.

James Hansen, *et al.*, *Target Atmospheric CO₂: Where Should Humanity Aim* (attached as Exhibit 52).

In fact, existing atmospheric GHG concentrations are approaching – if they have not already crossed – tipping points beyond which further global warming and subsequent climate change – and climate change impacts to the environment – are inevitable and unstoppable. As Dr. Hansen has explained, “Realization that today’s climate is far out of equilibrium with current climate forces raises the specter of ‘tipping points,’ the concept that climate can reach a point such that, without additional forcing, rapid changes proceed practically out of our control.” *Id.* Dr. James Hansen has warned, in an separate article in *State of the Wild 2008-2009* entitled *Tipping Point: Perspective of a Climatologist* (attached as Exhibit 51), that:

Our home planet is dangerously near a tipping point at which human-made greenhouse gases reach a level where major climate changes can proceed mostly under their own momentum ... The implications are profound and the only resolution is for humans to move to a fundamentally different energy pathway within a decade. Otherwise, it will be too late for one-third of the world’s animal and plant species and millions of the most vulnerable members of our own species.⁴⁸

⁴⁸ See also, Rob Atkinson, *et. al.*, *Climate Pragmatism: Innovation, Resilience, and No Regrets* (July 2011) (attached as Exhibit 45); UNITED NATIONS, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Climate Change 2007: Synthesis Report* (2007) (attached as Exhibit 47); A.P. Sokolov, *et. al.*, *Probabilistic Forecast for Twenty-First-Century Climate Based on Uncertainties in Emissions (without Policy) and Climate Parameters*, MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT) (Oct. 2009) (attached as Exhibit 48); UNITED NATIONS, FRAMEWORK Protest of the February 2013 Tres Rios Lease Sale

Although BLM seems to suggest that it can avoid performing any actual analysis relying solely on acknowledging climate change, this is not consistent with what NEPA requires. “Reasonable forecasting and speculation is ... implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as ‘crystal ball inquiry.’” *Save Our Ecosystems v. Clark*, 747 F.2d 1240, 1246 n.9 (9th Cir. 1984 (quoting *Scientists’ Inst. for Pub. Info., Inc. v. Atomic Energy Comm.*, 481 F.2d 1079, 1092 (D.C. Cir. 1973))). NEPA merely requires “a reasonably thorough discussion of the significant aspects of the probable environmental consequences” to “foster both informed decision-making and informed public participation.” *Ctr. for Biological Diversity v. Natl. Hwy. Traffic Safety Admin.*, 538 F.3d 1172, 1194 (9th Cir. 2008) (quotations and citations omitted). Failing to perform this analysis is a fatal omission in BLM’s EA, denying both the agency and the public necessary information.

Rather than doing the analysis now, and in a comprehensive fashion, the BLM asserts that such analysis will be performed on a parcel by parcel basis at the time of permitting. EA at 58. BLM’s approach is unacceptable; such analysis cannot wait until the APD phase for analysis to be performed. Oil and gas drilling will impact resources that are impacted by climate change. Thus, it is not only the impact to climate change, but also the combined impact of oil and gas drilling and climate change to specific resources and resource resiliency; e.g., water resources, vegetation, farmlands, wildlife, and endangered species, to name a few.

Here, as before, BLM’s approach falls short of NEPA’s mandate to examine these impacts at the earliest possible time – which in the oil and gas development context is at the lease sale stage. As the Ninth Circuit has explained, “[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*, 538 F.3d 1172, 1217. A cumulative impact is the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.” *Ocean Advoc. v. U.S. Army Corps of Engrs.*, 402 F.3d 846, 868 (9th Cir. 2005); 40 C.F.R. § 1508.7. BLM’s cumulative impacts analysis “must be more than perfunctory; it must provide a ‘useful analysis of the cumulative impacts of past, present, and future projects.’” *Ocean Advoc.*, 402 F.3d at 868. BLM must, therefore, “give a realistic evaluation of the total impacts [of the action] and cannot isolate the proposed project, viewing it in a vacuum.” *Grand Canyon Trust v. FAA*, 290 F.3d 339, 342 (D.C. Cir. 2002). Even “a slight increase in adverse conditions...may sometimes threaten harm that is significant. One more factory...may represent the straw that breaks the back of the environmental camel.” *Id.* at 343. As noted above the failure to assess cumulative impacts “impermissibly subject[s] the decision-making process contemplated by NEPA to ‘the tyranny of small decisions.’” *Kern*, 284 F.3d at 1078 (citation omitted).

Furthermore, the agency is required by law to not only consider the cumulative impacts of oil and gas development and climate change, but to consider and reduce GHG pollution contemplated by extraction of oil and gas from the leases. Secretarial Order 3226 (January 19, 2001) (“Order”) commits the Department of the Interior to address climate change through its planning and decision-making processes. The Order provides that “climate change is impacting natural resources that the Department of the Interior (“Department”) has the responsibility to manage and protect.” Sec. Or. 3226, § 1. The Order also “ensures that climate change impacts are taken into account in connection with Department planning and decision making.” *Id.* The Order obligates BLM to “consider and analyze potential climate change impacts” in four situations: (1) “when undertaking long-range planning exercises”; (2) “when setting priorities for scientific research and investigations”; (3) “when developing multi-year management plans, and/or” (4) “when making major decisions regarding the potential utilization of resources under the Department’s purview.” *Id.* § 3. BLM’s assertion that “lease sales are not an explicit part” of the Order, is suspect; this lease sale is a major decision regarding the potential utilization of resources under the Department’s purview. Accordingly, the oil and gas leasing decisions are contemplated by and subject to the Order, and BLM must consider not only GHG pollution but also how to reduce that pollution in its leasing decisions. It has failed to do so here.

Aside from a general recognition of some broad greenhouse gas (“GHG”) statistics and projections within BLM’s overall climate discussion, the EA provides no analysis of GHG emissions. To this end, BLM certainly does not provide any consideration of the relationship between GHG emissions and the decision made, and fails to address or identify any alternatives or mitigation of GHG emissions from development of the over 12,000 acres of land BLM proposes to sell to the oil and gas industry. This failure is in direct conflict with Secretarial Order 3226 and BLM’s NEPA mandate.

Moreover, BLM is empowered and obligated pursuant to the Federal Land Policy and Management Act (“FLPMA”) and the Mineral Leasing Act (“MLA”) to ensure that oil and gas lease decisions conserve natural resources and do not degrade public lands. Pursuant to FLPMA, BLM must “take any action necessary to prevent unnecessary or undue degradation of the [public] lands.” 43 U.S.C. § 1732(b). This protective mandate applies to BLM’s planning and management decisions. *See Utah Shared Access Alliance v. Carpenter*, 463 F.3d 1125, 1136 (10th Cir. 2006) (finding that BLM’s authority to prevent degradation is not limited to the RMP planning process). GHG pollution may cause “undue” degradation, even if the activity causing the degradation is “necessary.” Where GHG pollution is avoidable, it is “unnecessary” degradation. 43 U.S.C. § 1732(b). BLM can also help prevent climate change degradation to public lands by promoting ecological resiliency and adaptability and reducing external anthropogenic environmental stresses.⁴⁹

We reject any notion that the specific emissions from specific activities in the TRFO are so small as to warrant a dismissive analysis. The reality of climate change is that it is caused by myriad, specific sources of GHG pollution. For BLM, here, to disavow itself of responsibility for these specific emissions is to condemn us to unabated GHG emissions. BLM is, at the end of the day,

⁴⁹ See James Hansen, et. al., *Climate Variability and Climate Change: The New Climate Dice* (Nov. 2011) (attached as Exhibit 58); James Hansen, et. al., *Increasing Climate Extremes and the New Climate Dice* (Aug. 2012) (attached as Exhibit 59).

responsible for the management of 700 million acres of federal onshore subsurface minerals.⁵⁰ Indeed, “the ultimate downstream GHG emissions from fossil fuel extraction from federal lands and waters by private leaseholders could have accounted for approximately 23% of total U.S. GHG emissions and 27% of all energy-related GHG emissions.”⁵¹ This suggests that “ultimate GHG emissions from fossil fuels extracted from federal lands and waters by private leaseholders in 2010 could be more than 20-times larger than the estimate reported in the CEQ inventory, [which estimates total federal emissions from agencies’ operations to be 66.4 million metric tons]. Overall, ultimate downstream GHG emissions resulting from fossil fuel extraction from federal lands and waters by private leaseholders in 2010 are estimated to total 1,551 MMTCO₂e.” *Id.* To suggest that the agency does not, here, have to account for GHG pollution from these leases, at the very point the agency commits those resources to development, is to suggest that the collective 700 million acres of subsurface mineral estate is not relevant to protecting against climate change. This sort of flawed, reductive thinking is problematic, and contradicted by the agency’s very management framework that provides a place-based lens to account for specific pollution sources to ensure that the broader public interest is protected.

