FACT SHEET

Tres Rios Field Office (BLM) Master Leasing Plan:

Oil and Gas Development Impacts and Potential Protections

Approximately 323,297 acres fall within the potential MLP boundary, 80,022 of which are federal oil and gas estate. Currently only 6,220 acres within the boundary have been leased and the recently finalized RMP closed 13,600 acres that fall within the two Wilderness Study Areas. This leaves 66,422 acres open for oil and gas leasing, including 34,281 that are managed under a waivable no surface occupancy stipulation in the RMP.

The land that falls within the potential MLP boundary abuts Mesa Verde National Park and Canyons of the Ancients National Monument. It also contains some of the finest mountain biking in southwest Colorado, an extensive network of hiking trails, essential habitat and migration corridors for numerous species, important cultural sites and prolific agricultural lands.

An MLP allows the BLM to conduct additional analysis to address the potential cumulative impacts of oil and gas development on an area where there is likely to be conflict over multiple uses or other resources and values. BLM can then develop stipulations that will be added to new leases and, importantly, also develop conditions of approval (COA) and best management practices (BMP) that will apply to permits to drill on new and existing leases. Given the numerous resources within this landscape, there is a lot of potential for conflict. **The impact additional oil and gas development in the area may have on these resources, which can and should be addressed in the MLP, is discussed in more detail below**:

1. <u>National Parks and Monuments</u>

   Potential Impacts:

   Mesa Verde National Park and Canyons of the Ancients National Monument lie right outside of the proposed MLP boundary. Development of the lands directly adjacent to these areas would result in increased truck traffic and associated noise pollution. Heavy usage of primarily dirt roads would lead to the creation of fugitive dust which can contribute to hazy skies and negatively impact respiratory health. The need to operate these facilities at all hours of the day means that lights would need to be installed at the facilities diminishing the quality of the night skies. Additionally, viewscapes from the park and monument would be significantly impaired by the presence of necessary oil and gas infrastructure including storage tanks, enclosed flares, separators and pump jacks. Development of these lands will ultimately result in a diminished visitor experience and a potential decrease in annual visitation rates.

   Deficiencies in Current RMP:

The current RMP leaves the lands directly adjacent to the park and monument open to oil and gas leasing without any stipulations on development to specifically protect the park's values, including its viewshed, soundscape and night skies. For example, in the RMP, the BLM designated certain lands adjacent to the national park as VRM Class I, a rating reserved for the most scenic lands managed by BLM and where "the objective . . . is to preserve the existing character of the landscape" and "[t]he level of change to the characteristic landscape should be very low. . . ."; yet, BLM opened those lands to leasing in the RMP and failed to require measures, such as a no-surface occupancy stipulation, that would prevent future drilling and other harmful impacts to the park. Additionally, BLM does not provide any specific criteria for the waiver, exception and modification of any stipulations that have been included in the RMP for mineral development, such as requiring consultation with the National Park Service before stipulations are waived, etc. Instead BLM uses their general exception, waiver and modification language and final approval is left to the discretion of the Authorized Officer.

What the MLP can do:
An MLP provides BLM with the opportunity to develop more specific lease stipulations for the lands adjacent to Mesa Verde and Canyons of the Ancients, where conflict is likely to occur. It also provides an opportunity to develop conditions of approval (COA) and best management practices (BMP) that will apply to permits to drill on new and existing leases. Specific stipulations would include those to protect night skies, viewsheds and soundscapes in the parks. Similar stipulations have been proposed in other MLPs, including most recently being incorporated in the Dinosaur Trail MLP and in the draft Moab MLP. Additionally, BLM can include more specific exemption, modification and waiver criteria to ensure the protections established by the stipulations achieve the desired outcome. Finally, during the MLP process, BLM can work with the National Park Service on establishing "key observation points" within Mesa Verde National Park and preparing a visual resource analysis for the park, which can be used to inform the development of stipulations, COAs and BMPs for the MLP.

