

MW-16S TCE												
General Statistics												
Total Number of Observations					12	Number of Distinct Observations					11	
						Number of Missing Observations					0	
Minimum					5.6	Mean					13.65	
Maximum					20	Median					15.5	
SD					5.105	Std. Error of Mean					1.474	
Coefficient of Variation					0.374	Skewness					-0.55	
Normal GOF Test												
Shapiro Wilk Test Statistic					0.892	Shapiro Wilk GOF Test						
1% Shapiro Wilk Critical Value					0.805	Data appear Normal at 1% Significance Level						
Lilliefors Test Statistic					0.194	Lilliefors GOF Test						
1% Lilliefors Critical Value					0.281	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					16.3	95% Adjusted-CLT UCL (Chen-1995)					15.82	
						95% Modified-t UCL (Johnson-1978)					16.26	
Gamma GOF Test												
A-D Test Statistic					0.788	Anderson-Darling Gamma GOF Test						
5% A-D Critical Value					0.732	Data Not Gamma Distributed at 5% Significance Level						
K-S Test Statistic					0.245	Kolmogorov-Smirnov Gamma GOF Test						
5% K-S Critical Value					0.246	Detected data appear Gamma Distributed at 5% Significance Level						
Detected data follow Appr. Gamma Distribution at 5% Significance Level												
Gamma Statistics												
k hat (MLE)					6.221	k star (bias corrected MLE)					4.721	
Theta hat (MLE)					2.194	Theta star (bias corrected MLE)					2.891	
nu hat (MLE)					149.3	nu star (bias corrected)					113.3	
MLE Mean (bias corrected)					13.65	MLE Sd (bias corrected)					6.282	
						Approximate Chi Square Value (0.05)					89.73	
Adjusted Level of Significance					0.029	Adjusted Chi Square Value					86.54	
Assuming Gamma Distribution												

95% Approximate Gamma UCL			17.24	95% Adjusted Gamma UCL			17.87	
Lognormal GOF Test								
Shapiro Wilk Test Statistic			0.845	Shapiro Wilk Lognormal GOF Test				
10% Shapiro Wilk Critical Value			0.883	Data Not Lognormal at 10% Significance Level				
Lilliefors Test Statistic			0.261	Lilliefors Lognormal GOF Test				
10% Lilliefors Critical Value			0.223	Data Not Lognormal at 10% Significance Level				
Data Not Lognormal at 10% Significance Level								
Lognormal Statistics								
Minimum of Logged Data			1.723	Mean of logged Data			2.531	
Maximum of Logged Data			2.996	SD of logged Data			0.452	
Assuming Lognormal Distribution								
95% H-UCL			18.5	90% Chebyshev (MVUE) UCL			19.3	
95% Chebyshev (MVUE) UCL			21.8	97.5% Chebyshev (MVUE) UCL			25.26	
99% Chebyshev (MVUE) UCL			32.07					
Nonparametric Distribution Free UCL Statistics								
Data appear to follow a Discernible Distribution								
Nonparametric Distribution Free UCLs								
95% CLT UCL			16.07	95% BCA Bootstrap UCL			15.73	
95% Standard Bootstrap UCL			16.02	95% Bootstrap-t UCL			16.17	
95% Hall's Bootstrap UCL			15.79	95% Percentile Bootstrap UCL			15.83	
90% Chebyshev(Mean, Sd) UCL			18.07	95% Chebyshev(Mean, Sd) UCL			20.07	
97.5% Chebyshev(Mean, Sd) UCL			22.85	99% Chebyshev(Mean, Sd) UCL			28.31	
Suggested UCL to Use								
95% Student's-t UCL			16.3					
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.								
Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be								
reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.								