Even putting aside climate change, every ton of methane emitted to the atmosphere from oil and gas development is a ton of natural gas *lost*. Every ton of methane lost to the atmosphere is therefore a ton of natural gas that cannot be used by consumers. Methane lost from federal leases may also not pay royalties otherwise shared between federal, state, and local governments. This lost gas reflects serious inefficiencies in how BLM oil and gas leases are developed. Energy lost from oil and gas production – whether avoidable or unavoidable – reduces the ability of a lease to supply energy, increasing the pressure to drill other lands to supply energy to satisfy demand. 40 C.F.R. §§ 1502.16(e)-(f). In so doing, inefficiencies create indirect and cumulative environmental impacts by increasing the pressure to satisfy demand with new drilling. 40 C.F.R. §§ 1508.7, 1508.8(b).

The MLA, as amended, obligates BLM to prevent waste in oil and gas operations, functioning as a corollary to FLPMA’s unnecessary or undue degradation duties. *See infra* (discussing FLPMA’s mandate to prevent unnecessary or undue degradation). The MLA requires that “[a]ll leases of lands containing oil or gas ... shall be subject to the condition that the lessee will, in conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land....” 30 U.S.C. § 225; *see also* 30 U.S.C. § 187 (“Each lease shall contain...a provision...for the prevention of undue waste...”). The MLA’s legislative history notably provides that “conservation through control was the dominant theme of the debates.” *Boesche v. Udall*, 373 U.S. 472, 481 (1963) (citing H.R.Rep. No. 398, 66th Cong., 1st Sess. 12-13; H.R.Rep. No. 1138, 65th Cong., 3d Sess. 19 (“The legislation provided for herein...will [help] prevent waste and other lax methods...”).

BLM regulations further illuminate these requirements. The authorized officer must “*require* that all operations be conducted in a manner which protects other natural resources and the environmental quality, protects life and property and results in the maximum ultimate recovery

⁵⁰ *See* DOI-BLM, *Mineral and Surface Acreage Managed By BLM*, available at: http://www.blm.gov/wo/st/en/info/About_BLM/subsurface.html.

⁵¹ Stratus Consulting, prepared for: The Wilderness Society, *Greenhouse Gas Emissions from Fossil Energy Extracted from Federal Lands and Waters*, Feb. 1, 2012 (attached as Exhibit 25).
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of oil and gas *with minimum waste and with minimum adverse effect on the ultimate recovery of other mineral resources.*” 43 C.F.R. § 3161.2 (emphasis added). Waste is defined as any act or failure to act, not sanctioned by the authorized officer, which results in: “(1) A reduction in the quantity or quality of oil and gas ultimately producible from a reservoir under prudent and proper operations; or (2) avoidable surface loss of oil or gas.” 43 C.F.R. § 3160.0-5. Avoidable losses of oil or gas include venting or flaring without authorization, operator negligence, failure of the operator to take “all reasonable measures to prevent and/or control the loss,” and an operator’s failure to comply with lease terms and regulations, order, notices, and the like. *Id.*

Critically, whether to guard against climate change or conserve the mineral resource, it may be necessary to require emissions reductions beyond what is economically viable or, even, where inefficiencies are too great, to not lease lands, period. BLM cannot make an informed decision on this front, however, if it does not take a hard look at methane emissions – and other emissions from oil and gas development – as not only a climate problem, but, separately, as a waste problem and, even, as an unfixable inefficiency problem that may warrant keeping the mineral resource in the ground, unleased.

Ensuring compliance with these obligations through proper analysis and documentation in the NEPA process is important: technologies and practices change, and BLM’s duty to prevent degradation and waste cannot be excused just because the agency apparently lags behind the technological curve. NEPA provides an opportunity for BLM to account for technological progress and thereby satisfy its legal duties. In prior leasing processes and litigation with BLM, BLM has argued that it identifies, reports, and prevents GHG pollution and waste through existing policies. For example, BLM relies on guidance that apparently sets limits on the venting and flaring of natural gas. *See* Notice to Lessees and Operators (“NTL”) 4a. However, this guidance was developed in 1980 – well before GHG reduction technologies and practices were developed – and does not, as found by the Government Accountability Office (“GAO”), “enumerate the sources that should be reported or specify how they should be estimated.”⁵² BLM also explained to GAO “that [BLM] thought the industry would use venting and flaring technologies if they made economic sense,” a naïve perspective belied by the lack of information about the magnitude of methane waste and the documented barriers to the deployment of GHG reduction technologies and practices.⁵³ Indeed, a recent Report released by the Natural Resources Defense Council identified that “[c]apturing currently wasted methane for sale could reduce pollution, enhance air quality, improve human health, conserve energy resources, and bring in more than \$2 billion of additional revenue each year.”⁵⁴ Moreover, the Report further identified ten technically proven, commercially available, and profitable methane emission control

⁵² *See* GAO, *Federal Oil & Gas Leases: Opportunities Exist to Capture Vented and Flared Natural Gas, Which Would Increase Royalty Payments and Reduce Greenhouse Gases*, GAO-11-34 at 11, 27 (October 2010) (attached as Exhibit 68).

⁵³ *Id.* at 20-33.

⁵⁴ Susan Harvey, et al., *Leaking Profits: The U.S. Oil and Gas Industry Can Reduce Pollution, Conserve Resources, and Make Money by Preventing Methane Waste* (March 2012) (attached as Exhibit 72).

technologies together can capture more than 80 percent of the methane currently going to waste. *Id.* Such technologies must also be considered in BLM’s alternatives analysis, discussed above.

BLM cannot presume, as it appears to have done here, that whatever it does somehow automatically complies with FLPMA and the MLA. BLM has basic obligation under law to provide a reasoned and informed basis demonstrating that its decisions comply with federal law that can be tested through judicial review. 5 U.S.C. §§ 706(2)(A), (C), (D). As GAO has found, BLM’s current waste prevention policies, originally created in 1980, are outdated. That BLM intends to revise its policies does not excuse its failures relative to the specific actions proposed by BLM in this EA. This is a fatal deficiency.

Preventing GHG pollution and waste is particularly important in the natural gas context, where there is an absence of meaningful lifecycle analysis of the GHG pollution emitted by the production, processing, transmission, distribution, and combustion of natural gas. Although natural gas is often touted as a ‘cleaner’ alternative to dirty coal, recent evidence indicates that this may not, in fact be the case – and, at the least, indicates that we must first take immediate, common sense action to reduce GHG pollution from natural gas before it can be safely relied on as an effective tool to transition to a clean energy economy (a noted priority of this Administration).⁵⁵ Considering alternatives to prevent or abate these emissions, in particular through enforceable stipulations attached to the leases, is therefore reasonable and prudent. It is not sufficient to simply postulate that all this will be taken care of at the lease stage.

Oil and natural gas systems are the biggest contributor to methane emissions in the United States, accounting for over one quarter of all methane emissions.⁵⁶ In light of serious controversy and uncertainties regarding GHG pollution from oil and gas development, BLM’s quantitative assessment should account for methane’s long-term (100-year) global warming impact and, also, methane’s short-term (20-year) warming impact using the latest peer-reviewed science to ensure that potentially significant impacts are not underestimated or ignored. *See* 40 C.F.R. § 1508.27(a) (requiring consideration of “[b]oth short- and long-term effects”).

