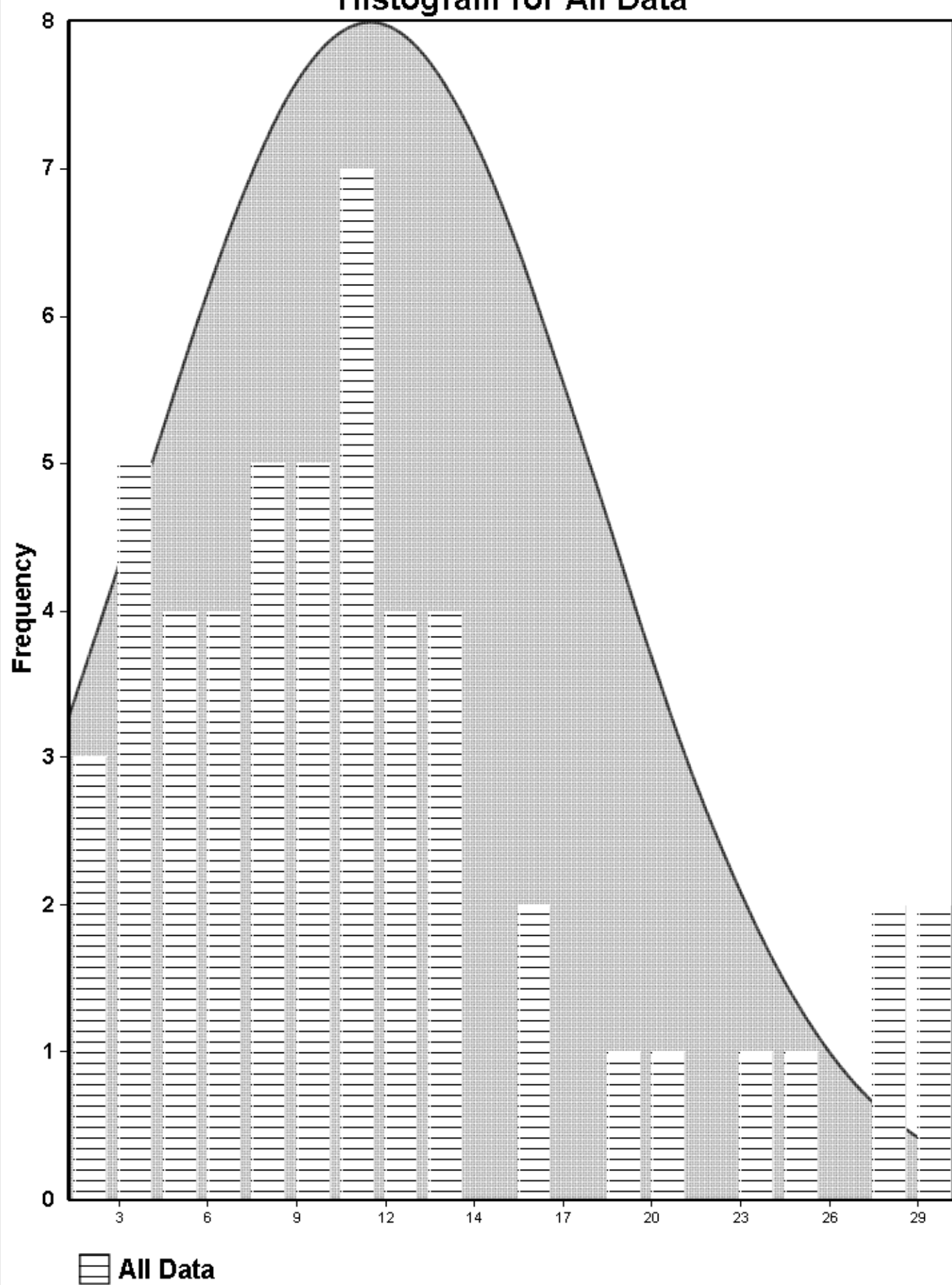


Gamma Distribution Test with Detected Values Only			Data Distribution Test with Detected Values Only		
k star (bias corrected)	2.258	Data appear Gamma Distributed at 5% Significance Level			
Theta Star	4.88				
nu star	225.8				
A-D Test Statistic	0.436	Nonparametric Statistics			
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method			
K-S Test Statistic	0.0965	Mean	10.92		
5% K-S Critical Value	0.127	SD	7.291		
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.032		
		95% KM UTL with 95% Coverage	25.89		
Assuming Gamma Distribution		95% KM Chebyshev UPL	43.01		
Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	23.26		
Mean	10.94	90% Percentile (z)	20.26		
Median	9.3	95% Percentile (z)	22.91		
SD	7.342	99% Percentile (z)	27.88		
k star	2.288				
Theta star	4.783	Gamma ROS Limits with Extrapolated Data			
Nu star	233.3	95% Wilson Hilferty (WH) Approx. Gamma UPL	25.1		
95% Percentile of Chisquare (2k)	10.41	95% Hawkins Wixley (HW) Approx. Gamma UPL	25.7		
		95% WH Approx. Gamma UTL with 95% Coverage	29.83		
90% Percentile	20.63	95% HW Approx. Gamma UTL with 95% Coverage	30.99		
95% Percentile	24.89				
99% Percentile	34.27				
Note: DL/2 is not a recommended method.					

				Outlier Tests for Selected Variables							
User Selected Options											
From File				Boron.wst							
Full Precision				OFF							
Test for Suspected Outliers with Dixon test				1							
Test for Suspected Outliers for Rosner test				1							
Rosner's Outlier Test for All Data											
Mean				10.9							
Standard Deviation				7.37							
Number of data				51							
Number of suspected outliers				1							
			Potential	Obs.	Test	Critical	Critical				
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)				
1	10.9	7.298	30	1	2.617	3.137	3.488				
For 5% Significance Level, there is no Potential Outlier											
For 1% Significance Level, there is no Potential Outlier											

Histogram for All Data



Location	All Data	D_All Data
BG-1-2	30	1
BG-1-10	6.5	1
BG-2-2	9.3	1
BG-2-10	8.5	1
BG-2-19	13	1
BG-3-2	6.6	1
BG-3-10	8.1	1
BG-6-2	8.8	1
BG-6-9	5.5	1
BG-4-1	24	1
BG-4-10	13	1
BG-4-19	28	1
BG-3-17	6.4	1
BG-1-43	16	1
BG-1-46	11	1
BG-1-55	1.2	1
BG-1-78	16	1
BG-1-92	3.1	1
BG-2-30	25	1
BG-2-32	10	1
BG-2-75	9.3	1
BG-2-81	29	1
BG-3-22	5.3	1
BG-3-29	3.5	1
BG-3-63	12	1
BG-3-65	11	1
BG-3-69	14	1
BG-3-95	2.4	1
BG-3-105	6.8	1
BG-3-131	3.4	1
BG-3-136	12	1
BG-4-40	28	1
BG-4-65	7	1
BG-4-79	19	1
BG-4-82	12	1
BG-4-95	5.5	1
BG-4-117	2.8	1
BG-4-120	12	1
BG-4-161	8.3	1
BG-4-163	10	1
BG-6-28	20	1
BG-6-53	10	1
BG-6-58	5.1	1
BG-6-75	2.6	1
BG-6-87	8.2	1
BG-6-98	9.9	1

BG-6-114	7	1
BG-1-127	8.5	1
BG-1-29	3.3	1
BG-1-40	10	0
BG-2-21	13	1

Statistics (All: NDs treated as DL value)	38	1.2	29	10.35	9.95	6.828		
Statistics (All: NDs treated as DL/2 value)	38	1.2	29	10.22	9.6	6.883		
Statistics (Normal ROS Estimated Data)	38	1.2	29	10.24	9.6	6.867		
Statistics (Gamma ROS Estimated Data)	38	1.2	29	10.25	9.6	6.859		
Statistics (Lognormal ROS Estimated Data)	38	1.2	29	10.21	9.6	6.884		
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)	2.278	2.116	4.546	2.102	0.741	0.353		
Statistics (NDs = DL)	2.336	2.169	4.43	2.108	0.732	0.347		
Statistics (NDs = DL/2)	2.285	2.122	4.471	2.089	0.735	0.352		
Statistics (Gamma ROS Estimates)	2.311	2.146	4.436	--	--	--		
Statistics (Lognormal ROS Estimates)	--	--	--	2.089	0.736	0.352		
Normal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.949	0.948	0.947	0.947				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.895	0.936	Data Not Normal					
Lilliefors (Detects Only)	0.163	0.146	Data Not Normal					
Shapiro-Wilks (NDs = DL)	0.894	0.938	Data Not Normal					
Lilliefors (NDs = DL)	0.168	0.144	Data Not Normal					
Shapiro-Wilks (NDs = DL/2)	0.891	0.938	Data Not Normal					
Lilliefors (NDs = DL/2)	0.161	0.144	Data Not Normal					
Shapiro-Wilks (Normal ROS Estimates)	0.892	0.938	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.162	0.144	Data Not Normal					
Gamma Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.988	0.987	0.989	0.989				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.308	0.758						
Kolmogorov-Smirnov (Detects Only)	0.0913	0.147	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	0.357	0.758						
Kolmogorov-Smirnov (NDs = DL)	0.0897	0.145	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.273	0.758						
Kolmogorov-Smirnov (NDs = DL/2)	0.083	0.145	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.272	0.758						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.0857	0.145	Data Appear Gamma Distributed					
Lognormal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.983	0.981	0.986	0.986				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.962	0.936	Data Appear Lognormal					
Lilliefors (Detects Only)	0.123	0.146	Data Appear Lognormal					
Shapiro-Wilks (NDs = DL)	0.959	0.938	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.13	0.144	Data Appear Lognormal					

Note: Substitution methods such as DL or DL/2 are not recommended.

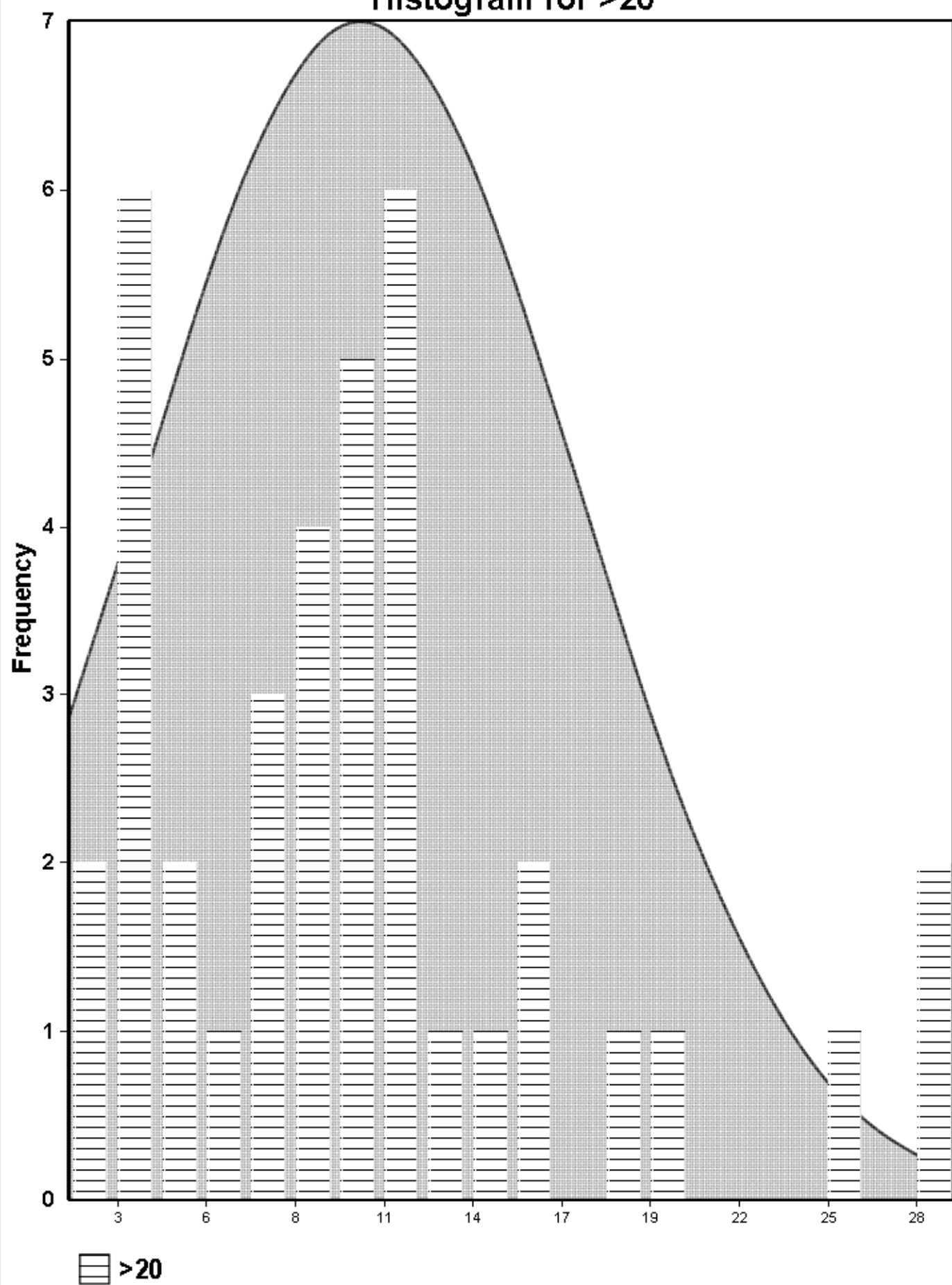
			General Background Statistics for Data Sets with Non-Detects							
User Selected Options										
From File			Boron.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
0-20										
General Statistics										
Total Number of Observations				13		Number of Distinct Observations				12
Raw Statistics					Log-Transformed Statistics					
			Minimum	5.5				Minimum	1.705	
			Maximum	30				Maximum	3.401	
			Second Largest	28				Second Largest	3.332	
			First Quartile	6.6				First Quartile	1.887	
			Median	8.8				Median	2.175	
			Third Quartile	13				Third Quartile	2.565	
			Mean	12.9				Mean	2.384	
			SD	8.629				SD	0.584	
			Coefficient of Variation	0.669						
			Skewness	1.273						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.769				Shapiro Wilk Test Statistic	0.871	
			Shapiro Wilk Critical Value	0.866				Shapiro Wilk Critical Value	0.866	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	35.95				95% UTL with 95% Coverage	51.63	
			95% UPL (t)	28.86				95% UPL (t)	31.96	
			90% Percentile (z)	23.96				90% Percentile (z)	22.94	
			95% Percentile (z)	27.09				95% Percentile (z)	28.36	
			99% Percentile (z)	32.97				99% Percentile (z)	42.22	
Gamma Distribution Test					Data Distribution Test					
			k star	2.398	Data appear Lognormal at 5% Significance Level					
			Theta Star	5.38						
			MLE of Mean	12.9						
			MLE of Standard Deviation	8.331						
			nu star	62.34						
			A-D Test Statistic	0.941	Nonparametric Statistics					
			5% A-D Critical Value	0.739				90% Percentile	27.2	
			K-S Test Statistic	0.25				95% Percentile	28.8	
			5% K-S Critical Value	0.238				99% Percentile	29.76	
Data not Gamma Distributed at 5% Significance Level										

Note: DL/2 is not a recommended method.

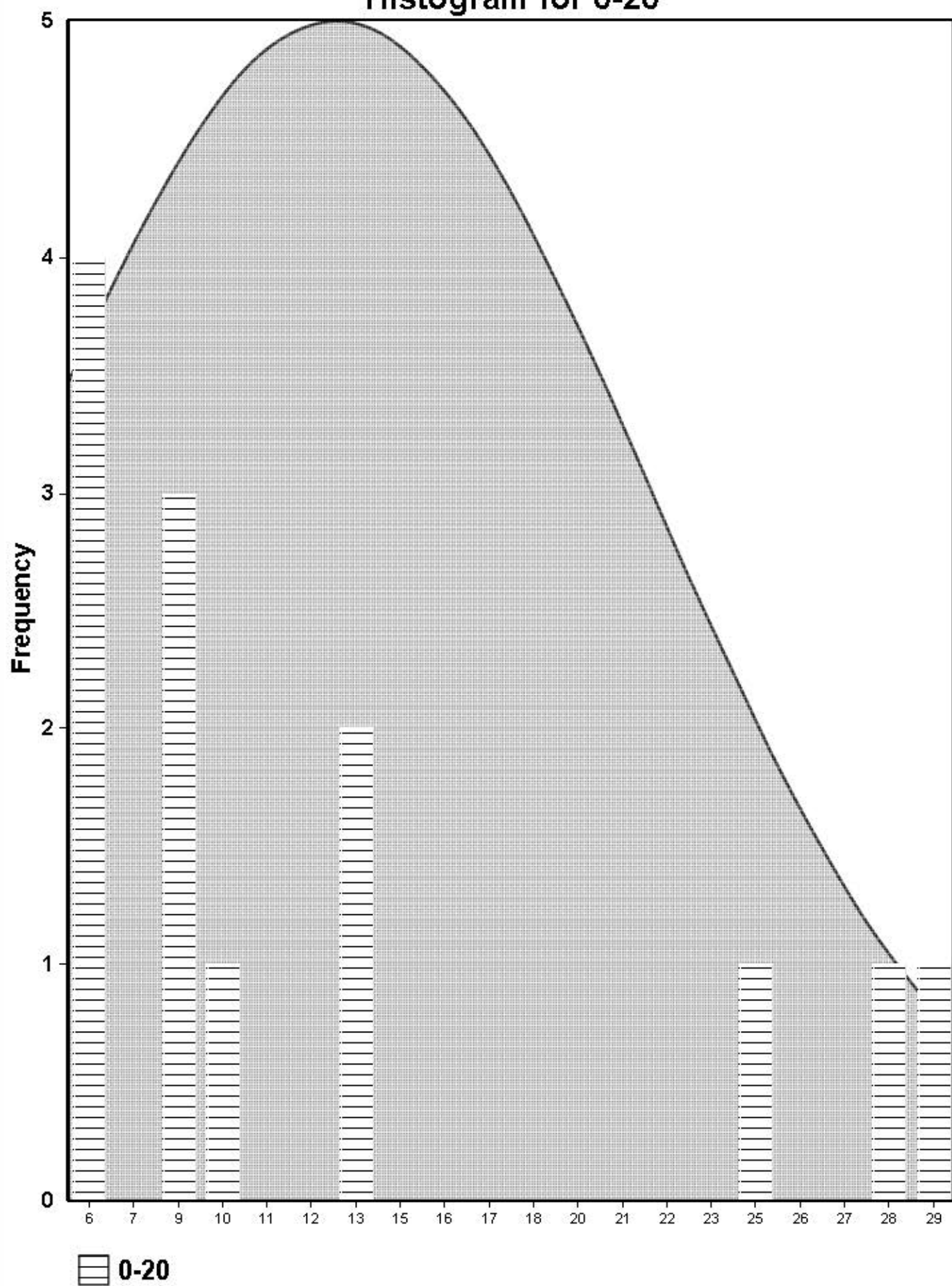
				Outlier Tests for Selected Variables			
User Selected Options							
From File				Boron.wst			
Full Precision				OFF			
Test for Suspected Outliers with Dixon test				1			
Test for Suspected Outliers for Rosner test				1			
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 30 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.254							
For 10% significance level, 30 is not an outlier.							
For 5% significance level, 30 is not an outlier.							
For 1% significance level, 30 is not an outlier.							
2. Data Value 5.5 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.044							
For 10% significance level, 5.5 is not an outlier.							
For 5% significance level, 5.5 is not an outlier.							
For 1% significance level, 5.5 is not an outlier.							
Rosner's Outlier Test for >20							
Mean		10.22					
Standard Deviation		6.883					
Number of data		38					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	10.22	6.792	29	9	2.766	3.01	3.36
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Data Sets with Non-Detects			
User Selected Options			
From File	Boron.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Substantial Difference (S)	0.000		
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (2 Sided Alternative		
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median		
Area of Concern Data: >20			
Background Data: 0-20			
Raw Statistics			
	Site	Background	
Number of Valid Data	38	13	
Number of Non-Detect Data	1	0	
Number of Detect Data	37	13	
Minimum Non-Detect	10	N/A	
Maximum Non-Detect	10	N/A	
Percent Non detects	2.63%	0.00%	
Minimum Detected	1.2	5.5	
Maximum Detected	29	30	
Mean of Detected Data	10.36	12.9	
Median of Detected Data	9.9	8.8	
SD of Detected Data	6.922	8.629	
Wilcoxon-Mann-Whitney Site vs Background Test			
Wilcoxon-Mann-Whitney (WMW) Test			
H0: Mean/Median of Site or AOC = Mean/Median of Background			
Site Rank Sum W-Stat	974.5		
WMW Test U-Stat	0.281		
Lower Critical Value (0.025)	-1.96		
Upper Critical Value (0.975)	1.96		
P-Value	0.762		
Conclusion with Alpha = 0.05			
Do Not Reject H0, Conclude Site = Background			
P-Value >= alpha (0.05)			

Histogram for >20



Histogram for 0-20



Location	0-20	D_0-20	Location	>20	D_>20
BG-1-2	30	1	BG-1-43	16	1
BG-1-10	6.5	1	BG-1-46	11	1
BG-2-2	9.3	1	BG-1-55	1.2	1
BG-2-10	8.5	1	BG-1-78	16	1
BG-2-19	13	1	BG-1-92	3.1	1
BG-3-2	6.6	1	BG-2-30	25	1
BG-3-10	8.1	1	BG-2-32	10	1
BG-6-2	8.8	1	BG-2-75	9.3	1
BG-6-9	5.5	1	BG-2-81	29	1
BG-4-1	24	1	BG-3-22	5.3	1
BG-4-10	13	1	BG-3-29	3.5	1
BG-4-19	28	1	BG-3-63	12	1
BG-3-17	6.4	1	BG-3-65	11	1
			BG-3-69	14	1
			BG-3-95	2.4	1
			BG-3-105	6.8	1
			BG-3-131	3.4	1
			BG-3-136	12	1
			BG-4-40	28	1
			BG-4-65	7	1
			BG-4-79	19	1
			BG-4-82	12	1
			BG-4-95	5.5	1
			BG-4-117	2.8	1
			BG-4-120	12	1
			BG-4-161	8.3	1
			BG-4-163	10	1
			BG-6-28	20	1
			BG-6-53	10	1
			BG-6-58	5.1	1
			BG-6-75	2.6	1
			BG-6-87	8.2	1
			BG-6-98	9.9	1
			BG-6-114	7	1
			BG-1-127	8.5	1
			BG-1-29	3.3	1
			BG-1-40	10	0
			BG-2-21	13	1

Statistics (All: NDs treated as DL value)	33	2.4	13	7.955	8.5	3.431		
Statistics (All: NDs treated as DL/2 value)	33	2.4	13	7.803	8.1	3.448		
Statistics (Normal ROS Estimated Data)	33	2.4	13	7.846	8.1	3.421		
Statistics (Gamma ROS Estimated Data)	33	2.4	13	7.865	8.1	3.414		
Statistics (Lognormal ROS Estimated Data)	33	2.4	13	7.822	8.1	3.434		
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)	4.37	3.993	1.806	1.947	0.53	0.272		
Statistics (NDs = DL)	4.468	4.082	1.78	1.958	0.525	0.268		
Statistics (NDs = DL/2)	4.403	4.023	1.772	1.937	0.525	0.271		
Statistics (Gamma ROS Estimates)	4.495	4.106	1.75	--	--	--		
Statistics (Lognormal ROS Estimates)	--	--	--	1.94	0.523	0.269		
Normal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.975	0.976	0.976	0.977				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.926	0.93	Data Not Normal					
Lilliefors (Detects Only)	0.116	0.157	Data Appear Normal					
Shapiro-Wilks (NDs = DL)	0.927	0.931	Data Not Normal					
Lilliefors (NDs = DL)	0.115	0.154	Data Appear Normal					
Shapiro-Wilks (NDs = DL/2)	0.928	0.931	Data Not Normal					
Lilliefors (NDs = DL/2)	0.106	0.154	Data Appear Normal					
Shapiro-Wilks (Normal ROS Estimates)	0.93	0.931	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.11	0.154	Data Appear Normal					
Gamma Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.943	0.941	0.948	0.947				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.871	0.75						
Kolmogorov-Smirnov (Detects Only)	0.127	0.156	Data appear Approximate Gamma Distribution					
Anderson-Darling (NDs = DL)	0.948	0.75						
Kolmogorov-Smirnov (NDs = DL)	0.133	0.154	Data appear Approximate Gamma Distribution					
Anderson-Darling (NDs = DL/2)	0.775	0.75						
Kolmogorov-Smirnov (NDs = DL/2)	0.118	0.154	Data appear Approximate Gamma Distribution					
Anderson-Darling (Gamma ROS Estimates)	0.832	0.75						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.123	0.154	Data appear Approximate Gamma Distribution					
Lognormal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.953	0.95	0.959	0.958				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.889	0.93	Data Not Lognormal					
Lilliefors (Detects Only)	0.142	0.157	Data Appear Lognormal					
Shapiro-Wilks (NDs = DL)	0.884	0.931	Data Not Lognormal					
Lilliefors (NDs = DL)	0.151	0.154	Data Appear Lognormal					

Shapiro-Wilks (NDs = DL/2)		0.899	0.931	Data Not Lognormal					
Lilliefors (NDs = DL/2)		0.136	0.154	Data Appear Lognormal					
Shapiro-Wilks (Lognormal ROS Estimates)		0.898	0.931	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)		0.134	0.154	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.									

			General Background Statistics for Data Sets with Non-Detects							
User Selected Options										
From File			Boron.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Clay										
General Statistics										
Total Number of Observations				18		Number of Distinct Observations				15
Raw Statistics					Log-Transformed Statistics					
			Minimum	1.2					Minimum	0.182
			Maximum	30					Maximum	3.401
			Second Largest	29					Second Largest	3.367
			First Quartile	8.725					First Quartile	2.163
			Median	16					Median	2.773
			Third Quartile	24.75					Third Quartile	3.209
			Mean	16.58					Mean	2.583
			SD	9.2					SD	0.814
			Coefficient of Variation	0.555						
			Skewness	0.0433						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.937					Shapiro Wilk Test Statistic	0.855
			Shapiro Wilk Critical Value	0.897					Shapiro Wilk Critical Value	0.897
Data appear Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	39.14					95% UTL with 95% Coverage	97.54
			95% UPL (t)	33.02					95% UPL (t)	56.72
			90% Percentile (z)	28.37					90% Percentile (z)	37.57
			95% Percentile (z)	31.71					95% Percentile (z)	50.51
			99% Percentile (z)	37.98					99% Percentile (z)	87.98
Gamma Distribution Test					Data Distribution Test					
			k star	2.013		Data appear Normal at 5% Significance Level				
			Theta Star	8.237						
			MLE of Mean	16.58						
			MLE of Standard Deviation	11.69						
			nu star	72.45						
			A-D Test Statistic	0.452		Nonparametric Statistics				
			5% A-D Critical Value	0.75					90% Percentile	28.3
			K-S Test Statistic	0.127					95% Percentile	29.15
			5% K-S Critical Value	0.206					99% Percentile	29.83
Data appear Gamma Distributed at 5% Significance Level										

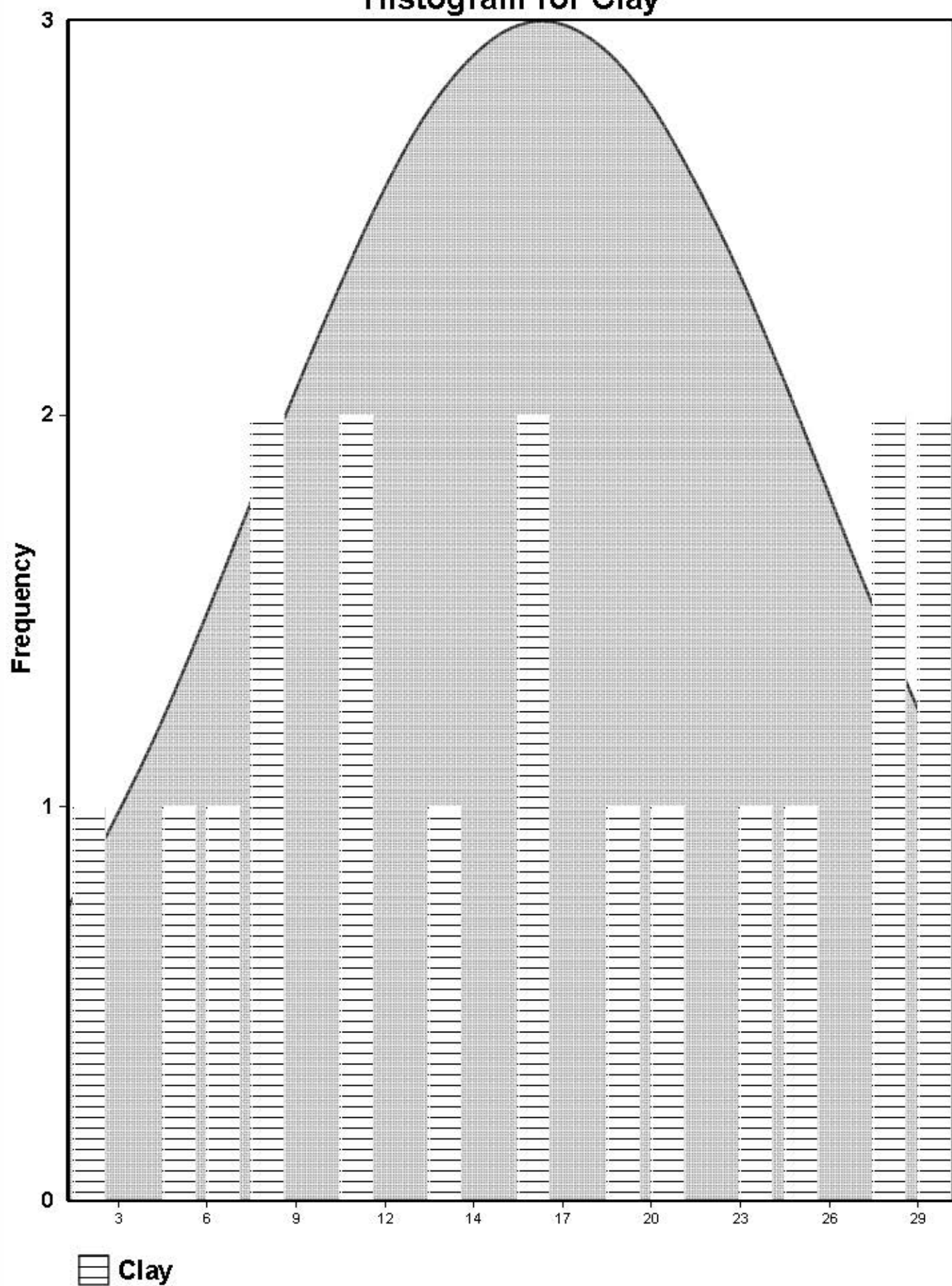
Assuming Gamma Distribution				95% UTL with 95% Coverage				30	
90% Percentile		32.19	95% Percentile Bootstrap UTL with 95% Coverage				30		
95% Percentile		39.24	95% BCA Bootstrap UTL with 95% Coverage				30		
99% Percentile		54.87	95% UPL				30		
			95% Chebyshev UPL				57.78		
95% WH Approx. Gamma UPL		40.83	Upper Threshold Limit Based upon IQR				48.79		
95% HW Approx. Gamma UPL		43.18							
95% WH Approx. Gamma UTL with 95% Coverage		55.64							
95% HW Approx. Gamma UTL with 95% Coverage		61.04							
Non-Clay									
General Statistics									
Number of Valid Data		33	Number of Detected Data				32		
Number of Distinct Detected Data		22	Number of Non-Detect Data				1		
			Percent Non-Detects				3.03%		
Raw Statistics			Log-transformed Statistics						
Minimum Detected		2.4	Minimum Detected				0.875		
Maximum Detected		13	Maximum Detected				2.565		
Mean of Detected		7.891	Mean of Detected				1.947		
SD of Detected		3.466	SD of Detected				0.53		
Minimum Non-Detect		10	Minimum Non-Detect				2.303		
Maximum Non-Detect		10	Maximum Non-Detect				2.303		
Background Statistics									
Normal Distribution Test with Detected Values Only			Lognormal Distribution Test with Detected Values Only						
Shapiro Wilk Test Statistic		0.926	Shapiro Wilk Test Statistic				0.889		
5% Shapiro Wilk Critical Value		0.93	5% Shapiro Wilk Critical Value				0.93		
Data not Normal at 5% Significance Level			Data not Lognormal at 5% Significance Level						
Assuming Normal Distribution			Assuming Lognormal Distribution						
DL/2 Substitution Method			DL/2 Substitution Method						
Mean		7.803	Mean (Log Scale)				1.937		
SD		3.448	SD (Log Scale)				0.525		
95% UTL 95% Coverage		15.31	95% UTL 95% Coverage				21.73		
95% UPL (t)		13.73	95% UPL (t)				17.1		
90% Percentile (z)		12.22	90% Percentile (z)				13.59		
95% Percentile (z)		13.47	95% Percentile (z)				16.44		
99% Percentile (z)		15.82	99% Percentile (z)				23.51		
Maximum Likelihood Estimate(MLE) Method			Log ROS Method						
Mean		8.754	Mean in Original Scale				7.822		
SD		2.62	SD in Original Scale				3.434		
95% UTL with 95% Coverage		14.46	95% UTL with 95% Coverage				21.72		
			95% BCA UTL with 95% Coverage				13		
			95% Bootstrap (%) UTL with 95% Coverage				13		
95% UPL (t)		13.26	95% UPL (t)				17.1		
90% Percentile (z)		12.11	90% Percentile (z)				13.6		
95% Percentile (z)		13.06	95% Percentile (z)				16.45		

Note: DL/2 is not a recommended method.

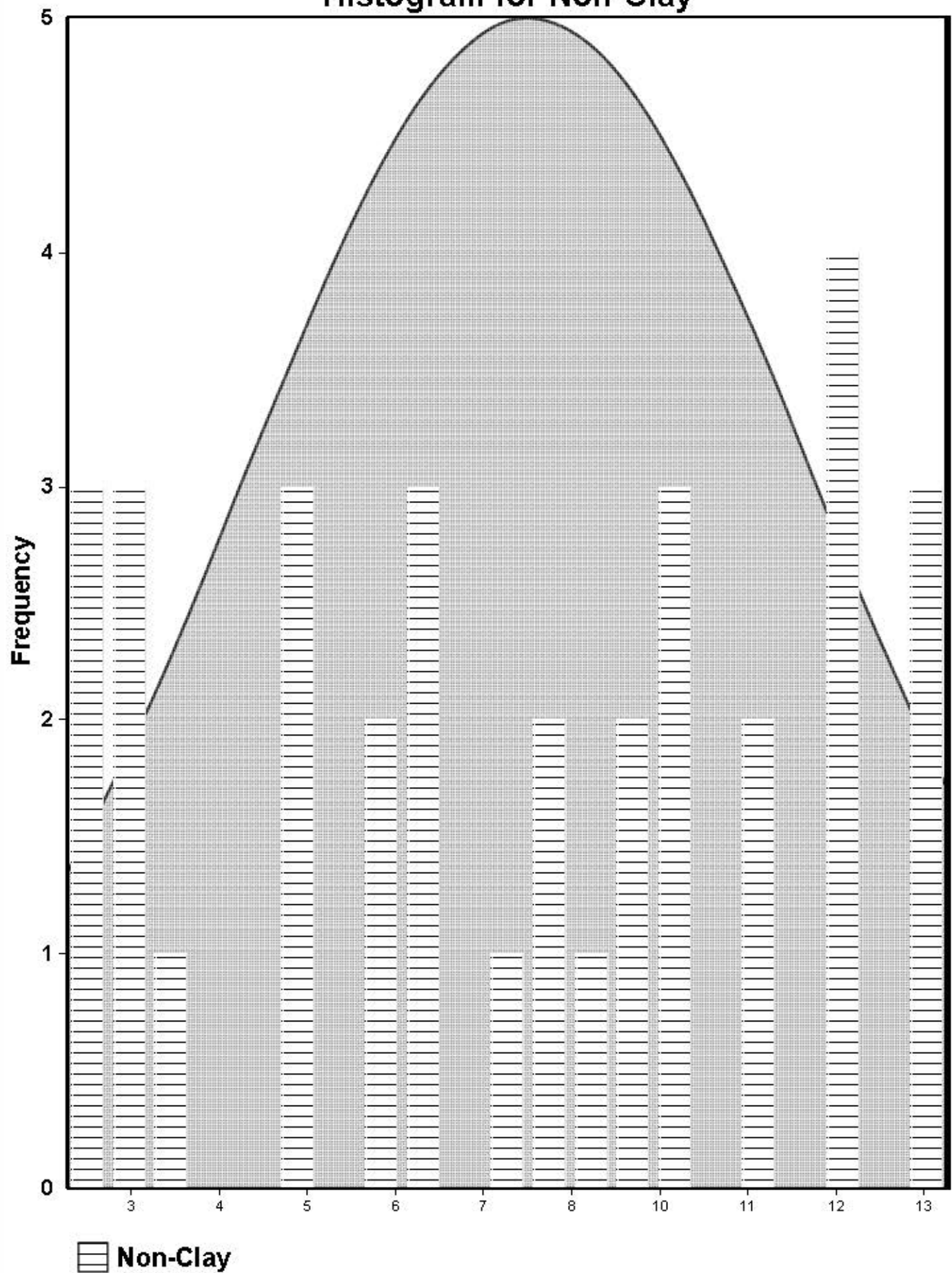
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Boron.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Dixon's Outlier Test for Clay							
Number of data = 18							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Data Value 30 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.085							
For 10% significance level, 30 is not an outlier.							
For 5% significance level, 30 is not an outlier.							
For 1% significance level, 30 is not an outlier.							
2. Data Value 1.2 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.194							
For 10% significance level, 1.2 is not an outlier.							
For 5% significance level, 1.2 is not an outlier.							
For 1% significance level, 1.2 is not an outlier.							
Rosner's Outlier Test for Non-Clay							
Mean		7.803					
Standard Deviation		3.448					
Number of data		33					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	7.803	3.396	2.4	17	1.591	2.95	3.29
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

				Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Data Sets with Non-Detects			
User Selected Options							
From File				Boron.wst			
Full Precision				OFF			
Confidence Coefficient				95%			
Substantial Difference (S)				0.000			
Selected Null Hypothesis				Site or AOC Mean/Median Equal to Background Mean/Median (2 Sided Alternative			
Alternative Hypothesis				Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: Non-Clay							
Background Data: Clay							
Raw Statistics							
	Site	Background					
Number of Valid Data	33	18					
Number of Non-Detect Data	1	0					
Number of Detect Data	32	18					
Minimum Non-Detect	10	N/A					
Maximum Non-Detect	10	N/A					
Percent Non detects	3.03%	0.00%					
Minimum Detected	2.4	1.2					
Maximum Detected	13	30					
Mean of Detected Data	7.891	16.58					
Median of Detected Data	8.3	16					
SD of Detected Data	3.466	9.2					
Wilcoxon-Mann-Whitney Site vs Background Test							
Wilcoxon-Mann-Whitney (WMW) Test							
H0: Mean/Median of Site or AOC = Mean/Median of Background							
Site Rank Sum W-Stat	708						
WMW Test U-Stat	2.947						
Lower Critical Value (0.025)	-1.96						
Upper Critical Value (0.975)	1.96						
P-Value	0.00301						
Conclusion with Alpha = 0.05							
Reject H0, Conclude Site <> Background							
P-Value < alpha (0.05)							

Histogram for Clay



Histogram for Non-Clay



Location	Clay	D_Clay	Location	Non-Clay	D_Non-Clay
BG-1-2	30	1	BG-1-10	6.5	1
BG-1-43	16	1	BG-1-29	3.3	1
BG-1-55	1.2	1	BG-1-40	10	0
BG-1-78	16	1	BG-1-46	11	1
BG-2-30	25	1	BG-1-92	3.1	1
BG-2-81	29	1	BG-2-2	9.3	1
BG-3-17	6.4	1	BG-2-10	8.5	1
BG-3-22	5.3	1	BG-2-19	13	1
BG-3-69	14	1	BG-2-21	13	1
BG-4-2	24	1	BG-2-32	10	1
BG-4-19	28	1	BG-2-75	9.3	1
BG-4-40	28	1	BG-3-2	6.6	1
BG-4-79	19	1	BG-3-10	8.1	1
BG-4-161	8.3	1	BG-3-29	3.5	1
BG-4-163	10	1	BG-3-63	12	1
BG-6-28	20	1	BG-3-65	11	1
BG-6-53	10	1	BG-3-95	2.4	1
BG-6-87	8.2	1	BG-3-105	6.8	1
			BG-3-131	3.4	1
			BG-3-136	12	1
			BG-4-10	13	1
			BG-4-65	7	1
			BG-4-82	12	1
			BG-4-95	5.5	1
			BG-4-117	2.8	1
			BG-4-120	12	1
			BG-6-2	8.8	1
			BG-6-9	5.5	1
			BG-6-58	5.1	1
			BG-6-75	2.6	1
			BG-6-98	9.9	1
			BG-6-114	7	1
			BG-6-127	8.5	1

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options							
From File	Boron.wst						
Full Precision	OFF						
Confidence Coefficient	0.95						
Alluv							
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs	
Raw Statistics	12	0	12	11	1	8.33%	
	Number	Minimum	Maximum	Mean	Median	SD	
Statistics (Detects Only)	11	3.3	30	10.24	8.5	7.17	
Statistics (All: NDs treated as DL value)	12	3.3	30	10.22	8.65	6.837	
Statistics (All: NDs treated as DL/2 value)	12	3.3	30	9.8	8.3	7.002	
Statistics (Normal ROS Estimated Data)	12	3.3	30	10.03	8.3	6.872	
Statistics (Gamma ROS Estimated Data)	12	3.3	30	10.15	8.65	6.843	
Statistics (Lognormal ROS Estimated Data)	12	3.3	30	9.968	8.3	6.9	
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV	
Statistics (Detects Only)	3.282	2.517	3.119	2.166	0.564	0.26	
Statistics (NDs = DL)	3.567	2.73	2.865	2.177	0.539	0.247	
Statistics (NDs = DL/2)	3.228	2.477	3.036	2.12	0.561	0.265	
Statistics (Gamma ROS Estimates)	3.558	2.724	2.854	--	--	--	
Statistics (Lognormal ROS Estimates)	--	--	--	2.148	0.541	0.252	
Normal Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS			
Correlation Coefficient R	0.837	0.833	0.832	0.823			
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Detects Only)	0.728	0.85	Data Not Normal				
Lilliefors (Detects Only)	0.279	0.267	Data Not Normal				
Shapiro-Wilks (NDs = DL)	0.724	0.859	Data Not Normal				
Lilliefors (NDs = DL)	0.263	0.256	Data Not Normal				
Shapiro-Wilks (NDs = DL/2)	0.719	0.859	Data Not Normal				
Lilliefors (NDs = DL/2)	0.278	0.256	Data Not Normal				
Shapiro-Wilks (Normal ROS Estimates)	0.707	0.859	Data Not Normal				
Lilliefors (Normal ROS Estimates)	0.293	0.256	Data Not Normal				
Gamma Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS			
Correlation Coefficient R	0.92	0.913	0.919	0.906			
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Anderson-Darling (Detects Only)	0.541	0.733					
Kolmogorov-Smirnov (Detects Only)	0.221	0.257	Data Appear Gamma Distributed				
Anderson-Darling (NDs = DL)	0.553	0.737					
Kolmogorov-Smirnov (NDs = DL)	0.195	0.247	Data Appear Gamma Distributed				
Anderson-Darling (NDs = DL/2)	0.534	0.738					

Kolmogorov-Smirnov (NDs = DL/2)		0.212	0.247	Data Appear Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)		0.622	0.737				
Kolmogorov-Smirnov (Gamma ROS Est.)		0.244	0.247	Data Appear Gamma Distributed			
Lognormal Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS			
Correlation Coefficient R	0.96	0.959	0.965	0.953			
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Detects Only)	0.945	0.85	Data Appear Lognormal				
Lilliefors (Detects Only)	0.182	0.267	Data Appear Lognormal				
Shapiro-Wilks (NDs = DL)	0.945	0.859	Data Appear Lognormal				
Lilliefors (NDs = DL)	0.158	0.256	Data Appear Lognormal				
Shapiro-Wilks (NDs = DL/2)	0.95	0.859	Data Appear Lognormal				
Lilliefors (NDs = DL/2)	0.172	0.256	Data Appear Lognormal				
Shapiro-Wilks (Lognormal ROS Estimates)	0.934	0.859	Data Appear Lognormal				
Lilliefors (Lognormal ROS Estimates)	0.19	0.256	Data Appear Lognormal				
Note: Substitution methods such as DL or DL/2 are not recommended.							
MC							
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs	
Raw Statistics	39	0	39	39	0	0.00%	
	Number	Minimum	Maximum	Mean	Median	SD	
Statistics (Full: no NDs)	39	1.2	29	11.24	10	7.536	
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV	
Statistics (Full: no NDs)	2.229	2.074	5.043	2.179	0.751	0.345	
Normal Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS			
Correlation Coefficient R	0.95	0.95	0.95	0.95			
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Full: no NDs)	0.89	0.939	Data Not Normal				
Lilliefors (Full: no NDs)	0.178	0.142	Data Not Normal				
Gamma Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS			
Correlation Coefficient R	0.981	0.981	0.981	0.981			
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Anderson-Darling (Full: no NDs)	0.287	0.758					
Kolmogorov-Smirnov (Full: no NDs)	0.0913	0.143	Data Appear Gamma Distributed				
Lognormal Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS			
Correlation Coefficient R	0.983	0.983	0.983	0.983			

				Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
				Shapiro-Wilks (Full: no NDs)	0.96	0.939	Data Appear Lognormal				
				Lilliefors (Full: no NDs)	0.102	0.142	Data Appear Lognormal				
Note:											
Substitution methods such as DL or DL/2 are not recommended.											

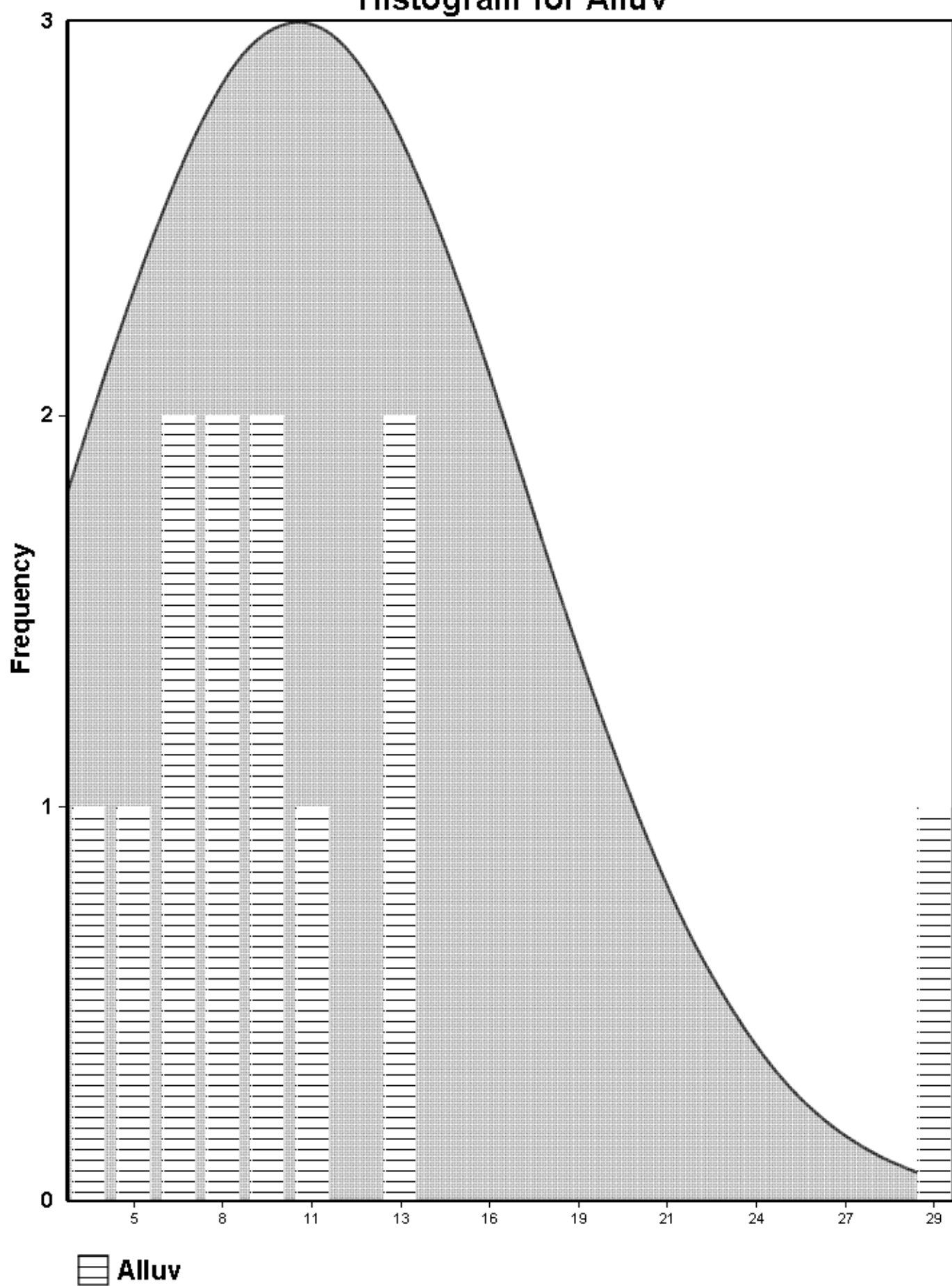
[illegible]

Gamma Distribution Test with Detected Values Only				Data Distribution Test with Detected Values Only					
k star (bias corrected)			2.448	Data appear Gamma Distributed at 5% Significance Level					
Theta Star			4.182						
nu star			53.85						
A-D Test Statistic			0.541	Nonparametric Statistics					
5% A-D Critical Value			0.733	Kaplan-Meier (KM) Method					
K-S Test Statistic			0.221	Mean				9.973	
5% K-S Critical Value			0.257	SD				6.626	
Data appear Gamma Distributed at 5% Significance Level				SE of Mean				2.014	
				95% KM UTL with 95% Coverage				28.1	
Assuming Gamma Distribution				95% KM Chebyshev UPL				40.03	
Gamma ROS Statistics with Extrapolated Data				95% KM UPL (t)				22.36	
Mean			10.15	90% Percentile (z)				18.46	
Median			8.65	95% Percentile (z)				20.87	
SD			6.843	99% Percentile (z)				25.39	
k star			2.724						
Theta star			3.727	Gamma ROS Limits with Extrapolated Data					
Nu star			65.37	95% Wilson Hilferty (WH) Approx. Gamma UPL				22.85	
95% Percentile of Chisquare (2k)			11.76	95% Hawkins Wixley (HW) Approx. Gamma UPL				23.01	
				95% WH Approx. Gamma UTL with 95% Coverage				32.24	
90% Percentile			18.4	95% HW Approx. Gamma UTL with 95% Coverage				33.24	
95% Percentile			21.91						
99% Percentile			29.57						
Note: DL/2 is not a recommended method.									
MC									
General Statistics									
Total Number of Observations			39	Number of Distinct Observations				30	
Raw Statistics				Log-Transformed Statistics					
Minimum			1.2	Minimum				0.182	
Maximum			29	Maximum				3.367	
Second Largest			28	Second Largest				3.332	
First Quartile			5.95	First Quartile				1.781	
Median			10	Median				2.303	
Third Quartile			13.5	Third Quartile				2.602	
Mean			11.24	Mean				2.179	
SD			7.536	SD				0.751	
Coefficient of Variation			0.671						
Skewness			1.01						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
Shapiro Wilk Test Statistic			0.89	Shapiro Wilk Test Statistic				0.96	
Shapiro Wilk Critical Value			0.939	Shapiro Wilk Critical Value				0.939	
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
95% UTL with 95% Coverage			27.25	95% UTL with 95% Coverage				43.59	

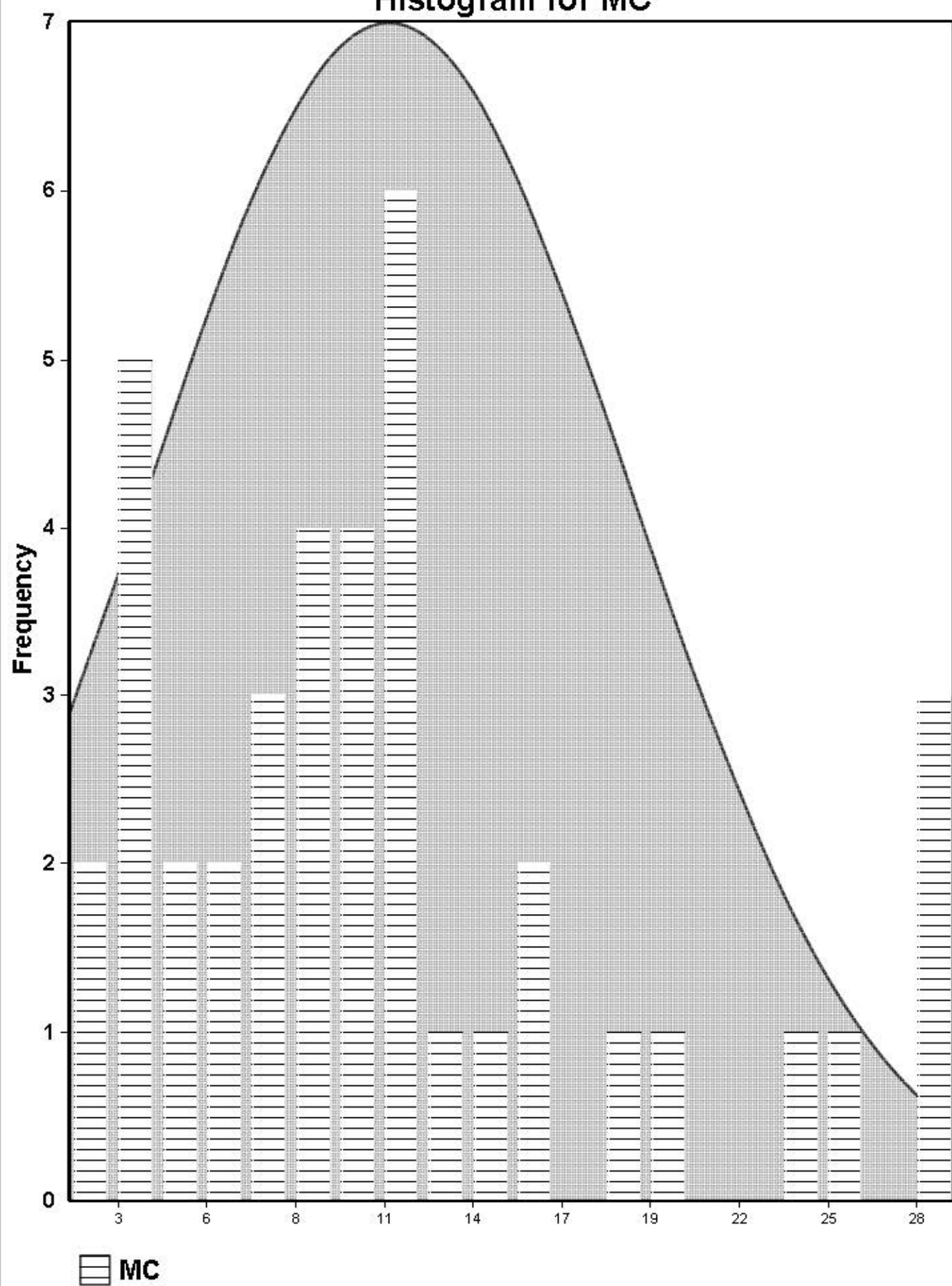
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Boron.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 30 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.680								
For 10% significance level, 30 is an outlier.								
For 5% significance level, 30 is an outlier.								
For 1% significance level, 30 is an outlier.								
2. Data Value 3.3 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.227								
For 10% significance level, 3.3 is not an outlier.								
For 5% significance level, 3.3 is not an outlier.								
For 1% significance level, 3.3 is not an outlier.								
Rosner's Outlier Test for MC								
Mean			11.24					
Standard Deviation			7.536					
Number of data			39					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	11.24	7.438	29	9	2.388	3.03	3.37	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Data Sets with Non-Detects				
User Selected Options				
From File	Boron.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference (S)	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (2 Sided Alternative			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: MC				
Background Data: Alluv				
Raw Statistics				
	Site	Background		
Number of Valid Data	39	12		
Number of Non-Detect Data	0	1		
Number of Detect Data	39	11		
Minimum Non-Detect	N/A	10		
Maximum Non-Detect	N/A	10		
Percent Non detects	0.00%	8.33%		
Minimum Detected	1.2	3.3		
Maximum Detected	29	30		
Mean of Detected Data	11.24	10.24		
Median of Detected Data	10	8.5		
SD of Detected Data	7.536	7.17		
Wilcoxon-Mann-Whitney Site vs Background Test				
All observations <= 10 (Max DL) are ranked the same				
Wilcoxon-Mann-Whitney (WMW) Test				
H0: Mean/Median of Site or AOC = Mean/Median of Background				
Site Rank Sum W-Stat	1053			
WMW Test U-Stat	0.855			
Lower Critical Value (0.025)	-1.96			
Upper Critical Value (0.975)	1.96			
P-Value	0.393			
Conclusion with Alpha = 0.05				
Do Not Reject H0, Conclude Site = Background				
P-Value >= alpha (0.05)				

Histogram for Alluv



Histogram for MC



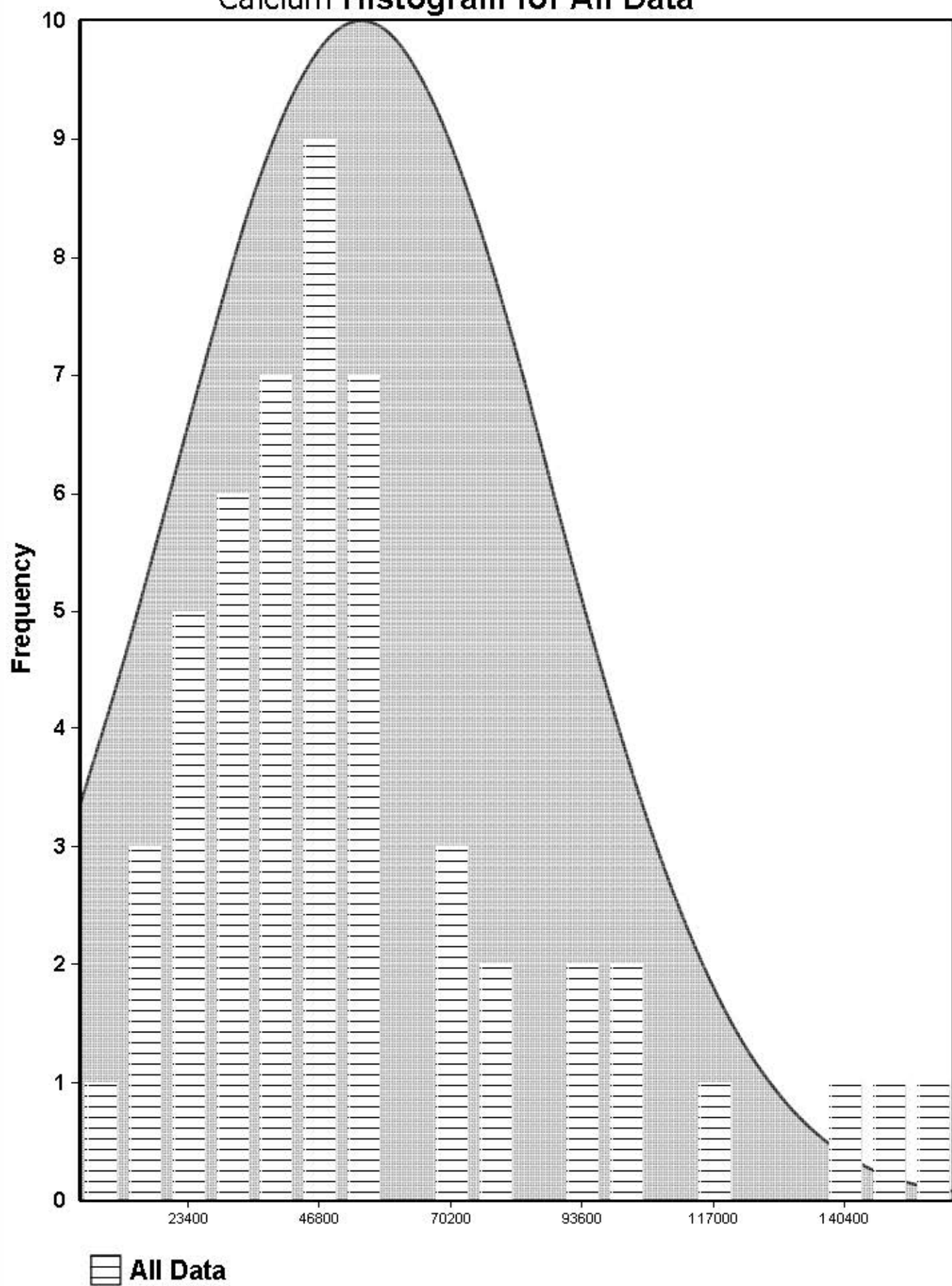
Location	Alluv	D_Alluv	Location	MC	D_MC
BG-1-2	30	1	BG-1-43	16	1
BG-1-10	6.5	1	BG-1-46	11	1
BG-1-29	3.3	1	BG-1-55	1.2	1
BG-1-40	10	0	BG-1-78	16	1
BG-2-2	9.3	1	BG-1-92	3.1	1
BG-2-10	8.5	1	BG-2-30	25	1
BG-2-19	13	1	BG-2-32	10	1
BG-2-21	13	1	BG-2-75	9.3	1
BG-3-2	6.6	1	BG-2-81	29	1
BG-3-10	8.1	1	BG-3-17	6.4	1
BG-6-2	8.8	1	BG-3-22	5.3	1
BG-6-9	5.5	1	BG-3-29	3.5	1
			BG-3-63	12	1
			BG-3-65	11	1
			BG-3-69	14	1
			BG-3-95	2.4	1
			BG-3-105	6.8	1
			BG-3-131	3.4	1
			BG-3-136	12	1
			BG-4-1	24	1
			BG-4-10	13	1
			BG-4-19	28	1
			BG-4-40	28	1
			BG-4-65	7	1
			BG-4-79	19	1
			BG-4-82	12	1
			BG-4-95	5.5	1
			BG-4-117	2.8	1
			BG-4-120	12	1
			BG-4-161	8.3	1
			BG-4-163	10	1
			BG-6-28	20	1
			BG-6-53	10	1
			BG-6-58	5.1	1
			BG-6-75	2.6	1
			BG-6-87	8.2	1
			BG-6-98	9.9	1
			BG-6-114	7	1
			BG-1-127	8.5	1

		Goodness-of-Fit Test Statistics for Full Data Sets without Non-Detects					
User Selected Options							
From File	Calcium.wst						
Full Precision	OFF						
Confidence Coefficient	0.95						
All Data							
Raw Statistics							
Number of Valid Observations	51						
Number of Distinct Observations	37						
Minimum	4000						
Maximum	160000						
Mean of Raw Data	54196						
Standard Deviation of Raw Data	33858						
Kstar	2.784						
Mean of Log Transformed Data	10.72						
Standard Deviation of Log Transformed Data	0.636						
Normal Distribution Test Results							
Correlation Coefficient R	0.923						
Approximate Shapiro Wilk Test Statistic	0.853						
Approximate Shapiro Wilk P Value	1.3808E-6						
Lilliefors Test Statistic	0.212						
Lilliefors Critical (0.95) Value	0.124						
Data not Normal at (0.05) Significance Level							
Gamma Distribution Test Results							
Correlation Coefficient R	0.981						
A-D Test Statistic	0.708						
A-D Critical (0.95) Value	0.757						
K-S Test Statistic	0.134						
K-S Critical(0.95) Value	0.125						
Data follow Appr. Gamma Distribution at (0.05) Significance Level							
Lognormal Distribution Test Results							
Correlation Coefficient R	0.965						
Approximate Shapiro Wilk Test Statistic	0.949						
Approximate Shapiro Wilk P Value	0.047						
Lilliefors Test Statistic	0.104						
Lilliefors Critical (0.95) Value	0.124						
Data appear Lognormal at (0.05) Significance Level							

			General Background Statistics for Full Data Sets						
User Selected Options									
From File			Calcium.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
All Data									
General Statistics									
Total Number of Observations			51		Number of Distinct Observations			37	
Raw Statistics					Log-Transformed Statistics				
		Minimum	4000				Minimum	8.294	
		Maximum	160000				Maximum	11.98	
		Second Largest	150000				Second Largest	11.92	
		First Quartile	31500				First Quartile	10.36	
		Median	46000				Median	10.74	
		Third Quartile	63500				Third Quartile	11.05	
		Mean	54196				Mean	10.72	
		SD	33858				SD	0.636	
		Coefficient of Variation	0.625						
		Skewness	1.518						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Lilliefors Test Statistic	0.212				Lilliefors Test Statistic	0.104	
		Lilliefors Critical Value	0.124				Lilliefors Critical Value	0.124	
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	123730				95% UTL with 95% Coverage	167114	
		95% UPL (t)	111492				95% UPL (t)	132811	
		90% Percentile (z)	97587				90% Percentile (z)	102296	
		95% Percentile (z)	109887				95% Percentile (z)	128869	
		99% Percentile (z)	132961				99% Percentile (z)	198735	
Gamma Distribution Test				Data Distribution Test					
		k star	2.784		Data Follow Appr. Gamma Distribution at 5% Significance Level				
		Theta Star	19467						
		MLE of Mean	54196						
		MLE of Standard Deviation	32481						
		nu star	284						
		A-D Test Statistic	0.708		Nonparametric Statistics				
		5% A-D Critical Value	0.757				90% Percentile	100000	
		K-S Test Statistic	0.134				95% Percentile	130000	
		5% K-S Critical Value	0.125				99% Percentile	155000	
Data follow Appx. Gamma Distribution at 5% Significance Level									

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Calcium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Rosner's Outlier Test for All Data							
Mean		54196					
Standard Deviation		33858					
Number of data		51					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	54196	33524	160000	8	3.156	3.137	3.488
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 160000 is a Potential Statistical Outlier							
For 1% Significance Level, there is no Potential Outlier							

Calcium Histogram for All Data



Location	All Data
BG-1-2	100000
BG-3-17	76000
BG-4-2	35000
BG-4-19	47000
BG-1-10	79000
BG-2-2	23000
BG-2-10	19000
BG-2-19	160000
BG-3-2	100000
BG-3-10	70000
BG-4-10	46000
BG-6-2	96000
BG-6-9	38000
BG-1-29	48000
BG-1-40	140000
BG-1-46	46000
BG-1-92	26000
BG-2-21	42000
BG-2-32	4000
BG-2-75	19000
BG-3-29	36000
BG-3-63	25000
BG-3-65	38000
BG-3-95	29000
BG-3-105	32000
BG-3-131	120000
BG-3-136	48000
BG-4-65	30000
BG-4-82	50000
BG-4-95	30000
BG-4-117	25000
BG-4-120	39000
BG-6-58	25000
BG-6-75	54000
BG-6-98	39000
BG-6-114	52000
BG-6-127	46000
BG-1-43	31000
BG-1-55	38000
BG-1-78	71000
BG-2-30	17000
BG-2-81	57000
BG-3-22	150000
BG-3-69	55000
BG-4-40	57000
BG-4-79	70000
BG-4-161	52000
BG-4-163	90000
BG-6-28	44000
BG-6-53	49000
BG-6-87	51000

		Number of Distinct Observations	29					
		Minimum	4000					
		Maximum	150000					
		Mean of Raw Data	49342					
		Standard Deviation of Raw Data	30749					
		Kstar	2.885					
		Mean of Log Transformed Data	10.64					
		Standard Deviation of Log Transformed Data	0.625					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.889					
		Shapiro Wilk Test Statistic	0.802					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	1.8875E-6					
		Lilliefors Test Statistic	0.244					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.955					
		A-D Test Statistic	0.963					
		A-D Critical (0.95) Value	0.754					
		K-S Test Statistic	0.169					
		K-S Critical(0.95) Value	0.144					
		Data not Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.94					
		Shapiro Wilk Test Statistic	0.91					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.00484					
		Lilliefors Test Statistic	0.15					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Lognormal at (0.05) Significance Level						

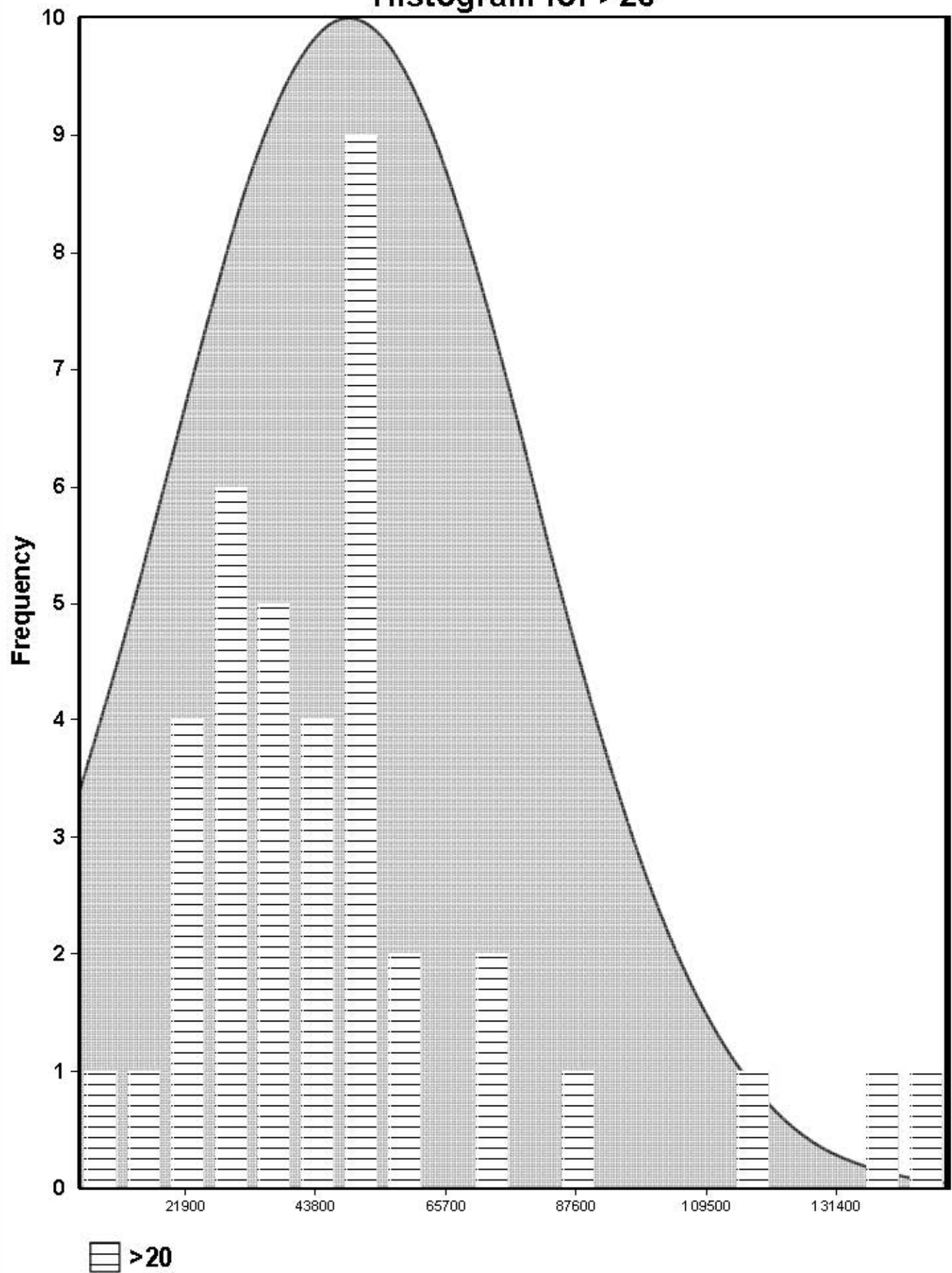
			General Background Statistics for Full Data Sets						
User Selected Options									
From File		Calcium.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
0-20									
General Statistics									
Total Number of Observations			13		Number of Distinct Observations			12	
Raw Statistics				Log-Transformed Statistics					
		Minimum	19000				Minimum	9.852	
		Maximum	160000				Maximum	11.98	
		Second Largest	100000				Second Largest	11.51	
		First Quartile	38000				First Quartile	10.55	
		Median	70000				Median	11.16	
		Third Quartile	96000				Third Quartile	11.47	
		Mean	68385				Mean	10.97	
		SD	39605				SD	0.627	
		Coefficient of Variation	0.579						
		Skewness	0.879						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Shapiro Wilk Test Statistic	0.925				Shapiro Wilk Test Statistic	0.96	
		Shapiro Wilk Critical Value	0.866				Shapiro Wilk Critical Value	0.866	
Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	174171				95% UTL with 95% Coverage	308508	
		95% UPL (t)	141638				95% UPL (t)	184365	
		90% Percentile (z)	119141				90% Percentile (z)	129142	
		95% Percentile (z)	133530				95% Percentile (z)	162165	
		99% Percentile (z)	160521				99% Percentile (z)	248574	
Gamma Distribution Test				Data Distribution Test					
		k star	2.469		Data appear Normal at 5% Significance Level				
		Theta Star	27698						
		MLE of Mean	68385						
		MLE of Standard Deviation	43521						
		nu star	64.19						
		A-D Test Statistic	0.251		Nonparametric Statistics				
		5% A-D Critical Value	0.739				90% Percentile	100000	
		K-S Test Statistic	0.13				95% Percentile	124000	
		5% K-S Critical Value	0.238				99% Percentile	152800	
Data appear Gamma Distributed at 5% Significance Level									