2. <u>Recreation</u>

Potential Impacts:
The MLP area is home to some of the best mountain biking in southwest Colorado. Phil's World, containing 26.8 miles of single-track is ranked No.1 in the Mesa Verde area by MTB Project. Additionally, there are an abundance of opportunities for hiking especially around the towns of Cortez, Mancos and Dolores. Oil and gas development could result in the closure or rerouting of existing hiking and biking trails. Additional development would result in the construction of new roads increasing truck traffic in areas that were once quiet and degrade the overall user experience on any nearby trails due to increased, odors, noise and viewshed impairment.

Deficiencies in the Current RMP:
Although the current RMP includes Phil's World within its Cortez SRMA as part of the "Montezuma Triangle" the lands adjacent to this area as well as other lands open to mountain

biking and hiking, are open to oil and gas leasing. Again, even where stipulations do exist, BLM does not provide any specific criteria for approval of a waiver, exception or modification. Instead BLM uses their general exception, waiver and modification language and final approval is left to the discretion of the Authorized Officer.

What the MLP can do:
The MLP can help to ensure that existing hiking and biking areas, as well as the adjacent lands, are protected from the impacts of future energy development. The MLP process will allow the public to identify important areas and areas of potential conflict and allow BLM to craft more specific stipulations that protect the trail networks as well as the user experience. These stipulations could include closing the lands to development, prohibiting surface occupancy or establishing specific surface use restrictions; similar protections are already being incorporated in the Moab MLP. The MLP can also establish more specific exemption, modification and waiver criteria to ensure the protections established by the stipulations achieve the desired outcome. The Montezuma County Commissioners have proposed utilizing 1041 powers to protect Phil's World from future energy development. However, Colorado state law granting local governments the authority to regulate on federal lands is limited to regulating environmental impacts of private use of public lands; a county cannot dictate the use of federal public lands. Therefore, while the County's efforts can be supportive and show the importance of the area to the local community and economy, protective measures affecting oil and gas leases would have to come from a federal planning process-in this case the MLP-in order to adequately protect Phil's World. An MLP would also allow BLM to develop additional COAs and BMPs that would apply to permits to drill on new and existing leases around important recreation areas.

3. <u>Wildlife</u>

Potential Impacts:
Oil and gas development will have a significant impact on vital wildlife migration corridors and habitat contained within the MLP boundary. New road development and pipeline infrastructure leads to habitat fragmentation and can prohibit some species from using their traditional migration paths. Noise and increased human presence can displace species from their historic range or minimize the size of it. Limiting the range of certain species in particular larger ungulate can result in over-grazing of an area, further degrading the land. All of this places threatened, endangered and other special status species at even greater risk. It should be noted that development will also impact soil and vegetation in the immediate area and can directly contribute to habitat loss of at-risk species.

Deficiencies in the Current RMP:
Although the current RMP does provide protective stipulations for a variety of wildlife in the planning area, once again, BLM has not created any specific waiver, modification or exemption criteria for the NSO, CSU or TL stipulations, even though the Colorado Department of Natural Resources specifically protested the RMP because the plan lacked such criteria. Instead BLM relies on the general language and final approval is left to the discretion of the Authorized

Officer. Additionally, BLM did not evaluate in detail any phased leasing or phased/clustered development alternatives for the MLP area as a means of managing and limiting impacts on wildlife, in spite of repeated requests from Colorado Parks & Wildlife and others. Finally, CPW recently purchased a conservation easement to enhance habitat and hunting access on split-estate lands in western La Plata County on which BLM proposed leases in 2013. Although BLM deferred those leases in response to CPW's concerns that those "values would be compromised by leasing and development", the RMP opened those lands to leasing and surface-disturbing activities.

What the MLP can do:
The MLP will allow BLM to more specifically identify important habitat and migration corridors and create detailed exemption modification and waiver criteria to ensure that the objectives of the wildlife stipulations are being achieved. The MLP also provides BLM with the opportunity to thoroughly assess cumulative impacts and effectiveness of the existing RMP mitigation measures for sage grouse as well as other wildlife – something they failed to do in the RMP.