EPA’s GHG Inventory – which BLM typically relies on in its analysis – assumes that methane is 21 times as potent as carbon dioxide (“CO₂”) over a 100-year time horizon, a global warming potential (“GWP”) based on the Intergovernmental Panel on Climate Change’s (“IPCC”) Second Assessment Report from 1996.⁵⁷ As a Supplementary Information Report (“SIR”) prepared for

⁵⁵ Robert W. Howarth, *Assessment of the Greenhouse Gas Footprint of Natural Gas from Shale Formations Obtained by High-Volume, Slick-Water Hydraulic Fracturing* (Rev’d. Jan. 26, 2011) (attached as Exhibit 69). *See also* Robert W. Howarth et al., *Venting and Leaking of Methane from Shale Gas Development: Response to Cathles et al.* (2012) (attached as Exhibit 70); Robert Howarth, Drew Shindell, et. al., *Methane Emissions from Natural Gas Systems* (Feb. 25, 2012) (attached as Exhibit 71).

⁵⁶ U.S. Emissions Inventory 2007: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005.

⁵⁷ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Second Assessment Report* (1996) (attached as Exhibit 38); *see also* U.S. Environmental Protection Agency, *Methane*, available at: <http://www.epa.gov/outreach/scientific.html> (last visited Dec. 20, 2011).

BLM's oil and gas leasing program in Montana and the Dakotas explains, GWP "accounts for the intensity of each GHG's heat trapping effect and its longevity in the atmosphere" and "provides a method to quantify the cumulative effect of multiple GHGs released into the atmosphere by calculating carbon dioxide equivalent (CO₂e) for the GHGs." SIR at 1-2.⁵⁸ However, substantial questions arise when you calibrate methane's GWP over the 20-year planning and environmental review horizon used in the SIR and, typically, by BLM, including the TRFO. See SIR at 4-1 thru 4-45 (discussing BLM-derived reasonably foreseeable development potential in each planning area). Over this 20-year time period, the IPCC has calculated that methane's GWP is 72 – over three times as potent as otherwise assumed by the SIR.⁵⁹

Moreover, recent peer-reviewed science demonstrates that gas-aerosol interactions amplify methane's impact such that methane is actually 33 times as potent as carbon dioxide over a 100-year time period, and 105 times as potent over a twenty year time period.⁶⁰ This information suggests that the near-term impacts of methane emissions have been underestimated by several orders of magnitude. See 40 C.F.R. § 1508.27(a) (requiring consideration of short and long term effects). Further, by extension, BLM is underestimating the near-term benefits of keeping methane emissions out of the atmosphere by several orders of magnitude. 40 C.F.R. §§ 1502.16(e), (f); *id.* at 1508.27. These estimates are important given the noted importance of near term action to ameliorate climate change – near term action that scientists say should focus, *inter alia*, on preventing the emission of short-lived but potent GHGs like methane while, at the same time, stemming the ongoing increase in the concentration of carbon dioxide.⁶¹ These

⁵⁸ BLM, *Climate Change, Supplementary Information Report, Montana, North Dakota and South Dakota* (2010) available at: www.blm.gov/mt/st/en/prog/energy/oil_and_gas/leasing/leasingEAs.html (last visited Dec. 20, 2011) (attached as Exhibit 56).

⁵⁹ See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Fourth Assessment Report, Working Group 1, Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Ch. 2, p. 212, Table 2.14, available at: www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html (last visited Dec. 20, 2011) (attached as Exhibit 57).

⁶⁰ Drew Shindell et al., *Improved Attribution of Climate Forcing to Emissions*, *SCIENCE* 2009 326 (5953), p. 716, available at: www.sciencemag.org/cgi/content/abstract/326/5953/716 (last visited Dec. 20, 2011) (attached as Exhibit 60).

⁶¹ See, e.g., *Limiting Global Warming: Variety of Efforts Needed Ranging from 'Herculean' to the Readily Actionable, Scientists Say*, *SCIENCE DAILY* (May 4, 2010), available at: <http://www.sciencedaily.com/releases/2010/05/100503161328.htm> (last visited Dec., 20, 2011); see also, Veerabhadran Ramanathan and Yangyang Xu, *The Copenhagen Accord for Limiting Global Warming: Criteria, Constraints, and Available Avenues*, *Proceedings of the National Academy of Sciences of the United States of America* (March 26, 2010), available at: <http://www.pnas.org/content/107/18/8055.full> (last visited Dec. 20, 2011) (attached as Exhibit 46).

uncertainties – which BLM TRFO has left unaddressed in prior NEPA analysis – necessitate preparation of an EIS. 40 C.F.R. §§ 1508.27(a), (b)(4)-(5).

Additional, serious, yet unaddressed uncertainties pertain to the magnitude of pollution from oil and gas emissions sources. Current EPA emissions factors drastically underestimate the emissions from several oil and gas sources. In a Technical Support Document (“TSD”) prepared for EPA’s mandatory GHG reporting rule for the oil and gas sector, EPA determined that several emissions sources were projected to be “significantly underestimated.”⁶² EPA thus provided revised emissions factors for four of the most significant underestimated sources that ranged from ten times higher (for well venting from liquids unloading) to as many as 3,500 and 8,800 times higher (for gas well venting from completions and well workovers of unconventional wells).⁶³ When EPA accounted for just these four revisions, it more than doubled the estimated GHG emissions from oil and gas production, from 90.2 million metric tons of CO₂ equivalent (MMTCO₂e) to 198.0 MMTCO₂e.⁶⁴

To provide a specific example, EPA has used an emissions factor of 3 thousand standard cubic feet (“Mcf”) of gas emitted to the atmosphere per well completion in calculating its GHG inventory. EPA has, however, conceded that a far more accurate emissions factor is 9,175 Mcf per well.⁶⁵ Moreover, it is important to note that the emissions factor for certain geologic formations is significantly higher, such as the 22,000 Mcf of gas per well reported in the Piceance Basin.⁶⁶ Regardless, if you use EPA’s revised emissions factor, the estimated emissions from well completions and workovers totals 120 billion standard cubic feet – a vastly larger figure than the most recent U.S. GHG Inventory prepared by EPA which reports GHG emission of just 0.1 Bcf of gas from these sources.⁶⁷

⁶² U.S. Environmental Protection Agency, *Greenhouse Gas Emissions Reporting From The Petroleum And Natural Gas Industry Background Technical Support Document*, at 8, available at: <http://www.epa.gov/climatechange/emissions/subpart/w.html> (last visited Dec. 20, 2011) (attached as Exhibit 62).

⁶³ *Id.* at 9, Table 1; *see also* U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2009* (2011) (providing latest GHG Inventory, where the magnitude of GHG emissions from oil and gas are more accurately acknowledged), available at: www.epa.gov/climatechange/emissions/usinventoryreport.html (last visited Dec. 20, 2011) (attached as Exhibit 61).

⁶⁴ *Id.* at 10, Table 2.

⁶⁵ TSD, Appendix B at 84-87.

⁶⁶ *See, e.g.*, EPA, Natural Gas STAR Program, *Recommended Technologies and Practices for Wells*, available at: www.epa.gov/gasstar/tools/recommended.html (last visited Dec. 20, 2011); *see also* EPA, Natural Gas STAR Program, *Reduced Emissions Completions*, Oct. 26, 2005, at 14 (attached as Exhibit 73).