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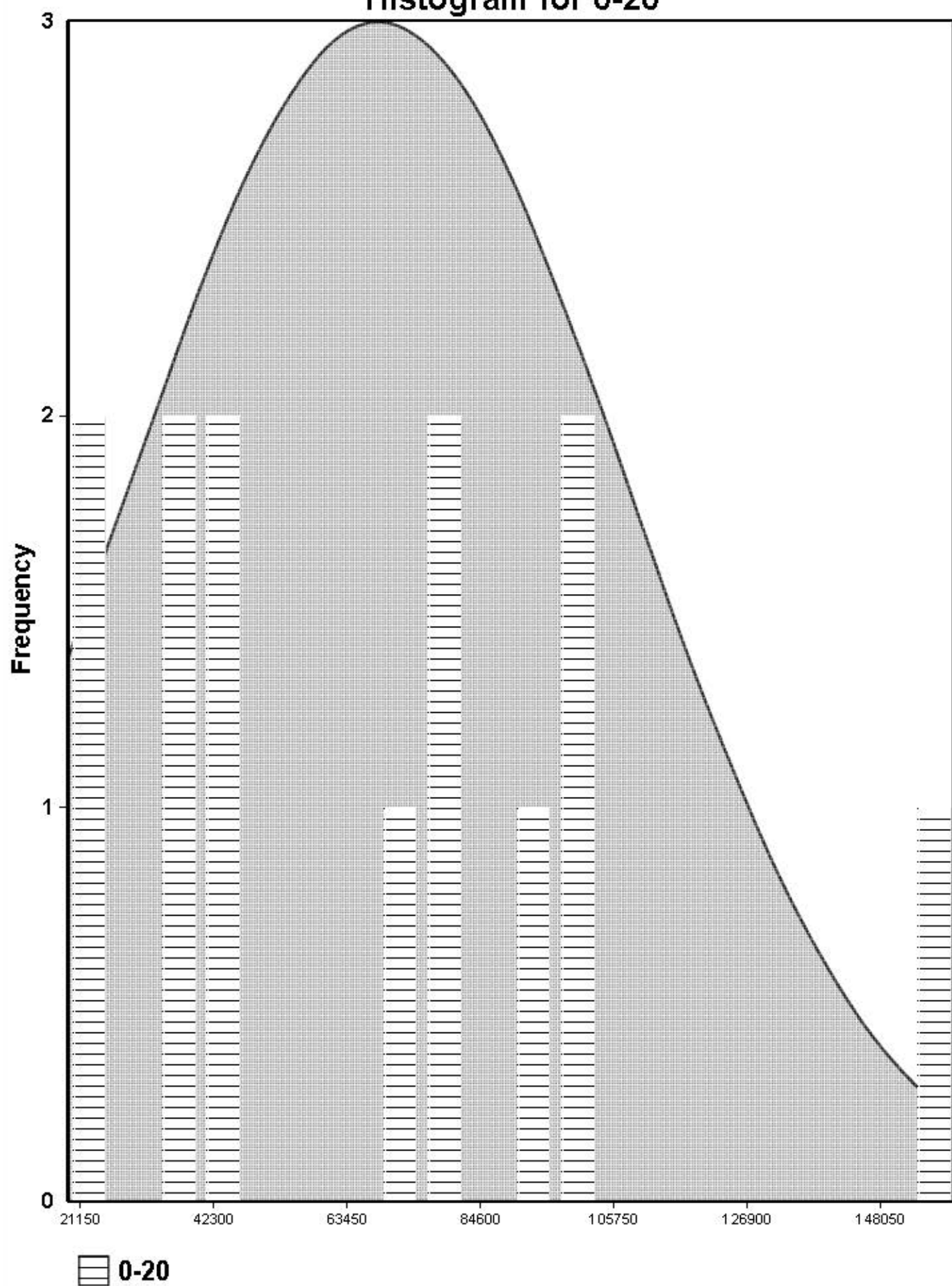
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Calcium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 160000 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.438							
For 10% significance level, 160000 is not an outlier.							
For 5% significance level, 160000 is not an outlier.							
For 1% significance level, 160000 is not an outlier.							
2. Data Value 19000 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.198							
For 10% significance level, 19000 is not an outlier.							
For 5% significance level, 19000 is not an outlier.							
For 1% significance level, 19000 is not an outlier.							
Rosner's Outlier Test for >20							
Mean			49342				
Standard Deviation			30749				
Number of data			38				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	49342	30341	150000	30	3.318	3.01	3.36
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 150000 is a Potential Statistical Outlier							
For 1% Significance Level, there is no Potential Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Calcium.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: >20					
Background Data: 0-20					
Raw Statistics					
	Site	Background			
Number of Valid Observations	38	13			
Number of Distinct Observations	29	12			
Minimum	4000	19000			
Maximum	150000	160000			
Mean	49342	68385			
Median	45000	70000			
SD	30749	39605			
SE of Mean	4988	10985			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	919				
WMW Test U-Stat	1.481				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.133				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for >20



Histogram for 0-20



Location	0-20
BG-1-2	100000
BG-3-17	76000
BG-4-2	35000
BG-4-19	47000
BG-1-10	79000
BG-2-2	23000
BG-2-10	19000
BG-2-19	160000
BG-3-2	100000
BG-3-10	70000
BG-4-10	46000
BG-6-2	96000
BG-6-9	38000

Location	>20
BG-1-29	48000
BG-1-40	140000
BG-1-46	46000
BG-1-92	26000
BG-2-21	42000
BG-2-32	4000
BG-2-75	19000
BG-3-29	36000
BG-3-63	25000
BG-3-65	38000
BG-3-95	29000
BG-3-105	32000
BG-3-131	120000
BG-3-136	48000
BG-4-65	30000
BG-4-82	50000
BG-4-95	30000
BG-4-117	25000
BG-4-120	39000
BG-6-58	25000
BG-6-75	54000
BG-6-98	39000
BG-6-114	52000
BG-6-127	46000
BG-1-43	31000
BG-1-55	38000
BG-1-78	71000
BG-2-30	17000
BG-2-81	57000
BG-3-22	150000
BG-3-69	55000
BG-4-40	57000
BG-4-79	70000
BG-4-161	52000
BG-4-163	90000
BG-6-28	44000
BG-6-53	49000
BG-6-87	51000

		Number of Distinct Observations	24					
		Minimum	4000					
		Maximum	160000					
		Mean of Raw Data	50727					
		Standard Deviation of Raw Data	35614					
		Kstar	2.298					
		Mean of Log Transformed Data	10.62					
		Standard Deviation of Log Transformed Data	0.691					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.897					
		Shapiro Wilk Test Statistic	0.811					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	2.0382E-5					
		Lilliefors Test Statistic	0.251					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.972					
		A-D Test Statistic	0.889					
		A-D Critical (0.95) Value	0.756					
		K-S Test Statistic	0.166					
		K-S Critical(0.95) Value	0.155					
		Data not Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.953					
		Shapiro Wilk Test Statistic	0.928					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.037					
		Lilliefors Test Statistic	0.133					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Lognormal at (0.05) Significance Level						

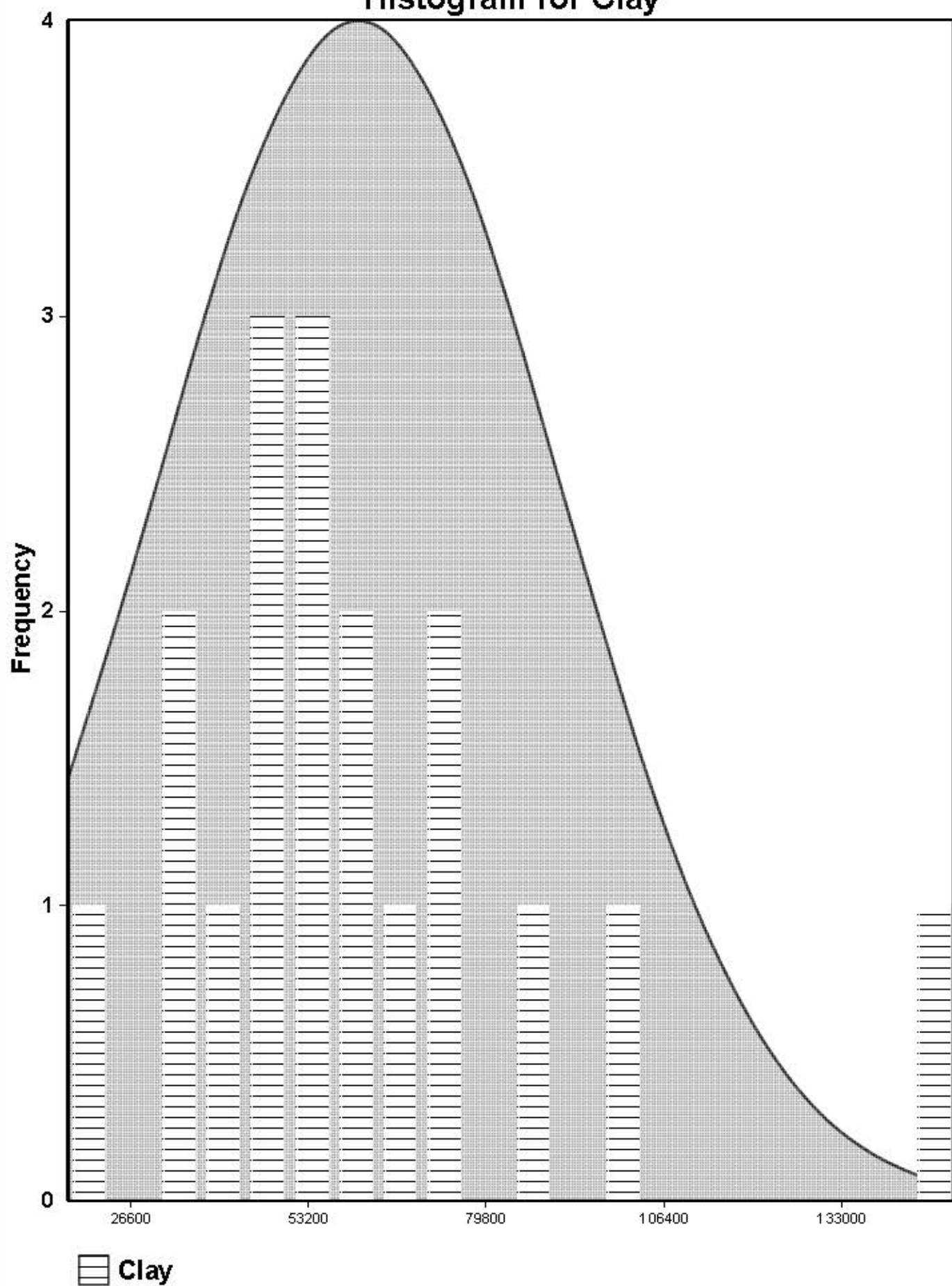
			General Background Statistics for Full Data Sets						
User Selected Options									
From File			Calcium.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
Clay									
General Statistics									
Total Number of Observations			18		Number of Distinct Observations			17	
Raw Statistics					Log-Transformed Statistics				
			Minimum	17000				Minimum	9.741
			Maximum	150000				Maximum	11.92
			Second Largest	100000				Second Largest	11.51
			First Quartile	44750				First Quartile	10.71
			Median	53500				Median	10.89
			Third Quartile	70750				Third Quartile	11.17
			Mean	60556				Mean	10.9
			SD	30297				SD	0.484
			Coefficient of Variation	0.5					
			Skewness	1.573					
Background Statistics									
Normal Distribution Test					Lognormal Distribution Test				
			Shapiro Wilk Test Statistic	0.881				Shapiro Wilk Test Statistic	0.974
			Shapiro Wilk Critical Value	0.897				Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level				
Assuming Normal Distribution					Assuming Lognormal Distribution				
			95% UTL with 95% Coverage	134874				95% UTL with 95% Coverage	178111
			95% UPL (t)	114705				95% UPL (t)	129064
			90% Percentile (z)	99383				90% Percentile (z)	101051
			95% Percentile (z)	110390				95% Percentile (z)	120470
			99% Percentile (z)	131037				99% Percentile (z)	167524
Gamma Distribution Test					Data Distribution Test				
			k star	4.029	Data appear Gamma Distributed at 5% Significance Level				
			Theta Star	15029					
			MLE of Mean	60556					
			MLE of Standard Deviation	30168					
			nu star	145					
			A-D Test Statistic	0.29	Nonparametric Statistics				
			5% A-D Critical Value	0.743				90% Percentile	93000
			K-S Test Statistic	0.158				95% Percentile	107500
			5% K-S Critical Value	0.204				99% Percentile	141500
Data appear Gamma Distributed at 5% Significance Level									

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			Outlier Tests for Selected Variables				
User Selected Options							
From File			Calcium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for Clay							
Number of data = 18							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Data Value 150000 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.522							
For 10% significance level, 150000 is an outlier.							
For 5% significance level, 150000 is an outlier.							
For 1% significance level, 150000 is not an outlier.							
2. Data Value 17000 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.247							
For 10% significance level, 17000 is not an outlier.							
For 5% significance level, 17000 is not an outlier.							
For 1% significance level, 17000 is not an outlier.							
Rosner's Outlier Test for Non-Clay							
Mean			50727				
Standard Deviation			35614				
Number of data			33				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	50727	35071	160000	8	3.116	2.95	3.29
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 160000 is a Potential Statistical Outlier							
For 1% Significance Level, there is no Potential Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Calcium.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: Non-Clay					
Background Data: Clay					
Raw Statistics					
	Site	Background			
Number of Valid Observations	33	18			
Number of Distinct Observations	24	17			
Minimum	4000	17000			
Maximum	160000	150000			
Mean	50727	60556			
Median	39000	53500			
SD	35614	30297			
SE of Mean	6200	7141			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	758.5				
WMW Test U-Stat	1.951				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.0487				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value < alpha (0.05)					

Histogram for Clay



Location	Clay
BG-1-2	100000
BG-1-43	31000
BG-1-55	38000
BG-1-78	71000
BG-2-30	17000
BG-2-81	57000
BG-3-17	76000
BG-3-22	150000
BG-3-69	55000
BG-4-2	35000
BG-4-19	47000
BG-4-40	57000
BG-4-79	70000
BG-4-161	52000
BG-4-163	90000
BG-6-28	44000
BG-6-53	49000
BG-6-87	51000

Location	Non-Clay
BG-1-10	79000
BG-1-29	48000
BG-1-40	140000
BG-1-46	46000
BG-1-92	26000
BG-2-2	23000
BG-2-10	19000
BG-2-19	160000
BG-2-21	42000
BG-2-32	4000
BG-2-75	19000
BG-3-2	100000
BG-3-10	70000
BG-3-29	36000
BG-3-63	25000
BG-3-65	38000
BG-3-95	29000
BG-3-105	32000
BG-3-131	120000
BG-3-136	48000
BG-4-10	46000
BG-4-65	30000
BG-4-82	50000
BG-4-95	30000
BG-4-117	25000
BG-4-120	39000
BG-6-2	96000
BG-6-9	38000
BG-6-58	25000
BG-6-75	54000
BG-6-98	39000
BG-6-114	52000
BG-6-127	46000

[illegible]

		Number of Distinct Observations	30					
		Minimum	4000					
		Maximum	150000					
		Mean of Raw Data	47410					
		Standard Deviation of Raw Data	26899					
		Kstar	3.291					
		Mean of Log Transformed Data	10.62					
		Standard Deviation of Log Transformed Data	0.593					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.904					
		Shapiro Wilk Test Statistic	0.839					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	1.7124E-5					
		Lilliefors Test Statistic	0.207					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.962					
		A-D Test Statistic	0.726					
		A-D Critical (0.95) Value	0.753					
		K-S Test Statistic	0.143					
		K-S Critical(0.95) Value	0.142					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.935					
		Shapiro Wilk Test Statistic	0.906					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.00322					
		Lilliefors Test Statistic	0.134					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets						
User Selected Options									
From File			Calcium.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			90%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
Alluv									
General Statistics									
Total Number of Observations			12		Number of Distinct Observations			11	
Raw Statistics					Log-Transformed Statistics				
Minimum			19000		Minimum			9.852	
Maximum			160000		Maximum			11.98	
Second Largest			140000		Second Largest			11.85	
First Quartile			41000		First Quartile			10.62	
Median			74500		Median			11.22	
Third Quartile			100000		Third Quartile			11.51	
Mean			76250		Mean			11.05	
SD			44914		SD			0.682	
Coefficient of Variation			0.589						
Skewness			0.51						
Background Statistics									
Normal Distribution Test					Lognormal Distribution Test				
Shapiro Wilk Test Statistic			0.942		Shapiro Wilk Test Statistic			0.945	
Shapiro Wilk Critical Value			0.859		Shapiro Wilk Critical Value			0.859	
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level				
Assuming Normal Distribution					Assuming Lognormal Distribution				
95% UTL with 90% Coverage			175511		95% UTL with 90% Coverage			284940	
95% UPL (t)			160205		95% UPL (t)			225834	
90% Percentile (z)			133810		90% Percentile (z)			151246	
95% Percentile (z)			150127		95% Percentile (z)			193784	
99% Percentile (z)			180736		99% Percentile (z)			308478	
Gamma Distribution Test					Data Distribution Test				
k star			2.152		Data appear Normal at 5% Significance Level				
Theta Star			35424						
MLE of Mean			76250						
MLE of Standard Deviation			51972						
nu star			51.66						
A-D Test Statistic			0.249		Nonparametric Statistics				
5% A-D Critical Value			0.74		90% Percentile			136000	
K-S Test Statistic			0.142		95% Percentile			149000	
5% K-S Critical Value			0.248		99% Percentile			157800	
Data appear Gamma Distributed at 5% Significance Level									

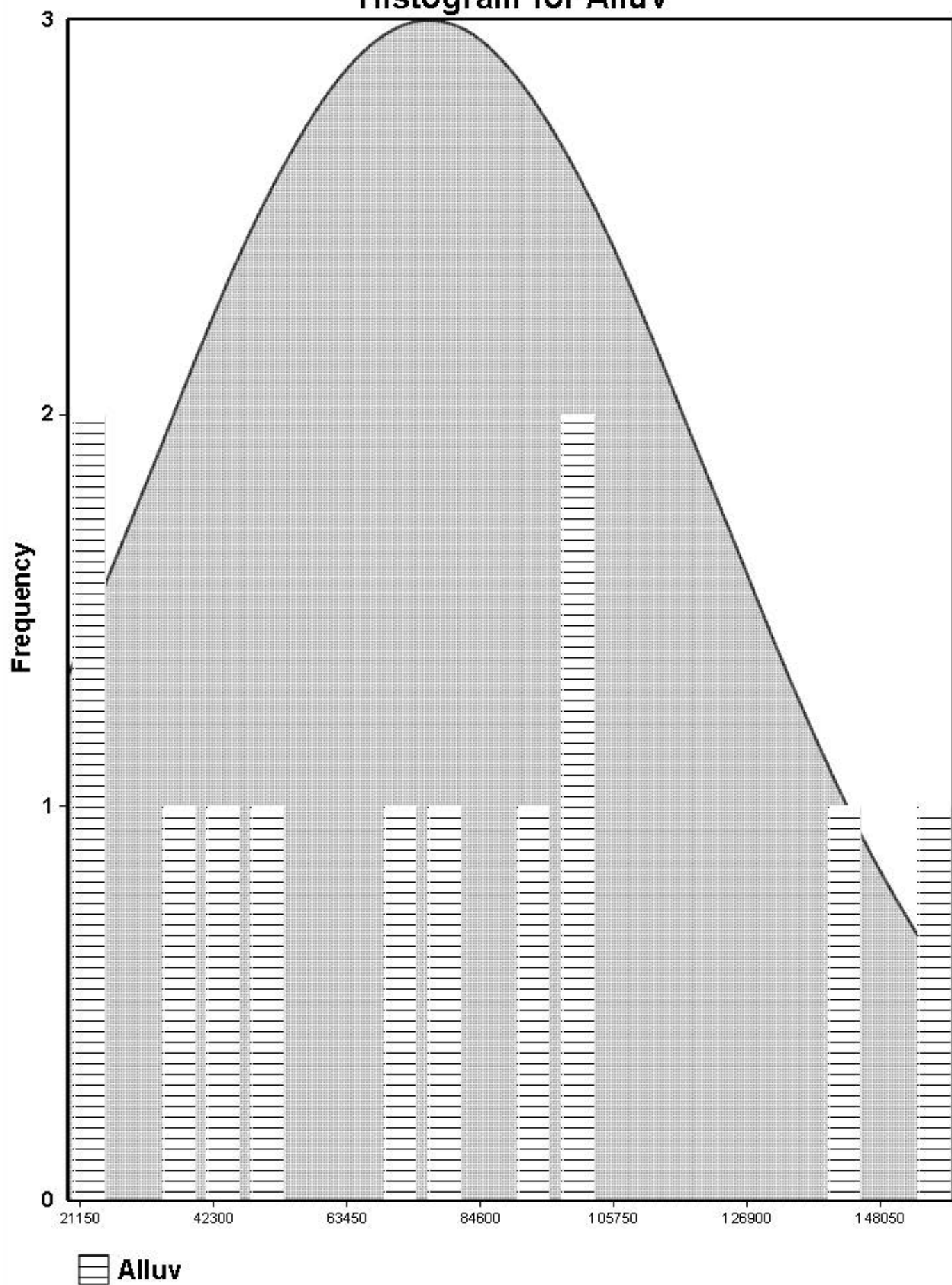
Assuming Gamma Distribution				95% UTL with 90% Coverage			160000		
90% Percentile			145770	95% Percentile Bootstrap UTL with 90% Coverage			160000		
95% Percentile			176737	95% BCA Bootstrap UTL with 90% Coverage			158000		
99% Percentile			245123	95% UPL			160000		
				95% Chebyshev UPL			280021		
95% WH Approx. Gamma UPL			187578	Upper Threshold Limit Based upon IQR			188500		
95% HW Approx. Gamma UPL			194395						
95% WH Approx. Gamma UTL with 90% Coverage			218752						
95% HW Approx. Gamma UTL with 90% Coverage			229964						
MC									
General Statistics									
Total Number of Observations			39	Number of Distinct Observations			30		
Raw Statistics				Log-Transformed Statistics					
Minimum		4000	Minimum		8.294				
Maximum		150000	Maximum		11.92				
Second Largest		120000	Second Largest		11.7				
First Quartile		30500	First Quartile		10.33				
Median		46000	Median		10.74				
Third Quartile		53000	Third Quartile		10.88				
Mean		47410	Mean		10.62				
SD		26899	SD		0.593				
Coefficient of Variation		0.567							
Skewness		1.97							
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
Shapiro Wilk Test Statistic		0.839	Shapiro Wilk Test Statistic		0.906				
Shapiro Wilk Critical Value		0.939	Shapiro Wilk Critical Value		0.939				
Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
95% UTL with 90% Coverage		93031	95% UTL with 90% Coverage		111822				
95% UPL (t)		93339	95% UPL (t)		112582				
90% Percentile (z)		81883	90% Percentile (z)		87459				
95% Percentile (z)		91655	95% Percentile (z)		108481				
99% Percentile (z)		109987	99% Percentile (z)		162495				
Gamma Distribution Test				Data Distribution Test					
k star		3.291	Data Follow Appr. Gamma Distribution at 5% Significance Level						
Theta Star		14404							
MLE of Mean		47410							
MLE of Standard Deviation		26132							
nu star		256.7							
A-D Test Statistic		0.726	Nonparametric Statistics						
5% A-D Critical Value		0.753	90% Percentile		72000				
K-S Test Statistic		0.143	95% Percentile		93000				
5% K-S Critical Value		0.142	99% Percentile		138600				

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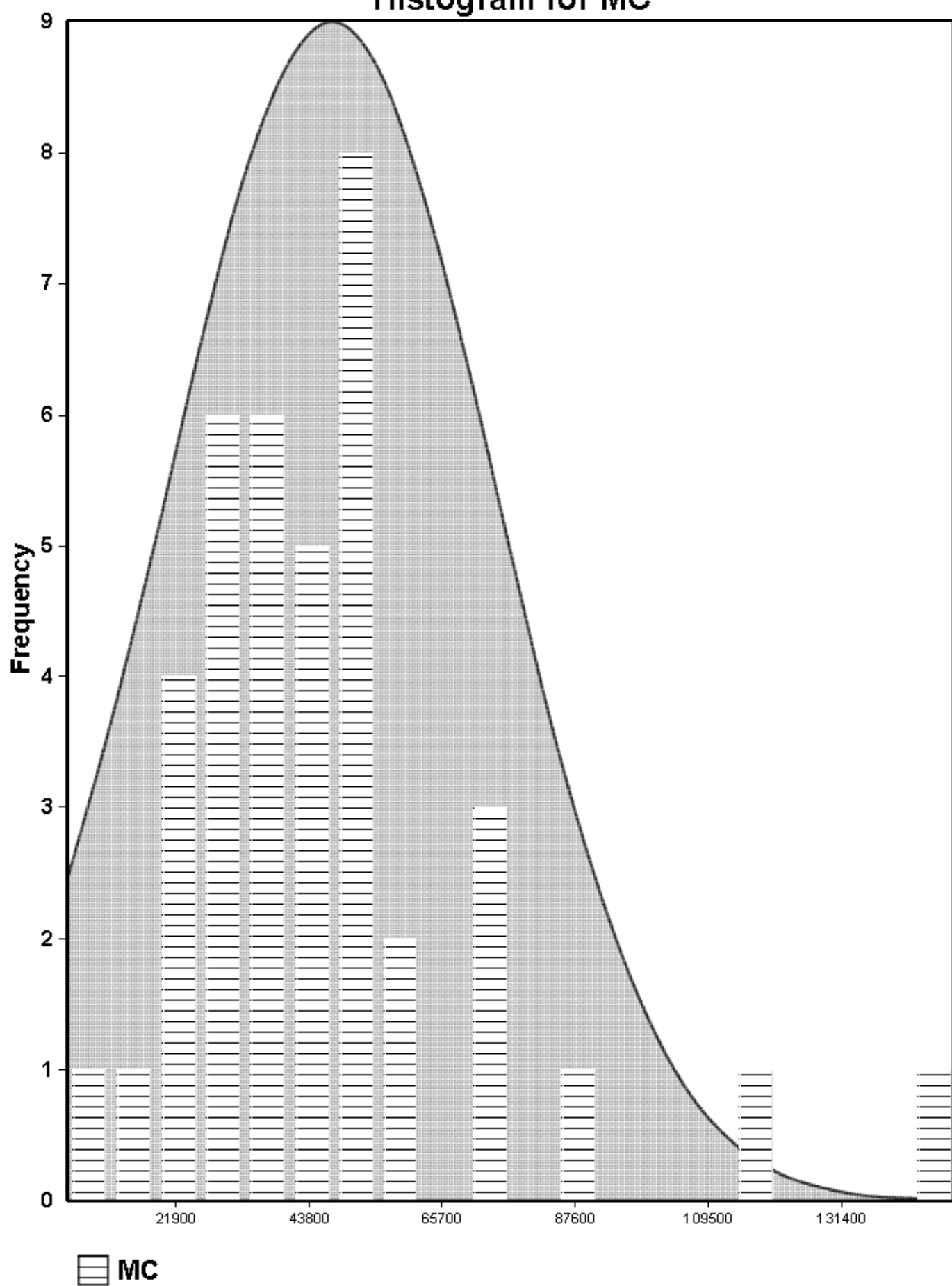
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Calcium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for Alluv							
Number of data = 12							
10% critical value: 0.49							
5% critical value: 0.546							
1% critical value: 0.642							
1. Data Value 160000 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.438							
For 10% significance level, 160000 is not an outlier.							
For 5% significance level, 160000 is not an outlier.							
For 1% significance level, 160000 is not an outlier.							
2. Data Value 19000 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.157							
For 10% significance level, 19000 is not an outlier.							
For 5% significance level, 19000 is not an outlier.							
For 1% significance level, 19000 is not an outlier.							
Rosner's Outlier Test for MC							
Mean			47410				
Standard Deviation			26899				
Number of data			39				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	47410	26552	150000	11	3.864	3.03	3.37
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 150000 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 150000 is a Potential Statistical Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Calcium.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: MC					
Background Data: Alluv					
Raw Statistics					
	Site	Background			
Number of Valid Observations	39	12			
Number of Distinct Observations	30	11			
Minimum	4000	19000			
Maximum	150000	160000			
Mean	47410	76250			
Median	46000	74500			
SD	26899	44914			
SE of Mean	4307	12966			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	928.5				
WMW Test U-Stat	1.887				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.0562				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for Alluv



Histogram for MC



Location	Alluv
BG-1-2	100000
BG-1-10	79000
BG-1-29	48000
BG-1-40	140000
BG-2-2	23000
BG-2-10	19000
BG-2-19	160000
BG-2-21	42000
BG-3-2	100000
BG-3-10	70000
BG-6-2	96000
BG-6-9	38000

Location	MC
BG-1-43	31000
BG-1-46	46000
BG-1-55	38000
BG-1-78	71000
BG-1-92	26000
BG-2-30	17000
BG-2-32	4000
BG-2-75	19000
BG-2-81	57000
BG-3-17	76000
BG-3-22	150000
BG-3-29	36000
BG-3-63	25000
BG-3-65	38000
BG-3-69	55000
BG-3-95	29000
BG-3-105	32000
BG-3-131	120000
BG-3-136	48000
BG-4-1	35000
BG-4-10	46000
BG-4-19	47000
BG-4-40	57000
BG-4-65	30000
BG-4-79	70000
BG-4-82	50000
BG-4-95	30000
BG-4-117	25000
BG-4-120	39000
BG-4-161	52000
BG-4-163	90000
BG-6-28	44000
BG-6-53	49000
BG-6-58	25000
BG-6-75	54000
BG-6-87	51000
BG-6-98	39000
BG-6-114	52000
BG-1-127	46000

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File	Cadmium.wst								
Full Precision	OFF								
Confidence Coefficient	0.95								
All Data									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	51	0	51	29	22	43.14%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	22	0.25	0.31	0.262	0.25	0.0215			
Statistics (Detects Only)	29	0.043	0.48	0.148	0.11	0.116			
Statistics (All: NDs treated as DL value)	51	0.043	0.48	0.197	0.25	0.105			
Statistics (All: NDs treated as DL/2 value)	51	0.043	0.48	0.141	0.125	0.0875			
Statistics (Normal ROS Estimated Data)	51	-0.0314	0.48	0.137	0.12	0.0992			
Statistics (Gamma ROS Estimated Data)	51	0.043	0.48	0.148	0.148	0.0868			
Statistics (Lognormal ROS Estimated Data)	51	0.0371	0.48	0.131	0.101	0.0943			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	2.251	2.132	0.0658	-2.149	0.678	-0.315			
Statistics (NDs = DL)	2.979	2.817	0.0662	-1.801	0.65	-0.361			
Statistics (NDs = DL/2)	3.766	3.557	0.0373	-2.1	0.513	-0.244			
Statistics (Gamma ROS Estimates)	3.85	3.636	0.0385	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	-2.221	0.592	-0.267			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.89	0.954	0.847	0.929					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.79	0.926	Data Not Normal						
Lilliefors (Detects Only)	0.183	0.165	Data Not Normal						
Lilliefors (NDs = DL)	0.203	0.124	Data Not Normal						
Lilliefors (NDs = DL/2)	0.261	0.124	Data Not Normal						
Lilliefors (Normal ROS Estimates)	0.147	0.124	Data Not Normal						
Gamma Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS					
Correlation Coefficient R	0.975	0.943	0.922	0.98					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Anderson-Darling (Detects Only)	0.758	0.756							
Kolmogorov-Smirnov (Detects Only)	0.129	0.165	Data appear Approximate Gamma Distribution						
Anderson-Darling (NDs = DL)	2.292	0.757							
Kolmogorov-Smirnov (NDs = DL)	0.241	0.125	Data Not Gamma Distributed						
Anderson-Darling (NDs = DL/2)	2.18	0.754							
Kolmogorov-Smirnov (NDs = DL/2)	0.187	0.125	Data Not Gamma Distributed						
Anderson-Darling (Gamma ROS Estimates)	2.513	0.754							

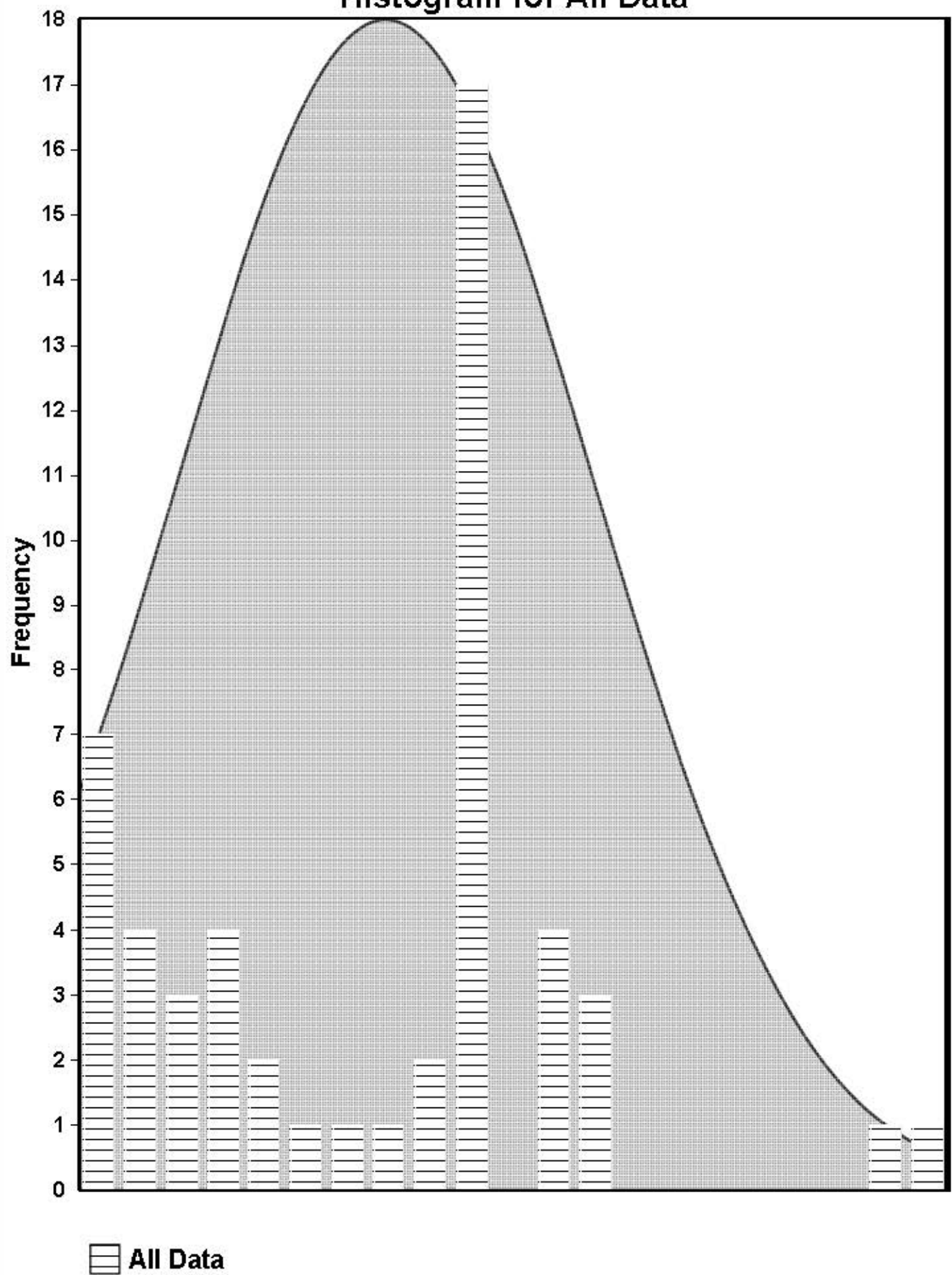
Kolmogorov-Smirnov (Gamma ROS Est.)	0.246	0.125	Data Not Gamma Distributed						
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.981	0.945	0.961	0.988					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.949	0.926	Data Appear Lognormal						
Lilliefors (Detects Only)	0.0863	0.165	Data Appear Lognormal						
Lilliefors (NDs = DL)	0.248	0.124	Data Not Lognormal						
Lilliefors (NDs = DL/2)	0.183	0.124	Data Not Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.0805	0.124	Data Appear Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									

			General Background Statistics for Data Sets with Non-Detects						
User Selected Options									
From File		Cadmium.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
All Data									
General Statistics									
Number of Valid Data		51		Number of Detected Data		29			
Number of Distinct Detected Data		25		Number of Non-Detect Data		22			
				Percent Non-Detects		43.14%			
Raw Statistics				Log-transformed Statistics					
Minimum Detected		0.043		Minimum Detected		-3.147			
Maximum Detected		0.48		Maximum Detected		-0.734			
Mean of Detected		0.148		Mean of Detected		-2.149			
SD of Detected		0.116		SD of Detected		0.678			
Minimum Non-Detect		0.25		Minimum Non-Detect		-1.386			
Maximum Non-Detect		0.31		Maximum Non-Detect		-1.171			
Data with Multiple Detection Limits				Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL		47			
For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL		4			
Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage		92.16%			
Background Statistics									
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic		0.79		Shapiro Wilk Test Statistic		0.949			
5% Shapiro Wilk Critical Value		0.926		5% Shapiro Wilk Critical Value		0.926			
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
DL/2 Substitution Method				DL/2 Substitution Method					
Mean		0.141		Mean (Log Scale)		-2.1			
SD		0.0875		SD (Log Scale)		0.513			
95% UTL	95% Coverage	0.32		95% UTL	95% Coverage	0.351			
95% UPL (t)		0.289		95% UPL (t)		0.292			
90% Percentile (z)		0.253		90% Percentile (z)		0.236			
95% Percentile (z)		0.285		95% Percentile (z)		0.285			
99% Percentile (z)		0.344		99% Percentile (z)		0.404			
Maximum Likelihood Estimate(MLE) Method				Log ROS Method					
Mean		0.0461		Mean in Original Scale		0.131			
SD		0.186		SD in Original Scale		0.0943			
95% UTL with		95% Coverage		95% UTL with		95% Coverage		0.366	
				95% BCA UTL with		95% Coverage		0.46	
				95% Bootstrap (%) UTL with		95% Coverage		0.47	
95% UPL (t)		0.361		95% UPL (t)		0.296			

Note: DL/2 is not a recommended method.

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Cadmium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Rosner's Outlier Test for All Data							
Mean		0.141					
Standard Deviation		0.0875					
Number of data		51					
Number of suspected outliers		1					
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	0.141	0.0867	0.48	43	3.916	3.137	3.488
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.48 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.48 is a Potential Statistical Outlier							

Histogram for All Data



Location	All Data	D_All Data
BG-1-2	0.25	0
BG-3-17	0.057	1
BG-4-2	0.061	1
BG-4-19	0.18	1
BG-1-10	0.25	0
BG-2-2	0.25	0
BG-2-10	0.25	0
BG-2-19	0.11	1
BG-3-2	0.16	1
BG-3-10	0.07	1
BG-4-10	0.08	1
BG-6-2	0.26	0
BG-6-9	0.052	1
BG-1-29	0.25	0
BG-1-40	0.25	0
BG-1-46	0.25	0
BG-1-92	0.25	0
BG-2-21	0.25	0
BG-2-32	0.25	0
BG-2-75	0.25	0
BG-3-29	0.25	0
BG-3-63	0.31	0
BG-3-65	0.052	1
BG-3-95	0.29	0
BG-3-105	0.3	0
BG-3-131	0.23	1
BG-3-136	0.3	0
BG-4-65	0.043	1
BG-4-82	0.092	1
BG-4-95	0.3	0
BG-4-117	0.057	1
BG-4-120	0.083	1
BG-6-58	0.07	1
BG-6-75	0.15	1
BG-6-98	0.099	1
BG-6-114	0.12	1
BG-6-127	0.21	1
BG-1-43	0.25	0
BG-1-55	0.25	0
BG-1-78	0.25	0
BG-2-30	0.25	0
BG-2-81	0.46	1
BG-3-22	0.48	1
BG-3-69	0.11	1
BG-4-40	0.13	1
BG-4-79	0.22	1
BG-4-161	0.14	1
BG-4-163	0.32	1
BG-6-28	0.049	1
BG-6-53	0.098	1
BG-6-87	0.31	1

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects								
User Selected Options								
From File	Cadmium.wst							
Full Precision	OFF							
Confidence Coefficient	0.95							
0-20								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	13	0	13	8	5	38.46%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	5	0.25	0.26	0.252	0.25	0.00447		
Statistics (Detects Only)	8	0.052	0.18	0.0963	0.075	0.0492		
Statistics (All: NDs treated as DL value)	13	0.052	0.26	0.156	0.16	0.0874		
Statistics (All: NDs treated as DL/2 value)	13	0.052	0.18	0.108	0.125	0.0405		
Statistics (Normal ROS Estimated Data)	13	0.0487	0.18	0.0963	0.0819	0.0427		
Statistics (Gamma ROS Estimated Data)	13	0.0491	0.18	0.0973	0.0873	0.0424		
Statistics (Lognormal ROS Estimated Data)	13	0.052	0.18	0.0943	0.08	0.042		
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)	4.972	3.876	0.0194	-2.445	0.475	-0.194		
Statistics (NDs = DL)	2.97	2.336	0.0526	-2.035	0.651	-0.32		
Statistics (NDs = DL/2)	7.037	5.464	0.0153	-2.301	0.409	-0.178		
Statistics (Gamma ROS Estimates)	5.977	4.649	0.0163	--	--	--		
Statistics (Lognormal ROS Estimates)	--	--	--	-2.445	0.416	-0.17		
Normal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.923	0.923	0.965	0.959				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.837	0.818	Data Appear Normal					
Lilliefors (Detects Only)	0.254	0.313	Data Appear Normal					
Shapiro-Wilks (NDs = DL)	0.821	0.866	Data Not Normal					
Lilliefors (NDs = DL)	0.243	0.246	Data Appear Normal					
Shapiro-Wilks (NDs = DL/2)	0.92	0.866	Data Appear Normal					
Lilliefors (NDs = DL/2)	0.204	0.246	Data Appear Normal					
Shapiro-Wilks (Normal ROS Estimates)	0.907	0.866	Data Appear Normal					
Lilliefors (Normal ROS Estimates)	0.17	0.246	Data Appear Normal					
Gamma Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.964	0.886	0.959	0.989				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.503	0.719						
Kolmogorov-Smirnov (Detects Only)	0.223	0.295	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	0.917	0.739						
Kolmogorov-Smirnov (NDs = DL)	0.242	0.238	Data Not Gamma Distributed					

Anderson-Darling (NDs = DL/2)		0.617	0.735						
Kolmogorov-Smirnov (NDs = DL/2)		0.24	0.237	Data appear Approximate Gamma Distribution					
Anderson-Darling (Gamma ROS Estimates)		0.265	0.736						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.128	0.237	Data Appear Gamma Distributed					
Lognormal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R		0.957	0.931	0.957	0.975				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)		0.894	0.818	Data Appear Lognormal					
Lilliefors (Detects Only)		0.193	0.313	Data Appear Lognormal					
Shapiro-Wilks (NDs = DL)		0.838	0.866	Data Not Lognormal					
Lilliefors (NDs = DL)		0.225	0.246	Data Appear Lognormal					
Shapiro-Wilks (NDs = DL/2)		0.902	0.866	Data Appear Lognormal					
Lilliefors (NDs = DL/2)		0.245	0.246	Data Appear Lognormal					
Shapiro-Wilks (Lognormal ROS Estimates)		0.933	0.866	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)		0.116	0.246	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.									
>20									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics		38	0	38	21	17	44.74%		
		Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)		17	0.25	0.31	0.265	0.25	0.0237		
Statistics (Detects Only)		21	0.043	0.48	0.168	0.12	0.128		
Statistics (All: NDs treated as DL value)		38	0.043	0.48	0.211	0.25	0.107		
Statistics (All: NDs treated as DL/2 value)		38	0.043	0.48	0.152	0.125	0.0965		
Statistics (Normal ROS Estimated Data)		38	-0.0268	0.48	0.15	0.131	0.109		
Statistics (Gamma ROS Estimated Data)		38	0.043	0.48	0.168	0.168	0.0945		
Statistics (Lognormal ROS Estimated Data)		38	0.0406	0.48	0.143	0.108	0.104		
		K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)		2.148	1.996	0.0781	-2.036	0.718	-0.353		
Statistics (NDs = DL)		3.17	2.937	0.0666	-1.721	0.638	-0.371		
Statistics (NDs = DL/2)		3.561	3.298	0.0427	-2.031	0.531	-0.261		
Statistics (Gamma ROS Estimates)		3.77	3.49	0.0445	--	--	--		
Statistics (Lognormal ROS Estimates)		--	--	--	-2.142	0.619	-0.289		
Normal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R		0.913	0.96	0.853	0.941				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)		0.829	0.908	Data Not Normal					
Lilliefors (Detects Only)		0.222	0.193	Data Not Normal					
Shapiro-Wilks (NDs = DL)		0.914	0.938	Data Not Normal					
Lilliefors (NDs = DL)		0.194	0.144	Data Not Normal					
Shapiro-Wilks (NDs = DL/2)		0.737	0.938	Data Not Normal					

Note: Substitution methods such as DL or DL/2 are not recommended.

		General Background Statistics for Data Sets with Non-Detects											
User Selected Options													
From File		Cadmium.wst											
Full Precision		OFF											
Confidence Coefficient		95%											
Coverage		95%											
Different or Future K Values		1											
Number of Bootstrap Operations		2000											
0-20													
General Statistics													
Number of Valid Data				13		Number of Detected Data				8			
Number of Distinct Detected Data				8		Number of Non-Detect Data				5			
						Percent Non-Detects				38.46%			
Raw Statistics						Log-transformed Statistics							
Minimum Detected				0.052		Minimum Detected				-2.957			
Maximum Detected				0.18		Maximum Detected				-1.715			
Mean of Detected				0.0963		Mean of Detected				-2.445			
SD of Detected				0.0492		SD of Detected				0.475			
Minimum Non-Detect				0.25		Minimum Non-Detect				-1.386			
Maximum Non-Detect				0.26		Maximum Non-Detect				-1.347			
Data with Multiple Detection Limits						Single Detection Limit Scenario							
Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL				13			
For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL				0			
Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage				100.00%			
Warning: There are only 8 Detected Values in this data													
Note: It should be noted that even though bootstrap may be performed on this data set													
the resulting calculations may not be reliable enough to draw conclusions													
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.													
Background Statistics													
Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only							
Shapiro Wilk Test Statistic				0.837		Shapiro Wilk Test Statistic				0.894			
5% Shapiro Wilk Critical Value				0.818		5% Shapiro Wilk Critical Value				0.818			
Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level							
Assuming Normal Distribution						Assuming Lognormal Distribution							
DL/2 Substitution Method						DL/2 Substitution Method							
Mean				0.108		Mean (Log Scale)				-2.301			
SD				0.0405		SD (Log Scale)				0.409			
95% UTL 95% Coverage				0.216		95% UTL 95% Coverage				0.299			
95% UPL (t)				0.183		95% UPL (t)				0.213			
90% Percentile (z)				0.16		90% Percentile (z)				0.169			
95% Percentile (z)				0.174		95% Percentile (z)				0.196			
99% Percentile (z)				0.202		99% Percentile (z)				0.259			

Maximum Likelihood Estimate(MLE) Method				N/A	Log ROS Method				
					Mean in Original Scale				0.0943
					SD in Original Scale				0.042
					Mean in Log Scale				-2.445
					SD in Log Scale				0.416
					95% UTL 95% Coverage				0.263
					95% UPL (t)				0.187
					90% Percentile (z)				0.148
					95% Percentile (z)				0.172
					99% Percentile (z)				0.228
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only				
k star (bias corrected)			3.191	Data appear Normal at 5% Significance Level					
Theta Star			0.0302						
nu star			51.06						
A-D Test Statistic			0.503	Nonparametric Statistics					
5% A-D Critical Value			0.719	Kaplan-Meier (KM) Method					
K-S Test Statistic			0.223	Mean					0.0963
5% K-S Critical Value			0.295	SD					0.046
Data appear Gamma Distributed at 5% Significance Level				SE of Mean					0.0174
				95% KM UTL with 95% Coverage					0.219
Assuming Gamma Distribution				95% KM Chebyshev UPL					0.305
Gamma ROS Statistics with Extrapolated Data				95% KM UPL (t)					0.181
Mean			0.0973	90% Percentile (z)					0.155
Median			0.0873	95% Percentile (z)					0.172
SD			0.0424	99% Percentile (z)					0.203
k star			4.649						
Theta star			0.0209	Gamma ROS Limits with Extrapolated Data					
Nu star			120.9	95% Wilson Hilferty (WH) Approx. Gamma UPL					0.187
95% Percentile of Chisquare (2k)			17.34	95% Hawkins Wixley (HW) Approx. Gamma UPL					0.189
				95% WH Approx. Gamma UTL with 95% Coverage					0.245
90% Percentile			0.158	95% HW Approx. Gamma UTL with 95% Coverage					0.252
95% Percentile			0.181						
99% Percentile			0.231						
Note: DL/2 is not a recommended method.									
>20									
General Statistics									
Number of Valid Data			38	Number of Detected Data				21	
Number of Distinct Detected Data			21	Number of Non-Detect Data				17	
				Percent Non-Detects				44.74%	
Raw Statistics					Log-transformed Statistics				
Minimum Detected			0.043	Minimum Detected				-3.147	
Maximum Detected			0.48	Maximum Detected				-0.734	
Mean of Detected			0.168	Mean of Detected				-2.036	
SD of Detected			0.128	SD of Detected				0.718	
Minimum Non-Detect			0.25	Minimum Non-Detect				-1.386	
Maximum Non-Detect			0.31	Maximum Non-Detect				-1.171	

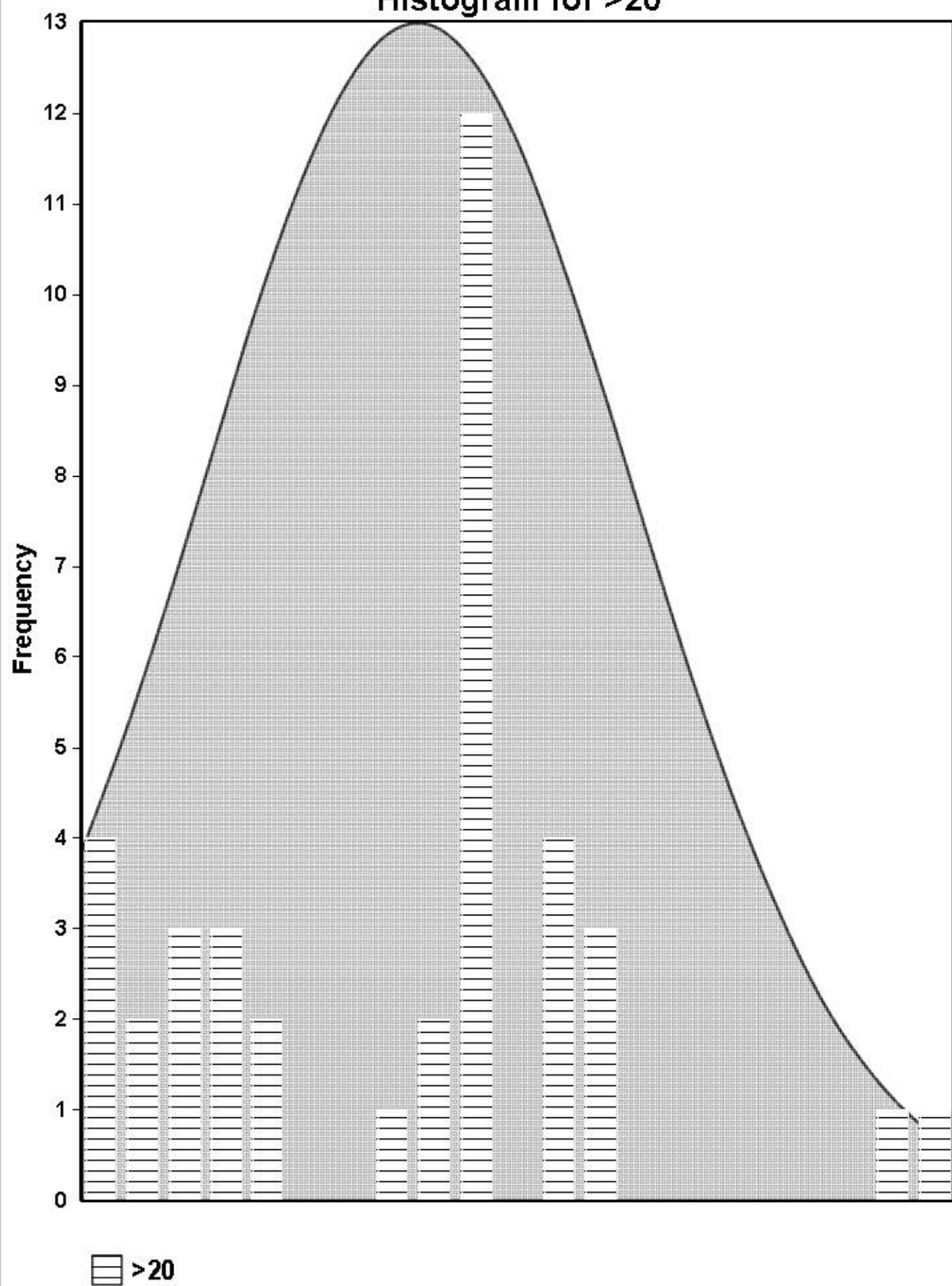
Data with Multiple Detection Limits					Single Detection Limit Scenario						
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL					34	
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL					4	
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage					89.47%	
Background Statistics											
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only						
Shapiro Wilk Test Statistic			0.829	Shapiro Wilk Test Statistic			0.962				
5% Shapiro Wilk Critical Value			0.908	5% Shapiro Wilk Critical Value			0.908				
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level						
Assuming Normal Distribution					Assuming Lognormal Distribution						
DL/2 Substitution Method				DL/2 Substitution Method							
Mean			0.152	Mean (Log Scale)			-2.031				
SD			0.0965	SD (Log Scale)			0.531				
95% UTL		95% Coverage	0.358	95% UTL		95% Coverage	0.407				
95% UPL (t)			0.317	95% UPL (t)			0.325				
90% Percentile (z)			0.276	90% Percentile (z)			0.259				
95% Percentile (z)			0.311	95% Percentile (z)			0.314				
99% Percentile (z)			0.376	99% Percentile (z)			0.451				
Maximum Likelihood Estimate(MLE) Method					Log ROS Method						
Mean			0.0884	Mean in Original Scale			0.143				
SD			0.177	SD in Original Scale			0.104				
95% UTL with		95% Coverage	0.465	95% UTL with		95% Coverage	0.439				
				95% BCA UTL with		95% Coverage	0.48				
				95% Bootstrap (%) UTL with		95% Coverage	0.48				
95% UPL (t)			0.39	95% UPL (t)			0.338				
90% Percentile (z)			0.315	90% Percentile (z)			0.26				
95% Percentile (z)			0.379	95% Percentile (z)			0.325				
99% Percentile (z)			0.499	99% Percentile (z)			0.496				
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only						
k star (bias corrected)			1.873	Data appear Gamma Distributed at 5% Significance Level							
Theta Star			0.0896								
nu star			78.66								
A-D Test Statistic			0.479	Nonparametric Statistics							
5% A-D Critical Value			0.753	Kaplan-Meier (KM) Method							
K-S Test Statistic			0.139				Mean	0.144			
5% K-S Critical Value			0.192				SD	0.104			
Data appear Gamma Distributed at 5% Significance Level								SE of Mean	0.0196		
				95% KM UTL with			95% Coverage	0.366			
Assuming Gamma Distribution					95% KM Chebyshev UPL					0.604	
Gamma ROS Statistics with Extrapolated Data				95% KM UPL (t)			0.322				
Mean			0.168	90% Percentile (z)			0.278				
Median			0.168	95% Percentile (z)			0.316				
SD			0.0945	99% Percentile (z)			0.387				
k star			3.49								
Theta star			0.0481	Gamma ROS Limits with Extrapolated Data							
Nu star			265.3	95% Wilson Hilmferty (WH) Approx. Gamma UPL			0.341				
95% Percentile of Chisquare (2k)			14.04	95% Hawkins Wixley (HW) Approx. Gamma UPL			0.346				

						95% WH Approx. Gamma UTL with	95% Coverage		0.404	
			90% Percentile	0.288		95% HW Approx. Gamma UTL with	95% Coverage		0.414	
			95% Percentile	0.337						
			99% Percentile	0.443						
Note: DL/2 is not a recommended method.										

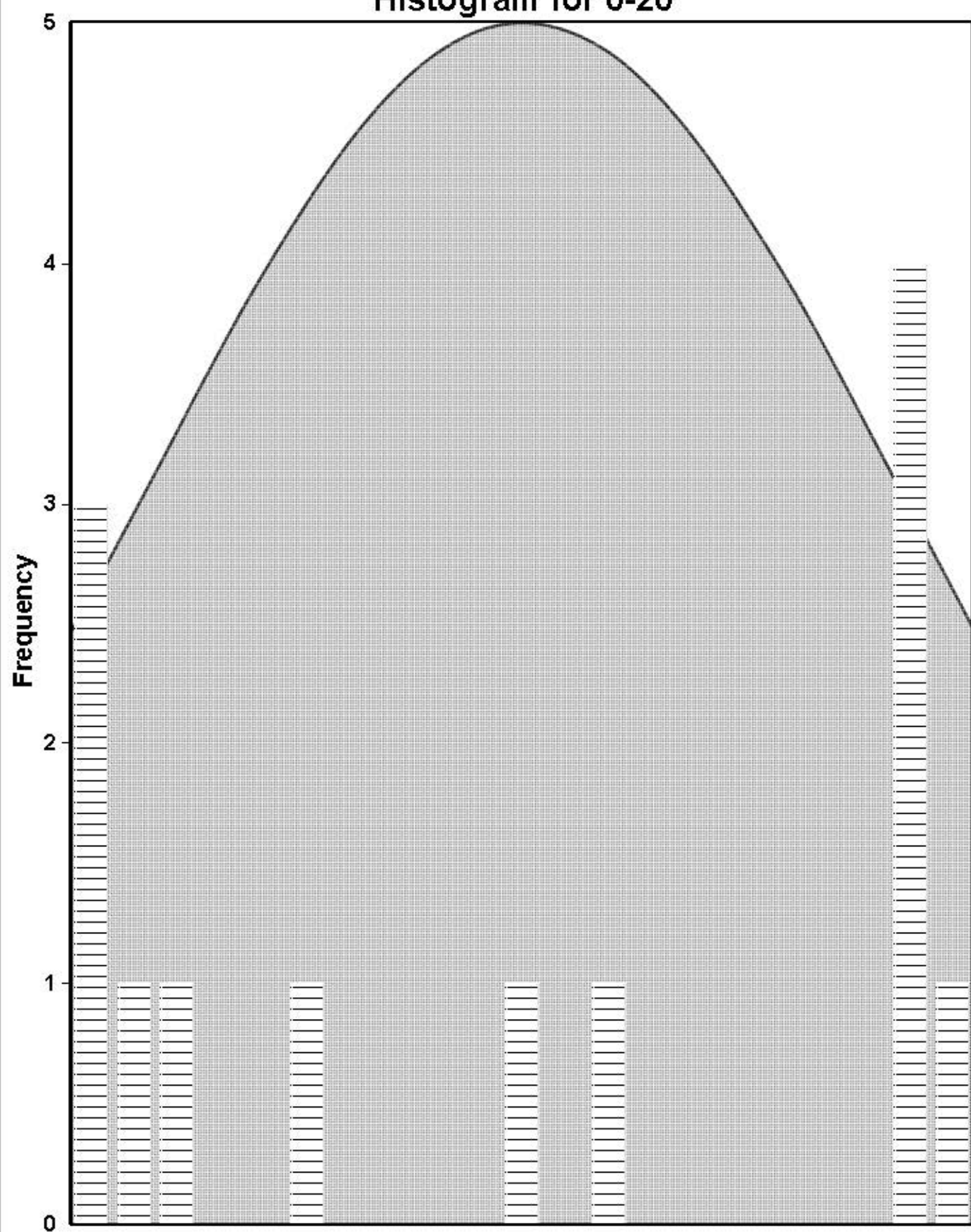
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Cadmium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 0.18 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.407							
For 10% significance level, 0.18 is not an outlier.							
For 5% significance level, 0.18 is not an outlier.							
For 1% significance level, 0.18 is not an outlier.							
2. Data Value 0.052 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.083							
For 10% significance level, 0.052 is not an outlier.							
For 5% significance level, 0.052 is not an outlier.							
For 1% significance level, 0.052 is not an outlier.							
Rosner's Outlier Test for >20							
Mean			0.152				
Standard Deviation			0.0965				
Number of data			38				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.152	0.0952	0.48	30	3.447	3.01	3.36
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.48 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.48 is a Potential Statistical Outlier							

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects									
User Selected Options									
From File		Cadmium.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Substantial Difference		0.000							
Selected Null Hypothesis		Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)							
Alternative Hypothesis		Site or AOC Mean/Median Not Equal to Background Mean/Median							
Area of Concern Data: >20									
Background Data: 0-20									
Raw Statistics									
		Site	Background						
Number of Valid Data		38	13						
Number of Non-Detect Data		17	5						
Number of Detect Data		21	8						
Minimum Non-Detect		0.25	0.25						
Maximum Non-Detect		0.31	0.26						
Percent Non detects		44.74%	38.46%						
Minimum Detected		0.043	0.052						
Maximum Detected		0.48	0.18						
Mean of Detected Data		0.168	0.0963						
Median of Detected Data		0.12	0.075						
SD of Detected Data		0.128	0.0492						
Site vs Background Gehan Test									
H0: Mu of Site or AOC = Mu of background									
Gehan z Test Value		1.307							
Lower Critical z (0.025)		-1.96							
Upper Critical z (0.975)		1.96							
P-Value		0.191							
Conclusion with Alpha = 0.05									
Do Not Reject H0, Conclude Site = Background									
P-Value >= alpha (0.05)									

Histogram for >20



Histogram for 0-20



0-20

Location	0-20	D_0-20	Location	>20	D_>20
BG-1-2	0.25	0	BG-1-29	0.25	0
BG-3-17	0.057	1	BG-1-40	0.25	0
BG-4-2	0.061	1	BG-1-46	0.25	0
BG-4-19	0.18	1	BG-1-92	0.25	0
BG-1-10	0.25	0	BG-2-21	0.25	0
BG-2-2	0.25	0	BG-2-32	0.25	0
BG-2-10	0.25	0	BG-2-75	0.25	0
BG-2-19	0.11	1	BG-3-29	0.25	0
BG-3-2	0.16	1	BG-3-63	0.31	0
BG-3-10	0.07	1	BG-3-65	0.052	1
BG-4-10	0.08	1	BG-3-95	0.29	0
BG-6-2	0.26	0	BG-3-105	0.3	0
BG-6-9	0.052	1	BG-3-131	0.23	1
			BG-3-136	0.3	0
			BG-4-65	0.043	1
			BG-4-82	0.092	1
			BG-4-95	0.3	0
			BG-4-117	0.057	1
			BG-4-120	0.083	1
			BG-6-58	0.07	1
			BG-6-75	0.15	1
			BG-6-98	0.099	1
			BG-6-114	0.12	1
			BG-6-127	0.21	1
			BG-1-43	0.25	0
			BG-1-55	0.25	0
			BG-1-78	0.25	0
			BG-2-30	0.25	0
			BG-2-81	0.46	1
			BG-3-22	0.48	1
			BG-3-69	0.11	1
			BG-4-40	0.13	1
			BG-4-79	0.22	1
			BG-4-161	0.14	1
			BG-4-163	0.32	1
			BG-6-28	0.049	1
			BG-6-53	0.098	1
			BG-6-87	0.31	1

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options						
From File	Cadmium.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
Clay						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	18	0	18	13	5	27.78%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	5	0.25	0.25	0.25	0.25	0
Statistics (Detects Only)	13	0.049	0.48	0.201	0.14	0.148
Statistics (All: NDs treated as DL value)	18	0.049	0.48	0.215	0.235	0.126
Statistics (All: NDs treated as DL/2 value)	18	0.049	0.48	0.18	0.125	0.129
Statistics (Normal ROS Estimated Data)	18	0.0108	0.48	0.181	0.138	0.135
Statistics (Gamma ROS Estimated Data)	18	0.049	0.48	0.202	0.181	0.126
Statistics (Lognormal ROS Estimated Data)	18	0.049	0.48	0.177	0.135	0.133
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	2.054	1.749	0.0979	-1.866	0.773	-0.414
Statistics (NDs = DL)	2.724	2.307	0.0788	-1.733	0.686	-0.396
Statistics (NDs = DL/2)	2.526	2.142	0.0713	-1.926	0.657	-0.341
Statistics (Gamma ROS Estimates)	2.724	2.307	0.0743	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	-1.975	0.713	-0.361
Normal Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.941	0.965	0.896	0.949		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilks (Detects Only)	0.871	0.866	Data Appear Normal			
Lilliefors (Detects Only)	0.199	0.246	Data Appear Normal			
Shapiro-Wilks (NDs = DL)	0.923	0.897	Data Appear Normal			
Lilliefors (NDs = DL)	0.168	0.209	Data Appear Normal			
Shapiro-Wilks (NDs = DL/2)	0.799	0.897	Data Not Normal			
Lilliefors (NDs = DL/2)	0.288	0.209	Data Not Normal			
Shapiro-Wilks (Normal ROS Estimates)	0.895	0.897	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.175	0.209	Data Appear Normal			
Gamma Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.976	0.973	0.961	0.983		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	0.313	0.743				
Kolmogorov-Smirnov (Detects Only)	0.137	0.239	Data Appear Gamma Distributed			
Anderson-Darling (NDs = DL)	0.423	0.748				
Kolmogorov-Smirnov (NDs = DL)	0.177	0.205	Data Appear Gamma Distributed			

Anderson-Darling (NDs = DL/2)		0.82	0.749						
Kolmogorov-Smirnov (NDs = DL/2)		0.233	0.206	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		0.171	0.748						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.0908	0.205	Data Appear Gamma Distributed					
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.984	0.969	0.969	0.984					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.947	0.866	Data Appear Lognormal						
Lilliefors (Detects Only)	0.123	0.246	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL)	0.928	0.897	Data Appear Lognormal						
Lilliefors (NDs = DL)	0.193	0.209	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL/2)	0.932	0.897	Data Appear Lognormal						
Lilliefors (NDs = DL/2)	0.191	0.209	Data Appear Lognormal						
Shapiro-Wilks (Lognormal ROS Estimates)	0.953	0.897	Data Appear Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.0997	0.209	Data Appear Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									
Non-Clay									
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs			
Raw Statistics	33	0	33	16	17	51.52%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	17	0.25	0.31	0.265	0.25	0.0235			
Statistics (Detects Only)	16	0.043	0.23	0.105	0.0875	0.0563			
Statistics (All: NDs treated as DL value)	33	0.043	0.31	0.188	0.25	0.0916			
Statistics (All: NDs treated as DL/2 value)	33	0.043	0.23	0.119	0.125	0.0418			
Statistics (Normal ROS Estimated Data)	33	0.0211	0.23	0.105	0.105	0.049			
Statistics (Gamma ROS Estimated Data)	33	0.0172	0.23	0.106	0.11	0.0477			
Statistics (Lognormal ROS Estimated Data)	33	0.0421	0.23	0.102	0.0928	0.0484			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	4.233	3.869	0.0248	-2.378	0.504	-0.212			
Statistics (NDs = DL)	3.2	2.929	0.0586	-1.838	0.637	-0.346			
Statistics (NDs = DL/2)	7.496	6.835	0.0159	-2.195	0.394	-0.179			
Statistics (Gamma ROS Estimates)	4.55	4.156	0.0234	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	-2.378	0.447	-0.188			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.941	0.932	0.962	0.978					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.879	0.887	Data Not Normal						
Lilliefors (Detects Only)	0.167	0.222	Data Appear Normal						
Shapiro-Wilks (NDs = DL)	0.846	0.931	Data Not Normal						
Lilliefors (NDs = DL)	0.268	0.154	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.929	0.931	Data Not Normal						

Note: Substitution methods such as DL or DL/2 are not recommended.

