September 18, 2012

*Hand Delivered to BLM’s Tres Rios Field Office;*

*Sent via Overnight Federal Express Delivery to BLM Colorado State Office*

February 2013 Oil & Gas Lease EA/FONSI

Attn: Connie Clementson, Field Office Manager

U.S. Bureau of Land Management

Tres Rios Filed Office

29211 Highway 184

Dolores, CO 81323

Helen Hankins, State Director

Bureau of Land Management

Colorado State Office

2850 Youngfield Street

Lakewood, CO 80215

**Re: DOI-BLM-CO-S010-2012-0061**

**Documents and Information Regarding the Tres Rios February 2013 Oil and Gas Lease Sale**

Dear Ms. Clementson and Ms. Hankins:

San Juan Citizens Alliance (SJCA), Great Old Broads for Wilderness, The Wilderness Society, Sierra Club, Sheep Mountain Alliance, EARTHWORKS, (hereafter referred to as the Alliance) respectfully submit the following comments regarding the Bureau of Land Management (“BLM”) Tres Rios Field Office (“TRFO”) August 2012 Environmental Assessment (“EA”) and Finding of No Significant Impact (“FONSI”), prepared for the February 2013 Oil and Gas Lease Sale, identified as: DOI-BLM-CO-S010-2012-0061.

**I. National Environmental Policy Act**

**The BLM is required to issue a moratorium on all oil and gas development in**

**the proposed lease area for as long as the TRFO RMP remains uncompleted.**

Where, as here, there is a pending revision to the Resource Management Plan (“RMP”) and Environmental Impact Statement (“EIS”) – updating the out-of-date and inoperable 1991TRFO RMP – NEPA establishes a duty “to stop actions that adversely impact the environment, that limit the choice of alternatives for the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 1991RMP – 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.

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 TRFO. 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 2).** We therefore strongly encourage you to not move forward with this Lease Sale pending completion of the TRFO RMP and EIS.

Furthermore, and in concert with completing the revised RMP and EIS, BLM’s TRFO 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 decisionmaking, 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 these comments submitted a proposal for a MLP as part of our comments to the San Juan Public Lands Office, of 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. We incorporate those comments in full into these comments.

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

NEPA “requires ... that an agency give a ‘hard look’ to the environmental impact of any project or action it authorizes.” *Morris v. U.S. Nuclear Regulatory Commission,* 598 F.3d 677, 681 (10th Cir. 2010). This examination “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 EA to acknowledge and analyze *any* impacts that will result from the lease sale of **12,175** acres; BLM’s constant refrain throughout the EA is:

“The act of leasing the parcels would produce no impacts....” *See, e.g.,*  EA at 5, 23, 33, 40, 42, 43, 45, 46, 47, 48, 49, 50, 53, 54, 55, 59, 68.

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 shell game – which inevitably results in decisions that blindly sell our public lands for oil and gas development – fails to meet its mandate as stewards of our public lands, and moreover is explicitly contrary to NEPA’s requirement that the analysis of impacts take place *before* the federal action can proceed. If BLM cannot take a “hard look” at site-specific impacts at the lease stage, we fail to see how the agency can reasonably make a site-specific commitment of mineral resources. The agency, in effect, is presupposing 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 10th 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 10th 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 v. Bureau of Land Management*, 565 F.3d 683, 710 (10th Cir. 2009). BLM’s presupposition of outcome is a direct affront to both NEPA and FLPMA, and cannot be sustained.

**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 impermissible, not only because it results in a predetermined outcome at the lease sale stage, but also because it is inconsistent with Tenth Circuit precedent. 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.

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*, --- F.Supp.2d ---, 2011 WL 4940662, 10 (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.

While pursuant to the strict confines of the 1991 TRFO RMP, site-specific impacts are admittedly speculative – further necessitating a revision process that is needed to illuminate what is, in fact, reasonably foreseeable – 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 incredible – in the face of unambiguous Tenth Circuit precedent and even BLM’s own Handbook – that BLM’s TRFO persists 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.Sup.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.

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). The court, when determining the sufficiency of the mitigation measures, considers “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)). As explained above, Appendix C is no more than a generic list of BMPs from which industry can pick and choose. The EA provides no analysis – much less specificity with regard to particular resources – concerning how **unspecified or possible mitigation** will create a sufficient buffer against impacts, nor is the suggested mitigation anything more than a list of possible measures to be chosen from at the APD stage.

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 TRFO’s EA/FONSI cannot be sustained in the face of such blatant disregard for NEPA. An EIS, analyzing actual impacts and specific mitigation measures, must be performed before the proposed lease sale can proceed. .

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

The haste with which BLM has pushed forward with its NEPA process has resulted in BLM TRFO’s failure to take a “hard look” at impacts for the proposed February 2013 Lease Sale. 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 decisionmaker 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 decisionmaker in deciding whether, or how, to alter [a project] to lessen cumulative environmental impacts”). BLM’s EA falls woefully short of this bar. 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 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.

The impacts from the February 2013 Lease Sale are also “highly uncertain.” 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. 1988) (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 represent an unknown hazard of hydraulic fracturing. 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.”[[1]](#footnote-1) Additionally, the community has “environmental concerns related to noise, odors, dust, and ‘toxic’ chemicals in water and air.”[[2]](#footnote-2) 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.”[[3]](#footnote-3) 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.[[4]](#footnote-4)

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.[[5]](#footnote-5) “We don’t have a great handle on the toxicology of fracking chemicals.”[[6]](#footnote-6) 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.”[[7]](#footnote-7) “We do not have enough information to say with certainty whether shale gas drilling poses a threat to public health.”[[8]](#footnote-8)

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.[[9]](#footnote-9) 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.”[[10]](#footnote-10) 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.[[11]](#footnote-11)

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. A FONSI must be supported by an actual NEPA hard look at these impacts. This ensures that impacts are below NEPA’s significance threshold before a FONSI can be 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.

BLM’s EA is filled with only perfunctory, surficial 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.

An EIS is required when a major federal action “significantly affects the quality of the human environment.” 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1502.4. A federal action “affects” the environment when it “will or *may* have an effect” on the environment. 40 C.F.R. § 1508.3 (emphasis added); *Airport Neighbors Alliance v. U.S.,* 90 F.3d 426, 429 (10th Cir. 1996) (“If the agency determines that its proposed action *may* ‘significantly affect’ the environment, the agency must prepare a detailed statement on the environmental impact of the proposed action in the form of an EIS.”) (emphasis added). Similarly, according to the Ninth Circuit:

We have held that an EIS *must* be prepared if ‘substantial questions are raised as to whether a project ... *may* cause significant degradation to some human environmental factor.’ To trigger this requirement a ‘plaintiff need not show that significant effects *will in fact occur*,’ [but instead] raising ‘substantial questions whether a project may have a significant effect’ is sufficient. *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1149-50 (9th Cir. 1998) (citations omitted) (emphasis original). Given the magnitude of the proposed action and impacts will create this lease sale will create to the communities in the proposed lease areas, BLM’s FONSI is completely unsupportable.

