Challenges in the Measurement of Dissolved Gases in Water Samples from Shale Plays

Kesavalu M. Bagawandoss (dr.doss@testamericainc.com)
(TestAmerica Laboratories Inc., Nashville, TN, USA)

Background/Objectives. Measurement of dissolved gases is a key component of any pre-drill activity in shale plays. This is necessary to establish baseline conditions prior to drilling to discern liabilities. The dissolved gas method currently utilized by most laboratories in the United States is a guidance method – RSK-175, published by the US EPA RSKERL Laboratory, Ada, Oklahoma. There are no promulgated methods approved by the US EPA. Various studies are under way to address variations in techniques among laboratories which would yield a method of analysis to be submitted to the US EPA for approval.

Approach/Activities. This presentation will provide evaluations of data from three laboratories based on spikes and blanks over an extended period of time. All samples were analyzed utilizing the RSK-175 method. The variations in analyte standards preparation methods will be elucidated and compared to the state of standards in the industry.

Results/Lessons Learned. The data will show consistency in each of the labs independently but outline the variations in the methods between laboratories. Comparisons will be made with published studies in the industry.