Donovan, E.P., B.L. Donovan, P. Chowdhary and D.J. Paustenbach. Possible Risks Associated with Coalbed Methane-Produced Water. Presented at the Society of Environmental Toxicology and Chemistry (SETAC) North America 31st Annual Meeting; Portland OR. Monday November 8th, 2010, Exhibit Hall.

Development of coalbed methane (CBM) resources began in the mid-1980s. With advancements in technology, development and production of CBM has been increasing substantially since the mid-1990s. The establishment of various CBM sites within the United States has sparked concern amongst interest groups and the EPA regarding potential risks to human and ecological health. CBM sites are also being developed in other parts of the world, including Canada and Australia. Because of the threat of water shortages in many parts of the world, the water that results from CBM mining could potentially be recycled for drinking water and irrigation. The current major concerns regarding the use of CBM water include: 1) the effect of the increased salinity of the produced water on surrounding plants and animals, 2) the high sodium adsorption ratio (SAR), and 3) potential contamination of CBM water and underground sources of drinking water. A review was conducted to analyze current available information from scientific literature and government documents. Based on the findings, in order to use CBM-produced water in a beneficial manner, it is recommended that: 1) the use of selected hazardous chemicals in fracturing fluid are limited, 2) treatment technologies are used to desalinate and remove any potential contaminants from the water, and 3) monitoring is performed requently.