MW-69 PCE											
General Statistics											
Total Number of Observations				6	Number of Distinct Observations					5	
Number of Detects				3	Number of Non-Detects					3	
Number of Distinct Detects				3	Number of Distinct Non-Detects					2	
Minimum Detect				0.3	Minimum Non-Detect					0.2	
Maximum Detect				0.38	Maximum Non-Detect					0.47	
Variance Detects				0.00163	Percent Non-Detects					50%	
Mean Detects				0.337	SD Detects					0.0404	
Median Detects				0.33	CV Detects					0.12	
Skewness Detects				0.722	Kurtosis Detects					N/A	
Mean of Logged Detects				-1.093	SD of Logged Detects					0.119	
Warning: Data set has only 3 Detected Values.											
This is not enough to compute meaningful or reliable statistics and estimates.											
Note: Sample size is small (e.g., <10), if data are collected using incremental sampling methodology (ISM) approach,											
refer also to ITRC Tech Reg Guide on ISM (ITRC 2020 and ITRC 2012) for additional guidance,											
but note that ITRC may recommend the t-UCL or the Chebyshev UCL for small sample sizes (n < 7).											
The Chebyshev UCL often results in gross overestimates of the mean.											
Refer to the ProUCL 5.2 Technical Guide for a discussion of the Chebyshev UCL.											
Normal GOF Test on Detects Only											
Shapiro Wilk Test Statistic				0.98	Shapiro Wilk GOF Test						
1% Shapiro Wilk Critical Value				0.753	Detected Data appear Normal at 1% Significance Level						
Lilliefors Test Statistic				0.232	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				0.282	KM Standard Error of Mean					0.0393	
90KM SD				0.0717	95% KM (BCA) UCL					N/A	
95% KM (t) UCL				0.361	95% KM (Percentile Bootstrap) UCL					N/A	
95% KM (z) UCL				0.347	95% KM Bootstrap t UCL					N/A	
90% KM Chebyshev UCL				0.4	95% KM Chebyshev UCL					0.453	
97.5% KM Chebyshev UCL				0.527	99% KM Chebyshev UCL					0.673	
Gamma GOF Tests on Detected Observations Only											

A-D Test Statistic				0.266	Anderson-Darling GOF Test					
5% A-D Critical Value				0.635	Detected data appear Gamma Distributed at 5% Significance Level					
K-S Test Statistic				0.237	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)				105.6	k star (bias corrected MLE)				N/A	
Theta hat (MLE)				0.00319	Theta star (bias corrected MLE)				N/A	
nu hat (MLE)				633.3	nu star (bias corrected)				N/A	
Mean (detects)				0.337						
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				0.196	Mean				0.288	
Maximum				0.38	Median				0.294	
SD				0.0655	CV				0.227	
k hat (MLE)				22.19	k star (bias corrected MLE)				11.21	
Theta hat (MLE)				0.013	Theta star (bias corrected MLE)				0.0257	
nu hat (MLE)				266.3	nu star (bias corrected)				134.5	
Adjusted Level of Significance (β)				0.0122						
Approximate Chi Square Value (134.49, α)				108.7	Adjusted Chi Square Value (134.49, β)				100.3	
95% Gamma Approximate UCL				0.357	95% Gamma Adjusted UCL				N/A	
Estimates of Gamma Parameters using KM Estimates										
Mean (KM)				0.282	SD (KM)				0.0717	
Variance (KM)				0.00514	SE of Mean (KM)				0.0393	
k hat (KM)				15.48	k star (KM)				7.853	
nu hat (KM)				185.8	nu star (KM)				94.24	
theta hat (KM)				0.0182	theta star (KM)				0.0359	
80% gamma percentile (KM)				0.361	90% gamma percentile (KM)				0.416	
95% gamma percentile (KM)				0.465	99% gamma percentile (KM)				0.567	
Gamma Kaplan-Meier (KM) Statistics										
Approximate Chi Square Value (94.24, α)				72.85	Adjusted Chi Square Value (94.24, β)				66.08	
95% KM Approximate Gamma UCL				0.365	95% KM Adjusted Gamma UCL				0.402	

Lognormal GOF Test on Detected Observations Only												
Shapiro Wilk Test Statistic				0.988	Shapiro Wilk GOF Test							
10% Shapiro Wilk Critical Value				0.789	Detected Data appear Lognormal at 10% Significance Level							
Lilliefors Test Statistic				0.218	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				0.294	Mean in Log Scale					-1.242		
SD in Original Scale				0.0583	SD in Log Scale					0.201		
95% t UCL (assumes normality of ROS data)				0.342	95% Percentile Bootstrap UCL					0.33		
95% BCA Bootstrap UCL				0.329	95% Bootstrap t UCL					0.345		
95% H-UCL (Log ROS)				0.355								
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution												
KM Mean (logged)				-1.3	KM Geo Mean					0.273		
KM SD (logged)				0.264	95% Critical H Value (KM-Log)					2.166		
KM Standard Error of Mean (logged)				0.144	95% H-UCL (KM -Log)					0.364		
KM SD (logged)				0.264	95% Critical H Value (KM-Log)					2.166		
KM Standard Error of Mean (logged)				0.144								
DL/2 Statistics												
DL/2 Normal					DL/2 Log-Transformed							
Mean in Original Scale				0.241	Mean in Log Scale					-1.556		
SD in Original Scale				0.119	SD in Log Scale					0.599		
95% t UCL (Assumes normality)				0.339	95% H-Stat UCL					0.548		
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				0.361								
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.												