

From: Pete Dronkers, Earthworks

To: Mark Ames, Bureau of Land Management  
Harrilene Yazzie, Bureau of Indian Affairs  
And by email to: BLM\_NM\_FFO\_RMP@blm.gov

**RE: Environmental Impact Statement scoping comments for Resource Management Plan Amendment for the Bureau of Indian Affairs and Farmington Field Office surface lands and mineral estate**

**Introduction:**

Earthworks welcomes the opportunity to submit comments for this Resource Management Plan Amendment (RMP-A) and associated Environmental Impact Statement (EIS). These comments regard the full 4.2 million acre planning area and all lands and minerals within it under BLM and BIA's planning authority. Because the RMP-A is guided by a single EIS that involves both BLM and BIA, we believe scoping should include all affected lands and minerals. The BLM component of this RMP-A was last scoped in 2014. Since then, many conditions on the ground have changed, and the impacts of fracking have become more pronounced. It is inappropriate to segregate scoping by agency under the same EIS because all actions considered in it are connected, and cumulative impacts must be considered for the entire planning area. Therefore, we request that BLM and BIA formally consider these comments as applicable to all lands and mineral estates within the planning area.

These comments will focus nearly exclusively on oil and gas leasing, exploration, development and associated infrastructure.

**The leasing of federally controlled minerals must be placed on a moratorium, effective immediately, until the RMP-A is complete:**

The vast majority of federally controlled minerals within the RMP-A planning area are already leased, leaving little ability for agencies to meet the multiple use mandate required by the Federal Lands Policy and Management Act. Even so, BLM continues to offer lease sales for parcels widely opposed by the people the agency is supposed to serve. Indeed, the vast majority of public comments received by BLM in the last five years have expressed fundamental opposition to continued leasing in this area, particularly in the area closest to Chaco Canyon National Historic Park.

All impacted Chapter Houses have sent letters to BLM reinforcing this opposition, as have hundreds of thousands of US citizens who jointly own these lands as federal taxpayers. Until the RMP-A is complete, and a final Record of Decision is noticed in the Federal Register, all leasing must cease immediately, as the current RMP is structurally unfit to adequately address the social and environmental impacts of horizontal drilling and hydraulic fracturing – the main type of new development occurring today in the planning area.

**The Draft EIS should include detailed information regarding the planning authorities of BIA within the context of the NEPA process:**

After a review of the Federal Register notice announcing this scoping process, reviews of numerous agency web pages, and reviews of several academic reports regarding allotment owners' and Tribal authority over mineral resources in Indian Country, it remains unclear what authority BIA has to determine the future of oil and gas leasing and development on Tribal Trust and Allotment lands and associated mineral estates. The Draft EIS must include a plain-language breakdown for all stakeholders regarding BIA's specific authority for mineral estates held in Trust by the federal government, and how the RMP-A can affect the future of these resources.

BLM/BIA should provide maps and acreage tables showing which mineral estates are subject to leasing decisions controlled by BLM through quarterly lease nominations and sales, which mineral estates are controlled by Navajo land use plans, and which lands may fall into a third category of joint federal and Navajo leasing decisions. Stakeholders must have a comprehensive understanding of BIA's authority in order to provide meaningful comments on the Draft EIS when it becomes available, but to date, stakeholders are finding it nearly impossible to understand the true scope of the BIA in this NEPA process.

**The Draft EIS should contain a wide range of alternatives, including a no-leasing alternative:**

Federal land management agencies have the legal authority to determine how much leasing, if any, occurs on the federal mineral estate. This was recently demonstrated in a management plan for the Bridger Teton National Forest, in which the decision cited public opposition as a key factor in making the no-leasing alternative the agency's preferred alternative in the final EIS.

**BLM/BIA should consider public comment as a primary factor in selecting alternatives:**

The RMP-A scoping report and the draft EIS should include a detailed synopsis of public comments received by BLM and BIA in the last five years that have informed the alternatives selection process. This synopsis should include a table showing the number of individuals who have filed comments for and against continued leasing. This must include those who have filed form comments, such as online petitions. While these may not be "unique" comments in the eyes of the agency, a letter signed by thousands of people does not mean that it is only one comment. Each of those people have registered their opinion to the agencies tasked to consider such opinions, and cannot be discounted to a single individual comment. We believe BLM and BIA are already aware that the vast majority of individuals who have commented – both as part of and detached from the formal scoping process – have stated undeniable opposition to continued leasing in the RMP-A planning area. The scoping report and the draft EIS should be transparent and provide this information to the public as it justifies the preferred alternative.

