

**From J. Air Waste Manage. Assoc. 48, 71–76 (1998),
concerning EPA’s PAMS guidance on the reporting of
low concentration data:**

“Quantifiable VOC data which are below the detection limits should be entered (into AIRS) as the quantified value. The raw data values will be retained within AIRS, but when any summary statistics are generated, the system will automatically replace values below the detection limits with a value that is one-half the detection limit prior to performing calculations. Raw data listings will maintain the actual values. If the compound response is below the detection limit and the data are not quantifiable, a sample value of zero is entered into AIRS. This will indicate to AIRS that the compound of interest was analyzed for, but not present at any quantifiable level. If a sample is missed or invalidated for any reason, appropriate null values or validity flags are used. A review of AIRS data seems to indicate that, in many instances, blank values are being entered instead of zeros or small quantifiable values.”

While partially alleviating the confusion relating to MDL’s that we have noted in the 1994 PAMS data, the choice of words in the PAMS guidance may still be confusing when compared with other recommendations on reporting environmental data, e.g., the American Chemical Society (ACS) guidelines⁸. The PAMS MDL⁴ is essentially equivalent to the ACS “limit of detection” (LOD). Also, in the above PAMS guidance, “quantifiable” merely refers to a non-zero value below MDL, and does not refer to the ACS “limit of quantitation” (LOQ) which is usually taken as several times larger than the LOD.