Indeed, 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,* --- F.Supp.2d ---, 2011 WL 5172277, 15 (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).

Moreover, 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. If BLM proceeds in its refusal to perform an EIS, it must provide a detailed accounting of each NEPA significance factor, as outlined above, explaining why the project will impact the environment no more than insignificantly.

**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 “*Past, Present, and Reasonably Foreseeable Future Actions*” section in their EA, *see* EA at 18-23, 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 refers to the history of mineral resource development in the region, but fails to analyze how future development will cumulatively impact the environment and the proposed area much of which 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 decisionmaker to make an informed decision about alternative courses of action.” *NRDC*, 865 F.2d at 298*.* For example, when BLM discusses the “cumulative effects” of various resources, the TRFO characteristically states: “There will be no cumulative effects to [the resource] from the proposed action of leasing the parcels under consideration.” EA at 36. “Perfunctory references do not constitute analysis useful to a decisionmaker 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.

Similarly, although BLM’s EA identifies coal mining and oil and gas development in the broader region, there is no analysis of the cumulative affect that proposed oil and gas development will have on the environment. BLM’s approach, which is to inventory impacts without conducting any analysis of those impacts, is simply inexcusable and represents a blatant affront 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.

**BLM must complete a single EIS for all proposed oil and gas actions within the TRFO.**

Furthermore, 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. Dombeck*, 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). As provided above, 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.

Of note, again, is the fact that there currently is a revision to the 1991 RMP and an SEIS being written that would address this concern. This EIS is required not only for the February 2013 Lease Sale, but must also consider the other oil and gas projects in the area Failure to include cumulative impacts of *all* the leasing and permitting decisions “

*NRDC*, 865 F.2d at 297-298. Indeed, the Supreme Court has held that, under NEPA, an agency not only has a duty to consider cumulative impacts, but also a separate duty, applicable here, to consider those impacts in a single NEPA process:

proposals for ... related actions that will have cumulative or synergistic environmental impact upon a region concurrently pending before an agency must be considered together. Only through comprehensive consideration of pending proposals can the agency evaluate the different courses of action. *Kleppe v. Sierra Club,* 427 U.S. 390, 410, 96 S.Ct. 2718, 2730, 49 L.Ed.2d 576 (1976); *see also* 40 C.F.R. §§ 1508.25(a)(1)-(3).

The proposed February 2013 Lease Sale comes within the context of broader oil and gas development in the region. Given the history of the region’s resource development, BLM could easily ascertain what the infrastructure requirements for future development will be and analyze the cumulative impacts of that infrastructure. How field development will tie together and use the same infrastructure to deliver natural gas to local and national markets must be analyzed at the leasing stage and not as BLM asserts, at the APD stage. Segmenting analysis of separate APD actions accomplishes nothing and these must be considered in a single comprehensive EIS. 40 C.F.R. §§ 1508.25(a)(1), (2). BLM must therefore evaluate what level of infrastructure may be required and whether that infrastructure will, in fact, be tied together, and what the resulting impacts will be.

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

The evasive 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. *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), farmland productivity. Due to an apparent aversion to analysis, 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.

**Instruction Memorandum**

The BLM May 17, 2010 Instruction Memorandum (IM) No. 2010-117 is a document that not only provides direction to field offices but also provides standards upon which the public can determine field office compliance.

IM N. 2010-117 provides directives that the TRFO did not follow in this case; in the following referenced sections of the IM provide examples of how TRFO did not following those directives, thereby making the process of compiling the EA and subsequently the EA itself defective.

Page 6. C. Interdisciplinary Review of Lease Sale Parcels

Field offices will form an Interdisciplinary Parcel Review Team (IDPR Team) of resource specialists to review lease sale parcels and ensure compliance with NEPA (see III. E. NEPA Compliance Documentation, below) and other legal and policy requirements. The IDPR Team will include subject matter experts for the resources potentially affected by leasing. When appropriate, the IDPR Team should consider including staff specialists from other agencies when lands and/or resources that are administered by those agencies could be impacted by future development on the lease parcels under review.

On page 10 of the EA 1.7 Scoping & Identification of Issues, it states:

The proposed parcels were reviewed by an ID Team composed of resource specialists from the BLM TRFO. This team identified resources in the parcel areas which might be affected and considered potential effects using current office records and geographic information system (GIS) data.

There is no indication that BLM made any effort to include any resource specialists from other agencies whose input would have created a more detailed, factual analysis of impacts from the proposed action.

Page 8

III. Lease Parcel Review and Lease Issuance Process

C. Interdisciplinary Review of Lease Sale Parcels

5. Site Visits:

In light of changing resource values, new information, and current policy, the IDPR Team or a subset of the team will usually conduct site visits to validate existing data or gather new information in order to make an informed leasing recommendation. However, the site visits are not a substitute for acquiring the site-specific cultural or wildlife data that is typically gathered during the permit approval stage. Site visits are highly recommended in any case involving new leasing in an area not already under oil and gas development. It is anticipated that, at least initially, the majority of lease sale parcels under review will require site visits.

Again, according to the EA, no site visits were conducted (see above: “This team identified resources in the parcel areas which might be affected and considered potential effects using current office records and geographic information system (GIS) data.”) This further points out the deficiency of the document and how the TRFO ignored recommended agency protocol.

Page 6 2. Plan Conformance and Adequacy:

Field offices will determine whether leasing the parcel is in conformance with the RMP. In addition, the field office will evaluate whether oil and gas management decisions identified in the RMP (including lease stipulations) are still appropriate and provide adequate protection of resource values (including, but not limited to, biological, cultural, visual, and socioeconomic resource values). If the lease stipulations do not provide adequate resource protection, it may be necessary to develop new lease stipulations or revise existing ones. A lease stipulation may be revised consistent with modification criteria found in the RMP, or as necessary given conditions or issues not anticipated in the RMP.

There is no explanation of how the agency determined why documents that are more than 20 years old are still appropriate and provide adequate protection of resource values. Again, by the deferral of these parcels in 2009, the BLM clearly understood that the existing RMP and SEIS were not still appropriate and did not provide protection adequacy.

The BLM has failed to meet the standards of this requirement

Page 8

7. Public Participation:

State and field offices will provide for public participation as part of the review of parcels identified for potential leasing through the NEPA compliance documentation process (see section III.E). State and field offices will identify groups and individuals with an interest in local BLM oil and gas leasing, including surface owners of split estate lands where Federal minerals are being considered for leasing. *Interested groups, individuals, and potentially affected split estate surface owners[xi] will be kept informed of field office leasing and NEPA activities through updated websites and email lists, and will be invited to comment during the NEPA compliance process. (emphasis* added)

The BLM has failed to meet its outreach obligation. The San Juan Citizens Alliance has been actively involved in oil and gas development in the San Juan Basin for more than 25 years. It has participated in every EIS, EA and proposed lease sale that have been initiated in that time and has been an ongoing stakeholder in the USFS/BLM Northern San Juan Basin Stakeholders Work Group. It submitted extensive comments on the 2009 proposed lease sale and though not solicited to do so, submitted scoping comments on the February 2013 proposed lease sale. The Alliance’s credentials have been long established and it is acknowledged as an ‘interested group’. No effort via email list to inform or solicit comment was made to the Alliance at any phase of this project. That also applies to the counties in whose jurisdictions this leasing, if it proceeds, would occur.

