

5 March 2009**MEMORANDUM****Re: Proposed Amendment to the Mineral Leasing Act****Submitted by:–**

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The Issue: Federal law creates an unnecessary and environmentally damaging barrier to the capture and productive use of the methane resources that are associated with federal coal deposits. A simple amendment to the Mineral Leasing Act would help to correct this problem, and ought to be considered in any forthcoming energy legislation.

The Problem: Coal mining – especially underground coal mining – releases about 10% of all anthropogenic sources of methane (CH₄) in the United States.¹ Methane is a greenhouse gas with more than 20 times the heat-trapping effect as carbon dioxide (CO₂) over a 100 year period. Coal mine methane (CMM) is also a serious hazard to underground miners and for that reason, methane from such mines has historically been vented into the atmosphere.

In recent years, mining companies have begun to appreciate the economic value of capturing and selling the methane that was otherwise being vented. In recognition of the environmental benefits associated with CMM capture and use, the Environmental Protection Agency has established the Coalbed Methane Outreach Program (CMOP). CMOP is a voluntary program designed to reduce methane emissions from coal mining activities, by removing barriers to CMM recovery and promoting its profitable use.²

The law governing federal coal leasing is a barrier to CMM recovery. Although the CMM is essentially embedded in the coal resources that a federal coal lessee develops, the United States Supreme Court has interpreted federal law to separate ownership of coal from ownership of the methane gas that is embedded in the coal. As a result, lessees of federal coal do not own the gas,

* This memorandum expresses the opinion of the authors and not necessarily that of their respective institutions.

¹ *Identifying Opportunities for Methane Recovery at U.S. Coal Mines*, EPA 430-K-04-003, 1-1 (2005). About 90% of fugitive CH₄ emissions from the coal sector come from underground mining. Deep coal deposits have more CH₄ because of greater overburden pressure. *Global Mitigation of Non-CO₂ Greenhouse Gases*, EPA 430-R-06-005 (June, 2006), at II-1.

<http://www.epa.gov/climatechange/economics/downloads/GlobalMitigationFullReport.pdf>

² <http://www.epa.gov/cmop/>. If the methane cannot be captured for use, flaring it would be far preferable to venting the gas, since burning methane converts it to CO₂. While flaring methane is common at mines in many countries around the world, no U.S. mine currently flares methane.

and the gas can be separately sold and developed. *Amoco Production Co. v. Southern Ute Indian Tribe*, 526 U.S. 865 (1999). This decision raises significant practical questions about how best to order development to maximize recovery of both the coal and the gas resources, as well as important legal questions about the coal developer's potential liability to the gas owner for any releases of methane that might have been captured by the gas owner, had the coal not been developed first.

On most public lands disposed of after 1916, the federal government reserved all of the minerals, including the coal and the gas. Even on lands where the U.S. owns both the coal and the gas, the Mineral Leasing Act (MLA) thwarts recovery and development of the coal and gas resources because the coal and the gas resources are subject to separate competitive leasing provisions. *Compare* 30 U.S.C. §§201 and 226. Moreover, under *Southern Ute*, a lessee of federal coal does not own or have the right to develop the gas. Conceivably the federal government might lease the gas in a separate competitive leasing process, but a gas lease held by a separate entity could interfere with the operation of the coal lease, including the protection of coal miners in an underground mining situation. Further, the Interior Board of Land Appeals (IBLA) recently held that methane gas from a coal mine is not subject to leasing under the MLA because coal mine methane is not a "deposit" of oil or gas for purposes of the MLA. *Vessel Coal Gas, Inc.*, 175 IBLA 8, 25 (2008). While some commentators have suggested that coal lessees might simply capture gas and sell it as an incident to coal mining, the legal risks are a strong disincentive to such development by the mining company. *See* L. James Lyman, *Coalbed Methane: Crafting a Right to Sell From an Obligation to Vent*, 44 Colo. L. Rev. 393 (2007); Jeff Lewin, et al., *Unlocking the Fire: A Proposal for Judicial or Legislative Determination of the Ownership of Coalbed Methane*, 94 W. Va. L. Rev. 563 (1992).

Case Study – The West Elk Mine: The federal government recently confronted the problem of methane venting at the West Elk Mine on national forest land near Somerset, Colorado.³ Historic methane releases from the mine averaged 13-17 million cubic feet per day. When mining begins on a new coal seam, methane releases will drop to about 7 million cubic feet per day. In heat-trapping capacity, this is still the equivalent of nearly 1 million metric tons (MMT) of CO₂ per year, or about the amount emitted by a 150 MW coal-fired power plant.⁴ It is also enough methane to heat more than 48,000 homes each year.⁵ Methane releases from this single mine are equal to 2.66% of the total greenhouse gas emissions from all electric utility plants in the State of Colorado.⁶

Several environmental groups have challenged the Forest Service decision to approve new methane gas venting at the West Elk Mine in court. Apparently in response, the BLM (which

³ Final EIS: Deer Creek Shaft and E Seam Methane Drainage Wells Project, August 2007, available at, http://www.fs.fed.us/r2/gmug/policy/minerals/deer_creek/Deer_Ck_Shaft_and_ESeam_MDW_Project_FEISr2.pdf.