**BLM/BIA should issue stipulations regarding lease sunseting and No Surface Occupancy:**

As mentioned before, the vast majority of federally controlled minerals within the planning area are already leased, which ignores the multiple use mandate of the Federal Land Policy Management Act. To correct this inherent problem after decades of management decisions

that clearly favor the oil and gas industry over all other uses and the health and quality of life of residents living within the oil and gas patch, BLM/BIA should include lease sunset provisions for a significant portion of leases that are not held by production. The agencies should take a hard look at the planning area to determine which lands contain the following attributes, and implement sunset stipulations for those areas for leases which have leases set to expire but with no pending Applications for Permit to Drill. These mineral estates should be transferred by the RMP-A into a category that are no longer eligible for leasing availability for the life of the RMP.

- Areas within a 10 mile radius of Chaco Canyon National Historic Park
- Leases within 2500 feet of any occupied building
- Areas with surface water resources
- Areas containing threatened or endangered plant and animal species
- Areas adjacent to Areas of Critical Environmental Concern, Wilderness areas, and Wilderness Study Areas
- Areas within 2500 feet of known cultural resources

BLM/BIA should also use the above criteria to issue No Surface Occupancy stipulations for any new APD's.

**The Draft EIS must include carbon and methane emissions inventory estimates for each alternative:**

The White House Council on Environmental Quality has issued guidance to all agencies using NEPA to include inventories of estimated carbon emissions and carbon-equivalent emissions under the Reasonably Foreseeable Development Scenario. We believe BLM/BIA should include these calculations for each alternative in the Draft EIS. This gives the public the ability to consider the total carbon-equivalent emissions under each alternative. The DEIS should also use the federal government's Social Cost of Carbon toolkit to quantify the externalized cost of the emissions that the RMP-A would be responsible for. These estimates should include the end-use emissions of all oil and gas produced both from leases held by production as well as new leases authorized under the RMP-A and consistent with the RFD, rather than simply the front end emissions of producing the oil and gas. A separate category should be provided for only methane, especially because the San Juan Basin has, according to NASA, the highest methane concentrations of anywhere in the US. Methane emissions forecasting in the Draft EIS will be useful to NASA and many other regional and national air quality scientists and regulators.

**The Draft EIS should consider impacts to tourism at Chaco Canyon National Historic Park for each alternative:**

Recent studies suggest that increased oil and gas development adversely impacts the tourism industry at key destinations. For each alternative, the Draft EIS should attempt to use the empirical data provided by academic reports to quantify the loss of tourism revenue in the broader region.

**The Draft EIS should include a federal Health Impact Assessment specific to each alternative:**

Health Impact Assessments should include air emissions sampling near a representative sample of occupied buildings, and testing of groundwater wells closest to oil and gas wells. They should include health analyses of light and noise pollution, traffic safety, substance abuse and domestic violence, and factors that contribute to degraded mental health of impacted residents and industry workers. Based on these data, the HIA should extrapolate each of the alternatives based on the RFD to determine the level of health impact for each alternative.

**The Draft EIS should include a comprehensive analysis of cultural resources, not simply at the site-specific level, to inform leasing availability, lease sunseting, and No Surface Occupancy stipulations in the RMP-A:**

It is commonly understood among Chaco area archaeologists that a network of “Great Roads” were built by the Chacoan people, the reasons for which are only beginning to be understood. Rather than site-specific cultural resource surveys at the individual facility level, the Draft EIS should include a comprehensive regional study that builds upon the work of these archeologists. This study should help to identify these Great Roads and any other cultural resource near them. Development affecting the surface anywhere within 2500 feet of these Great Roads should be disallowed in the RMP-A.

**The Draft EIS should include detailed information for the public regarding reclamation bonds and liability insurance for accidents:**

Because bonding amounts and types directly affect long term environmental performance, the Draft EIS should include a plain-language breakdown of all facilities currently in operation, as well as new facilities expected under the RFD, regarding reclamation bonding. The Draft EIS should provide justification that these bond amounts are sufficient by providing the formulas used to create them, and by comparing those formulas to actual reclamation costs at comparable facilities elsewhere. BLM should use all its authority to disallow corporate guarantees for reclamation bonds in the RMP-A, and instead require cash, up front, to be placed in trust accounts for each specific facility that remain in place for that facility for the life of it. Even if bonds are held at the state level, it is BLM’s responsibility to use all of its authority under its planning processes to ensure that lands under its jurisdiction will be properly reclaimed when oil or gas production ceases.

