

MW-88 PCE												
General Statistics												
Total Number of Observations					14	Number of Distinct Observations					14	
						Number of Missing Observations					0	
Minimum					0.63	Mean					5.894	
Maximum					17	Median					4.75	
SD					4.554	Std. Error of Mean					1.217	
Coefficient of Variation					0.773	Skewness					1.126	
Normal GOF Test												
Shapiro Wilk Test Statistic					0.91	Shapiro Wilk GOF Test						
1% Shapiro Wilk Critical Value					0.825	Data appear Normal at 1% Significance Level						
Lilliefors Test Statistic					0.203	Lilliefors GOF Test						
1% Lilliefors Critical Value					0.263	Data appear Normal at 1% Significance Level						
Data appear Normal at 1% Significance Level												
Assuming Normal Distribution												
95% Normal UCL						95% UCLs (Adjusted for Skewness)						
95% Student's-t UCL					8.049	95% Adjusted-CLT UCL (Chen-1995)					8.287	
						95% Modified-t UCL (Johnson-1978)					8.111	
Gamma GOF Test												
A-D Test Statistic					0.189	Anderson-Darling Gamma GOF Test						
5% A-D Critical Value					0.75	Detected data appear Gamma Distributed at 5% Significance Level						
K-S Test Statistic					0.12	Kolmogorov-Smirnov Gamma GOF Test						
5% K-S Critical Value					0.232	Detected data appear Gamma Distributed at 5% Significance Level						
Detected data appear Gamma Distributed at 5% Significance Level												
Gamma Statistics												
k hat (MLE)					1.608	k star (bias corrected MLE)					1.311	
Theta hat (MLE)					3.666	Theta star (bias corrected MLE)					4.496	
nu hat (MLE)					45.02	nu star (bias corrected)					36.71	

MLE Mean (bias corrected)			5.894	MLE Sd (bias corrected)			5.148	
				Approximate Chi Square Value (0.05)			23.84	
Adjusted Level of Significance			0.0312	Adjusted Chi Square Value			22.47	
Assuming Gamma Distribution								
95% Approximate Gamma UCL			9.076	95% Adjusted Gamma UCL			9.629	
Lognormal GOF Test								
Shapiro Wilk Test Statistic			0.946	Shapiro Wilk Lognormal GOF Test				
10% Shapiro Wilk Critical Value			0.895	Data appear Lognormal at 10% Significance Level				
Lilliefors Test Statistic			0.173	Lilliefors Lognormal GOF Test				
10% Lilliefors Critical Value			0.208	Data appear Lognormal at 10% Significance Level				
Data appear Lognormal at 10% Significance Level								
Lognormal Statistics								
Minimum of Logged Data			-0.462	Mean of logged Data			1.432	
Maximum of Logged Data			2.833	SD of logged Data			0.954	
Assuming Lognormal Distribution								
95% H-UCL			13.53	90% Chebyshev (MVUE) UCL			11.53	
95% Chebyshev (MVUE) UCL			13.89	97.5% Chebyshev (MVUE) UCL			17.17	
99% Chebyshev (MVUE) UCL			23.61					
Nonparametric Distribution Free UCL Statistics								
Data appear to follow a Discernible Distribution								
Nonparametric Distribution Free UCLs								
95% CLT UCL			7.896	95% BCA Bootstrap UCL			8.209	
95% Standard Bootstrap UCL			7.839	95% Bootstrap-t UCL			8.671	
95% Hall's Bootstrap UCL			8.826	95% Percentile Bootstrap UCL			7.921	
90% Chebyshev(Mean, Sd) UCL			9.545	95% Chebyshev(Mean, Sd) UCL			11.2	
97.5% Chebyshev(Mean, Sd) UCL			13.49	99% Chebyshev(Mean, Sd) UCL			18	

Suggested UCL to Use											
95% Student's-t UCL				8.049							
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.											