Page 9.

E. NEPA Compliance Documentation

The IDPR Team will complete site-specific NEPA compliance documentation for all BLM surface and split estate[xii] lease sale parcels.

It is not clear in the EA that the IDPR Team met this requirement. Please verify that this occurred; lacking such verification, the BLM has not met its obligation of NEPA Compliance Documentation.

**SIGNIFICANCE CRITERIA**

The Alliance asserts the following minimum steps must be undertaken by the BLM prior to consideration of inclusion of the referenced parcels in any lease sale:

1. Production of an Environmental Impact Statement (“EIS”) and Resource Management Plan (RMP) Amendment for development of BLM minerals in the proposed areas;
2. BLM acknowledgement of the interconnection between leasing and exploration and development and the need for much more thorough evaluation of cumulative impacts at the leasing stage;
3. Formal development of Cooperating Agencies commensurate with significant scientific data needed for baseline and impact assessment including local, state and federal agencies with oversight authority commensurate with the acknowledgement that this Proposed Action impacts land not managed by BLM;
4. Due to significant potential impacts concerning, but not limited to, water, geology, air and public health and safety as a result of the Proposed Action, the BLM must assess production and full field development scenarios of the proposed development at this stage;
5. Compliance with BLM Manual and Handbook Guidance that clearly points to an EA being inadequate for the proposed leasing areas.

**Significance Criteria: Scope of National environmental Policy Act Compliance**.

National Environmental Policy Act (NEPA) regulations under 40 CFR § 1508.27 define “significantly” based on the criteria of context and intensity:

(a) Context. This 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. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

(b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
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. 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.
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.
10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment. [[12]](#footnote-12)

The BLM has prepared an EA for a Plan of Development, but what remains unclear is what formations will be developed and what the intensity of that development will be. 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

This EA is deficient in that it provides none of that information.

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.

From the Alliance‘s review of the information and analysis provided thus far, there are substantial questions regarding the analysis of both the context and intensity of the proposed action. We assert that the BLM has a mandate to prepare an Environmental Impact Statement (“EIS”) instead of an EA in this case.

As the Tenth Circuit has explained, “[i]f the agency determines that its proposed action *may* ‘significantly affect’ the environment, the agency must prepare a detailed statement on the environmental impact of the proposed action in the form of an EIS.” *Airport Neighbors Alliance v. U.S.*, 90 F.3d 426, 429 (10th Cir. 1996) (citation omitted) (emphasis added). Similarly, according to the Ninth Circuit:

We have held that an EIS *must* be prepared if ‘substantial questions are raised as to whether a project ... *may* cause significant degradation to some human environmental factor.’ To trigger this requirement a ‘plaintiff need not show that significant effects *will in fact occur*,’ [but instead] raising ‘substantial questions whether a project may have a significant effect’ is sufficient.

*Idaho Sporting Cong. v. Thomas,* 137 F.3d 1146, 1149-50 (9th Cir. 1998)(citations omitted) (emphasis original)

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 issues associated with stimulation/hydraulic fracturing, flaring, water, air and geology that must be developed beyond that which 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). The proposed project is undoubtedly highly controversial on stimulation/hydraulic fracturing alone which has become a national/international focal point.

Impacts associated with stimulation/hydraulic fracturing, flaring, water, air and geology are also “highly uncertain” and involve “unknown risks.” An action is “highly uncertain” or involves “unknown risks” requiring preparation of an EIS where “uncertainty may be resolved by further collection of data or where the collection of such data may prevent speculation on potential ... effects.” *Natl. Parks & Conservation Assn. v. Babbitt*, 241 F.3d 722, 732 (9th Cir. 2001) (internal citations and quotations omitted). Preparation of an EIS in these situations “obviate[s] the need for speculation by insuring that available data are gathered and analyzed prior to the implementation of the proposed action.” *Id*.

In evaluating 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, again, it is unclear which 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. Such analysis would ensure that the agency has considered reasonable alternatives necessary to protect the environment.

Another significance criteria component is whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by breaking it down into small component parts, such as analysis at the APD stage of development. The analysis of the proposed action of leasing again does not consider which formations would be developed nor what the reasonable foreseeable number of wells would be and therefore is deficient in its scope. Depending on what is found (oil and/or gas), the production and delivery system designs and impacts from them are of primary and cumulatively significant concern. Given the potential scale of this project, we think it incumbent on BLM to address the impacts of full-scale field development as part of the NEPA process for this proposed action.

Finally, the prospect of proposed and reasonably foreseeable natural gas and/or drilling and production brought forth this lease sale, as well as the significant questions of context and intensity issues that would result from leasing these parcels require the hard look and consideration of cumulative impacts that can only be fully achieved in an EIS.

**TRFO’s reliance on the outdated RMP**

BLM TRFO has relied on an outdated Resource Management Plan (“RMP”) from 1991, and an Environmental Impacts Statement (“EIS”) from 1991 to support its decision to proceed with the sale of BLM mineral rights in the February 2013 Oil and Gas Lease Sale. Relying on these stale and outdated documents is impermissible pursuant to NEPA.

In December 2008, the BLM proposed the following 10 parcels in western La Plata County be included in its February 12, 2009 Lease Sale Auction. At that time, those parcels were identified with the following Serial numbers:

COC73460; COC73461; COC73466; COC73467; COC73468; COC73470; COC73499; COC73523; COC73524.

In the BLM’s **Notice of Addendum #2,** dated January 29, 2009, **(Exhibit\_\_\_)** Karen Zurek, BLM Chief, Fluid Mineral Adjudication stated:

“San Juan Field Office has deferred the following parcels for further community outreach by the field office:” listing the same parcels identified above.

In June 2012, the BLM nominated a total of 12 parcels for inclusion in its February 2013 Oil and Gas Lease Sale, 8 of which, the parcels in western La Plata County, are the same parcels as those deferred by Ms. Zurek in 2009:

6433, 6434, 6447, 6448, 6449, 6450, 6451, 6452.

Although these parcels are identified by different numbers, the lands these parcels identify are the same as those proposed in the 2009 lease sale, and are the ones that Ms. Zurek references in her Notice of Addendum.

These parcels have been deferred by the BLM pending “further community outreach”. To the best of our knowledge, a major part of “further community outreach” has consisted of updating the BLM’s current Resource Management Plan (RMP) and the Supplement Environmental Impact Statement (SEIS), both of which are currently no complete and have yet to be released for public comment or agency implementation. This is particularly noteworthy given the fact that many of the same parcels deferred for further community outreach—and ostensibly because BLM recognized the deficiency of relying on documents that were 20-25 years old and no longer of any utility—and, now BLM is proceeding yet again without the benefit of these revisions having been completed.