⁶⁷ *See* Exhibit 62, Appendix B at 84-87; Table A-125: CH₄ Emission Estimates from the Natural Gas Production Stage Excluding Reductions from the Natural Gas STAR Program and NESHAP Protest of the February 2013 Tres Rios Lease Sale

Many of these uncertainties and underestimates, as EPA has explained, are a result of the fact that emissions factors were “developed prior to the boom in unconventional well drilling (1992) and in the absence of any field data and does not capture the diversity of well completion and workover operations or the variance in emissions that can be expected from different hydrocarbon reservoirs in the country.” *Mandatory GHG Reporting Rule*, 75 Fed. Reg. 18608, 18621 (April 12, 2010). These underestimates are also caused by the dispersed nature of oil and gas equipment – rather than a single, easily grasped source, such as a coal-fired power plant, oil and gas production consists of large numbers of wells, tanks, compressor stations, pipelines, and other equipment that, individually, may appear insignificant but, cumulatively, may very well be quite significant. While dispersed, oil and gas development is nonetheless a massive, landscape-scale industrial operation – one that just happens to not have a single roof. BLM, as the agency charged with oversight of onshore oil and gas development, therefore has an opportunity to improve our knowledge base regarding GHG emissions from oil and gas production, providing some measure of clarity to this important issue by taking the requisite “hard look” NEPA analysis before selling and executing oil and gas leases.⁶⁸

Given what we now know about the magnitude of pollution and GHG emissions stemming from oil and gas production generally, as well as the potency of methane for both its long-term and near-term impacts to global warming, the prudent course would be to leave oil and gas resources in the ground – particularly in the present context. There is little logic in nominating additional parcels for development when less than a third of all current Colorado oil and gas leases are under production. These facts support BLM TRFO using its broad discretion to remove the subject 12 parcels from nomination in the February 2013 Lease Sale.

If BLM chooses to move forward on its present course, and otherwise ignoring the unlawful nature of this decision, there is nevertheless convincing evidence to support the consideration of alternatives that would attach meaningful lease stipulations to these leases. As a prime contributor to short-term climate change over the next few decades, methane is a prime target for near-term GHG reductions. In fact, there are many proven technologies and practices already available to reduce significantly the methane emissions from oil and gas operations. These technologies also offer opportunities for significant cost-savings from recovered methane gas. Indeed, reducing methane emissions is important not only to better protect the climate, but also to prevent waste of the oil and gas resource itself and the potential loss of economic value, including royalties. Moreover, new research indicates that tropospheric ozone and black carbon (“BC”) contribute to both degraded air quality and global warming, and that emission control measures can reduce these pollutants using current technology and experience.⁶⁹ Employment of

Regulations (Gg), p. A-151, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008 (April 2010) U.S. EPA # 430-R-10-006.

⁶⁸ In this context, the 2010 SIR, while providing a basic literature review of GHG emissions sources, is merely a starting point for BLM’s responsibility to take a hard look at GHG emissions in the context of foreseeable drilling operations in the geologic formations proposed for leasing.

⁶⁹ Drew Shindell, et al., *Simultaneously Mitigating Near-Term Climate Change and Improving Human Health and Food Security*, SCIENCE 2012 335, at 183 (attached as Exhibit 74).

these strategies will annually avoid millions of premature deaths from outdoor air pollution, as well as increase annual crop yields by millions of metric tons due to ozone reductions.

These benefits – as well as the proven, cost-effective technologies and practices that achieve these benefits – are documented by EPA’s “Natural Gas STAR” program, which encourages oil and natural gas companies to cut methane waste to reduce climate pollution and recover value and consolidates the lessons learned from industry for the benefit of other companies and entities with oil & gas responsibilities such as BLM.⁷⁰

EPA has identified dozens of proven technologies and practices to reduce methane waste from wells, tanks, pipelines, valves, pneumatics, and other equipment and thereby make operations more efficient.⁷¹ Though underutilized, EPA’s Natural Gas STAR suggests the opportunity to dramatically reduce GHG pollution from oil and gas development, *if* its technologies and practices were implemented at the proper scale and supported by EPA’s sister agencies, such as BLM. For calendar year 2010, EPA estimated that this program avoided 38.1 million tons CO₂ equivalent, and added revenue of nearly \$376 million in natural gas sales (at \$4.00/Mcf) – revenue which translates into additional royalties to federal and state governments for the American public.⁷²

As indicated by EPA’s record of success, reducing methane emissions to the atmosphere captures methane for sale, yielding a high potential for payback to the lessee who deploys GHG reduction technologies and practices. Several states have taken action to address this specific issue. For example, Montana’s Climate Action Plan predicts that reducing methane emissions from the oil and gas sector in Montana would likely have a net benefit, meaning producers are most likely to make money.⁷³ The Montana Climate Action Plan recommends that the oil and gas

⁷⁰ See generally, EPA, Natural Gas STAR Program, available at: www.epa.gov/gasstar/ (last visited Dec. 20, 2011).

⁷¹ See EPA, Natural Gas STAR Program, *Recommended Technologies and Practices*, available at: www.epa.gov/gasstar/tools/recommended.html (last visited Dec. 20, 2011).

⁷² See EPA, Natural Gas STAR Program, *Accomplishments*, available at: www.epa.gov/gasstar/accomplishments/index.html#three (last visited Dec. 20, 2011) (attached as Exhibit 75). BLM should also take a look at EPA’s more detailed program accomplishments to provide a measure of what BLM could itself accomplish, and to understand the nature of the problem and opportunities. Also of interest, for calendar year 2008, EPA estimated that its program avoided 46.3 million tons of CO₂ equivalent, equal to the annual GHG emissions from approximately 6 million homes per year, and added revenue of nearly \$802 million in natural gas sales. To speculate, the calendar year 2009 declines are likely associated with ongoing economic and financial stagnation and the low price of natural gas that has slowed natural gas drilling and production.

⁷³ Montana Climate Change Action Plan, *Final Report of the Governor’s Climate Change Advisory Committee*, 4-12 (Nov. 2007), available at: <http://www.mtclimatechange.us/ewebeditpro/items/O127F14041.pdf> (last visited Dec. 20, 2011).

sector reduce methane emissions by 30% by 2020.⁷⁴ To achieve this goal, the Climate Action Plan recommends preventative maintenance of oil and gas facilities, reducing flash losses from storage tanks, wells, compressor stations, and gas plants, and changing and replacing parts and devices to reduce leaks and improve efficiency.⁷⁵ Similarly, New Mexico, through Executive Order, established a statewide goal to reduce GHG pollution to 2000 levels by 2012, 10% below 2000 levels by 2020, and 75% below 2000 levels, and a specific goal of reducing methane emissions from the oil and gas industry by 20% by 2050.⁷⁶ Colorado itself has called for a 20% reduction in GHG pollution below 2005 levels by 2020 and an 80% reduction below 2005 levels by 2050.⁷⁷

Not only can implementation of these technologies help reduce methane waste and spur economic benefit, it also promises to allay some of the harmful health effects that have come as a consequence of the oil and gas industry boom. The EPA is currently proposing standards to reduce air pollution from oil and natural gas drilling operations. According to the EPA, the oil and gas industry is “the largest industrial source of emissions of volatile organic compounds (“VOCs”), a group of chemicals that contribute to the formation of ground-level ozone (smog).”⁷⁸ Moreover, “[e]xposure to ozone is linked to a wide range of health effects, including aggravated asthma, increased emergency room visits and hospital admissions, and premature death.”⁷⁹ In addition to VOCs, the oil and natural gas industry is also “a significant source of emission of methane,” as well as “[e]missions of air toxics such as benzene, ethylbenzene, and n-hexane,” which are “pollutants known, or suspected of causing cancer and other serious health effects.”⁸⁰ 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.”⁸¹ The rapid development of high volume/horizontal

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *See* Exec. Order No. 2006-64, New Mexico Climate Change Action (2006) (attached as Exhibit 76).

⁷⁷ Governor Bill Ritter, Jr., Colorado Climate Action Plan, 10 (November 2007), available at: <http://www.cdphe.state.co.us/climate/ClimateActionPlan.pdf> (last visited Dec. 20, 2011) (attached as Exhibit 77).

⁷⁸ EPA, *Oil and Natural Gas Pollution Standards: Basic Information, Emissions from the Oil & Natural Gas Industry* (2011), available at: <http://www.epa.gov/airquality/oilandgas/basic.html> (last visited Dec. 20, 2011).

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ Letter from American Lung Association, American Public Health Association, American Thoracic Society, Asthma and Allergy Foundation of America, and Trust for America’s Health Protest of the February 2013 Tres Rios Lease Sale

drilling in conjunction with hydraulic fracturing has driven expansion of new sources resulting in increased emissions, and has led a coalition of medical and public health groups to speak out in support of stronger air pollution standards.⁸² Notably, EPA has, thus far, decided that it will not regulate methane emissions directly, suggesting an important and necessary role for BLM.

