MW-3 MTBE											
General Statistics											
Total Number of Observations				12	Number of Distinct Observations					6	
Number of Detects				3	Number of Non-Detects					9	
Number of Distinct Detects				3	Number of Distinct Non-Detects					3	
Minimum Detect				0.19	Minimum Non-Detect					0.2	
Maximum Detect				0.26	Maximum Non-Detect					0.59	
Variance Detects				0.00123	Percent Non-Detects					75%	
Mean Detects				0.227	SD Detects					0.0351	
Median Detects				0.23	CV Detects					0.155	
Skewness Detects				-0.423	Kurtosis Detects					N/A	
Mean of Logged Detects				-1.492	SD of Logged Detects					0.158	
Warning: Data set has only 3 Detected Values.											
This is not enough to compute meaningful or reliable statistics and estimates.											
Normal GOF Test on Detects Only											
Shapiro Wilk Test Statistic				0.993	Shapiro Wilk GOF Test						
1% Shapiro Wilk Critical Value				0.753	Detected Data appear Normal at 1% Significance Level						
Lilliefors Test Statistic				0.204	Lilliefors GOF Test						
1% Lilliefors Critical Value				0.429	Detected Data appear Normal at 1% Significance Level						
Detected Data appear Normal at 1% Significance Level											
Note GOF tests may be unreliable for small sample sizes											
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
KM Mean				0.203	KM Standard Error of Mean					0.0101	
90KM SD				0.0241	95% KM (BCA) UCL					N/A	
95% KM (t) UCL				0.221	95% KM (Percentile Bootstrap) UCL					N/A	
95% KM (z) UCL				0.219	95% KM Bootstrap t UCL					N/A	
90% KM Chebyshev UCL				0.233	95% KM Chebyshev UCL					0.247	
97.5% KM Chebyshev UCL				0.266	99% KM Chebyshev UCL					0.303	

Gamma GOF Tests on Detected Observations Only												
A-D Test Statistic				0.263	Anderson-Darling GOF Test							
5% A-D Critical Value				0.634	Detected data appear Gamma Distributed at 5% Significance Level							
K-S Test Statistic				0.236	Kolmogorov-Smirnov GOF							
5% K-S Critical Value				0.431	Detected data appear Gamma Distributed at 5% Significance Level							
Detected Data Not Gamma Distributed at 5% Significance Level												
Gamma Statistics on Detected Data Only												
k hat (MLE)				61	k star (bias corrected MLE)						N/A	
Theta hat (MLE)				0.00372	Theta star (bias corrected MLE)						N/A	
nu hat (MLE)				366	nu star (bias corrected)						N/A	
Mean (detects)				0.227								
Gamma ROS Statistics using Imputed Non-Detects												
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs												
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)												
For such situations, GROS method may yield incorrect values of UCLs and BTVs												
This is especially true when the sample size is small.												
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates												
Minimum				0.162	Mean						0.201	
Maximum				0.26	Median						0.197	
SD				0.0269	CV						0.134	
k hat (MLE)				63.73	k star (bias corrected MLE)						47.85	
Theta hat (MLE)				0.00315	Theta star (bias corrected MLE)						0.0042	
nu hat (MLE)				1530	nu star (bias corrected)						1148	
Adjusted Level of Significance (β)				0.029								
Approximate Chi Square Value (N/A, α)				1071	Adjusted Chi Square Value (N/A, β)						1059	
95% Gamma Approximate UCL				0.216	95% Gamma Adjusted UCL						N/A	
Estimates of Gamma Parameters using KM Estimates												
Mean (KM)				0.203	SD (KM)						0.0241	
Variance (KM)				5.82E-04	SE of Mean (KM)						0.0101	

k hat (KM)					70.67	k star (KM)					53.06	
nu hat (KM)					1696	nu star (KM)					1273	
theta hat (KM)					0.00287	theta star (KM)					0.00382	
80% gamma percentile (KM)					0.226	90% gamma percentile (KM)					0.239	
95% gamma percentile (KM)					0.251	99% gamma percentile (KM)					0.273	
Gamma Kaplan-Meier (KM) Statistics												
Approximate Chi Square Value (N/A, α)					1192	Adjusted Chi Square Value (N/A, β)					1179	
95% KM Approximate Gamma UCL					0.217	95% KM Adjusted Gamma UCL					0.219	
Lognormal GOF Test on Detected Observations Only												
Shapiro Wilk Test Statistic					0.984	Shapiro Wilk GOF Test						
10% Shapiro Wilk Critical Value					0.789	Detected Data appear Lognormal at 10% Significance Level						
Lilliefors Test Statistic					0.224	Lilliefors GOF Test						
10% Lilliefors Critical Value					0.389	Detected Data appear Lognormal at 10% Significance Level						
Detected Data appear Lognormal at 10% Significance Level												
Note GOF tests may be unreliable for small sample sizes												
Lognormal ROS Statistics Using Imputed Non-Detects												
Mean in Original Scale					0.201	Mean in Log Scale					-1.609	
SD in Original Scale					0.0261	SD in Log Scale					0.125	
95% t UCL (assumes normality of ROS data)					0.215	95% Percentile Bootstrap UCL					0.214	
95% BCA Bootstrap UCL					0.215	95% Bootstrap t UCL					0.219	
95% H-UCL (Log ROS)					0.216							
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution												
KM Mean (logged)					-1.602	KM Geo Mean					0.202	
KM SD (logged)					0.11	95% Critical H Value (KM-Log)					1.781	
KM Standard Error of Mean (logged)					0.0459	95% H-UCL (KM -Log)					0.215	
KM SD (logged)					0.11	95% Critical H Value (KM-Log)					1.781	
KM Standard Error of Mean (logged)					0.0459							
DL/2 Statistics												

DL/2 Normal					DL/2 Log-Transformed					
Mean in Original Scale				0.182	Mean in Log Scale				-1.814	
SD in Original Scale				0.0875	SD in Log Scale				0.496	
95% t UCL (Assumes normality)				0.227	95% H-Stat UCL				0.254	
DL/2 is not a recommended method, provided for comparisons and historical reasons										
Nonparametric Distribution Free UCL Statistics										
Detected Data appear Normal Distributed at 1% Significance Level										
Suggested UCL to Use										
95% KM (t) UCL				0.221						
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.										
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.										
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.										