In his March 2, 2009 *Documentation of Land Use Plan Conformance and NEPA Adequacy for May 2009-Colorado Competitive Oil and Gas Lease Sale* Number : DOI-BLM-CO\_S010-2009-0046 DNA**, (**attached as **Exhibit \_)** Matt Janowiak , Acting Field Office Manager, Columbine Public Lands Office, states in reference to the San Juan/San Miguel Resource Management Plan (approved 1985; as amended 1991): “the Proposed Action is not in conformance with the LUP” (Page 2). In explaining this belief, Mr. Janowiak further provides:

1) “Based on review documented above, I conclude that either the proposal for leasing these parcels does not conform with the land use plan or that additional NEPA analysis and mapping definition is needed.”

2) “In addition to the need for additional NEPA analysis, the decision to defer is consistent with tIM2007-165, “whereby the director instructed Field Offices to provide for more opportunities for public notification throughout the leasing process”, and also with State Office direction, where the San Juan was instructed to address leasing of split-estate parcels in our plan update.”

3) “On the basis of the information contained in the DNA worksheet and the existing NEPA documents it references, it is my decision not to implement the project until the San Juan Public Lands Plan Revision is complete and further public involvement as described in the DNA has been completed.”

While Mr. Janowiak was written specifically to address parcels in the Perins Peak and Bodo State Wildlife Areas, areas not in consideration here, there is no reason to believe that his conclusions are less relevant to the present situation. The inadequacies of the stale and outdated RMP cannot serve as the controlling development document, and cannot be used to validate a decision regarding the sale of lease parcels in 2013, when in 2009 those same parcels were deferred due to inadequacy of those same documents.

This premise is supported by an 2009 e-mail exchange between SJCA and the BLM (attached as **Exhibit** \_\_), which provides:

Q: Was the recommendation from our local BLM office to put any leasing (in the proposed area) on hold pending the completion of re-writing the Land Management Plan

A: “That is correct; leasing in the Paradox Basin (essentially the western portion of the SJPL) is currently deferred until the Plan is complete.”

Until the website posting by the BLM in June 2012 that these parcels would be part of the February 2013 lease sale, BLM provided no advance notice to the community that this approach had changed. Since the RMP and SEIS amendments are still incomplete, there was no reason to think that these parcels would be put up for lease.

To date, BLM’s ‘further community outreach’ regarding these parcels has consisted of notifying surface owners in June 2012 that the minerals under their property have been nominated for lease sale, and that their comments were being solicited in an effort to conduct a ‘Scoping’ of this project; and later by posting of the draft EA on the BLM website in August 2012. This does not, by anyone’s standards, constitute sufficient ‘further community outreach’.

**Use of an outdated, insufficient document for determining leasing adequacy**.

Throughout the EA, there are multiple references to the 1985/1991 RMP as the document that will control the proposed leasing and subsequent development of the nominated parcels.

BLM TRFO suggests that it can avoid preparation of any site-specific analysis from oil and gas development because impacts are covered under the 1991 RMP. This practice, known as “Tiering,” is described in CEQ regulations at 40 C.F.R. § 1508.28.

“Tiering” refers to the coverage of general matters in broader environmental impact statements ... with subsequent narrower statements or environmental analyses ... incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared.

CEQ regulations further provide that “Tiering is appropriate when the sequence of statements or analyses is:”

(a) From a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.

(b) From an environmental impact statement on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe.

*Id.* In this case, based on the aforementioned standard, “tiering” to the 1991 RMP is not appropriate. The 1991 RMP contains very little analysis of oil and gas drilling in the proposed lease areas generally, much less any analysis of the specific impacts that could be caused by drilling in these particular areas. The 1991 RMP, accompanying EIS, and technical report for oil and gas simply did not analyze the site-specific impacts of gas development for the parcels nominated in the February 2013 Lease Sale. The documents did little more than describe the process under which oil and gas development can take place and provided a far too general and conclusory a basis for justifying the execution of oil and gas leases. Additionally, these documents did not foresee the extent of gas development that is currently taking place elsewhere in the region, nor did these documents analyze the effects of fracking.

In the EA, there are numerous references to the use of the existing 1991 RMP.

**1.0 PURPOSE & NEED** (Page 4)

Introduction

¶2

A DR, including a FONSI, documents the rationale for why implementation of the selected alternative would not result in “significant” environmental effects beyond those already addressed in the San Juan/San Miguel Resource Management Plan of September, 1985 and the associated San Juan/San Miguel Resource Management Plan Amendment for Oil and Gas of October, 1991.

Page 5

¶ 1 It serves to verify conformance with *the approved land use plan*,(*emphasis* added) provides the rationale for deferring or dropping parcels from a lease sale, and provides rationale for attaching lease stipulations to specific parcels.

Page 8

1.5 Conformance with BLM Land Use Plan(s)

o Land Use Plan: San Juan/San Miguel Planning Area Resource Management Plan (SJ/SM RMP).

o Date Approved/Amended: September 1985/ October 1991.

The proposed action and action alternatives analyzed in this EA are in conformance with the current resource management plan (RMP) and are specifically addressed in the following decision language:

MINERALS MANAGEMENT

Energy and Minerals Program

BLM actively encourages and facilitates the development by private industry of public land mineral resources so that national and local needs are satisfied and economically and environmentally sound exploration, extraction, and reclamation practices are provided. SJ/SM RMP page 17.

Resource Objectives Oil and Gas Leasing. As a general rule, public land is available for oil and gas leasing. SJ/SM RMP page 17.

Planned Actions

Continue oil and gas leasing subject to environmental stipulations. SJ/SM RMP page 17.

Page 9.

¶ 1 Clarification: **The 1991 Oil and Gas Amendment to the RMP** contains both a written narrative and a map of areas not available for lease. The **“**No Lease” area description in the 1991 Amendment relates to the Wilderness Study Areas (WSA), and states that 103,152 acres of BLM-administered mineral estate under these WSAs will not be leased. In contrast, the “No Lease” area depicted on Map 2 of the 1991 RMP Amendment encompasses more acreage than what the narrative indicates. A potential conflict was identified when some of the current lease parcels appeared to be within the “No Lease” area depicted on Map 2.

The potential conflict was resolved after mapping the 103,152 acres designated as WSA using modern GIS technology and determining that none of the parcels currently nominated for lease are within the associated “No Lease” area boundary. At this time, all twelve parcels are being considered for leasing.