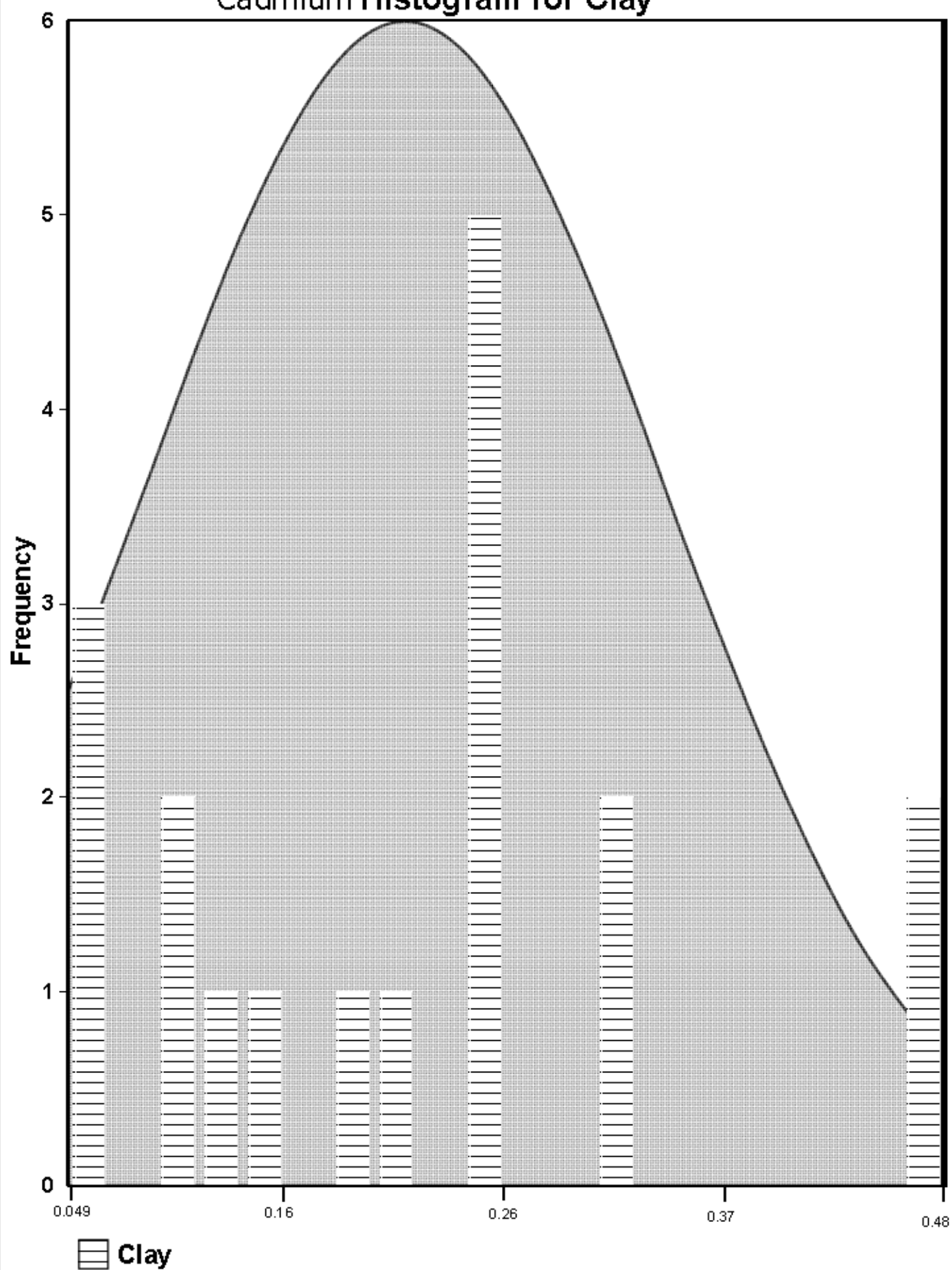
Gamma Distribution Test with Detected Values Only			Data Distribution Test with Detected Values Only		
k star (bias corrected)		1.631	Data appear Normal at 5% Significance Level		
Theta Star		0.123			
nu star		42.41			
A-D Test Statistic		0.313	Nonparametric Statistics		
5% A-D Critical Value		0.743	Kaplan-Meier (KM) Method		
K-S Test Statistic		0.137	Mean		0.178
5% K-S Critical Value		0.239	SD		0.13
Data appear Gamma Distributed at 5% Significance Level			SE of Mean		0.0331
			95% KM UTL with 95% Coverage		0.496
Assuming Gamma Distribution			95% KM Chebyshev UPL		
Gamma ROS Statistics with Extrapolated Data			95% KM UPL (t)		
Mean		0.202	90% Percentile (z)		
Median		0.181	95% Percentile (z)		
SD		0.126	99% Percentile (z)		
k star		2.307			
Theta star		0.0877	Gamma ROS Limits with Extrapolated Data		
Nu star		83.06	95% Wilson Hilferty (WH) Approx. Gamma UPL		0.476
95% Percentile of Chisquare (2k)		10.47	95% Hawkins Wixley (HW) Approx. Gamma UPL		0.489
			95% WH Approx. Gamma UTL with 95% Coverage		0.641
90% Percentile		0.381	95% HW Approx. Gamma UTL with 95% Coverage		0.677
95% Percentile		0.459			
99% Percentile		0.632			
Note: DL/2 is not a recommended method.					
Non-Clay					
General Statistics					
Number of Valid Data		33	Number of Detected Data		16
Number of Distinct Detected Data		14	Number of Non-Detect Data		17
			Percent Non-Detects		
Raw Statistics					
Minimum Detected		0.043	Minimum Detected		
Maximum Detected		0.23	Maximum Detected		
Mean of Detected		0.105	Mean of Detected		
SD of Detected		0.0563	SD of Detected		
Minimum Non-Detect		0.25	Minimum Non-Detect		
Maximum Non-Detect		0.31	Maximum Non-Detect		
Data with Multiple Detection Limits			Single Detection Limit Scenario		
Note: Data have multiple DLs - Use of KM Method is recommended			Number treated as Non-Detect with Single DL		33
For all methods (except KM, DL/2, and ROS Methods),			Number treated as Detected with Single DL		0
Observations < Largest ND are treated as NDs			Single DL Non-Detect Percentage		100.00%
Background Statistics					
Normal Distribution Test with Detected Values Only			Lognormal Distribution Test with Detected Values Only		
Shapiro Wilk Test Statistic		0.879	Shapiro Wilk Test Statistic		0.963
5% Shapiro Wilk Critical Value		0.887	5% Shapiro Wilk Critical Value		0.887
Data not Normal at 5% Significance Level			Data appear Lognormal at 5% Significance Level		

Note: DL/2 is not a recommended method.

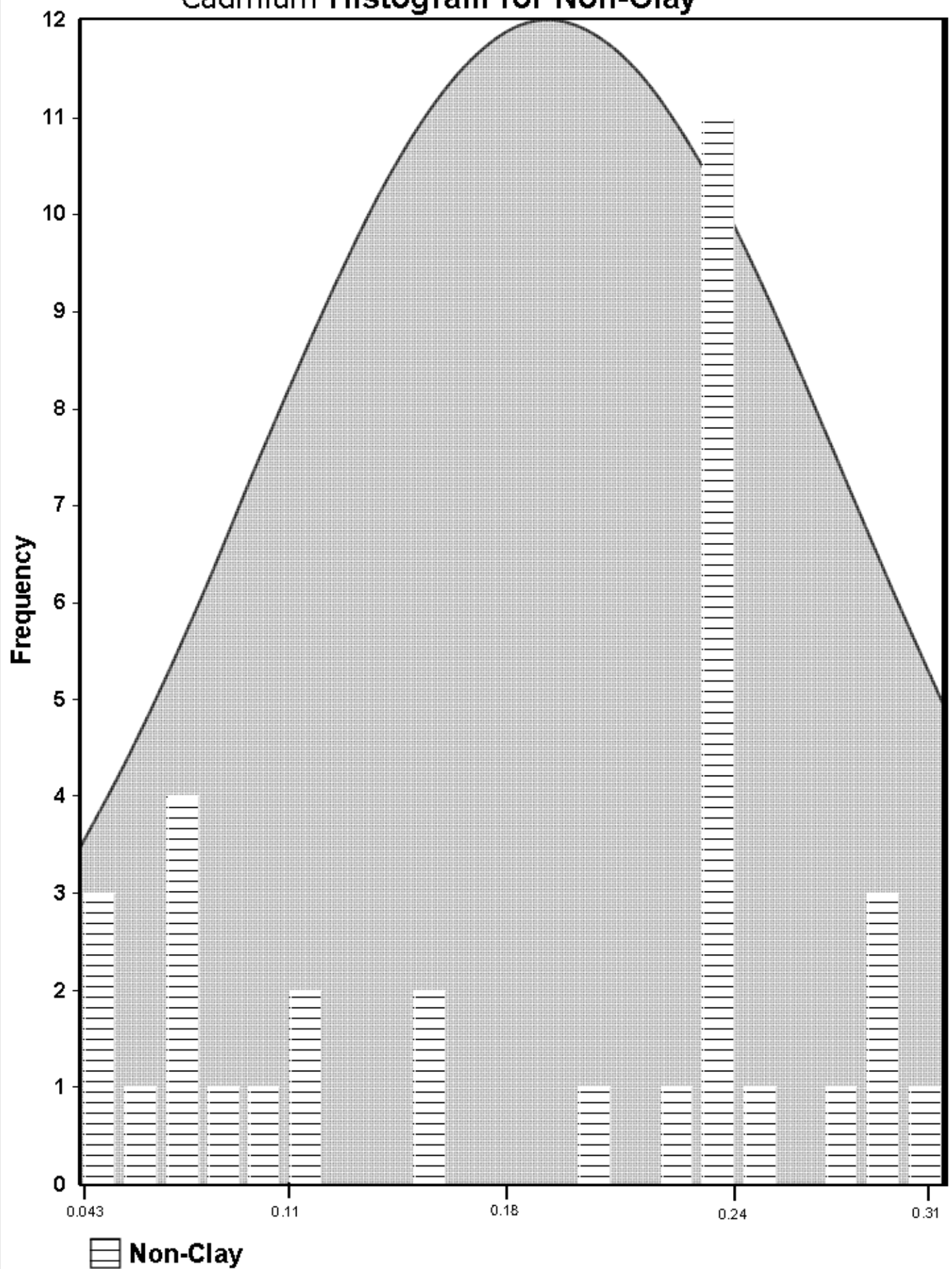
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Cadmium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Dixon's Outlier Test for Clay							
Number of data = 18							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Data Value 0.48 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.382							
For 10% significance level, 0.48 is not an outlier.							
For 5% significance level, 0.48 is not an outlier.							
For 1% significance level, 0.48 is not an outlier.							
2. Data Value 0.049 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.044							
For 10% significance level, 0.049 is not an outlier.							
For 5% significance level, 0.049 is not an outlier.							
For 1% significance level, 0.049 is not an outlier.							
Rosner's Outlier Test for Non-Clay							
Mean		0.119					
Standard Deviation		0.0418					
Number of data		33					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.119	0.0412	0.23	19	2.689	2.95	3.29
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects									
User Selected Options									
From File			Cadmium.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Substantial Difference			0.000						
Selected Null Hypothesis			Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)						
Alternative Hypothesis			Site or AOC Mean/Median Not Equal to Background Mean/Median						
Area of Concern Data: Non-Clay									
Background Data: Clay									
Raw Statistics									
		Site	Background						
Number of Valid Data		33	18						
Number of Non-Detect Data		17	5						
Number of Detect Data		16	13						
Minimum Non-Detect		0.25	0.25						
Maximum Non-Detect		0.31	0.25						
Percent Non detects		51.52%	27.78%						
Minimum Detected		0.043	0.049						
Maximum Detected		0.23	0.48						
Mean of Detected Data		0.105	0.201						
Median of Detected Data		0.0875	0.14						
SD of Detected Data		0.0563	0.148						
Site vs Background Gehan Test									
H0: Mu of Site or AOC = Mu of background									
Gehan z Test Value		-2.588							
Lower Critical z (0.025)		-1.96							
Upper Critical z (0.975)		1.96							
P-Value		0.00965							
Conclusion with Alpha = 0.05									
Reject H0, Conclude Site <> Background									
P-Value < alpha (0.05)									

Cadmium Histogram for Clay



Cadmium Histogram for Non-Clay



Location	Clay	D_Clay	Location	Non-Clay	D_Non-Clay
BG-1-2	0.25	0	BG-1-10	0.25	0
BG-1-43	0.25	0	BG-1-29	0.25	0
BG-1-55	0.25	0	BG-1-40	0.25	0
BG-1-78	0.25	0	BG-1-46	0.25	0
BG-2-30	0.25	0	BG-1-92	0.25	0
BG-2-81	0.46	1	BG-2-2	0.25	0
BG-3-17	0.057	1	BG-2-10	0.25	0
BG-3-22	0.48	1	BG-2-19	0.11	1
BG-3-69	0.11	1	BG-2-21	0.25	0
BG-4-2	0.061	1	BG-2-32	0.25	0
BG-4-19	0.18	1	BG-2-75	0.25	0
BG-4-40	0.13	1	BG-3-2	0.16	1
BG-4-79	0.22	1	BG-3-10	0.07	1
BG-4-161	0.14	1	BG-3-29	0.25	0
BG-4-163	0.32	1	BG-3-63	0.31	0
BG-6-28	0.049	1	BG-3-65	0.052	1
BG-6-53	0.098	1	BG-3-95	0.29	0
BG-6-87	0.31	1	BG-3-105	0.3	0
			BG-3-131	0.23	1
			BG-3-136	0.3	0
			BG-4-10	0.08	1
			BG-4-65	0.043	1
			BG-4-82	0.092	1
			BG-4-95	0.3	0
			BG-4-117	0.057	1
			BG-4-120	0.083	1
			BG-6-2	0.26	0
			BG-6-9	0.052	1
			BG-6-58	0.07	1
			BG-6-75	0.15	1
			BG-6-98	0.099	1
			BG-6-114	0.12	1
			BG-6-127	0.21	1
			Average	0.187515	

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File	Cadmium.wst								
Full Precision	OFF								
Confidence Coefficient	0.95								
Alluv									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	12	0	12	4	8	66.67%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	8	0.25	0.26	0.251	0.25	0.00354			
Statistics (Detects Only)	4	0.052	0.16	0.098	0.09	0.0479			
Statistics (All: NDs treated as DL value)	12	0.052	0.26	0.2	0.25	0.0795			
Statistics (All: NDs treated as DL/2 value)	12	0.052	0.16	0.116	0.125	0.0285			
Statistics (Normal ROS Estimated Data)	12	0.0228	0.173	0.098	0.098	0.0457			
Statistics (Gamma ROS Estimated Data)	12	0.0234	0.161	0.0977	0.101	0.0441			
Statistics (Lognormal ROS Estimated Data)	12	0.0406	0.197	0.0992	0.0895	0.0474			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	5.649	4.292	0.0173	-2.414	0.495	-0.205			
Statistics (NDs = DL)	4.435	3.382	0.0451	-1.726	0.57	-0.331			
Statistics (NDs = DL/2)	13.65	10.29	0.00853	-2.188	0.308	-0.141			
Statistics (Gamma ROS Estimates)	4.243	3.238	0.023	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	-2.414	0.477	-0.198			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.978	0.844	0.859	0.992					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.951	0.748	Data Appear Normal						
Lilliefors (Detects Only)	0.221	0.443	Data Appear Normal						
Shapiro-Wilks (NDs = DL)	0.701	0.859	Data Not Normal						
Lilliefors (NDs = DL)	0.401	0.256	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.763	0.859	Data Not Normal						
Lilliefors (NDs = DL/2)	0.368	0.256	Data Not Normal						
Shapiro-Wilks (Normal ROS Estimates)	0.977	0.859	Data Appear Normal						
Lilliefors (Normal ROS Estimates)	0.0925	0.256	Data Appear Normal						
Gamma Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS					
Correlation Coefficient R	0.996	0.745	0.826	0.96					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Anderson-Darling (Detects Only)	0.237	0.659							
Kolmogorov-Smirnov (Detects Only)	0.23	0.396	Data Appear Gamma Distributed						
Anderson-Darling (NDs = DL)	1.854	0.734							
Kolmogorov-Smirnov (NDs = DL)	0.406	0.246	Data Not Gamma Distributed						

	Anderson-Darling (NDs = DL/2)	1.819	0.731						
	Kolmogorov-Smirnov (NDs = DL/2)	0.389	0.245	Data Not Gamma Distributed					
	Anderson-Darling (Gamma ROS Estimates)	0.281	0.735						
	Kolmogorov-Smirnov (Gamma ROS Est.)	0.172	0.246	Data Appear Gamma Distributed					
Lognormal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Log ROS				
	Correlation Coefficient R	0.994	0.831	0.819	0.995				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
	Shapiro-Wilks (Detects Only)	0.978	0.748	Data Appear Lognormal					
	Lilliefors (Detects Only)	0.19	0.443	Data Appear Lognormal					
	Shapiro-Wilks (NDs = DL)	0.687	0.859	Data Not Lognormal					
	Lilliefors (NDs = DL)	0.391	0.256	Data Not Lognormal					
	Shapiro-Wilks (NDs = DL/2)	0.694	0.859	Data Not Lognormal					
	Lilliefors (NDs = DL/2)	0.387	0.256	Data Not Lognormal					
	Shapiro-Wilks (Lognormal ROS Estimates)	0.981	0.859	Data Appear Lognormal					
	Lilliefors (Lognormal ROS Estimates)	0.0933	0.256	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.									
MC									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
	Raw Statistics	39	0	39	25	14	35.90%		
		Number	Minimum	Maximum	Mean	Median	SD		
	Statistics (Non-Detects Only)	14	0.25	0.31	0.268	0.25	0.0252		
	Statistics (Detects Only)	25	0.043	0.48	0.156	0.11	0.122		
	Statistics (All: NDs treated as DL value)	39	0.043	0.48	0.196	0.22	0.112		
	Statistics (All: NDs treated as DL/2 value)	39	0.043	0.48	0.148	0.125	0.098		
	Statistics (Normal ROS Estimated Data)	39	-0.00785	0.48	0.145	0.128	0.106		
	Statistics (Gamma ROS Estimated Data)	39	0.043	0.48	0.157	0.148	0.0975		
	Statistics (Lognormal ROS Estimated Data)	39	0.043	0.48	0.139	0.102	0.103		
		K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
	Statistics (Detects Only)	2.165	2.015	0.0721	-2.106	0.701	-0.333		
	Statistics (NDs = DL)	2.711	2.52	0.0724	-1.824	0.677	-0.371		
	Statistics (NDs = DL/2)	3.219	2.988	0.046	-2.073	0.562	-0.271		
	Statistics (Gamma ROS Estimates)	3.269	3.034	0.0481	--	--	--		
	Statistics (Lognormal ROS Estimates)	--	--	--	-2.175	0.618	-0.284		
Normal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Normal ROS				
	Correlation Coefficient R	0.9	0.961	0.872	0.922				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
	Shapiro-Wilks (Detects Only)	0.807	0.918	Data Not Normal					
	Lilliefors (Detects Only)	0.2	0.177	Data Not Normal					
	Shapiro-Wilks (NDs = DL)	0.913	0.939	Data Not Normal					
	Lilliefors (NDs = DL)	0.146	0.142	Data Not Normal					
	Shapiro-Wilks (NDs = DL/2)	0.767	0.939	Data Not Normal					

Note: Substitution methods such as DL or DL/2 are not recommended.

		General Background Statistics for Data Sets with Non-Detects							
User Selected Options									
From File		Cadmium.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
Alluv									
General Statistics									
Number of Valid Data		12		Number of Detected Data		4			
Number of Distinct Detected Data		4		Number of Non-Detect Data		8			
				Percent Non-Detects		66.67%			
Raw Statistics				Log-transformed Statistics					
Minimum Detected		0.052		Minimum Detected		-2.957			
Maximum Detected		0.16		Maximum Detected		-1.833			
Mean of Detected		0.098		Mean of Detected		-2.414			
SD of Detected		0.0479		SD of Detected		0.495			
Minimum Non-Detect		0.25		Minimum Non-Detect		-1.386			
Maximum Non-Detect		0.26		Maximum Non-Detect		-1.347			
Data with Multiple Detection Limits				Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL		12			
For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL		0			
Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage		100.00%			
Warning: There are only 4 Distinct Detected Values in this data									
Note: It should be noted that even though bootstrap may be performed on this data set									
the resulting calculations may not be reliable enough to draw conclusions									
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.									
Background Statistics									
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic		0.951		Shapiro Wilk Test Statistic		0.978			
5% Shapiro Wilk Critical Value		0.748		5% Shapiro Wilk Critical Value		0.748			
Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
DL/2 Substitution Method				DL/2 Substitution Method					
Mean		0.116		Mean (Log Scale)		-2.188			
SD		0.0285		SD (Log Scale)		0.308			
95% UTL		95% Coverage		95% UTL		95% Coverage		0.261	
		95% UPL (t)				95% UPL (t)		0.2	
		90% Percentile (z)				90% Percentile (z)		0.166	
		95% Percentile (z)				95% Percentile (z)		0.186	
		99% Percentile (z)				99% Percentile (z)		0.23	

Maximum Likelihood Estimate(MLE) Method				N/A	Log ROS Method				
					Mean in Original Scale				0.0992
					SD in Original Scale				0.0474
					Mean in Log Scale				-2.414
					SD in Log Scale				0.477
					95% UTL 95% Coverage				0.33
					95% UPL (t)				0.218
					90% Percentile (z)				0.165
					95% Percentile (z)				0.196
					99% Percentile (z)				0.272
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only				
k star (bias corrected)			1.579	Data appear Normal at 5% Significance Level					
Theta Star			0.0621						
nu star			12.63						
A-D Test Statistic			0.237	Nonparametric Statistics					
5% A-D Critical Value			0.659	Kaplan-Meier (KM) Method					
K-S Test Statistic			0.23	Mean					0.098
5% K-S Critical Value			0.396	SD					0.0415
Data appear Gamma Distributed at 5% Significance Level				SE of Mean					0.024
				95% KM UTL with 95% Coverage					0.212
Assuming Gamma Distribution				95% KM Chebyshev UPL					0.286
Gamma ROS Statistics with Extrapolated Data				95% KM UPL (t)					0.176
Mean			0.0977	90% Percentile (z)					0.151
Median			0.101	95% Percentile (z)					0.166
SD			0.0441	99% Percentile (z)					0.195
k star			3.238						
Theta star			0.0302	Gamma ROS Limits with Extrapolated Data					
Nu star			77.7	95% Wilson Hilferty (WH) Approx. Gamma UPL					0.21
95% Percentile of Chisquare (2k)			13.3	95% Hawkins Wixley (HW) Approx. Gamma UPL					0.217
				95% WH Approx. Gamma UTL with 95% Coverage					0.29
90% Percentile			0.171	95% HW Approx. Gamma UTL with 95% Coverage					0.308
95% Percentile			0.201						
99% Percentile			0.266						
Note: DL/2 is not a recommended method.									
MC									
General Statistics									
Number of Valid Data			39	Number of Detected Data					25
Number of Distinct Detected Data			24	Number of Non-Detect Data					14
				Percent Non-Detects					35.90%
Raw Statistics					Log-transformed Statistics				
Minimum Detected			0.043	Minimum Detected					-3.147
Maximum Detected			0.48	Maximum Detected					-0.734
Mean of Detected			0.156	Mean of Detected					-2.106
SD of Detected			0.122	SD of Detected					0.701
Minimum Non-Detect			0.25	Minimum Non-Detect					-1.386
Maximum Non-Detect			0.31	Maximum Non-Detect					-1.171

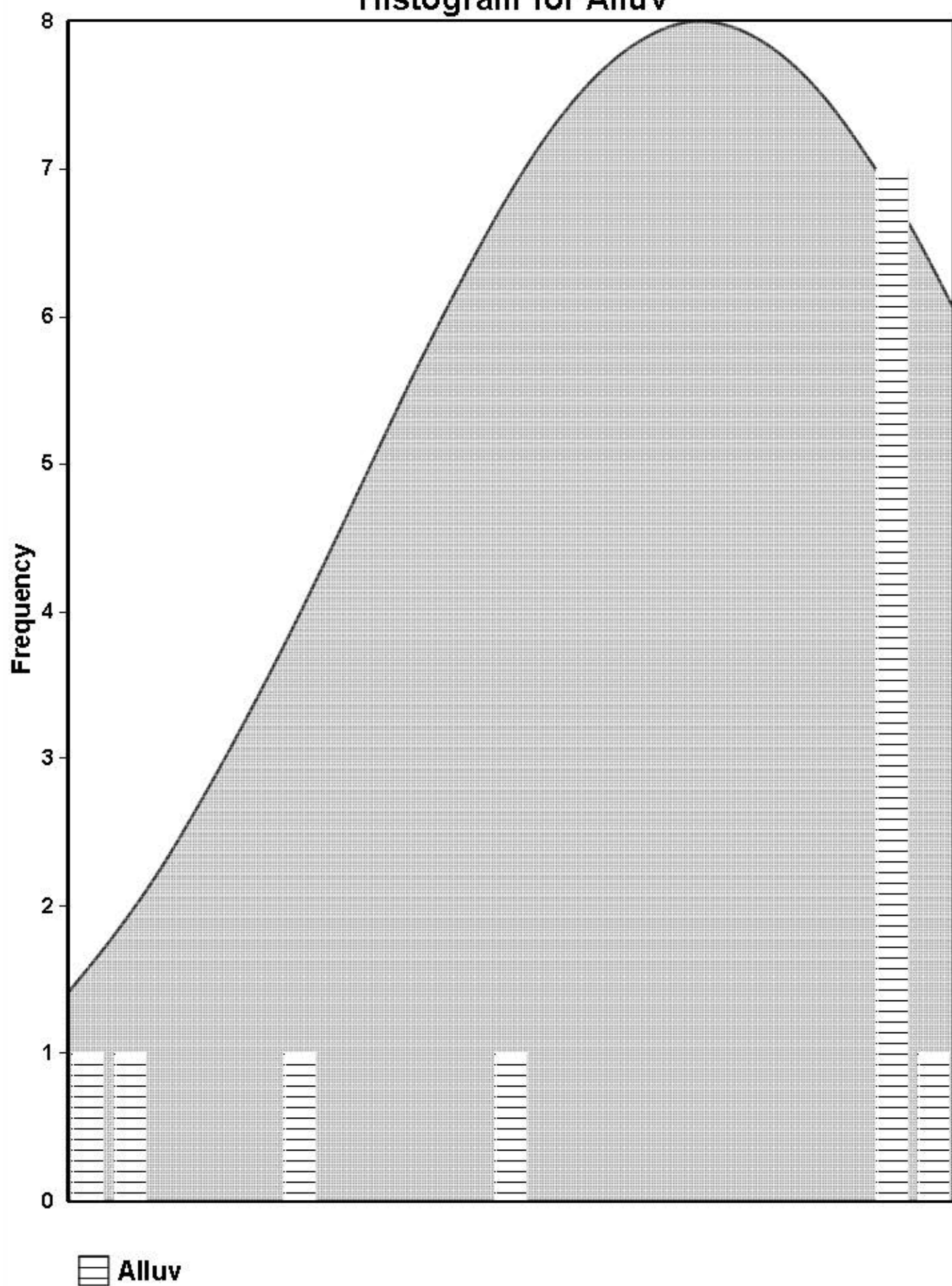
Data with Multiple Detection Limits					Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL					35
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL					4
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage					89.74%
Background Statistics										
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic				0.807	Shapiro Wilk Test Statistic				0.953	
5% Shapiro Wilk Critical Value				0.918	5% Shapiro Wilk Critical Value				0.918	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
DL/2 Substitution Method					DL/2 Substitution Method					
Mean				0.148	Mean (Log Scale)				-2.073	
SD				0.098	SD (Log Scale)				0.562	
95% UTL		95% Coverage		0.356	95% UTL		95% Coverage		0.415	
95% UPL (t)				0.315	95% UPL (t)				0.328	
90% Percentile (z)				0.274	90% Percentile (z)				0.258	
95% Percentile (z)				0.309	95% Percentile (z)				0.317	
99% Percentile (z)				0.376	99% Percentile (z)				0.465	
Maximum Likelihood Estimate(MLE) Method					Log ROS Method					
Mean				0.0847	Mean in Original Scale				0.139	
SD				0.177	SD in Original Scale				0.103	
95% UTL with		95% Coverage		0.462	95% UTL with		95% Coverage		0.422	
					95% BCA UTL with		95% Coverage		0.48	
					95% Bootstrap (%) UTL with		95% Coverage		0.48	
95% UPL (t)				0.388	95% UPL (t)				0.326	
90% Percentile (z)				0.312	90% Percentile (z)				0.251	
95% Percentile (z)				0.376	95% Percentile (z)				0.314	
99% Percentile (z)				0.497	99% Percentile (z)				0.478	
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only					
k star (bias corrected)				1.931	Data appear Gamma Distributed at 5% Significance Level					
Theta Star				0.0808						
nu star				96.57						
A-D Test Statistic					Nonparametric Statistics					
5% A-D Critical Value				0.756	Kaplan-Meier (KM) Method					
K-S Test Statistic				0.13	Mean				0.14	
5% K-S Critical Value				0.177	SD				0.104	
Data appear Gamma Distributed at 5% Significance Level					SE of Mean				0.0184	
					95% KM UTL with				95% Coverage	0.361
Assuming Gamma Distribution					95% KM Chebyshev UPL					0.599
Gamma ROS Statistics with Extrapolated Data					95% KM UPL (t)				0.317	
Mean				0.157	90% Percentile (z)				0.273	
Median				0.148	95% Percentile (z)				0.311	
SD				0.0975	99% Percentile (z)				0.382	
k star				3.034						
Theta star				0.0518	Gamma ROS Limits with Extrapolated Data					
Nu star				236.7	95% Wilson Hilmferty (WH) Approx. Gamma UPL				0.332	
95% Percentile of Chisquare (2k)				12.69	95% Hawkins Wixley (HW) Approx. Gamma UPL				0.336	

[illegible]

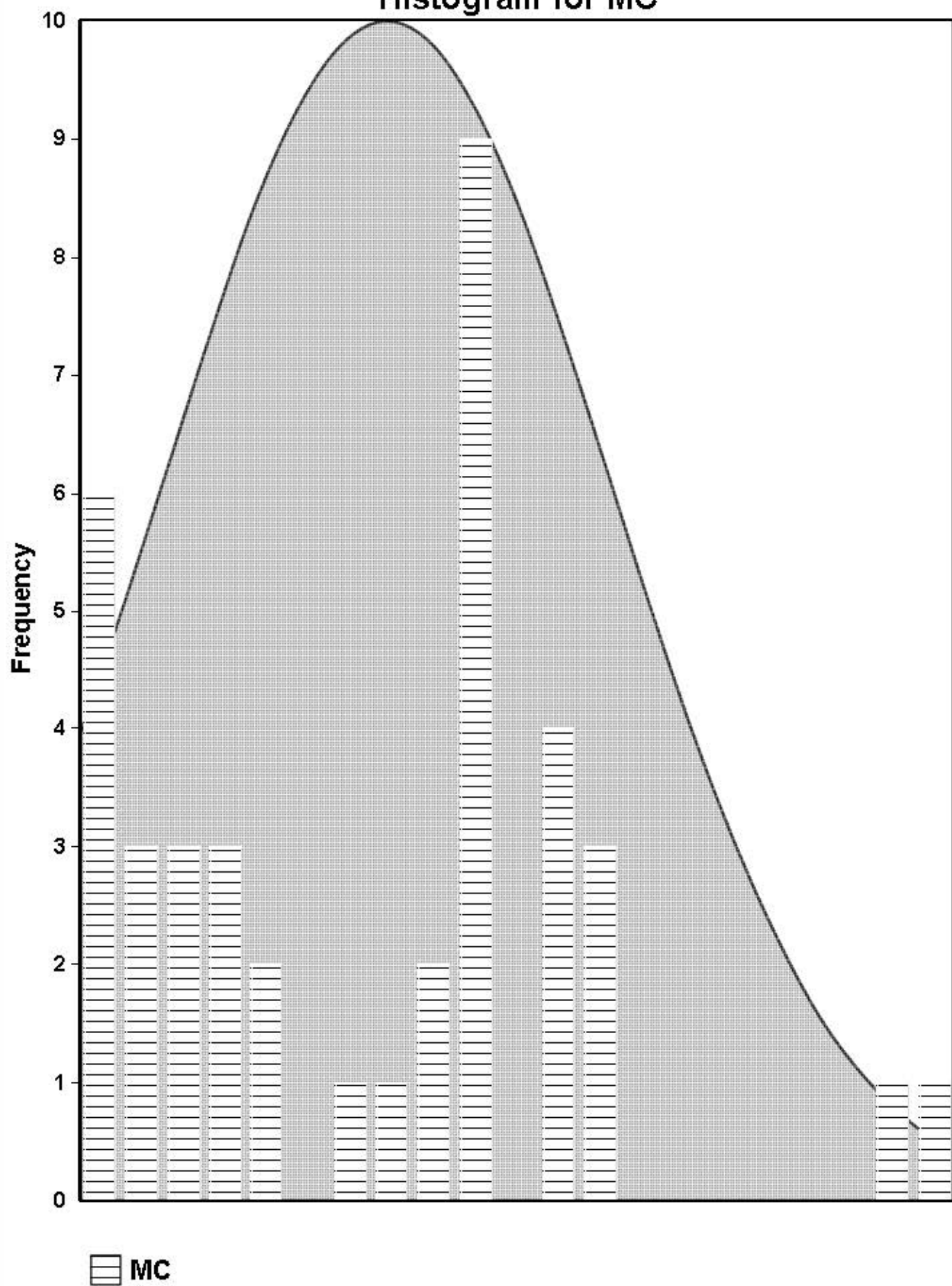
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Cadmium.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 0.16 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.389								
For 10% significance level, 0.16 is not an outlier.								
For 5% significance level, 0.16 is not an outlier.								
For 1% significance level, 0.16 is not an outlier.								
2. Data Value 0.052 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.744								
For 10% significance level, 0.052 is an outlier.								
For 5% significance level, 0.052 is an outlier.								
For 1% significance level, 0.052 is an outlier.								
Rosner's Outlier Test for MC								
Mean			0.148					
Standard Deviation			0.098					
Number of data			39					
Number of suspected outliers			1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	0.148	0.0967	0.48	11	3.432	3.03	3.37	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 0.48 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 0.48 is a Potential Statistical Outlier								

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects				
User Selected Options				
From File	Cadmium.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: MC				
Background Data: Alluv				
Raw Statistics				
	Site	Background		
Number of Valid Data	39	12		
Number of Non-Detect Data	14	8		
Number of Detect Data	25	4		
Minimum Non-Detect	0.25	0.25		
Maximum Non-Detect	0.31	0.26		
Percent Non detects	35.90%	66.67%		
Minimum Detected	0.043	0.052		
Maximum Detected	0.48	0.16		
Mean of Detected Data	0.156	0.098		
Median of Detected Data	0.11	0.09		
SD of Detected Data	0.122	0.0479		
Site vs Background Gehan Test				
H0: Mu of Site or AOC = Mu of background				
Gehan z Test Value	0.997			
Lower Critical z (0.025)	-1.96			
Upper Critical z (0.975)	1.96			
P-Value	0.319			
Conclusion with Alpha = 0.05				
Do Not Reject H0, Conclude Site = Background				
P-Value >= alpha (0.05)				

Histogram for Alluv



Histogram for MC



Location	Alluv	D_Alluv	Location	MC	D_MC
BG-1-2	0.25	0	BG-1-43	0.25	0
BG-1-10	0.25	0	BG-1-46	0.25	0
BG-1-29	0.25	0	BG-1-55	0.25	0
BG-1-40	0.25	0	BG-1-78	0.25	0
BG-2-2	0.25	0	BG-1-92	0.25	0
BG-2-10	0.25	0	BG-2-30	0.25	0
BG-2-19	0.11	1	BG-2-32	0.25	0
BG-2-21	0.25	0	BG-2-75	0.25	0
BG-3-2	0.16	1	BG-2-81	0.46	1
BG-3-10	0.07	1	BG-3-17	0.057	1
BG-6-2	0.26	0	BG-3-22	0.48	1
BG-6-9	0.052	1	BG-3-29	0.25	0
			BG-3-63	0.31	0
			BG-3-65	0.052	1
			BG-3-69	0.11	1
			BG-3-95	0.29	0
			BG-3-105	0.3	0
			BG-3-131	0.23	1
			BG-3-136	0.3	0
			BG-4-1	0.061	1
			BG-4-10	0.08	1
			BG-4-19	0.18	1
			BG-4-40	0.13	1
			BG-4-65	0.043	1
			BG-4-79	0.22	1
			BG-4-82	0.092	1
			BG-4-95	0.3	0
			BG-4-117	0.057	1
			BG-4-120	0.083	1
			BG-4-161	0.14	1
			BG-4-163	0.32	1
			BG-6-28	0.049	1
			BG-6-53	0.098	1
			BG-6-58	0.07	1
			BG-6-75	0.15	1
			BG-6-87	0.31	1
			BG-6-98	0.099	1
			BG-6-114	0.12	1
			BG-1-127	0.21	1

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File	Chloride.wst								
Full Precision	OFF								
Confidence Coefficient	0.95								
All Data									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	51	0	51	50	1	1.96%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Detects Only)	50	7.6	3800	261.7	95.5	645.3			
Statistics (All: NDs treated as DL value)	51	7.6	3800	256.8	93	639.8			
Statistics (All: NDs treated as DL/2 value)	51	5	3800	256.7	93	639.9			
Statistics (Normal ROS Estimated Data)	51	-450.2	3800	247.7	93	646.6			
Statistics (Gamma ROS Estimated Data)	51	1.000E-12	3800	256.6	93	639.9			
Statistics (Lognormal ROS Estimated Data)	51	7.6	3800	256.8	93	639.8			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	0.634	0.61	412.8	4.601	1.192	0.259			
Statistics (NDs = DL)	0.62	0.596	414.5	4.555	1.223	0.268			
Statistics (NDs = DL/2)	0.612	0.589	419.1	4.542	1.252	0.276			
Statistics (Gamma ROS Estimates)	0.414	0.403	619.1	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	4.558	1.218	0.267			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.581	0.58	0.58	0.606					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.371	0.947	Data Not Normal						
Lilliefors (Detects Only)	0.393	0.125	Data Not Normal						
Lilliefors (NDs = DL)	0.393	0.124	Data Not Normal						
Lilliefors (NDs = DL/2)	0.393	0.124	Data Not Normal						
Lilliefors (Normal ROS Estimates)	0.387	0.124	Data Not Normal						
Gamma Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS					
Correlation Coefficient R	0.849	0.849	0.85	0.884					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Anderson-Darling (Detects Only)	5.62	0.803							
Kolmogorov-Smirnov (Detects Only)	0.286	0.131	Data Not Gamma Distributed						
Anderson-Darling (NDs = DL)	5.443	0.804							
Kolmogorov-Smirnov (NDs = DL)	0.281	0.13	Data Not Gamma Distributed						
Anderson-Darling (NDs = DL/2)	5.343	0.805							
Kolmogorov-Smirnov (NDs = DL/2)	0.279	0.13	Data Not Gamma Distributed						
Anderson-Darling (Gamma ROS Estimates)	5.415	0.835							
Kolmogorov-Smirnov (Gamma ROS Est.)	0.257	0.133	Data Not Gamma Distributed						

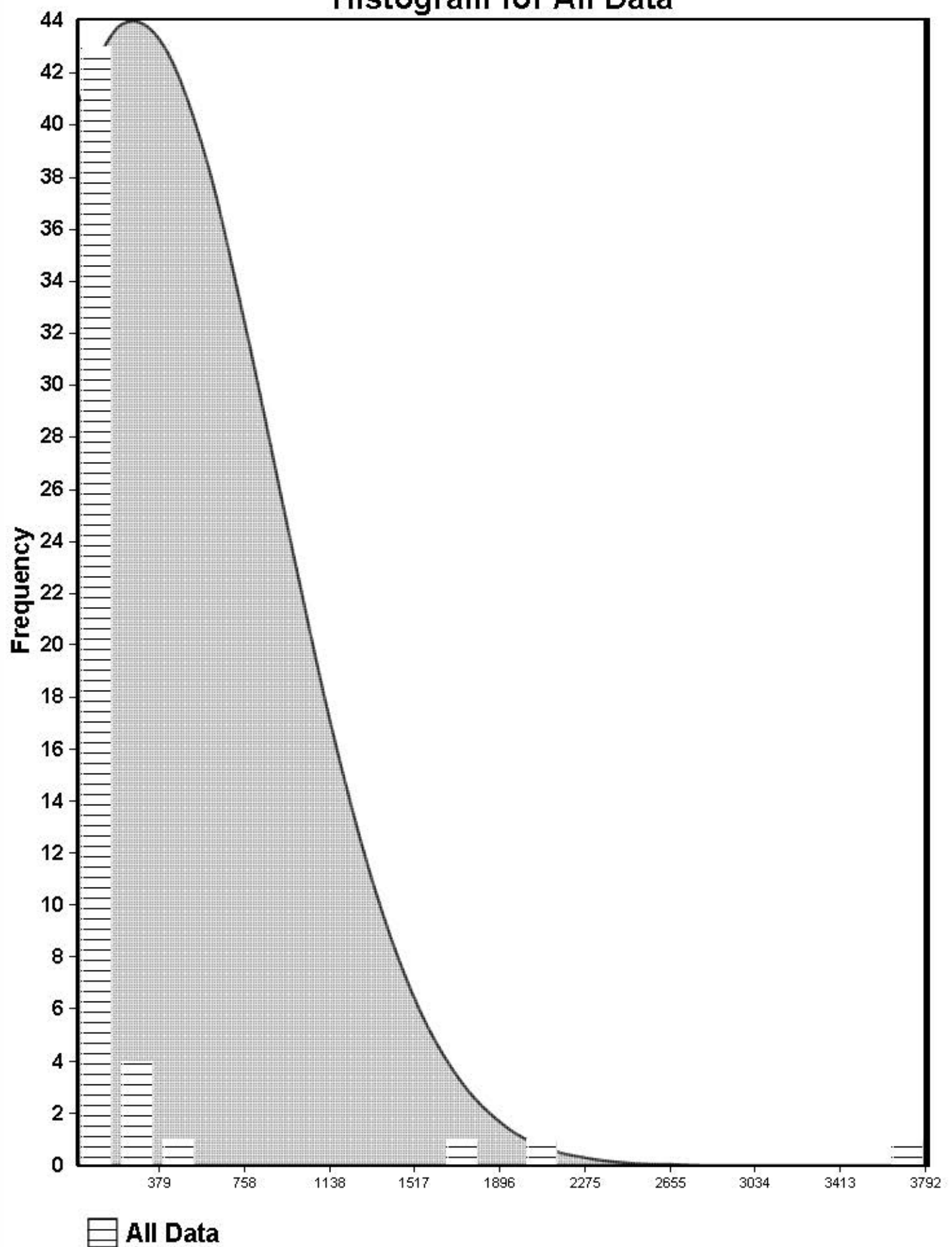
Note: Substitution methods such as DL or DL/2 are not recommended.

			General Background Statistics for Data Sets with Non-Detects								
User Selected Options											
From File			Chloride.wst								
Full Precision			OFF								
Confidence Coefficient			95%								
Coverage			95%								
Different or Future K Values			1								
Number of Bootstrap Operations			2000								
All Data											
General Statistics											
Number of Valid Data			51		Number of Detected Data			50			
Number of Distinct Detected Data			39		Number of Non-Detect Data			1			
						Percent Non-Detects			1.96%		
Raw Statistics					Log-transformed Statistics						
Minimum Detected		7.6			Minimum Detected		2.028				
Maximum Detected		3800			Maximum Detected		8.243				
Mean of Detected		261.7			Mean of Detected		4.601				
SD of Detected		645.3			SD of Detected		1.192				
Minimum Non-Detect		10			Minimum Non-Detect		2.303				
Maximum Non-Detect		10			Maximum Non-Detect		2.303				
Background Statistics											
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only						
Shapiro Wilk Test Statistic		0.371			Shapiro Wilk Test Statistic		0.891				
5% Shapiro Wilk Critical Value		0.947			5% Shapiro Wilk Critical Value		0.947				
Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level						
Assuming Normal Distribution					Assuming Lognormal Distribution						
DL/2 Substitution Method					DL/2 Substitution Method						
Mean		256.7			Mean (Log Scale)		4.542				
SD		639.9			SD (Log Scale)		1.252				
95% UTL		95% Coverage		1571	95% UTL		95% Coverage		1228		
		95% UPL (t)		1339			95% UPL (t)		780.8		
		90% Percentile (z)		1077			90% Percentile (z)		466.9		
		95% Percentile (z)		1309			95% Percentile (z)		735.8		
		99% Percentile (z)		1745			99% Percentile (z)		1727		
Maximum Likelihood Estimate(MLE) Method					Log ROS Method						
Mean		220.6			Mean in Original Scale		256.8				
SD		667.2			SD in Original Scale		639.8				
95% UTL with		95% Coverage		1591	95% UTL with		95% Coverage		1163		
					95% BCA UTL with		95% Coverage		2200		
					95% Bootstrap (%) UTL with		95% Coverage		3000		
		95% UPL (t)		1350			95% UPL (t)		749		
		90% Percentile (z)		1076			90% Percentile (z)		454.3		
		95% Percentile (z)		1318			95% Percentile (z)		707		
		99% Percentile (z)		1773			99% Percentile (z)		1621		

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.609	Data do not follow a Discernable Distribution (0.05)	
Theta Star	429.5		
nu star	60.93		
A-D Test Statistic	5.62	Nonparametric Statistics	
5% A-D Critical Value	0.803	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.286	Mean	256.7
5% K-S Critical Value	0.131	SD	633.5
Data not Gamma Distributed at 5% Significance Level		SE of Mean	89.61
		95% KM UTL with 95% Coverage	1558
Assuming Gamma Distribution		95% KM Chebyshev UPL	3045
Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	1329
Mean	256.6	90% Percentile (z)	1069
Median	93	95% Percentile (z)	1299
SD	639.9	99% Percentile (z)	1731
k star	0.403		
Theta star	636.5	Gamma ROS Limits with Extrapolated Data	
Nu star	41.12	95% Wilson Hilferty (WH) Approx. Gamma UPL	810.4
95% Percentile of Chisquare (2k)	3.341	95% Hawkins Wixley (HW) Approx. Gamma UPL	802.9
		95% WH Approx. Gamma UTL with 95% Coverage	1079
90% Percentile	723.7	95% HW Approx. Gamma UTL with 95% Coverage	1106
95% Percentile	1063		
99% Percentile	1916		
Note: DL/2 is not a recommended method.			

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Chloride.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Rosner's Outlier Test for All Data							
Mean		256.7					
Standard Deviation		639.9					
Number of data		51					
Number of suspected outliers		1					
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	256.7	633.5	3800	3	5.593	3.137	3.488
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 3800 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 3800 is a Potential Statistical Outlier							

Histogram for All Data



Location	All Data	D_All Data
BG-1-2	2200	1
BG-3-17	120	1
BG-4-2	3800	1
BG-4-19	340	1
BG-1-10	490	1
BG-2-2	8.2	1
BG-2-10	25	1
BG-2-19	7.6	1
BG-3-2	110	1
BG-3-10	1900	1
BG-4-10	310	1
BG-6-2	190	1
BG-6-9	240	1
BG-1-29	89	1
BG-1-40	65	1
BG-1-46	67	1
BG-1-92	77	1
BG-2-21	18	1
BG-2-32	14	1
BG-2-75	10	0
BG-3-29	120	1
BG-3-63	88	1
BG-3-65	69	1
BG-3-95	60	1
BG-3-105	66	1
BG-3-131	55	1
BG-3-136	69	1
BG-4-65	52	1
BG-4-82	110	1
BG-4-95	110	1
BG-4-117	140	1
BG-4-120	140	1
BG-6-58	120	1
BG-6-75	110	1
BG-6-98	93	1
BG-6-114	100	1
BG-6-127	82	1
BG-1-43	210	1
BG-1-55	81	1
BG-1-78	66	1
BG-2-30	9.4	1
BG-2-81	75	1
BG-3-22	62	1
BG-3-69	59	1
BG-4-40	180	1
BG-4-79	120	1
BG-4-161	98	1
BG-4-163	80	1
BG-6-28	170	1
BG-6-53	110	1
BG-6-87	110	1

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

User Selected Options

From File	Chloride.wst
-----------	--------------

Full Precision	OFF
----------------	-----

Confidence Coefficient	0.95
------------------------	------

0-20

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	13	0	13	13	0	0.00%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Full: no NDs)	13	7.6	3800	749.3	240	1161

	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Full: no NDs)	0.482	0.422	1555	5.293	1.971	0.372

Normal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.817	0.817	0.817	0.817

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.677	0.866	Data Not Normal
Lilliefors (Full: no NDs)	0.358	0.246	Data Not Normal

Gamma Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma ROF
Correlation Coefficient R	0.981	0.981	0.981	0.981

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Full: no NDs)	0.426	0.794	
Kolmogorov-Smirnov (Full: no NDs)	0.186	0.25	Data Appear Gamma Distributed

Lognormal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.977	0.977	0.977	0.977

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.943	0.866	Data Appear Lognormal
Lilliefors (Full: no NDs)	0.151	0.246	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

>20

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	38	0	38	37	1	2.63%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Detects Only)	37	9.4	210	90.39	82	42.61

Statistics (All: NDs treated as DL value)	38	9.4	210	88.27	81.5	44.01		
Statistics (All: NDs treated as DL/2 value)	38	5	210	88.14	81.5	44.26		
Statistics (Normal ROS Estimated Data)	38	-0.943	210	87.99	81.5	44.57		
Statistics (Gamma ROS Estimated Data)	38	1.000E-12	210	88.01	81.5	44.52		
Statistics (Lognormal ROS Estimated Data)	38	9.4	210	88.59	81.5	43.47		
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)	3.558	3.295	25.4	4.357	0.635	0.146		
Statistics (NDs = DL)	2.974	2.757	29.68	4.303	0.709	0.165		
Statistics (NDs = DL/2)	2.73	2.532	32.29	4.285	0.769	0.179		
Statistics (Gamma ROS Estimates)	0.637	0.604	138.2	--	--	--		
Statistics (Lognormal ROS Estimates)	--	--	--	4.324	0.659	0.152		
Normal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.974	0.976	0.977	0.978				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.952	0.936	Data Appear Normal					
Lilliefors (Detects Only)	0.108	0.146	Data Appear Normal					
Shapiro-Wilks (NDs = DL)	0.954	0.938	Data Appear Normal					
Lilliefors (NDs = DL)	0.104	0.144	Data Appear Normal					
Shapiro-Wilks (NDs = DL/2)	0.957	0.938	Data Appear Normal					
Lilliefors (NDs = DL/2)	0.104	0.144	Data Appear Normal					
Shapiro-Wilks (Normal ROS Estimates)	0.961	0.938	Data Appear Normal					
Lilliefors (Normal ROS Estimates)	0.105	0.144	Data Appear Normal					
Gamma Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.982	0.978	0.976	0.914				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	1.008	0.753						
Kolmogorov-Smirnov (Detects Only)	0.15	0.146	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)	1.305	0.754						
Kolmogorov-Smirnov (NDs = DL)	0.168	0.144	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.453	0.756						
Kolmogorov-Smirnov (NDs = DL/2)	0.182	0.144	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	7.479	0.8						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.414	0.15	Data Not Gamma Distributed					
Lognormal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.908	0.902	0.885	0.92				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.836	0.936	Data Not Lognormal					
Lilliefors (Detects Only)	0.195	0.146	Data Not Lognormal					
Shapiro-Wilks (NDs = DL)	0.818	0.938	Data Not Lognormal					
Lilliefors (NDs = DL)	0.217	0.144	Data Not Lognormal					

Note: Substitution methods such as DL or DL/2 are not recommended.

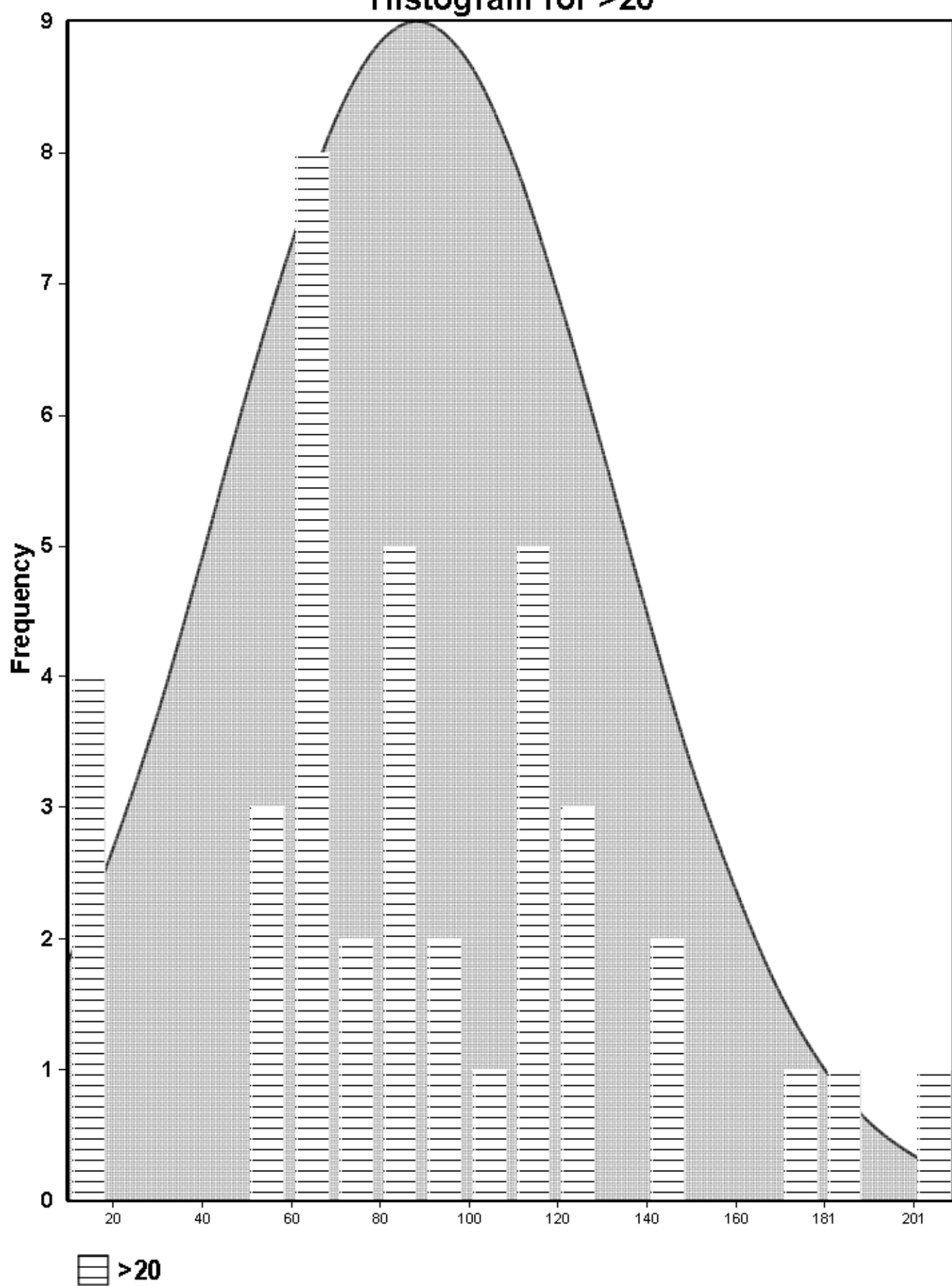
[illegible]

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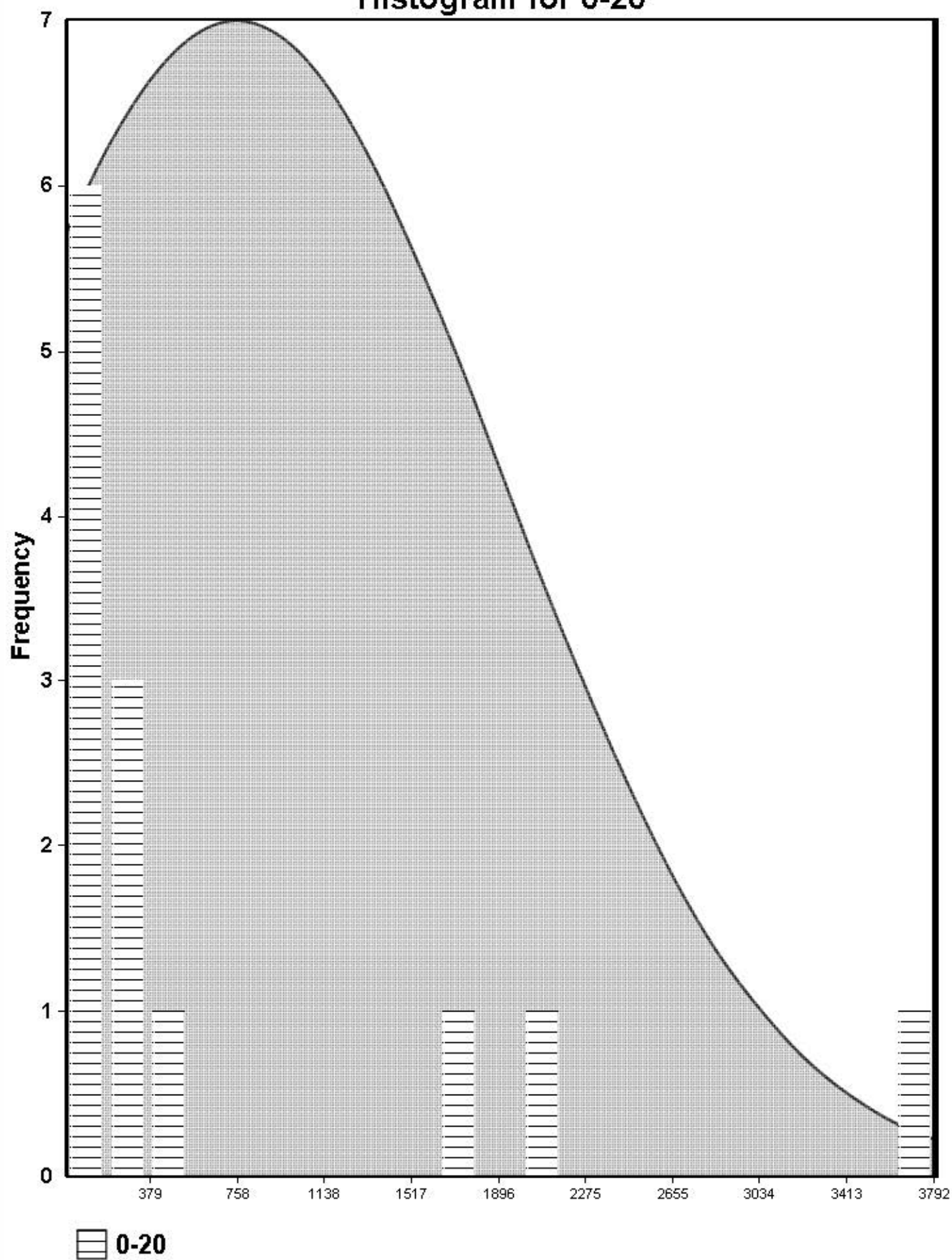
				Outlier Tests for Selected Variables									
User Selected Options													
From File				Chloride.wst									
Full Precision				OFF									
Test for Suspected Outliers with Dixon test				1									
Test for Suspected Outliers for Rosner test				1									
Dixon's Outlier Test for 0-20													
Number of data = 13													
10% critical value: 0.467													
5% critical value: 0.521													
1% critical value: 0.615													
1. Data Value 3800 is a Potential Outlier (Upper Tail)?													
Test Statistic: 0.501													
For 10% significance level, 3800 is an outlier.													
For 5% significance level, 3800 is not an outlier.													
For 1% significance level, 3800 is not an outlier.													
2. Data Value 7.6 is a Potential Outlier (Lower Tail)?													
Test Statistic: 0.008													
For 10% significance level, 7.6 is not an outlier.													
For 5% significance level, 7.6 is not an outlier.													
For 1% significance level, 7.6 is not an outlier.													
Rosner's Outlier Test for >20													
Mean		88.14											
Standard Deviation		44.26											
Number of data		38											
Number of suspected outliers		1											
			Potential	Obs.	Test	Critical	Critical						
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)						
1	88.14	43.67	210	25	2.79	3.01	3.36						
For 5% Significance Level, there is no Potential Outlier													
For 1% Significance Level, there is no Potential Outlier													

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Data Sets with Non-Detects			
User Selected Options			
From File	Chloride.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Substantial Difference (S)	0.000		
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (2 Sided Alternative		
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median		
Area of Concern Data: 0-20			
Background Data: >20			
Raw Statistics			
	Site	Background	
Number of Valid Data	13	38	
Number of Non-Detect Data	0	1	
Number of Detect Data	13	37	
Minimum Non-Detect	N/A	10	
Maximum Non-Detect	N/A	10	
Percent Non detects	0.00%	2.63%	
Minimum Detected	7.6	9.4	
Maximum Detected	3800	210	
Mean of Detected Data	749.3	90.39	
Median of Detected Data	240	82	
SD of Detected Data	1161	42.61	
Wilcoxon-Mann-Whitney Site vs Background Test			
All observations <= 10 (Max DL) are ranked the same			
Wilcoxon-Mann-Whitney (WMW) Test			
H0: Mean/Median of Site or AOC = Mean/Median of Background			
Site Rank Sum W-Stat	459		
WMW Test U-Stat	2.604		
Lower Critical Value (0.025)	-1.96		
Upper Critical Value (0.975)	1.96		
P-Value	0.0092		
Conclusion with Alpha = 0.05			
Reject H0, Conclude Site <> Background			
P-Value < alpha (0.05)			

Histogram for >20



Histogram for 0-20



Location	0-20	D_0-20	Location	>20	D_>20
BG-1-2	2200	1	BG-1-29	89	1
BG-3-17	120	1	BG-1-40	65	1
BG-4-2	3800	1	BG-1-46	67	1
BG-4-19	340	1	BG-1-92	77	1
BG-1-10	490	1	BG-2-21	18	1
BG-2-2	8.2	1	BG-2-32	14	1
BG-2-10	25	1	BG-2-75	10	0
BG-2-19	7.6	1	BG-3-29	120	1
BG-3-2	110	1	BG-3-63	88	1
BG-3-10	1900	1	BG-3-65	69	1
BG-4-10	310	1	BG-3-95	60	1
BG-6-2	190	1	BG-3-105	66	1
BG-6-9	240	1	BG-3-131	55	1
			BG-3-136	69	1
			BG-4-65	52	1
			BG-4-82	110	1
			BG-4-95	110	1
			BG-4-117	140	1
			BG-4-120	140	1
			BG-6-58	120	1
			BG-6-75	110	1
			BG-6-98	93	1
			BG-6-114	100	1
			BG-6-127	82	1
			BG-1-43	210	1
			BG-1-55	81	1
			BG-1-78	66	1
			BG-2-30	9.4	1
			BG-2-81	75	1
			BG-3-22	62	1
			BG-3-69	59	1
			BG-4-40	180	1
			BG-4-79	120	1
			BG-4-161	98	1
			BG-4-163	80	1
			BG-6-28	170	1
			BG-6-53	110	1
			BG-6-87	110	1

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects											
User Selected Options													
From File		Chloride.wst											
Full Precision		OFF											
Confidence Coefficient		0.95											
Clay													
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs						
	Raw Statistics	18	0	18	18	0	0.00%						
		Number	Minimum	Maximum	Mean	Median	SD						
	Statistics (Full: no NDs)	18	9.4	3800	438.4	110	974.2						
		K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV						
	Statistics (Full: no NDs)	0.544	0.49	806.3	4.93	1.331	0.27						
Normal Distribution Test Results													
		No NDs	NDs = DL	NDs = DL/2	Normal ROS								
	Correlation Coefficient R	0.65	0.65	0.65	0.65								
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)									
	Shapiro-Wilks (Full: no NDs)	0.445	0.897	Data Not Normal									
	Lilliefors (Full: no NDs)	0.429	0.209	Data Not Normal									
Gamma Distribution Test Results													
		No NDs	NDs = DL	NDs = DL/2	Gamma ROS								
	Correlation Coefficient R	0.909	0.909	0.909	0.909								
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)									
	Anderson-Darling (Full: no NDs)	2.622	0.796										
	Kolmogorov-Smirnov (Full: no NDs)	0.338	0.214	Data Not Gamma Distributed									
Lognormal Distribution Test Results													
		No NDs	NDs = DL	NDs = DL/2	Log ROS								
	Correlation Coefficient R	0.908	0.908	0.908	0.908								
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)									
	Shapiro-Wilks (Full: no NDs)	0.848	0.897	Data Not Lognormal									
	Lilliefors (Full: no NDs)	0.21	0.209	Data Not Lognormal									
Note: Substitution methods such as DL or DL/2 are not recommended.													
Non-Clay													
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs						
	Raw Statistics	33	0	33	32	1	3.03%						
		Number	Minimum	Maximum	Mean	Median	SD						
	Statistics (Detects Only)	32	7.6	1900	162.3	88.5	330.8						

Statistics (All: NDs treated as DL value)	33	7.6	1900	157.7	88	326.7		
Statistics (All: NDs treated as DL/2 value)	33	5	1900	157.6	88	326.8		
Statistics (Normal ROS Estimated Data)	33	-204.4	1900	151.2	88	331.8		
Statistics (Gamma ROS Estimated Data)	33	1.000E-12	1900	157.4	88	326.9		
Statistics (Lognormal ROS Estimated Data)	33	7.6	1900	157.8	88	326.7		
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)	0.871	0.812	186.5	4.415	1.084	0.246		
Statistics (NDs = DL)	0.832	0.777	189.5	4.351	1.129	0.259		
Statistics (NDs = DL/2)	0.812	0.758	194.1	4.33	1.174	0.271		
Statistics (Gamma ROS Estimates)	0.406	0.39	387.3	--	--	--		
Statistics (Lognormal ROS Estimates)	--	--	--	4.355	1.122	0.258		
Normal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.587	0.587	0.587	0.62				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.381	0.93	Data Not Normal					
Lilliefors (Detects Only)	0.371	0.157	Data Not Normal					
Shapiro-Wilks (NDs = DL)	0.381	0.931	Data Not Normal					
Lilliefors (NDs = DL)	0.37	0.154	Data Not Normal					
Shapiro-Wilks (NDs = DL/2)	0.382	0.931	Data Not Normal					
Lilliefors (NDs = DL/2)	0.37	0.154	Data Not Normal					
Shapiro-Wilks (Normal ROS Estimates)	0.429	0.931	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.362	0.154	Data Not Normal					
Gamma Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.804	0.807	0.809	0.863				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	2.15	0.782						
Kolmogorov-Smirnov (Detects Only)	0.253	0.161	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)	2.016	0.784						
Kolmogorov-Smirnov (NDs = DL)	0.244	0.159	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.961	0.785						
Kolmogorov-Smirnov (NDs = DL/2)	0.241	0.159	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	3.676	0.832						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.298	0.164	Data Not Gamma Distributed					
Lognormal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.952	0.956	0.954	0.957				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.923	0.93	Data Not Lognormal					
Lilliefors (Detects Only)	0.178	0.157	Data Not Lognormal					
Shapiro-Wilks (NDs = DL)	0.925	0.931	Data Not Lognormal					
Lilliefors (NDs = DL)	0.18	0.154	Data Not Lognormal					

Note: Substitution methods such as DL or DL/2 are not recommended.