Much of this pollution also degrades visibility. Section 169A of the Clean Air Act (“CAA”), 42, U.S.C. § 7401 *et seq.* (1970) sets forth a national goal for visibility, which is the “prevention of any future, and the remedying of any existing, impairment of visibility in Class I areas which impairment results from manmade air pollution.”

In promulgating its Regional Haze Regulations, 64 Fed. Reg. 35,714 (July 1, 1999), the U.S. Environmental Protection Agency (“EPA”) provided:

Regional haze is visibility impairment that is produced by a multitude of sources and activities which emit fine particles and their precursors and which are located across a broad geographic area. Twenty years ago, when initially adopting the visibility protection provisions of the CAA, Congress specifically recognized that the “visibility problem is caused primarily by emission into the atmosphere of SO₂, oxides of nitrogen, and particulate matter, especially fine particulate matter, from inadequate[ly] controlled sources.” H.R. Rep. No. 95-294 at 204 (1977). The fine particulate matter (PM) (e.g., sulfates, nitrates, organic carbon, elemental carbon, and soil dust) that impairs visibility by scattering and absorbing light can cause serious health effects and mortality in humans, and contribute to environmental effects such as acid deposition and eutrophication.

The visibility protection program under sections 169A, 169B, and 110(a)(2)(J) of the CAA is designed to protect Class I areas from impairment due to manmade air pollution. Southwest Colorado and the Four Corners region is blessed with a wealth of these Class I areas, which include, for example: Mesa Verde National Park, Black Canyon of the Gunnison National Park, Canyonlands National Park, Weminuche Wilderness Area, West Elk Wilderness Area, and Bandelier Wilderness Area. Congress adopted the visibility provisions in the CAA to protect visibility in these “areas of great scenic importance.” H.R. Rep. No. 294, 95th Cong. 1st Sess. at 205 (1977). The current regulatory program addresses visibility impairment in these areas that is “reasonably attributable” to a specific source or small group of sources. *See* 64 Fed. Reg. 35,714. Moreover, EPA finds the visibility protection provisions of the CAA to be quite broad. Although EPA is addressing visibility protection in phases, the national visibility goal in section 169A calls for addressing visibility impairment generally, including regional haze. *See e.g., State of Maine v. Thomas*, 874 F.2d 883, 885 (1st Cir. 1989) (“EPA’s mandate to control the vexing problem of regional haze emanates directly from the CAA, which ‘declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in Class I areas which impairment results from manmade air pollution.’”) (citation omitted).

BLM TRFO is required to consider and analyze these myriad impacts to greenhouse gas

to Lisa Jackson, Administrator, U.S. Environmental Protection Agency (Nov. 30, 2011), at 4 (attached as Exhibit 82).

⁸² *See id.*

emissions, climate change and air quality from oil and gas development prior to the February 2013 Lease Sale, and should do so in a comprehensive EIS.

d. The EA fails to sufficiently analyze cultural resources.

In the EA, BLM acknowledges that “[t]his area is known for a rich cultural heritage...” EA at 19. Nevertheless, BLM dismissively concludes that these resources “will not be affected by [the] lease sale.” EA at 19.

All of the proposed lease properties lie with this area of “rich cultural heritage,” as this entire region was once home to a widespread, thriving, indigenous population. There are sites of cultural significance throughout this area including but not limited to, Mesa Verde and Chimney Rock, which cannot be viewed as having existed in isolation. Yet, again, BLM continues to assert that “The act of leasing oil and gas parcels has no direct potential for surface disturbance, and no effect to any known properties is anticipated from this action.” EA at 56. This position is as unsupported by any actual analysis, and is in contravention to NEPA’s mandate, here, as it is throughout the document.

Cultural Resource Surveys must be conducted prior to leasing, and should be conducted as part of a comprehensive EIS, rather than relying on site-by-site discovery at the APD stage.

e. The EA fails to sufficiently analyze transportation.

In the EA, the BLM has failed to adequately analyze the impacts on the affected areas from transportation. The EA identified several key issues regarding the proposed action, including transportation; however, the EA fails to identify how the proposed action will impact traffic or degrade existing road quality in the area. Transportation is recognized as an issue BLM determined to have potential for relevant impact[s] that need to be analyzed in detail in the EA, EA at 20, and that, as a result of the proposed action, it will result in a “possible increase in traffic or new roads.” *Id.*

The EA further provides:

Development intensity, terrain, and proximity to main travel corridors, towns, and recreation facilities will greatly influence transportation effects. It is possible that post-lease industrial development could result in increased traffic. At the development phase, the surface use plan or conditions of approval can be used to minimize cumulative effects to highways, county roads, and existing and/or designated routes and minimize construction of new routes.

EA at 73. Despite this recognition, BLM yet again concludes:

While the act of leasing oil and gas parcels has no effects, subsequent exploration and development activities that might be proposed as a result of a lease could alter traffic or the transportation system. Because the development potential of the parcels is speculative, estimates of traffic, vehicle type or number of trips, access routes or road construction and maintenance requirements cannot be done until an APD is submitted and site-specific analysis is conducted.

EA at 58.

BLM's continued obfuscation makes no effort to analyze the fundamental question they ask: "How will the proposed action increase traffic and degrade existing road quality in the area?" Instead, by dismissively stating that because "development potential of the parcels is speculative, estimates of traffic, vehicle type or number of trips, access routes or road construction and maintenance requirements cannot be done until an APD is submitted and site-specific analysis is conducted," BLM fails to conduct the analysis required by NEPA. *Id.*

BLM acknowledges "[s]ubsequent development could also increase traffic on existing roads with possible delays in some areas depending on the proposed level of development;" however, that is as far as any analysis goes. Though there is a very high likelihood that shale formations will be developed under these leases, no effort was made to analyze potential impacts such as trucking millions of gallons of water to each well for hydraulic fracturing, and then trucking millions of gallons of water away from each well for disposal. That amount of truck traffic will have significant impacts on county roads, yet no attempt to analyze possible truck routes, or the cumulative impacts from increased traffic. Relying on analysis at the APD stage will result in a piecemeal and disjointed analysis, which fails to provide the insight necessary for informed decision-making. This approach is contrary to what NEPA demands.

f. The EA must provide a more complete analysis of impacts on farmlands.

In the EA, the BLM has failed to analyze impacts on farmlands. For example, BLM claims that farmlands are "not present in the area impacted by the proposed or alternative actions," providing the rationale that no prime or unique farmlands were "identified by NRCS soil survey." EA at 21. Subsequently, there is no designated resource section in the EA that identifies, much less analyzes, critical farmland resources.

BLM's failure is not only insufficient pursuant to NEPA, but is also in conflict with and unsupported by 7 C.F.R. 657.5. Department of Agriculture regulations define prime and unique farmlands as:

(b)(2)(c) Additional farmland of statewide importance. This is land, in addition to prime and unique farmlands, that is of statewide importance for the production of food, feed, fiber, forage, and oil seed crops. Criteria for defining and delineating this land are to be determined by the appropriate State agency or agencies. Generally, additional farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable. In some States, additional farmlands of statewide importance may include tracts of land that have been designated for agriculture by State law. □

(b)(2) □ (d) Additional farmland of local importance. In some local areas there is concern for certain additional farmlands for the production of food, feed, fiber, forage, and oilseed crops, even though these lands are not identified as having national or statewide importance. Where appropriate, these lands are to be

identified by the local agency or agencies concerned. In places, additional farmlands of local importance may include tracts of land that have been designated for agriculture by local ordinance.

The La Plata County GIS Department, has mapped farmlands which overlays the proposed lease area these lands are designated as ‘agricultural lands’ by the County Assessor’s office. Attached as Exhibit E. The amount of acreage is significant enough to warrant further review by the BLM’s ID Team, and, given the criteria in 7 C.F.R. 657.5, their analysis is incomplete. This failure is further evidence of the inadequacy of the EA to assess impacts that will result from the proposed lease sale and development. In addition, as comments submitted by landowners in the Chromo region make clear, the lease area is at its essence an agricultural landscape.