**BLM’s practice of writing EIS’ for proposed new development**

As mineral development has proceeded over the years in the northern San Juan Basin, the BLM has found it necessary to write new EIS’s that went beyond the scope of existing BLM documents. Indeed, such action is required pursuant to the Federal Land and Policy Management Act (“FLPMA”) of 1976, 43 U.S.C. § 1701 *et. seq*.,

The RMP revision process, undertaken pursuant to FLPMA, requires BLM to engage in the type of foundational land use planning that is intended to give context to the agency’s multiple use mandate. Accordingly, FLPMA provides specific criteria for land use plan revisions, requiring consideration of things such as: observation of the principles of multiple use and sustained yield; integrated consideration of physical, biological, economic, and other sciences; reliance on public lands resources and other values; consideration of present and future uses of the public lands; consideration of the relative scarcity of resource values; and weighing the long-term benefits to the public against the short-term benefits. *See* 43 U.S.C. § 1712(c)(1)-(9). Consideration of these criteria must drive BLM’s Uncompahgre RMP revision.

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 v. Bureau of Land Management*, 565 F.3d 683, 710 (10th Cir. 2009).

The following are examples of BLM’s recognition that new EIS’s are needed when new development is proposed**:**

1) From the **2002 Oil and Gas Development on the Southern Ute Indian Reservation Final Environmental Impact Statemen**t: **1.3 Purpose and Need (Pages 1-4)**

“Management of oil and gas leasing and development is currently guided by the EA prepared by the BIA in 1990 and byu 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.”

“…a more in-depth analysis of potential impacts from CBM and enhanced CBM (ECBM) recover, imcluding cumulative impacts, is possible now…

“The purposes of the EIS are as follows:

1. Foremost, to provide agency decisionmakers, the SUIT and the general public with a comprehensive analysis and understanding of oil and gas resource development alternatives on the Reservation, including CBM development and their existing and potential future impacts”

Clearly the BLM recognized the inadequacy of the 12 year old document it was operating under in that case. The 20 year old document under which BLM is operating for this lease proposal must also clearly be seen as inadequate.

2) 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*. As stated in that document’s Purpose and Need Page xiv, 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 resource management Plan (RMP) for the San Juan/San Miguel Planning Area (BLIM 1985).

3)From the August 2011 San Juan Public Lands Center’s *Draft Land Management Plan/Draft Environmental Impact Statement (DEIS)/Supplement to the DEIS*:

“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 he 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 new field, BLM considers its current RMP to be inadequate to fully examine, control and direct new development. It has written EIS’s to address the new issues that it knows will arise with new development. This proposed lease sale is no different, and the draft EA is in direct contravention of established BLM practice and is totally inadequate for addressing the new field development that this lease sale with initiate.

**Comments on Sections of the EA**

**BLM must evaluate the full range of possible impacts for both “context” and “intensity” prior to the scheduled February 2013 lease sale.**

“NEPA promotes its 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*, 490 U.S. 332, 350 (citations omitted) (emphasis added). 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 decisionmaker 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 decisionmaker in deciding whether, or how, to alter [a project] to lessen cumulative environmental impacts”). The hard look should thus be calibrated to inform the “heart” of the NEPA process – BLM’s alternatives. 40 C.F.R. § 1502.14; *Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Commn.*, 449 F.2d 1109, 1128 (D.C. Cir. 1971) (“Clearly, it is pointless to “consider” environmental costs without also seriously considering action to avoid them”).

Any subsequent “hard look” at impacts from the February lease sale should include a range of alternatives with varying degrees of environmental protections, and which further analyze stipulations placed on each of the 22 parcels. These alternatives should be consistent with comments provided herein, and include a “no action” alternative that would forbid the sale of the nominated parcels. We also request that the agency specifically consider an alternative that would withdraw these mineral resources from operation of the public lands laws, including the Mineral Leasing Act, and that would remove these resources from their availability for lease or other extractive activity. *See* 43 U.S.C. §§ 1712, 1714. After BLM prepares a draft NEPA analysis, we reserve our right to recommend additional alternatives to address impacts disclosed by that analysis.

In any event, to make its threshold determination with respect to the significance of impacts, BLM must evaluate 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 determined by looking at several factors, including, *inter alia*, the “highly controversial” nature of the environmental impacts; the “degree to which the possible effects are … highly uncertain or involve unique or unknown risks;” whether the action sets “precedent for future actions” or “represents a decision in principle about a future consideration;” or “is related to other actions with individually insignificant but cumulatively significant impacts.” *Id.* §§ 1508.27(b)(4)-(7).

**A. Sec. A. 4.2.1 Parcel Development Potential**

“The act of leasing parcels would, in itself, have no direct effects on any resources in the field office. All indirect effects would be related to as yet undetermined future development of the leases. Even if parcels are leased, it remains unknown whether development would actually occur, and if so, where specific wells would be drilled and where facilities would be placed. This would not be determined until the BLM receives an APD in which detailed information about proposed wells and facilities would be provided for particular leases. Below are assumptions on the oil and gas development potential of each parcel. This EA examines the impact of leasing, and when practical, the reasonably foreseeable future development of the lease parcels.” EA at 40

This is the premise upon which the entire EA is built, and the refrain is repeated in every section as BLM’s justification for not complying with their mandate to do an EIS at leasing stage. This is the main reason that the EA is deficient.

**B. Cultural Resources**

In the EA, BLM has failed to adequately address the issue of Cultural Resources.

**3.2 General Setting**: “This area is known for a rich cultural heritage…” EA at 19

3.2.1 Resources/Issues Considered

In the Table in this section, **Cultural Resources** is given a Determination of PI (PI = present with potential for relevant impact that need to be analyzed in detail in the EA) and under Rationale for Determination it states: “Potentially present but will not be affected by lease sale.” EA at 19

BLM acknowledges that “[t]his area is known for a rich cultural heritage…” EA at 19. Nevertheless, BLM maintains its shell game approach to analysis, and despite its recognition of that “cultural resources … [have] potential for relevant impact,” 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 wide spread, 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 53. This position is as unpersuasive and in contravention to NEPA’s demands here, as it is throughout the document.

Any Cultural Resource Surveys must be conducted prior to leasing as part of a comprehensive EIS rather than relying on site-by-site discovery at the time of an APD.

**C. Transportation**

In the EA, the BLM has failed to adequately analyze the impacts on the affected areas from transportation.

1.7 Scoping & Identification of Issues

¶3:

“Through initial scoping and outreach, the TRFO identified the following key issues were identified regarding the proposed action:” EA at 11

Under **IDENTIFICATION OF KEY ISSUES,** it includes Transportation as one of these key issues, and poses the question that needs to be addressed in dealing with this issue:

“Transportation: How will the proposed action increase traffic and degrade existing road quality in the area?”

Transportation is given a “PI” (present with potential for relevant impact that need to be analyzed in detail in the EA) Determination with the Rationale for Determination given as “Possible increase in traffic or new roads”. EA at 20

**4.3.1.5 Transportation**

“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 55

The Stock Raising Homestead Act of 1916 and Mineral Leasing Act of 1920 provide for reasonable surface access for mineral exploration and extraction. Thus, if new roads, or upgrades to current roads, are necessary for access to leased minerals, they could be built whether on private, State or BLM surface. Subsequent development could also increase traffic on existing roads with possible delays in some areas depending on the proposed level of development.