**The Draft EIS should include a comprehensive study outlining risks to groundwater resources:**

High volume hydraulic fracturing and horizontal drilling, as well as wastewater injection into underground disposal wells -- carry known risk to groundwater resources. The Draft EIS should take a hard look at all groundwater supply wells in the entire planning area and map them in relation to existing facilities and ones likely under the RFD, including disposal wells. BLM should analyze contaminant migration in known groundwater contamination cases that have been previously studied by EPA in Texas, Wyoming, and Pennsylvania to compare contamination risks to the those in the planning area, taking into account geology and hydrogeology to determine areas in the planning area most susceptible to contamination of beneficial groundwater

sources. BLM should consider these areas to be suitable for lease sunseting and no new leasing in the RMP-A.

**Additional considerations regarding air emissions:**

Earthworks has spent considerable time in the San Juan Basin documenting air emissions from oil and gas facilities using infrared optical gas imaging. Most of the sites we visit – especially where shale is the target formation and hydraulic fracturing is employed – have substantial air emissions, many of which are toxic. These emissions fall into two general categories: cold sources and thermogenic sources. Examples of cold sources are pipe/valve/fitting leaks, vented tank vapor emissions, and pneumatic controllers. Thermogenic sources are any emission sources that are channeled through a combustion flue or flare stack with an igniter. These include: combusted tank vapor emissions, gas flares, and any other combusted waste stream.

Below is a small selection of sample images and video from within the planning area. For the complete selection of clips in New Mexico [please visit this link](#). These images and video demonstrate that cold emissions sources are common in the basin, and we believe BLM must use its planning authority to address the problem in the Draft EIS though quantitative analysis of greenhouse gas equivalents for each alternative. These media also show combusted sources which, while lower in greenhouse gas emissions, are likely high in toxic VOC’s, and not well understood by industry or regulators. This lack of understanding of the composition of various combusted emissions sources underscores BLM’s responsibility to perform quantitative analysis of air toxics from these sources (see below) as part of the Draft EIS analysis for each alternative.



Above: significant tank vapor emissions within the RMP-A planning area.

**Leaking pipes and valves:**

NYW #10E, Aztec, NM: <https://youtu.be/K9qh8HJ-kng>

NYE #16, Aztec, NM: <https://youtu.be/OHphq8TwiOI>

**Processing facilities:**

ConocoPhillips San Juan Gas Plant Bloomfield, San Juan County, NM (36.733000, -107.970550)	Valverde & Blanco Plants Bloomfield, San Juan County, NM (36.733017, -107.960517) Filmed 8/15/2016
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Filmed 8/15/2016 <a href="https://youtu.be/324r0Lwzkr5">https://youtu.be/324r0Lwzkr5</a>	<a href="https://youtu.be/lpB9p1OLJuk">https://youtu.be/lpB9p1OLJuk</a>
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**Production facilities:**

Encana Corporation Lybrook H26 2307 01H Well Pad Counselor, Sandoval County, NM (36.19789, - 107.53617) Filmed 2/24/2016 <a href="https://youtu.be/uA93eYdbiqI">https://youtu.be/uA93eYdbiqI</a>	Encana Corporation Lybrook A03-2206 01H Well Pad Counselor, Sandoval County, NM (36.17232, - 107.44748) Filmed 2/24/2016 <a href="https://youtu.be/hzJxT6wgd7I">https://youtu.be/hzJxT6wgd7I</a>	ConocoPhillips Devil's Spring Ranch Filmed 10/21/2015 Devil's Spring Ranch, Rio Arriba County, NM (36.643916, - 107.476767) <a href="https://youtu.be/SYE6K58sY1w">https://youtu.be/SYE6K58sY1w</a>	Unnamed XTO Well Pad in Central Aztec Aztec, San Juan County, NM (36.82779, - 108.00716)  Filmed 9/18/2014 <a href="https://youtu.be/clQZnEdBm1Y">https://youtu.be/clQZnEdBm1Y</a>
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In step with the creation of the Health Impact Assessments for each alternative, as well as the combined upstream and downstream carbon and methane emissions estimations for each alternative, the Draft EIS should also provide air toxics data for each alternative, including SO<sub>2</sub>, N<sub>2</sub>O, H<sub>2</sub>S, PM 2.5, all BTEX compounds, radionuclides, VOC's, and all other air toxics known to exist in the San Juan Basin. These data should be based on air studies performed at a representative sample of operating sites in the San Juan Basin, both geographically diverse and representative of different types of development (e.g., Shale, shallow sandstone, Coal Bed methane, conventional gas, fracked gas, etc). These air toxics data should be extrapolated for each alternative based on the RFD. This data will also be essential to the creation of alternative-specific Health Impact Assessments, and for a better understanding of the contribution of BLM/BIA administered oil and gas development on regional air quality issues.