Through this omission, the BLM has violated NEPA by specifically refusing to include any analysis of impacts to farmland. To make its threshold determination with respect to the significance of impacts, as noted above, BLM must evaluate “context” and “intensity.” 40 C.F.R. § 1508.27. The requirement for BLM to consider prime and unique farmlands in their NEPA analysis is further emphasized in a U.S. Department of the Interior (“DOI”) Environmental Statement Memorandum, which provides: “Bureaus and offices will analyze impacts on prime or unique farmlands as an integral part of the NEPA process.” DOI Memorandum No. ESM94-7 (August 17, 1994) (attached as Exhibit 88). As further guidance on this process, DOI attached an earlier CEQ Memorandum that specifically addressed the analysis of impacts on prime or unique agricultural lands in implementing NEPA, and directed agencies to a set of regulations developed in cooperation with the U.S. Department of Agriculture (“USDA”), codified at 7 C.F.R. § 657. *See* CEQ Memorandum For Heads Of Agencies (August 11, 1980) (attached as Exhibit 89). Among other things, these USDA regulations establish an “Important Farmlands Inventory,” which defines specific criteria to meet the definition of a “prime” or “unique” farmland. *See id.* at § 657.5(a), (b); *See also* 7 U.S.C § 4201(c)(1)(A), (B) (defining “prime farmland” and “unique farmland”). The purpose of this inventory is provided in 7 C.F.R. § 657.1, which states:

[Natural Resources Conservation Service (“NRCS”)] is concerned about any action that tends to impair the productive capacity of American agriculture. The Nation needs to know the extent and location of the best land for producing food, feed, fiber, forage, and oilseed crops. In addition to prime and unique farmlands, farmlands that are of statewide and local importance for producing these crops also need to be identified.

Moreover, “[i]t is NRCS policy to make and keep current an inventory of the prime farmland and unique farmland of the Nation.” *Id.* at § 657.2.

In failing to include farmlands in their NEPA analysis, BLM has either rejected DOI policy to specifically informing agencies to include farmlands as an integral part of their NEPA process, or BLM has defined the “action area” so narrowly that it has failed to identify actual agricultural farmlands by its partial review of its obligation under 7 CFR 657.5. Given the direct, indirect, and cumulative impacts of oil and gas extraction – which are not limited to the confines of the lease parcel but, rather, ripple out across the landscape, through the air, and down watersheds, rivers, streams, and drainages – such a contracted scope of analysis is fundamentally contrary to both NEPA’s mandate and DOI policy.

NEPA, for example, requires BLM to take a hard look at the cumulative impacts on the *affected geographic area*. See *Grand Canyon Trust v. Federal Aviation Administration*, 290 F.3d 339, 342 (D.C. Cir. 2002) (emphasis added). The term “cumulative impact” means “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.” 40 C.F.R. § 1508.7; *see also supra*. Indeed, NEPA requires that an agency “fully assess ... the possible environmental consequences” of activities “which have the potential for disturbing the environment.” *Peterson*, 717 F.2d at 1415. *See also NRDC v. Hodel*, 865 F.2d 288, 297-99 (D.C. Cir. 1988) (holding that agency violated NEPA when it considered only the effects within the planning area, rather than the interregional effects). Accordingly, BLM TRFO produced a fundamentally flawed EA when it explicitly declined to include any analysis of the prime and unique farmlands of the proposed lease areas.

Moreover, the Farmland Protection Policy Act (“FPPA”), 7 U.S.C. §§ 4201-09, instructs all agencies to “minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses.” 7 U.S.C. §4201(b). The FPPA, much like NEPA, requires agencies to evaluate their programs and consider alternatives, but with a specific focus on preventing adverse effects on farmland. *Id.* § 4202; 7 C.F.R. § 658. Indeed, regulations provide that “each Federal agency shall use the criteria provided in § 658.5 to identify and take into account the adverse effects of Federal programs on the protection of farmland.” 7 C.F.R. § 658.4. While the FPPA does not create a private cause of action, agencies still have the duty under NEPA to evaluate the environmental impact of actions on agricultural lands. *See Town of Norfolk v. U.S. EPA*, 761 F. Supp. 867, 890 (D. Mass. 1991). Notably, this duty extends to all farmlands. Thus, even if BLM somehow finds that all of this area’s farmlands are not prime or unique, a criterion of significance, this does not absolve the agency of its duty to evaluate impacts to non-prime or unique farmlands, or, even, to prepare an EIS if the impacts to these non-prime or unique farmlands are, in context or because of cumulative impacts, significant. BLM’s express refusal to conduct an analysis of farmlands violates both the intent and spirit of NEPA, as well as the FPPA.

g. The EA has failed to sufficiently analyze soil and water resources.

BLM has failed to adequately analyze the impacts on soil and water resources, and, confusingly, fails to separate these critical resources into distinct sections for analysis. In the EA, BLM identifies issues of critical importance, and poses the following questions:

Will hydraulic fracturing affect groundwater resources in the areas proposed for leasing?

Will the proposed action increase erosion, runoff, and slope failures due to the steep slopes?

EA at 10, 11. These questions are left largely unresolved, and certainly left unanalyzed, by subsequent sections of the EA. The lack of analysis of the impacts of fracturing on water resources has been discussed. The same theme applies to other impacts to soil and water resources: BLM vaguely identifies generalized impacts that may occur, but fails to actually analyze those impacts related to the proposed action. A few examples follow.

BLM has failed to adequately analyze the impacts on soil. In all proposed lease areas – Chromo, Hesperus, McKenna, and Southwest Dove Creek – the EA makes the same comments about the soil map units: “ ‘Surface runoff... is very high,’ and in half of them, ‘Hazard of erosion on roads and trails...is severe.’ ” EA at 28.

Despite BLM’s recognition of these impacts, BLM concludes that these areas are still suitable for development through site-specific mitigation – “[m]itigating the effects of development on slopes greater than 40% is Controlled Surface Use (“CSU”) Stipulation CO-27 which will require an engineering/reclamation plan to be approved by an Authorized Officer prior to any surface disturbance.” EA at 54. As noted above, reliance on mitigation is insufficient to avoid a finding of significance. BLM’s insistence on delaying *any* analysis until the APD stage is impermissible under NEPA, and runs contrary to the approach it took in similar analysis of development on slopes in the *Northern San Juan Basin Environmental Impact Statement* as the development pertained to the HD Mountains. In that case, BLM ultimately prohibited development on slopes greater than 40%. This conclusion was reached after performing a full EIS analysis – an approach BLM must adopt for this proposal as well.

Moreover, the EA is deficient in that it has not analyzed the impact that La Plata County Oil and Gas Regulations will also have on areas of severe soil instability, which will be affected by the electrification of well sites. This County regulation, 90-122, regarding land use coordination standards, requires that all minor facilities (i.e., well pads) be electrified under certain circumstances. Electrification of sites involves the extension of the power lines through these areas of severe soil instability. In other words, dirt will have to be turned in order for BLM to extend these lines. The impacts of additional disturbance associated with this activity are left unaddressed in the EA, which represents a fundamental deficiency.

In the EA, the BLM has further failed to adequately analyze the impacts on water. BLM’s discussion of water resources as it pertains to the affected area is limited to the location of surface waters and possible impacts to water quality. This discussion, however, is devoid of any hard look analysis on how these impacts will be influenced and affected by the proposed action. The EA fails to analyze any other aspects of water resources critical to the agency’s impact analysis of oil and gas leasing and development. For example, the EA fails to identify the water sources that will be used in resource development; it fails to identify the water quantities are anticipated and necessary for resource development; it fails to identify disposal methods for flowback or produced water that are attendant to resource development; and it fails to address the handling of water and fracking fluids on site.