4. Cultural Resources

Potential Impacts:
There are important cultural resources in Mesa Verde National Park and Canyons of the Ancients National Monument. In addition, areas outside Mesa Verde National Park, like the proposed Anasazi Culture Area of Critical Environmental Concern (ACEC), also contain significant archeological, religious and cultural resources. An increased network of roads can make previously hard-to-access sites more accessible leading to increased vandalism or theft. In fact, this has been such an issue that BLM completed "A Survey of Vandalism to Archeological Resources" in 1981 specifically looking at Southwestern Colorado. This study found that oil and gas drilling access roads account for approximately 48% of access to the sites in the study area and that the extensive existing road network is rapidly expanding as development accelerates making it easier for artifact hunters and the like to access these sites. Additionally, significant cultural or spiritual sites may be impacted by the associated noise and light pollution of oil and gas development, again degrading what was once a unique experience.

Deficiencies in the Current RMP:
While BLM found that the proposed Anasazi Culture ACEC deserved protection, there aren't any protections in place for these resources. Additionally, the RMP does not provide any specific criteria for exceptions, modifications and waivers. Although the RMP identifies specific cultural sites and resources in the CSU and NSO stipulations, BLM relies on their general exception, modification and waiver language and final approval is left to the discretion of the Authorized Officer. Further, while the Forest Service adopted a lease stipulation that recognizes and attempts to avoid the impacts of oil and gas development on the viewshed, soundscape and night skies of Chimney Rock National Monument – actually prohibiting surface occupancy within the "[m]apped area of the Chimney Rock viewshed and night sky horizon, and within auditory

range of the interpreted archaeological area"—BLM did not consider similar measures for Mesa Verde National Park or Canyons of the Ancients National Monument.

What the MLP can do:
The MLP will allow BLM, in consultation with interested pueblos and tribes, to look at additional protections that might be needed to limit the direct and indirect impacts of development on areas like the proposed Anasazi Cultural ACEC and create detailed exemption, modification and waiver criteria to ensure that the objectives of the cultural resource stipulations are being achieved. BLM could also take this opportunity to develop new COAs and BMPs that would apply to permits to drill on new as well as existing leases. Finally, BLM can evaluate new measures to protect the viewshed, night skies and soundscape of Mesa Verde National Park and Canyons of the Ancients National Monument.

5. Air Quality

Potential Impacts:
Air quality is significantly impacted by oil and gas development both on a local and global scale. At the local level development will result in an increase of hazardous air pollutants (HAPs), such as benzene and n-hexane; known carcinogens. There is limited information on long-term exposure limits and impacts but the hazards associated with moderate exposure over the short term are well documented and significant. Leaking and venting associated with well production facilities also leads to the release of volatile organic compounds (VOCs), a criteria pollutant regulated by EPA that contributes to the formation of ground level ozone. Ground level ozone is a major component of urban smog and negatively impacts respiratory health, as well as the health of sensitive flora and fauna in the TRFO area. Portions of Colorado are already not in attainment with EPA's national ambient air quality standards (NAQQS) for ozone. Additional development will only contribute to this issue. While the area in question is in attainment with the current standard of 75 parts per billion (ppb), EPA recently proposed reducing the standards to 70ppb meaning that it would be even easier for new areas to fall into non-attainment. Mesa Verde National Park has registered above these recommended levels in 3 of the last 10 years, and has hovered just below this threshold in all other years. In sum, air quality will be degraded and we will see an increase in smog, exposure to known carcinogens and respiratory issues, and compromised ecosystem health.

Visibility in the region would also be significantly impacted. This poses a unique threat to Mesa Verde National Park where distant vistas are an important aspect of the visitor experience. Under natural conditions, visibility from Mesa Verde should be approximately 220 miles; but current conditions average only 174 miles. BLM data indicate that under a "medium" development scenario, Mesa Verde National Park could expect 265 days of significantly impaired visibility and 64 days of greatly impaired visibility due to increased haze related to federal oil, gas and mining in the region. Under a "high" development scenario, still conceivable

within the parameters of the RMP, the number of impacted days could increase to 312 and 105, respectively.