Operators must make a good faith effort to notify the surface owner before entry and obtain a surface use agreement with the surface owner. This gives surface owners the opportunity to negotiate an agreement with preferred access routes and road construction and maintenance agreements, if desired. In addition, oil and gas traffic on county roads may need a county permit and road maintenance agreement.

**4.4.5 Transportation**

“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 70

In reading **4.3.1.5** and **4.4.5**, it is clear that BLM:

1) continues its mantra of “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.”

2) makes no effort to analyze “How will the proposed action increase traffic and degrade existing road quality in the area.” By shunting off analysis with the claim “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.”, BLM has not conducted the analysis it is required to conduct.

While acknowledging that “Subsequent development could also increase traffic on existing roads with possible delays in some areas depending on the proposed level of development”, that is as far as 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 these cumulative impacts was made. Relying on analysis at the APD stage will result in piecemeal analysis which is tantamount to no analysis at all

Instruction about the need to involve staff specialists from other non-BLM areas of expertise is given in BLM **Instruction Memorandum # 2010-117** **(IM)**

III.

Lease Parcel Review and Lease Issuance Process

C. Interdisciplinary Review of Lease Sale Parcels

The IDPR Team *will include subject matter experts for the resources potentially affected by leasing (emphasis* added*)*. When appropriate, the IDPR Team should consider including staff specialists from other agencies when lands and/or resources that are administered by those agencies could be impacted by future development on the lease parcels under review.

Had BLM met its responsibilities as delineated in this referenced section of the **IM** to include personnel from any of the affected counties (their engineers or road and bridge departments directors), the EA would not have the level of deficiency it has in its dealing with Transportation.

**D. Farmlands**

In the EA, the BLM has failed to adequately analyze the impacts on Farmlands.

3.2.1 Resources/Issues Considered

In the table under the ‘Farmlands (Prime or unique)’ section, ‘Farmlands’, as a resource, is given an NP determination (NP = not present in the area impacted by the proposed or alternative actions); the ‘Rationale for Determination’ is given as “None identified by NRCS soil survey.” EA at 20

“Farmlands (Prime or Unique) There are no Farmlands (Prime or Unique) as defined by 7 CFR 657.5 within the proposed action area.” EA at 21

The document demonstrates its deficiency by its use of the following reference 7 CFR 657.5.

7 CFR 657.5 clearly shows how to determine important farmland inventory.

(Title 7: Agriculture

Subtitle B: Regulations of the Department of Agriculture (Continued)

CHAPTER VI: NATURAL RESOURCES CONSERVATION SERVICE, DEPARTMENT OF AGRICULTURE

SUBCHAPTER F: SUPPORT ACTIVITIES

PART 657: PRIME AND UNIQUE FARMLANDS

Subpart A: Important Farmlands Inventory

657.5 - Identification of important farmlands.)

(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.

Please refer to the map from the La Plata County GIS Department which is overlays the proposed lease area with those lands which have an ‘agricultural lands’ designation from the County Assessor’s office. **(Exhibit \_\_\_)** The amount of acreage is significant enough to warrant further review by the BLM’s ID Team, as given the criteria in 7 CFR 657.5, their analysis based on 7 CFR 657.5 is incomplete; it also is further evidence of the inadequacy of the document to have fully assessed the actual impacts this lease sale and subsequent development will create.

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, BLM must evaluate two factors: “context” and “intensity.” 40 C.F.R. § 1508.27. Intensity refers to the severity of the impact, and requires the agency to, among other things, consider the “unique characteristics of the geographic area such as proximity to ... prime farmlands.” *Id.* at § 1508.27(b)(3). 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 16).** 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 17).** 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.

BLM has either rejected DOI policy 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.

**E. Soil and Water Resources**

In the EA, the BLM has failed to adequately analyze the impacts on Soil and Water Resources

**Soil & Water Resources**

While posing the 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, the Ea completely fails to address possible impacts to groundwater from hydraulic fracturing; this represents a fundamental failure that must be addressed before the lease can proceed.

While these two question are germaine to the examination of water, they do not constitute the entirety of the issue. The issue is defined as ‘Water Resources/Quality’ in the Table on Page 20. The EA is deficient in not including Water Quantity in its analysis. The Water Quantity issue must address the source of the water that will be required to do the hydraulic fracturing mentioned above. Hydraulic fracturing can involve the use of millions of gallons of water to ‘frack’ an individual well. Since many of the proposed lease parcels in La Plata County are in an area referred to locally as the Dryside, where will the requisite water come from? In a region where water is scarce, this is a question that needs to be analyzed and answered, not at APD stage of development, but as part of the cumulative analysis of an EIS, yet Water Quantity is not even considered a Key Issue.

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

The potential impacts that may result from hydraulic fracturing (“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]](#footnote-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]](#footnote-14) The EPA report was further summarized and reviewed in an Environmental Working Group report.[[15]](#footnote-15)

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 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 effects, 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.*[[16]](#footnote-16) (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.[[17]](#footnote-17) In Colorado, 1.3 million gallons of fluids containing diesel fuel was used in fracking natural gas wells.[[18]](#footnote-18) The EPA has stated that “the use of diesel fuel in fracturing fluids poses the greatest threat” to underground sources of drinking water.[[19]](#footnote-19) According to Congresswoman Diana DeGette of Colorado, fracking with diesel fuel was done without permits in apparent violation of the Safe Drinking Water Act.[[20]](#footnote-20)

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 north-east you couldn’t find a more chillingly effective and thorough method of doing so than with hydraulic fracturing.[[21]](#footnote-21)

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:

1. 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.[[22]](#footnote-22) EnCana was subsequently fined $371,000 as a result of contaminating West Divide Creek.
2. 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.[[23]](#footnote-23)
3. 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).[[24]](#footnote-24) 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.
4. 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 adamanteanes – 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.[[25]](#footnote-25)
5. 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:

1. 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 – Chris Mobaldi, Verna Wilson, and Jose Lara – who died after suffering from drilling-related illnesses in Garfield County.[[26]](#footnote-26)
2. 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.[[27]](#footnote-27)
3. 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.[[28]](#footnote-28)
4. 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. [[29]](#footnote-29)

Abrahm 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 underground for more than seven miles from its source. If the methane can seep, the theory goes, so can the fluids.[[30]](#footnote-30)

However, perhaps the most thorough evidence of groundwater contamination from hydraulic fracturing is found in a newly released EPA draft report investigating ground water contamination near Pavillion, Wyoming (“Pavillion Report”).[[31]](#footnote-31) 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 residents, prior to release. 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.

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

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.”[[32]](#footnote-32) 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.[[33]](#footnote-33)

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.”[[34]](#footnote-34) 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.”[[35]](#footnote-35) 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.”[[36]](#footnote-36)

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.”[[37]](#footnote-37) 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.”[[38]](#footnote-38) 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.”[[39]](#footnote-39)

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 indicate that they are both shallow and unique.”[[40]](#footnote-40) 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.”[[41]](#footnote-41)

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.[[42]](#footnote-42) However, seismic activity near Trinidad is not new. Indeed, a September 2001 swarm of earthquakes near Trinidad prompted a U.S. Geological Survey 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.”[[43]](#footnote-43) 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.”[[44]](#footnote-44)

**F. Soils**

In the EA, the BLM has failed to adequately analyze the impacts on soil.