			General Background Statistics for Data Sets with Non-Detects							
User Selected Options										
From File			Chloride.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Clay										
General Statistics										
Total Number of Observations				18		Number of Distinct Observations				16
Raw Statistics					Log-Transformed Statistics					
			Minimum	9.4				Minimum	2.241	
			Maximum	3800				Maximum	8.243	
			Second Largest	2200				Second Largest	7.696	
			First Quartile	76.25				First Quartile	4.334	
			Median	110				Median	4.7	
			Third Quartile	177.5				Third Quartile	5.179	
			Mean	438.4				Mean	4.93	
			SD	974.2				SD	1.331	
			Coefficient of Variation	2.222						
			Skewness	3.067						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.445				Shapiro Wilk Test Statistic	0.848	
			Shapiro Wilk Critical Value	0.897				Shapiro Wilk Critical Value	0.897	
Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	2828				95% UTL with 95% Coverage	3618	
			95% UPL (t)	2180				95% UPL (t)	1492	
			90% Percentile (z)	1687				90% Percentile (z)	761.2	
			95% Percentile (z)	2041				95% Percentile (z)	1234	
			99% Percentile (z)	2705				99% Percentile (z)	3057	
Gamma Distribution Test					Data Distribution Test					
			k star	0.49	Data do not follow a Discernable Distribution (0.05)					
			Theta Star	894.4						
			MLE of Mean	438.4						
			MLE of Standard Deviation	626.2						
			nu star	17.64						
			A-D Test Statistic	2.622	Nonparametric Statistics					
			5% A-D Critical Value	0.796				90% Percentile	898	
			K-S Test Statistic	0.338				95% Percentile	2440	
			5% K-S Critical Value	0.214				99% Percentile	3528	
Data not Gamma Distributed at 5% Significance Level										

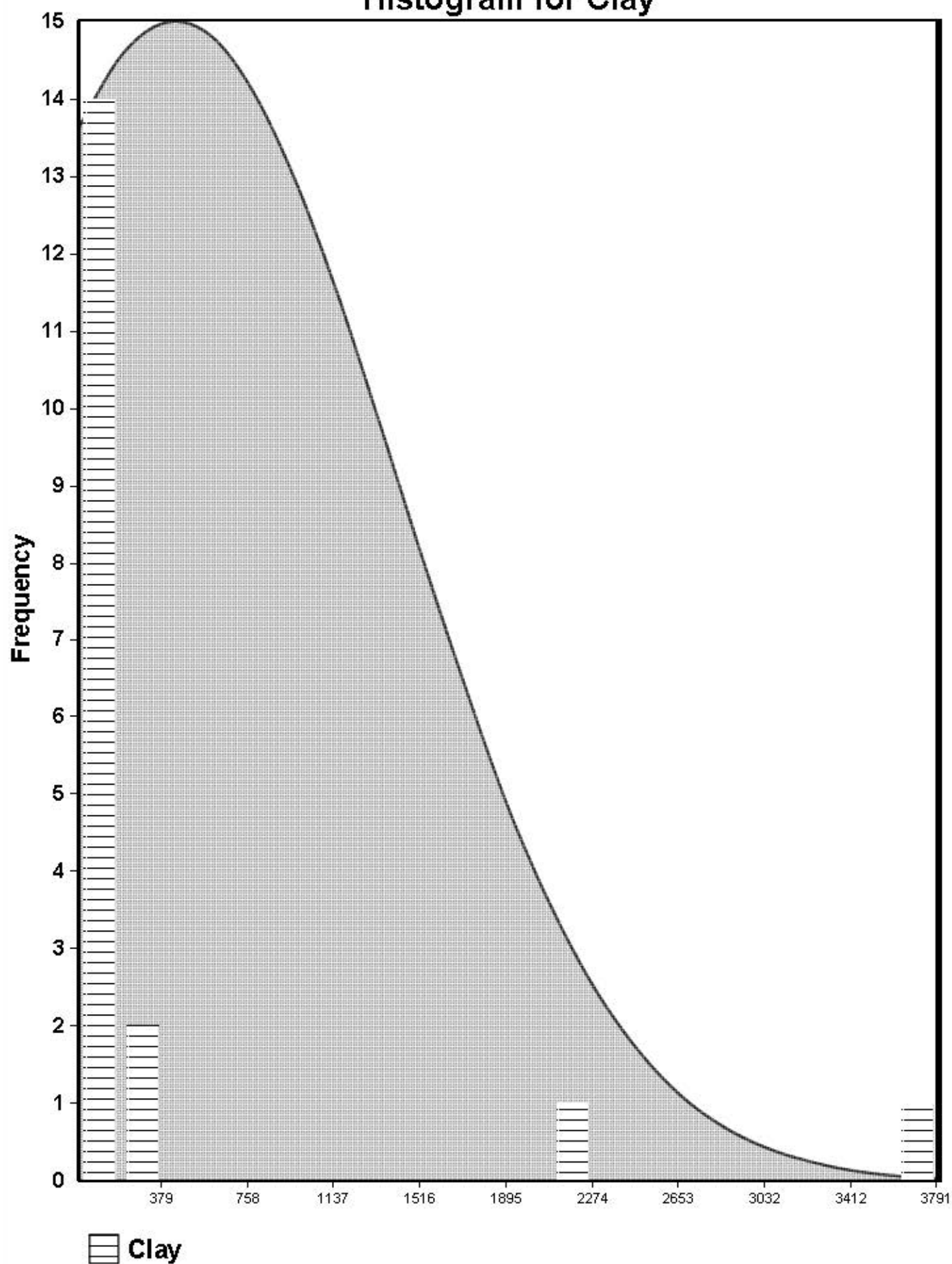
Assuming Gamma Distribution				95% UTL with 95% Coverage		3800			
90% Percentile			1191	95% Percentile Bootstrap UTL with 95% Coverage		3800			
95% Percentile			1696	95% BCA Bootstrap UTL with 95% Coverage		3800			
99% Percentile			2940	95% UPL		3800			
				95% Chebyshev UPL		4801			
95% WH Approx. Gamma UPL			1583	Upper Threshold Limit Based upon IQR		329.4			
95% HW Approx. Gamma UPL			1520						
95% WH Approx. Gamma UTL with 95% Coverage			2658						
95% HW Approx. Gamma UTL with 95% Coverage			2711						
Non-Clay									
General Statistics									
Number of Valid Data			33	Number of Detected Data			32		
Number of Distinct Detected Data			26	Number of Non-Detect Data			1		
				Percent Non-Detects			3.03%		
Raw Statistics				Log-transformed Statistics					
Minimum Detected			7.6	Minimum Detected			2.028		
Maximum Detected			1900	Maximum Detected			7.55		
Mean of Detected			162.3	Mean of Detected			4.415		
SD of Detected			330.8	SD of Detected			1.084		
Minimum Non-Detect			10	Minimum Non-Detect			2.303		
Maximum Non-Detect			10	Maximum Non-Detect			2.303		
Background Statistics									
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic			0.381	Shapiro Wilk Test Statistic			0.923		
5% Shapiro Wilk Critical Value			0.93	5% Shapiro Wilk Critical Value			0.93		
Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
DL/2 Substitution Method				DL/2 Substitution Method					
Mean			157.6	Mean (Log Scale)			4.33		
SD			326.8	SD (Log Scale)			1.174		
95% UTL 95% Coverage			868.7	95% UTL 95% Coverage			976.6		
95% UPL (t)			719.4	95% UPL (t)			571.5		
90% Percentile (z)			576.4	90% Percentile (z)			341.9		
95% Percentile (z)			695.1	95% Percentile (z)			523.6		
99% Percentile (z)			917.8	99% Percentile (z)			1165		
Maximum Likelihood Estimate(MLE) Method				Log ROS Method					
Mean			136.8	Mean in Original Scale			157.8		
SD			342.4	SD in Original Scale			326.7		
95% UTL with 95% Coverage			881.9	95% UTL with 95% Coverage			894.2		
				95% BCA UTL with 95% Coverage			1900		
				95% Bootstrap (%) UTL with 95% Coverage			1900		
95% UPL (t)			725.5	95% UPL (t)			535.8		
90% Percentile (z)			575.6	90% Percentile (z)			327.9		
95% Percentile (z)			700	95% Percentile (z)			492.8		

[illegible]

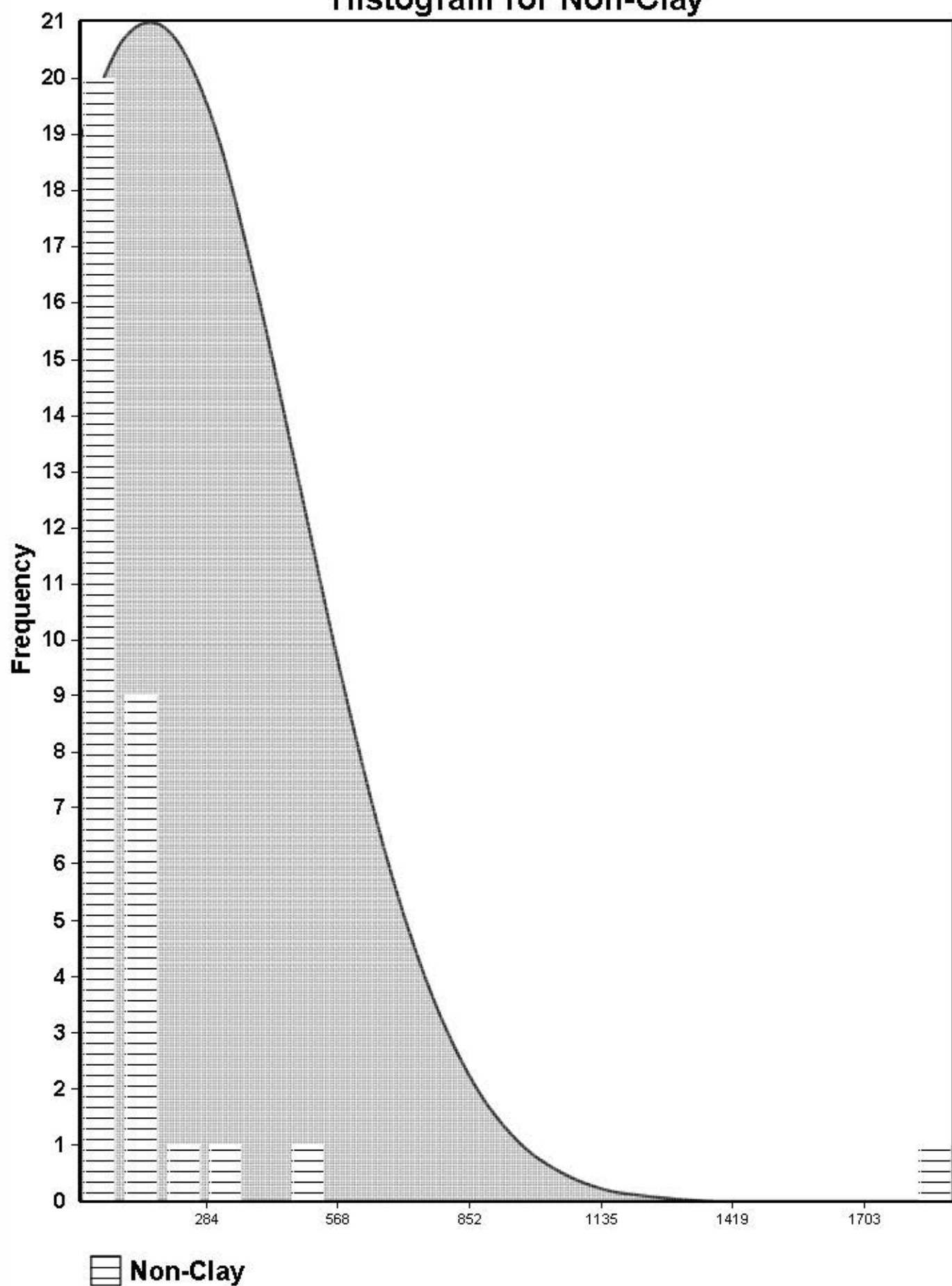
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Chloride.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for Clay								
Number of data = 18								
10% critical value: 0.424								
5% critical value: 0.475								
1% critical value: 0.561								
1. Data Value 3800 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.926								
For 10% significance level, 3800 is an outlier.								
For 5% significance level, 3800 is an outlier.								
For 1% significance level, 3800 is an outlier.								
2. Data Value 9.4 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.159								
For 10% significance level, 9.4 is not an outlier.								
For 5% significance level, 9.4 is not an outlier.								
For 1% significance level, 9.4 is not an outlier.								
Rosner's Outlier Test for Non-Clay								
Mean			157.6					
Standard Deviation			326.8					
Number of data			33					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	157.6	321.8	1900	13	5.415	2.95	3.29	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1900 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1900 is a Potential Statistical Outlier								

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Data Sets with Non-Detects			
User Selected Options			
From File	Chloride.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Substantial Difference (S)	0.000		
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (2 Sided Alternative		
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median		
Area of Concern Data: Non-Clay			
Background Data: Clay			
Raw Statistics			
	Site	Background	
Number of Valid Data	33	18	
Number of Non-Detect Data	1	0	
Number of Detect Data	32	18	
Minimum Non-Detect	10	N/A	
Maximum Non-Detect	10	N/A	
Percent Non detects	3.03%	0.00%	
Minimum Detected	7.6	9.4	
Maximum Detected	1900	3800	
Mean of Detected Data	162.3	438.4	
Median of Detected Data	88.5	110	
SD of Detected Data	330.8	974.2	
Wilcoxon-Mann-Whitney Site vs Background Test			
Wilcoxon-Mann-Whitney (WMW) Test			
H0: Mean/Median of Site or AOC = Mean/Median of Background			
Site Rank Sum W-Stat	787		
WMW Test U-Stat	1.39		
Lower Critical Value (0.025)	-1.96		
Upper Critical Value (0.975)	1.96		
P-Value	0.159		
Conclusion with Alpha = 0.05			
Do Not Reject H0, Conclude Site = Background			
P-Value >= alpha (0.05)			

Histogram for Clay



Histogram for Non-Clay



Location	Clay	D_Clay
BG-1-2	2200	1
BG-1-43	210	1
BG-1-55	81	1
BG-1-78	66	1
BG-2-30	9.4	1
BG-2-81	75	1
BG-3-17	120	1
BG-3-22	62	1
BG-3-69	59	1
BG-4-2	3800	1
BG-4-19	340	1
BG-4-40	180	1
BG-4-79	120	1
BG-4-161	98	1
BG-4-163	80	1
BG-6-28	170	1
BG-6-53	110	1
BG-6-87	110	1

Location	Non-Clay	D_Non-Clay
BG-1-10	490	1
BG-1-29	89	1
BG-1-40	65	1
BG-1-46	67	1
BG-1-92	77	1
BG-2-2	8.2	1
BG-2-10	25	1
BG-2-19	7.6	1
BG-2-21	18	1
BG-2-32	14	1
BG-2-75	10	0
BG-3-2	110	1
BG-3-10	1900	1
BG-3-29	120	1
BG-3-63	88	1
BG-3-65	69	1
BG-3-95	60	1
BG-3-105	66	1
BG-3-131	55	1
BG-3-136	69	1
BG-4-10	310	1
BG-4-65	52	1
BG-4-82	110	1
BG-4-95	110	1
BG-4-117	140	1
BG-4-120	140	1
BG-6-2	190	1
BG-6-9	240	1
BG-6-58	120	1
BG-6-75	110	1
BG-6-98	93	1
BG-6-114	100	1
BG-6-127	82	1

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

User Selected Options

From File	Chloride.wst
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Full Precision	OFF
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Confidence Coefficient	0.95
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Alluv

Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
---------	----------	-----------	---------	-----	-------

Raw Statistics	12	0	12	12	0	0.00%
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Number	Minimum	Maximum	Mean	Median	SD
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Statistics (Full: no NDs)	12	7.6	2200	445.2	99.5	764.6
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K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
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Statistics (Full: no NDs)	0.446	0.39	998.8	4.648	1.904	0.41
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Normal Distribution Test Results

No NDs	NDs = DL	NDs = DL/2	Normal ROS
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Correlation Coefficient R	0.781	0.781	0.781	0.781
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Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
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Shapiro-Wilks (Full: no NDs)	0.614	0.859	Data Not Normal
------------------------------	-------	-------	-----------------

Lilliefors (Full: no NDs)	0.356	0.256	Data Not Normal
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Gamma Distribution Test Results

No NDs	NDs = DL	NDs = DL/2	Gamma ROS
--------	----------	------------	-----------

Correlation Coefficient R	0.949	0.949	0.949	0.949
---------------------------	-------	-------	-------	-------

Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
------------	--------------	-----------------------------

Anderson-Darling (Full: no NDs)	0.596	0.795
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Kolmogorov-Smirnov (Full: no NDs)	0.193	0.26	Data Appear Gamma Distributed
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Lognormal Distribution Test Results

No NDs	NDs = DL	NDs = DL/2	Log ROS
--------	----------	------------	---------

Correlation Coefficient R	0.984	0.984	0.984	0.984
---------------------------	-------	-------	-------	-------

Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
------------	--------------	-----------------------------

Shapiro-Wilks (Full: no NDs)	0.95	0.859	Data Appear Lognormal
------------------------------	------	-------	-----------------------

Lilliefors (Full: no NDs)	0.107	0.256	Data Appear Lognormal
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Note: Substitution methods such as DL or DL/2 are not recommended.

MC

Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
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Raw Statistics	39	0	39	38	1	2.56%
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Number	Minimum	Maximum	Mean	Median	SD
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Statistics (Detects Only)	38	9.4	3800	203.7	95.5	602.8
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Statistics (All: NDs treated as DL value)	39	9.4	3800	198.8	93	595.6		
Statistics (All: NDs treated as DL/2 value)	39	5	3800	198.7	93	595.6		
Statistics (Normal ROS Estimated Data)	39	-384.9	3800	188.7	93	602.2		
Statistics (Gamma ROS Estimated Data)	39	1.000E-12	3800	198.5	93	595.7		
Statistics (Lognormal ROS Estimated Data)	39	9.4	3800	199	93	595.5		
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)	0.81	0.765	251.5	4.586	0.896	0.195		
Statistics (NDs = DL)	0.779	0.736	255.3	4.527	0.956	0.211		
Statistics (NDs = DL/2)	0.763	0.722	260.2	4.509	1.004	0.223		
Statistics (Gamma ROS Estimates)	0.425	0.41	466.6	--	--	--		
Statistics (Lognormal ROS Estimates)	--	--	--	4.541	0.926	0.204		
Normal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.451	0.451	0.451	0.484				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.241	0.938	Data Not Normal					
Lilliefors (Detects Only)	0.417	0.144	Data Not Normal					
Shapiro-Wilks (NDs = DL)	0.241	0.939	Data Not Normal					
Lilliefors (NDs = DL)	0.416	0.142	Data Not Normal					
Shapiro-Wilks (NDs = DL/2)	0.242	0.939	Data Not Normal					
Lilliefors (NDs = DL/2)	0.415	0.142	Data Not Normal					
Shapiro-Wilks (Normal ROS Estimates)	0.279	0.939	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.409	0.142	Data Not Normal					
Gamma Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.681	0.682	0.684	0.739				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	5.559	0.786						
Kolmogorov-Smirnov (Detects Only)	0.316	0.148	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)	5.227	0.788						
Kolmogorov-Smirnov (NDs = DL)	0.307	0.147	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	5.14	0.788						
Kolmogorov-Smirnov (NDs = DL/2)	0.304	0.147	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	6.222	0.83						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.352	0.151	Data Not Gamma Distributed					
Lognormal Distribution Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.88	0.893	0.89	0.896				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)	0.82	0.938	Data Not Lognormal					
Lilliefors (Detects Only)	0.2	0.144	Data Not Lognormal					
Shapiro-Wilks (NDs = DL)	0.834	0.939	Data Not Lognormal					
Lilliefors (NDs = DL)	0.197	0.142	Data Not Lognormal					

Note: Substitution methods such as DL or DL/2 are not recommended.

		General Background Statistics for Data Sets with Non-Detects								
User Selected Options										
From File		Chloride.wst								
Full Precision		OFF								
Confidence Coefficient		95%								
Coverage		95%								
Different or Future K Values		1								
Number of Bootstrap Operations		2000								
Alluv										
General Statistics										
Total Number of Observations				12		Number of Distinct Observations				12
Raw Statistics					Log-Transformed Statistics					
			Minimum	7.6				Minimum	2.028	
			Maximum	2200				Maximum	7.696	
			Second Largest	1900				Second Largest	7.55	
			First Quartile	23.25				First Quartile	3.137	
			Median	99.5				Median	4.595	
			Third Quartile	302.5				Third Quartile	5.659	
			Mean	445.2				Mean	4.648	
			SD	764.6				SD	1.904	
			Coefficient of Variation	1.717						
			Skewness	1.953						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.614				Shapiro Wilk Test Statistic	0.95	
			Shapiro Wilk Critical Value	0.859				Shapiro Wilk Critical Value	0.859	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	2537				95% UTL with 95% Coverage	19088	
			95% UPL (t)	1874				95% UPL (t)	3665	
			90% Percentile (z)	1425				90% Percentile (z)	1197	
			95% Percentile (z)	1703				95% Percentile (z)	2391	
			99% Percentile (z)	2224				99% Percentile (z)	8751	
Gamma Distribution Test					Data Distribution Test					
			k star	0.39	Data appear Gamma Distributed at 5% Significance Level					
			Theta Star	1142						
			MLE of Mean	445.2						
			MLE of Standard Deviation	713.1						
			nu star	9.357						
			A-D Test Statistic	0.596	Nonparametric Statistics					
			5% A-D Critical Value	0.795				90% Percentile	1759	
			K-S Test Statistic	0.193				95% Percentile	2035	
			5% K-S Critical Value	0.26				99% Percentile	2167	
Data appear Gamma Distributed at 5% Significance Level										

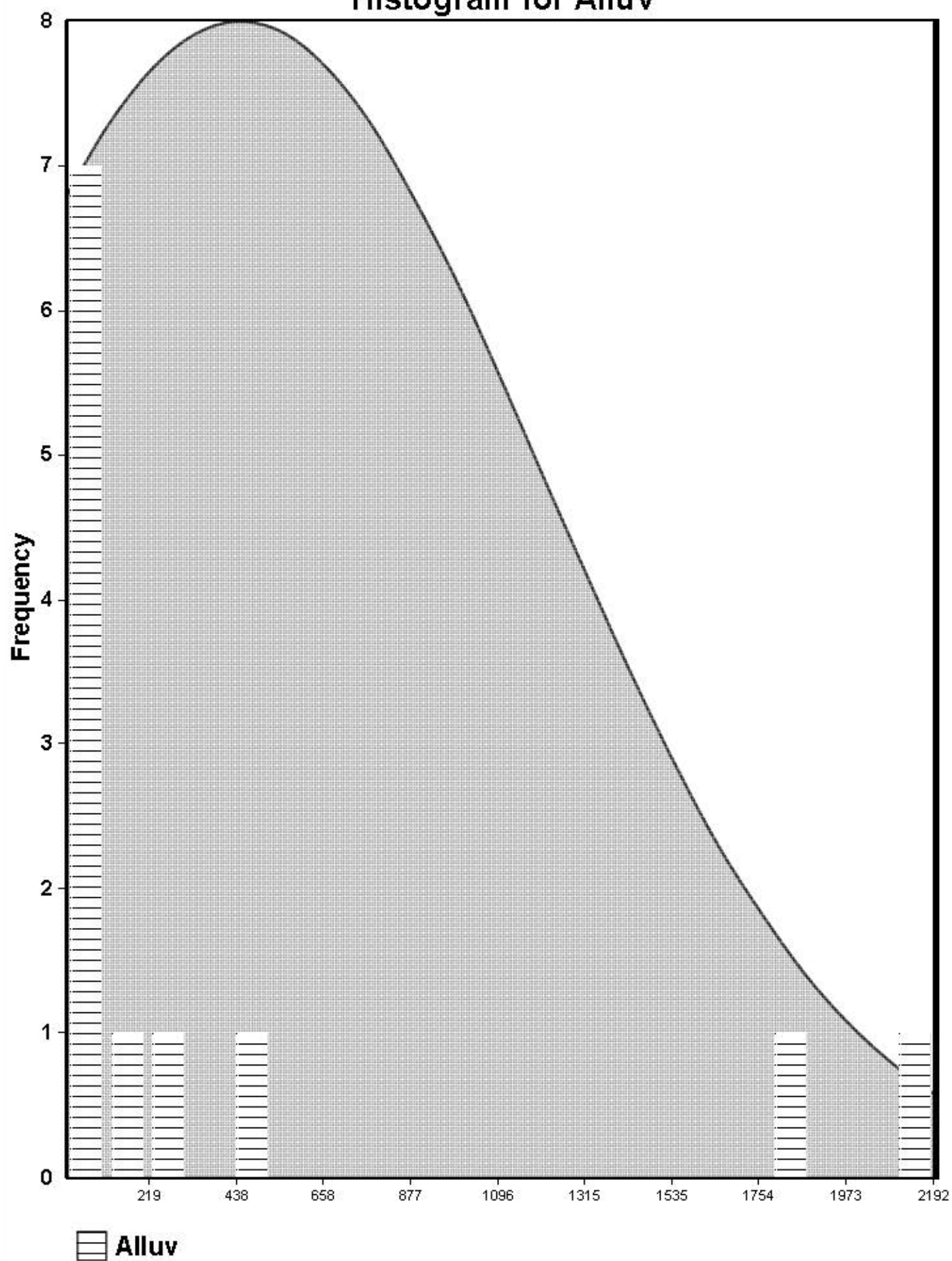
Assuming Gamma Distribution				95% UTL with 95% Coverage			2200		
	90% Percentile	1263	95% Percentile Bootstrap UTL with 95% Coverage			2200			
	95% Percentile	1866	95% BCA Bootstrap UTL with 95% Coverage			2200			
	99% Percentile	3387	95% UPL			2200			
			95% Chebyshev UPL			3914			
	95% WH Approx. Gamma UPL	2020	Upper Threshold Limit Based upon IQR			721.4			
	95% HW Approx. Gamma UPL	2154							
95% WH Approx. Gamma UTL with 95% Coverage		3999							
95% HW Approx. Gamma UTL with 95% Coverage		4804							
MC									
General Statistics									
	Number of Valid Data	39	Number of Detected Data			38			
	Number of Distinct Detected Data	28	Number of Non-Detect Data			1			
			Percent Non-Detects			2.56%			
Raw Statistics			Log-transformed Statistics						
	Minimum Detected	9.4	Minimum Detected			2.241			
	Maximum Detected	3800	Maximum Detected			8.243			
	Mean of Detected	203.7	Mean of Detected			4.586			
	SD of Detected	602.8	SD of Detected			0.896			
	Minimum Non-Detect	10	Minimum Non-Detect			2.303			
	Maximum Non-Detect	10	Maximum Non-Detect			2.303			
Background Statistics									
Normal Distribution Test with Detected Values Only			Lognormal Distribution Test with Detected Values Only						
	Shapiro Wilk Test Statistic	0.241	Shapiro Wilk Test Statistic			0.82			
	5% Shapiro Wilk Critical Value	0.938	5% Shapiro Wilk Critical Value			0.938			
Data not Normal at 5% Significance Level			Data not Lognormal at 5% Significance Level						
Assuming Normal Distribution			Assuming Lognormal Distribution						
	DL/2 Substitution Method		DL/2 Substitution Method						
	Mean	198.7	Mean (Log Scale)			4.509			
	SD	595.6	SD (Log Scale)			1.004			
	95% UTL 95% Coverage	1464	95% UTL 95% Coverage			766.9			
	95% UPL (t)	1216	95% UPL (t)			504.5			
	90% Percentile (z)	962	90% Percentile (z)			329			
	95% Percentile (z)	1178	95% Percentile (z)			473.8			
	99% Percentile (z)	1584	99% Percentile (z)			939.2			
Maximum Likelihood Estimate(MLE) Method			Log ROS Method						
	Mean	176.8	Mean in Original Scale			199			
	SD	607.2	SD in Original Scale			595.5			
	95% UTL with 95% Coverage	1467	95% UTL with 95% Coverage			671.1			
			95% BCA UTL with 95% Coverage			686			
			95% Bootstrap (%) UTL with 95% Coverage			3800			
	95% UPL (t)	1214	95% UPL (t)			456			
	90% Percentile (z)	955	90% Percentile (z)			307.4			
	95% Percentile (z)	1176	95% Percentile (z)			430.4			

Note: DL/2 is not a recommended method.

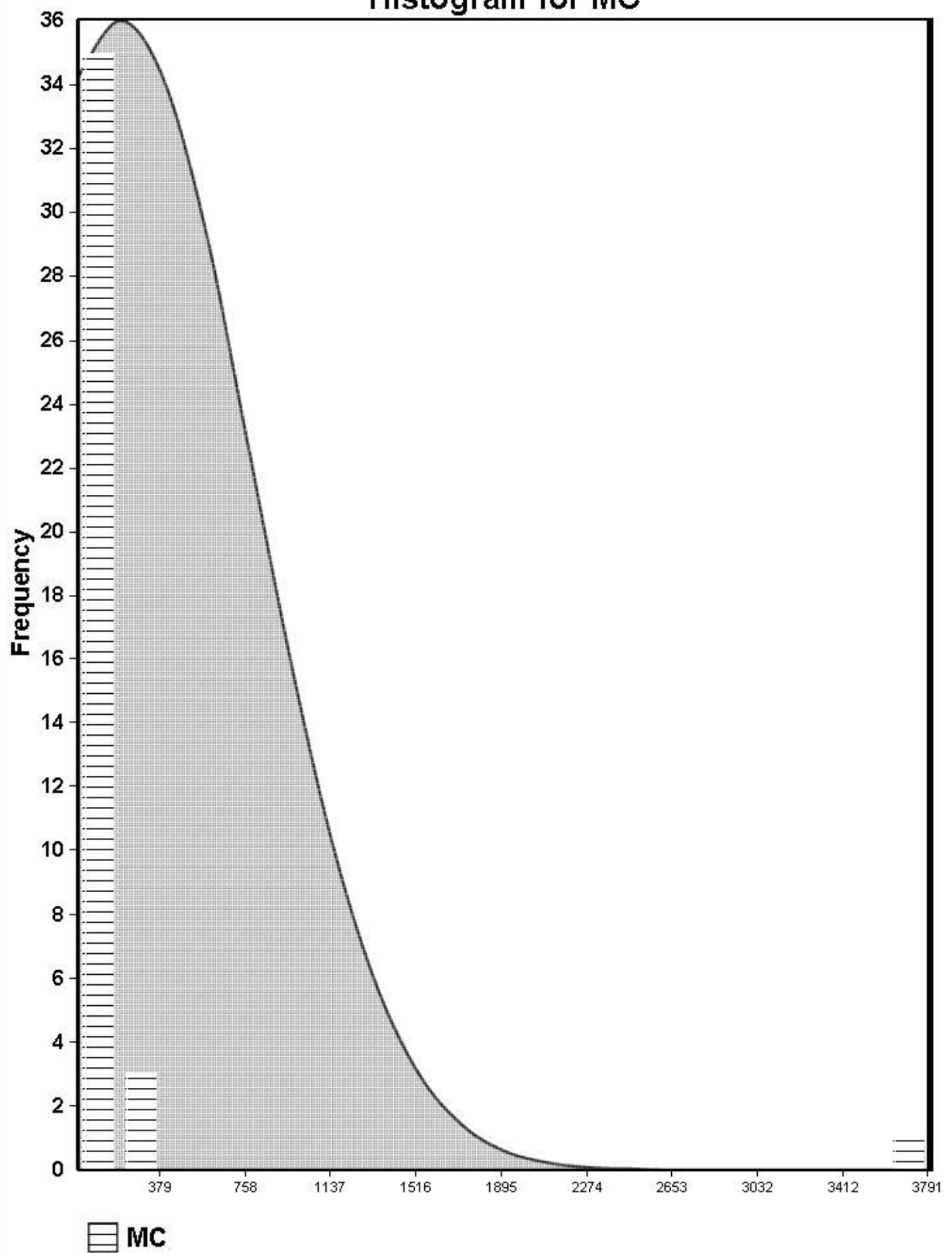
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Chloride.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 2200 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.780								
For 10% significance level, 2200 is an outlier.								
For 5% significance level, 2200 is an outlier.								
For 1% significance level, 2200 is an outlier.								
2. Data Value 7.6 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.005								
For 10% significance level, 7.6 is not an outlier.								
For 5% significance level, 7.6 is not an outlier.								
For 1% significance level, 7.6 is not an outlier.								
Rosner's Outlier Test for MC								
Mean			198.7					
Standard Deviation			595.6					
Number of data			39					
Number of suspected outliers			1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	198.7	588	3800	20	6.125	3.03	3.37	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 3800 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 3800 is a Potential Statistical Outlier								

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Data Sets with Non-Detects				
User Selected Options				
From File	Chloride.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference (S)	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (2 Sided Alternative			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: MC				
Background Data: Alluv				
Raw Statistics				
	Site	Background		
Number of Valid Data	39	12		
Number of Non-Detect Data	1	0		
Number of Detect Data	38	12		
Minimum Non-Detect	10	N/A		
Maximum Non-Detect	10	N/A		
Percent Non detects	2.56%	0.00%		
Minimum Detected	9.4	7.6		
Maximum Detected	3800	2200		
Mean of Detected Data	203.7	445.2		
Median of Detected Data	95.5	99.5		
SD of Detected Data	602.8	764.6		
Wilcoxon-Mann-Whitney Site vs Background Test				
Wilcoxon-Mann-Whitney (WMW) Test				
H0: Mean/Median of Site or AOC = Mean/Median of Background				
Site Rank Sum W-Stat	1004			
WMW Test U-Stat	0.222			
Lower Critical Value (0.025)	-1.96			
Upper Critical Value (0.975)	1.96			
P-Value	0.807			
Conclusion with Alpha = 0.05				
Do Not Reject H0, Conclude Site = Background				
P-Value >= alpha (0.05)				

Histogram for Alluv



Histogram for MC



Location	Alluv	D_Alluv
BG-1-2	2200	1
BG-1-10	490	1
BG-1-29	89	1
BG-1-40	65	1
BG-2-2	8.2	1
BG-2-10	25	1
BG-2-19	7.6	1
BG-2-21	18	1
BG-3-2	110	1
BG-3-10	1900	1
BG-6-2	190	1
BG-6-9	240	1

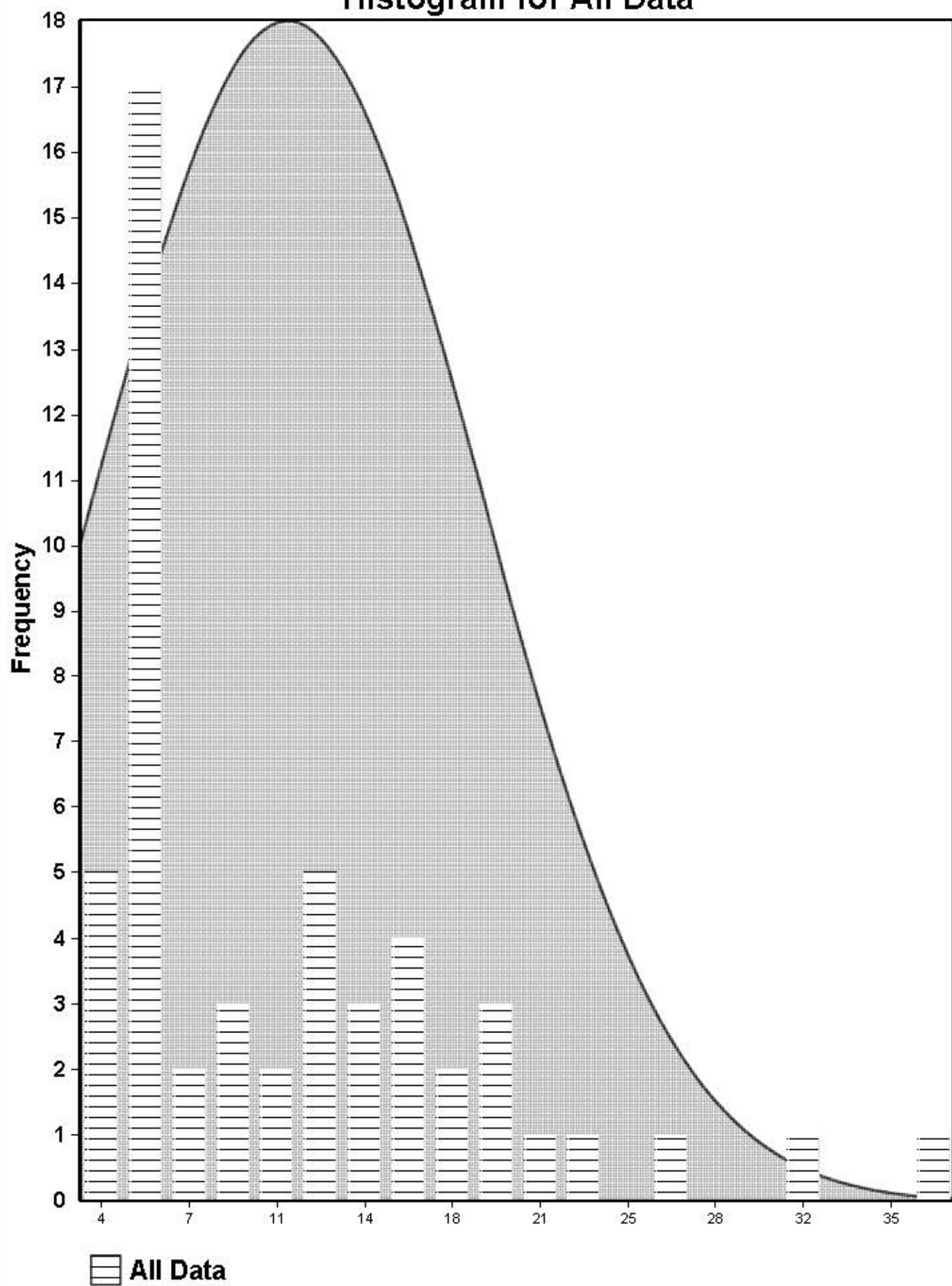
Location	MC	D_MC
BG-1-43	210	1
BG-1-46	67	1
BG-1-55	81	1
BG-1-78	66	1
BG-1-92	77	1
BG-2-30	9.4	1
BG-2-32	14	1
BG-2-75	10	0
BG-2-81	75	1
BG-3-17	120	1
BG-3-22	62	1
BG-3-29	120	1
BG-3-63	88	1
BG-3-65	69	1
BG-3-69	59	1
BG-3-95	60	1
BG-3-105	66	1
BG-3-131	55	1
BG-3-136	69	1
BG-4-1	3800	1
BG-4-10	310	1
BG-4-19	340	1
BG-4-40	180	1
BG-4-65	52	1
BG-4-79	120	1
BG-4-82	110	1
BG-4-95	110	1
BG-4-117	140	1
BG-4-120	140	1
BG-4-161	98	1
BG-4-163	80	1
BG-6-28	170	1
BG-6-53	110	1
BG-6-58	120	1
BG-6-75	110	1
BG-6-87	110	1
BG-6-98	93	1
BG-6-114	100	1
BG-1-127	82	1

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			General Background Statistics for Full Data Sets						
User Selected Options									
From File			Chromium.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
All Data									
General Statistics									
Total Number of Observations			51		Number of Distinct Observations			34	
Raw Statistics				Log-Transformed Statistics					
		Minimum	2.6				Minimum	0.956	
		Maximum	38				Maximum	3.638	
		Second Largest	32				Second Largest	3.466	
		First Quartile	5.1				First Quartile	1.629	
		Median	8.4				Median	2.128	
		Third Quartile	15				Third Quartile	2.708	
		Mean	11.02				Mean	2.177	
		SD	7.754				SD	0.676	
		Coefficient of Variation	0.703						
		Skewness	1.415						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Lilliefors Test Statistic	0.175				Lilliefors Test Statistic	0.139	
		Lilliefors Critical Value	0.124				Lilliefors Critical Value	0.124	
Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	26.95				95% UTL with 95% Coverage	35.33	
		95% UPL (t)	24.15				95% UPL (t)	27.68	
		90% Percentile (z)	20.96				90% Percentile (z)	20.97	
		95% Percentile (z)	23.78				95% Percentile (z)	26.8	
		99% Percentile (z)	29.06				99% Percentile (z)	42.48	
Gamma Distribution Test				Data Distribution Test					
		k star	2.265		Data do not follow a Discernable Distribution (0.05)				
		Theta Star	4.867						
		MLE of Mean	11.02						
		MLE of Standard Deviation	7.325						
		nu star	231						
		A-D Test Statistic	1.03		Nonparametric Statistics				
		5% A-D Critical Value	0.761				90% Percentile	20	
		K-S Test Statistic	0.16				95% Percentile	24.5	
		5% K-S Critical Value	0.126				99% Percentile	35	
Data not Gamma Distributed at 5% Significance Level									

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Histogram for All Data



Location	All Data
BG-1-2	13
BG-3-17	4.8
BG-4-2	12
BG-4-19	32
BG-1-10	5.5
BG-2-2	5.3
BG-2-10	4.6
BG-2-19	8.8
BG-3-2	5.1
BG-3-10	14
BG-4-10	14
BG-6-2	8.3
BG-6-9	6
BG-1-29	7.5
BG-1-40	3.2
BG-1-46	5.3
BG-1-92	5.3
BG-2-21	5.1
BG-2-32	6.1
BG-2-75	4.4
BG-3-29	4.5
BG-3-63	5
BG-3-65	8.4
BG-3-95	4.6
BG-3-105	12
BG-3-131	2.6
BG-3-136	20
BG-4-65	5.5
BG-4-82	10
BG-4-95	4.2
BG-4-117	2.8
BG-4-120	18
BG-6-58	6.4
BG-6-75	6.1
BG-6-98	13
BG-6-114	12
BG-6-127	26
BG-1-43	20
BG-1-55	2.8
BG-1-78	15
BG-2-30	15
BG-2-81	17
BG-3-22	5
BG-3-69	15
BG-4-40	23
BG-4-79	19
BG-4-161	10
BG-4-163	16
BG-6-28	21
BG-6-53	14
BG-6-87	38

		Number of Distinct Observations	29					
		Minimum	2.6					
		Maximum	38					
		Mean of Raw Data	11.28					
		Standard Deviation of Raw Data	7.927					
		Kstar	2.092					
		Mean of Log Transformed Data	2.185					
		Standard Deviation of Log Transformed Data	0.712					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.935					
		Shapiro Wilk Test Statistic	0.877					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	3.9136E-4					
		Lilliefors Test Statistic	0.178					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.988					
		A-D Test Statistic	0.764					
		A-D Critical (0.95) Value	0.758					
		K-S Test Statistic	0.155					
		K-S Critical(0.95) Value	0.145					
		Data follow Appr. Gamma Distribution at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.981					
		Shapiro Wilk Test Statistic	0.949					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.111					
		Lilliefors Test Statistic	0.125					
		Lilliefors Critical (0.95) Value	0.144					
		Data appear Lognormal at (0.05) Significance Level						

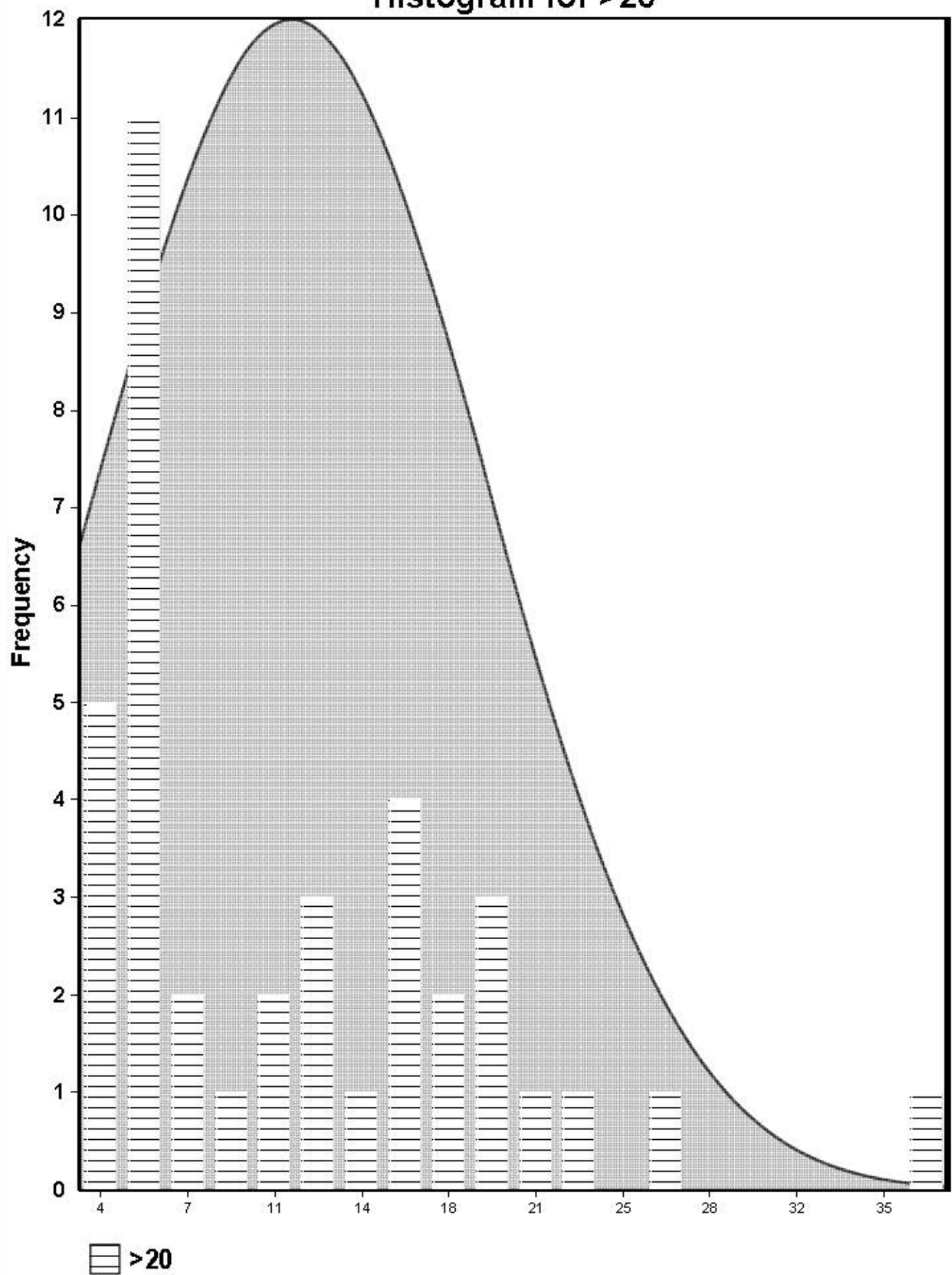
			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Chromium.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
0-20										
General Statistics										
Total Number of Observations				13		Number of Distinct Observations				12
Raw Statistics					Log-Transformed Statistics					
			Minimum	4.6					Minimum	1.526
			Maximum	32					Maximum	3.466
			Second Largest	14					Second Largest	2.639
			First Quartile	5.3					First Quartile	1.668
			Median	8.3					Median	2.116
			Third Quartile	13					Third Quartile	2.565
			Mean	10.26					Mean	2.152
			SD	7.478					SD	0.581
			Coefficient of Variation	0.729						
			Skewness	2.262						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.726					Shapiro Wilk Test Statistic	0.889
			Shapiro Wilk Critical Value	0.866					Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	30.23					95% UTL with 95% Coverage	40.61
			95% UPL (t)	24.09					95% UPL (t)	25.2
			90% Percentile (z)	19.84					90% Percentile (z)	18.11
			95% Percentile (z)	22.56					95% Percentile (z)	22.37
			99% Percentile (z)	27.66					99% Percentile (z)	33.24
Gamma Distribution Test					Data Distribution Test					
			k star	2.349		Data appear Gamma Distributed at 5% Significance Level				
			Theta Star	4.369						
			MLE of Mean	10.26						
			MLE of Standard Deviation	6.696						
			nu star	61.07						
			A-D Test Statistic	0.702		Nonparametric Statistics				
			5% A-D Critical Value	0.739					90% Percentile	14
			K-S Test Statistic	0.204					95% Percentile	21.2
			5% K-S Critical Value	0.238					99% Percentile	29.84
Data appear Gamma Distributed at 5% Significance Level										

Data not Gamma Distributed at 5% Significance Level									
Assuming Gamma Distribution				95% UTL with 95% Coverage				38	
90% Percentile		21.72	95% Percentile Bootstrap UTL with 95% Coverage				38		
95% Percentile		26.39	95% BCA Bootstrap UTL with 95% Coverage				38		
99% Percentile		36.73	95% UPL				26.6		
			95% Chebyshev UPL				46.29		
95% WH Approx. Gamma UPL		26.8	Upper Threshold Limit Based upon IQR				31.84		
95% HW Approx. Gamma UPL		27.38							
95% WH Approx. Gamma UTL with 95% Coverage		32.96							
95% HW Approx. Gamma UTL with 95% Coverage		34.27							

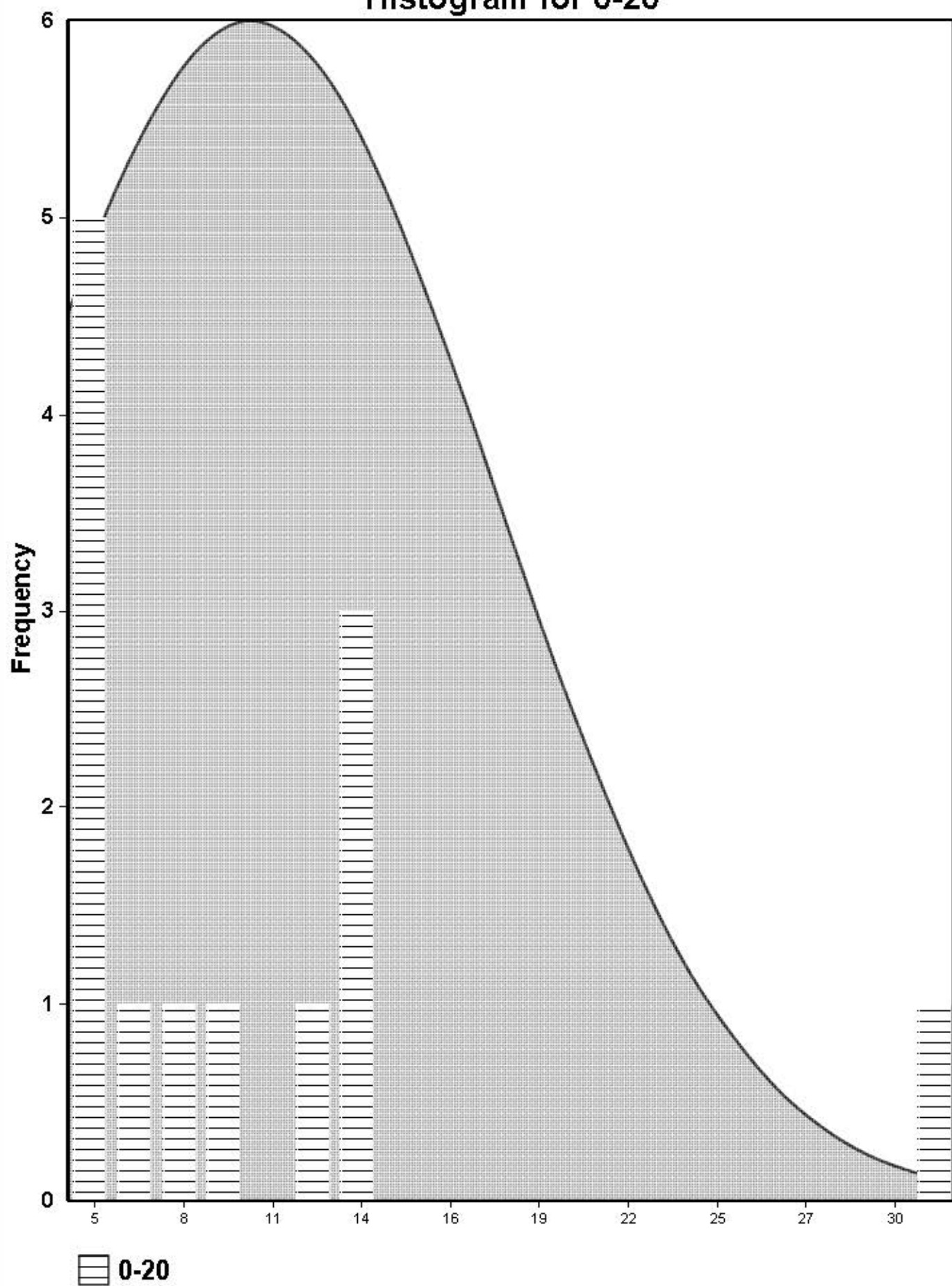
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Chromium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 32 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.662							
For 10% significance level, 32 is an outlier.							
For 5% significance level, 32 is an outlier.							
For 1% significance level, 32 is an outlier.							
2. Data Value 4.6 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.053							
For 10% significance level, 4.6 is not an outlier.							
For 5% significance level, 4.6 is not an outlier.							
For 1% significance level, 4.6 is not an outlier.							
Rosner's Outlier Test for >20							
Mean		11.28					
Standard Deviation		7.927					
Number of data		38					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	11.28	7.822	38	38	3.415	3.01	3.36
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 38 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 38 is a Potential Statistical Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Chromium.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: >20					
Background Data: 0-20					
Raw Statistics					
	Site	Background			
Number of Valid Observations	38	13			
Number of Distinct Observations	29	12			
Minimum	2.6	4.6			
Maximum	38	32			
Mean	11.28	10.26			
Median	9.2	8.3			
SD	7.927	7.478			
SE of Mean	1.286	2.074			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1001				
WMW Test U-Stat	0.27				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.787				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for >20



Histogram for 0-20



Location	0-20
BG-1-2	13
BG-3-17	4.8
BG-4-2	12
BG-4-19	32
BG-1-10	5.5
BG-2-2	5.3
BG-2-10	4.6
BG-2-19	8.8
BG-3-2	5.1
BG-3-10	14
BG-4-10	14
BG-6-2	8.3
BG-6-9	6

Location	>20
BG-1-29	7.5
BG-1-40	3.2
BG-1-46	5.3
BG-1-92	5.3
BG-2-21	5.1
BG-2-32	6.1
BG-2-75	4.4
BG-3-29	4.5
BG-3-63	5
BG-3-65	8.4
BG-3-95	4.6
BG-3-105	12
BG-3-131	2.6
BG-3-136	20
BG-4-65	5.5
BG-4-82	10
BG-4-95	4.2
BG-4-117	2.8
BG-4-120	18
BG-6-58	6.4
BG-6-75	6.1
BG-6-98	13
BG-6-114	12
BG-6-127	26
BG-1-43	20
BG-1-55	2.8
BG-1-78	15
BG-2-30	15
BG-2-81	17
BG-3-22	5
BG-3-69	15
BG-4-40	23
BG-4-79	19
BG-4-161	10
BG-4-163	16
BG-6-28	21
BG-6-53	14
BG-6-87	38

		Number of Distinct Observations	25					
		Minimum	2.6					
		Maximum	26					
		Mean of Raw Data	8.17					
		Standard Deviation of Raw Data	5.354					
		Kstar	2.913					
		Mean of Log Transformed Data	1.935					
		Standard Deviation of Log Transformed Data	0.561					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.895					
		Shapiro Wilk Test Statistic	0.807					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	1.6256E-5					
		Lilliefors Test Statistic	0.236					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.972					
		A-D Test Statistic	1.163					
		A-D Critical (0.95) Value	0.753					
		K-S Test Statistic	0.196					
		K-S Critical(0.95) Value	0.154					
		Data not Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.976					
		Shapiro Wilk Test Statistic	0.948					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.146					
		Lilliefors Test Statistic	0.165					
		Lilliefors Critical (0.95) Value	0.154					
		Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Chromium.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Clay										
General Statistics										
Total Number of Observations				18		Number of Distinct Observations				16
Raw Statistics					Log-Transformed Statistics					
			Minimum	2.8				Minimum	1.03	
			Maximum	38				Maximum	3.638	
			Second Largest	32				Second Largest	3.466	
			First Quartile	12.25				First Quartile	2.505	
			Median	15				Median	2.708	
			Third Quartile	19.75				Third Quartile	2.983	
			Mean	16.26				Mean	2.62	
			SD	8.837				SD	0.656	
			Coefficient of Variation	0.544						
			Skewness	0.857						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.931				Shapiro Wilk Test Statistic	0.908	
			Shapiro Wilk Critical Value	0.897				Shapiro Wilk Critical Value	0.897	
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	37.93				95% UTL with 95% Coverage	68.62	
			95% UPL (t)	32.05				95% UPL (t)	44.34	
			90% Percentile (z)	27.58				90% Percentile (z)	31.82	
			95% Percentile (z)	30.79				95% Percentile (z)	40.38	
			99% Percentile (z)	36.81				99% Percentile (z)	63.15	
Gamma Distribution Test					Data Distribution Test					
			k star	2.635	Data appear Normal at 5% Significance Level					
			Theta Star	6.168						
			MLE of Mean	16.26						
			MLE of Standard Deviation	10.01						
			nu star	94.87						
			A-D Test Statistic	0.488	Nonparametric Statistics					
			5% A-D Critical Value	0.745				90% Percentile	25.7	
			K-S Test Statistic	0.154				95% Percentile	32.9	
			5% K-S Critical Value	0.205				99% Percentile	36.98	
Data appear Gamma Distributed at 5% Significance Level										

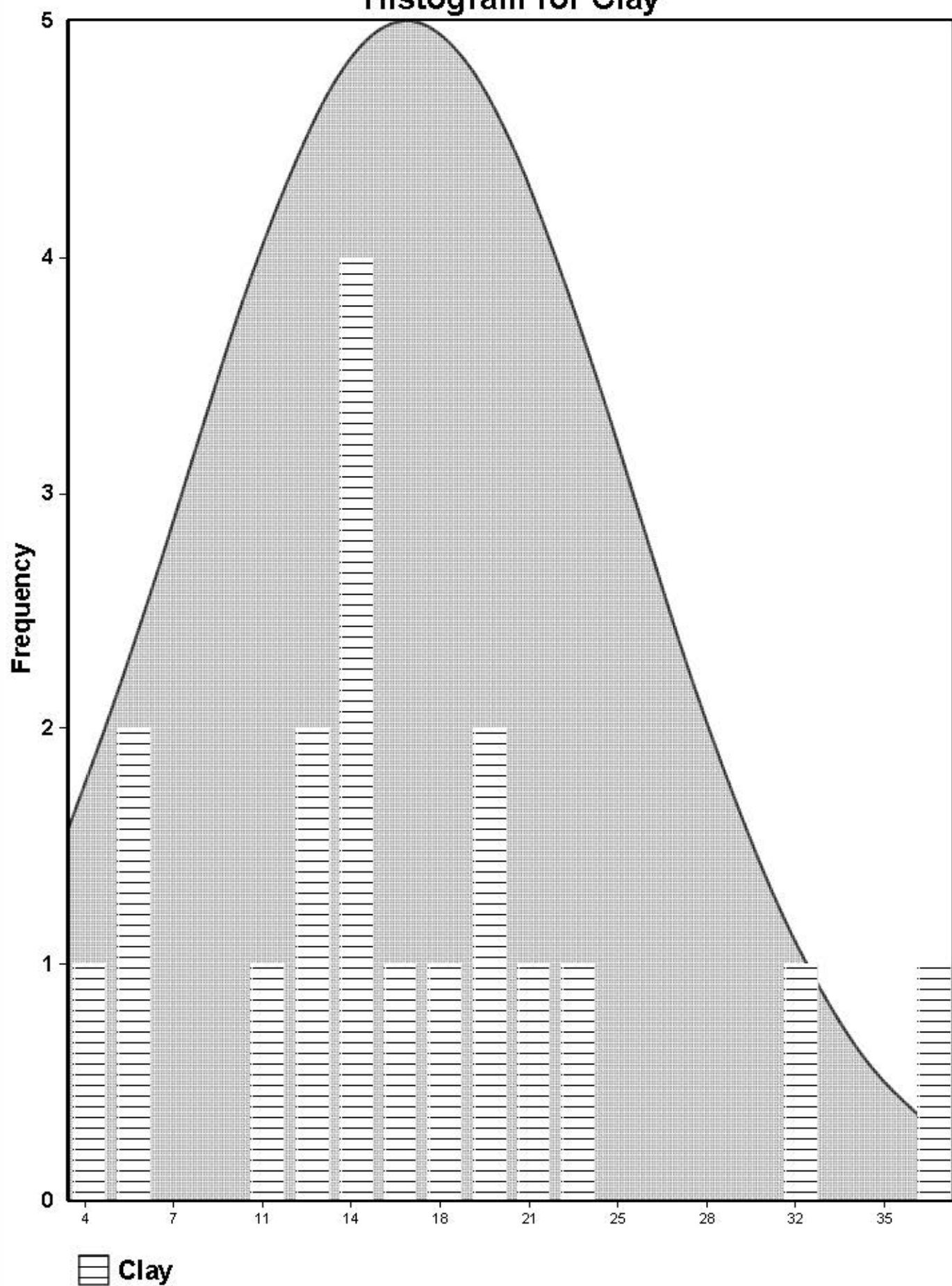
Assuming Gamma Distribution								95% UTL with 95% Coverage				38			
90% Percentile				29.67		95% Percentile Bootstrap UTL with 95% Coverage				38					
95% Percentile				35.43		95% BCA Bootstrap UTL with 95% Coverage				38					
99% Percentile				47.99		95% UPL				38					
						95% Chebyshev UPL				55.83					
95% WH Approx. Gamma UPL				36.65		Upper Threshold Limit Based upon IQR				31					
95% HW Approx. Gamma UPL				37.96											
95% WH Approx. Gamma UTL with 95% Coverage				48.54											
95% HW Approx. Gamma UTL with 95% Coverage				51.66											
Non-Clay															
General Statistics															
Total Number of Observations				33		Number of Distinct Observations				25					
Raw Statistics						Log-Transformed Statistics									
Minimum				2.6		Minimum				0.956					
Maximum				26		Maximum				3.258					
Second Largest				20		Second Largest				2.996					
First Quartile				5		First Quartile				1.609					
Median				6		Median				1.792					
Third Quartile				10		Third Quartile				2.303					
Mean				8.17		Mean				1.935					
SD				5.354		SD				0.561					
Coefficient of Variation				0.655											
Skewness				1.726											
Background Statistics															
Normal Distribution Test						Lognormal Distribution Test									
Shapiro Wilk Test Statistic				0.807		Shapiro Wilk Test Statistic				0.948					
Shapiro Wilk Critical Value				0.931		Shapiro Wilk Critical Value				0.931					
Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level									
Assuming Normal Distribution						Assuming Lognormal Distribution									
95% UTL with 95% Coverage				19.82		95% UTL with 95% Coverage				23.48					
95% UPL (t)				17.37		95% UPL (t)				18.17					
90% Percentile (z)				15.03		90% Percentile (z)				14.21					
95% Percentile (z)				16.98		95% Percentile (z)				17.43					
99% Percentile (z)				20.62		99% Percentile (z)				25.54					
Gamma Distribution Test						Data Distribution Test									
k star				2.913		Data appear Lognormal at 5% Significance Level									
Theta Star				2.804											
MLE of Mean				8.17											
MLE of Standard Deviation				4.787											
nu star				192.3											
A-D Test Statistic				1.163		Nonparametric Statistics									
5% A-D Critical Value				0.753		90% Percentile				14					
K-S Test Statistic				0.196		95% Percentile				18.8					
5% K-S Critical Value				0.154		99% Percentile				24.08					

Data not Gamma Distributed at 5% Significance Level					
Assuming Gamma Distribution				95% UTL with 95% Coverage	26
90% Percentile		14.59	95% Percentile Bootstrap UTL with 95% Coverage	26	
95% Percentile		17.29	95% BCA Bootstrap UTL with 95% Coverage	26	
99% Percentile		23.16	95% UPL	21.8	
			95% Chebyshev UPL	31.86	
95% WH Approx. Gamma UPL		17.5	Upper Threshold Limit Based upon IQR	17.5	
95% HW Approx. Gamma UPL		17.61			
95% WH Approx. Gamma UTL with 95% Coverage		21.27			
95% HW Approx. Gamma UTL with 95% Coverage		21.67			

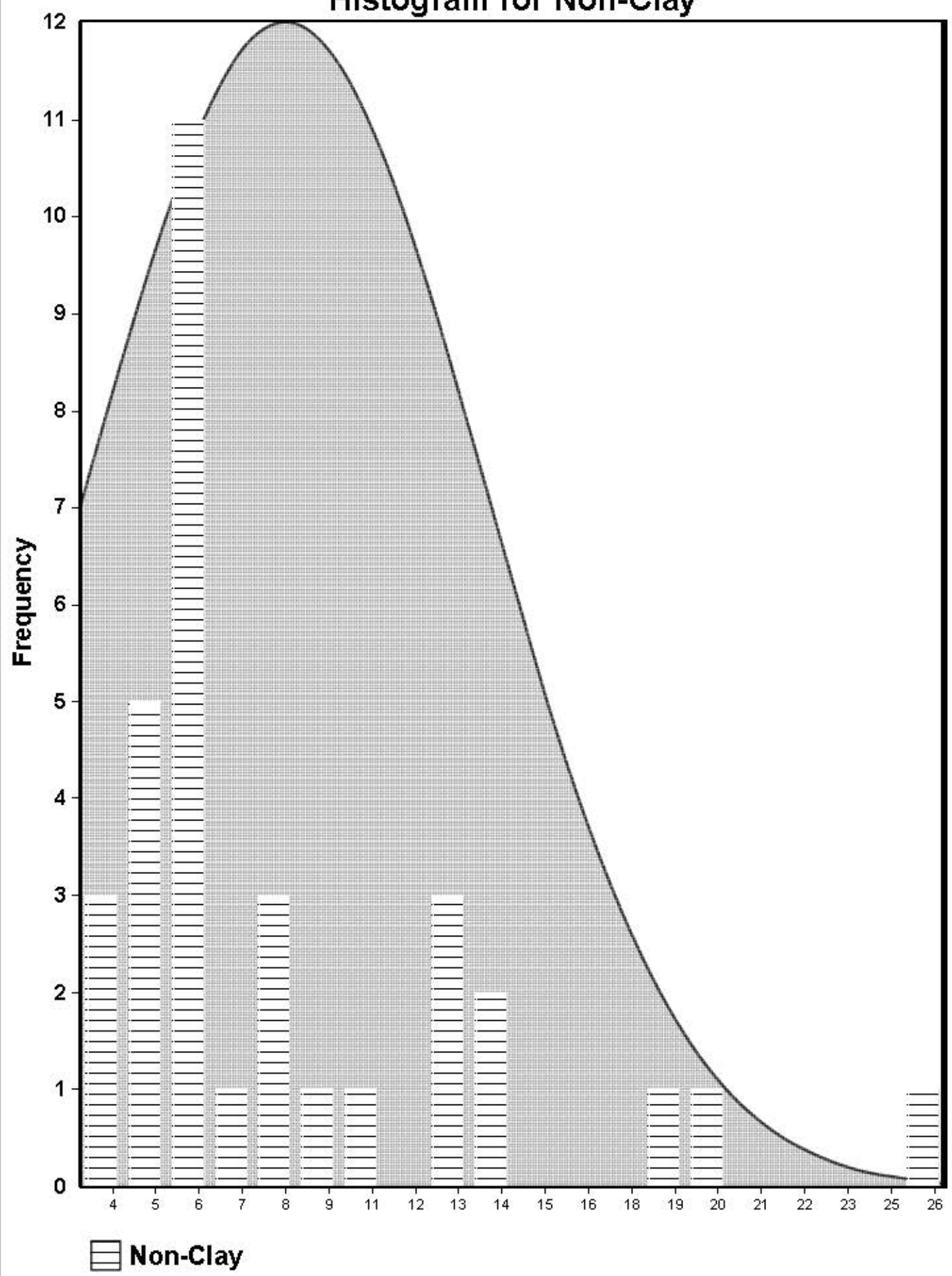
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Chromium.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for Clay								
Number of data = 18								
10% critical value: 0.424								
5% critical value: 0.475								
1% critical value: 0.561								
1. Data Value 38 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.455								
For 10% significance level, 38 is an outlier.								
For 5% significance level, 38 is not an outlier.								
For 1% significance level, 38 is not an outlier.								
2. Data Value 2.8 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.109								
For 10% significance level, 2.8 is not an outlier.								
For 5% significance level, 2.8 is not an outlier.								
For 1% significance level, 2.8 is not an outlier.								
Rosner's Outlier Test for Non-Clay								
Mean			8.17					
Standard Deviation			5.354					
Number of data			33					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	8.17	5.272	26	33	3.382	2.95	3.29	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 26 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 26 is a Potential Statistical Outlier								

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Chromium.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: Clay					
Background Data: Non-Clay					
Raw Statistics					
	Site	Background			
Number of Valid Observations	18	33			
Number of Distinct Observations	16	25			
Minimum	2.8	2.6			
Maximum	38	26			
Mean	16.26	8.17			
Median	15	6			
SD	8.837	5.354			
SE of Mean	2.083	0.932			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	638.5				
WMW Test U-Stat	3.351				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	8.0587E-4				
Conclusion with Alpha = 0.05					
Reject H0, Conclude Site <> Background					
P-Value < alpha (0.05)					

Chromium (Total)
Histogram for Clay



Chromium (Total)
Histogram for Non-Clay



Location	Clay
BG-1-2	13
BG-1-43	20
BG-1-55	2.8
BG-1-78	15
BG-2-30	15
BG-2-81	17
BG-3-17	4.8
BG-3-22	5
BG-3-69	15
BG-4-2	12
BG-4-19	32
BG-4-40	23
BG-4-79	19
BG-4-161	10
BG-4-163	16
BG-6-28	21
BG-6-53	14
BG-6-87	38

Location	Non-Clay
BG-1-10	5.5
BG-1-29	7.5
BG-1-40	3.2
BG-1-46	5.3
BG-1-92	5.3
BG-2-2	5.3
BG-2-10	4.6
BG-2-19	8.8
BG-2-21	5.1
BG-2-32	6.1
BG-2-75	4.4
BG-3-2	5.1
BG-3-10	14
BG-3-29	4.5
BG-3-63	5
BG-3-65	8.4
BG-3-95	4.6
BG-3-105	12
BG-3-131	2.6
BG-3-136	20
BG-4-10	14
BG-4-65	5.5
BG-4-82	10
BG-4-95	4.2
BG-4-117	2.8
BG-4-120	18
BG-6-2	8.3
BG-6-9	6
BG-6-58	6.4
BG-6-75	6.1
BG-6-98	13
BG-6-114	12
BG-6-127	26

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Chromium.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Alluv										
General Statistics										
Total Number of Observations				12		Number of Distinct Observations				11
Raw Statistics					Log-Transformed Statistics					
			Minimum	3.2				Minimum	1.163	
			Maximum	14				Maximum	2.639	
			Second Largest	13				Second Largest	2.565	
			First Quartile	5.1				First Quartile	1.629	
			Median	5.75				Median	1.748	
			Third Quartile	8.425				Third Quartile	2.131	
			Mean	7.183				Mean	1.883	
			SD	3.346				SD	0.431	
			Coefficient of Variation	0.466						
			Skewness	1.186						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.858				Shapiro Wilk Test Statistic	0.945	
			Shapiro Wilk Critical Value	0.859				Shapiro Wilk Critical Value	0.859	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	16.34				95% UTL with 95% Coverage	21.4	
			95% UPL (t)	13.44				95% UPL (t)	14.72	
			90% Percentile (z)	11.47				90% Percentile (z)	11.43	
			95% Percentile (z)	12.69				95% Percentile (z)	13.36	
			99% Percentile (z)	14.97				99% Percentile (z)	17.93	
Gamma Distribution Test					Data Distribution Test					
			k star	4.397	Data appear Gamma Distributed at 5% Significance Level					
			Theta Star	1.634						
			MLE of Mean	7.183						
			MLE of Standard Deviation	3.426						
			nu star	105.5						
			A-D Test Statistic	0.487	Nonparametric Statistics					
			5% A-D Critical Value	0.732				90% Percentile	12.58	
			K-S Test Statistic	0.193				95% Percentile	13.45	
			5% K-S Critical Value	0.246				99% Percentile	13.89	
Data appear Gamma Distributed at 5% Significance Level										

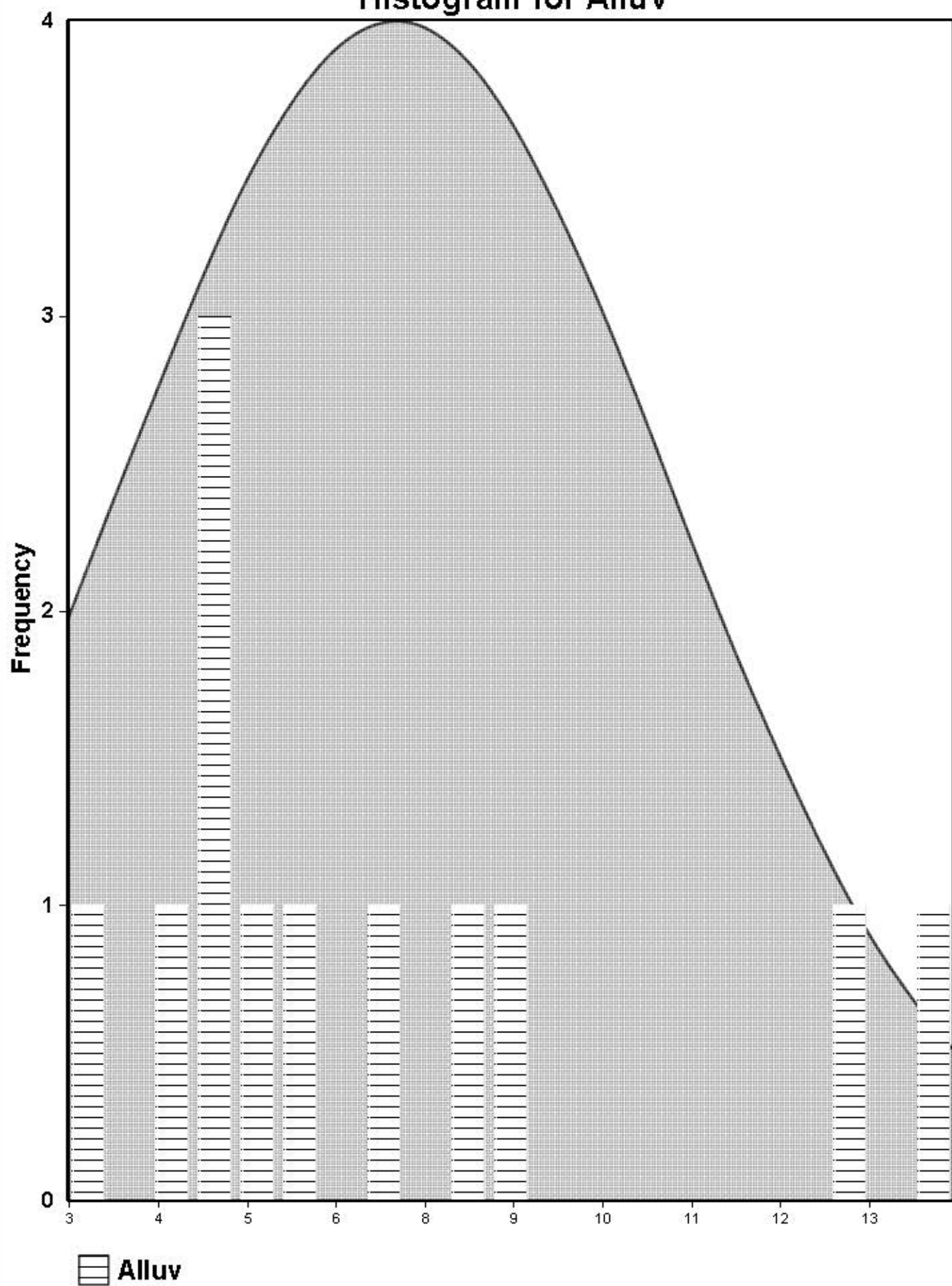
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			Outlier Tests for Selected Variables				
User Selected Options							
From File			Chromium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for Alluv							
Number of data = 12							
10% critical value: 0.49							
5% critical value: 0.546							
1% critical value: 0.642							
1. Data Value 14 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.553							
For 10% significance level, 14 is an outlier.							
For 5% significance level, 14 is an outlier.							
For 1% significance level, 14 is not an outlier.							
2. Data Value 3.2 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.194							
For 10% significance level, 3.2 is not an outlier.							
For 5% significance level, 3.2 is not an outlier.							
For 1% significance level, 3.2 is not an outlier.							
Rosner's Outlier Test for MC							
Mean			12.2				
Standard Deviation			8.356				
Number of data			39				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	12.2	8.249	38	36	3.128	3.03	3.37
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 38 is a Potential Statistical Outlier							
For 1% Significance Level, there is no Potential Outlier							

