

Fenceline Measurements of Speciated VOCs Using Passive Sorbent Tubes Deployed Around Oil and Natural Gas Production Pads in Colorado and Texas

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A U.S. EPA team, consisting of the Office of Research and Development and Region 6 (Dallas) and Region 8 (Denver), deployed passive-diffusive sorbent tubes as part of a method evaluation study around one oil and natural gas production pad in both the Barnett Shale Basin in Texas and the Denver-Julesburg Basin in Colorado to measure speciated volatile organic compounds (VOCs). EPA Draft Methods 325A and 325B, which focus on low-cost measurement and analysis of fenceline concentrations of benzene near refineries using passive sorbent tubes, were adapted to production pads in this study and include eight additional speciated VOCs. Sample collection began in fall 2013 and continued through summer 2014, which consisted of 14-day sorbent tube exposures at multiple locations around each production pad. Rural production pad measurements will also be compared to urban-scale 14-day passive measurements collected in Downtown Denver as part of this evaluation. Seasonal impacts on VOC concentrations as well as sorbent tube performance from a number of duplicate samples and blanks that were deployed alongside primary samples will be assessed. Specifics of each active production pad such as number of wells, number of tanks, and annual production rate will also be presented in poster format during the June 2015 AWMA Annual Conference.