Perhaps most striking is BLM’s failure to identify water quantity altogether. There is no reference to the source or quantity of the water that will be required for hydraulic fracturing. Hydraulic fracturing, more fully discussed below, can involve the use of millions of gallons of water to ‘frack’ an individual well. Many of the proposed lease parcels in La Plata County are in an area referred to locally as the “Dryside.” Yet, BLM fails to identify where the vast quantities of water will come from, whether it will be trucked in or piped in, or how roads or other resources will be impacted by these decisions. The EA fails to identify where pipelines would run, and how would that construction be reconciled with the statement in the EA that:

[T]hese conditions (of slope and soil) have the potential to increase soil surface erosion and runoff which could alter stream channel morphology downstream of

the project area. Changes to stream channel morphology such as lateral and vertical adjustment combined with inputs of sediment from upslope would degrade water quality conditions potentially to the point of not meeting water quality standards. Development in the Hesperus lease parcel area could also increase the potential for slope failure.

EA at 71. In a region where water is scarce and soils are unstable, these questions must be analyzed and answered. Not, as BLM suggests, at APD stage of development, but rather as part of the fundamental resources for analysis in an EIS. Remarkably, water quantity is not even considered as a “Key Issue” in BLM’s NEPA document.

BLM must also address how produced water will be handled – whether it will be trucked or piped off site, or whether waste injection wells will also be cited adjacent to gas wells. Critical issues, such as these, are totally absent from BLM’s analysis and must be addressed prior to the lease sale.

h. The EA fails to sufficiently identify reasonable foreseeable development and fails to draw a meaningful distinction between different areas nominated for sale.

In the EA, the BLM makes scant reference to Reasonable Foreseeable Development (“RFD”) and has failed to adequately analyze this critical factor. *See, e.g.*, EA at 42, 65, 73. In response to comments on the draft EA, BLM claims to have reviewed an updated RFD prepared in 2011, but there is no mention of this document, either by reference or substance, in the actual EA analysis. In any event, none of the available RFD’s give a count regarding the number of wells or of the formation(s) into which those wells will be completed. Since the impacts of development differ greatly with the target formation (individual formations are developed differently), lacking the information of which formations are being proposed for development creates a built in deficiency in the final document. If BLM does not know what it is supposed to be analyzing, how can it credibly make statements about impacts.

Moreover, this EA treats four very distinct areas of southwest Colorado as if there were no difference in terrains, elevations, flora or fauna, or land uses. In so doing, BLM fails to tailor its analysis to the unique resource values at stake in these areas. For example, the parcels in Archuleta County – parcel nos. 6401 and 6402 (COC 75910 & 75911) – are both heavily forested with significant wildlife populations including large game animals, and are surrounded by actively managed agricultural lands. The communities in the Navajo River Valley, which this development will impact, have demonstrated their interest in protecting these resources through community planning and conservation easements. Indeed, a conservation easement exists on parcel 6401 (COC 75910), and the BLM has in the past recognized the public interest in the scenic value and conservation value of this parcel, combined with documented low oil and gas production value, warrants abandoning its development.⁸³ These communities have significant

⁸³ In the final EA and Notice of Sale BLM has now added a No Surface Occupancy (NSO) Stipulation (CO-08) to protect suitable habitat for Pagosa skyrocket, which is listed as endangered under the Endangered Species Act. EA at 52. While this is a welcome development, the EA goes on to note that “Pagosa skyrocket is not known to occur on Parcel 6401, although the area has not been surveyed for this species.” *Id.* But, CO-08 by its terms allows changes to Protest of the February 2013 Tres Rios Lease Sale

concerns regarding BLM's failure to engage the public in dialogue about the numerous impacts of leasing, and as shown in this document, those concerns are justified. Given the low production value of these parcels, the grave impact that fracturing could have on the surface and groundwater that this community depends on, there is simply no reason to press forward with low value leases along protected and treasured rivers like the Navajo. The proposed sales in Archuleta County should be cancelled and these parcels should be withdrawn from consideration.

In contrast to the Archuleta County parcels, the Hesperus area parcels – nos. 6433, 6434, 6447, 6448, 6449, 6450, 6451, 6452 (COC 75906, 75902, 75900, 75901, 75907, 75903, 75904, 75905) – located in La Plata County, are located in an area referred to locally as The Dryside. It is called that for the obvious reason that water scarcity is a major concern. With dry land, irrigated agricultural acreage, and residential development in this area, the flora that predominates can range from conifers in the north, to pinon-juniper in the middle and south. Greater consideration of the impacts on water resource is required under NEPA.

The parcel in Dolores/San Miguel counties – no. 6471 (COC75908) – lies within very diverse ecological zones, ranging from higher elevation Douglas fir-dominated habitat, to lower lying pinon-juniper, which include eroded adobe badlands of extreme susceptibility to surface disturbance. Despite its major differences from the other areas considered, particularly in Chromo and La Plata County, this parcel is still receives the same generic and superficial treatment in the EA.

Finally, parcel 6533 (COC75909), in southwestern Dolores County, is located in a semi-arid area known for the richness of its cultural resources. Being on the northeastern edge of the Canyon of the Ancients, this parcel contains a potential abundance of prehistoric Native American artifacts. Nevertheless, these concerns receive no mention in the EA.

NEPA demands far more than the generalized and non-specific treatment that BLM affords in this EA. Much more thorough analysis must be performed before the February 2013 lease sale can proceed.

3. BLM's sale of these parcels will violate the Endangered Species Act

The Endangered Species Act (“ESA”) implements a Congressional policy that “all Federal Departments and agencies shall seek to conserve endangered species and threatened species.” 16 U.S.C. § 1531(c)(1). An “endangered species” is a species of plant or animal that is “in danger of extinction throughout all or a significant portion of its range,” while a “threatened species” is one which is likely to become endangered within the foreseeable future. 16 U.S.C. § 1532(6), (20). The operative core of the ESA is a list maintained by the Secretary of the Interior of threatened and endangered species, and the ESA permits citizens to petition the Secretary to add species to that list. 16 U.S.C. § 1533(b)(3)(A).

At the heart of Congress's plan to preserve endangered and threatened species is Section 7 of the ESA, which places affirmative obligations upon federal agencies. Section 7(a)(1) provides that all federal agencies “shall, in consultation with and with the assistance of the Secretary [of

be made. If a survey finds no species, then there is the possibility that this NSO could be removed.

Commerce or the Interior], utilize their authorities in furtherance of the purposes of this chapter by carrying out programs for the conservation of endangered species and threatened species.” 16 U.S.C. § 1536(a)(1). The mandate of section 7(a)(2) is even clearer:

Each Federal agency shall, in consultation with and with the assistance of the Secretary [of Commerce or the Interior], insure that any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined ... to be critical, unless such agency has been granted an exemption for such action ... pursuant to subsection (h) of this section.

Id. § 1536(a)(2). Thus, section 7(a)(2) imposes two obligations upon federal agencies. The first is *procedural* and requires that agencies consult with the FWS to determine the effects of their actions on endangered or threatened species and their critical habitat. *See Id.* § 1536(b). The second is *substantive* and requires that agencies insure that their actions not jeopardize endangered or threatened species or their critical habitat. *See Id.* § 1536(a)(2); *see also, Florida Key Deer v. Paulison*, 522 F.3d 1133, 1138 (11th Cir. 2008).

The requirements of the ESA are triggered by “any ‘agency action’ that may be likely to jeopardize the continued existence of the species or its habitat.” 16 U.S.C. § 1536(a). By this process, each federal agency must review its “actions” at “the earliest possible time” to determine whether any action “may affect” listed species or critical habitat in the “action area.” 50 CFR § 402.14; 50 CFR § 402.02. When there exists a chance that such species “may be present,” the agency must conduct a biological assessment (“BA”) to determine whether or not the species “may be affected” by the action. *See* 16 U.S.C. § 1536(c). The term “may affect” is broadly construed by FWS to include “[a]ny possible effect, whether beneficial, benign, adverse, or of an undetermined character,” and is thus easily triggered. 51 Fed. Reg. at 19926. If a “may affect” determination is made, “formal consultation” is required and a biological opinion (“BiOp”) must be prepared.