**The Draft EIS should include water balance studies for each alternative:**

It is well understood that hydraulic fracturing uses enormous amounts of freshwater. BLM and BIA should take a hard look at net freshwater consumption (taking into account recycled produced water) under each alternative based on the RFD. This calculation should be used to help inform a category of impact in the Draft EIS that assesses regional social and environmental impacts of the loss of this water. For example, if the most development-friendly alternative estimates a total water loss of 2.5 billion gallons of freshwater net consumption each year, the Draft EIS should identify where this water is likely to come from, who may be at risk of future water delivery curtailments based on these diversions from existing users, and what environmental impacts may occur as well; for example, if this freshwater is being sourced from new groundwater wells, what would be the expected groundwater drawdown regionally, and what other impacts to existing beneficial users and the environment may be associated with that drawdown. Or, if surface water is sourced, what are the social and environmental impacts of diverting/pumping?

**The Draft EIS should quantify solid waste disposal requirements for each alternative:**

Solid waste disposal from oil and gas facilities – especially those utilizing hydraulic fracturing – represents an environmental impact in and of itself. Solid waste facilities, or “dirt farms”, have the potential to impact groundwater quality (due to lack of liners) and air quality (off-gassing of VOC’s and hydrocarbons) at disposal sites. Sometimes these impacts are severe enough that they have resulted in health complaints from those living nearby. Because the necessity to dispose of this waste is directly created by BLM and BIA’s leasing and planning processes, the Draft EIS should consider it a cumulative impact and should therefore study how solid waste disposal will impact humans and the environment in the places where these wastes are disposed of – some of which already occur within the planning area.

**The Draft EIS should investigate the potential for anthropogenic earthquakes from disposal wells:**

It is now commonly understood that disposal wells (and sometimes fracking operations themselves) can lead to dramatically increased seismicity in certain types of geologic settings. For example, in the Paradox Valley of southwestern Colorado, a well-documented series of hundreds of anthropogenic earthquakes include one event of 4.4 magnitude. Reports of damage have been reported. These quakes are associated with saline disposal wells in the valley (see: <http://www.hcn.org/issues/47.17/the-colorado-rivers-desalination-plant-is-on-its-last-legs>). BLM and BIA should not assume that this is not a possibility in the San Juan Basin, and the Draft EIS should provide a study, employing a third party seismologist familiar with anthropogenic earthquakes, to assess the potential for anthropogenic earthquakes using the most development-friendly alternative and the RFD to guide the study. The resulting “worst case scenario” should help commenters on the Draft EIS to consider seismicity as a potential impact.

**The Draft EIS should include maps showing the proliferation of roads under each alternative using the RFD:**

All stakeholders have a right to know how many miles of new roads could occur in a full-field development scenario under the RMP-A, as well as the increments of new road building for each alternative. While we realize that it is impossible to know exactly where roads may be built on leases for which no APD’s have yet been filed, BLM should make an honest effort to use the RFD, prior oil and gas road proliferation calculation formulas (from any region), and existing lease maps and potential new leases to determine where roads might be likely to be built, as well as estimates of how many miles of new roads would be built under each alternative. The RFD should have estimates of the amount of new wells, so BLM should use the best available data to attempt to estimate and map new areas where roads may be built. While not precise, this should help stakeholders attempting to envision what the future may bring. These maps and miles estimates should include categories both for existing oilfield access roads, new access roads, and a total of the two. These estimates should also include temporary roads alongside planned or potential pipelines.

**The Draft EIS should quantify the potential loss of lands with wilderness characteristics under each alternative:**

The San Juan Basin is becoming increasingly fragmented, and stakeholders have a right to know the potential permanent loss of lands that technically qualify for Wilderness designation under the Wilderness Act. Regardless of which lands the Farmington Field Office or the State Office may believe qualify for wilderness designation, BLM should list a subset of parcels that technically qualify under the Wilderness Act; roadless tracts greater than 5,000 acres.

**The Draft EIS should consider all cumulative impacts, including increases in emissions from gas and oil processing and distribution facilities that may not be on public lands:**

An increase in oil and gas production will inevitably lead to an increase in regional emissions from facilities that process and distribute gas from within the planning area, even if these emissions are not on federal lands. The Draft EIS should attempt to quantify the scale of such emissions increases regardless of land status. See above for examples of such facilities.

Thank you for the opportunity to submit scoping comments. Again, we ask that these comments be considered for all aspect of the Draft EIS, for any agency involved with it, and for the entire planning area.

Sincerely,

--Pete Dronkers, Earthworks

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