MODELING EMISSIONS FROM PRODUCED WATER PONDS

For several years we have measured emissions of VOCs from produced water ponds in Utah and Wyoming, using different measurement techniques (flux chambers and inverse modeling based on OP-FTIR and canister sampling). We have assembled an extensive dataset including results from about 40 different ponds at a dozen different wastewater facilities. Historically, these ponds were not included in emissions estimates because of the absence of measurements, but our results indicate that VOC emissions from these ponds are a significant fraction of total emissions. A number of semi-empirical models have been developed to treat emissions from open-air wastewater impoundments or the transport of gases across the air-ocean boundary. We will also report on how well these models represent our data.