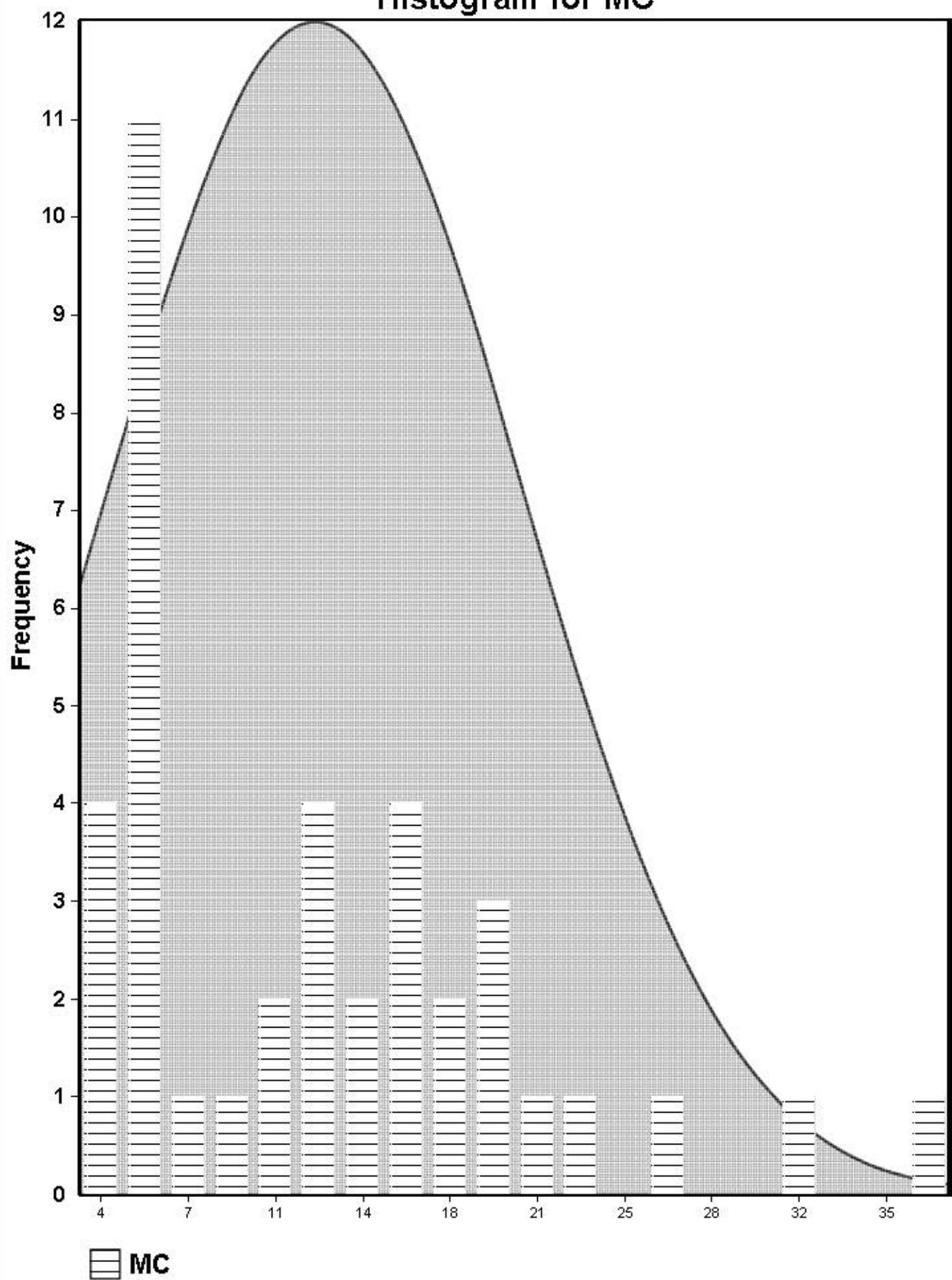
		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Chromium.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: MC					
Background Data: Alluv					
Raw Statistics					
	Site	Background			
Number of Valid Observations	39	12			
Number of Distinct Observations	28	11			
Minimum	2.6	3.2			
Maximum	38	14			
Mean	12.2	7.183			
Median	12	5.75			
SD	8.356	3.346			
SE of Mean	1.338	0.966			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1087				
WMW Test U-Stat	1.599				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.11				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

		Number of Distinct Observations	28					
		Minimum	2.6					
		Maximum	38					
		Mean of Raw Data	12.2					
		Standard Deviation of Raw Data	8.356					
		Kstar	2.122					
		Mean of Log Transformed Data	2.266					
		Standard Deviation of Log Transformed Data	0.716					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.945					
		Shapiro Wilk Test Statistic	0.89					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	8.5452E-4					
		Lilliefors Test Statistic	0.166					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.992					
		A-D Test Statistic	0.677					
		A-D Critical (0.95) Value	0.758					
		K-S Test Statistic	0.152					
		K-S Critical(0.95) Value	0.143					
		Data follow Appr. Gamma Distribution at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.982					
		Shapiro Wilk Test Statistic	0.948					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.1					
		Lilliefors Test Statistic	0.133					
		Lilliefors Critical (0.95) Value	0.142					
		Data appear Lognormal at (0.05) Significance Level						

Histogram for Alluv



Histogram for MC



Location	Alluv
BG-1-2	13
BG-1-10	5.5
BG-1-29	7.3
BG-1-40	3.2
BG-2-2	5.3
BG-2-10	4.6
BG-2-19	8.8
BG-2-21	5.1
BG-3-2	5.1
BG-3-10	14
BG-6-2	8.3
BG-6-9	6

Location	MC
BG-1-43	20
BG-1-46	5.3
BG-1-55	2.8
BG-1-78	15
BG-1-92	5.3
BG-2-30	15
BG-2-32	6.1
BG-2-75	4.4
BG-2-81	17
BG-3-17	4.8
BG-3-22	5
BG-3-29	4.5
BG-3-63	5
BG-3-65	8.4
BG-3-69	15
BG-3-95	4.6
BG-3-105	12
BG-3-131	2.6
BG-3-136	20
BG-4-1	12
BG-4-10	14
BG-4-19	32
BG-4-40	23
BG-4-65	5.5
BG-4-79	19
BG-4-82	10
BG-4-95	4.2
BG-4-117	2.8
BG-4-120	18
BG-4-161	10
BG-4-163	16
BG-6-28	21
BG-6-53	14
BG-6-58	6.4
BG-6-75	6.1
BG-6-87	38
BG-6-98	13
BG-6-114	12
BG-1-127	26

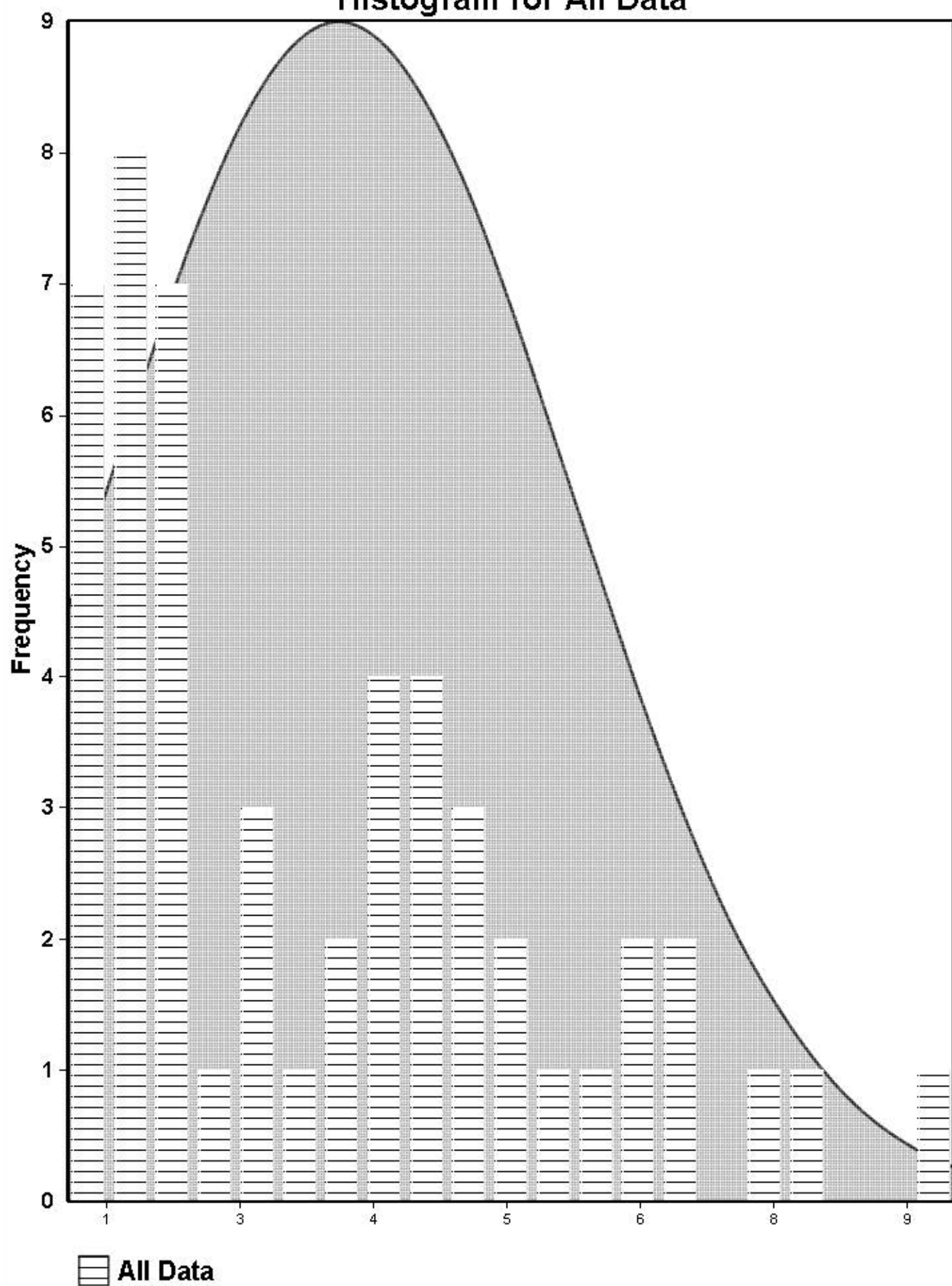
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			General Background Statistics for Full Data Sets						
User Selected Options									
From File		Cobalt.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
All Data									
General Statistics									
Total Number of Observations			51		Number of Distinct Observations			36	
Raw Statistics				Log-Transformed Statistics					
		Minimum	0.89				Minimum	-0.117	
		Maximum	9.4				Maximum	2.241	
		Second Largest	8.4				Second Largest	2.128	
		First Quartile	1.6				First Quartile	0.47	
		Median	2.9				Median	1.065	
		Third Quartile	4.8				Third Quartile	1.569	
		Mean	3.494				Mean	1.046	
		SD	2.212				SD	0.66	
		Coefficient of Variation	0.633						
		Skewness	0.814						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Lilliefors Test Statistic	0.182				Lilliefors Test Statistic	0.135	
		Lilliefors Critical Value	0.124				Lilliefors Critical Value	0.124	
Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	8.036				95% UTL with 95% Coverage	11.04	
		95% UPL (t)	7.236				95% UPL (t)	8.696	
		90% Percentile (z)	6.328				90% Percentile (z)	6.632	
		95% Percentile (z)	7.131				95% Percentile (z)	8.428	
		99% Percentile (z)	8.639				99% Percentile (z)	13.21	
Gamma Distribution Test				Data Distribution Test					
		k star	2.458		Data do not follow a Discernable Distribution (0.05)				
		Theta Star	1.421						
		MLE of Mean	3.494						
		MLE of Standard Deviation	2.228						
		nu star	250.7						
		A-D Test Statistic	1.055		Nonparametric Statistics				
		5% A-D Critical Value	0.759				90% Percentile	6.6	
		K-S Test Statistic	0.159				95% Percentile	7.55	
		5% K-S Critical Value	0.125				99% Percentile	8.9	
Data not Gamma Distributed at 5% Significance Level									

[illegible]

				Outlier Tests for Selected Variables							
User Selected Options											
From File				Cobalt.wst							
Full Precision				OFF							
Test for Suspected Outliers with Dixon test				1							
Test for Suspected Outliers with Rosner test				1							
Rosner's Outlier Test for All Data											
Mean				3.494							
Standard Deviation				2.212							
Number of data				51							
Number of suspected outliers				1							
			Potential	Obs.	Test	Critical	Critical				
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)				
1	3.494	2.19	9.4	51	2.697	3.137	3.488				
For 5% Significance Level, there is no Potential Outlier											
For 1% Significance Level, there is no Potential Outlier											

Histogram for All Data



Location	All Data
BG-1-2	4.9
BG-3-17	1.8
BG-4-2	3.8
BG-4-19	8.4
BG-1-10	2.6
BG-2-2	2
BG-2-10	1.9
BG-2-19	1.6
BG-3-2	1.6
BG-3-10	3.9
BG-4-10	5.3
BG-6-2	3.1
BG-6-9	1.8
BG-1-29	2.7
BG-1-40	0.89
BG-1-46	1.8
BG-1-92	1.2
BG-2-21	1.4
BG-2-32	2.2
BG-2-75	1.6
BG-3-29	1.6
BG-3-63	1.8
BG-3-65	3.9
BG-3-95	1.4
BG-3-105	4.1
BG-3-131	1
BG-3-136	7.9
BG-4-65	1.6
BG-4-82	4
BG-4-95	1.2
BG-4-117	0.89
BG-4-120	5.2
BG-6-58	1.7
BG-6-75	2
BG-6-98	3.6
BG-6-114	4.5
BG-6-127	7.2
BG-1-43	5.9
BG-1-55	1.2
BG-1-78	4.7
BG-2-30	6.9
BG-2-81	4.3
BG-3-22	1.3
BG-3-69	4.8
BG-4-40	6.1
BG-4-79	6.6
BG-4-161	2.9
BG-4-163	4.8
BG-6-28	6.5
BG-6-53	4.7
BG-6-87	9.4

		Number of Distinct Observations	29					
		Minimum	0.89					
		Maximum	9.4					
		Mean of Raw Data	3.565					
		Standard Deviation of Raw Data	2.302					
		Kstar	2.202					
		Mean of Log Transformed Data	1.046					
		Standard Deviation of Log Transformed Data	0.704					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.956					
		Shapiro Wilk Test Statistic	0.901					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.00254					
		Lilliefors Test Statistic	0.173					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.979					
		A-D Test Statistic	0.97					
		A-D Critical (0.95) Value	0.757					
		K-S Test Statistic	0.158					
		K-S Critical(0.95) Value	0.145					
		Data not Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.972					
		Shapiro Wilk Test Statistic	0.923					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.0146					
		Lilliefors Test Statistic	0.146					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Lognormal at (0.05) Significance Level						

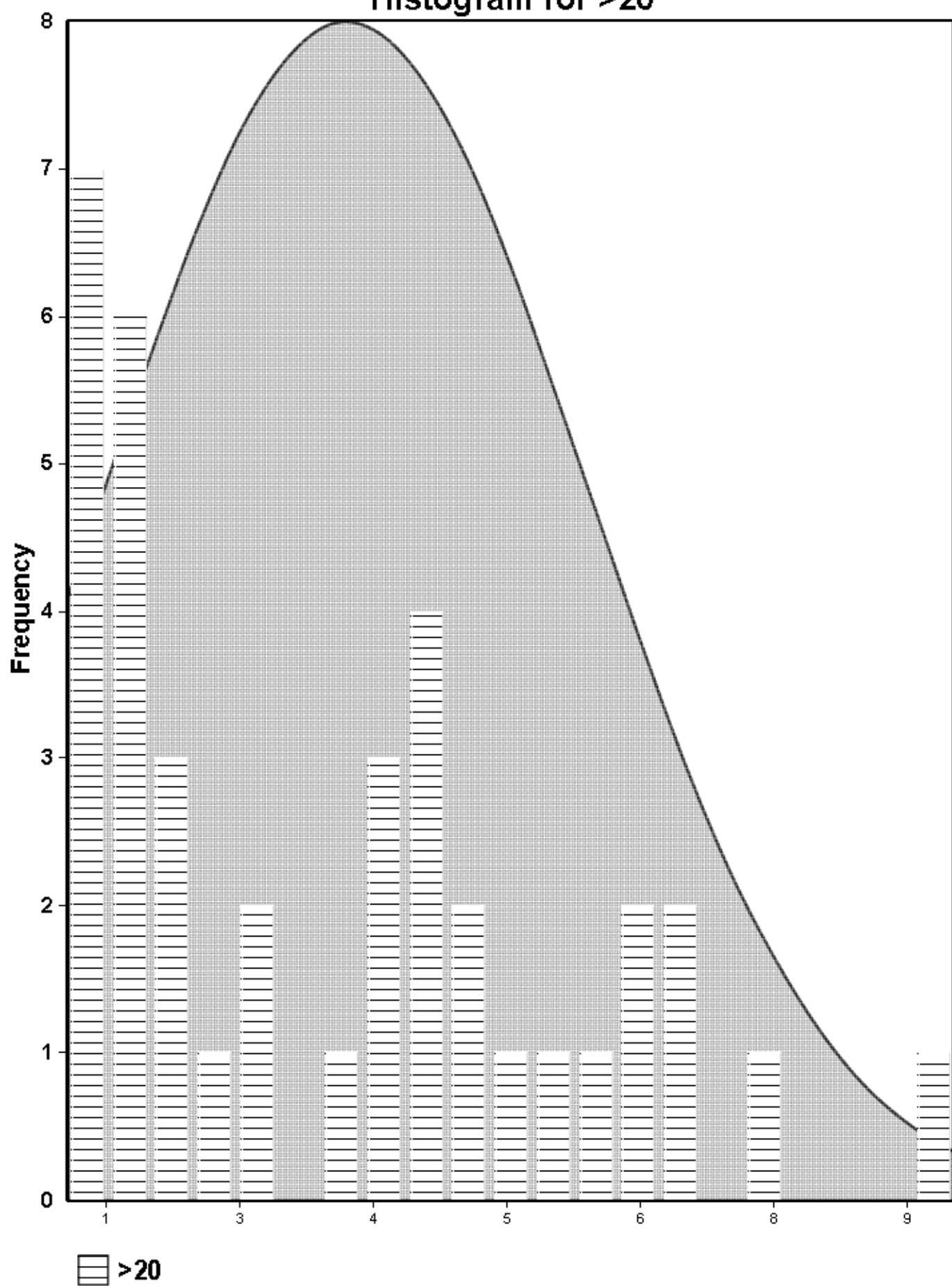
			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Cobalt.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
0-20										
General Statistics										
Total Number of Observations				13		Number of Distinct Observations				11
Raw Statistics					Log-Transformed Statistics					
			Minimum	1.6				Minimum	0.47	
			Maximum	8.4				Maximum	2.128	
			Second Largest	5.3				Second Largest	1.668	
			First Quartile	1.8				First Quartile	0.588	
			Median	2.6				Median	0.956	
			Third Quartile	3.9				Third Quartile	1.361	
			Mean	3.285				Mean	1.048	
			SD	1.992				SD	0.534	
			Coefficient of Variation	0.607						
			Skewness	1.562						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.82				Shapiro Wilk Test Statistic	0.905	
			Shapiro Wilk Critical Value	0.866				Shapiro Wilk Critical Value	0.866	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	8.606				95% UTL with 95% Coverage	11.87	
			95% UPL (t)	6.97				95% UPL (t)	7.655	
			90% Percentile (z)	5.838				90% Percentile (z)	5.652	
			95% Percentile (z)	6.562				95% Percentile (z)	6.862	
			99% Percentile (z)	7.92				99% Percentile (z)	9.874	
Gamma Distribution Test					Data Distribution Test					
			k star	2.888	Data appear Gamma Distributed at 5% Significance Level					
			Theta Star	1.137						
			MLE of Mean	3.285						
			MLE of Standard Deviation	1.933						
			nu star	75.09						
			A-D Test Statistic	0.587	Nonparametric Statistics					
			5% A-D Critical Value	0.738				90% Percentile	5.22	
			K-S Test Statistic	0.219				95% Percentile	6.54	
			5% K-S Critical Value	0.238				99% Percentile	8.028	
Data appear Gamma Distributed at 5% Significance Level										

Data not Gamma Distributed at 5% Significance Level										
Assuming Gamma Distribution				95% UTL with 95% Coverage						9.4
90% Percentile		6.78		95% Percentile Bootstrap UTL with 95% Coverage				9.4		
95% Percentile		8.205		95% BCA Bootstrap UTL with 95% Coverage				9.4		
99% Percentile		11.35		95% UPL				7.975		
				95% Chebyshev UPL				13.73		
95% WH Approx. Gamma UPL		8.351		Upper Threshold Limit Based upon IQR				9.6		
95% HW Approx. Gamma UPL		8.56								
95% WH Approx. Gamma UTL with 95% Coverage		10.23								
95% HW Approx. Gamma UTL with 95% Coverage		10.67								

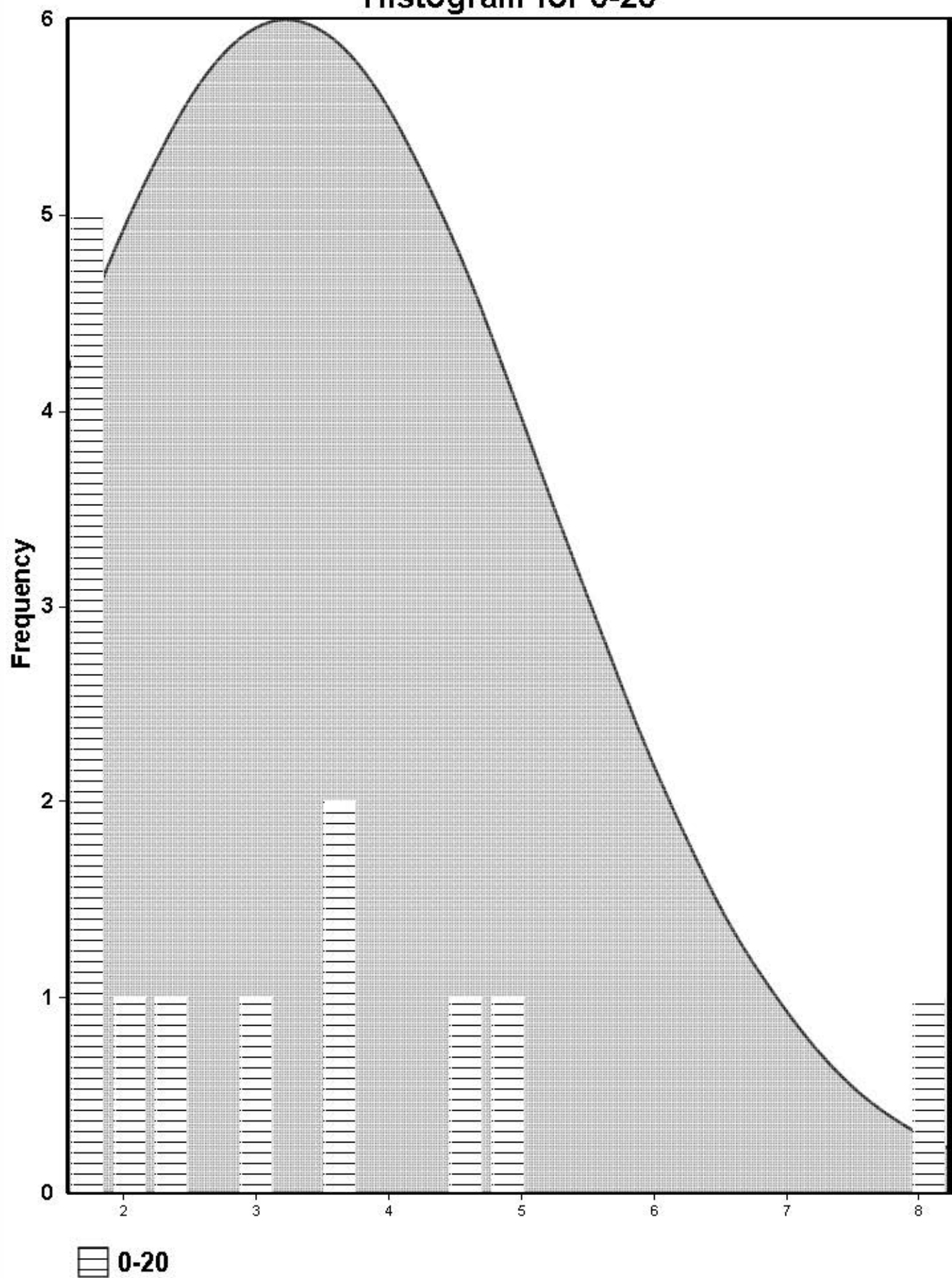
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Cobalt.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 8.4 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.515							
For 10% significance level, 8.4 is an outlier.							
For 5% significance level, 8.4 is not an outlier.							
For 1% significance level, 8.4 is not an outlier.							
2. Data Value 1.6 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.054							
For 10% significance level, 1.6 is not an outlier.							
For 5% significance level, 1.6 is not an outlier.							
For 1% significance level, 1.6 is not an outlier.							
Rosner's Outlier Test for >20							
Mean		3.565					
Standard Deviation		2.302					
Number of data		38					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	3.565	2.272	9.4	38	2.568	3.01	3.36
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Cobalt.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: >20					
Background Data: 0-20					
Raw Statistics					
	Site	Background			
Number of Valid Observations	38	13			
Number of Distinct Observations	29	11			
Minimum	0.89	1.6			
Maximum	9.4	8.4			
Mean	3.565	3.285			
Median	3.25	2.6			
SD	2.302	1.992			
SE of Mean	0.374	0.553			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	983				
WMW Test U-Stat	0.0973				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.905				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for >20



Histogram for 0-20



Location	0-20
BG-1-2	4.9
BG-3-17	1.8
BG-4-2	3.8
BG-4-19	8.4
BG-1-10	2.6
BG-2-2	2
BG-2-10	1.9
BG-2-19	1.6
BG-3-2	1.6
BG-3-10	3.9
BG-4-10	5.3
BG-6-2	3.1
BG-6-9	1.8

Location	>20
BG-1-29	2.7
BG-1-40	0.89
BG-1-46	1.8
BG-1-92	1.2
BG-2-21	1.4
BG-2-32	2.2
BG-2-75	1.6
BG-3-29	1.6
BG-3-63	1.8
BG-3-65	3.9
BG-3-95	1.4
BG-3-105	4.1
BG-3-131	1
BG-3-136	7.9
BG-4-65	1.6
BG-4-82	4
BG-4-95	1.2
BG-4-117	0.89
BG-4-120	5.2
BG-6-58	1.7
BG-6-75	2
BG-6-98	3.6
BG-6-114	4.5
BG-6-127	7.2
BG-1-43	5.9
BG-1-55	1.2
BG-1-78	4.7
BG-2-30	6.9
BG-2-81	4.3
BG-3-22	1.3
BG-3-69	4.8
BG-4-40	6.1
BG-4-79	6.6
BG-4-161	2.9
BG-4-163	4.8
BG-6-28	6.5
BG-6-53	4.7
BG-6-87	9.4

		Number of Distinct Observations	22					
		Minimum	0.89					
		Maximum	7.9					
		Mean of Raw Data	2.702					
		Standard Deviation of Raw Data	1.765					
		Kstar	2.748					
		Mean of Log Transformed Data	0.818					
		Standard Deviation of Log Transformed Data	0.586					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.912					
		Shapiro Wilk Test Statistic	0.83					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	6.1493E-5					
		Lilliefors Test Statistic	0.23					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.979					
		A-D Test Statistic	1.001					
		A-D Critical (0.95) Value	0.753					
		K-S Test Statistic	0.193					
		K-S Critical(0.95) Value	0.154					
		Data not Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.979					
		Shapiro Wilk Test Statistic	0.946					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.128					
		Lilliefors Test Statistic	0.16					
		Lilliefors Critical (0.95) Value	0.154					
		Data appear Lognormal at (0.05) Significance Level						

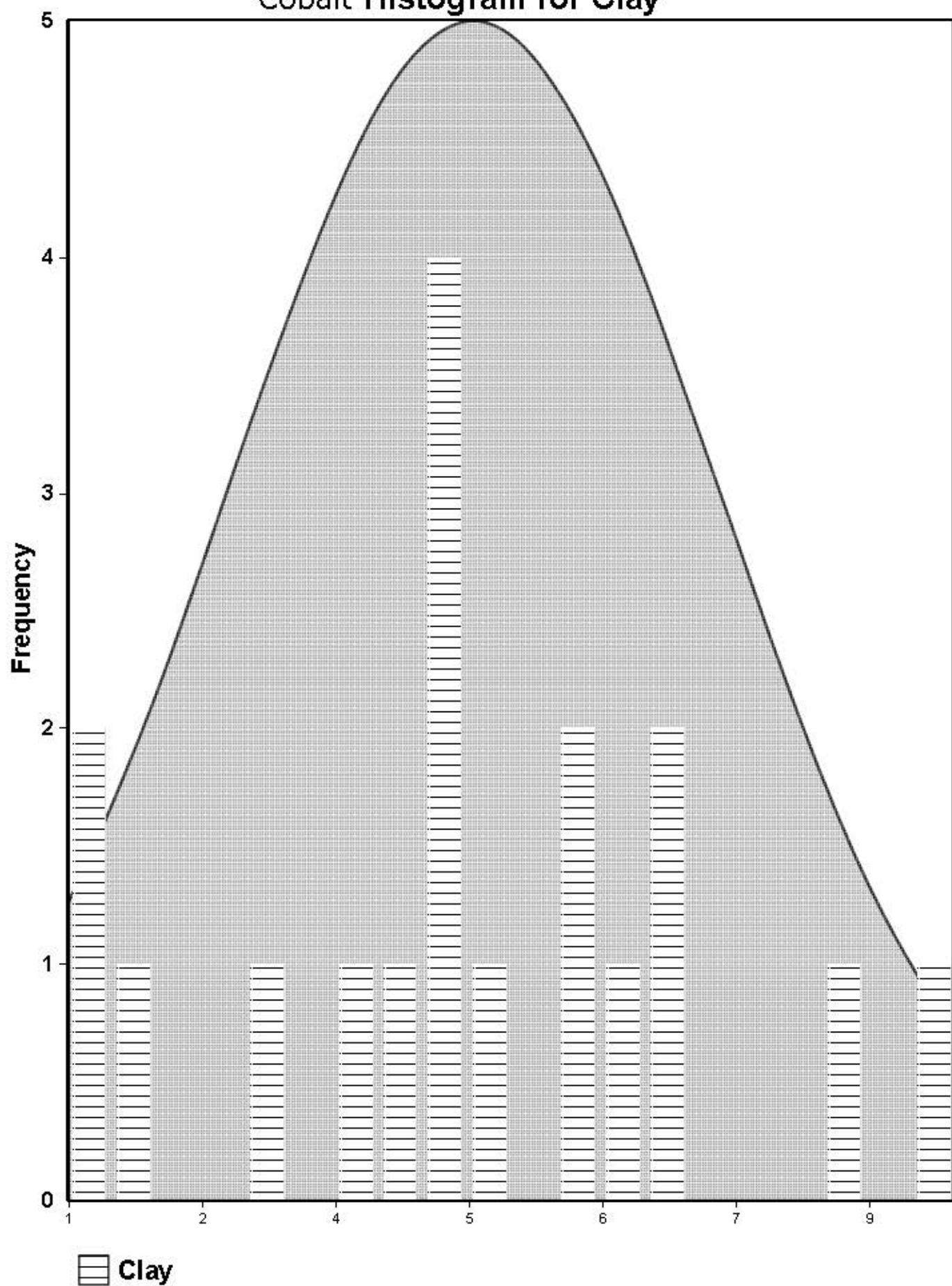
			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Cobalt.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Clay										
General Statistics										
Total Number of Observations				18		Number of Distinct Observations				16
Raw Statistics					Log-Transformed Statistics					
			Minimum	1.2				Minimum	0.182	
			Maximum	9.4				Maximum	2.241	
			Second Largest	8.4				Second Largest	2.128	
			First Quartile	3.925				First Quartile	1.366	
			Median	4.8				Median	1.569	
			Third Quartile	6.4				Third Quartile	1.856	
			Mean	4.944				Mean	1.464	
			SD	2.253				SD	0.589	
			Coefficient of Variation	0.456						
			Skewness	0.0322						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.964				Shapiro Wilk Test Statistic	0.873	
			Shapiro Wilk Critical Value	0.897				Shapiro Wilk Critical Value	0.897	
Data appear Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	10.47				95% UTL with 95% Coverage	18.36	
			95% UPL (t)	8.971				95% UPL (t)	12.4	
			90% Percentile (z)	7.832				90% Percentile (z)	9.203	
			95% Percentile (z)	8.65				95% Percentile (z)	11.4	
			99% Percentile (z)	10.19				99% Percentile (z)	17.04	
Gamma Distribution Test					Data Distribution Test					
			k star	3.277	Data appear Normal at 5% Significance Level					
			Theta Star	1.509						
			MLE of Mean	4.944						
			MLE of Standard Deviation	2.732						
			nu star	118						
			A-D Test Statistic	0.647	Nonparametric Statistics					
			5% A-D Critical Value	0.743				90% Percentile	7.35	
			K-S Test Statistic	0.195				95% Percentile	8.55	
			5% K-S Critical Value	0.205				99% Percentile	9.23	
Data appear Gamma Distributed at 5% Significance Level										

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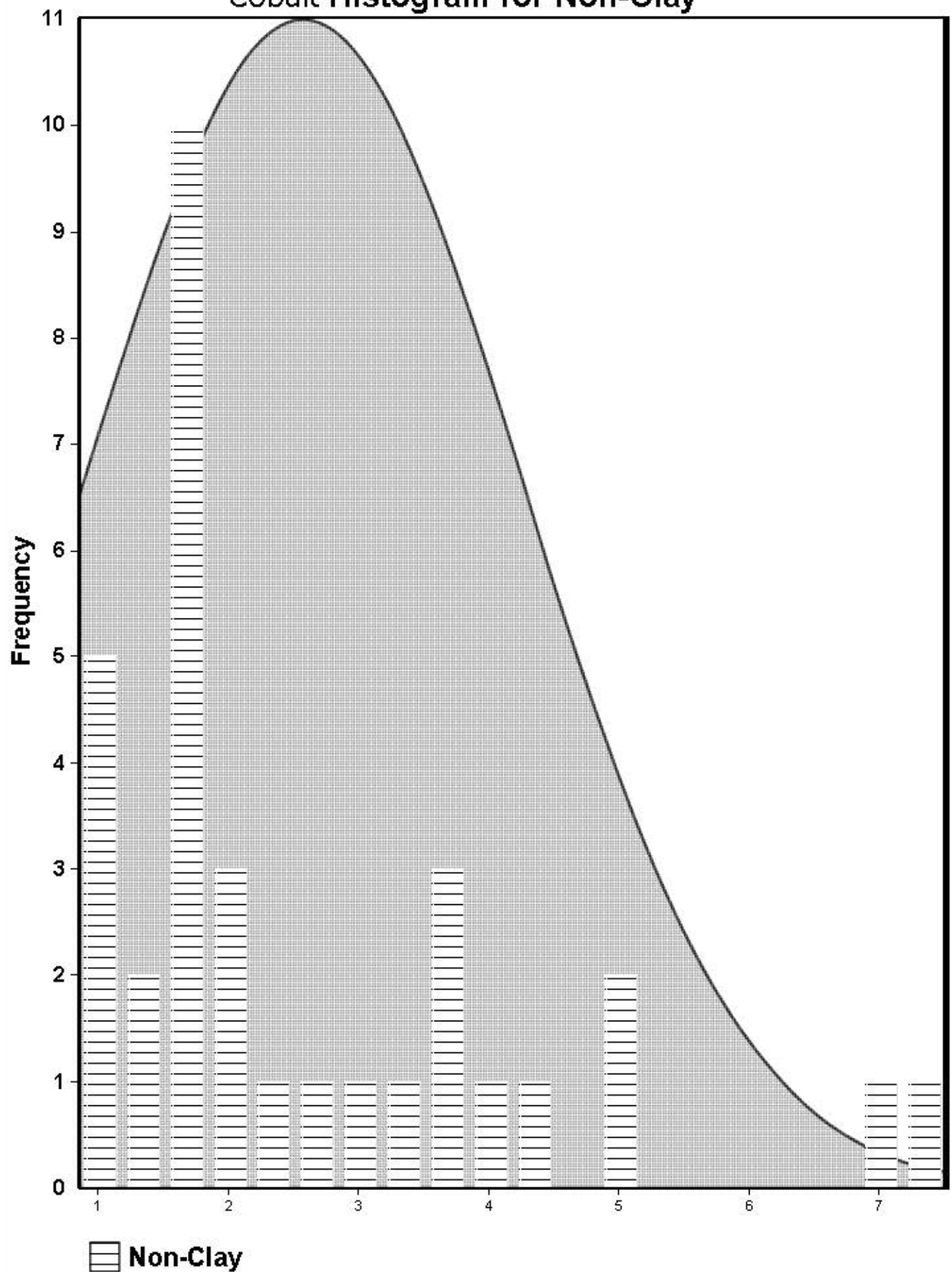
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Cobalt.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for Clay							
Number of data = 18							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Data Value 9.4 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.329							
For 10% significance level, 9.4 is not an outlier.							
For 5% significance level, 9.4 is not an outlier.							
For 1% significance level, 9.4 is not an outlier.							
2. Data Value 1.2 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.105							
For 10% significance level, 1.2 is not an outlier.							
For 5% significance level, 1.2 is not an outlier.							
For 1% significance level, 1.2 is not an outlier.							
Rosner's Outlier Test for Non-Clay							
Mean			2.702				
Standard Deviation			1.765				
Number of data			33				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	2.702	1.738	7.9	20	2.99	2.95	3.29
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 7.9 is a Potential Statistical Outlier							
For 1% Significance Level, there is no Potential Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Cobalt.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: Clay					
Background Data: Non-Clay					
Raw Statistics					
	Site	Background			
Number of Valid Observations	18	33			
Number of Distinct Observations	16	22			
Minimum	1.2	0.89			
Maximum	9.4	7.9			
Mean	4.944	2.702			
Median	4.8	1.9			
SD	2.253	1.765			
SE of Mean	0.531	0.307			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	634.5				
WMW Test U-Stat	3.272				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.00107				
Conclusion with Alpha = 0.05					
Reject H0, Conclude Site <> Background					
P-Value < alpha (0.05)					

Cobalt Histogram for Clay



Cobalt Histogram for Non-Clay



Location	Clay
BG-1-2	4.9
BG-1-43	5.9
BG-1-55	1.2
BG-1-78	4.7
BG-2-30	6.9
BG-2-81	4.3
BG-3-17	1.8
BG-3-22	1.3
BG-3-69	4.8
BG-4-2	3.8
BG-4-19	8.4
BG-4-40	6.1
BG-4-79	6.6
BG-4-161	2.9
BG-4-163	4.8
BG-6-28	6.5
BG-6-53	4.7
BG-6-87	9.4

Location	Non-Clay
BG-1-10	2.6
BG-1-29	2.7
BG-1-40	0.89
BG-1-46	1.8
BG-1-92	1.2
BG-2-2	2
BG-2-10	1.9
BG-2-19	1.6
BG-2-21	1.4
BG-2-32	2.2
BG-2-75	1.6
BG-3-2	1.6
BG-3-10	3.9
BG-3-29	1.6
BG-3-63	1.8
BG-3-65	3.9
BG-3-95	1.4
BG-3-105	4.1
BG-3-131	1
BG-3-136	7.9
BG-4-10	5.3
BG-4-65	1.6
BG-4-82	4
BG-4-95	1.2
BG-4-117	0.89
BG-4-120	5.2
BG-6-2	3.1
BG-6-9	1.8
BG-6-58	1.7
BG-6-75	2
BG-6-98	3.6
BG-6-114	4.5
BG-6-127	7.2
Average	2.702424

		Number of Distinct Observations	31					
		Minimum	0.89					
		Maximum	9.4					
		Mean of Raw Data	3.841					
		Standard Deviation of Raw Data	2.352					
		Kstar	2.346					
		Mean of Log Transformed Data	1.135					
		Standard Deviation of Log Transformed Data	0.689					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.964					
		Shapiro Wilk Test Statistic	0.914					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.00609					
		Lilliefors Test Statistic	0.168					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.977					
		A-D Test Statistic	0.976					
		A-D Critical (0.95) Value	0.757					
		K-S Test Statistic	0.161					
		K-S Critical(0.95) Value	0.143					
		Data not Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.97					
		Shapiro Wilk Test Statistic	0.92					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.0103					
		Lilliefors Test Statistic	0.153					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Cobalt.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Alluv										
General Statistics										
Total Number of Observations				12		Number of Distinct Observations				11
Raw Statistics					Log-Transformed Statistics					
			Minimum	0.89					Minimum	-0.117
			Maximum	4.9					Maximum	1.589
			Second Largest	3.9					Second Largest	1.361
			First Quartile	1.6					First Quartile	0.47
			Median	1.95					Median	0.668
			Third Quartile	2.8					Third Quartile	1.028
			Mean	2.366					Mean	0.759
			SD	1.146					SD	0.471
			Coefficient of Variation	0.484						
			Skewness	1.087						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.913					Shapiro Wilk Test Statistic	0.981
			Shapiro Wilk Critical Value	0.859					Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	5.5					95% UTL with 95% Coverage	7.759
			95% UPL (t)	4.507					95% UPL (t)	5.157
			90% Percentile (z)	3.834					90% Percentile (z)	3.91
			95% Percentile (z)	4.25					95% Percentile (z)	4.64
			99% Percentile (z)	5.031					99% Percentile (z)	6.397
Gamma Distribution Test					Data Distribution Test					
			k star	3.863		Data appear Normal at 5% Significance Level				
			Theta Star	0.612						
			MLE of Mean	2.366						
			MLE of Standard Deviation	1.204						
			nu star	92.72						
			A-D Test Statistic	0.248		Nonparametric Statistics				
			5% A-D Critical Value	0.732					90% Percentile	3.82
			K-S Test Statistic	0.169					95% Percentile	4.35
			5% K-S Critical Value	0.246					99% Percentile	4.79
Data appear Gamma Distributed at 5% Significance Level										

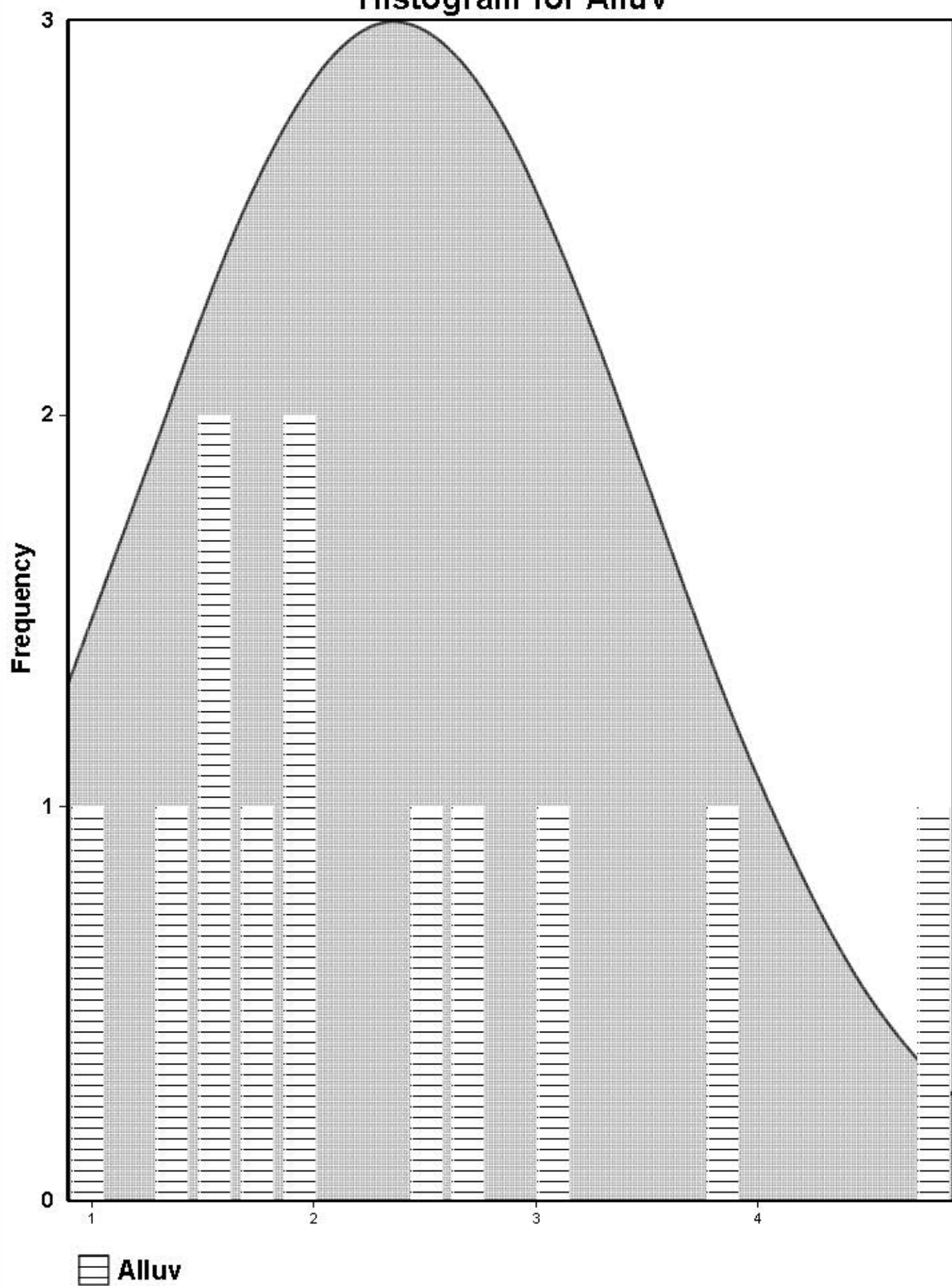
Assuming Gamma Distribution				95% UTL with 95% Coverage		4.9				
90% Percentile			3.979	95% Percentile Bootstrap UTL with 95% Coverage		4.9				
95% Percentile			4.629	95% BCA Bootstrap UTL with 95% Coverage		4.9				
99% Percentile			6.018	95% UPL		4.9				
				95% Chebyshev UPL		7.563				
95% WH Approx. Gamma UPL			4.807	Upper Threshold Limit Based upon IQR		4.6				
95% HW Approx. Gamma UPL			4.875							
95% WH Approx. Gamma UTL with 95% Coverage		6.5								
95% HW Approx. Gamma UTL with 95% Coverage		6.732								
MC										
General Statistics										
Total Number of Observations			39	Number of Distinct Observations			31			
Raw Statistics				Log-Transformed Statistics						
Minimum		0.89	Minimum		-0.117					
Maximum		9.4	Maximum		2.241					
Second Largest		8.4	Second Largest		2.128					
First Quartile		1.65	First Quartile		0.5					
Median		3.9	Median		1.361					
Third Quartile		5.25	Third Quartile		1.658					
Mean		3.841	Mean		1.135					
SD		2.352	SD		0.689					
Coefficient of Variation		0.612								
Skewness		0.541								
Background Statistics										
Normal Distribution Test				Lognormal Distribution Test						
Shapiro Wilk Test Statistic		0.914	Shapiro Wilk Test Statistic		0.92					
Shapiro Wilk Critical Value		0.939	Shapiro Wilk Critical Value		0.939					
Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level						
Assuming Normal Distribution				Assuming Lognormal Distribution						
95% UTL with 95% Coverage		8.837	95% UTL with 95% Coverage		13.44					
95% UPL (t)		7.856	95% UPL (t)		10.08					
90% Percentile (z)		6.855	90% Percentile (z)		7.518					
95% Percentile (z)		7.709	95% Percentile (z)		9.656					
99% Percentile (z)		9.312	99% Percentile (z)		15.44					
Gamma Distribution Test				Data Distribution Test						
k star		2.346	Data do not follow a Discernable Distribution (0.05)							
Theta Star		1.637								
MLE of Mean		3.841								
MLE of Standard Deviation		2.508								
nu star		183								
A-D Test Statistic		0.976	Nonparametric Statistics							
5% A-D Critical Value		0.757	90% Percentile		6.96					
K-S Test Statistic		0.161	95% Percentile		7.95					
5% K-S Critical Value		0.143	99% Percentile		9.02					

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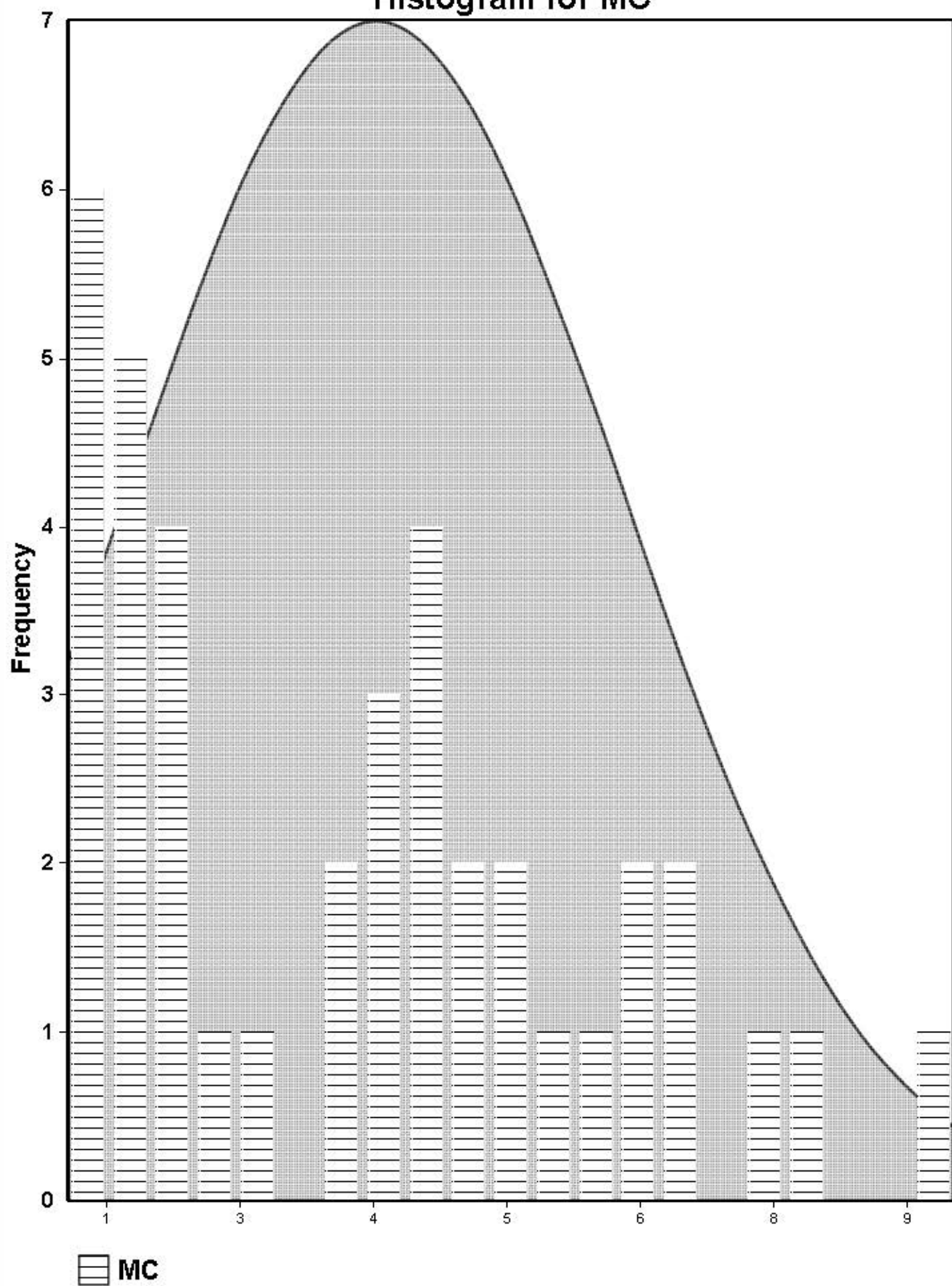
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Cobalt.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for Alluv							
Number of data = 12							
10% critical value: 0.49							
5% critical value: 0.546							
1% critical value: 0.642							
1. Data Value 4.9 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.514							
For 10% significance level, 4.9 is an outlier.							
For 5% significance level, 4.9 is not an outlier.							
For 1% significance level, 4.9 is not an outlier.							
2. Data Value 0.89 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.236							
For 10% significance level, 0.89 is not an outlier.							
For 5% significance level, 0.89 is not an outlier.							
For 1% significance level, 0.89 is not an outlier.							
Rosner's Outlier Test for MC							
Mean		3.841					
Standard Deviation		2.352					
Number of data		39					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	3.841	2.321	9.4	36	2.395	3.03	3.37
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Cobalt.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: MC					
Background Data: Alluv					
Raw Statistics					
	Site	Background			
Number of Valid Observations	39	12			
Number of Distinct Observations	31	11			
Minimum	0.89	0.89			
Maximum	9.4	4.9			
Mean	3.841	2.366			
Median	3.9	1.95			
SD	2.352	1.146			
SE of Mean	0.377	0.331			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1087				
WMW Test U-Stat	1.599				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.11				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for Alluv



Histogram for MC



Location	Alluv	Location	MC
BG-1-2	4.9	BG-1-43	5.9
BG-1-10	2.6	BG-1-46	1.8
BG-1-29	2.7	BG-1-55	1.2
BG-1-40	0.89	BG-1-78	4.7
BG-2-2	2	BG-1-92	1.2
BG-2-10	1.9	BG-2-30	6.9
BG-2-19	1.6	BG-2-32	2.2
BG-2-21	1.4	BG-2-75	1.6
BG-3-2	1.6	BG-2-81	4.3
BG-3-10	3.9	BG-3-17	1.8
BG-6-2	3.1	BG-3-22	1.3
BG-6-9	1.8	BG-3-29	1.6
		BG-3-63	1.8
		BG-3-65	3.9
		BG-3-69	4.8
		BG-3-95	1.4
		BG-3-105	4.1
		BG-3-131	1
		BG-3-136	7.9
		BG-4-1	3.8
		BG-4-10	5.3
		BG-4-19	8.4
		BG-4-40	6.1
		BG-4-65	1.6
		BG-4-79	6.6
		BG-4-82	4
		BG-4-95	1.2
		BG-4-117	0.89
		BG-4-120	5.2
		BG-4-161	2.9
		BG-4-163	4.8
		BG-6-28	6.5
		BG-6-53	4.7
		BG-6-58	1.7
		BG-6-75	2
		BG-6-87	9.4
		BG-6-98	3.6
		BG-6-114	4.5
		BG-1-127	7.2

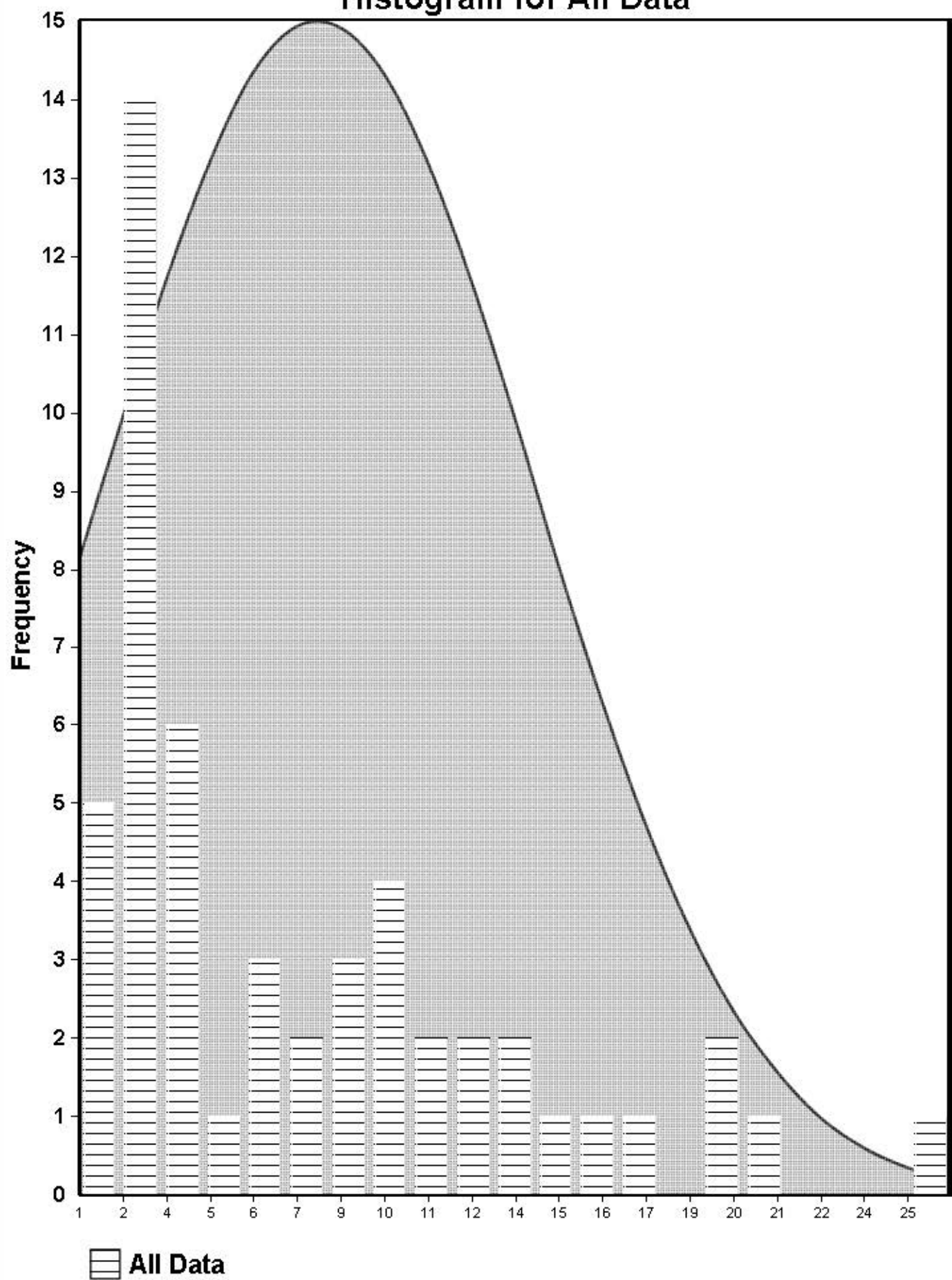
		Goodness-of-Fit Test Statistics for Full Data Sets without Non-Detects				
User Selected Options						
From File	Copper.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
All Data						
Raw Statistics						
Number of Valid Observations	51					
Number of Distinct Observations	38					
Minimum	1.2					
Maximum	26					
Mean of Raw Data	8.002					
Standard Deviation of Raw Data	6.137					
Kstar	1.75					
Mean of Log Transformed Data	1.785					
Standard Deviation of Log Transformed Data	0.792					
Normal Distribution Test Results						
Correlation Coefficient R	0.935					
Approximate Shapiro Wilk Test Statistic	0.865					
Approximate Shapiro Wilk P Value	5.0730E-6					
Lilliefors Test Statistic	0.189					
Lilliefors Critical (0.95) Value	0.124					
Data not Normal at (0.05) Significance Level						
Gamma Distribution Test Results						
Correlation Coefficient R	0.988					
A-D Test Statistic	1.172					
A-D Critical (0.95) Value	0.764					
K-S Test Statistic	0.14					
K-S Critical(0.95) Value	0.126					
Data not Gamma Distributed at (0.05) Significance Level						
Lognormal Distribution Test Results						
Correlation Coefficient R	0.979					
Approximate Shapiro Wilk Test Statistic	0.942					
Approximate Shapiro Wilk P Value	0.0237					
Lilliefors Test Statistic	0.125					
Lilliefors Critical (0.95) Value	0.124					
Data not Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets						
User Selected Options									
From File		Copper.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
All Data									
General Statistics									
Total Number of Observations			51		Number of Distinct Observations			38	
Raw Statistics				Log-Transformed Statistics					
Minimum			1.2		Minimum			0.182	
Maximum			26		Maximum			3.258	
Second Largest			22		Second Largest			3.091	
First Quartile			3		First Quartile			1.099	
Median			5.8		Median			1.758	
Third Quartile			11.5		Third Quartile			2.441	
Mean			8.002		Mean			1.785	
SD			6.137		SD			0.792	
Coefficient of Variation			0.767						
Skewness			1.066						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
Lilliefors Test Statistic			0.189		Lilliefors Test Statistic			0.125	
Lilliefors Critical Value			0.124		Lilliefors Critical Value			0.124	
Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
95% UTL with 95% Coverage			20.6		95% UTL with 95% Coverage			30.3	
95% UPL (t)			18.39		95% UPL (t)			22.76	
90% Percentile (z)			15.87		90% Percentile (z)			16.44	
95% Percentile (z)			18.1		95% Percentile (z)			21.92	
99% Percentile (z)			22.28		99% Percentile (z)			37.6	
Gamma Distribution Test				Data Distribution Test					
k star			1.75		Data do not follow a Discernable Distribution (0.05)				
Theta Star			4.573						
MLE of Mean			8.002						
MLE of Standard Deviation			6.049						
nu star			178.5						
A-D Test Statistic			1.172		Nonparametric Statistics				
5% A-D Critical Value			0.764		90% Percentile			17	
K-S Test Statistic			0.14		95% Percentile			20	
5% K-S Critical Value			0.126		99% Percentile			24	
Data not Gamma Distributed at 5% Significance Level									

[illegible]

				Outlier Tests for Selected Variables							
User Selected Options											
From File				Copper.wst							
Full Precision				OFF							
Test for Suspected Outliers with Dixon test				1							
Test for Suspected Outliers with Rosner test				1							
Rosner's Outlier Test for All Data											
Mean				8.002							
Standard Deviation				6.137							
Number of data				51							
Number of suspected outliers				1							
			Potential	Obs.	Test	Critical	Critical				
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)				
1	8.002	6.076	26	51	2.962	3.137	3.488				
For 5% Significance Level, there is no Potential Outlier											
For 1% Significance Level, there is no Potential Outlier											

Histogram for All Data



Location	All Data
BG-1-2	11
BG-3-17	4.4
BG-4-2	8.3
BG-4-19	20
BG-1-10	4.2
BG-2-2	2.5
BG-2-10	1.9
BG-2-19	3.2
BG-3-2	3
BG-3-10	9.3
BG-4-10	11
BG-6-2	4.8
BG-6-9	2.6
BG-1-29	5.8
BG-1-40	2.9
BG-1-46	3.3
BG-1-92	2.7
BG-2-21	1.2
BG-2-32	2.9
BG-2-75	3
BG-3-29	3.5
BG-3-63	4.3
BG-3-65	7.1
BG-3-95	2.5
BG-3-105	7.3
BG-3-131	2.2
BG-3-136	17
BG-4-65	3.2
BG-4-82	8.4
BG-4-95	2.6
BG-4-117	1.9
BG-4-120	12
BG-6-58	3.8
BG-6-75	4.6
BG-6-98	8.8
BG-6-114	9.8
BG-6-127	18
BG-1-43	12
BG-1-55	2.1
BG-1-78	20
BG-2-30	16
BG-2-81	22
BG-3-22	3
BG-3-69	11
BG-4-40	14
BG-4-79	14
BG-4-161	7
BG-4-163	13
BG-6-28	13
BG-6-53	10
BG-6-87	26

		Number of Distinct Observations	33					
		Minimum	1.2					
		Maximum	26					
		Mean of Raw Data	8.471					
		Standard Deviation of Raw Data	6.427					
		Kstar	1.668					
		Mean of Log Transformed Data	1.832					
		Standard Deviation of Log Transformed Data	0.82					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.944					
		Shapiro Wilk Test Statistic	0.883					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	6.0972E-4					
		Lilliefors Test Statistic	0.174					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.988					
		A-D Test Statistic	0.833					
		A-D Critical (0.95) Value	0.762					
		K-S Test Statistic	0.147					
		K-S Critical(0.95) Value	0.145					
		Data follow Appr. Gamma Distribution at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.979					
		Shapiro Wilk Test Statistic	0.944					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.0762					
		Lilliefors Test Statistic	0.129					
		Lilliefors Critical (0.95) Value	0.144					
		Data appear Lognormal at (0.05) Significance Level						

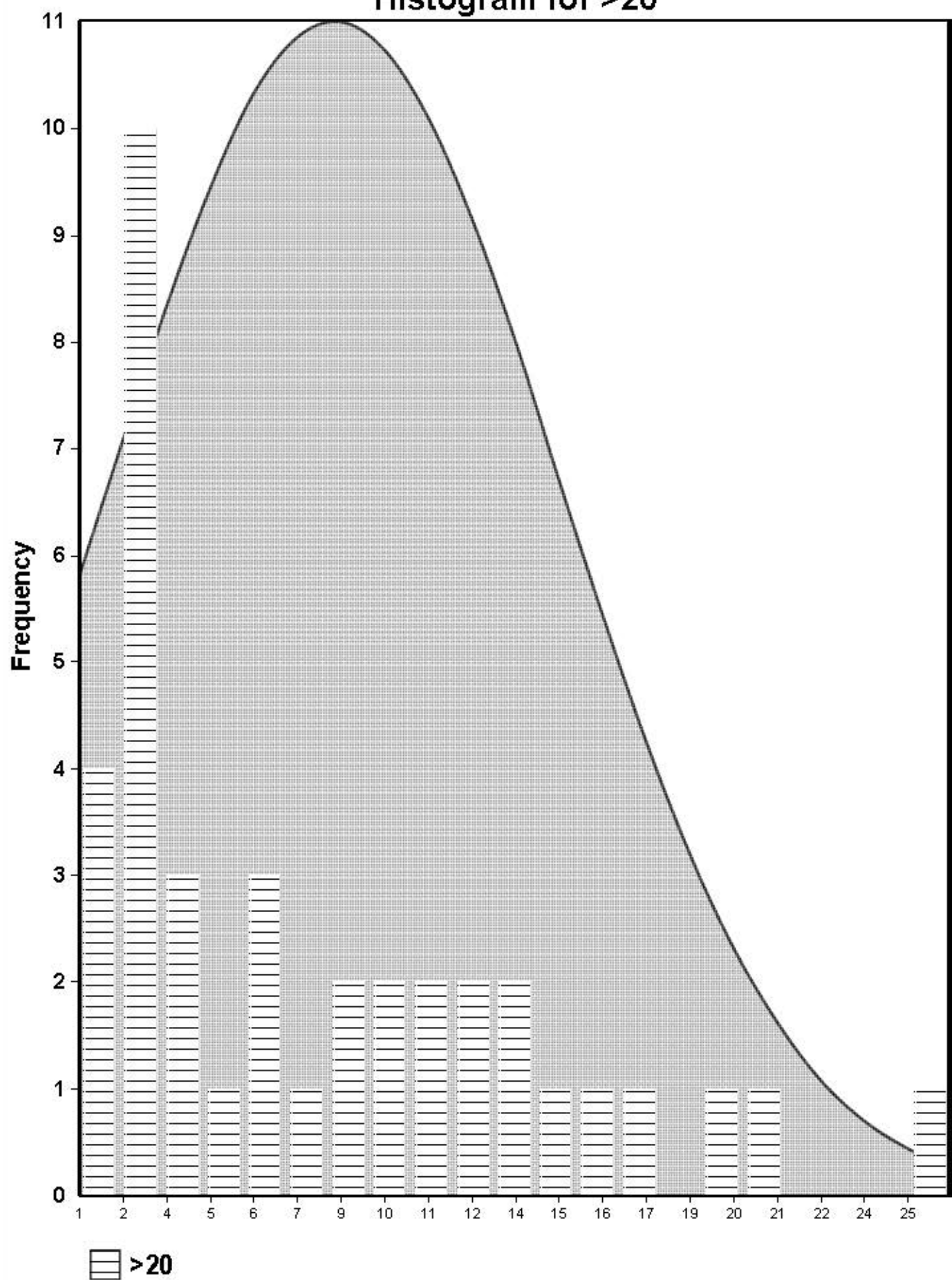
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Data not Gamma Distributed at 5% Significance Level					
Assuming Gamma Distribution				95% UTL with 95% Coverage	26
90% Percentile		17.2	95% Percentile Bootstrap UTL with 95% Coverage	26	
95% Percentile		21.3	95% BCA Bootstrap UTL with 95% Coverage	26	
99% Percentile		30.5	95% UPL	22.2	
			95% Chebyshev UPL	36.85	
95% WH Approx. Gamma UPL		21.69	Upper Threshold Limit Based upon IQR	27.38	
95% HW Approx. Gamma UPL		22.32			
95% WH Approx. Gamma UTL with 95% Coverage		27.17			
95% HW Approx. Gamma UTL with 95% Coverage		28.58			

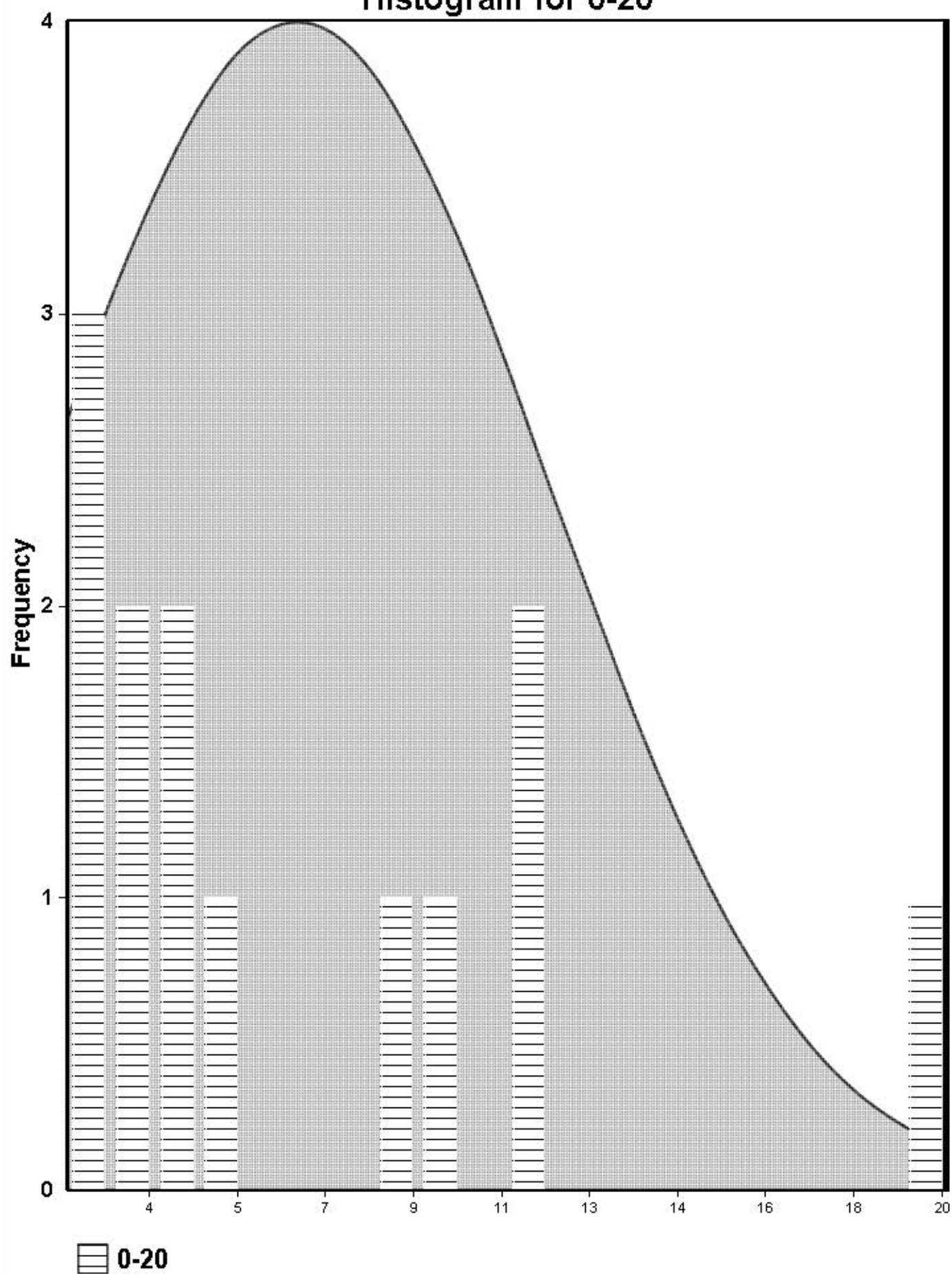
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Copper.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for 0-20								
Number of data = 13								
10% critical value: 0.467								
5% critical value: 0.521								
1% critical value: 0.615								
1. Data Value 20 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.514								
For 10% significance level, 20 is an outlier.								
For 5% significance level, 20 is not an outlier.								
For 1% significance level, 20 is not an outlier.								
2. Data Value 1.9 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.077								
For 10% significance level, 1.9 is not an outlier.								
For 5% significance level, 1.9 is not an outlier.								
For 1% significance level, 1.9 is not an outlier.								
Rosner's Outlier Test for >20								
Mean			8.471					
Standard Deviation			6.427					
Number of data			38					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	8.471	6.342	26	38	2.764	3.01	3.36	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs									
User Selected Options									
From File		Copper.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Substantial Difference		0.000							
Selected Null Hypothesis		Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)							
Alternative Hypothesis		Site or AOC Mean/Median Not Equal to Background Mean/Median							
Area of Concern Data: >20									
Background Data: 0-20									
Raw Statistics									
		Site	Background						
Number of Valid Observations		38	13						
Number of Distinct Observations		33	12						
Minimum		1.2	1.9						
Maximum		26	20						
Mean		8.471	6.631						
Median		7.05	4.4						
SD		6.427	5.178						
SE of Mean		1.043	1.436						
Wilcoxon-Mann-Whitney (WMW) Test									
H0: Mean/Median of Site or AOC = Mean/Median of Background									
Site Rank Sum W-Stat		1024							
WMW Test U-Stat		0.756							
Lower Critical Value (0.025)		-1.96							
Upper Critical Value (0.975)		1.96							
P-Value		0.449							
Conclusion with Alpha = 0.05									
Do Not Reject H0, Conclude Site = Background									
P-Value >= alpha (0.05)									

