

MW-143S PCE											
General Statistics											
Total Number of Observations					12	Number of Distinct Observations					11
Number of Detects					11	Number of Non-Detects					1
Number of Distinct Detects					10	Number of Distinct Non-Detects					1
Minimum Detect					0.51	Minimum Non-Detect					0.15
Maximum Detect					1.1	Maximum Non-Detect					0.15
Variance Detects					0.0417	Percent Non-Detects					8.33%
Mean Detects					0.768	SD Detects					0.204
Median Detects					0.78	CV Detects					0.266
Skewness Detects					0.47	Kurtosis Detects					-0.635
Mean of Logged Detects					-0.296	SD of Logged Detects					0.265
Normal GOF Test on Detects Only											
Shapiro Wilk Test Statistic					0.898	Shapiro Wilk GOF Test					
1% Shapiro Wilk Critical Value					0.792	Detected Data appear Normal at 1% Significance Level					
Lilliefors Test Statistic					0.181	Lilliefors GOF Test					
1% Lilliefors Critical Value					0.291	Detected Data appear Normal at 1% Significance Level					
Detected Data appear Normal at 1% Significance Level											
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
KM Mean					0.717	KM Standard Error of Mean					0.0766
90KM SD					0.253	95% KM (BCA) UCL					0.831
95% KM (t) UCL					0.854	95% KM (Percentile Bootstrap) UCL					0.833
95% KM (z) UCL					0.843	95% KM Bootstrap t UCL					0.846
90% KM Chebyshev UCL					0.946	95% KM Chebyshev UCL					1.05
97.5% KM Chebyshev UCL					1.195	99% KM Chebyshev UCL					1.479
Gamma GOF Tests on Detected Observations Only											
A-D Test Statistic					0.461	Anderson-Darling GOF Test					
5% A-D Critical Value					0.729	Detected data appear Gamma Distributed at 5% Significance Level					
K-S Test Statistic					0.185	Kolmogorov-Smirnov GOF					
5% K-S Critical Value					0.255	Detected data appear Gamma Distributed at 5% Significance Level					
Detected data appear Gamma Distributed at 5% Significance Level											

Gamma Statistics on Detected Data Only											
k hat (MLE)					15.82	k star (bias corrected MLE)				11.57	
Theta hat (MLE)					0.0486	Theta star (bias corrected MLE)				0.0664	
nu hat (MLE)					348	nu star (bias corrected)				254.4	
Mean (detects)					0.768						
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					0.344	Mean				0.733	
Maximum					1.1	Median				0.77	
SD					0.23	CV				0.314	
k hat (MLE)					10.34	k star (bias corrected MLE)				7.811	
Theta hat (MLE)					0.0709	Theta star (bias corrected MLE)				0.0938	
nu hat (MLE)					248.2	nu star (bias corrected)				187.5	
Adjusted Level of Significance (β)					0.029						
Approximate Chi Square Value (187.47, α)					156.8	Adjusted Chi Square Value (187.47, β)				152.5	
95% Gamma Approximate UCL					0.876	95% Gamma Adjusted UCL				0.901	
Estimates of Gamma Parameters using KM Estimates											
Mean (KM)					0.717	SD (KM)				0.253	
Variance (KM)					0.064	SE of Mean (KM)				0.0766	
k hat (KM)					8.029	k star (KM)				6.077	
nu hat (KM)					192.7	nu star (KM)				145.8	
theta hat (KM)					0.0893	theta star (KM)				0.118	
80% gamma percentile (KM)					0.943	90% gamma percentile (KM)				1.105	
95% gamma percentile (KM)					1.252	99% gamma percentile (KM)				1.559	
Gamma Kaplan-Meier (KM) Statistics											
Approximate Chi Square Value (145.85, α)					118.9	Adjusted Chi Square Value (145.85, β)				115.2	
95% KM Approximate Gamma UCL					0.879	95% KM Adjusted Gamma UCL				0.907	
Lognormal GOF Test on Detected Observations Only											

Shapiro Wilk Test Statistic			0.915	Shapiro Wilk GOF Test					
10% Shapiro Wilk Critical Value			0.876	Detected Data appear Lognormal at 10% Significance Level					
Lilliefors Test Statistic			0.173	Lilliefors GOF Test					
10% Lilliefors Critical Value			0.231	Detected Data appear Lognormal at 10% Significance Level					
Detected Data appear Lognormal at 10% Significance Level									
Lognormal ROS Statistics Using Imputed Non-Detects									
Mean in Original Scale			0.737	Mean in Log Scale				-0.349	
SD in Original Scale			0.223	SD in Log Scale				0.313	
95% t UCL (assumes normality of ROS data)			0.852	95% Percentile Bootstrap UCL				0.838	
95% BCA Bootstrap UCL			0.839	95% Bootstrap t UCL				0.857	
95% H-UCL (Log ROS)			0.89						
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution									
KM Mean (logged)			-0.429	KM Geo Mean				0.651	
KM SD (logged)			0.504	95% Critical H Value (KM-Log)				2.147	
KM Standard Error of Mean (logged)			0.153	95% H-UCL (KM -Log)				1.025	
KM SD (logged)			0.504	95% Critical H Value (KM-Log)				2.147	
KM Standard Error of Mean (logged)			0.153						
DL/2 Statistics									
DL/2 Normal				DL/2 Log-Transformed					
Mean in Original Scale			0.71	Mean in Log Scale				-0.487	
SD in Original Scale			0.279	SD in Log Scale				0.709	
95% t UCL (Assumes normality)			0.855	95% H-Stat UCL				1.328	
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			0.854						
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.									