On a larger scale, the leaking and venting of methane - which is 34 times more potent than carbon dioxide as a greenhouse gas in the short-term – will contribute to the continued increase in global atmospheric greenhouse gas concentrations. The Four Corners region has been identified as having elevated methane levels, and additional oil and gas development will contribute to this concern.

Deficiencies in the Current RMP:

While the RMP does specify air quality mitigation measures and set general objectives related to air quality and climate conditions, these measures and goals are neither comprehensive nor sufficiently enforceable to protect air quality in the region. Under the BLM's Colorado Air Resources Protocol (CARP), adopted in the RMP, discretion to enforce air quality mitigation lies with the permitting office, and exclusions or exemptions from mitigation are an option. In general air quality issues are cumulative in nature. However, under the RMP, BLM could approve exceptions from mitigation requirements on a per-well basis, reasoning that the emissions from a single well would not significantly impact air quality thresholds.

What the MLP can do:
With an MLP, BLM can craft specific, enforceable air quality stipulations as well as BMPs and COAs related to oil and gas leasing. This has been done by other field offices in the Grand Junction RMP/Shale Ridges MLP as well as the draft Moab MLP. An MLP would also allow BLM to develop specific lease terms for new leases, as well as COAs on drilling permits and other BMPs for existing leases that will protect air quality. In addition, an MLP can require project-level emissions inventory or mitigation plans prior to permit approval, as was included in the Dinosaur Trails MLP in the White River Field Office.

5. <u>Water Quality</u>
Potential Impacts:
Oil and gas development has the potential to affect above and below ground water sources. Water is critical in the drilling and well completion process. It takes millions of gallons of fresh water to drill a well. That water is injected into the well bore while drilling, and a substantial percentage returns to the surface after the well is completed. This water is contaminated with salts, other minerals, heavy metals, fracking fluids (proppant) and entrained hydrocarbons. The water must be stored and removed for treatment. This contaminated water continues to surface throughout the life of the well as a byproduct of the oil and/or gas that is being produced. If not properly contained the "produced water" can spill and ruin adjacent land as well as contaminate sub-surface groundwater. An oil spill can have just as devastating of an effect on local watersheds if it reaches nearby streams or rivers. Although rare, there is also the

potential for groundwater contamination if the casing on a well ruptures or fails. (Typically the actual fracturing of the well occurs well below the formation where aquifers exist and the hydraulic fracturing itself is not directly linked to groundwater contamination).

Deficiencies in the Current RMP:
The current RMP has fairly robust NSO and CSU stipulations for various water resources. However, the stipulations are extremely general in nature and BLM rarely identifies a particular water resource of concern; for instance a specific river, creek or wetland. More alarming however, is that BLM has not created any specific waiver, modification or exemption criteria for the NSO and CSU stipulations. Instead BLM relies on the general language and final approval is left to the discretion of the Authorized Officer. This puts all of the water resources within the MLP boundary at risk. Additionally, BLM has acknowledged that, "even with the implementation of BMPs", oil and gas development in western La Plata County is "still likely to affect soil and water conditions" and that, in the Hesperus area, the "hazard of erosion and potential for surface runoff . . . is high to severe and approximately 36% of the slopes are >40%." According the BLM, given those fragile watershed and soil conditions, development in this area "would degrade water quality conditions potentially to the point of not meeting water quality standards" and "could also increase the risk of slope failure."

What the MLP can do:
An MLP would allow BLM and the public to jointly identify specific water resources in the defined MLP area and create stipulations, BMPs and COAs tailored for those areas most at risk. Additionally, the MLP can establish more specific exemption, modification and waiver criteria to ensure the protections established by the stipulations achieve the desired outcome. The MLP would also allow BLM to develop additional BMPs and COAs for oil and gas development to help prevent produced water spills and/or well casing failures.