Histogram for >20



Histogram for 0-20



Location	0-20
BG-1-2	11
BG-3-17	4.4
BG-4-2	8.3
BG-4-19	20
BG-1-10	4.2
BG-2-2	2.5
BG-2-10	1.9
BG-2-19	3.2
BG-3-2	3
BG-3-10	9.3
BG-4-10	11
BG-6-2	4.8
BG-6-9	2.6

Location	>20
BG-1-29	5.8
BG-1-40	2.9
BG-1-46	3.3
BG-1-92	2.7
BG-2-21	1.2
BG-2-32	2.9
BG-2-75	3
BG-3-29	3.5
BG-3-63	4.3
BG-3-65	7.1
BG-3-95	2.5
BG-3-105	7.3
BG-3-131	2.2
BG-3-136	17
BG-4-65	3.2
BG-4-82	8.4
BG-4-95	2.6
BG-4-117	1.9
BG-4-120	12
BG-6-58	3.8
BG-6-75	4.6
BG-6-98	8.8
BG-6-114	9.8
BG-6-127	18
BG-1-43	12
BG-1-55	2.1
BG-1-78	20
BG-2-30	16
BG-2-81	22
BG-3-22	3
BG-3-69	11
BG-4-40	14
BG-4-79	14
BG-4-161	7
BG-4-163	13
BG-6-28	13
BG-6-53	10
BG-6-87	26

		Number of Distinct Observations	27					
		Minimum	1.2					
		Maximum	18					
		Mean of Raw Data	5.494					
		Standard Deviation of Raw Data	4.22					
		Kstar	2.113					
		Mean of Log Transformed Data	1.471					
		Standard Deviation of Log Transformed Data	0.669					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.891					
		Shapiro Wilk Test Statistic	0.794					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	7.6225E-6					
		Lilliefors Test Statistic	0.232					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.975					
		A-D Test Statistic	1.231					
		A-D Critical (0.95) Value	0.757					
		K-S Test Statistic	0.173					
		K-S Critical(0.95) Value	0.155					
		Data not Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.976					
		Shapiro Wilk Test Statistic	0.946					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.13					
		Lilliefors Test Statistic	0.145					
		Lilliefors Critical (0.95) Value	0.154					
		Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets						
User Selected Options									
From File			Copper.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
Clay									
General Statistics									
Total Number of Observations			18		Number of Distinct Observations			14	
Raw Statistics				Log-Transformed Statistics					
		Minimum	2.1			Minimum	0.742		
		Maximum	26			Maximum	3.258		
		Second Largest	22			Second Largest	3.091		
		First Quartile	8.725			First Quartile	2.163		
		Median	12.5			Median	2.525		
		Third Quartile	15.5			Third Quartile	2.739		
		Mean	12.6			Mean	2.36		
		SD	6.53			SD	0.677		
		Coefficient of Variation	0.518						
		Skewness	0.289						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Shapiro Wilk Test Statistic	0.972			Shapiro Wilk Test Statistic	0.902		
		Shapiro Wilk Critical Value	0.897			Shapiro Wilk Critical Value	0.897		
Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	28.62			95% UTL with 95% Coverage	55.77		
		95% UPL (t)	24.27			95% UPL (t)	35.54		
		90% Percentile (z)	20.97			90% Percentile (z)	25.23		
		95% Percentile (z)	23.34			95% Percentile (z)	32.27		
		99% Percentile (z)	27.79			99% Percentile (z)	51.19		
Gamma Distribution Test				Data Distribution Test					
		k star	2.573	Data appear Normal at 5% Significance Level					
		Theta Star	4.897						
		MLE of Mean	12.6						
		MLE of Standard Deviation	7.855						
		nu star	92.63						
		A-D Test Statistic	0.4	Nonparametric Statistics					
		5% A-D Critical Value	0.746			90% Percentile	20.6		
		K-S Test Statistic	0.152			95% Percentile	22.6		
		5% K-S Critical Value	0.205			99% Percentile	25.32		
Data appear Gamma Distributed at 5% Significance Level									

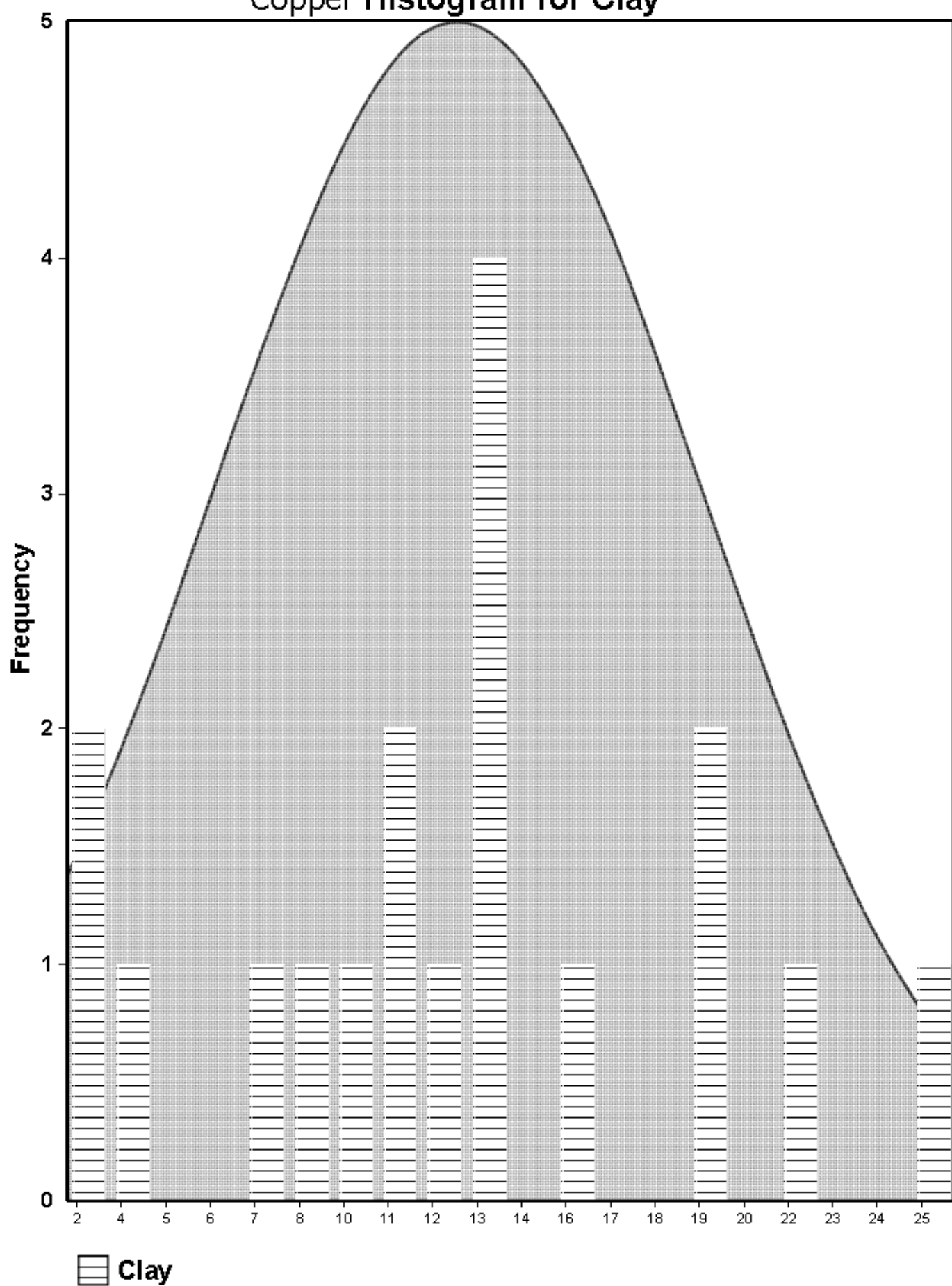
Assuming Gamma Distribution					95% UTL with 95% Coverage		26		
90% Percentile			23.13	95% Percentile Bootstrap UTL with 95% Coverage		26			
95% Percentile			27.66	95% BCA Bootstrap UTL with 95% Coverage		26			
99% Percentile			37.57			95% UPL		26	
						95% Chebyshev UPL		41.85	
95% WH Approx. Gamma UPL			28.67	Upper Threshold Limit Based upon IQR		25.66			
95% HW Approx. Gamma UPL			29.84						
95% WH Approx. Gamma UTL with 95% Coverage		38.06							
95% HW Approx. Gamma UTL with 95% Coverage		40.78							
Non-Clay									
General Statistics									
Total Number of Observations			33	Number of Distinct Observations			27		
Raw Statistics				Log-Transformed Statistics					
Minimum		1.2	Minimum		0.182				
Maximum		18	Maximum		2.89				
Second Largest		17	Second Largest		2.833				
First Quartile		2.7	First Quartile		0.993				
Median		3.5	Median		1.253				
Third Quartile		7.3	Third Quartile		1.988				
Mean		5.494	Mean		1.471				
SD		4.22	SD		0.669				
Coefficient of Variation		0.768							
Skewness		1.628							
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
Shapiro Wilk Test Statistic		0.794	Shapiro Wilk Test Statistic		0.946				
Shapiro Wilk Critical Value		0.931	Shapiro Wilk Critical Value		0.931				
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
95% UTL with 95% Coverage		14.68	95% UTL with 95% Coverage		18.68				
95% UPL (t)		12.75	95% UPL (t)		13.76				
90% Percentile (z)		10.9	90% Percentile (z)		10.27				
95% Percentile (z)		12.44	95% Percentile (z)		13.09				
99% Percentile (z)		15.31	99% Percentile (z)		20.66				
Gamma Distribution Test				Data Distribution Test					
k star		2.113	Data appear Lognormal at 5% Significance Level						
Theta Star		2.6							
MLE of Mean		5.494							
MLE of Standard Deviation		3.78							
nu star		139.4							
A-D Test Statistic		1.231	Nonparametric Statistics						
5% A-D Critical Value		0.757	90% Percentile		10.76				
K-S Test Statistic		0.173	95% Percentile		14				
5% K-S Critical Value		0.155	99% Percentile		17.68				

Data not Gamma Distributed at 5% Significance Level					
Assuming Gamma Distribution				95% UTL with 95% Coverage	18
90% Percentile		10.55	95% Percentile Bootstrap UTL with 95% Coverage	18	
95% Percentile		12.81	95% BCA Bootstrap UTL with 95% Coverage	18	
99% Percentile		17.8	95% UPL	17.3	
			95% Chebyshev UPL	24.16	
95% WH Approx. Gamma UPL		12.98	Upper Threshold Limit Based upon IQR	14.2	
95% HW Approx. Gamma UPL		13.11			
95% WH Approx. Gamma UTL with 95% Coverage		16.19			
95% HW Approx. Gamma UTL with 95% Coverage		16.63			

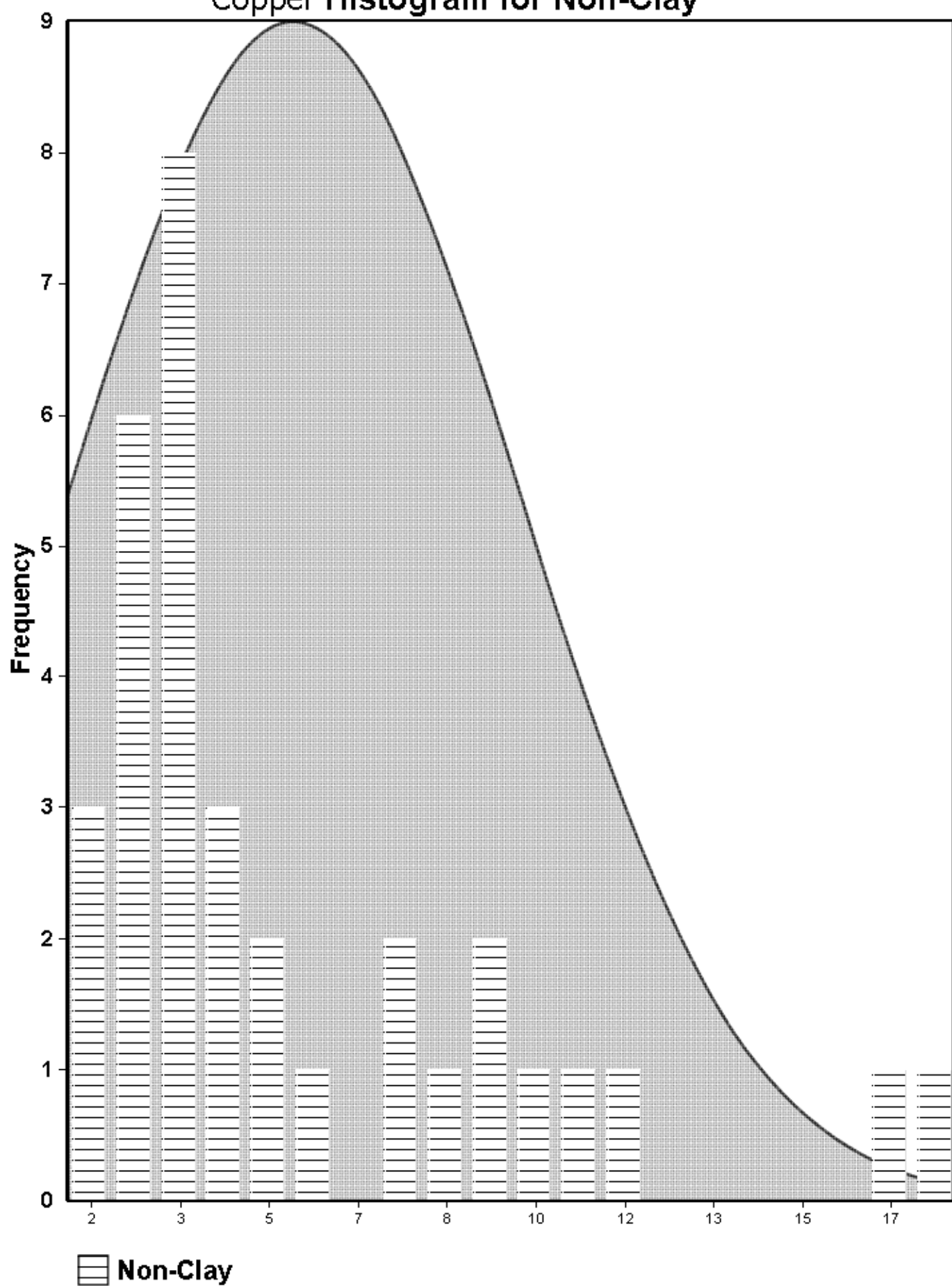
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Copper.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for Clay							
Number of data = 18							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Data Value 26 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.278							
For 10% significance level, 26 is not an outlier.							
For 5% significance level, 26 is not an outlier.							
For 1% significance level, 26 is not an outlier.							
2. Data Value 2.1 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.128							
For 10% significance level, 2.1 is not an outlier.							
For 5% significance level, 2.1 is not an outlier.							
For 1% significance level, 2.1 is not an outlier.							
Rosner's Outlier Test for Non-Clay							
Mean			5.494				
Standard Deviation			4.22				
Number of data			33				
Number of suspected outliers			1				
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	5.494	4.155	18	33	3.01	2.95	3.29
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 18 is a Potential Statistical Outlier							
For 1% Significance Level, there is no Potential Outlier							

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs									
User Selected Options									
From File		Copper.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Substantial Difference		0.000							
Selected Null Hypothesis		Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)							
Alternative Hypothesis		Site or AOC Mean/Median Not Equal to Background Mean/Median							
Area of Concern Data: Non-Clay									
Background Data: Clay									
Raw Statistics									
		Site	Background						
Number of Valid Observations		33	18						
Number of Distinct Observations		27	14						
Minimum		1.2	2.1						
Maximum		18	26						
Mean		5.494	12.6						
Median		3.5	12.5						
SD		4.22	6.53						
SE of Mean		0.735	1.539						
Wilcoxon-Mann-Whitney (WMW) Test									
H0: Mean/Median of Site or AOC = Mean/Median of Background									
Site Rank Sum W-Stat		666.5							
WMW Test U-Stat		3.765							
Lower Critical Value (0.025)		-1.96							
Upper Critical Value (0.975)		1.96							
P-Value		1.5408E-4							
Conclusion with Alpha = 0.05									
Reject H0, Conclude Site <> Background									
P-Value < alpha (0.05)									

Copper Histogram for Clay



Copper Histogram for Non-Clay



Location	Clay	Location	Non-Clay
BG-1-2	11	BG-1-10	4.2
BG-1-43	12	BG-1-29	5.8
BG-1-55	2.1	BG-1-40	2.9
BG-1-78	20	BG-1-46	3.3
BG-2-30	16	BG-1-92	2.7
BG-2-81	22	BG-2-2	2.5
BG-3-17	4.4	BG-2-10	1.9
BG-3-22	3	BG-2-19	3.2
BG-3-69	11	BG-2-21	1.2
BG-4-2	8.3	BG-2-32	2.9
BG-4-19	20	BG-2-75	3
BG-4-40	14	BG-3-2	3
BG-4-79	14	BG-3-10	9.3
BG-4-161	7	BG-3-29	3.5
BG-4-163	13	BG-3-63	4.3
BG-6-28	13	BG-3-65	7.1
BG-6-53	10	BG-3-95	2.5
BG-6-87	26	BG-3-105	7.3
		BG-3-131	2.2
		BG-3-136	17
		BG-4-10	11
		BG-4-65	3.2
		BG-4-82	8.4
		BG-4-95	2.6
		BG-4-117	1.9
		BG-4-120	12
		BG-6-2	4.8
		BG-6-9	2.6
		BG-6-58	3.8
		BG-6-75	4.6
		BG-6-98	8.8
		BG-6-114	9.8
		BG-6-127	18

[illegible]

		Number of Distinct Observations	33					
		Minimum	1.9					
		Maximum	26					
		Mean of Raw Data	9.121					
		Standard Deviation of Raw Data	6.442					
		Kstar	1.856					
		Mean of Log Transformed Data	1.939					
		Standard Deviation of Log Transformed Data	0.778					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.954					
		Shapiro Wilk Test Statistic	0.897					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.00151					
		Lilliefors Test Statistic	0.169					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.985					
		A-D Test Statistic	0.816					
		A-D Critical (0.95) Value	0.759					
		K-S Test Statistic	0.142					
		K-S Critical(0.95) Value	0.143					
		Data follow Appr. Gamma Distribution at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.974					
		Shapiro Wilk Test Statistic	0.927					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.0173					
		Lilliefors Test Statistic	0.119					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Lognormal at (0.05) Significance Level						

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Copper.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for Alluv							
Number of data = 12							
10% critical value: 0.49							
5% critical value: 0.546							
1% critical value: 0.642							
1. Data Value 11 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.571							
For 10% significance level, 11 is an outlier.							
For 5% significance level, 11 is an outlier.							
For 1% significance level, 11 is not an outlier.							
2. Data Value 1.2 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.160							
For 10% significance level, 1.2 is not an outlier.							
For 5% significance level, 1.2 is not an outlier.							
For 1% significance level, 1.2 is not an outlier.							
Rosner's Outlier Test for MC							
Mean		9.121					
Standard Deviation		6.442					
Number of data		39					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	9.121	6.359	26	36	2.655	3.03	3.37
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

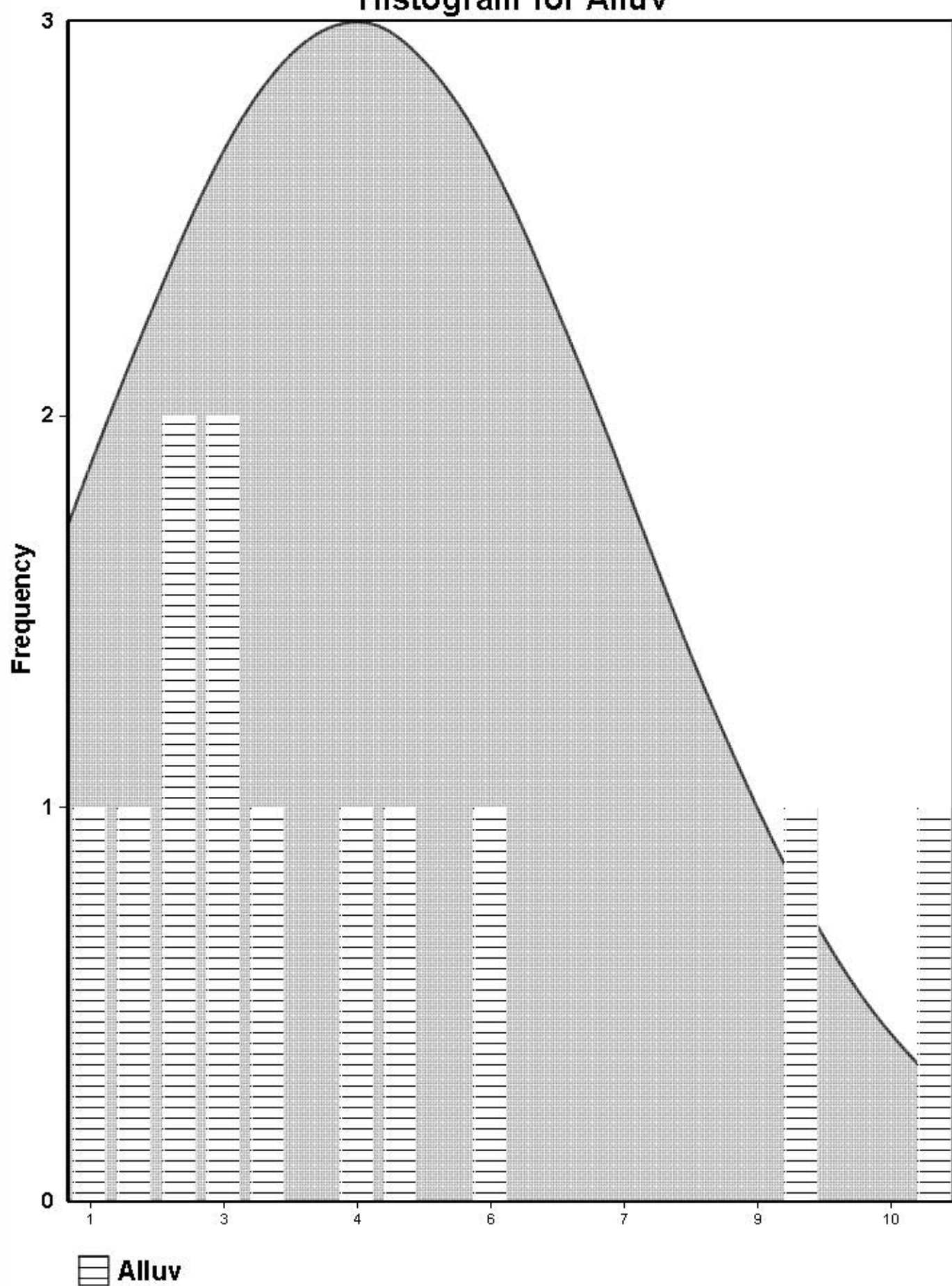
		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Copper.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: MC					
Background Data: Alluv					
Raw Statistics					
	Site	Background			
Number of Valid Observations	39	12			
Number of Distinct Observations	33	12			
Minimum	1.9	1.2			
Maximum	26	11			
Mean	9.121	4.367			
Median	8.3	3.1			
SD	6.442	2.996			
SE of Mean	1.032	0.865			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1124				
WMW Test U-Stat	2.42				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.0155				
Conclusion with Alpha = 0.05					
Reject H0, Conclude Site <> Background					
P-Value < alpha (0.05)					

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Copper.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Alluv										
General Statistics										
Total Number of Observations				12		Number of Distinct Observations				12
Raw Statistics					Log-Transformed Statistics					
			Minimum	1.2					Minimum	0.182
			Maximum	11					Maximum	2.398
			Second Largest	9.3					Second Largest	2.23
			First Quartile	2.575					First Quartile	0.946
			Median	3.1					Median	1.131
			Third Quartile	5.05					Third Quartile	1.616
			Mean	4.367					Mean	1.284
			SD	2.996					SD	0.635
			Coefficient of Variation	0.686						
			Skewness	1.416						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.834					Shapiro Wilk Test Statistic	0.969
			Shapiro Wilk Critical Value	0.859					Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	12.56					95% UTL with 95% Coverage	20.51
			95% UPL (t)	9.966					95% UPL (t)	11.83
			90% Percentile (z)	8.206					90% Percentile (z)	8.147
			95% Percentile (z)	9.294					95% Percentile (z)	10.26
			99% Percentile (z)	11.34					99% Percentile (z)	15.81
Gamma Distribution Test					Data Distribution Test					
			k star	2.149		Data appear Gamma Distributed at 5% Significance Level				
			Theta Star	2.032						
			MLE of Mean	4.367						
			MLE of Standard Deviation	2.979						
			nu star	51.58						
			A-D Test Statistic	0.394		Nonparametric Statistics				
			5% A-D Critical Value	0.74					90% Percentile	8.95
			K-S Test Statistic	0.197					95% Percentile	10.07
			5% K-S Critical Value	0.248					99% Percentile	10.81
Data appear Gamma Distributed at 5% Significance Level										

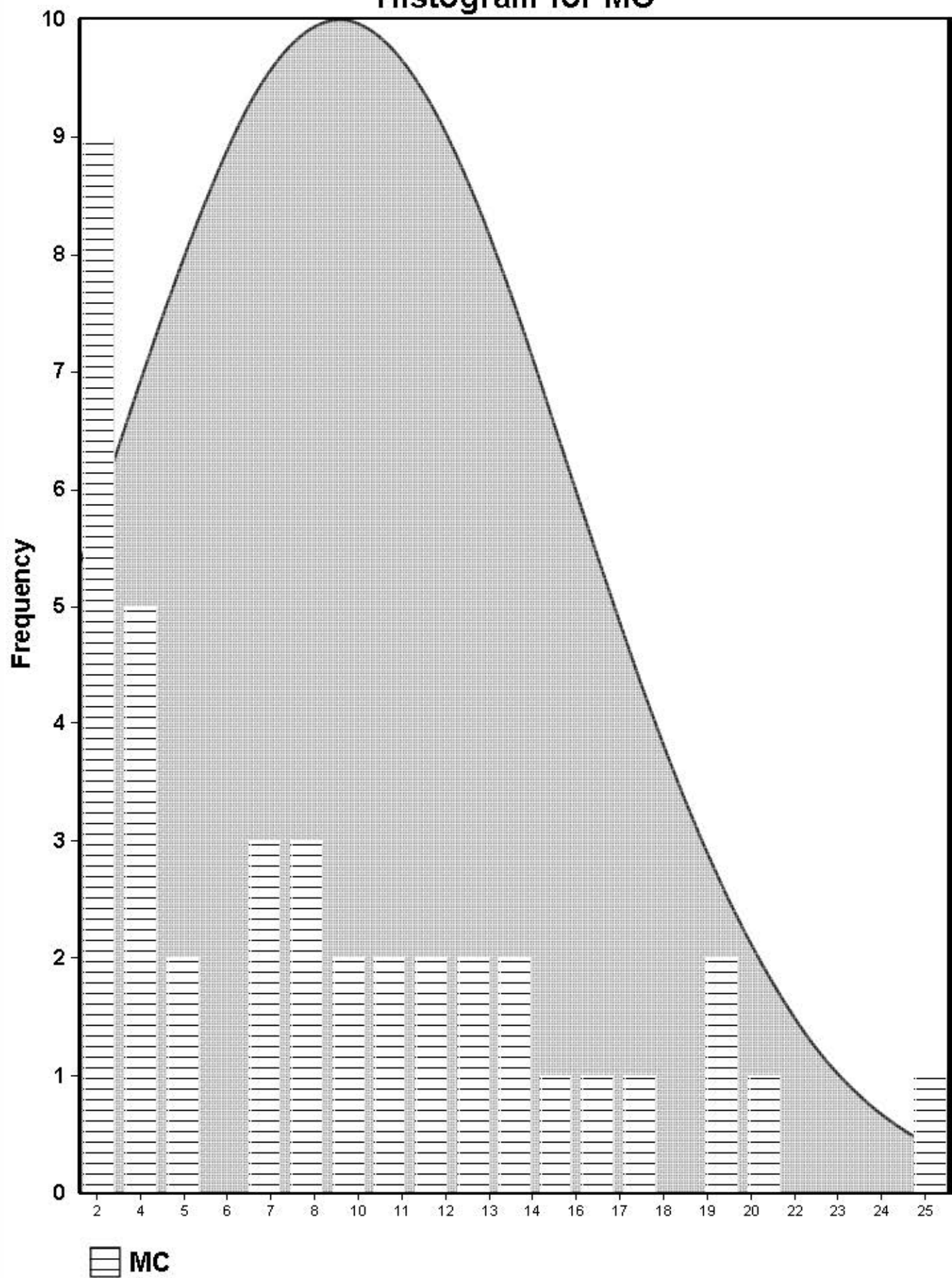
Assuming Gamma Distribution			95% UTL with 95% Coverage	11
90% Percentile	8.351	95% Percentile Bootstrap UTL with 95% Coverage		11
95% Percentile	10.13	95% BCA Bootstrap UTL with 95% Coverage		11
99% Percentile	14.05	95% UPL		11
		95% Chebyshev UPL		17.96
95% WH Approx. Gamma UPL	10.69	Upper Threshold Limit Based upon IQR		8.763
95% HW Approx. Gamma UPL	10.89			
95% WH Approx. Gamma UTL with 95% Coverage	15.59			
95% HW Approx. Gamma UTL with 95% Coverage	16.4			
MC				
General Statistics				
Total Number of Observations	39	Number of Distinct Observations	33	
Raw Statistics		Log-Transformed Statistics		
Minimum	1.9	Minimum	0.642	
Maximum	26	Maximum	3.258	
Second Largest	22	Second Largest	3.091	
First Quartile	3.25	First Quartile	1.179	
Median	8.3	Median	2.116	
Third Quartile	13	Third Quartile	2.565	
Mean	9.121	Mean	1.939	
SD	6.442	SD	0.778	
Coefficient of Variation	0.706			
Skewness	0.809			
Background Statistics				
Normal Distribution Test		Lognormal Distribution Test		
Shapiro Wilk Test Statistic	0.897	Shapiro Wilk Test Statistic	0.927	
Shapiro Wilk Critical Value	0.939	Shapiro Wilk Critical Value	0.939	
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level		
Assuming Normal Distribution		Assuming Lognormal Distribution		
95% UTL with 95% Coverage	22.81	95% UTL with 95% Coverage	36.28	
95% UPL (t)	20.12	95% UPL (t)	26.23	
90% Percentile (z)	17.38	90% Percentile (z)	18.83	
95% Percentile (z)	19.72	95% Percentile (z)	24.98	
99% Percentile (z)	24.11	99% Percentile (z)	42.44	
Gamma Distribution Test		Data Distribution Test		
k star	1.856	Data Follow Appr. Gamma Distribution at 5% Significance Level		
Theta Star	4.915			
MLE of Mean	9.121			
MLE of Standard Deviation	6.696			
nu star	144.7			
A-D Test Statistic	0.816	Nonparametric Statistics		
5% A-D Critical Value	0.759	90% Percentile	18.4	
K-S Test Statistic	0.142	95% Percentile	20.2	
5% K-S Critical Value	0.143	99% Percentile	24.48	

[illegible]

Histogram for Alluv



Histogram for MC



Location	Alluv
BG-1-2	11
BG-1-10	4.2
BG-1-29	5.8
BG-1-40	2.9
BG-2-2	2.5
BG-2-10	1.9
BG-2-19	3.2
BG-2-21	1.2
BG-3-2	3
BG-3-10	9.3
BG-6-2	4.8
BG-6-9	2.6

Location	MC
BG-1-43	12
BG-1-46	3.3
BG-1-55	2.1
BG-1-78	20
BG-1-92	2.7
BG-2-30	16
BG-2-32	2.9
BG-2-75	3
BG-2-81	22
BG-3-17	4.4
BG-3-22	3
BG-3-29	3.5
BG-3-63	4.3
BG-3-65	7.1
BG-3-69	11
BG-3-95	2.5
BG-3-105	7.3
BG-3-131	2.2
BG-3-136	17
BG-4-1	8.3
BG-4-10	11
BG-4-19	20
BG-4-40	14
BG-4-65	3.2
BG-4-79	14
BG-4-82	8.4
BG-4-95	2.6
BG-4-117	1.9
BG-4-120	12
BG-4-161	7
BG-4-163	13
BG-6-28	13
BG-6-53	10
BG-6-58	3.8
BG-6-75	4.6
BG-6-87	26
BG-6-98	8.8
BG-6-114	9.8
BG-1-127	18

Average 9.120512821

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options								
From File		Hex Chrome.wst						
Full Precision		OFF						
Confidence Coefficient		0.95						
All Data								
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs	
Raw Statistics		51	0	51	8	43	84.31%	
		Number	Minimum	Maximum	Mean	Median	SD	
Statistics (Non-Detects Only)		43	2	2.5	2.2	2.2	0.189	
Statistics (Detects Only)		8	0.92	1.8	1.265	1.25	0.279	
Statistics (All: NDs treated as DL value)		51	0.92	2.5	2.053	2	0.399	
Statistics (All: NDs treated as DL/2 value)		51	0.92	1.8	1.126	1.15	0.149	
Statistics (Normal ROS Estimated Data)		51	0.724	1.806	1.265	1.265	0.263	
Statistics (Gamma ROS Estimated Data)		51	0.604	1.8	1.263	1.3	0.251	
Statistics (Lognormal ROS Estimated Data)		51	0.812	1.893	1.265	1.239	0.262	
		K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV	
Statistics (Detects Only)		24.67	23.23	0.0513	0.215	0.214	0.998	
Statistics (NDs = DL)		20.95	19.73	0.098	0.695	0.238	0.342	
Statistics (NDs = DL/2)		66.17	62.29	0.017	0.111	0.121	1.091	
Statistics (Gamma ROS Estimates)		22.53	21.22	0.056	--	--	--	
Statistics (Lognormal ROS Estimates)		--	--	--	0.215	0.205	0.957	
Normal Distribution Test Results								
		No NDs	NDs = DL	NDs = DL/2	Normal ROS			
Correlation Coefficient R		0.969	0.898	0.88	0.996			
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Detects Only)		0.944	0.818	Data Appear Normal				
Lilliefors (Detects Only)		0.189	0.313	Data Appear Normal				
Lilliefors (NDs = DL)		0.29	0.124	Data Not Normal				
Lilliefors (NDs = DL/2)		0.194	0.124	Data Not Normal				
Lilliefors (Normal ROS Estimates)		0.0609	0.124	Data Appear Normal				
Gamma Distribution Test Results								
		No NDs	NDs = DL	NDs = DL/2	Gamma ROS			
Correlation Coefficient R		0.981	0.86	0.899	0.963			
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Anderson-Darling (Detects Only)		0.205	0.716					
Kolmogorov-Smirnov (Detects Only)		0.156	0.294	Data Appear Gamma Distributed				
Anderson-Darling (NDs = DL)		4.584	0.748					
Kolmogorov-Smirnov (NDs = DL)		0.324	0.124	Data Not Gamma Distributed				
Anderson-Darling (NDs = DL/2)		2.58	0.748					
Kolmogorov-Smirnov (NDs = DL/2)		0.209	0.124	Data Not Gamma Distributed				
Anderson-Darling (Gamma ROS Estimates)		1.091	0.748					

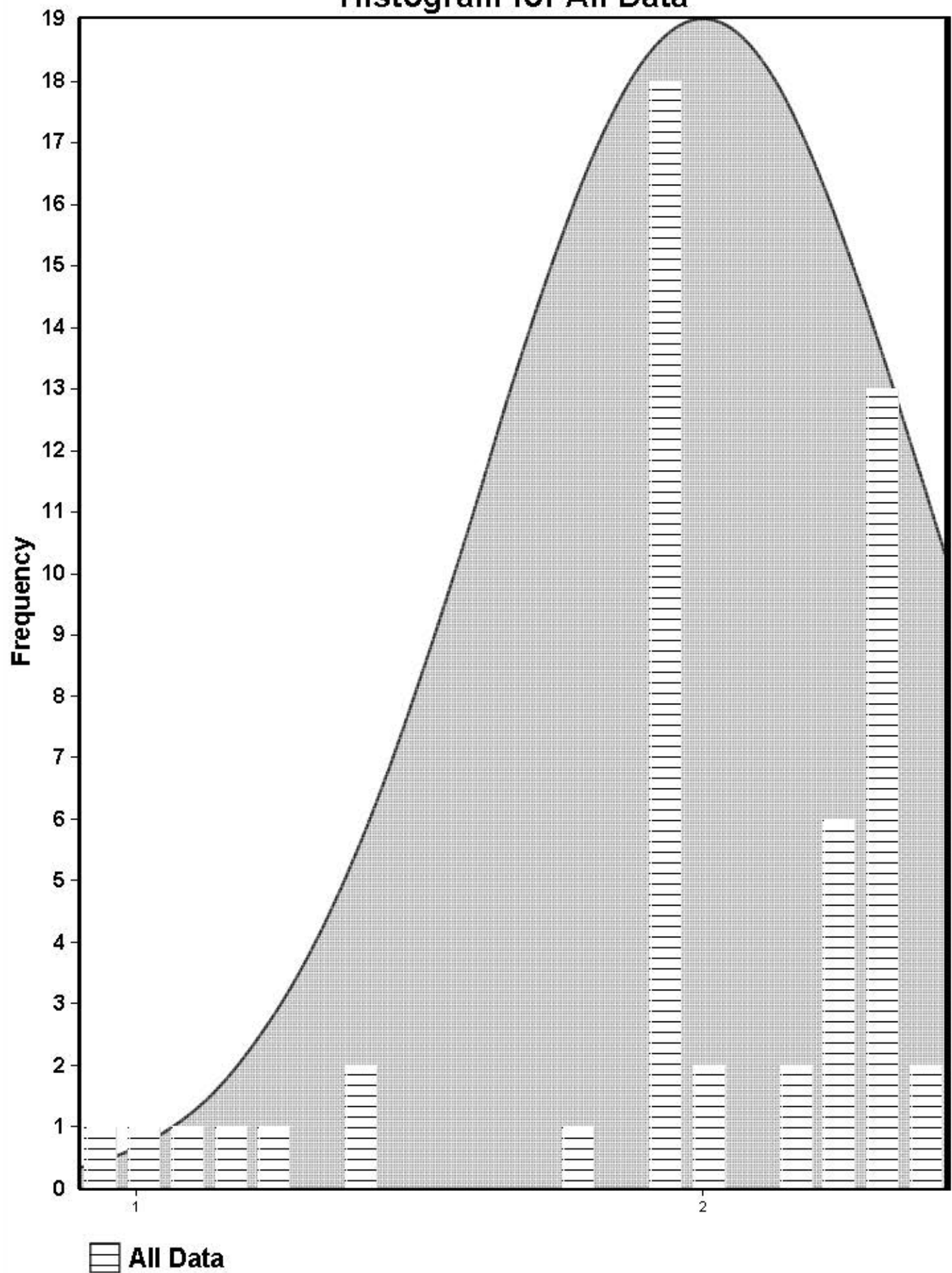
Kolmogorov-Smirnov (Gamma ROS Est.)	0.129	0.124	Data Not Gamma Distributed						
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.986	0.853	0.912	0.996					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.973	0.818	Data Appear Lognormal						
Lilliefors (Detects Only)	0.16	0.313	Data Appear Lognormal						
Lilliefors (NDs = DL)	0.339	0.124	Data Not Lognormal						
Lilliefors (NDs = DL/2)	0.212	0.124	Data Not Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.0612	0.124	Data Appear Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									

		General Background Statistics for Data Sets with Non-Detects									
User Selected Options											
From File		Hex Chrome.wst									
Full Precision		OFF									
Confidence Coefficient		95%									
Coverage		95%									
Different or Future K Values		1									
Number of Bootstrap Operations		2000									
All Data											
General Statistics											
Number of Valid Data		51		Number of Detected Data		8					
Number of Distinct Detected Data		7		Number of Non-Detect Data		43					
				Percent Non-Detects		84.31%					
Raw Statistics				Log-transformed Statistics							
Minimum Detected		0.92		Minimum Detected		-0.0834					
Maximum Detected		1.8		Maximum Detected		0.588					
Mean of Detected		1.265		Mean of Detected		0.215					
SD of Detected		0.279		SD of Detected		0.214					
Minimum Non-Detect		2		Minimum Non-Detect		0.693					
Maximum Non-Detect		2.5		Maximum Non-Detect		0.916					
Data with Multiple Detection Limits				Single Detection Limit Scenario							
Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL		51					
For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL		0					
Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage		100.00%					
Warning: There are only 8 Detected Values in this data											
Note: It should be noted that even though bootstrap may be performed on this data set											
the resulting calculations may not be reliable enough to draw conclusions											
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.											
Background Statistics											
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only							
Shapiro Wilk Test Statistic		0.944		Shapiro Wilk Test Statistic		0.973					
5% Shapiro Wilk Critical Value		0.818		5% Shapiro Wilk Critical Value		0.818					
Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level							
Assuming Normal Distribution				Assuming Lognormal Distribution							
DL/2 Substitution Method				DL/2 Substitution Method							
Mean		1.126		Mean (Log Scale)		0.111					
SD		0.149		SD (Log Scale)		0.121					
95% UTL		95% Coverage		95% UTL		95% Coverage		1.433			
95% UPL (t)		1.377		95% UPL (t)		1.372					
90% Percentile (z)		1.316		90% Percentile (z)		1.305					
95% Percentile (z)		1.37		95% Percentile (z)		1.364					
99% Percentile (z)		1.471		99% Percentile (z)		1.481					

Maximum Likelihood Estimate(MLE) Method		N/A	Log ROS Method	
			Mean in Original Scale	1.265
			SD in Original Scale	0.262
			Mean in Log Scale	0.215
			SD in Log Scale	0.205
			95% UTL 95% Coverage	1.89
			95% UPL (t)	1.754
			90% Percentile (z)	1.613
			95% Percentile (z)	1.737
			99% Percentile (z)	1.998
Gamma Distribution Test with Detected Values Only			Data Distribution Test with Detected Values Only	
k star (bias corrected)	15.5	Data appear Normal at 5% Significance Level		
Theta Star	0.0816			
nu star	248			
A-D Test Statistic	0.205	Nonparametric Statistics		
5% A-D Critical Value	0.716	Kaplan-Meier (KM) Method		
K-S Test Statistic	0.156		Mean	1.265
5% K-S Critical Value	0.294		SD	0.261
Data appear Gamma Distributed at 5% Significance Level			SE of Mean	0.0986
		95% KM UTL with	95% Coverage	1.801
Assuming Gamma Distribution		95% KM Chebyshev UPL		
Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)		
Mean	1.263	90% Percentile (z)		
Median	1.3	95% Percentile (z)		
SD	0.251	99% Percentile (z)		
k star	21.22			
Theta star	0.0595	Gamma ROS Limits with Extrapolated Data		
Nu star	2164	95% Wilson Hilferty (WH) Approx. Gamma UPL		1.751
95% Percentile of Chisquare (2k)	58.64	95% Hawkins Wixley (HW) Approx. Gamma UPL		1.762
		95% WH Approx. Gamma UTL with	95% Coverage	1.875
90% Percentile	1.624	95% HW Approx. Gamma UTL with	95% Coverage	1.891
95% Percentile	1.745			
99% Percentile	1.986			
Note: DL/2 is not a recommended method.				

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Hex Chrome.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Rosner's Outlier Test for All Data							
Mean		1.126					
Standard Deviation		0.149					
Number of data		51					
Number of suspected outliers		1					
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	1.126	0.147	1.8	23	4.583	3.137	3.488
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 1.8 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 1.8 is a Potential Statistical Outlier							

Chromium (Hexavalent)
Histogram for All Data



Location	All Data	D_All Data
BG-1-2	2	0
BG-4-2	2.1	0
BG-4-19	2.4	0
BG-1-10	1.1	1
BG-2-2	2	0
BG-2-10	2	0
BG-2-19	2	0
BG-3-2	1.3	1
BG-3-10	1.4	1
BG-4-10	2.2	0
BG-6-2	2	0
BG-6-9	2	0
BG-3-17	2.1	0
BG-1-29	0.92	1
BG-1-40	2	0
BG-1-46	2	0
BG-1-92	1.4	1
BG-2-21	2	0
BG-2-32	2	0
BG-2-75	2	0
BG-3-29	2	0
BG-3-63	2.5	0
BG-3-65	1.8	1
BG-3-95	2.3	0
BG-3-105	2.4	0
BG-3-131	2.2	0
BG-3-136	1	1
BG-4-65	2	0
BG-4-82	2.4	0
BG-4-95	2.4	0
BG-4-117	2.4	0
BG-4-120	2.4	0
BG-6-58	2.4	0
BG-6-75	2.4	0
BG-6-98	2.4	0
BG-6-114	2.4	0
BG-6-127	2.4	0
BG-1-43	2	0
BG-1-55	2	0
BG-1-78	2	0
BG-2-30	2	0
BG-2-81	2	0
BG-3-22	1.2	1
BG-3-69	2.3	0
BG-4-40	2.3	0
BG-4-79	2.3	0
BG-4-161	2.4	0
BG-4-163	2.3	0
BG-6-28	2.3	0
BG-6-53	2.4	0
BG-6-87	2.5	0

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File	Hex Chrome.wst								
Full Precision	OFF								
Confidence Coefficient	0.95								
0-20									

Anderson-Darling (NDs = DL/2)		1.282	0.732						
Kolmogorov-Smirnov (NDs = DL/2)		0.241	0.236	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		3.147	1.063						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.492	0.285	Data Not Gamma Distributed					
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.976	0.87	0.883	0.994					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.953	0.767	Data Appear Lognormal						
Lilliefors (Detects Only)	0.266	0.512	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL)	0.765	0.866	Data Not Lognormal						
Lilliefors (NDs = DL)	0.401	0.246	Data Not Lognormal						
Shapiro-Wilks (NDs = DL/2)	0.773	0.866	Data Not Lognormal						
Lilliefors (NDs = DL/2)	0.233	0.246	Data Appear Lognormal						
Shapiro-Wilks (Lognormal ROS Estimates)	0.986	0.866	Data Appear Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.115	0.246	Data Appear Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									
>20									
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs			
Raw Statistics	38	0	38	5	33	86.84%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	33	2	2.5	2.236	2.3	0.19			
Statistics (Detects Only)	5	0.92	1.8	1.264	1.2	0.353			
Statistics (All: NDs treated as DL value)	38	0.92	2.5	2.108	2.3	0.395			
Statistics (All: NDs treated as DL/2 value)	38	0.92	1.8	1.137	1.15	0.154			
Statistics (Normal ROS Estimated Data)	38	0.613	1.915	1.264	1.242	0.349			
Statistics (Gamma ROS Estimated Data)	38	0.508	1.8	1.252	1.295	0.331			
Statistics (Lognormal ROS Estimated Data)	38	0.741	2.033	1.271	1.214	0.346			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	17.03	15.71	0.0742	0.205	0.269	1.315			
Statistics (NDs = DL)	21.74	20.04	0.097	0.723	0.237	0.328			
Statistics (NDs = DL/2)	63.49	58.5	0.0179	0.121	0.124	1.026			
Statistics (Gamma ROS Estimates)	12.1	11.16	0.103	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	0.205	0.27	1.32			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.968	0.872	0.859	0.994					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.932	0.762	Data Appear Normal						
Lilliefors (Detects Only)	0.173	0.396	Data Appear Normal						
Shapiro-Wilks (NDs = DL)	0.76	0.938	Data Not Normal						
Lilliefors (NDs = DL)	0.26	0.144	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.766	0.938	Data Not Normal						

	Lilliefors (NDs = DL/2)	0.237	0.144	Data Not Normal		
	Shapiro-Wilks (Normal ROS Estimates)	0.972	0.938	Data Appear Normal		
	Lilliefors (Normal ROS Estimates)	0.067	0.144	Data Appear Normal		
	Gamma Distribution Test Results					
		No NDs	NDs = DL	NDs = DL/2	Gamma ROS	
	Correlation Coefficient R	0.988	0.831	0.876	0.955	
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)		
	Anderson-Darling (Detects Only)	0.243	0.679			
	Kolmogorov-Smirnov (Detects Only)	0.202	0.357	Data Appear Gamma Distributed		
	Anderson-Darling (NDs = DL)	3.936	0.747			
	Kolmogorov-Smirnov (NDs = DL)	0.3	0.143	Data Not Gamma Distributed		
	Anderson-Darling (NDs = DL/2)	2.363	0.746			
	Kolmogorov-Smirnov (NDs = DL/2)	0.213	0.143	Data Not Gamma Distributed		
	Anderson-Darling (Gamma ROS Estimates)	0.883	0.748			
	Kolmogorov-Smirnov (Gamma ROS Est.)	0.122	0.143	Data appear Approximate Gamma Distribution		
	Lognormal Distribution Test Results					
		No NDs	NDs = DL	NDs = DL/2	Log ROS	
	Correlation Coefficient R	0.985	0.819	0.896	0.994	
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)		
	Shapiro-Wilks (Detects Only)	0.96	0.762	Data Appear Lognormal		
	Lilliefors (Detects Only)	0.177	0.396	Data Appear Lognormal		
	Shapiro-Wilks (NDs = DL)	0.678	0.938	Data Not Lognormal		
	Lilliefors (NDs = DL)	0.319	0.144	Data Not Lognormal		
	Shapiro-Wilks (NDs = DL/2)	0.825	0.938	Data Not Lognormal		
	Lilliefors (NDs = DL/2)	0.205	0.144	Data Not Lognormal		
	Shapiro-Wilks (Lognormal ROS Estimates)	0.972	0.938	Data Appear Lognormal		
	Lilliefors (Lognormal ROS Estimates)	0.0674	0.144	Data Appear Lognormal		
	Note: Substitution methods such as DL or DL/2 are not recommended.					

General Background Statistics for Data Sets with Non-Detects									
User Selected Options									
From File	Hex Chrome.wst								
Full Precision	OFF								
Confidence Coefficient	95%								
Coverage	95%								
Different or Future K Values	1								
Number of Bootstrap Operations	2000								
0-20									
General Statistics									
Number of Valid Data		13		Number of Detected Data		3			
Number of Distinct Detected Data		3		Number of Non-Detect Data		10			
				Percent Non-Detects		76.92%			
Raw Statistics				Log-transformed Statistics					
Minimum Detected		1.1		Minimum Detected		0.0953			
Maximum Detected		1.4		Maximum Detected		0.336			
Mean of Detected		1.267		Mean of Detected		0.231			
SD of Detected		0.153		SD of Detected		0.124			
Minimum Non-Detect		2		Minimum Non-Detect		0.693			
Maximum Non-Detect		2.4		Maximum Non-Detect		0.875			
Data with Multiple Detection Limits				Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL		13			
For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL		0			
Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage		100.00%			
Warning: There are only 3 Distinct Detected Values in this data set									
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.									
Those methods will return a 'N/A' value on your output display!									
It is necessary to have 4 or more Distinct Values for bootstrap methods.									
However, results obtained using 4 to 9 distinct values may not be reliable.									
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.									
Background Statistics									
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic		0.964		Shapiro Wilk Test Statistic		0.953			
5% Shapiro Wilk Critical Value		0.767		5% Shapiro Wilk Critical Value		0.767			
Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
DL/2 Substitution Method				DL/2 Substitution Method					
Mean		1.092		Mean (Log Scale)		0.0823			
SD		0.13		SD (Log Scale)		0.112			
95% UTL	95% Coverage	1.441		95% UTL	95% Coverage	1.464			
95% UPL (t)		1.334		95% UPL (t)		1.335			
90% Percentile (z)		1.259		90% Percentile (z)		1.253			
95% Percentile (z)		1.307		95% Percentile (z)		1.305			

99% Percentile (z)			1.396	99% Percentile (z)			1.409		
Maximum Likelihood Estimate(MLE) Method			N/A	Log ROS Method					
				Mean in Original Scale			1.267		
				SD in Original Scale			0.135		
				Mean in Log Scale			0.231		
				SD in Log Scale			0.107		
				95% UTL 95% Coverage			1.678		
				95% UPL (t)			1.537		
				90% Percentile (z)			1.446		
				95% Percentile (z)			1.503		
				99% Percentile (z)			1.617		
Gamma Distribution Test with Detected Values Only				Data Distribution Test with Detected Values Only					
k star (bias corrected)		N/A	Data appear Normal at 5% Significance Level						
Theta Star		N/A							
nu star		N/A							
A-D Test Statistic		N/A	Nonparametric Statistics						
5% A-D Critical Value		N/A	Kaplan-Meier (KM) Method						
K-S Test Statistic		N/A					Mean	1.267	
5% K-S Critical Value		N/A					SD	0.125	
Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.0882	
			95% KM UTL with 95% Coverage				1.6		
Assuming Gamma Distribution			95% KM Chebyshev UPL				1.831		
Gamma ROS Statistics with Extrapolated Data			95% KM UPL (t)				1.497		
Mean		N/A	90% Percentile (z)				1.427		
Median		N/A	95% Percentile (z)				1.472		
SD		N/A	99% Percentile (z)				1.557		
k star		N/A							
Theta star		N/A	Gamma ROS Limits with Extrapolated Data						
Nu star		N/A	95% Wilson Hilferty (WH) Approx. Gamma UPL				N/A		
95% Percentile of Chisquare (2k)		N/A	95% Hawkins Wixley (HW) Approx. Gamma UPL				N/A		
			95% WH Approx. Gamma UTL with 95% Coverage				N/A		
90% Percentile		N/A	95% HW Approx. Gamma UTL with 95% Coverage				N/A		
95% Percentile		N/A							
99% Percentile		N/A							
Note: DL/2 is not a recommended method.									
>20									
General Statistics									
Number of Valid Data		38	Number of Detected Data				5		
Number of Distinct Detected Data		5	Number of Non-Detect Data				33		
			Percent Non-Detects				86.84%		
Raw Statistics			Log-transformed Statistics						
Minimum Detected		0.92	Minimum Detected				-0.0834		
Maximum Detected		1.8	Maximum Detected				0.588		
Mean of Detected		1.264	Mean of Detected				0.205		
SD of Detected		0.353	SD of Detected				0.269		

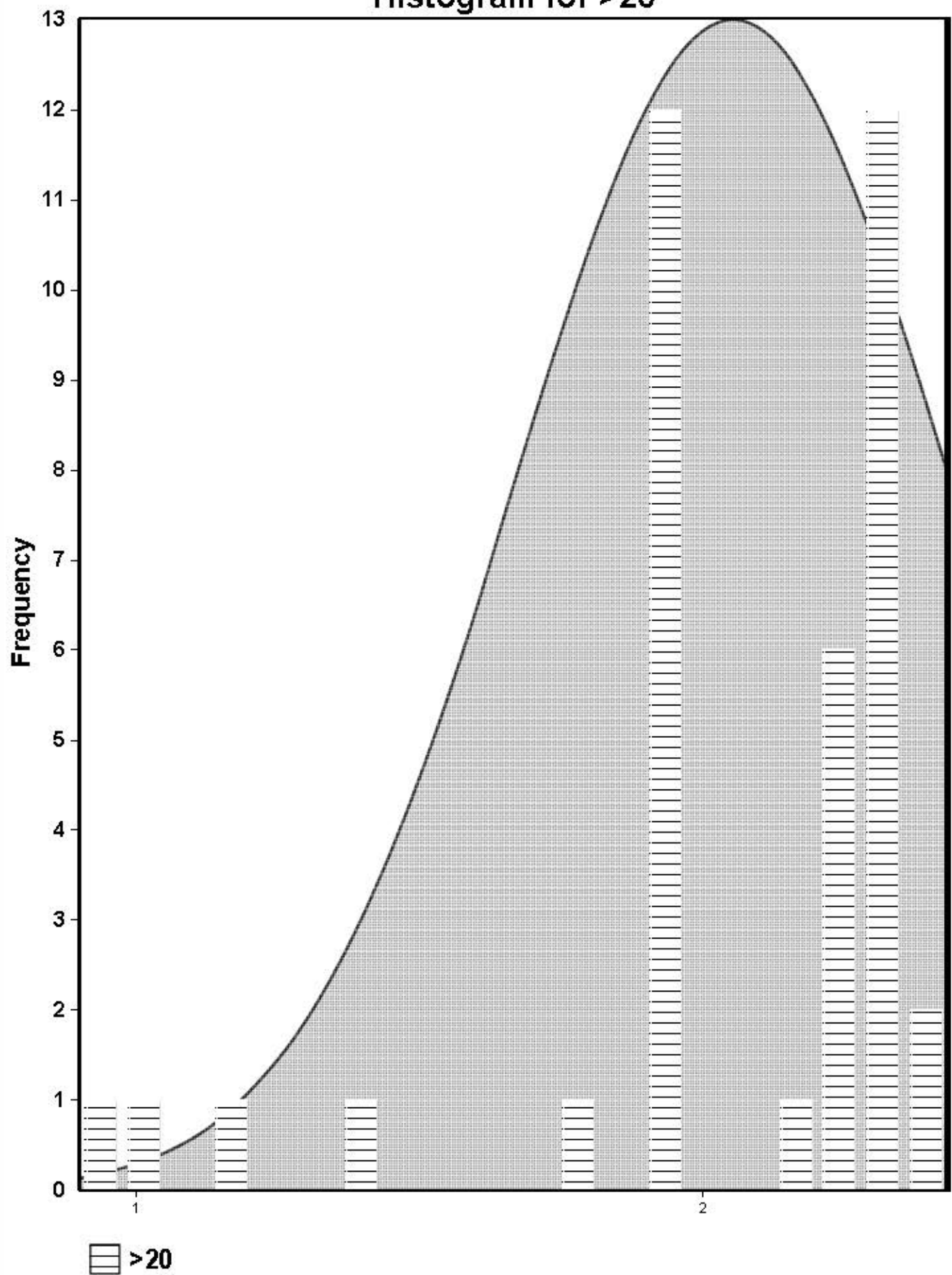
				Minimum Non-Detect	2					Minimum Non-Detect	0.693
				Maximum Non-Detect	2.5					Maximum Non-Detect	0.916
Data with Multiple Detection Limits					Single Detection Limit Scenario						
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL					38	
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL					0	
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage					100.00%	
Warning: There are only 5 Detected Values in this data											
Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions											
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.											
Background Statistics											
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only						
Shapiro Wilk Test Statistic				0.932	Shapiro Wilk Test Statistic				0.96		
5% Shapiro Wilk Critical Value				0.762	5% Shapiro Wilk Critical Value				0.762		
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level						
Assuming Normal Distribution					Assuming Lognormal Distribution						
DL/2 Substitution Method					DL/2 Substitution Method						
Mean				1.137	Mean (Log Scale)				0.121		
SD				0.154	SD (Log Scale)				0.124		
95% UTL 95% Coverage				1.466	95% UTL 95% Coverage				1.47		
95% UPL (t)				1.401	95% UPL (t)				1.395		
90% Percentile (z)				1.335	90% Percentile (z)				1.323		
95% Percentile (z)				1.391	95% Percentile (z)				1.384		
99% Percentile (z)				1.496	99% Percentile (z)				1.506		
Maximum Likelihood Estimate(MLE) Method				N/A	Log ROS Method						
					Mean in Original Scale				1.271		
					SD in Original Scale				0.346		
					Mean in Log Scale				0.205		
					SD in Log Scale				0.27		
					95% UTL 95% Coverage				2.182		
					95% UPL (t)				1.947		
					90% Percentile (z)				1.735		
					95% Percentile (z)				1.913		
					99% Percentile (z)				2.3		
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only						
k star (bias corrected)				6.947	Data appear Normal at 5% Significance Level						
Theta Star				0.182							
nu star				69.47							
A-D Test Statistic				0.243	Nonparametric Statistics						
5% A-D Critical Value				0.679	Kaplan-Meier (KM) Method						
K-S Test Statistic				0.202	Mean				1.264		
5% K-S Critical Value				0.357	SD				0.316		
Data appear Gamma Distributed at 5% Significance Level					SE of Mean				0.158		
					95% KM UTL with 95% Coverage				1.937		

Note: DL/2 is not a recommended method.

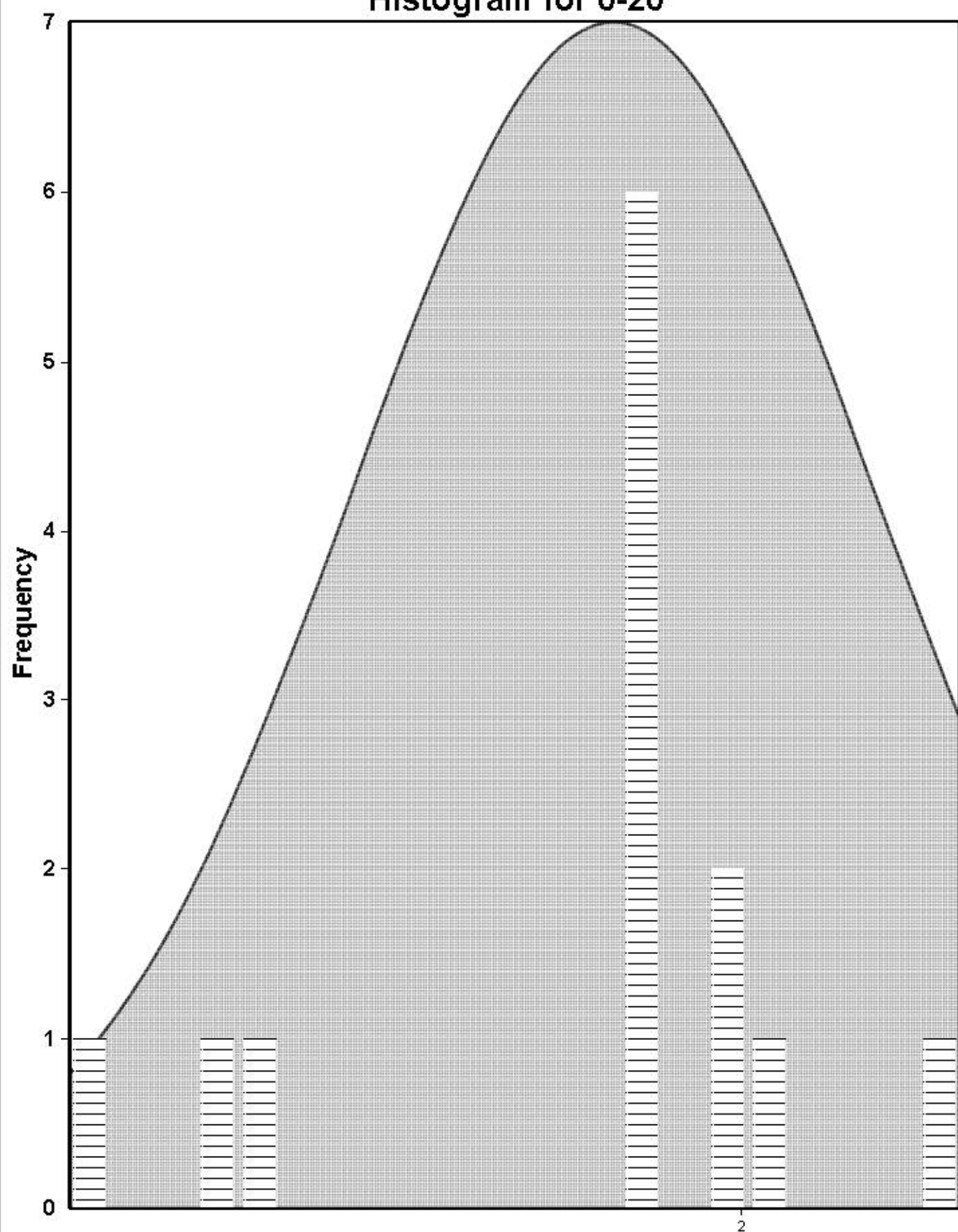
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Hex Chrome.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for 0-20								
Number of data = 13								
10% critical value: 0.467								
5% critical value: 0.521								
1% critical value: 0.615								
1. Data Value 1.4 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.500								
For 10% significance level, 1.4 is an outlier.								
For 5% significance level, 1.4 is not an outlier.								
For 1% significance level, 1.4 is not an outlier.								
2. Data Value 1 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.000								
For 10% significance level, 1 is not an outlier.								
For 5% significance level, 1 is not an outlier.								
For 1% significance level, 1 is not an outlier.								
Rosner's Outlier Test for >20								
Mean			1.137					
Standard Deviation			0.154					
Number of data			38					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	1.137	0.152	1.8	10	4.356	3.01	3.36	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.8 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.8 is a Potential Statistical Outlier								

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects									
User Selected Options									
From File		Hex Chrome.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Substantial Difference		0.000							
Selected Null Hypothesis		Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)							
Alternative Hypothesis		Site or AOC Mean/Median Not Equal to Background Mean/Median							
Area of Concern Data: >20									
Background Data: 0-20									
Raw Statistics									
		Site	Background						
Number of Valid Data		38	13						
Number of Non-Detect Data		33	10						
Number of Detect Data		5	3						
Minimum Non-Detect		2	2						
Maximum Non-Detect		2.5	2.4						
Percent Non detects		86.84%	76.92%						
Minimum Detected		0.92	1.1						
Maximum Detected		1.8	1.4						
Mean of Detected Data		1.264	1.267						
Median of Detected Data		1.2	1.3						
SD of Detected Data		0.353	0.153						
Site vs Background Gehan Test									
H0: Mu of Site or AOC = Mu of background									
Gehan z Test Value		-0.526							
Lower Critical z (0.025)		-1.96							
Upper Critical z (0.975)		1.96							
P-Value		0.599							
Conclusion with Alpha = 0.05									
Do Not Reject H0, Conclude Site = Background									
P-Value >= alpha (0.05)									

Histogram for >20



Histogram for 0-20



0-20

Location	0-20	D_0-20
BG-1-2	2	0
BG-4-2	2.1	0
BG-4-19	2.4	0
BG-1-10	1.1	1
BG-2-2	2	0
BG-2-10	2	0
BG-2-19	2	0
BG-3-2	1.3	1
BG-3-10	1.4	1
BG-4-10	2.2	0
BG-6-2	2	0
BG-6-9	2	0
BG-3-17	2.1	0

Location	>20	D_>20
BG-1-29	0.92	1
BG-1-40	2	0
BG-1-46	2	0
BG-1-92	1.4	1
BG-2-21	2	0
BG-2-32	2	0
BG-2-75	2	0
BG-3-29	2	0
BG-3-63	2.5	0
BG-3-65	1.8	1
BG-3-95	2.3	0
BG-3-105	2.4	0
BG-3-131	2.2	0
BG-3-136	1	1
BG-4-65	2	0
BG-4-82	2.4	0
BG-4-95	2.4	0
BG-4-117	2.4	0
BG-4-120	2.4	0
BG-6-58	2.4	0
BG-6-75	2.4	0
BG-6-98	2.4	0
BG-6-114	2.4	0
BG-6-127	2.4	0
BG-1-43	2	0
BG-1-55	2	0
BG-1-78	2	0
BG-2-30	2	0
BG-2-81	2	0
BG-3-22	1.2	1
BG-3-69	2.3	0
BG-4-40	2.3	0
BG-4-79	2.3	0
BG-4-161	2.4	0
BG-4-163	2.3	0
BG-6-28	2.3	0
BG-6-53	2.4	0
BG-6-87	2.5	0

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File		Hex Chrome.wst							
Full Precision		OFF							
Confidence Coefficient		0.95							
Clay									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics		18	0	18	1	17	94.44%		
Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set! suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, B)									
The data set for variable Clay was not processed!									
Non-Clay									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics		33	0	33	7	26	78.79%		
		Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)		26	2	2.5	2.2	2.2	0.198		
Statistics (Detects Only)		7	0.92	1.8	1.274	1.3	0.3		
Statistics (All: NDs treated as DL value)		33	0.92	2.5	2.004	2	0.442		
Statistics (All: NDs treated as DL/2 value)		33	0.92	1.8	1.137	1.1	0.173		
Statistics (Normal ROS Estimated Data)		33	0.752	1.8	1.274	1.274	0.279		
Statistics (Gamma ROS Estimated Data)		33	0.658	1.8	1.273	1.327	0.269		
Statistics (Lognormal ROS Estimated Data)		33	0.828	1.873	1.274	1.245	0.278		
		K Hat	K Star	Theta Hat	Log Mean	Log Stdev	Log CV		
Statistics (Detects Only)		21.81	19.85	0.0584	0.219	0.231	1.053		
Statistics (NDs = DL)		16.66	15.17	0.12	0.665	0.267	0.402		
Statistics (NDs = DL/2)		51.04	46.42	0.0223	0.119	0.138	1.168		
Statistics (Gamma ROS Estimates)		20.43	18.59	0.0623	--	--	--		
Statistics (Lognormal ROS Estimates)		--	--	--	0.219	0.217	0.99		
Normal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R		0.968	0.909	0.882	0.994				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)		0.939	0.803	Data Appear Normal					
Lilliefors (Detects Only)		0.195	0.335	Data Appear Normal					
Shapiro-Wilks (NDs = DL)		0.818	0.931	Data Not Normal					
Lilliefors (NDs = DL)		0.285	0.154	Data Not Normal					
Shapiro-Wilks (NDs = DL/2)		0.797	0.931	Data Not Normal					
Lilliefors (NDs = DL/2)		0.211	0.154	Data Not Normal					
Shapiro-Wilks (Normal ROS Estimates)		0.974	0.931	Data Appear Normal					

Note: Substitution methods such as DL or DL/2 are not recommended.

