

MW-65S PCE												
General Statistics												
Total Number of Observations				6	Number of Distinct Observations						6	
					Number of Missing Observations						0	
Minimum				1.7	Mean						2.05	
Maximum				2.4	Median						2.05	
SD				0.243	Std. Error of Mean						0.0992	
Coefficient of Variation				0.118	Skewness						2.35E-15	
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												
Shapiro Wilk Test Statistic				1	Shapiro Wilk GOF Test							
1% Shapiro Wilk Critical Value				0.713	Data appear Normal at 1% Significance Level							
Lilliefors Test Statistic				0.102	Lilliefors GOF Test							
1% Lilliefors Critical Value				0.373	Data appear Normal at 1% Significance Level							
Data appear Normal at 1% Significance Level												
Note GOF tests may be unreliable for small sample sizes												
Assuming Normal Distribution												
95% Normal UCL					95% UCLs (Adjusted for Skewness)							
95% Student's-t UCL				2.25	95% Adjusted-CLT UCL (Chen-1995)						2.213	
					95% Modified-t UCL (Johnson-1978)						2.25	
Gamma GOF Test												
A-D Test Statistic				0.139	Anderson-Darling Gamma GOF Test							
5% A-D Critical Value				0.696	Detected data appear Gamma Distributed at 5% Significance Level							
K-S Test Statistic				0.115	Kolmogorov-Smirnov Gamma GOF Test							

5% K-S Critical Value				0.332	Detected data appear Gamma Distributed at 5% Significance Level						
Detected data appear Gamma Distributed at 5% Significance Level											
Note GOF tests may be unreliable for small sample sizes											
Gamma Statistics											
k hat (MLE)				84.56	k star (bias corrected MLE)					42.39	
Theta hat (MLE)				0.0242	Theta star (bias corrected MLE)					0.0484	
nu hat (MLE)				1015	nu star (bias corrected)					508.7	
MLE Mean (bias corrected)					2.05	MLE Sd (bias corrected)					0.315
					Approximate Chi Square Value (0.05)					457.4	
Adjusted Level of Significance					0.0122	Adjusted Chi Square Value					439.7
Assuming Gamma Distribution											
95% Approximate Gamma UCL					2.28	95% Adjusted Gamma UCL					2.372
Lognormal GOF Test											
Shapiro Wilk Test Statistic					0.996	Shapiro Wilk Lognormal GOF Test					
10% Shapiro Wilk Critical Value					0.826	Data appear Lognormal at 10% Significance Level					
Lilliefors Test Statistic					0.112	Lilliefors Lognormal GOF Test					
10% Lilliefors Critical Value					0.298	Data appear Lognormal at 10% Significance Level					
Data appear Lognormal at 10% Significance Level											
Note GOF tests may be unreliable for small sample sizes											
Lognormal Statistics											
Minimum of Logged Data					0.531	Mean of logged Data					0.712
Maximum of Logged Data					0.875	SD of logged Data					0.12
Assuming Lognormal Distribution											
95% H-UCL					2.28	90% Chebyshev (MVUE) UCL					2.351
95% Chebyshev (MVUE) UCL					2.487	97.5% Chebyshev (MVUE) UCL					2.676
99% Chebyshev (MVUE) UCL					3.047						
Nonparametric Distribution Free UCL Statistics											

Data appear to follow a Discernible Distribution												
Nonparametric Distribution Free UCLs												
95% CLT UCL					2.213	95% BCA Bootstrap UCL					2.183	
95% Standard Bootstrap UCL					2.2	95% Bootstrap-t UCL					2.265	
95% Hall's Bootstrap UCL					2.256	95% Percentile Bootstrap UCL					2.2	
90% Chebyshev(Mean, Sd) UCL					2.347	95% Chebyshev(Mean, Sd) UCL					2.482	
97.5% Chebyshev(Mean, Sd) UCL					2.669	99% Chebyshev(Mean, Sd) UCL					3.037	
Suggested UCL to Use												
95% Student's-t UCL					2.25							
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.												