Numerous threatened and endangered species are known to occur within the lease sale project area, all of which “may” be affected directly, indirectly, and/or cumulatively by the proposed action. Listed species and critical habitats that may be affected include: bonytail, humpback chub, Colorado pikeminnow, razorback sucker, Mexican spotted owl, southwestern willow flycatcher, Gunnison sage grouse, and Canada lynx. EA at 25, 26, 47, 48. Remarkably, with some of these species, namely the Canada lynx, BLM does not even attempt to provide analysis, whereas with others BLM either shirks responsibility until the APD stage, and/or relies on vague mitigation to avoid a finding of harm. This approach is patently impermissible under the ESA, and the lease sale cannot proceed without full compliance.

Moreover, BLM must prepare a BiOp for the EIS that accurately determines the “Action area” for the entire project. According to implementing regulations, the “Action area” is defined as “all areas to be affected directly and indirectly by the Federal action and not merely the immediate area involved in the action.” 50 C.F.R. § 402.02.⁸⁴ The court in *Wilderness Society v.*

⁸⁴ “Effects of the action” means “direct and indirect effects of an action on the species or critical habitat together with the effects of other activities that are interrelated or interdependent with that”
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Wisely, 524 F.Supp.2d 1285, 1305 (D. Colo. 2007), provided: “it is clear from the definition of ‘action area’ that the agencies must consider the effects that occur beyond ‘the immediate area involved in the action,’ i.e., those known to have incidences of the [protected species].” In *Wilderness Soc.*, the informal consultation between BLM and FWS was specifically limited to parcels known to contain a protected species, and did not consider the entire “action area.” In that case, the Court provided that, “[a]lthough the [agency] believes that such consequences are localized or can be adequately mitigated, it is not clear [from the conferral] whether the FWS agrees” because the “action area” was ill defined. *Id.* at 1305. Accordingly, the Court concluded that “the agencies’ conferral under the ESA was insufficient to encompass all potential adverse effects resulting from development in the action area, and thus, their concurrence that no further consultation was necessary was arbitrary and capricious.” *Id.* By confining its “action area” so narrowly, BLM arbitrarily limits its analysis of impacts to listed species – in contravention to its ESA mandate.

Additionally, BLM must consider the impacts that climate change will have on listed species. According to experts at the GAO, federal land and water resources are vulnerable to a wide range of effects from climate change, some of which are already occurring. These effects include, among others, “(1) physical effects, such as droughts, floods, glacial melting, and sea level rise; (2) biological effects, such as increases in insect and disease infestations, shifts in species distribution, and changes in the timing of natural events; and (3) economic and social effects, such as adverse impacts on tourism, infrastructure, fishing, and other resource uses.”⁸⁵ For BLM to dismissively treat, or ignore altogether, their obligation under the ESA is inexcusable, and cannot be maintained either by law or good conscience.

4. These lease sales violate FLPMA and cause Unnecessary and Undue Degradation.

Pursuant to the Federal Land Policy and Management Act (“FLPMA”), 43 U.S.C. § 1701 *et seq.*, BLM must “take any action necessary to prevent ‘unnecessary or undue degradation’ (“UUD”) of the [public] lands.” 43 U.S.C. § 1732(b). Written in the disjunctive, BLM must prevent degradation that is “unnecessary” and degradation that is “undue.” *Mineral Policy Ctr. v. Norton*, 292 F.Supp.2d 30, 41-43 (D. D.C. 2003). FLPMA’s UUD standard should be considered in light of its overarching mandate that the Bureau employ “principles of multiple use and sustained yield.” 43 U.S.C. § 1732(a). While these obligations are distinct, they are interrelated and highly correlated. The Bureau must balance multiple uses in its management of public lands, including

action.” 50 C.F.R. § 402.02. “Cumulative impacts” are those effects of future State or private activities ... that are “reasonably certain to occur within the action area.” *Id.*; *see also*, *Sierra Club v. U.S.*, 255 F.Supp.2d 1177, 1187 (D. Colo. 2002). Further, “interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration.” *Id.*

⁸⁵ GAO Report, *Climate Change: Agencies Should Develop Guidance for Addressing the Effects on Federal Land and Water Resources* (2007) (attached as Exhibit 94); *see also* Committee on Environment and Natural Resources, National Science and Technology Council, *Scientific Assessment of the Effects of Global Climate Change on the United States* (2008) (attached as Exhibit 95); Melanie Lenart, et al., (attached as Exhibit 66) (describing impacts from temperature rise, drought, floods and impacts to water supply on the Southwest).

“recreation, range, timber, minerals, watershed, wildlife and fish, and [uses serving] natural scenic, scientific and historical values.” 43 U.S.C. § 1702(c). It must also plan for sustained yield – “control [of] depleting uses over time, so as to ensure a high level of valuable uses in the future.” *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55, 58, 124 S.Ct. 2373, 159 L.Ed.2d 137 (2004).

“Application of this standard is necessarily context-specific; the words ‘unnecessary’ and ‘undue’ are modifiers requiring nouns to give them meaning, and by the plain terms of the statute, that noun in each case must be whatever actions are causing ‘degradation.’ ” *Theodore Roosevelt Conservation Partnership v. Salazar*, 661 F.3d 66, 76 (D.C. Cir. 2011) (citing *Utah v. Andrus*, 486 F.Supp. 995, 1005 n. 13 (D. Utah 1979) (defining “unnecessary” in the mining context as “that which is not necessary for mining” – or, in this context, “for oil and gas development” – and “undue” as “that which is excessive, improper, immoderate or unwarranted.”)); *see also Colorado Env't Coalition*, 165 IBLA 221, 229 (2005) (concluding that in the oil and gas context, a finding of “unnecessary or undue degradation” requires a showing “that a lessee’s operations are or were conducted in a manner that does not comply with applicable law or regulations, prudent management and practice, or reasonably available technology, such that the lessee could not undertake the action pursuant to a valid existing right.”). This protective UUD mandate applies to BLM’s planning and management decisions. *See Utah Shared Access Alliance v. Carpenter*, 463 F.3d 1125, 1136 (10th Cir. 2006) (finding that BLM’s authority to prevent degradation is not limited to the RMP planning process). Here, that action is the development required to extract oil and gas resources from the North Fork Valley. The inquiry, then, is whether BLM has taken sufficient measures to prevent degradation unnecessary to, or undue in proportion to, the development the EA/FONSI permits. *See Theodore Roosevelt Conservation Partnership*, 661 F.3d at 76. Accordingly, resource impacts may cause “undue” degradation, even if the activity causing the degradation is “necessary.” Where those impacts are avoidable, it is “unnecessary” degradation. 43 U.S.C. § 1732(b).

Therefore, although leaseholders have a statutory right to develop oil and gas resources, drilling activities may only go forward as long as unnecessary and undue environmental degradation does not occur. This is a *substantive* requirement, and one that BLM must define and apply in the context of oil and gas development in the Tres Rios area. In other words, BLM must define and apply the substantive UUD requirements in the context of the specific resource values at stake – an application that can be found nowhere in the EA, but which is required before the February 2013 Lease Sale can proceed.

Further, these UUD requirements are distinct from requirements under NEPA. “A finding that there will not be significant impact [under NEPA] does not mean either that the project has been reviewed for unnecessary and undue degradation or that unnecessary or undue degradation will not occur.” *Ctr. for Biological Diversity*, 623 F.3d at 645 (quoting *Kendall's Concerned Area Residents*, 129 I.B.L.A. 130, 140 (1994)). In the instant case, BLM’s failure to specifically account for UUD in its EA – which is distinct from its compliance under NEPA – is also actionable on procedural grounds and must occur before the February 2013 Lease Sale can proceed.

C. Conclusion

Given the aforementioned issues associated this Final EA and unsigned FONSI – not least of which is BLM’s explicit refusal to perform any analysis of the myriad impacts until the APD stage – Protesters request that BLM cancel the February 2013 Lease Sale pending the completion of both an EIS and the revised RMP for the area. The approach that the TRFO has adopted cannot be sustained by either law or good-conscience, and must be abandoned.

Sincerely,



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