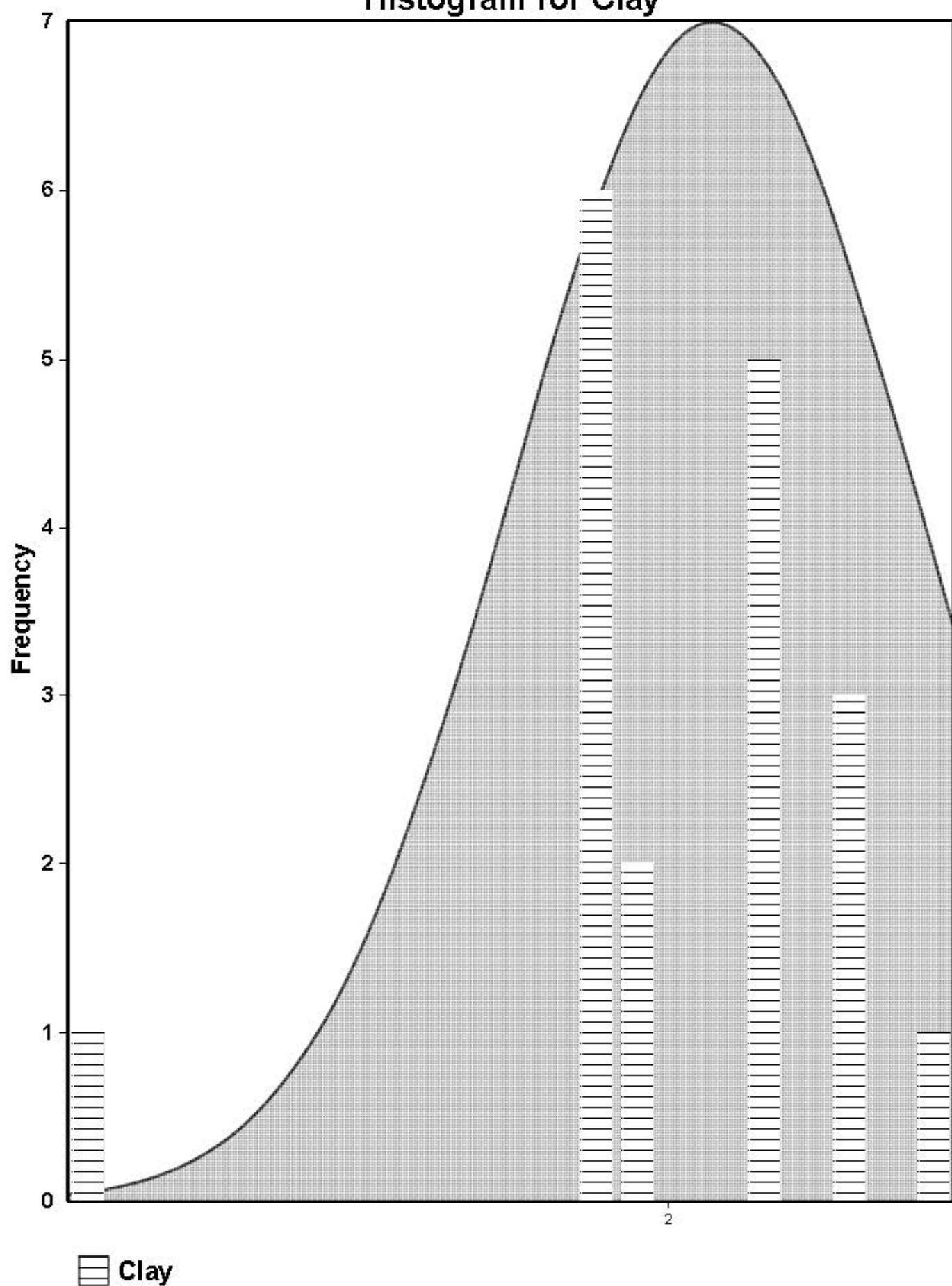
		General Background Statistics for Data Sets with Non-Detects							
User Selected Options									
From File		Hex Chrome.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
Clay									
General Statistics									
Number of Valid Data		18		Number of Detected Data		1			
Number of Distinct Detected Data		1		Number of Non-Detect Data		17			
Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!									
suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, B									
The data set for variable Clay was not processed!									
Non-Clay									
General Statistics									
Number of Valid Data		33		Number of Detected Data		7			
Number of Distinct Detected Data		6		Number of Non-Detect Data		26			
				Percent Non-Detects		78.79%			
Raw Statistics				Log-transformed Statistics					
Minimum Detected		0.92		Minimum Detected		-0.0834			
Maximum Detected		1.8		Maximum Detected		0.588			
Mean of Detected		1.274		Mean of Detected		0.219			
SD of Detected		0.3		SD of Detected		0.231			
Minimum Non-Detect		2		Minimum Non-Detect		0.693			
Maximum Non-Detect		2.5		Maximum Non-Detect		0.916			
Data with Multiple Detection Limits				Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL		33			
For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL		0			
Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage		100.00%			
Warning: There are only 7 Detected Values in this data									
Note: It should be noted that even though bootstrap may be performed on this data set									
the resulting calculations may not be reliable enough to draw conclusions									
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.									
Background Statistics									
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic		0.939		Shapiro Wilk Test Statistic		0.959			

5% Shapiro Wilk Critical Value				0.803		5% Shapiro Wilk Critical Value				0.803	
Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution						Assuming Lognormal Distribution					
DL/2 Substitution Method						DL/2 Substitution Method					
Mean				1.137		Mean (Log Scale)				0.119	
SD				0.173		SD (Log Scale)				0.138	
95% UTL		95% Coverage		1.512		95% UTL		95% Coverage		1.522	
95% UPL (t)				1.434		95% UPL (t)				1.428	
90% Percentile (z)				1.358		90% Percentile (z)				1.344	
95% Percentile (z)				1.421		95% Percentile (z)				1.414	
99% Percentile (z)				1.538		99% Percentile (z)				1.554	
Maximum Likelihood Estimate(MLE) Method				N/A		Log ROS Method					
						Mean in Original Scale				1.274	
						SD in Original Scale				0.278	
						Mean in Log Scale				0.219	
						SD in Log Scale				0.217	
						95% UTL		95% Coverage		1.997	
						95% UPL (t)				1.809	
						90% Percentile (z)				1.645	
						95% Percentile (z)				1.78	
						99% Percentile (z)				2.064	
Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
k star (bias corrected)				12.56		Data appear Normal at 5% Significance Level					
Theta Star				0.101							
nu star				175.8							
A-D Test Statistic				0.256		Nonparametric Statistics					
5% A-D Critical Value				0.707		Kaplan-Meier (KM) Method					
K-S Test Statistic				0.16		Mean				1.274	
5% K-S Critical Value				0.311		SD				0.278	
Data appear Gamma Distributed at 5% Significance Level						SE of Mean				0.113	
						95% KM UTL with		95% Coverage		1.879	
Assuming Gamma Distribution						95% KM Chebyshev UPL				2.503	
Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)				1.752	
Mean				1.273		90% Percentile (z)				1.63	
Median				1.327		95% Percentile (z)				1.731	
SD				0.269		99% Percentile (z)				1.92	
k star				18.59							
Theta star				0.0685		Gamma ROS Limits with Extrapolated Data					
Nu star				1227		95% Wilson Hilferty (WH) Approx. Gamma UPL				1.805	
95% Percentile of Chisquare (2k)				52.41		95% Hawkins Wixley (HW) Approx. Gamma UPL				1.817	
						95% WH Approx. Gamma UTL with		95% Coverage		1.975	
90% Percentile				1.663		95% HW Approx. Gamma UTL with		95% Coverage		1.995	
95% Percentile				1.795							
99% Percentile				2.059							
Note: DL/2 is not a recommended method.											

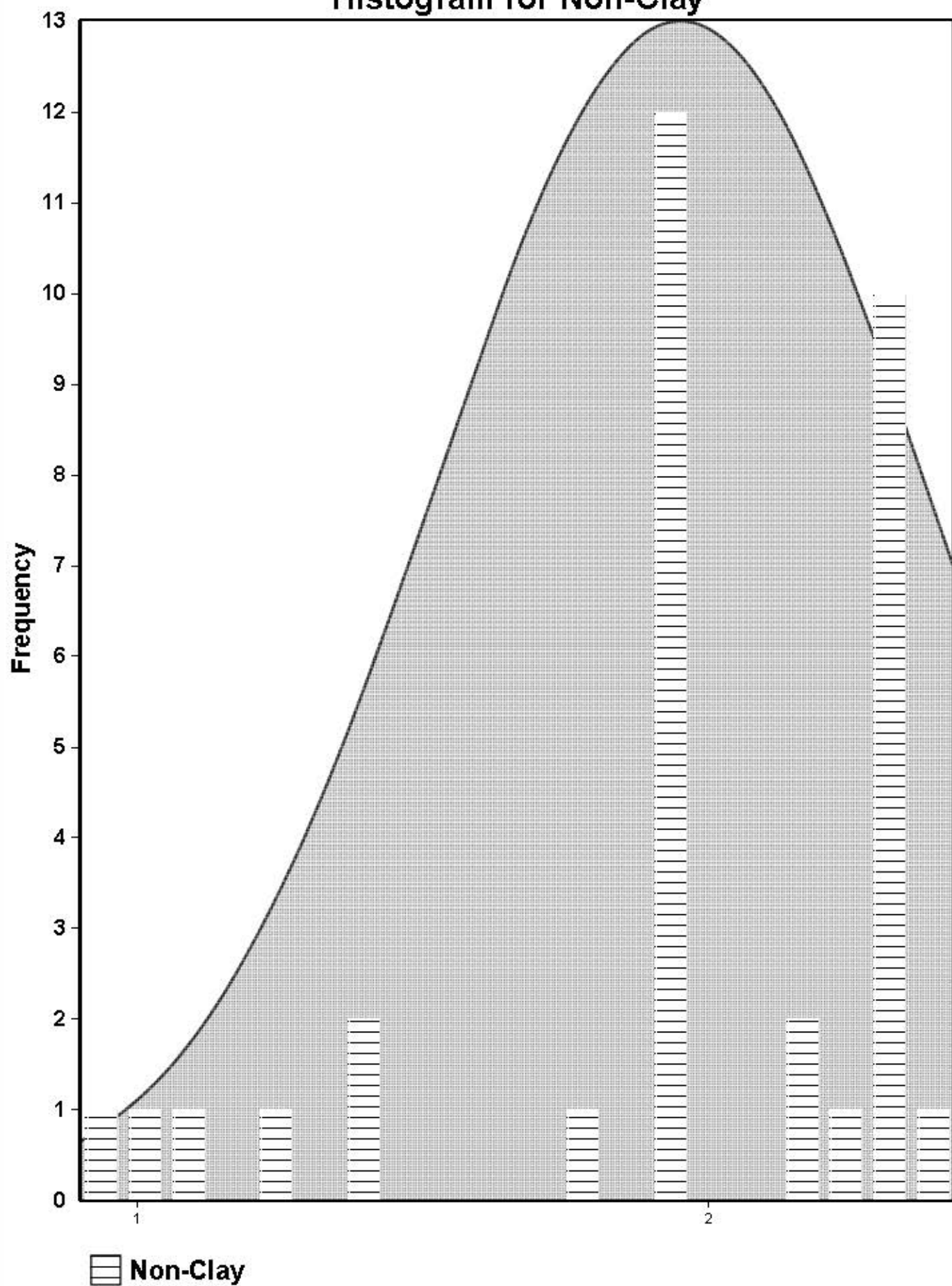
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Hex Chrome.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for Clay								
Number of data = 18								
10% critical value: 0.424								
5% critical value: 0.475								
1% critical value: 0.561								
1. Data Value 1.25 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.200								
For 10% significance level, 1.25 is not an outlier.								
For 5% significance level, 1.25 is not an outlier.								
For 1% significance level, 1.25 is not an outlier.								
2. Data Value 1 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.000								
For 10% significance level, 1 is not an outlier.								
For 5% significance level, 1 is not an outlier.								
For 1% significance level, 1 is not an outlier.								
Rosner's Outlier Test for Non-Clay								
Mean			1.137					
Standard Deviation			0.173					
Number of data			33					
Number of suspected outliers			1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	1.137	0.17	1.8	16	3.903	2.95	3.29	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.8 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.8 is a Potential Statistical Outlier								

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects									
User Selected Options									
From File		Hex Chrome.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Substantial Difference		0.000							
Selected Null Hypothesis		Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)							
Alternative Hypothesis		Site or AOC Mean/Median Not Equal to Background Mean/Median							
Area of Concern Data: Non-Clay									
Background Data: Clay									
Raw Statistics									
		Site	Background						
Number of Valid Data		33	18						
Number of Non-Detect Data		26	17						
Number of Detect Data		7	1						
Minimum Non-Detect		2	2						
Maximum Non-Detect		2.5	2.5						
Percent Non detects		78.79%	94.44%						
Minimum Detected		0.92	1.2						
Maximum Detected		1.8	1.2						
Mean of Detected Data		1.274	1.2						
Median of Detected Data		1.3	1.2						
SD of Detected Data		0.3	N/A						
Site vs Background Gehan Test									
H0: Mu of Site or AOC = Mu of background									
Gehan z Test Value		0.16							
Lower Critical z (0.025)		-1.96							
Upper Critical z (0.975)		1.96							
P-Value		0.873							
Conclusion with Alpha = 0.05									
Do Not Reject H0, Conclude Site = Background									
P-Value >= alpha (0.05)									

Histogram for Clay



Histogram for Non-Clay



Location	Clay	D_Clay
BG-1-2	2	0
BG-1-43	2	0
BG-1-55	2	0
BG-1-78	2	0
BG-2-30	2	0
BG-2-81	2	0
BG-3-17	2.1	0
BG-3-22	1.2	1
BG-3-69	2.3	0
BG-4-2	2.1	0
BG-4-19	2.4	0
BG-4-40	2.3	0
BG-4-79	2.3	0
BG-4-161	2.4	0
BG-4-163	2.3	0
BG-6-28	2.3	0
BG-6-53	2.4	0
BG-6-87	2.5	0

Location	Non-Clay	D_Non-Clay
BG-1-10	1.1	1
BG-1-29	0.92	1
BG-1-40	2	0
BG-1-46	2	0
BG-1-92	1.4	1
BG-2-2	2	0
BG-2-10	2	0
BG-2-19	2	0
BG-2-21	2	0
BG-2-32	2	0
BG-2-75	2	0
BG-3-2	1.3	1
BG-3-10	1.4	1
BG-3-29	2	0
BG-3-63	2.5	0
BG-3-65	1.8	1
BG-3-95	2.3	0
BG-3-105	2.4	0
BG-3-131	2.2	0
BG-3-136	1	1
BG-4-10	2.2	0
BG-4-65	2	0
BG-4-82	2.4	0
BG-4-95	2.4	0
BG-4-117	2.4	0
BG-4-120	2.4	0
BG-6-2	2	0
BG-6-9	2	0
BG-6-58	2.4	0
BG-6-75	2.4	0
BG-6-98	2.4	0
BG-6-114	2.4	0
BG-6-127	2.4	0

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options						
From File	Hex Chrome.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
Alluv						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	12	0	12	4	8	66.67%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	8	2	2	2	2	0
Statistics (Detects Only)	4	0.92	1.4	1.18	1.2	0.214
Statistics (All: NDs treated as DL value)	12	0.92	2	1.727	2	0.419
Statistics (All: NDs treated as DL/2 value)	12	0.92	1.4	1.06	1	0.142
Statistics (Normal ROS Estimated Data)	12	0.821	1.539	1.18	1.18	0.22
Statistics (Gamma ROS Estimated Data)	12	0.751	1.449	1.171	1.209	0.22
Statistics (Lognormal ROS Estimated Data)	12	0.852	1.592	1.185	1.166	0.225
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	39.16	29.42	0.0301	0.153	0.187	1.224
Statistics (NDs = DL)	15.23	11.48	0.113	0.513	0.283	0.553
Statistics (NDs = DL/2)	67.99	51.05	0.0156	0.0509	0.123	2.421
Statistics (Gamma ROS Estimates)	28.24	21.24	0.0415	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	0.153	0.192	1.255
Normal Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.987	0.835	0.807	0.993		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilks (Detects Only)	0.965	0.748	Data Appear Normal			
Lilliefors (Detects Only)	0.213	0.443	Data Appear Normal			
Shapiro-Wilks (NDs = DL)	0.685	0.859	Data Not Normal			
Lilliefors (NDs = DL)	0.41	0.256	Data Not Normal			
Shapiro-Wilks (NDs = DL/2)	0.668	0.859	Data Not Normal			
Lilliefors (NDs = DL/2)	0.413	0.256	Data Not Normal			
Shapiro-Wilks (Normal ROS Estimates)	0.976	0.859	Data Appear Normal			
Lilliefors (Normal ROS Estimates)	0.124	0.256	Data Appear Normal			
Gamma Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.975	0.783	0.833	0.959		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	0.26	0.656				
Kolmogorov-Smirnov (Detects Only)	0.248	0.394	Data Appear Gamma Distributed			
Anderson-Darling (NDs = DL)	1.898	0.731				
Kolmogorov-Smirnov (NDs = DL)	0.416	0.245	Data Not Gamma Distributed			

Anderson-Darling (NDs = DL/2)		2.015	0.73						
Kolmogorov-Smirnov (NDs = DL/2)		0.418	0.245	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		0.365	0.731						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.161	0.245	Data Appear Gamma Distributed					
Lognormal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R		0.982	0.836	0.821	0.992				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)		0.956	0.748	Data Appear Lognormal					
Lilliefors (Detects Only)		0.221	0.443	Data Appear Lognormal					
Shapiro-Wilks (NDs = DL)		0.691	0.859	Data Not Lognormal					
Lilliefors (NDs = DL)		0.404	0.256	Data Not Lognormal					
Shapiro-Wilks (NDs = DL/2)		0.69	0.859	Data Not Lognormal					
Lilliefors (NDs = DL/2)		0.41	0.256	Data Not Lognormal					
Shapiro-Wilks (Lognormal ROS Estimates)		0.975	0.859	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)		0.133	0.256	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.									
MC									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics		39	0	39	4	35	89.74%		
		Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)		35	2	2.5	2.246	2.3	0.18		
Statistics (Detects Only)		4	1	1.8	1.35	1.3	0.342		
Statistics (All: NDs treated as DL value)		39	1	2.5	2.154	2.3	0.338		
Statistics (All: NDs treated as DL/2 value)		39	1	1.8	1.146	1.15	0.146		
Statistics (Normal ROS Estimated Data)		39	0.663	2.037	1.35	1.35	0.346		
Statistics (Gamma ROS Estimated Data)		39	0.538	1.8	1.335	1.396	0.333		
Statistics (Lognormal ROS Estimated Data)		39	0.795	2.188	1.361	1.319	0.348		
		K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)		21.48	19.84	0.0629	0.277	0.249	0.9		
Statistics (NDs = DL)		31.98	29.53	0.0674	0.752	0.193	0.257		
Statistics (NDs = DL/2)		72.32	66.78	0.0158	0.129	0.116	0.895		
Statistics (Gamma ROS Estimates)		13.73	12.69	0.0972	--	--	--		
Statistics (Lognormal ROS Estimates)		--	--	--	0.277	0.255	0.921		
Normal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R		0.985	0.874	0.847	0.996				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)		0.972	0.748	Data Appear Normal					
Lilliefors (Detects Only)		0.192	0.443	Data Appear Normal					
Shapiro-Wilks (NDs = DL)		0.77	0.939	Data Not Normal					
Lilliefors (NDs = DL)		0.222	0.142	Data Not Normal					
Shapiro-Wilks (NDs = DL/2)		0.741	0.939	Data Not Normal					

Note: Substitution methods such as DL or DL/2 are not recommended.

General Background Statistics for Data Sets with Non-Detects									
User Selected Options									
From File		Hex Chrome.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
Alluv									
General Statistics									
Number of Valid Data			12	Number of Detected Data			4		
Number of Distinct Detected Data			4	Number of Non-Detect Data			8		
				Percent Non-Detects			66.67%		
Raw Statistics					Log-transformed Statistics				
Minimum Detected			0.92	Minimum Detected			-0.0834		
Maximum Detected			1.4	Maximum Detected			0.336		
Mean of Detected			1.18	Mean of Detected			0.153		
SD of Detected			0.214	SD of Detected			0.187		
Minimum Non-Detect			2	Minimum Non-Detect			0.693		
Maximum Non-Detect			2	Maximum Non-Detect			0.693		
Warning: There are only 4 Distinct Detected Values in this data									
Note: It should be noted that even though bootstrap may be performed on this data set									
the resulting calculations may not be reliable enough to draw conclusions									
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.									
Background Statistics									
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only				
Shapiro Wilk Test Statistic			0.965	Shapiro Wilk Test Statistic			0.956		
5% Shapiro Wilk Critical Value			0.748	5% Shapiro Wilk Critical Value			0.748		
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level				
Assuming Normal Distribution					Assuming Lognormal Distribution				
DL/2 Substitution Method				DL/2 Substitution Method					
Mean			1.06	Mean (Log Scale)			0.0509		
SD			0.142	SD (Log Scale)			0.123		
95% UTL 95% Coverage			1.45	95% UTL 95% Coverage			1.474		
95% UPL (t)			1.326	95% UPL (t)			1.325		
90% Percentile (z)			1.243	90% Percentile (z)			1.232		
95% Percentile (z)			1.294	95% Percentile (z)			1.289		
99% Percentile (z)			1.391	99% Percentile (z)			1.401		
Maximum Likelihood Estimate(MLE) Method			N/A	Log ROS Method					
				Mean in Original Scale			1.185		
				SD in Original Scale			0.225		
				Mean in Log Scale			0.153		

[illegible]

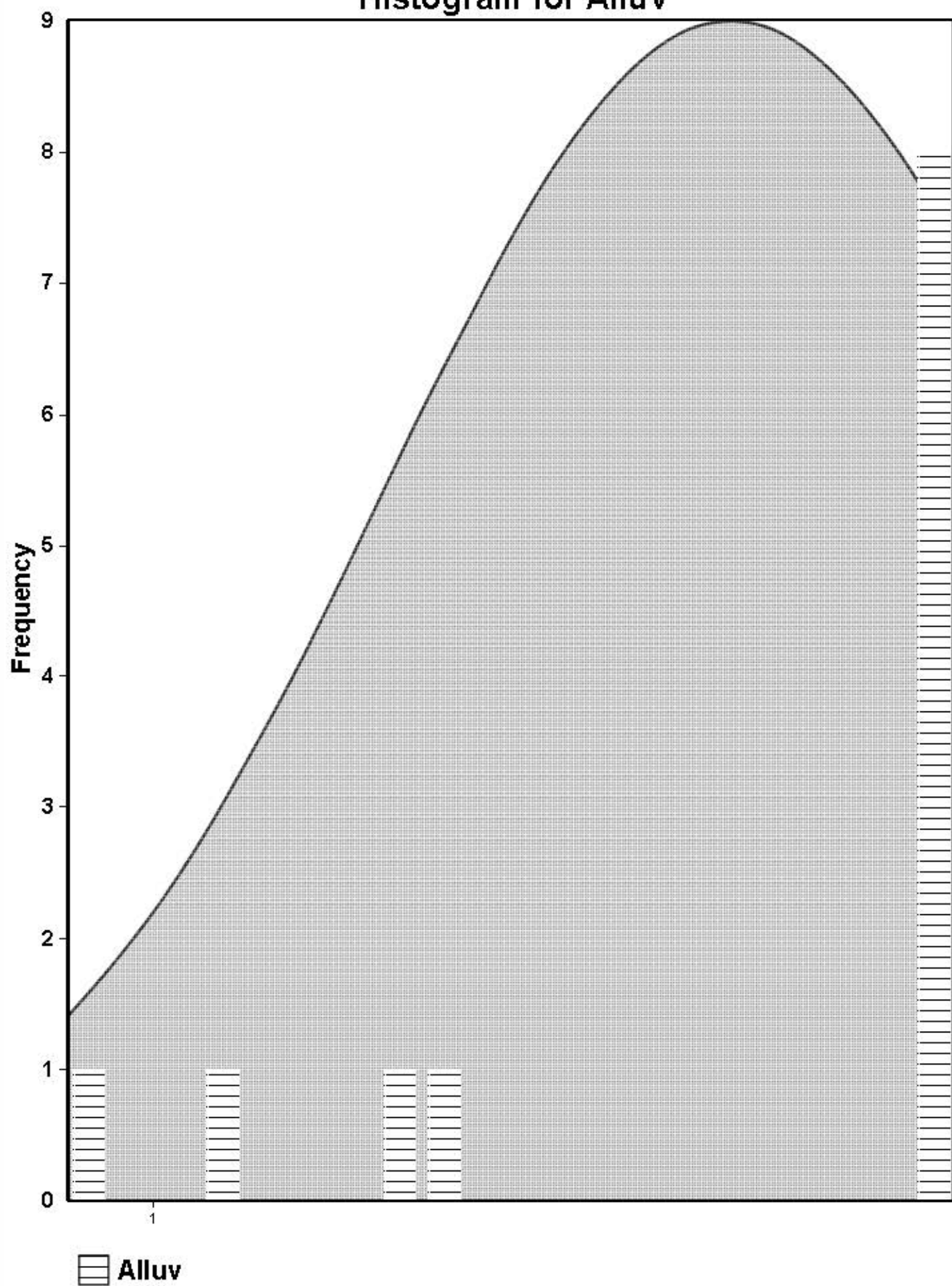
Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage				100.00%	
Warning: There are only 4 Distinct Detected Values in this data									
Note: It should be noted that even though bootstrap may be performed on this data set									
the resulting calculations may not be reliable enough to draw conclusions									
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.									
Background Statistics									
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only				
Shapiro Wilk Test Statistic		0.972			Shapiro Wilk Test Statistic		0.994		
5% Shapiro Wilk Critical Value		0.748			5% Shapiro Wilk Critical Value		0.748		
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level				
Assuming Normal Distribution					Assuming Lognormal Distribution				
DL/2 Substitution Method					DL/2 Substitution Method				
Mean		1.146			Mean (Log Scale)		0.129		
SD		0.146			SD (Log Scale)		0.116		
95% UTL		95% Coverage		1.457	95% UTL		95% Coverage		1.456
95% UPL (t)		1.396			95% UPL (t)		1.387		
90% Percentile (z)		1.333			90% Percentile (z)		1.32		
95% Percentile (z)		1.387			95% Percentile (z)		1.377		
99% Percentile (z)		1.486			99% Percentile (z)		1.49		
Maximum Likelihood Estimate(MLE) Method		N/A			Log ROS Method				
					Mean in Original Scale		1.361		
					SD in Original Scale		0.348		
					Mean in Log Scale		0.277		
					SD in Log Scale		0.255		
					95% UTL		95% Coverage		2.266
							95% UPL (t)		2.037
							90% Percentile (z)		1.828
							95% Percentile (z)		2.005
							99% Percentile (z)		2.385
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only				
k star (bias corrected)		5.536			Data appear Normal at 5% Significance Level				
Theta Star		0.244							
nu star		44.29							
A-D Test Statistic		0.211			Nonparametric Statistics				
5% A-D Critical Value		0.657			Kaplan-Meier (KM) Method				
K-S Test Statistic		0.179			Mean		1.35		
5% K-S Critical Value		0.394			SD		0.296		
Data appear Gamma Distributed at 5% Significance Level					SE of Mean		0.171		
					95% KM UTL with		95% Coverage		1.978
Assuming Gamma Distribution					95% KM Chebyshev UPL		2.656		
Gamma ROS Statistics with Extrapolated Data					95% KM UPL (t)		1.855		
Mean		1.335			90% Percentile (z)		1.729		
Median		1.396			95% Percentile (z)		1.837		
SD		0.333			99% Percentile (z)		2.038		
k star		12.69							

[illegible]

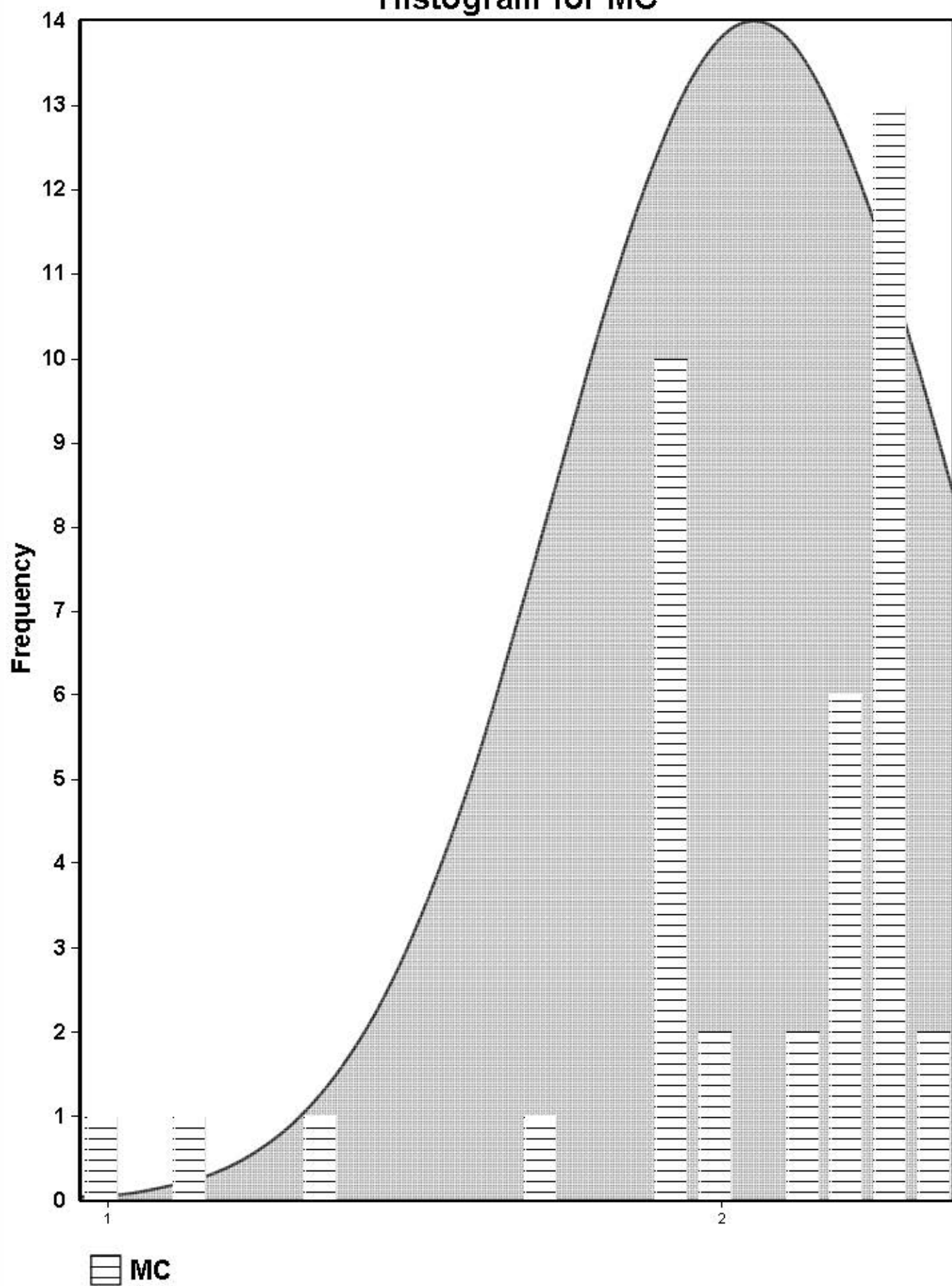
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Hex Chrome.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 1.4 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.750								
For 10% significance level, 1.4 is an outlier.								
For 5% significance level, 1.4 is an outlier.								
For 1% significance level, 1.4 is an outlier.								
2. Data Value 0.92 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.211								
For 10% significance level, 0.92 is not an outlier.								
For 5% significance level, 0.92 is not an outlier.								
For 1% significance level, 0.92 is not an outlier.								
Rosner's Outlier Test for MC								
Mean			1.146					
Standard Deviation			0.146					
Number of data			39					
Number of suspected outliers			1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	1.146	0.144	1.8	14	4.532	3.03	3.37	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.8 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.8 is a Potential Statistical Outlier								

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects									
User Selected Options									
From File		Hex Chrome.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Substantial Difference		0.000							
Selected Null Hypothesis		Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)							
Alternative Hypothesis		Site or AOC Mean/Median Not Equal to Background Mean/Median							
Area of Concern Data: MC									
Background Data: Alluv									
Raw Statistics									
		Site	Background						
Number of Valid Data		39	12						
Number of Non-Detect Data		35	8						
Number of Detect Data		4	4						
Minimum Non-Detect		2	2						
Maximum Non-Detect		2.5	2						
Percent Non detects		89.74%	66.67%						
Minimum Detected		1	0.92						
Maximum Detected		1.8	1.4						
Mean of Detected Data		1.35	1.18						
Median of Detected Data		1.3	1.2						
SD of Detected Data		0.342	0.214						
Site vs Background Gehan Test									
H0: Mu of Site or AOC = Mu of background									
Gehan z Test Value		0.72							
Lower Critical z (0.025)		-1.96							
Upper Critical z (0.975)		1.96							
P-Value		0.471							
Conclusion with Alpha = 0.05									
Do Not Reject H0, Conclude Site = Background									
P-Value >= alpha (0.05)									

Histogram for Alluv



Histogram for MC



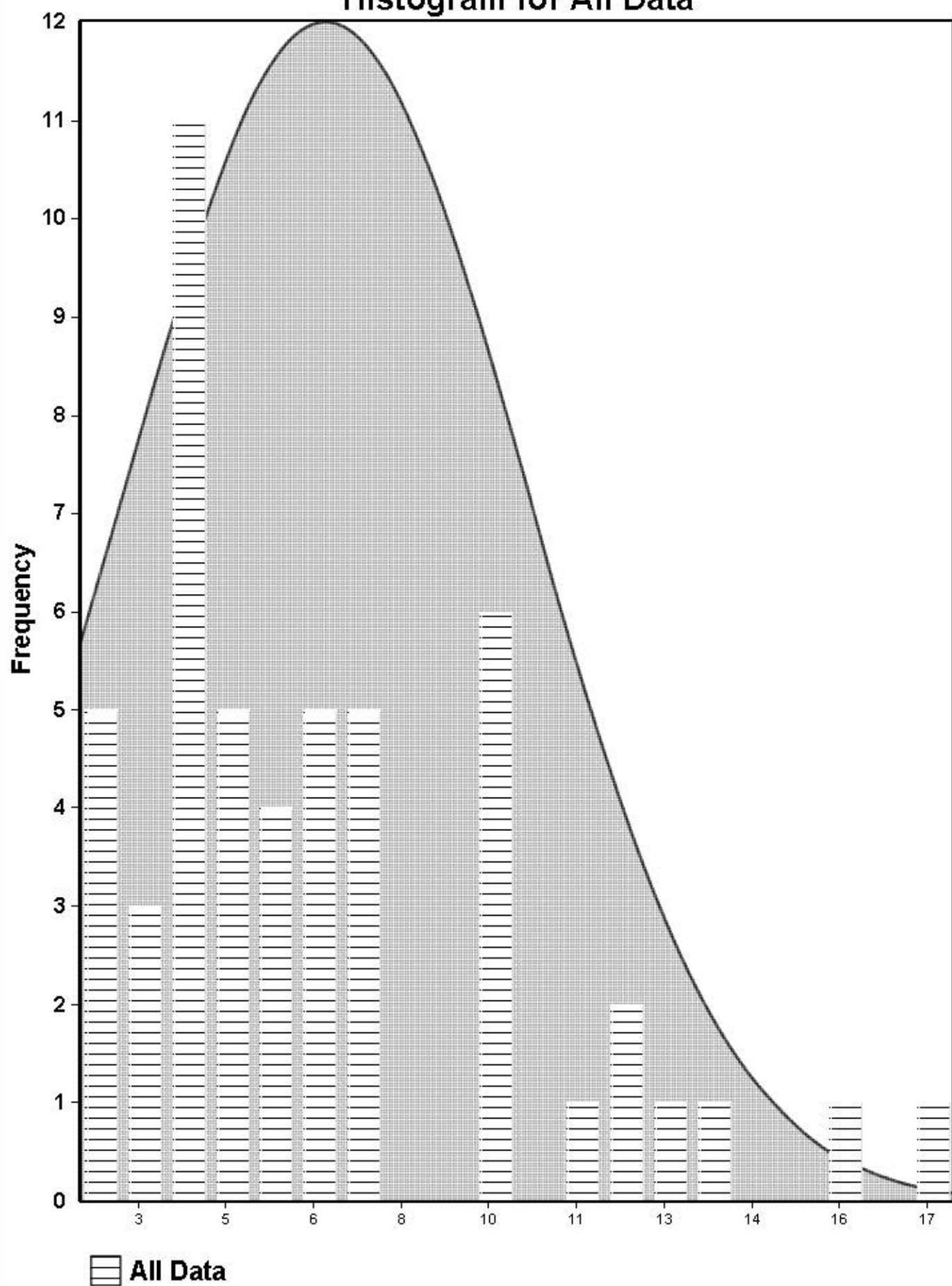
Location	Alluv	D_Alluv	Location	MC	D_MC
BG-1-2	2	0	BG-1-43	2	0
BG-1-10	1.1	1	BG-1-46	2	0
BG-1-29	0.92	1	BG-1-55	2	0
BG-1-40	2	0	BG-1-78	2	0
BG-2-2	2	0	BG-1-92	1.4	1
BG-2-10	2	0	BG-2-30	2	0
BG-2-19	2	0	BG-2-32	2	0
BG-2-21	2	0	BG-2-75	2	0
BG-3-2	1.3	1	BG-2-81	2	0
BG-3-10	1.4	1	BG-3-17	2.1	0
BG-6-2	2	0	BG-3-22	1.2	1
BG-6-9	2	0	BG-3-29	2	0
			BG-3-63	2.5	0
			BG-3-65	1.8	1
			BG-3-69	2.3	0
			BG-3-95	2.3	0
			BG-3-105	2.4	0
			BG-3-131	2.2	0
			BG-3-136	1	1
			BG-4-1	2.1	0
			BG-4-10	2.2	0
			BG-4-19	2.4	0
			BG-4-40	2.3	0
			BG-4-65	2	0
			BG-4-79	2.3	0
			BG-4-82	2.4	0
			BG-4-95	2.4	0
			BG-4-117	2.4	0
			BG-4-120	2.4	0
			BG-4-161	2.4	0
			BG-4-163	2.3	0
			BG-6-28	2.3	0
			BG-6-53	2.4	0
			BG-6-58	2.4	0
			BG-6-75	2.4	0
			BG-6-87	2.5	0
			BG-6-98	2.4	0
			BG-6-114	2.4	0
			BG-1-127	2.4	0

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			General Background Statistics for Full Data Sets						
User Selected Options									
From File		Fluoride.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
All Data									
General Statistics									
Total Number of Observations			51		Number of Distinct Observations			36	
Raw Statistics				Log-Transformed Statistics					
		Minimum	2.1				Minimum	0.742	
		Maximum	18				Maximum	2.89	
		Second Largest	16				Second Largest	2.773	
		First Quartile	4.05				First Quartile	1.399	
		Median	5.3				Median	1.668	
		Third Quartile	8.5				Third Quartile	2.134	
		Mean	6.569				Mean	1.748	
		SD	3.639				SD	0.518	
		Coefficient of Variation	0.554						
		Skewness	1.265						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Lilliefors Test Statistic	0.175				Lilliefors Test Statistic	0.0961	
		Lilliefors Critical Value	0.124				Lilliefors Critical Value	0.124	
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	14.04				95% UTL with 95% Coverage	16.63	
		95% UPL (t)	12.73				95% UPL (t)	13.79	
		90% Percentile (z)	11.23				90% Percentile (z)	11.15	
		95% Percentile (z)	12.55				95% Percentile (z)	13.46	
		99% Percentile (z)	15.03				99% Percentile (z)	19.15	
Gamma Distribution Test				Data Distribution Test					
		k star	3.658		Data Follow Appr. Gamma Distribution at 5% Significance Level				
		Theta Star	1.796						
		MLE of Mean	6.569						
		MLE of Standard Deviation	3.434						
		nu star	373.1						
		A-D Test Statistic	0.673		Nonparametric Statistics				
		5% A-D Critical Value	0.754				90% Percentile	12	
		K-S Test Statistic	0.128				95% Percentile	13.5	
		5% K-S Critical Value	0.125				99% Percentile	17	
Data follow Appx. Gamma Distribution at 5% Significance Level									

				Outlier Tests for Selected Variables							
User Selected Options											
From File				Fluoride.wst							
Full Precision				OFF							
Test for Suspected Outliers with Dixon test				1							
Test for Suspected Outliers with Rosner test				1							
Rosner's Outlier Test for All Data											
Mean				6.569							
Standard Deviation				3.639							
Number of data				51							
Number of suspected outliers				1							
			Potential	Obs.	Test	Critical	Critical				
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)				
1	6.569	3.603	18	42	3.173	3.137	3.488				
For 5% Significance Level, there is 1 Potential Outlier											
Therefore, Observation 18 is a Potential Statistical Outlier											
For 1% Significance Level, there is no Potential Outlier											

Histogram for All Data



Location	All Data
BG-1-2	6.1
BG-3-17	5.4
BG-4-2	3.7
BG-4-19	7.6
BG-1-10	4.4
BG-2-2	2.1
BG-2-10	4.1
BG-2-19	2.7
BG-3-2	7.6
BG-3-10	12
BG-4-10	7
BG-6-2	4.8
BG-6-9	3.3
BG-1-29	11
BG-1-40	4.2
BG-1-46	4.9
BG-1-92	3.5
BG-2-21	4.4
BG-2-32	6.2
BG-2-75	7.6
BG-3-29	3.7
BG-3-63	5
BG-3-65	5.3
BG-3-95	5.4
BG-3-105	10
BG-3-131	3.8
BG-3-136	16
BG-4-65	2.5
BG-4-82	4.6
BG-4-95	2.6
BG-4-117	2.5
BG-4-120	9.4
BG-6-58	5.2
BG-6-75	3.8
BG-6-98	4
BG-6-114	5.3
BG-6-127	6.6
BG-1-43	14
BG-1-55	3
BG-1-78	7
BG-2-30	13
BG-2-81	18
BG-3-22	4.2
BG-3-69	9.4
BG-4-40	9.5
BG-4-79	6.3
BG-4-161	4.3
BG-4-163	9.4
BG-6-28	12
BG-6-53	6.6
BG-6-87	10

		Number of Distinct Observations	30					
		Minimum	2.5					
		Maximum	18					
		Mean of Raw Data	6.953					
		Standard Deviation of Raw Data	3.874					
		Kstar	3.506					
		Mean of Log Transformed Data	1.801					
		Standard Deviation of Log Transformed Data	0.526					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.941					
		Shapiro Wilk Test Statistic	0.88					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	4.8543E-4					
		Lilliefors Test Statistic	0.182					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.988					
		A-D Test Statistic	0.654					
		A-D Critical (0.95) Value	0.753					
		K-S Test Statistic	0.143					
		K-S Critical(0.95) Value	0.144					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.988					
		Shapiro Wilk Test Statistic	0.962					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.285					
		Lilliefors Test Statistic	0.114					
		Lilliefors Critical (0.95) Value	0.144					
		Data appear Lognormal at (0.05) Significance Level						

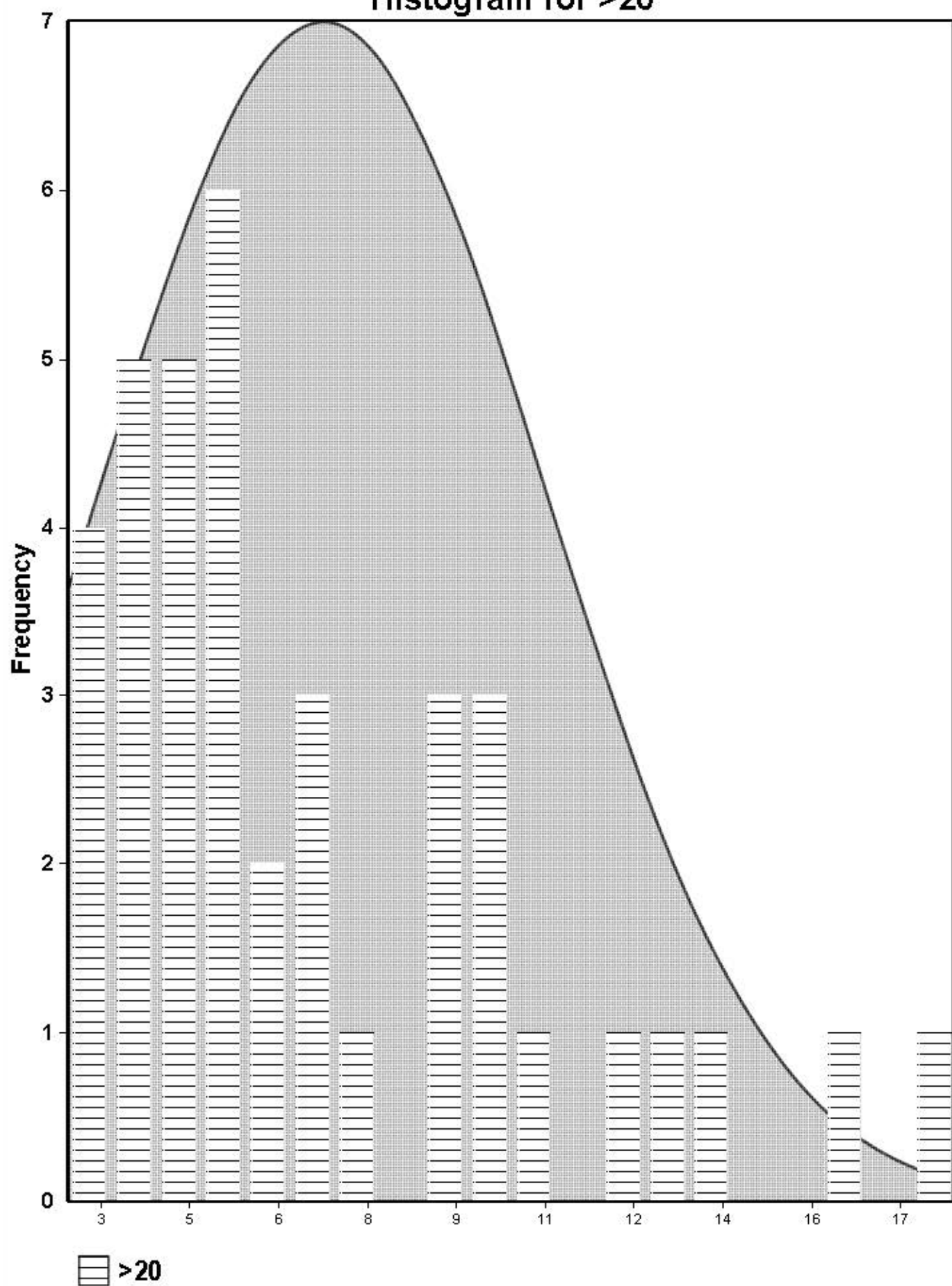
			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Fluoride.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
0-20										
General Statistics										
Total Number of Observations				13		Number of Distinct Observations				12
Raw Statistics					Log-Transformed Statistics					
			Minimum	2.1				Minimum	0.742	
			Maximum	12				Maximum	2.485	
			Second Largest	7.6				Second Largest	2.028	
			First Quartile	3.7				First Quartile	1.308	
			Median	4.8				Median	1.569	
			Third Quartile	7				Third Quartile	1.946	
			Mean	5.446				Mean	1.591	
			SD	2.658				SD	0.476	
			Coefficient of Variation	0.488						
			Skewness	1.197						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.915				Shapiro Wilk Test Statistic	0.991	
			Shapiro Wilk Critical Value	0.866				Shapiro Wilk Critical Value	0.866	
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	12.55				95% UTL with 95% Coverage	17.52	
			95% UPL (t)	10.36				95% UPL (t)	11.85	
			90% Percentile (z)	8.853				90% Percentile (z)	9.038	
			95% Percentile (z)	9.819				95% Percentile (z)	10.75	
			99% Percentile (z)	11.63				99% Percentile (z)	14.87	
Gamma Distribution Test					Data Distribution Test					
			k star	3.869	Data appear Normal at 5% Significance Level					
			Theta Star	1.408						
			MLE of Mean	5.446						
			MLE of Standard Deviation	2.769						
			nu star	100.6						
			A-D Test Statistic	0.15	Nonparametric Statistics					
			5% A-D Critical Value	0.736				90% Percentile	7.6	
			K-S Test Statistic	0.0987				95% Percentile	9.36	
			5% K-S Critical Value	0.237				99% Percentile	11.47	
Data appear Gamma Distributed at 5% Significance Level										

Data appear Gamma Distributed at 5% Significance Level									
Assuming Gamma Distribution				95% UTL with 95% Coverage					18
90% Percentile		11.93	95% Percentile Bootstrap UTL with 95% Coverage					18	
95% Percentile		13.96	95% BCA Bootstrap UTL with 95% Coverage					18	
99% Percentile		18.34	95% UPL					16.1	
			95% Chebyshev UPL					24.06	
95% WH Approx. Gamma UPL		14.13	Upper Threshold Limit Based upon IQR					17.2	
95% HW Approx. Gamma UPL		14.27							
95% WH Approx. Gamma UTL with 95% Coverage		16.73							
95% HW Approx. Gamma UTL with 95% Coverage		17.09							

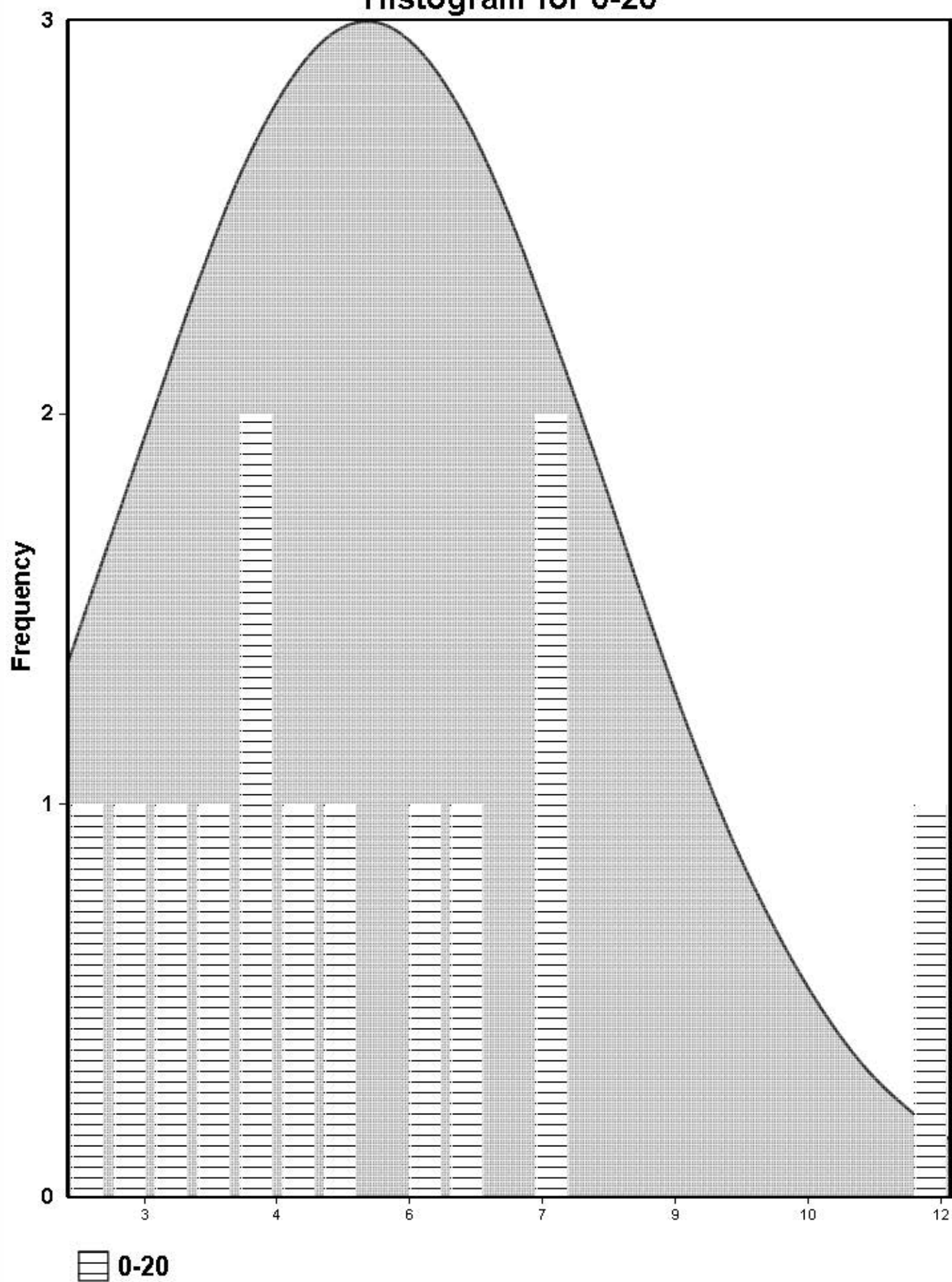
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Fluoride.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 12 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.473							
For 10% significance level, 12 is an outlier.							
For 5% significance level, 12 is not an outlier.							
For 1% significance level, 12 is not an outlier.							
2. Data Value 2.1 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.218							
For 10% significance level, 2.1 is not an outlier.							
For 5% significance level, 2.1 is not an outlier.							
For 1% significance level, 2.1 is not an outlier.							
Rosner's Outlier Test for >20							
Mean		6.953					
Standard Deviation		3.874					
Number of data		38					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	6.953	3.822	18	29	2.89	3.01	3.36
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Fluoride.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: >20					
Background Data: 0-20					
Raw Statistics					
	Site	Background			
Number of Valid Observations	38	13			
Number of Distinct Observations	30	12			
Minimum	2.5	2.1			
Maximum	18	12			
Mean	6.953	5.446			
Median	5.35	4.8			
SD	3.874	2.658			
SE of Mean	0.628	0.737			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1039				
WMW Test U-Stat	1.081				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.28				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for >20



Histogram for 0-20



Location	0-20
BG-1-2	6.1
BG-3-17	5.4
BG-4-2	3.7
BG-4-19	7.6
BG-1-10	4.4
BG-2-2	2.1
BG-2-10	4.1
BG-2-19	2.7
BG-3-2	7.6
BG-3-10	12
BG-4-10	7
BG-6-2	4.8
BG-6-9	3.3

Location	>20
BG-1-29	11
BG-1-40	4.2
BG-1-46	4.9
BG-1-92	3.5
BG-2-21	4.4
BG-2-32	6.2
BG-2-75	7.6
BG-3-29	3.7
BG-3-63	5
BG-3-65	5.3
BG-3-95	5.4
BG-3-105	10
BG-3-131	3.8
BG-3-136	16
BG-4-65	2.5
BG-4-82	4.6
BG-4-95	2.6
BG-4-117	2.5
BG-4-120	9.4
BG-6-58	5.2
BG-6-75	3.8
BG-6-98	4
BG-6-114	5.3
BG-6-127	6.6
BG-1-43	14
BG-1-55	3
BG-1-78	7
BG-2-30	13
BG-2-81	18
BG-3-22	4.2
BG-3-69	9.4
BG-4-40	9.5
BG-4-79	6.3
BG-4-161	4.3
BG-4-163	9.4
BG-6-28	12
BG-6-53	6.6
BG-6-87	10

		Number of Distinct Observations	28					
		Minimum	2.1					
		Maximum	16					
		Mean of Raw Data	5.621					
		Standard Deviation of Raw Data	3.085					
		Kstar	3.957					
		Mean of Log Transformed Data	1.607					
		Standard Deviation of Log Transformed Data	0.482					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.914					
		Shapiro Wilk Test Statistic	0.842					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	1.3065E-4					
		Lilliefors Test Statistic	0.226					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.975					
		A-D Test Statistic	0.656					
		A-D Critical (0.95) Value	0.75					
		K-S Test Statistic	0.166					
		K-S Critical(0.95) Value	0.154					
		Data follow Appr. Gamma Distribution at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.987					
		Shapiro Wilk Test Statistic	0.97					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.558					
		Lilliefors Test Statistic	0.131					
		Lilliefors Critical (0.95) Value	0.154					
		Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets						
User Selected Options									
From File			Fluoride.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
Clay									
General Statistics									
Total Number of Observations			18		Number of Distinct Observations			17	
Raw Statistics				Log-Transformed Statistics					
			Minimum	3				Minimum	1.099
			Maximum	18				Maximum	2.89
			Second Largest	14				Second Largest	2.639
			First Quartile	5.575				First Quartile	1.717
			Median	7.3				Median	1.987
			Third Quartile	9.875				Third Quartile	2.29
			Mean	8.306				Mean	2.006
			SD	4.011				SD	0.491
			Coefficient of Variation	0.483					
			Skewness	0.849					
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.94				Shapiro Wilk Test Statistic	0.982
			Shapiro Wilk Critical Value	0.897				Shapiro Wilk Critical Value	0.897
Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	18.14				95% UTL with 95% Coverage	24.82
			95% UPL (t)	15.47				95% UPL (t)	17.89
			90% Percentile (z)	13.45				90% Percentile (z)	13.96
			95% Percentile (z)	14.9				95% Percentile (z)	16.69
			99% Percentile (z)	17.64				99% Percentile (z)	23.32
Gamma Distribution Test				Data Distribution Test					
			k star	3.934	Data appear Normal at 5% Significance Level				
			Theta Star	2.111					
			MLE of Mean	8.306					
			MLE of Standard Deviation	4.188					
			nu star	141.6					
			A-D Test Statistic	0.174	Nonparametric Statistics				
			5% A-D Critical Value	0.743				90% Percentile	13.3
			K-S Test Statistic	0.11				95% Percentile	14.6
			5% K-S Critical Value	0.204				99% Percentile	17.32
Data appear Gamma Distributed at 5% Significance Level									

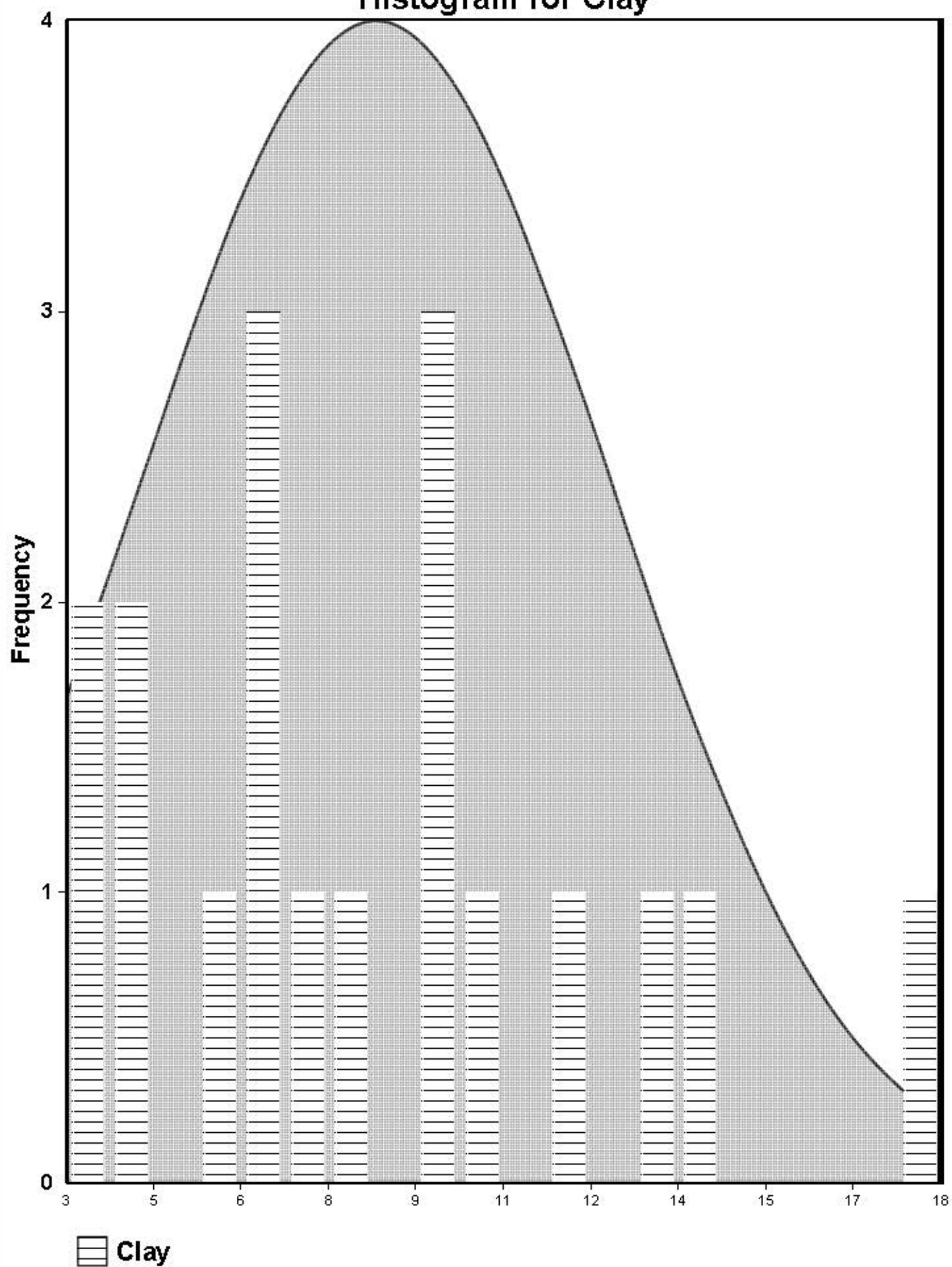
Assuming Gamma Distribution					95% UTL with 95% Coverage		18		
90% Percentile			13.92	95% Percentile Bootstrap UTL with 95% Coverage		18			
95% Percentile			16.17	95% BCA Bootstrap UTL with 95% Coverage		18			
99% Percentile			20.99			95% UPL		18	
						95% Chebyshev UPL		26.27	
95% WH Approx. Gamma UPL			16.6	Upper Threshold Limit Based upon IQR		16.33			
95% HW Approx. Gamma UPL			16.85						
95% WH Approx. Gamma UTL with 95% Coverage		21.14							
95% HW Approx. Gamma UTL with 95% Coverage		21.83							
Non-Clay									
General Statistics									
Total Number of Observations			33	Number of Distinct Observations			28		
Raw Statistics				Log-Transformed Statistics					
Minimum		2.1	Minimum		0.742				
Maximum		16	Maximum		2.773				
Second Largest		12	Second Largest		2.485				
First Quartile		3.8	First Quartile		1.335				
Median		4.8	Median		1.569				
Third Quartile		6.6	Third Quartile		1.887				
Mean		5.621	Mean		1.607				
SD		3.085	SD		0.482				
Coefficient of Variation		0.549							
Skewness		1.672							
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
Shapiro Wilk Test Statistic		0.842	Shapiro Wilk Test Statistic		0.97				
Shapiro Wilk Critical Value		0.931	Shapiro Wilk Critical Value		0.931				
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
95% UTL with 95% Coverage		12.33	95% UTL with 95% Coverage		14.24				
95% UPL (t)		10.93	95% UPL (t)		11.43				
90% Percentile (z)		9.575	90% Percentile (z)		9.252				
95% Percentile (z)		10.7	95% Percentile (z)		11.02				
99% Percentile (z)		12.8	99% Percentile (z)		15.31				
Gamma Distribution Test				Data Distribution Test					
k star		3.957	Data Follow Appr. Gamma Distribution at 5% Significance Level						
Theta Star		1.42							
MLE of Mean		5.621							
MLE of Standard Deviation		2.826							
nu star		261.2							
A-D Test Statistic		0.656	Nonparametric Statistics						
5% A-D Critical Value		0.75	90% Percentile		9.88				
K-S Test Statistic		0.166	95% Percentile		11.4				
5% K-S Critical Value		0.154	99% Percentile		14.72				

Data follow Appx. Gamma Distribution at 5% Significance Level										
Assuming Gamma Distribution				95% UTL with 95% Coverage						16
90% Percentile		9.409		95% Percentile Bootstrap UTL with 95% Coverage						16
95% Percentile		10.93		95% BCA Bootstrap UTL with 95% Coverage						16
99% Percentile		14.17		95% UPL						13.2
				95% Chebyshev UPL						19.27
95% WH Approx. Gamma UPL		11.05		Upper Threshold Limit Based upon IQR						10.8
95% HW Approx. Gamma UPL		11.12								
95% WH Approx. Gamma UTL with 95% Coverage		13.13								
95% HW Approx. Gamma UTL with 95% Coverage		13.34								

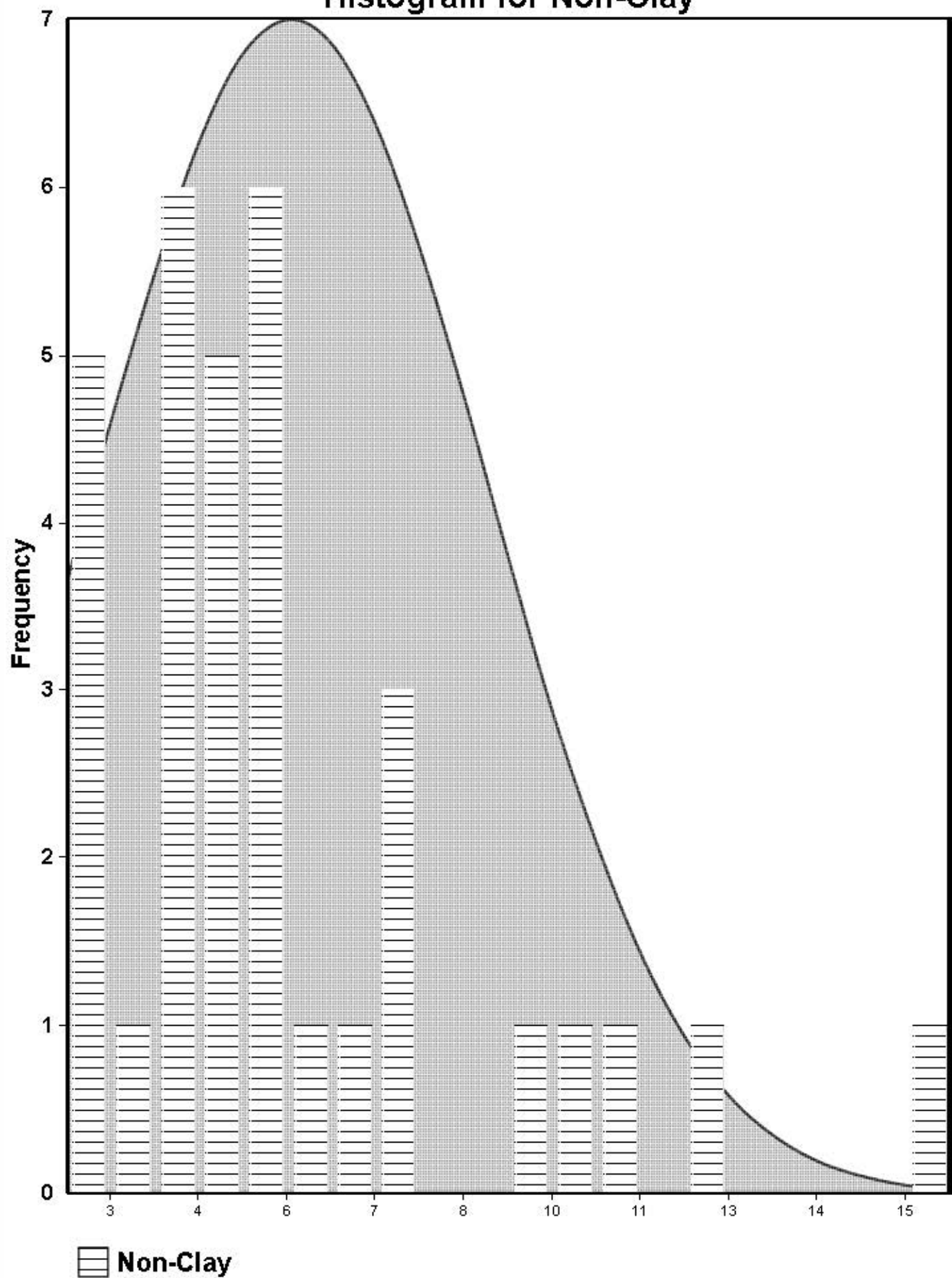
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Fluoride.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for Clay								
Number of data = 18								
10% critical value: 0.424								
5% critical value: 0.475								
1% critical value: 0.561								
1. Data Value 18 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.362								
For 10% significance level, 18 is not an outlier.								
For 5% significance level, 18 is not an outlier.								
For 1% significance level, 18 is not an outlier.								
2. Data Value 3 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.120								
For 10% significance level, 3 is not an outlier.								
For 5% significance level, 3 is not an outlier.								
For 1% significance level, 3 is not an outlier.								
Rosner's Outlier Test for Non-Clay								
Mean			5.621					
Standard Deviation			3.085					
Number of data			33					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	5.621	3.038	16	20	3.416	2.95	3.29	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 16 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 16 is a Potential Statistical Outlier								

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs				
User Selected Options				
From File	Fluoride.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: Non-Clay				
Background Data: Clay				
Raw Statistics				
	Site	Background		
Number of Valid Observations	33	18		
Number of Distinct Observations	28	17		
Minimum	2.1	3		
Maximum	16	18		
Mean	5.621	8.306		
Median	4.8	7.3		
SD	3.085	4.011		
SE of Mean	0.537	0.945		
Wilcoxon-Mann-Whitney (WMW) Test				
H0: Mean/Median of Site or AOC = Mean/Median of Background				
Site Rank Sum W-Stat	726.5			
WMW Test U-Stat	2.582			
Lower Critical Value (0.025)	-1.96			
Upper Critical Value (0.975)	1.96			
P-Value	0.00927			
Conclusion with Alpha = 0.05				
Reject H0, Conclude Site <> Background				
P-Value < alpha (0.05)				

Histogram for Clay



Histogram for Non-Clay



Location	Clay
BG-1-2	6.1
BG-1-43	14
BG-1-55	3
BG-1-78	7
BG-2-30	13
BG-2-81	18
BG-3-17	5.4
BG-3-22	4.2
BG-3-69	9.4
BG-4-2	3.7
BG-4-19	7.6
BG-4-40	9.5
BG-4-79	6.3
BG-4-161	4.3
BG-4-163	9.4
BG-6-28	12
BG-6-53	6.6
BG-6-87	10

Location	Non-Clay
BG-1-10	4.4
BG-1-29	11
BG-1-40	4.2
BG-1-46	4.9
BG-1-92	3.5
BG-2-2	2.1
BG-2-10	4.1
BG-2-19	2.7
BG-2-21	4.4
BG-2-32	6.2
BG-2-75	7.6
BG-3-2	7.6
BG-3-10	12
BG-3-29	3.7
BG-3-63	5
BG-3-65	5.3
BG-3-95	5.4
BG-3-105	10
BG-3-131	3.8
BG-3-136	16
BG-4-10	7
BG-4-65	2.5
BG-4-82	4.6
BG-4-95	2.6
BG-4-117	2.5
BG-4-120	9.4
BG-6-2	4.8
BG-6-9	3.3
BG-6-58	5.2
BG-6-75	3.8
BG-6-98	4
BG-6-114	5.3
BG-6-127	6.6
Average	5.621212

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		Number of Distinct Observations	29					
		Minimum	2.5					
		Maximum	18					
		Mean of Raw Data	6.89					
		Standard Deviation of Raw Data	3.751					
		Kstar	3.752					
		Mean of Log Transformed Data	1.801					
		Standard Deviation of Log Transformed Data	0.507					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.939					
		Shapiro Wilk Test Statistic	0.877					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	3.1563E-4					
		Lilliefors Test Statistic	0.167					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.988					
		A-D Test Statistic	0.537					
		A-D Critical (0.95) Value	0.752					
		K-S Test Statistic	0.131					
		K-S Critical(0.95) Value	0.142					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.992					
		Shapiro Wilk Test Statistic	0.97					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.474					
		Lilliefors Test Statistic	0.103					
		Lilliefors Critical (0.95) Value	0.142					
		Data appear Lognormal at (0.05) Significance Level						