⁴ . One million cubic feet of methane is equal to 404.5 metric tons of CO₂ equivalent greenhouse gas. Seven million cubic feet of gas per day equals 1,033,497 MMT of CO₂ per year.

⁵ This figure is based upon an EPA estimates that the average home uses 52,429 cubic feet of gas per year. <http://www.epa.gov/cleanenergy/energy-resources/refs.html>. See also, *Passing Gas: Western States Struggle to Capture Methane Emissions from Coal Mines*, High Country News, (claiming that the gas vented at West Elk is enough to heat 34,000 homes per year) (Nov. 10, 2008), available at, <http://www.hcn.org/issues/40.20/passing-gas>.

⁶ This figure is based on data from the Energy Information Agency showing 37,590,422 MMT of CO₂ emissions from all electric utilities in Colorado in 2006. http://tonto.eia.doe.gov/state/SEP_MoreEnviron.cfm.

manages the lease) has approved an addendum to the coal lease that authorizes the lessee “to drill for, extract, remove, develop, produce, and capture for use or sale any or all of the coal mine methane” from the leased lands. It further provides, however, that the lessee is not required to capture the CMM if it is not economically feasible to do so, “independent of the activities related to mining coal.” Finally, the addendum imposes a 12.5% royalty on CMM that is captured for use or sale, except that no royalty is imposed for methane use that benefits mineral extraction at the West Elk mine site.

While the BLM deserves credit for trying to address this issue, its resolution raises two significant problems. First, the government does not appear to have any legal authority to lease gas outside the scope of the Mineral Leasing Act, and IBLA’s *Vessel Coal Gas* decision holds that CMM is not subject to leasing under the MLA. Second, the decision to allow the lessee to continue to vent CMM unless it is economically feasible *independent of the mining operation* makes no sense. No other environmental restriction on mining is required to meet such an economic threshold and none should be imposed for CMM capture, especially given the significance of the environmental problem caused by venting.

The Solution: Given the significant greenhouse gas implications of methane venting at coal mines, federal law should actively promote a policy that maximizes recovery of CMM in conjunction with mining activities. This can readily be accomplished by amending the Mineral Leasing Act to – (1) clarify the ownership issue by including in every federal coal lease any embedded gas that is owned by the federal government; and (2) require development of the CMM at federal coal leases whenever it is economically and technically practical to do so.⁷ The following language would do that, by adding a subsection (b) to 30 U.S.C. §201, as follows:

(b) It is the policy of the federal government to maximize the recovery of federal coal resources and any coal mine methane associated with that coal, in a manner that minimizes the contribution of greenhouse gases to the environment, while insuring the protection of mine workers. Accordingly, and notwithstanding any other provision of law, any federal coal lease or any modification of an existing lease issued under this section shall include requirements consistent with the following –

- (1) The coal mine methane that might otherwise be released into the environment in conjunction with mining activities shall be deemed to be included within the scope of the coal lease whenever the government owns both the coal and gas resources.
- (2) Any coal lease issued on lands where the government owns both the coal and gas resources shall include a requirement that the lessee recover the coal mine methane associated with the leased coal resources to the maximum feasible extent, taking into account the economics of the entire mining and methane capture operation.
- (3) As part of the process of leasing federal coal that contemplates underground mining, the Secretary shall require an economic analysis to determine the extent to which coal mine methane can be economically captured and either put to productive use or flared. The

⁷ The economic assessment should include the value of greenhouse gas credits that might be available on a voluntary market like the Chicago Climate Exchange (<http://www.chicagoclimatex.com/>), as well as the potentially higher value of credits associated with proposed federal climate legislation. The prospects that methane emissions at coal mines might be part of the cap in any cap and trade program should also be considered since this will likely impose significant costs on the mining operation.

cost of the analysis shall be paid by the lessee and shall be carried out by a person chosen by the Secretary with expertise on the capture of coal mine methane, but without financial or other ties to the lessee.

- (4) Whenever the Secretary determines on the record that recovery or flaring of coal mine methane is not, economically feasible pursuant to the standard in subsection (b)(2), or cannot be carried out in a manner that assures the protection of mine workers, coal mining on any such lease issued under this section may proceed without requiring recovery or flaring of the coal mine methane.
- (5) Any federal coal lease that involves federally-owned coal and non-federally owned gas resources, shall require the coal operator to make reasonable efforts to negotiate an arrangement with the gas owner in advance of conducting any mining operations that will allow the parties to maximize the recovery of the coal and any coal mine methane, and minimize the contribution of greenhouse gases to the environment. If the coal lessee and gas owner are unable to arrange for the joint development of coal and coal mine methane, and if the joint development of these resources is economically feasible, the Secretary is authorized to seek a court order to allow coal mining and methane capture to proceed subject to a reasonable division of the proceeds from the sale of the coal and methane resources.
- (6) Any assessment of fair market value required by subsection (a)(1) of this section, shall include the value of any federal coal mine methane associated with the coal resources and subject to capture and use under this section.
- (7) Any federal coal mine methane resources that are captured and used or sold pursuant to a federal coal lease shall be subject to a standard royalty of not less than 12.5%.