MW-20M TCE											
General Statistics											
Total Number of Observations				12	Number of Distinct Observations					10	
					Number of Missing Observations					0	
Minimum				0.85	Mean					16.87	
Maximum				32	Median					18	
SD				8.396	Std. Error of Mean					2.424	
Coefficient of Variation				0.498	Skewness					-0.345	
Normal GOF Test											
Shapiro Wilk Test Statistic				0.96	Shapiro Wilk GOF Test						
1% Shapiro Wilk Critical Value				0.805	Data appear Normal at 1% Significance Level						
Lilliefors Test Statistic				0.156	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				21.22	95% Adjusted-CLT UCL (Chen-1995)					20.6	
					95% Modified-t UCL (Johnson-1978)					21.18	
Gamma GOF Test											
A-D Test Statistic				1.004	Anderson-Darling Gamma GOF Test						
5% A-D Critical Value				0.741	Data Not Gamma Distributed at 5% Significance Level						
K-S Test Statistic				0.283	Kolmogorov-Smirnov Gamma GOF Test						
5% K-S Critical Value				0.248	Data Not Gamma Distributed at 5% Significance Level						
Data Not Gamma Distributed at 5% Significance Level											
Gamma Statistics											
k hat (MLE)				2.099	k star (bias corrected MLE)					1.63	
Theta hat (MLE)				8.039	Theta star (bias corrected MLE)					10.35	
nu hat (MLE)				50.37	nu star (bias corrected)					39.11	
MLE Mean (bias corrected)				16.87	MLE Sd (bias corrected)					13.22	
					Approximate Chi Square Value (0.05)					25.78	
Adjusted Level of Significance				0.029	Adjusted Chi Square Value					24.14	
Assuming Gamma Distribution											

95% Approximate Gamma UCL			25.59	95% Adjusted Gamma UCL				27.33	
Lognormal GOF Test									
Shapiro Wilk Test Statistic			0.712	Shapiro Wilk Lognormal GOF Test					
10% Shapiro Wilk Critical Value			0.883	Data Not Lognormal at 10% Significance Level					
Lilliefors Test Statistic			0.332	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			-0.163	Mean of logged Data				2.569	
Maximum of Logged Data			3.466	SD of logged Data				0.984	
Assuming Lognormal Distribution									
95% H-UCL			49.8	90% Chebyshev (MVUE) UCL				38.29	
95% Chebyshev (MVUE) UCL			46.55	97.5% Chebyshev (MVUE) UCL				58.01	
99% Chebyshev (MVUE) UCL			80.53						
Nonparametric Distribution Free UCL Statistics									
Data appear to follow a Discernible Distribution									
Nonparametric Distribution Free UCLs									
95% CLT UCL			20.86	95% BCA Bootstrap UCL				20.58	
95% Standard Bootstrap UCL			20.71	95% Bootstrap-t UCL				20.79	
95% Hall's Bootstrap UCL			20.98	95% Percentile Bootstrap UCL				20.88	
90% Chebyshev(Mean, Sd) UCL			24.14	95% Chebyshev(Mean, Sd) UCL				27.44	
97.5% Chebyshev(Mean, Sd) UCL			32.01	99% Chebyshev(Mean, Sd) UCL				40.99	
Suggested UCL to Use									
95% Student's-t UCL			21.22						
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 positvely skewed data sets.									