6. <u>Agriculture</u>
Potential Impacts:
The greatest impact oil and gas development may have on agriculture has to do with the potential for a produced water spill outlined above. The extremely saline water is also contaminated with hydrocarbons and other heavy metals that can render once productive soil useless and prevent crops from taking root. Oil and gas development also utilizes an incredible amount fresh water potentially impacting the amount available for irrigation (dependent on existing rights). On any split-estate the owner of the surface rights and the lessee of the federal mineral rights must come to terms on surface use issues; however this can and often does, result in a net loss of acreage available for agriculture if the current surface right owner uses that land for crops.
Additionally, the stigma of producing crops for human consumption near oil and gas development may deter consumers from purchasing that food. This could especially impact those involved in organic farming.

Deficiencies in the Current RMP:
The current RMP does not explicitly address potential conflicts with agricultural resources and does not provide any specific protective stipulations. Traditionally, agriculture is not one of the resource values identified in an MLP. The majority of the concerns associated with the intersection of oil and gas development and agriculture are typically addressed through stipulations for other resource values upon with agriculture depends. As stated above, important resources like air and water are not adequately protected under the current RMP. They lack specific stipulations and where stipulations do exist, they are subject to vaguely defined exception, modification and waiver criteria.

What the MLP can do:
The MLP can improve protections for agriculture by strengthening the exception, modification and waiver criteria and by establishing more protective stipulations, BMPs and COAs under other relevant resource values. Additionally, the MLP could provide an opportunity to create specific lease stipulations and permit conditions to protect local agriculture.

7. <u>Split-Estate</u>

Potential Impacts:
Split-estate property owners are those who possess the rights to the surface but not to the sub-surface mineral estate. When sub-surface mineral rights are owned by the federal government they can be leased to oil and gas companies for future development regardless of who owns the surface rights. While companies are instructed to pursue good-faith efforts to reach an acceptable surface use agreement with the surface rights owner, the lessee of the mineral rights is always allowed to develop those minerals. In some instances this can result in unwanted infrastructure on private lands. This can expose the resident to increased air and light pollution as well as noise. If surface use is prohibited by a landowner the company can still develop those minerals. Typically this is done by drilling the well beyond the property line (on the nearest federal land) and using horizontal or directional drilling techniques to access the minerals below the private property. Although the above-ground infrastructure is not on private property it can still be close enough to negatively impact the private owner.

Deficiencies in the Current RMP:
The current RMP fails to acknowledge any potential for conflict on split-estate leases and therefore does not establish any protective stipulations for split-estate owners.

What the MLP can do:
The MLP will allow BLM to look at this issue in more detail, in consultation with farmers, ranchers and other surface estate owners, and draft specific land use stipulations for areas where there is the potential for such conflict.

8. Community and Quality of Life

Potential Impacts:

If the local community values all of the resources discussed above, the impairment of any one of those resources will have a negative impact on the local community and the inhabitant's quality of life. The public health implications of degraded air and water quality are obvious and described in more detail above. Not as obvious may be the impact oil and gas development has on tourism and the local economy. People from all over are drawn to this area for its hiking, biking and proximity to Canyons of the Ancients and Mesa Verde. If those resources are impaired by oil and gas it may result in a loss of visitors and outside spending in the local community. Additionally, increased truck traffic can transform quiet streets into busy routes transforming the ambiance of a neighborhood.

The strain additional development place on community resources is also well documented. Large scale development can lead to an influx of people from outside of the community resulting in an increased demand for public services and housing. Many smaller towns are not equipped to deal with such an influx and this places an exceptional burden on the locality to provide services for the new population.

Finally, the presence of oil and gas facilities in and around residential areas can impact the inhabitants' viewshed and decrease property values.

Deficiencies in the Current RMP:

All of the deficiencies highlighted above can contribute to the degradation of the community and the community members' quality of life. In fact, when leasing was recently proposed in western La Plata County, the Colorado Department of Transportation requested the preparation of a formal "Traffic Impact Study" because of the potential impacts on local roads and providing safe access for the community.

What the MLP can do:

The MLP can help remedy the issues outlined by establishing more protective and site-specific stipulations, strengthening and more explicitly defining criteria for exception, modification and waiver approval, and providing an additional opportunity for community members to weigh in on how different resources will be protected and developed in their communities. This is an unbelievable opportunity to shape the way your federal lands are managed for the next 20 years.

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