

## DRILLING FLUIDS CHOSEN TO ENHANCE THE DEVELOPMENT OF THE MARCELLUS SHALE

**Kayli Clements\***

**Tom Heinz**

M-I SWACO

5950 North Course Dr.

Houston, TX 77072

Voice: 281-561-1446

Fax: 281-561-1372

[kclements@miswaco.com](mailto:kclements@miswaco.com)

The Marcellus Shale has been slated to be the most productive shale play for natural gas development in the U.S. over the next several years. Technically this shale may be quite similar to that of the Barnett, Fayetteville or even Haynesville shale, but unlike these the Marcellus is situated in a precarious location for development. Mining operations in the area have exposed the land to harsh conditions and unnerved the public towards natural resource development of other kinds. Environmental and social implications of E&P operations are at the forefront, the shale underscores an area that is covered 60% with forest, has 32,000 miles of waterways and a dense population of over 4.2 million people. Current disposal options include burial onsite or trucking to a landfill. These options are typically appropriate for water based mud cuttings like those in Pennsylvania drilling operations, but new operational demands and pre-existing obstacles inherent to the shale may make it necessary to alter regulations surrounding disposal. The challenge is to develop drilling fluids solutions that act to mitigate environmental impacts, protect groundwater, return the land to its appropriate usage and reduce habitat fragmentation. This paper will address the issues with current fluids in the area and how those challenges are addressed by changes in fluid formulation and waste management techniques that are tailored to the Marcellus Shale locations.

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