

Jesse Juen  
U.S. Bureau of Land Management  
New Mexico State Office  
PO Box 27115  
Santa Fe, New Mexico 87502  
Fax: 505-954-2010

Date: August 15, 2014

Dear Director Juen:

My name is Konnie Andrews and my street address is 129 Elk Drive, Chama, NM 87520. I am protesting the BLM's offering of parcels 1 through 13 in the Santa Fe National Forest for lease on October 22, 2014 because I live in northern Rio Arriba County, just east of the Continental Divide, and this area is my backyard; I am concerned about water quantity and water quality as well as other environmental factors. The parcels under consideration are: NM-201410-001, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, and 015. I request that these parcels, all of which are east of the Continental Divide, be deferred for the same reasons that the other 22 parcels were deferred, as they are in the same geologic and geographic location.

My undergraduate degree was in geology and I worked for the Bureau of Land Management for several years as a geologist in the 1980s. On the basis of my experience and my understanding of the potential target formations for the hydraulic fracturing (fracking), I do not believe the 2003 Resource Management Plan (RMP) and Mancos Shale/Gallup formation RMPA/EIS alternatives adequately address the baseline situation and proposed action (shallow fracking). If the lease sale continues, BLM will be in violation of the National Environmental Policy Act (NEPA).

In addition, I am quite concerned about the impact of the proposed action on local water quantity and quality. In shale formations, fracking takes up to 5 million gallons of water per well (approximately 9 to 15 acre-feet). According to the U.S. Environmental Protection Agency (Hydraulic Fracturing Research Study, EPA/600/F-10/002 June 2010):

"Fracturing fluids can be up to 99% water. The volume of water needed for hydraulic fracturing varies by site and type of formation. . . two to five million gallons of water may be necessary to fracture one horizontal well in a shale formation. Water used for fracturing fluids is acquired from surface water or groundwater in the local area."

This amount of water cannot be supplied locally without a huge impact on surface and groundwater resources, thus the water will have to be trucked in. The Rio Chama Regional Water Plan ([http://www.ose.state.nm.us/isc\\_regional\\_plans14.html](http://www.ose.state.nm.us/isc_regional_plans14.html)), which was

Bureau of Land Management, New Mexico State Office  
August 15, 2014  
Page 2

approved by the NM Interstate Stream Commission in 2006, states that "ground water resources in the vicinity of these communities [Cebolla and Canjilon] are typically derived from the Quaternary terrace and alluvial deposits and the Cretaceous Mancos Shale" (p. 4-66). The report goes on to mention that the alluvial water sources are not reliable in times of drought (such as we are currently in), the well yields of the Mancos are typically low, and the Cebolla water system does not produce enough water to meet the needs of the community. In short, despite recent improvements in the local water supply system, there is simply insufficient quantity of groundwater in the area to supply potential drilling needs.

In addition, local surface water supply is not available for meeting potential drilling needs. Surface water use is severely limited by New Mexico's commitment to the Rio Grande Compact—"a substantial part of the 372,000 acre-feet per year that flows from the Rio Chama into the Rio Grande on average is 'owed' to Texas and not available for use in our region or even in New Mexico above Elephant Butte Reservoir" (Rio Chama Regional Water Plan, p. 4-80). According to the FAQ page of the NM Office of the State Engineer ([http://www.osc.state.nm.us/faq\\_index.html](http://www.osc.state.nm.us/faq_index.html)), drought conditions are likely to continue for the foreseeable future, which may require the implementation of "priority administration" of water rights. In short, development will impact the water supply of users in the Cebolla area, regardless of whether groundwater or surface water is used to supply the large amount of water needed. Trucking in water is an option, but the question remains about where this water would come from – and also brings up concerns about increased traffic on poorly developed roads, air pollution, and noise pollution—all of which will significantly impact residents and landowners and the latter two of which could also impact livestock and wildlife in the area.

Also, no matter how conscientious an operating company is, the potential for groundwater contamination from fracking is always present. According to the U.S. EPA:

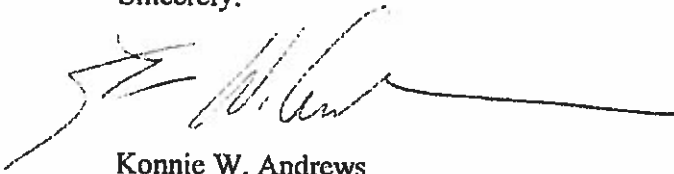
"Potential risks to surface and underground sources of drinking water might occur at various points in the hydraulic fracturing process. . . Contaminants of concern to drinking water include fracturing fluid chemicals and degradation products and naturally occurring materials in the geologic formation (e.g. metals, radionuclides) that are mobilized and brought to the surface during the hydraulic fracturing process. (Hydraulic Fracturing Research Study, EPA/600/F-10/002 June 2010).

Finally, although I do not live specifically in the Cebolla area, I do live on a dirt road and my foundation is dug into the Mancos shale formation. The Mancos soil is fragile, creates significant dust in dry spells, is very prone to "peanut butter" mud, and often shows significant cracking and fissures after rains. Heavy traffic from big rigs used in fracking will significantly damage the existing light-traffic roads in the Cebolla area and will create dust and road rutting that will be a nuisance to residents. Also, the soils in the area are very slow to recover from cross-country traffic and disturbances, which means that adequate reclamation will be slow and must be carefully mitigated and monitored.

Bureau of Land Management, New Mexico State Office  
August 15, 2014  
Page 3

In closing, I would like to note my opposition to the lease of the remaining 13 parcels in the Cebolla, NM area, as listed in my opening paragraph. Frankly, as a taxpayer, I think BLM will be spending more time and money on the leasing and oversight of these few parcels than the potential income is worth, particularly in light of the potential environmental and social impacts. A finding of No Significant Impact (FONSI) for the October 22, 2014 Oil and Gas Lease Sale is not adequately supported by the Environmental Assessment as it now stands.

Sincerely:



Konnie W. Andrews  
129 Elk Drive, Chama NM 87520  
Rio Arriba County, west of Chama off Highway 64/84  
[konnieandrews@gmail.com](mailto:konnieandrews@gmail.com), [kandrews@winrock.org](mailto:kandrews@winrock.org)