**3.3.3.1 Soil and Water Resources – Surface Geology/Soils**

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 27/28

The EA is deficient in that given this cursory analysis, BLM concludes that these areas are still suitable for development through site-specific mitigation: “Mitigating 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.” BLM’s insistence on doing analysis at the APD stage 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. Ultimately, it prohibited development on slopes of >40% slope. That was the result of full EIS analysis; that is the level of analysis BLM must incorporate in this project.

The EA is deficient in that it has not analyzed the impact that La Plata County Oil and Gas Regulation **90-122. Land use coordination standards. (d) Sound emissions. (2)** (which requires that all minor facilities {well pads} be electrified under certain circumstances) will also have on areas of severe soil instability which will most definitely be affected by the electrification of well sites.

G. **Air Quality**

In the EA, the BLM has failed to sufficiently analyze the impacts related to Air Quality.

Please incorporate by reference the comments submitted in November 2011 by SJCA on

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 \_\_\_)

While made to address Air Quality and climate impacts in the SDEIS, these comments

have equal relevance to this current EA.

Additionally,

**4.3.1.6 Air Quality and Climate**

These three excerpts from the referenced section again exemplify BLM’s decision to

not comply with its NEPA mandate to develop full EIS’ at leasing stage.

“The decision to offer the identified parcels for lease would not result in any direct emissions of air pollutants.” EA at 55

“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.” EA at 55

“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 56

3.3.6 Air Quality and Climate

“There is broad scientific consensus that humans are changing the chemical

composition of our atmosphere.” EA at 36

“Research has identified the general potential effects of anthropogenic GHG

emissions and their effects on global climatic conditions.” EA at 36

“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 56

The Alliance agrees 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. The statement “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” is in error, and because of this, the BLM has failed to sufficiently analyze impacts related to climate change.

BLM acknowledges that its actions may contribute to the climate change phenomenon, yet states that the specific effects of those actions on global climate are speculative given the current state of the science.” Framing their climate change discussion as a “phenomenon” – 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 11).**

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 forcings 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 12**), 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.

Although BLM seems to suggest that it can avoid performing any actual analysis by referring to climate change as a “phenomenon,” and to its effects as “speculative,” 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 labelling 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.

Not departing from their dismissive approach to analysis, BLM further continued: “The BLM will evaluate potential emissions of regulated air pollutants (including GHGs) associated with the development of the oil and gas resources in a subsequent analysis at the APD stage of the lease life cycle”*.* BLM’s approach is unacceptable; such analysis cannot wait until the APD phase be done cumulatively. 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; e.g., water resources, vegetation, farmlands, wildlife and endangered species, etc. 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 decisionmaking process contemplated by NEPA to ‘the tyranny of small decisions.’ ” *Kern,* 284 F.3d at 1078 (citation omitted).

Furthermore, and perhaps unexpectedly to BLM’s TRFO, 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 oil and gas leasing decisions are thus contemplated by and subject to section 3 of the Order, and accordingly must be considered in BLM’s NEPA analysis.

**Greenhouse Gas Emissions**

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 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.

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, responsible for the management of 700 million acres of federal onshore subsurface minerals. *See* DOI-BLM, *Mineral and Surface Acreage Managed By BLM,* available at: <http://www.blm.gov/wo/st/en/info/About_BLM/subsurface.html>. 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.” 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 13). 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 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](http://web2.westlaw.com/find/default.wl?rs=WLW9.09&ifm=NotSet&fn=_top&sv=Split&pbc=727B8F6D&cite=43cfr3161.2&vr=2.0&rp=%2ffind%25) (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](http://web2.westlaw.com/find/default.wl?rs=WLW9.09&ifm=NotSet&fn=_top&sv=Split&pbc=727B8F6D&cite=43cfr3160.0-5&vr=2.0&rp=%2ffin). 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*](http://web2.westlaw.com/find/default.wl?rs=WLW9.09&ifm=NotSet&fn=_top&sv=Split&pbc=727B8F6D&cite=43cfr3160.0-5&vr=2.0&rp=%2ffin)*.*

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.” S*ee* Scoping Exhibit 41 at 11, 27. 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. *Id*. at 20-33. 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.” 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 14). Moreover, the Report further identified ten technically proven, commercially available, and profitable methane emission control 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 *infra.*

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).[[45]](#footnote-45) Considering alternatives to prevent or abate these emissions, in particular through enforceable stipulations attached to the leases, is therefore reasonable and prudent.

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.[[46]](#footnote-46) 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.[[47]](#footnote-47) As a Supplementary Information Report (“SIR”) prepared for 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.[[48]](#footnote-48) 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.[[49]](#footnote-49)

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.[[50]](#footnote-50) 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.[[51]](#footnote-51) These 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.”[[52]](#footnote-52) 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).[[53]](#footnote-53) 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.[[54]](#footnote-54)

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.[[55]](#footnote-55) 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.[[56]](#footnote-56) 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.[[57]](#footnote-57)

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.[[58]](#footnote-58)

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, there is nevertheless convincing evidence to support the consideration of alternatives that would attach meaningful lease stipulations to these leases, assuming BLM chooses to move forward with this lease sale and that BLM’s choice to do so is lawful. 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.[[59]](#footnote-59) Employment of 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.[[60]](#footnote-60)

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.[[61]](#footnote-61) 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.[[62]](#footnote-62)

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.[[63]](#footnote-63) The Montana Climate Action Plan recommends that the oil and gas sector reduce methane emissions by 30% by 2020.[[64]](#footnote-64) 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.[[65]](#footnote-65) 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.[[66]](#footnote-66) 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.[[67]](#footnote-67)

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).”[[68]](#footnote-68) 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.”[[69]](#footnote-69) 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.”[[70]](#footnote-70) 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.”[[71]](#footnote-71) The rapid development of high volume/horizontal 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.[[72]](#footnote-72) 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. 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 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.

**I. Water**

In the EA, the BLM has failed to adequately analyze the impacts on water.

Any analysis of water as it pertains to the affected area is limited to the location of surface waters and water quality. What the EA fails to analyze are other aspects of water that are critical to any impact analysis of natural gas or oil development: Identifying water sources for use in resource development; identifying water quantities that can be anticipated to be used in resource development; identifying disposal methods for flowback or produced water that are attendant to resource development; handling of water on site. In the development of shale gas or shale oil, the potential exists for the use of millions of gallons of water in the process of hydraulic fracturing.

Too many questions come up that have not been addressed and cannot be ignored. Where will that water come from in a lease area that lies essentially in a place called the ‘Dryside.’ Will it be trucked in? How will that impact the roads? Will it be piped in? Where would those pipelines run and how will that construction be reconciled with the statement in the EA that “these 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.”?

