

December 11, 2012

Connie Clementson, Field Manager  
Bureau of Land Management  
Tres Rios Field Office,  
29211 Hwy. 184  
Dolores, CO 81323  
Attn: Oil and Gas Lease Sale

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

**Re: DOI-BLM-CO-S010-2012-0061  
Comments Regarding Tres Rios February 2013 Oil and Gas Lease  
Final EA**

Dear Ms. Clementson and Ms. Hankins:

Archuleta County hereby submits this protest letter concerning the Bureau of Land Management's lease offerings of two parcels (6401[SERIAL #: COC75910] and 6402 [SERIAL #: COC75911]) located in southern Archuleta County.

Archuleta County has a vested interest in the health, safety and welfare of its citizens and in the protection and appropriate utilization of lands and natural resources within its jurisdiction.

It has been brought to the County's attention that certain geologic conditions exist in the area of the proposed leases and these conditions could significantly jeopardize water resources and human health if hydraulic fracturing were to occur.

The County recognizes that until the BLM receives an actual application for permit to drill (APD), the specific formations being targeted for exploration and development and

the technologies likely to be applied on these particular parcels will not have been identified. However, as indicated in the San Juan Public Lands draft resource management plan, (p. 3.261 and 3.263), the primary reservoirs and geology of the area are well understood:

“Cretaceous rocks in the southern and southwestern part of the San Juan Sag generally dip northeasterly away from the Archuleta Anticlinorium that separates the San Juan Sag from the San Juan Basin. The primary reservoirs are the Dakota and possible fractured shale of the Mancos. The Mesa Verde is also a potential objective in the northeastern part of the SJPL in the San Juan Sag area. The Dakota and fractured Mancos Shale potential is considered to be high in this part of the SJPL where Cretaceous outcrops and subcrops are not covered by thick volcanic flows.”

While the primary reservoirs and geology are outlined in the draft RMP, neither the plan nor the EA attempts to evaluate the potential environmental impacts associated with various means of extracting of these resources. Instead, the FONSI for the Tres Rios Lease Sale states:

“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. (P.2)

The draft RMP does, however, note that several new technologies are emerging, including hydraulic fracturing, but dismisses further consideration of these technologies:

“If horizontal drilling should prove economically and technically feasible in the future, the next advancement in horizontal-well technology could be drilling multi-laterals or hydraulic fracturing horizontal wells.” (p.3.271)

While the FONSI states that the impacts of oil and gas leasing are well known, the draft RMP acknowledges but does not explore the potential environmental impacts of emerging technologies, dismissing them as still experimental. In fact, hydraulic fracturing of oil and gas wells is common practice today and would be the anticipated method employed in the extraction of oil from the Mancos shale. Therefore, the conclusion of the FONSI, that the impacts are well known, is inconsistent with the draft RMP which anticipates but does not analyze the potential impacts of hydraulic fracturing.

The bottom line is that the technologies employed in the development of oil and gas resources have changed and the potential impacts of these technologies, particularly hydraulic fracturing, have not been considered in any past or current EIS or resource management plan for the Tres Rios lease sale.

To suggest that hydraulic fracturing is not attended by a number of potential impacts to water and human health would willfully ignore the rapidly mounting body of scientific evidence to the contrary. Most significantly, in the matter of parcels 6401 and 6402, hydraulic fracturing may pose greatly increased risks at shallow depths.

As explicitly noted in the Background section (p7&8) of the "REVIEW OF HYDRAULIC FRACTURING TECHNOLOGY AND PRACTICES" Hearing before the COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY HOUSE OF REPRESENTATIVES, ONE HUNDRED TWELFTH CONGRESS, MAY 11,2011  
Serial No. 112-17:

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

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

Based on research provided by concerned residents, the depths of the delineated fields in the Chromo area range from 500' – 1100'. This is considerably shallower than fields in other locations. The area is also known for seismic activity, multiple faults, hot springs and old water, oil and gas wells, all of which may serve as conduits for groundwater contamination.

At the very minimum, a comprehensive assessment of the potential environmental risks of hydraulic fracturing within this particular geology and known reservoirs is in order and is conspicuously lacking in the outdated RMP under which these parcels are being leased, the draft RMP still in development and the EA for the Tres Rios lease sale.

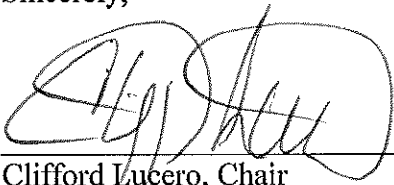
To assign investigation of these considerations to the ADP stage, particularly without any reference or guidance from an EIS or EA, is to place an unnecessary and unreasonable burden on individual citizens and the county to monitor and respond to each and every individual permit application to insure that this issue is being adequately addressed.

Given recent findings and ongoing investigations by the EPA<sup>1</sup>, an EIS-level assessment needs to be undertaken which considers the known geology and reservoirs for any given field and assigns stipulations concerning extraction methods based on the best available information. If, for instance, delineated fields are not insulated by vertically impermeable zones or of sufficient vertical distance from groundwater, stipulations concerning hydraulic fracturing or other methods of exploration and extraction could be assigned prior to leasing, just as stipulations designed to protect wildlife and other values are presently assigned.

Until adequate analysis of the potential environmental impacts of hydraulic fracturing in the Chromo area is complete, Archuleta County requests the withdrawal of parcels 6401 and 6402 from the February 2013 lease sale. The County further requests that no further lease offerings be made until such analysis is complete.

Thank you for your consideration and for helping us to protect the public and environmental health of our communities.

Sincerely,

A handwritten signature in black ink, appearing to read 'Cliff Lucero', written over a horizontal line.

Clifford Lucero, Chair  
Archuleta County Board of Commissioners

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<sup>1</sup> United States Environmental Protection Agency, Draft Investigation of Ground Water Contamination near Pavillion, Wyoming. December 2011.