The results are graphed as traditional isotherm tests, e.g., mass pollutant sorbed per unit mass of media versus equilibrium water concentration after sufficient time for pollutant retention to occur. Maximum capacity can be calculated in two ways with this data. First, a traditional isotherm equation can be used to fit the data. The Freundlich isotherm is one such isotherm and it is commonly used because one of the fitting constants is an estimate of the ultimate capacity of the media. The second method of estimating capacity is to use the data as presented on these graphs. The highest mass loadings shown are used as the maximum operational capacity. The use of the highest mass loadings on the graphs addresses one of the primary disadvantages of isotherm calculations. The isotherm constant is the ultimate capacity and it assumes that equilibrium has been reached between the media and the pollutant (e.g., the rate of uptake is equal to the rate of release from the media surface). It also assumes that all slow diffusion mechanisms where the pollutant migrates to inner surfaces and is retained more readily have had time to occur. This, however, is unlikely to happen in field applications during operation. Only during quiescent times will slow diffusion have sufficient time to occur. Therefore, the operational capacity from these graphs more closely represent what is likely to happen during the contact time available in field operation.
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