

1145-VT-2187      **Kalimuthu Krishnamoorthy** and **Md Sazib Hasan\*** (sazib25@louisiana.edu), 200 E Lewis Street, Apt 147G, Lafayette, LA 70503. *Prediction Limits for the Mean of a Sample from a Lognormal Distribution: Uncensored and Censored Cases.*

For some regulatory purposes, it is desired to compare average on-site pollution concentrations in a narrowly defined geographic area with a large collection of background measurements. An approach to this problem is to treat this as a statistical prediction for the mean of a future sample based on a background sample. In this article, assuming lognormality, a fiducial approach is described for constructing prediction limits for the mean of a sample when the background sample is uncensored or censored. The fiducial prediction limits are evaluated with respect to coverage probabilities, and are compared with those based on another approximate method. Monte Carlo simulation studies for the uncensored case indicate that the fiducial methods are accurate and practically exact even for small samples, and they are very satisfactory for the censored case. Algorithms for computation of confidence limits are provided. The methods are illustrated using two real data sets. (Received September 25, 2018)