How will the produced water be dealt with? Will it be trucked off site? What impact will that have on the roads? Will it be piped off site? What impact will that have on “these 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.”?

Since there is a great likelihood that these will be the impacts if the leases are developed,

to completely ignore analysis of this potential demonstrates a huge gap in this EA and

further points out the deficiency of the document.

**J. Reasonable Foreseeable Development (RFD)**

In the EA, the BLM has failed to adequately analyze Reasonable Foreseeable Development.

There is scant reference made to Reasonable Foreseeable Development in the EA (pages 41, 42, 70). Consequently, there is no count given in an RFD of 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.

**Finding of No Significant Impact (FONSI)**

The FONSI ‘s deficiencies create an inadequate document.

DRAFT FINDING OF NO SIGNIFICANT IMPACT

February 2013 Oil and Gas Lease Sale

DOI-BLM-CO-S010-2012-0061-EA

**Intensity**

The following have been considered in evaluating intensity for this proposal:

1. *Impacts that may be both beneficial and adverse.*

**BLM Answer:** Future development of the lease parcels may have minor indirect, short term impacts to resources (e.g., soils, vegetation, and wildlife) as described in Chapter 4 of the EA; however these impacts are not expected to be significant with the incorporation of mitigation and will be further analyzed in site specific NEPA documents at the development stage.

**Comment:** This statement is inaccurate and dismissive at best; the agency is in error in making it.

Since there is no disclosure in the EA of which formations development would occur in, what the well spacing of those formations would be, or how many wells are anticipated to be drilled at build out, there is no way to quantifiably know that “Future development of the lease parcels may have minor indirect, short term impacts to resources (e.g., soils, vegetation, and wildlife) as described in Chapter 4 of the EA.”

2. *The degree to which the action affects public health and safety.*

**BLM Answer:** The proposed action is not expected to significantly impact public health and safety. The effects of oil and gas leasing are well known and documented. Chapter 4 of the EA analyzes the effects to air and water quality which are not expected to be significant with the incorporation of mitigation measures. Oil and gas leasing is a common practice in the region and no significant impacts to health and safety are known.

**Comment:** There simply is no basis for this assertion and the agency is in error in making it. Barring any Health Impact Assessments conducted in the communities affected by oil and gas development, making such a statement is the equivalent of saying the obverse: that significant impacts to health and safety are known in the region. And while anecdotally this latter statement is accurate, as there are many cases of people who live in proximity to production and processing facilities suffering respiratory and auto-immune diseases, no effort has ever been made by any local or state health departments to determine causality. The BLM’s answer cannot be used as justification to allow leasing, as it is without merit.

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

**BLM Answer:** The effects on the quality of the human environment are not likely to behighly controversial. Oil and gas leasing has been occurring historically in the region and in the general area, and the effects of oil and gas leasing are generally well understood. In addition, mitigation measures as described in Chapter 4 of EA and incorporated into the selected action will reduce anticipated impacts.

**Comment:** This was exactly the same insight that BLM and the state of Colorado had back in the late 1980’s and early 1990’s when coal bed methane was beginning in La Plata Countyl; the agency is in error in making this statement and perpetuating this misconception. That was before people lost their houses either to actual or threat of explosion, a Blue Ribbon fishing section of the Animas River that had been enjoyed by locals and visitors alike for years was posted with signs warning anglers that they risked death from hydrogen sulfide exposure in they fished there. The statement: “…the effects on the quality of the human environment are not likely to behighly controversial” is irresponsible given that there is no information about what kind of development (conventional, coal bed methane, shale, other unconventional) this leasing will generate and what the impacts from development in those formations subsequently will be.

5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*

**BLM Answer:** The BLM’s Colorado State Office conducts quarterly competitive lease sales to sell available oil and gas lease parcels. Effects associated with leasing are well known and documented. Oil and gas leasing has been occurring in the area and the effects are generally well understood. NEPA documents at the development stage will incorporate all new information to analyze site-specific impacts.

**Comments:** Within the BLM’s answer lies the problem. It is unacceptable and not in compliance with NEPA process for the BLM to proceed on a “site-specific impacts analysis basis”. Once the lease is issued, the BLM cannot prevent the impacts that will result from surface use. Based on that, the agency must analyze the cumulative foreseeable impacts of such use as those would accrue from full lease, not individual well, development, before approving the irretrievable commitment of the resources it is leasing.

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.*

**BLM Answer:** The preferred alternative is within the scope of the Resource Management Plan and is not expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration. Alternative A was considered by the interdisciplinary team within the context of past, present, and reasonably foreseeable future actions. Significant cumulative effects are not predicted. A complete analysis of the direct, indirect, and cumulative effects of the preferred alternative and all other alternatives is described in Chapter 4 of the EA.

**Comment**: The Resource Management Plan referred to here is more than 20 years old. As such it has been acknowledged to be out of date and not suitable for use as a guidance/decision document for assessing new, unanticipated formation development and technologies. Given that there is no information given in the EA about which formations will be developed or how many wells are anticipated to be drilled, the statement “Significant cumulative effects are not predicted” is simply not based on any attempt at cumulative analysis.

7. *Whether the action is related to other actions with individually insignificant but*

*cumulatively significant impacts.*

**BLM Answer:** The interdisciplinary team evaluated the possible actions in context of past, present and reasonably foreseeable actions. Significant cumulative effects are not predicted. A complete disclosure of the effects of the selected action is contained in Chapter 4 of the EA.

**Comment:** The agency is in error in not having attempted to predict significant cumulative effects. The BLM has deferred such analysis to the individual well application for permit to drill (APD) phase, which is not in compliance with established NEPA procedure; it is also in error to assert that cumulative analysis at APD phase would be anything but meaningless, if not impossible.

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. We focus 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. San Juan Citizens Alliance 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.

1. U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (“ATSDR”), *Health Consultation: Garfield County, Public Health Implications of Ambient Air Exposures to Volatile Organic Compounds as Measured in Rural, Urban, and Oil & Gas Development Areas* (2008), at 1 (attached as Exhibit 65). [↑](#footnote-ref-1)
2. *Id.* [↑](#footnote-ref-2)
3. *Id.* [↑](#footnote-ref-3)
4. *Id.* [↑](#footnote-ref-4)
5. 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). [↑](#footnote-ref-5)
6. *Id.*  [↑](#footnote-ref-6)
7. 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). [↑](#footnote-ref-7)
8. *Id.* [↑](#footnote-ref-8)
9. 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 66). [↑](#footnote-ref-9)
10. *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). [↑](#footnote-ref-10)
11. Exhibit 66, at 60. [↑](#footnote-ref-11)
12. http://ceq.hss.doe.gov/nepa/regs/ceq/1508.htm#1508.25 [↑](#footnote-ref-12)
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 14); *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 15). [↑](#footnote-ref-13)
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 16); *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). [↑](#footnote-ref-14)
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