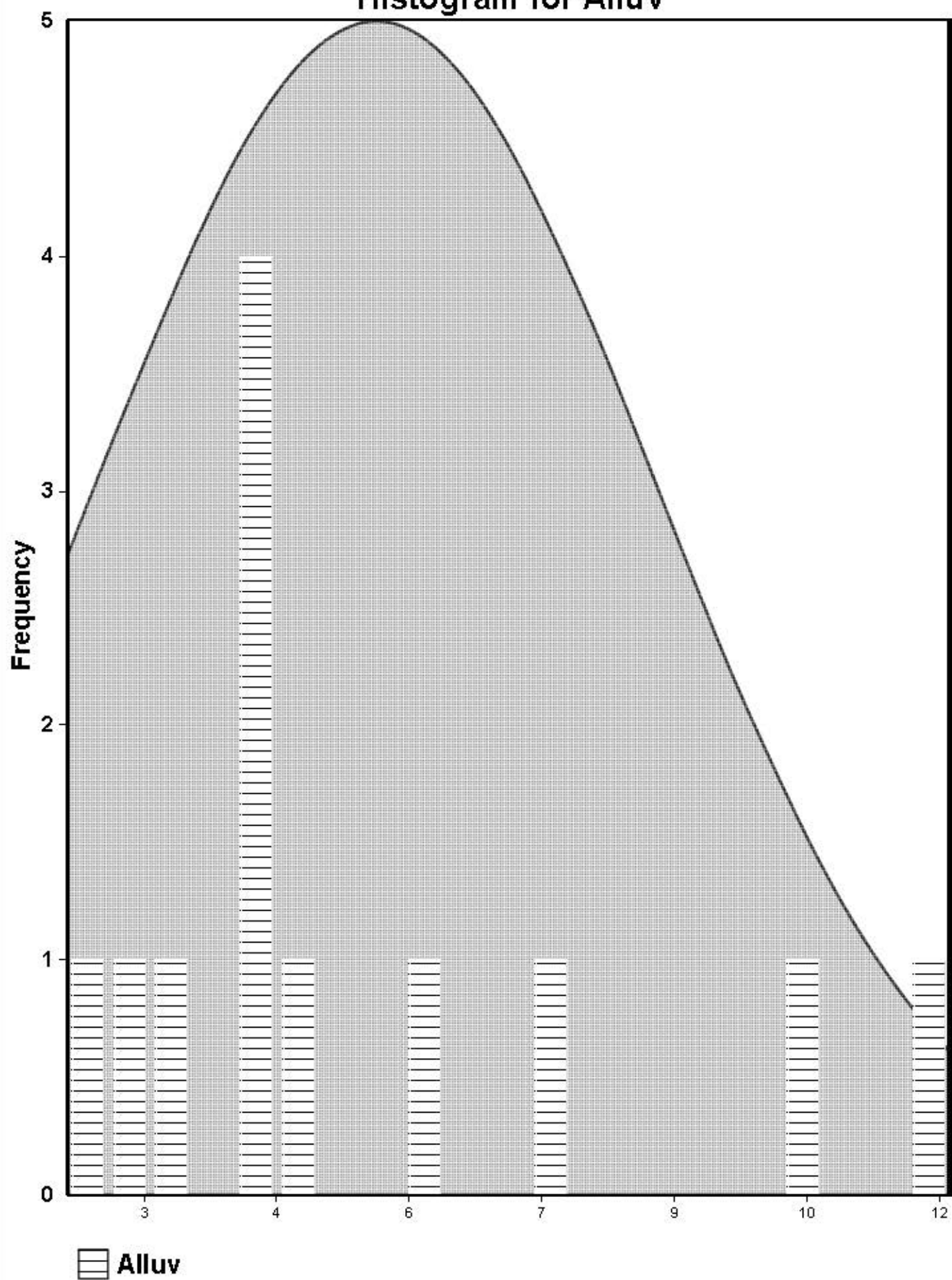
			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Fluoride.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Alluv										
General Statistics										
Total Number of Observations				12		Number of Distinct Observations				11
Raw Statistics					Log-Transformed Statistics					
Minimum			2.1		Minimum			0.742		
Maximum			12		Maximum			2.485		
Second Largest			11		Second Largest			2.398		
First Quartile			3.9		First Quartile			1.357		
Median			4.4		Median			1.482		
Third Quartile			6.475		Third Quartile			1.863		
Mean			5.558		Mean			1.586		
SD			3.134		SD			0.523		
Coefficient of Variation			0.564							
Skewness			1.247							
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
Shapiro Wilk Test Statistic			0.846		Shapiro Wilk Test Statistic			0.953		
Shapiro Wilk Critical Value			0.859		Shapiro Wilk Critical Value			0.859		
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
95% UTL with 95% Coverage			14.13		95% UTL with 95% Coverage			20.4		
95% UPL (t)			11.42		95% UPL (t)			12.97		
90% Percentile (z)			9.574		90% Percentile (z)			9.539		
95% Percentile (z)			10.71		95% Percentile (z)			11.53		
99% Percentile (z)			12.85		99% Percentile (z)			16.47		
Gamma Distribution Test					Data Distribution Test					
k star			3.064		Data appear Gamma Distributed at 5% Significance Level					
Theta Star			1.814							
MLE of Mean			5.558							
MLE of Standard Deviation			3.175							
nu star			73.55							
A-D Test Statistic			0.456		Nonparametric Statistics					
5% A-D Critical Value			0.736		90% Percentile			10.66		
K-S Test Statistic			0.213		95% Percentile			11.45		
5% K-S Critical Value			0.246		99% Percentile			11.89		
Data appear Gamma Distributed at 5% Significance Level										

Data appear Gamma Distributed at 5% Significance Level									
Assuming Gamma Distribution				95% UTL with 95% Coverage					18
90% Percentile		11.66	95% Percentile Bootstrap UTL with 95% Coverage					18	
95% Percentile		13.59	95% BCA Bootstrap UTL with 95% Coverage					18	
99% Percentile		17.72	95% UPL					16	
			95% Chebyshev UPL					23.45	
95% WH Approx. Gamma UPL		13.73	Upper Threshold Limit Based upon IQR					17.35	
95% HW Approx. Gamma UPL		13.85							
95% WH Approx. Gamma UTL with 95% Coverage		16.15							
95% HW Approx. Gamma UTL with 95% Coverage		16.46							

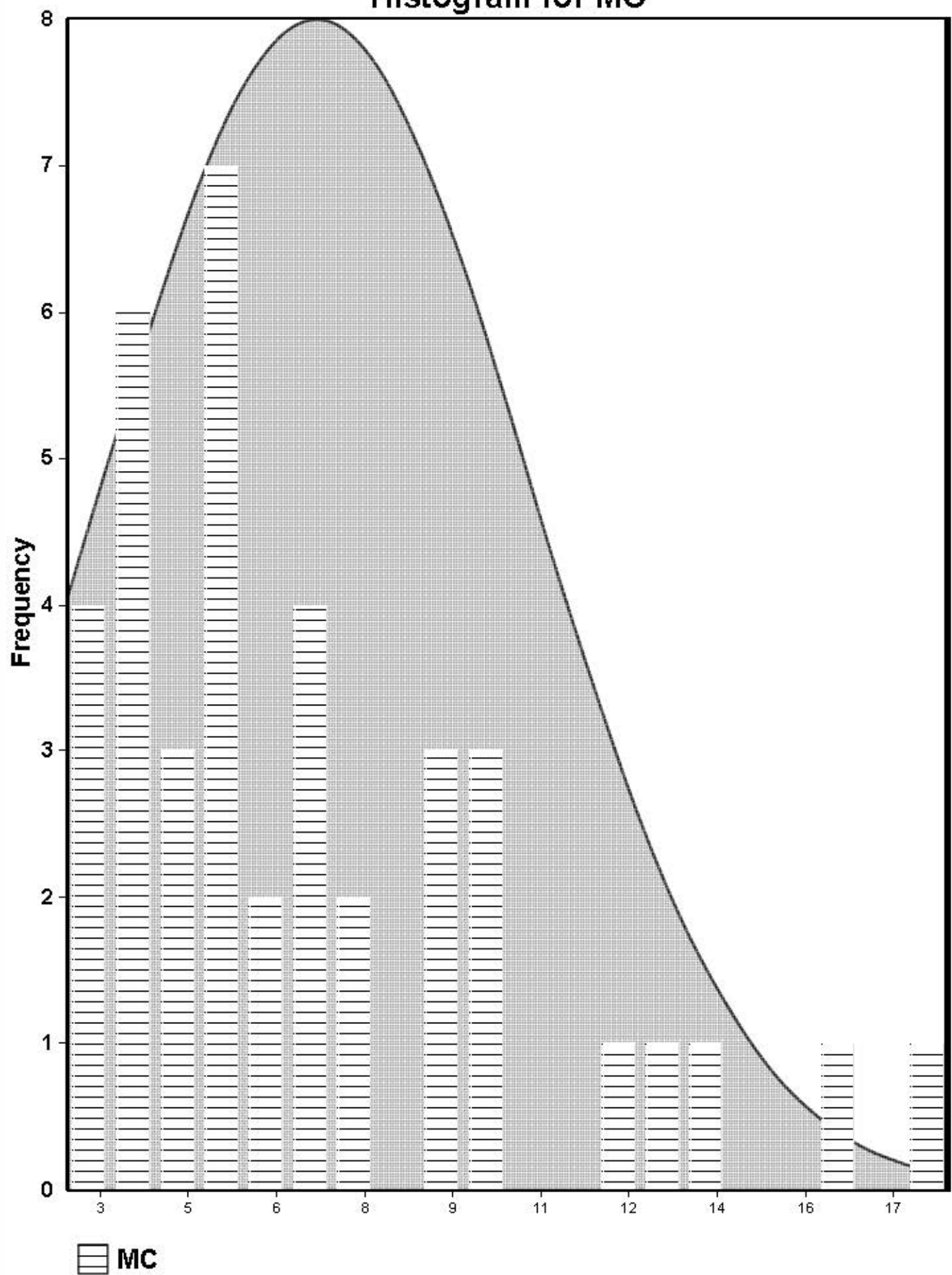
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Fluoride.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 12 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.473								
For 10% significance level, 12 is not an outlier.								
For 5% significance level, 12 is not an outlier.								
For 1% significance level, 12 is not an outlier.								
2. Data Value 2.1 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.135								
For 10% significance level, 2.1 is not an outlier.								
For 5% significance level, 2.1 is not an outlier.								
For 1% significance level, 2.1 is not an outlier.								
Rosner's Outlier Test for MC								
Mean			6.89					
Standard Deviation			3.751					
Number of data			39					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	6.89	3.702	18	9	3.001	3.03	3.37	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Fluoride.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: MC					
Background Data: Alluv					
Raw Statistics					
	Site	Background			
Number of Valid Observations	39	12			
Number of Distinct Observations	29	11			
Minimum	2.5	2.1			
Maximum	18	12			
Mean	6.89	5.558			
Median	5.4	4.4			
SD	3.751	3.134			
SE of Mean	0.601	0.905			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1069				
WMW Test U-Stat	1.21				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.226				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for Alluv



Histogram for MC



Location	Alluv
BG-1-2	6.1
BG-1-10	4.4
BG-1-29	11
BG-1-40	4.2
BG-2-2	2.1
BG-2-10	4.1
BG-2-19	2.7
BG-2-21	4.4
BG-3-2	7.6
BG-3-10	12
BG-6-2	4.8
BG-6-9	3.3

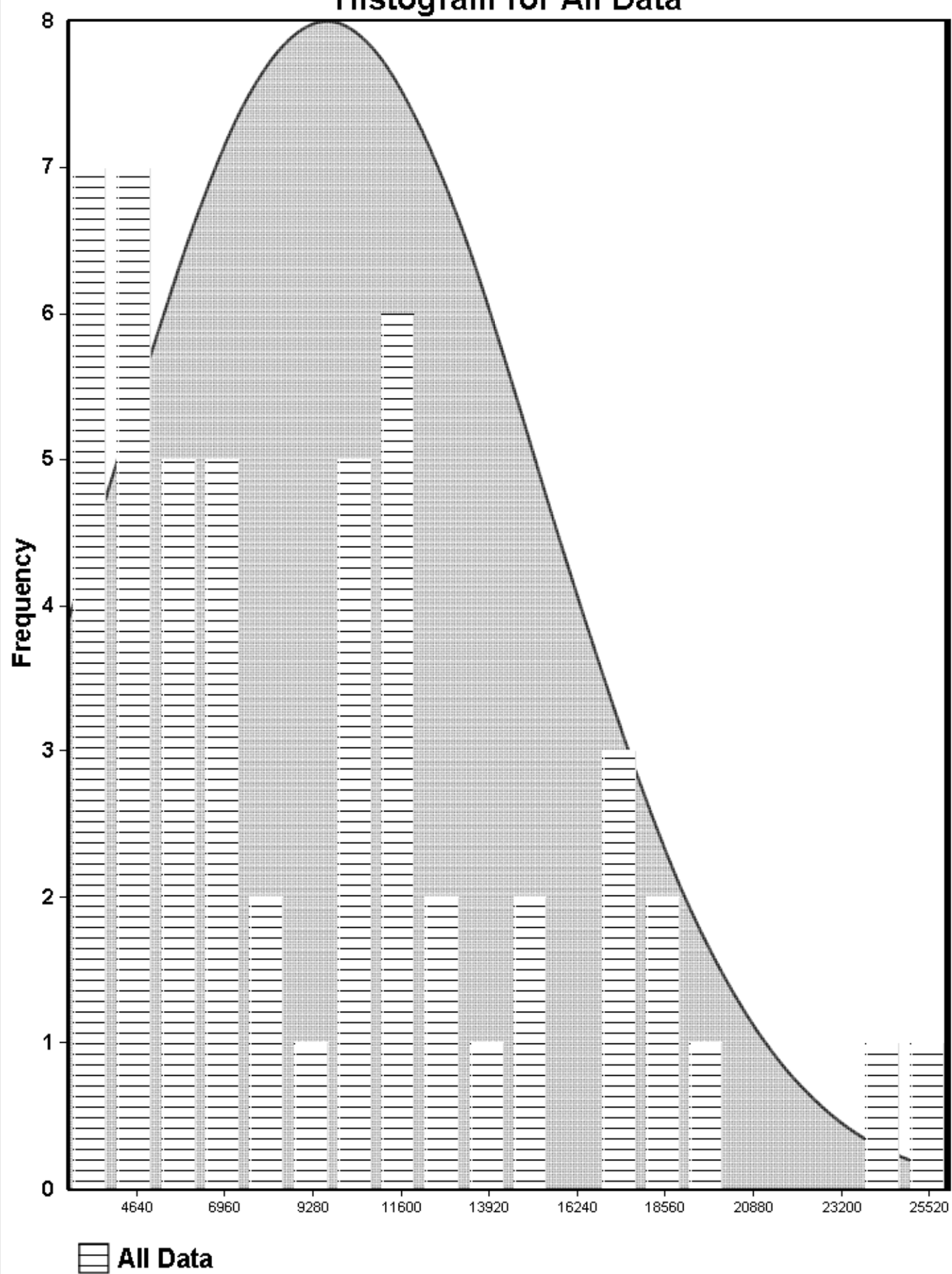
Location	MC
BG-1-43	14
BG-1-46	4.9
BG-1-55	3
BG-1-78	7
BG-1-92	3.5
BG-2-30	13
BG-2-32	6.2
BG-2-75	7.6
BG-2-81	18
BG-3-17	5.4
BG-3-22	4.2
BG-3-29	3.7
BG-3-63	5
BG-3-65	5.3
BG-3-69	9.4
BG-3-95	5.4
BG-3-105	10
BG-3-131	3.8
BG-3-136	16
BG-4-1	3.7
BG-4-10	7
BG-4-19	7.6
BG-4-40	9.5
BG-4-65	2.9
BG-4-79	6.3
BG-4-82	4.6
BG-4-95	2.6
BG-4-117	2.5
BG-4-120	9.4
BG-4-161	4.3
BG-4-163	9.4
BG-6-28	12
BG-6-53	6.6
BG-6-58	5.2
BG-6-75	3.8
BG-6-87	10
BG-6-98	4
BG-6-114	5.3
BG-1-127	6.6

				Outlier Tests for Selected Variables							
User Selected Options											
From File				Iron.wst							
Full Precision				OFF							
Test for Suspected Outliers with Dixon test				1							
Test for Suspected Outliers with Rosner test				1							
Rosner's Outlier Test for All Data											
Mean				9625							
Standard Deviation				5672							
Number of data				51							
Number of suspected outliers				1							
			Potential	Obs.	Test	Critical	Critical				
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)				
1	9625	5616	26000	51	2.916	3.137	3.488				
For 5% Significance Level, there is no Potential Outlier											
For 1% Significance Level, there is no Potential Outlier											

		Goodness-of-Fit Test Statistics for Full Data Sets without Non-Detects				
User Selected Options						
From File	Iron.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
All Data						
Raw Statistics						
Number of Valid Observations	51					
Number of Distinct Observations	37					
Minimum	2800					
Maximum	26000					
Mean of Raw Data	9625					
Standard Deviation of Raw Data	5672					
Kstar	2.968					
Mean of Log Transformed Data	9.005					
Standard Deviation of Log Transformed Data	0.591					
Normal Distribution Test Results						
Correlation Coefficient R	0.954					
Approximate Shapiro Wilk Test Statistic	0.899					
Approximate Shapiro Wilk P Value	1.9556E-4					
Lilliefors Test Statistic	0.142					
Lilliefors Critical (0.95) Value	0.124					
Data not Normal at (0.05) Significance Level						
Gamma Distribution Test Results						
Correlation Coefficient R	0.992					
A-D Test Statistic	0.649					
A-D Critical (0.95) Value	0.757					
K-S Test Statistic	0.108					
K-S Critical(0.95) Value	0.125					
Data appear Gamma Distributed at (0.05) Significance Level						
Lognormal Distribution Test Results						
Correlation Coefficient R	0.988					
Approximate Shapiro Wilk Test Statistic	0.956					
Approximate Shapiro Wilk P Value	0.101					
Lilliefors Test Statistic	0.1					
Lilliefors Critical (0.95) Value	0.124					
Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Iron.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
All Data										
General Statistics										
Total Number of Observations				51		Number of Distinct Observations				37
Raw Statistics					Log-Transformed Statistics					
			Minimum	2800				Minimum	7.937	
			Maximum	26000				Maximum	10.17	
			Second Largest	24000				Second Largest	10.09	
			First Quartile	4850				First Quartile	8.487	
			Median	8200				Median	9.012	
			Third Quartile	12500				Third Quartile	9.433	
			Mean	9625				Mean	9.005	
			SD	5672				SD	0.591	
			Coefficient of Variation	0.589						
			Skewness	0.977						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Lilliefors Test Statistic	0.142				Lilliefors Test Statistic	0.1	
			Lilliefors Critical Value	0.124				Lilliefors Critical Value	0.124	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	21274				95% UTL with 95% Coverage	27374	
			95% UPL (t)	19224				95% UPL (t)	22112	
			90% Percentile (z)	16894				90% Percentile (z)	17350	
			95% Percentile (z)	18955				95% Percentile (z)	21502	
			99% Percentile (z)	22821				99% Percentile (z)	32156	
Gamma Distribution Test					Data Distribution Test					
			k star	2.968	Data appear Gamma Distributed at 5% Significance Level					
			Theta Star	3243						
			MLE of Mean	9625						
			MLE of Standard Deviation	5587						
			nu star	302.7						
			A-D Test Statistic	0.649	Nonparametric Statistics					
			5% A-D Critical Value	0.757				90% Percentile	17000	
			K-S Test Statistic	0.108				95% Percentile	19500	
			5% K-S Critical Value	0.125				99% Percentile	25000	
Data appear Gamma Distributed at 5% Significance Level										

Histogram for All Data



Location	All Data
BG-1-2	12000
BG-3-17	4900
BG-4-2	9900
BG-4-19	24000
BG-1-10	6500
BG-2-2	5800
BG-2-10	5300
BG-2-19	5400
BG-3-2	4400
BG-3-10	11000
BG-6-2	7300
BG-6-9	6400
BG-4-10	13000
BG-1-29	8000
BG-1-40	3800
BG-1-46	4500
BG-1-92	3800
BG-2-21	10000
BG-2-32	6300
BG-2-75	6800
BG-3-29	4700
BG-3-63	5500
BG-3-65	9400
BG-3-95	4000
BG-3-105	11000
BG-3-131	3100
BG-3-136	19000
BG-4-65	4800
BG-4-82	10000
BG-4-95	3800
BG-4-117	2800
BG-4-120	13000
BG-6-58	4800
BG-6-75	5900
BG-6-98	10000
BG-6-114	12000
BG-6-127	20000
BG-1-43	17000
BG-1-55	3600
BG-1-78	10000
BG-2-30	17000
BG-2-81	18000
BG-3-22	3200
BG-3-69	14000
BG-4-40	17000
BG-4-79	15000
BG-4-161	8200
BG-4-163	12000
BG-6-28	15000
BG-6-53	12000
BG-6-87	26000

		Number of Distinct Observations	27					
		Minimum	2800					
		Maximum	26000					
		Mean of Raw Data	9868					
		Standard Deviation of Raw Data	5822					
		Kstar	2.706					
		Mean of Log Transformed Data	9.016					
		Standard Deviation of Log Transformed Data	0.627					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.962					
		Shapiro Wilk Test Statistic	0.917					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.00865					
		Lilliefors Test Statistic	0.125					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.987					
		A-D Test Statistic	0.641					
		A-D Critical (0.95) Value	0.755					
		K-S Test Statistic	0.13					
		K-S Critical(0.95) Value	0.144					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.979					
		Shapiro Wilk Test Statistic	0.941					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.0595					
		Lilliefors Test Statistic	0.122					
		Lilliefors Critical (0.95) Value	0.144					
		Data appear Lognormal at (0.05) Significance Level						

			Outlier Tests for Selected Variables					
User Selected Options								
From File			Iron.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for 0-20								
Number of data = 13								
10% critical value: 0.467								
5% critical value: 0.521								
1% critical value: 0.615								
1. Data Value 24000 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.628								
For 10% significance level, 24000 is an outlier.								
For 5% significance level, 24000 is an outlier.								
For 1% significance level, 24000 is an outlier.								
2. Data Value 4400 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.105								
For 10% significance level, 4400 is not an outlier.								
For 5% significance level, 4400 is not an outlier.								
For 1% significance level, 4400 is not an outlier.								
Rosner's Outlier Test for >20								
Mean			9868					
Standard Deviation			5822					
Number of data			38					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	9868	5745	26000	38	2.808	3.01	3.36	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								

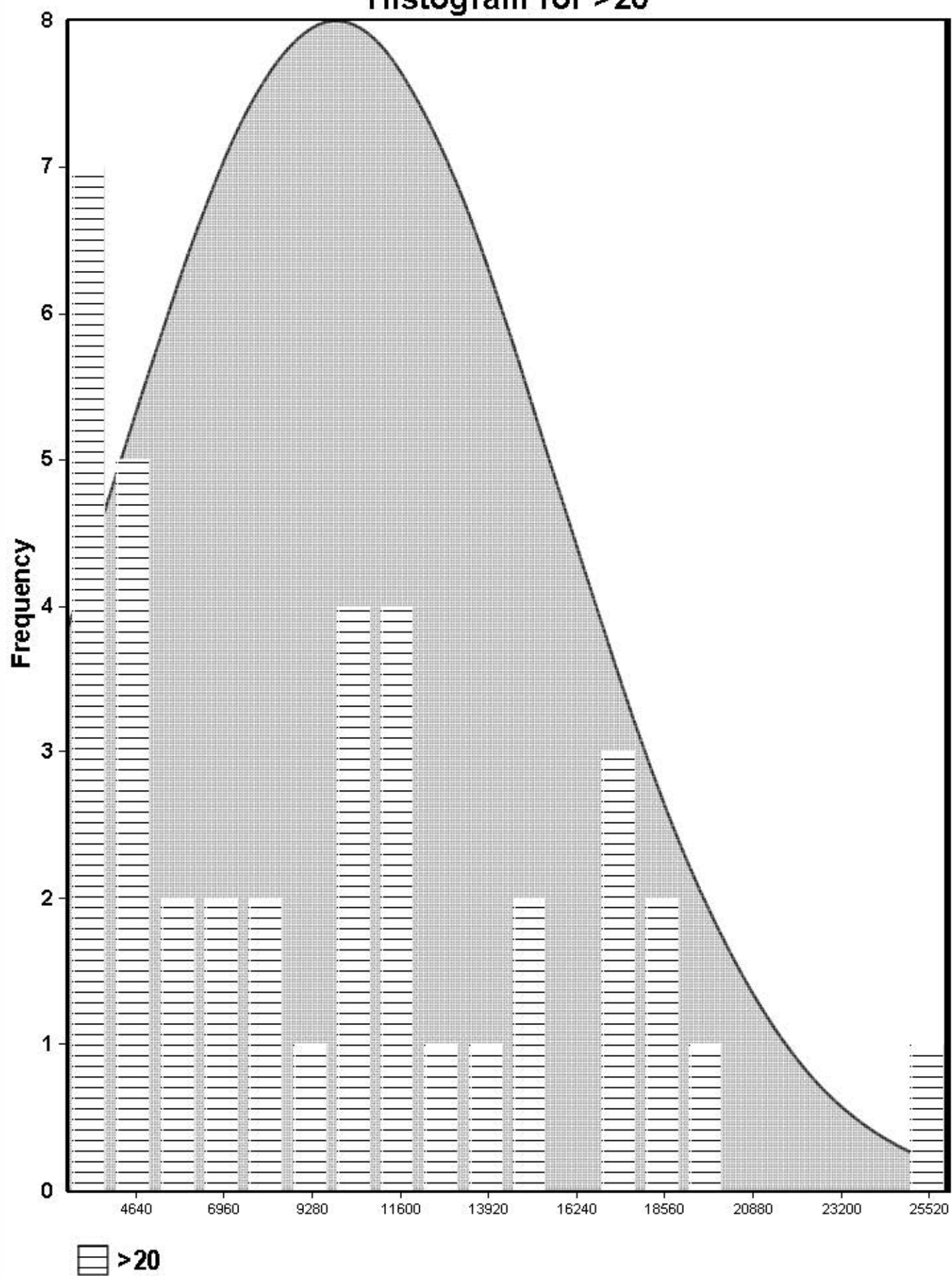
			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Iron.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
0-20										
General Statistics										
Total Number of Observations				13		Number of Distinct Observations				13
Raw Statistics					Log-Transformed Statistics					
			Minimum	4400				Minimum	8.389	
			Maximum	24000				Maximum	10.09	
			Second Largest	13000				Second Largest	9.473	
			First Quartile	5400				First Quartile	8.594	
			Median	6500				Median	8.78	
			Third Quartile	11000				Third Quartile	9.306	
			Mean	8915				Mean	8.971	
			SD	5366				SD	0.49	
			Coefficient of Variation	0.602						
			Skewness	2.058						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.766				Shapiro Wilk Test Statistic	0.91	
			Shapiro Wilk Critical Value	0.866				Shapiro Wilk Critical Value	0.866	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	23247				95% UTL with 95% Coverage	29097	
			95% UPL (t)	18839				95% UPL (t)	19462	
			90% Percentile (z)	15792				90% Percentile (z)	14737	
			95% Percentile (z)	17741				95% Percentile (z)	17605	
			99% Percentile (z)	21398				99% Percentile (z)	24579	
Gamma Distribution Test					Data Distribution Test					
			k star	3.253	Data appear Gamma Distributed at 5% Significance Level					
			Theta Star	2741						
			MLE of Mean	8915						
			MLE of Standard Deviation	4943						
			nu star	84.57						
			A-D Test Statistic	0.641	Nonparametric Statistics					
			5% A-D Critical Value	0.737				90% Percentile	12800	
			K-S Test Statistic	0.21				95% Percentile	17400	
			5% K-S Critical Value	0.238				99% Percentile	22680	
Data appear Gamma Distributed at 5% Significance Level										

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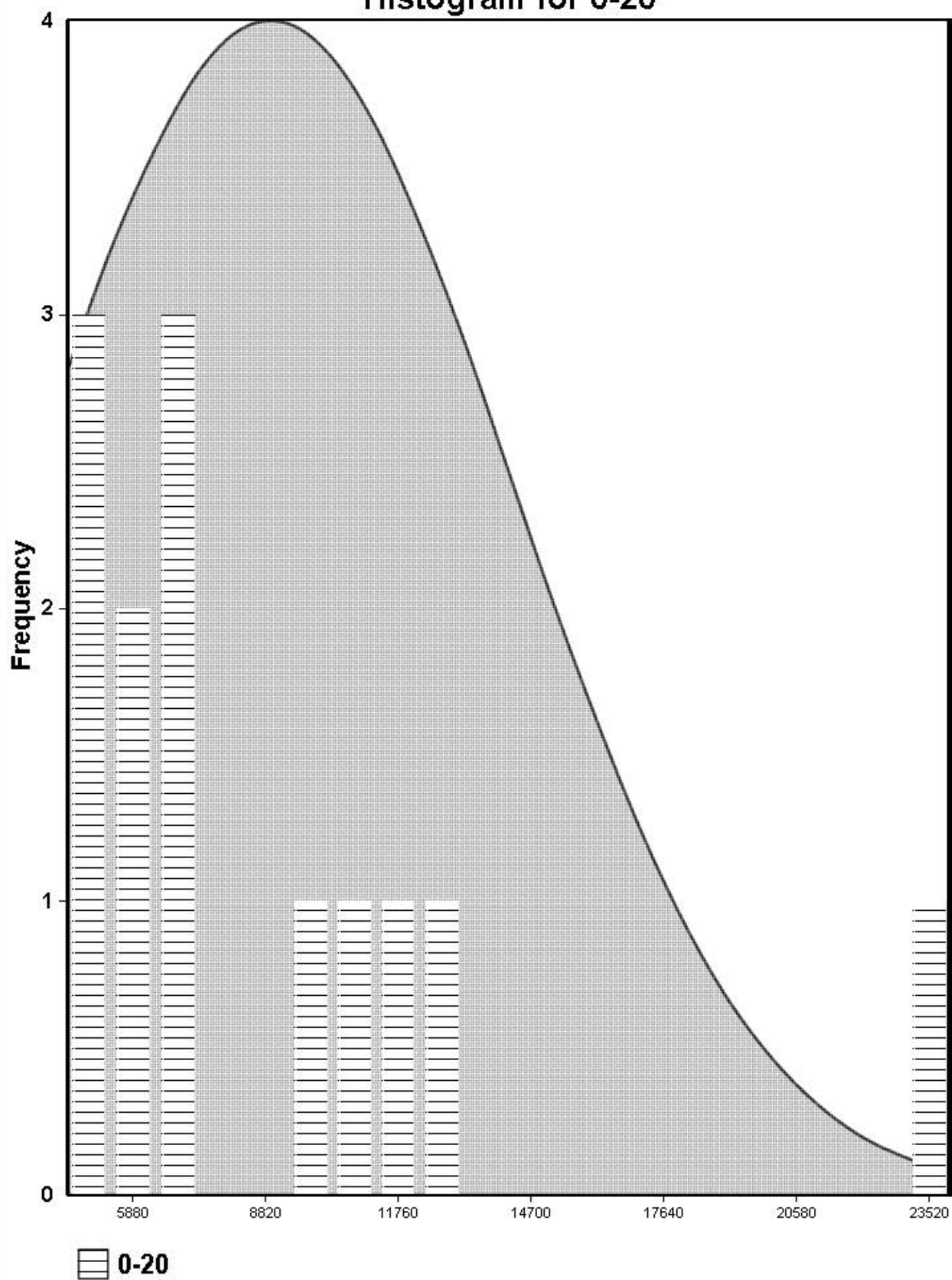
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		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Iron.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: >20					
Background Data: 0-20					
Raw Statistics					
	Site	Background			
Number of Valid Observations	38	13			
Number of Distinct Observations	27	13			
Minimum	2800	4400			
Maximum	26000	24000			
Mean	9868	8915			
Median	9700	6500			
SD	5822	5366			
SE of Mean	944.5	1488			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	999.5				
WMW Test U-Stat	0.238				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.812				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for >20



Histogram for 0-20



Location	0-20
BG-1-2	12000
BG-3-17	4900
BG-4-2	9900
BG-4-19	24000
BG-1-10	6500
BG-2-2	5800
BG-2-10	5300
BG-2-19	5400
BG-3-2	4400
BG-3-10	11000
BG-6-2	7300
BG-6-9	6400
BG-4-10	13000

Location	>20
BG-1-29	8000
BG-1-40	3800
BG-1-46	4500
BG-1-92	3800
BG-2-21	10000
BG-2-32	6300
BG-2-75	6800
BG-3-29	4700
BG-3-63	5500
BG-3-65	9400
BG-3-95	4000
BG-3-105	11000
BG-3-131	3100
BG-3-136	19000
BG-4-65	4800
BG-4-82	10000
BG-4-95	3800
BG-4-117	2800
BG-4-120	13000
BG-6-58	4800
BG-6-75	5900
BG-6-98	10000
BG-6-114	12000
BG-6-127	20000
BG-1-43	17000
BG-1-55	3600
BG-1-78	10000
BG-2-30	17000
BG-2-81	18000
BG-3-22	3200
BG-3-69	14000
BG-4-40	17000
BG-4-79	15000
BG-4-161	8200
BG-4-163	12000
BG-6-28	15000
BG-6-53	12000
BG-6-87	26000

		Number of Distinct Observations	26					
		Minimum	2800					
		Maximum	20000					
		Mean of Raw Data	7639					
		Standard Deviation of Raw Data	4237					
		Kstar	3.709					
		Mean of Log Transformed Data	8.813					
		Standard Deviation of Log Transformed Data	0.503					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.925					
		Shapiro Wilk Test Statistic	0.853					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	2.5918E-4					
		Lilliefors Test Statistic	0.185					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.978					
		A-D Test Statistic	0.658					
		A-D Critical (0.95) Value	0.751					
		K-S Test Statistic	0.135					
		K-S Critical(0.95) Value	0.154					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.986					
		Shapiro Wilk Test Statistic	0.963					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.366					
		Lilliefors Test Statistic	0.102					
		Lilliefors Critical (0.95) Value	0.154					
		Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets						
User Selected Options									
From File			Iron_a.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
Clay									
General Statistics									
Total Number of Observations			18		Number of Distinct Observations			13	
Raw Statistics					Log-Transformed Statistics				
			Minimum	3200				Minimum	8.071
			Maximum	26000				Maximum	10.17
			Second Largest	24000				Second Largest	10.09
			First Quartile	9925				First Quartile	9.203
			Median	13000				Median	9.47
			Third Quartile	17000				Third Quartile	9.741
			Mean	13267				Mean	9.356
			SD	6256				SD	0.59
			Coefficient of Variation	0.472					
			Skewness	0.231					
Background Statistics									
Normal Distribution Test					Lognormal Distribution Test				
			Shapiro Wilk Test Statistic	0.962				Shapiro Wilk Test Statistic	0.895
			Shapiro Wilk Critical Value	0.897				Shapiro Wilk Critical Value	0.897
Data appear Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level				
Assuming Normal Distribution					Assuming Lognormal Distribution				
			95% UTL with 95% Coverage	28613				95% UTL with 95% Coverage	49195
			95% UPL (t)	24448				95% UPL (t)	33213
			90% Percentile (z)	21284				90% Percentile (z)	24643
			95% Percentile (z)	23557				95% Percentile (z)	30536
			99% Percentile (z)	27821				99% Percentile (z)	45652
Gamma Distribution Test					Data Distribution Test				
			k star	3.211	Data appear Normal at 5% Significance Level				
			Theta Star	4132					
			MLE of Mean	13267					
			MLE of Standard Deviation	7404					
			nu star	115.6					
			A-D Test Statistic	0.499	Nonparametric Statistics				
			5% A-D Critical Value	0.743				90% Percentile	19800
			K-S Test Statistic	0.159				95% Percentile	24300
			5% K-S Critical Value	0.205				99% Percentile	25660
Data appear Gamma Distributed at 5% Significance Level									

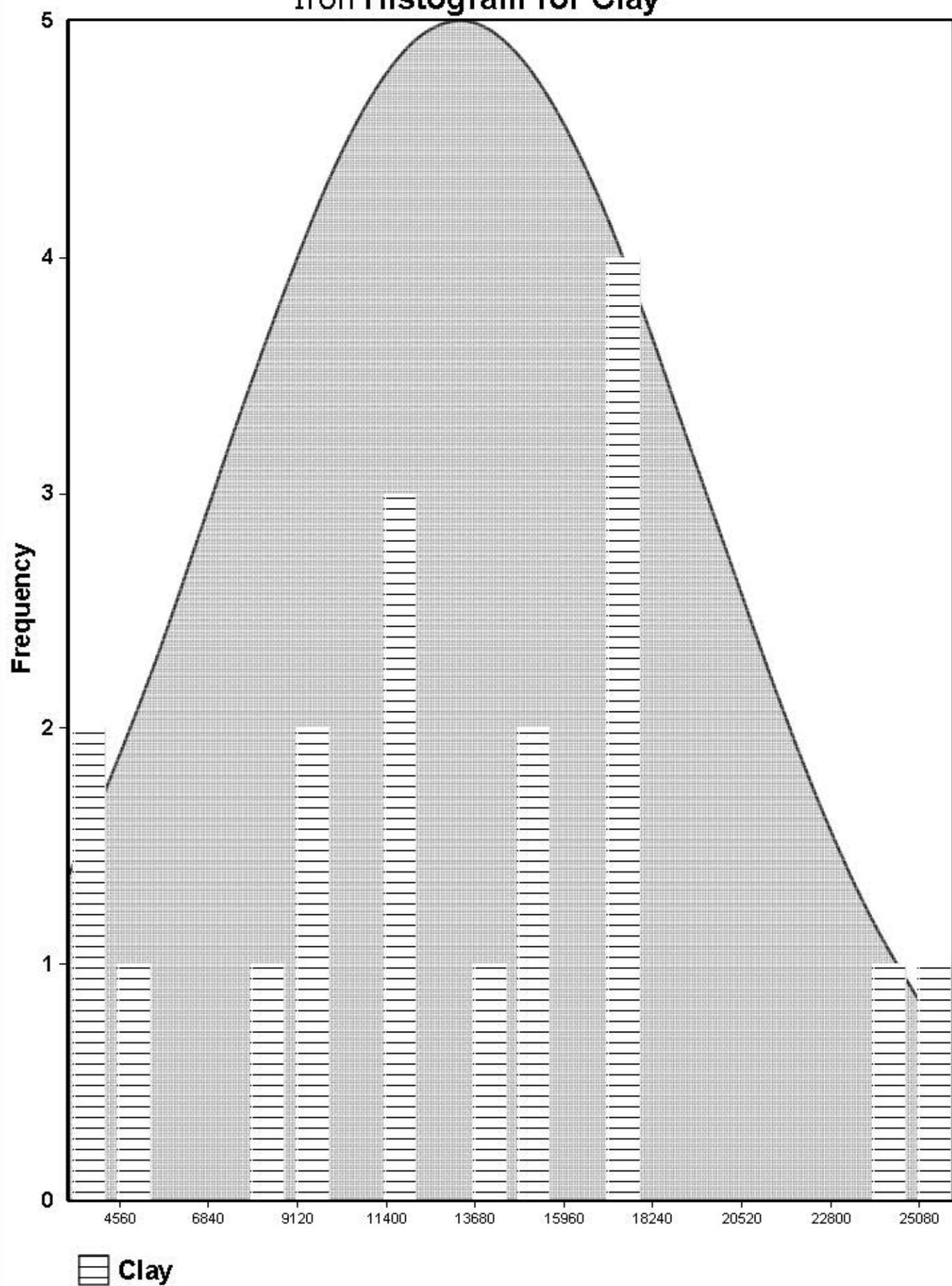
Assuming Gamma Distribution				95% UTL with 95% Coverage		26000			
90% Percentile			23195	95% Percentile Bootstrap UTL with 95% Coverage		26000			
95% Percentile			27309	95% BCA Bootstrap UTL with 95% Coverage		26000			
99% Percentile			36196			95% UPL		26000	
						95% Chebyshev UPL		41284	
95% WH Approx. Gamma UPL			28175	Upper Threshold Limit Based upon IQR		27613			
95% HW Approx. Gamma UPL			29090						
95% WH Approx. Gamma UTL with 95% Coverage			36571						
95% HW Approx. Gamma UTL with 95% Coverage			38672						
Non-Clay									
General Statistics									
Total Number of Observations			33	Number of Distinct Observations			26		
Raw Statistics				Log-Transformed Statistics					
		Minimum	2800			Minimum	7.937		
		Maximum	20000			Maximum	9.903		
		Second Largest	19000			Second Largest	9.852		
		First Quartile	4700			First Quartile	8.455		
		Median	6300			Median	8.748		
		Third Quartile	10000			Third Quartile	9.21		
		Mean	7639			Mean	8.813		
		SD	4237			SD	0.503		
		Coefficient of Variation	0.555						
		Skewness	1.423						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Shapiro Wilk Test Statistic	0.853			Shapiro Wilk Test Statistic	0.963		
		Shapiro Wilk Critical Value	0.931			Shapiro Wilk Critical Value	0.931		
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	16859			95% UTL with 95% Coverage	20056		
		95% UPL (t)	14924			95% UPL (t)	15944		
		90% Percentile (z)	13069			90% Percentile (z)	12795		
		95% Percentile (z)	14608			95% Percentile (z)	15358		
		99% Percentile (z)	17496			99% Percentile (z)	21630		
Gamma Distribution Test				Data Distribution Test					
		k star	3.709	Data appear Gamma Distributed at 5% Significance Level					
		Theta Star	2060						
		MLE of Mean	7639						
		MLE of Standard Deviation	3967						
		nu star	244.8						
		A-D Test Statistic	0.658	Nonparametric Statistics					
		5% A-D Critical Value	0.751			90% Percentile	12800		
		K-S Test Statistic	0.135			95% Percentile	15400		
		5% K-S Critical Value	0.154			99% Percentile	19680		

[illegible]

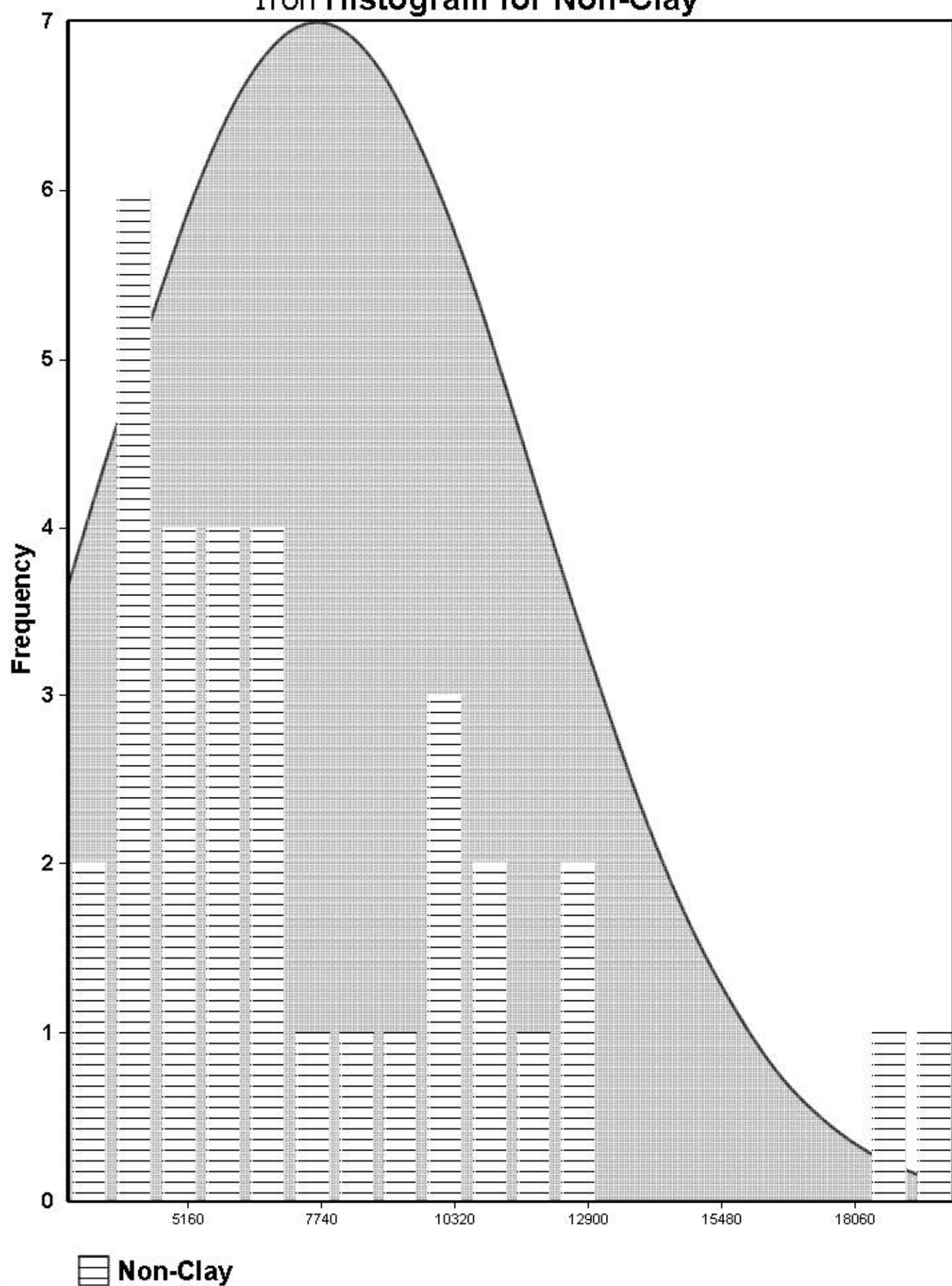
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Iron_a.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for Clay								
Number of data = 18								
10% critical value: 0.424								
5% critical value: 0.475								
1% critical value: 0.561								
1. Data Value 26000 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.379								
For 10% significance level, 26000 is not an outlier.								
For 5% significance level, 26000 is not an outlier.								
For 1% significance level, 26000 is not an outlier.								
2. Data Value 3200 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.115								
For 10% significance level, 3200 is not an outlier.								
For 5% significance level, 3200 is not an outlier.								
For 1% significance level, 3200 is not an outlier.								
Rosner's Outlier Test for Non-Clay								
Mean 7639								
Standard Deviation 4237								
Number of data 33								
Number of suspected outliers 1								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	7639	4172	20000	33	2.963	2.95	3.29	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 20000 is a Potential Statistical Outlier								
For 1% Significance Level, there is no Potential Outlier								

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Iron_a.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: Non-Clay					
Background Data: Clay					
Raw Statistics					
	Site	Background			
Number of Valid Observations	33	18			
Number of Distinct Observations	26	13			
Minimum	2800	3200			
Maximum	20000	26000			
Mean	7639	13267			
Median	6300	13000			
SD	4237	6256			
SE of Mean	737.5	1475			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	702				
WMW Test U-Stat	3.065				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.00204				
Conclusion with Alpha = 0.05					
Reject H0, Conclude Site <> Background					
P-Value < alpha (0.05)					

Iron Histogram for Clay



Iron Histogram for Non-Clay



Location	Clay
BG-1-2	12000
BG-1-43	17000
BG-1-55	3600
BG-1-78	10000
BG-2-30	17000
BG-2-81	18000
BG-3-17	4900
BG-3-22	3200
BG-3-69	14000
BG-4-2	9900
BG-4-19	24000
BG-4-40	17000
BG-4-79	15000
BG-4-161	8200
BG-4-163	12000
BG-6-28	15000
BG-6-53	12000
BG-6-87	26000

Location	Non-Clay
BG-1-10	6500
BG-1-29	8000
BG-1-40	3800
BG-1-46	4500
BG-1-92	3800
BG-2-2	5800
BG-2-10	5300
BG-2-19	5400
BG-2-21	10000
BG-2-32	6300
BG-2-75	6800
BG-3-2	4400
BG-3-10	11000
BG-3-29	4700
BG-3-63	5500
BG-3-65	9400
BG-3-95	4000
BG-3-105	11000
BG-3-131	3100
BG-3-136	19000
BG-4-10	13000
BG-4-65	4800
BG-4-82	10000
BG-4-95	3800
BG-4-117	2800
BG-4-120	13000
BG-6-2	7300
BG-6-9	6400
BG-6-58	4800
BG-6-75	5900
BG-6-98	10000
BG-6-114	12000
BG-6-127	20000

Average 7639.394

		Number of Distinct Observations	29					
		Minimum	2800					
		Maximum	26000					
		Mean of Raw Data	10385					
		Standard Deviation of Raw Data	6151					
		Kstar	2.645					
		Mean of Log Transformed Data	9.062					
		Standard Deviation of Log Transformed Data	0.638					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.965					
		Shapiro Wilk Test Statistic	0.917					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.0081					
		Lilliefors Test Statistic	0.131					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.987					
		A-D Test Statistic	0.642					
		A-D Critical (0.95) Value	0.755					
		K-S Test Statistic	0.128					
		K-S Critical(0.95) Value	0.142					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.979					
		Shapiro Wilk Test Statistic	0.939					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.0488					
		Lilliefors Test Statistic	0.124					
		Lilliefors Critical (0.95) Value	0.142					
		Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Iron.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Alluv										
General Statistics										
Total Number of Observations				12		Number of Distinct Observations				12
Raw Statistics					Log-Transformed Statistics					
			Minimum	3800				Minimum	8.243	
			Maximum	12000				Maximum	9.393	
			Second Largest	11000				Second Largest	9.306	
			First Quartile	5375				First Quartile	8.589	
			Median	6450				Median	8.772	
			Third Quartile	8500				Third Quartile	9.043	
			Mean	7158				Mean	8.817	
			SD	2616				SD	0.358	
			Coefficient of Variation	0.365						
			Skewness	0.73						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.924				Shapiro Wilk Test Statistic	0.968	
			Shapiro Wilk Critical Value	0.859				Shapiro Wilk Critical Value	0.859	
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	14316				95% UTL with 95% Coverage	17956	
			95% UPL (t)	12049				95% UPL (t)	13168	
			90% Percentile (z)	10511				90% Percentile (z)	10672	
			95% Percentile (z)	11462				95% Percentile (z)	12153	
			99% Percentile (z)	13245				99% Percentile (z)	15508	
Gamma Distribution Test					Data Distribution Test					
			k star	6.516	Data appear Normal at 5% Significance Level					
			Theta Star	1098						
			MLE of Mean	7158						
			MLE of Standard Deviation	2804						
			nu star	156.4						
			A-D Test Statistic	0.265	Nonparametric Statistics					
			5% A-D Critical Value	0.731				90% Percentile	10900	
			K-S Test Statistic	0.148				95% Percentile	11450	
			5% K-S Critical Value	0.246				99% Percentile	11890	
Data appear Gamma Distributed at 5% Significance Level										

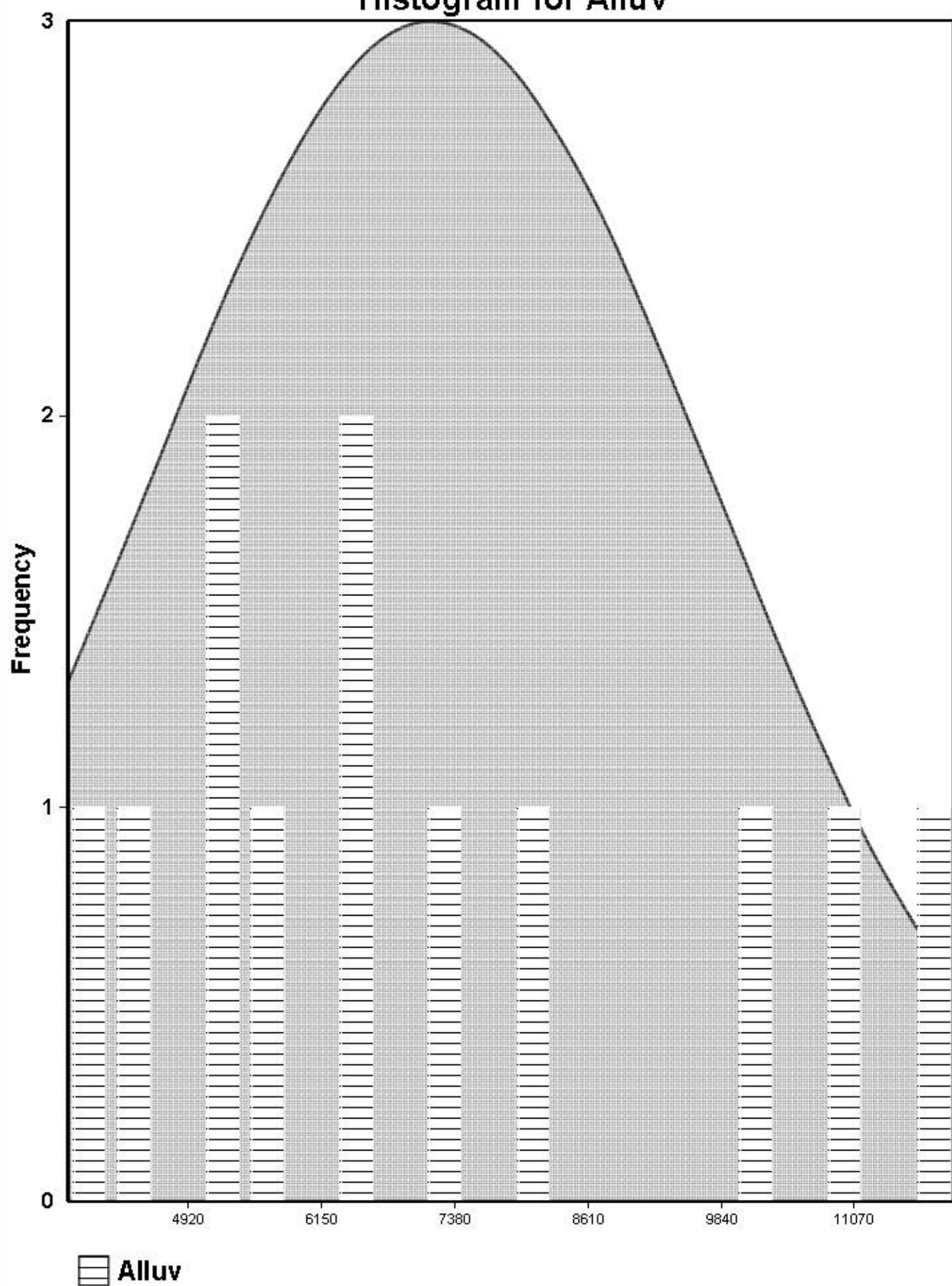
Assuming Gamma Distribution				95% UTL with 95% Coverage		12000			
90% Percentile		10904	95% Percentile Bootstrap UTL with 95% Coverage		12000				
95% Percentile		12306	95% BCA Bootstrap UTL with 95% Coverage		12000				
99% Percentile		15234			95% UPL		12000		
					95% Chebyshev UPL		19028		
95% WH Approx. Gamma UPL		12645	Upper Threshold Limit Based upon IQR		13188				
95% HW Approx. Gamma UPL		12756							
95% WH Approx. Gamma UTL with 95% Coverage		16156							
95% HW Approx. Gamma UTL with 95% Coverage		16521							
MC									
General Statistics									
Total Number of Observations		39	Number of Distinct Observations				29		
Raw Statistics			Log-Transformed Statistics						
Minimum		2800			Minimum		7.937		
Maximum		26000			Maximum		10.17		
Second Largest		24000			Second Largest		10.09		
First Quartile		4800			First Quartile		8.476		
Median		10000			Median		9.21		
Third Quartile		14500			Third Quartile		9.581		
Mean		10385			Mean		9.062		
SD		6151			SD		0.638		
Coefficient of Variation		0.592							
Skewness		0.702							
Background Statistics									
Normal Distribution Test			Lognormal Distribution Test						
Shapiro Wilk Test Statistic		0.917			Shapiro Wilk Test Statistic		0.939		
Shapiro Wilk Critical Value		0.939			Shapiro Wilk Critical Value		0.939		
Data not Normal at 5% Significance Level			Data appear Lognormal at 5% Significance Level						
Assuming Normal Distribution			Assuming Lognormal Distribution						
95% UTL with 95% Coverage		23453			95% UTL with 95% Coverage		33460		
95% UPL (t)		20887			95% UPL (t)		25641		
90% Percentile (z)		18268			90% Percentile (z)		19538		
95% Percentile (z)		20502			95% Percentile (z)		24637		
99% Percentile (z)		24694			99% Percentile (z)		38060		
Gamma Distribution Test			Data Distribution Test						
k star		2.645	Data appear Gamma Distributed at 5% Significance Level						
Theta Star		3927							
MLE of Mean		10385							
MLE of Standard Deviation		6386							
nu star		206.3							
A-D Test Statistic		0.642	Nonparametric Statistics						
5% A-D Critical Value		0.755			90% Percentile		18200		
K-S Test Statistic		0.128			95% Percentile		20400		
5% K-S Critical Value		0.142			99% Percentile		25240		

Data appear Gamma Distributed at 5% Significance Level											
Assuming Gamma Distribution					95% UTL with 95% Coverage					26000	
90% Percentile			18942	95% Percentile Bootstrap UTL with 95% Coverage					26000		
95% Percentile			22610	95% BCA Bootstrap UTL with 95% Coverage					26000		
99% Percentile			30614	95% UPL					24000		
				95% Chebyshev UPL					37538		
95% WH Approx. Gamma UPL			22963	Upper Threshold Limit Based upon IQR					29050		
95% HW Approx. Gamma UPL			23466								
95% WH Approx. Gamma UTL with 95% Coverage			27672								
95% HW Approx. Gamma UTL with 95% Coverage			28712								

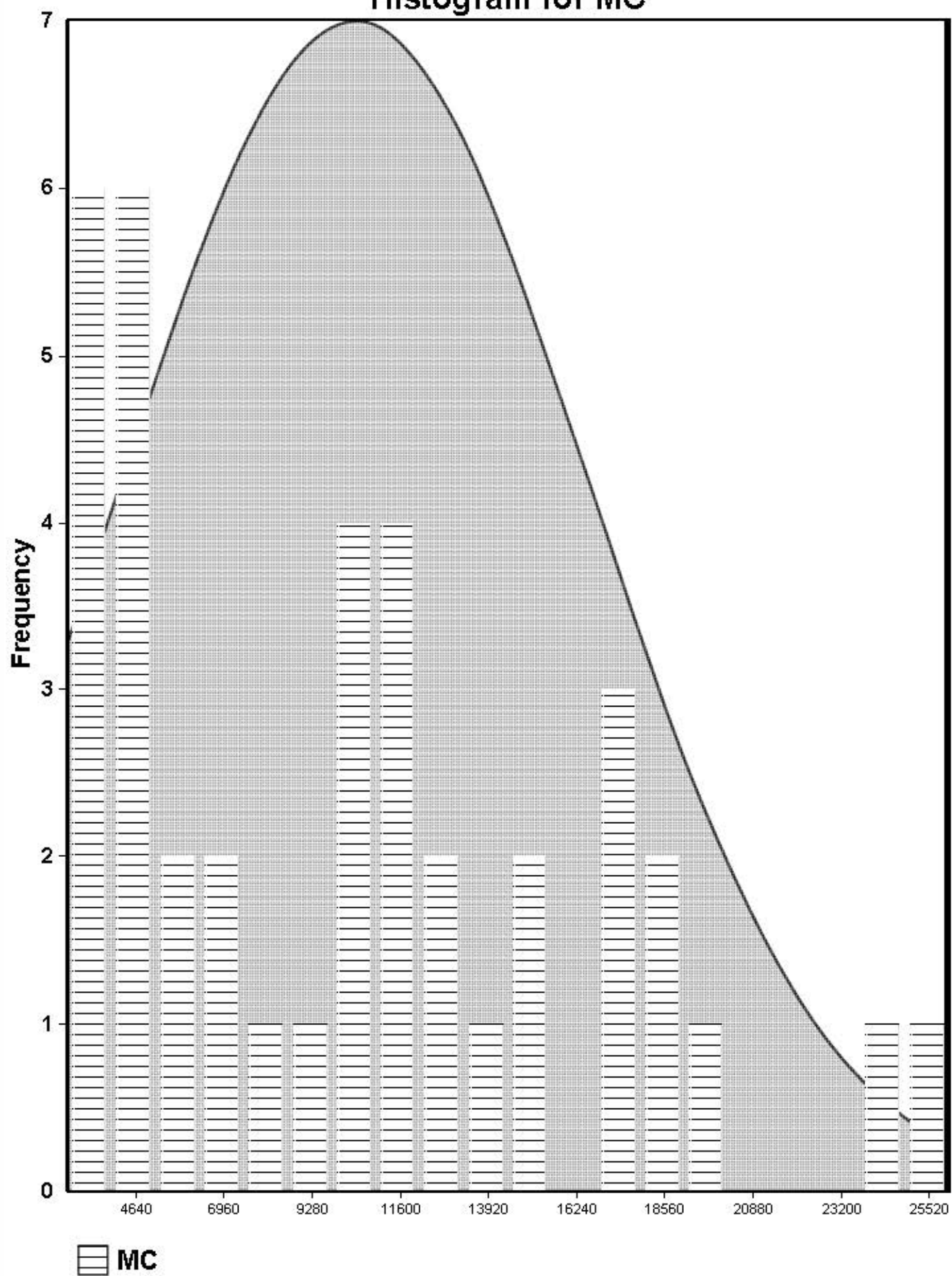
		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Iron.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: MC					
Background Data: Alluv					
Raw Statistics					
	Site	Background			
Number of Valid Observations	39	12			
Number of Distinct Observations	29	12			
Minimum	2800	3800			
Maximum	26000	12000			
Mean	10385	7158			
Median	10000	6450			
SD	6151	2616			
SE of Mean	985	755.2			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1070				
WMW Test U-Stat	1.221				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.222				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

			Outlier Tests for Selected Variables					
User Selected Options								
From File			Iron.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 12000 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.263								
For 10% significance level, 12000 is not an outlier.								
For 5% significance level, 12000 is not an outlier.								
For 1% significance level, 12000 is not an outlier.								
2. Data Value 3800 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.208								
For 10% significance level, 3800 is not an outlier.								
For 5% significance level, 3800 is not an outlier.								
For 1% significance level, 3800 is not an outlier.								
Rosner's Outlier Test for MC								
Mean 10385								
Standard Deviation 6151								
Number of data 39								
Number of suspected outliers 1								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	10385	6072	26000	36	2.572	3.03	3.37	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								

Histogram for Alluv



Histogram for MC



Location	Alluv
BG-1-2	12000
BG-1-10	6500
BG-1-29	8000
BG-1-40	3800
BG-2-2	5800
BG-2-10	5300
BG-2-19	5400
BG-2-21	10000
BG-3-2	4400
BG-3-10	11000
BG-6-2	7300
BG-6-9	6400

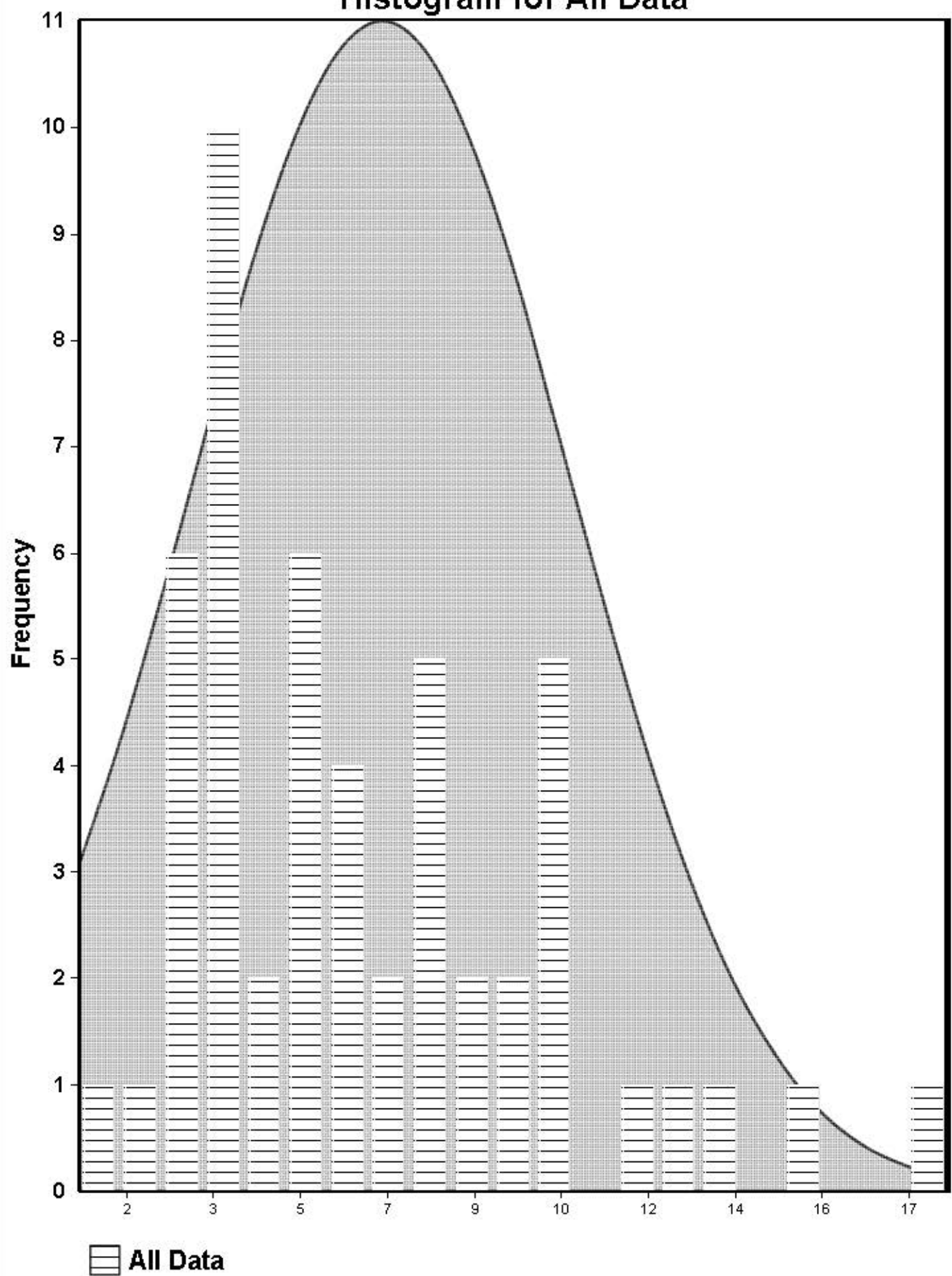
Location	MC
BG-1-43	17000
BG-1-46	4500
BG-1-55	3600
BG-1-78	10000
BG-1-92	3800
BG-2-30	17000
BG-2-32	6300
BG-2-75	6800
BG-2-81	18000
BG-3-17	4900
BG-3-22	3200
BG-3-29	4700
BG-3-63	5500
BG-3-65	9400
BG-3-69	14000
BG-3-95	4000
BG-3-105	11000
BG-3-131	3100
BG-3-136	19000
BG-4-1	9900
BG-4-10	13000
BG-4-19	24000
BG-4-40	17000
BG-4-65	4800
BG-4-79	15000
BG-4-82	10000
BG-4-95	3800
BG-4-117	2800
BG-4-120	13000
BG-4-161	8200
BG-4-163	12000
BG-6-28	15000
BG-6-53	12000
BG-6-58	4800
BG-6-75	5900
BG-6-87	26000
BG-6-98	10000
BG-6-114	12000
BG-1-127	20000

		Goodness-of-Fit Test Statistics for Full Data Sets without Non-Detects				
User Selected Options						
From File	Lead.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
All Data						
Raw Statistics						
Number of Valid Observations	51					
Number of Distinct Observations	38					
Minimum	0.76					
Maximum	18					
Mean of Raw Data	6.77					
Standard Deviation of Raw Data	3.759					
Kstar	3.16					
Mean of Log Transformed Data	1.756					
Standard Deviation of Log Transformed Data	0.593					
Normal Distribution Test Results						
Correlation Coefficient R	0.96					
Approximate Shapiro Wilk Test Statistic	0.919					
Approximate Shapiro Wilk P Value	0.00181					
Lilliefors Test Statistic	0.137					
Lilliefors Critical (0.95) Value	0.124					
Data not Normal at (0.05) Significance Level						
Gamma Distribution Test Results						
Correlation Coefficient R	0.994					
A-D Test Statistic	0.494					
A-D Critical (0.95) Value	0.756					
K-S Test Statistic	0.112					
K-S Critical(0.95) Value	0.125					
Data appear Gamma Distributed at (0.05) Significance Level						
Lognormal Distribution Test Results						
Correlation Coefficient R	0.976					
Approximate Shapiro Wilk Test Statistic	0.961					
Approximate Shapiro Wilk P Value	0.167					
Lilliefors Test Statistic	0.0863					
Lilliefors Critical (0.95) Value	0.124					
Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets							
User Selected Options										
From File		Lead.wst								
Full Precision		OFF								
Confidence Coefficient		95%								
Coverage		95%								
Different or Future K Values		1								
Number of Bootstrap Operations		2000								
All Data										
General Statistics										
Total Number of Observations				51		Number of Distinct Observations				38
Raw Statistics					Log-Transformed Statistics					
Minimum			0.76		Minimum			-0.274		
Maximum			18		Maximum			2.89		
Second Largest			16		Second Largest			2.773		
First Quartile			3.7		First Quartile			1.308		
Median			5.9		Median			1.775		
Third Quartile			8.65		Third Quartile			2.158		
Mean			6.77		Mean			1.756		
SD			3.759		SD			0.593		
Coefficient of Variation			0.555							
Skewness			0.967							
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
Lilliefors Test Statistic			0.137		Lilliefors Test Statistic			0.0863		
Lilliefors Critical Value			0.124		Lilliefors Critical Value			0.124		
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
95% UTL with 95% Coverage			14.49		95% UTL with 95% Coverage			19.54		
95% UPL (t)			13.13		95% UPL (t)			15.78		
90% Percentile (z)			11.59		90% Percentile (z)			12.37		
95% Percentile (z)			12.95		95% Percentile (z)			15.34		
99% Percentile (z)			15.51		99% Percentile (z)			22.97		
Gamma Distribution Test					Data Distribution Test					
k star			3.16		Data appear Gamma Distributed at 5% Significance Level					
Theta Star			2.143							
MLE of Mean			6.77							
MLE of Standard Deviation			3.809							
nu star			322.3							
A-D Test Statistic			0.494		Nonparametric Statistics					
5% A-D Critical Value			0.756		90% Percentile			11		
K-S Test Statistic			0.112		95% Percentile			13.5		
5% K-S Critical Value			0.125		99% Percentile			17		
Data appear Gamma Distributed at 5% Significance Level										

				Outlier Tests for Selected Variables							
User Selected Options											
From File				Lead.wst							
Full Precision				OFF							
Test for Suspected Outliers with Dixon test				1							
Test for Suspected Outliers with Rosner test				1							
Rosner's Outlier Test for All Data											
Mean				6.77							
Standard Deviation				3.759							
Number of data				51							
Number of suspected outliers				1							
			Potential	Obs.	Test	Critical	Critical				
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)				
1	6.77	3.722	18	51	3.017	3.137	3.488				
For 5% Significance Level, there is no Potential Outlier											
For 1% Significance Level, there is no Potential Outlier											

Histogram for All Data



Location	All Data
BG-1-2	6.8
BG-3-17	4
BG-4-2	6.4
BG-4-19	14
BG-1-10	3.8
BG-2-2	3.9
BG-2-10	3.4
BG-2-19	8.7
BG-3-2	5.9
BG-3-10	5.5
BG-4-10	9.4
BG-6-2	7.7
BG-6-9	3.6
BG-1-29	4.3
BG-1-40	0.76
BG-1-46	3.1
BG-1-92	2.4
BG-2-21	4.3
BG-2-32	3.5
BG-2-75	3.2
BG-3-29	3.6
BG-3-63	3.8
BG-3-65	5.5
BG-3-95	3.1
BG-3-105	5.4
BG-3-131	5.3
BG-3-136	11
BG-4-65	4
BG-4-82	7.3
BG-4-95	3.3
BG-4-117	2.7
BG-4-120	8.6
BG-6-58	3.6
BG-6-75	5.7
BG-6-98	6.5
BG-6-114	8.1
BG-6-127	13
BG-1-43	11
BG-1-55	2.7
BG-1-78	7.8
BG-2-30	11
BG-2-81	16
BG-3-22	6.6
BG-3-69	8.1
BG-4-40	12
BG-4-79	11
BG-4-161	6.7
BG-4-163	11
BG-6-28	10
BG-6-53	8.2
BG-6-87	18

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Lead.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
0-20										
General Statistics										
Total Number of Observations				13		Number of Distinct Observations				13
Raw Statistics					Log-Transformed Statistics					
			Minimum	3.4				Minimum	1.224	
			Maximum	14				Maximum	2.639	
			Second Largest	9.4				Second Largest	2.241	
			First Quartile	3.9				First Quartile	1.361	
			Median	5.9				Median	1.775	
			Third Quartile	7.7				Third Quartile	2.041	
			Mean	6.392				Mean	1.763	
			SD	3.035				SD	0.436	
			Coefficient of Variation	0.475						
			Skewness	1.36						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.868				Shapiro Wilk Test Statistic	0.935	
			Shapiro Wilk Critical Value	0.866				Shapiro Wilk Critical Value	0.866	
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	14.5				95% UTL with 95% Coverage	18.68	
			95% UPL (t)	12.01				95% UPL (t)	13.06	
			90% Percentile (z)	10.28				90% Percentile (z)	10.2	
			95% Percentile (z)	11.39				95% Percentile (z)	11.94	
			99% Percentile (z)	13.45				99% Percentile (z)	16.07	
Gamma Distribution Test					Data Distribution Test					
			k star	4.37	Data appear Normal at 5% Significance Level					
			Theta Star	1.463						
			MLE of Mean	6.392						
			MLE of Standard Deviation	3.058						
			nu star	113.6						
			A-D Test Statistic	0.393	Nonparametric Statistics					
			5% A-D Critical Value	0.736				90% Percentile	9.26	
			K-S Test Statistic	0.196				95% Percentile	11.24	
			5% K-S Critical Value	0.237				99% Percentile	13.45	
Data appear Gamma Distributed at 5% Significance Level										

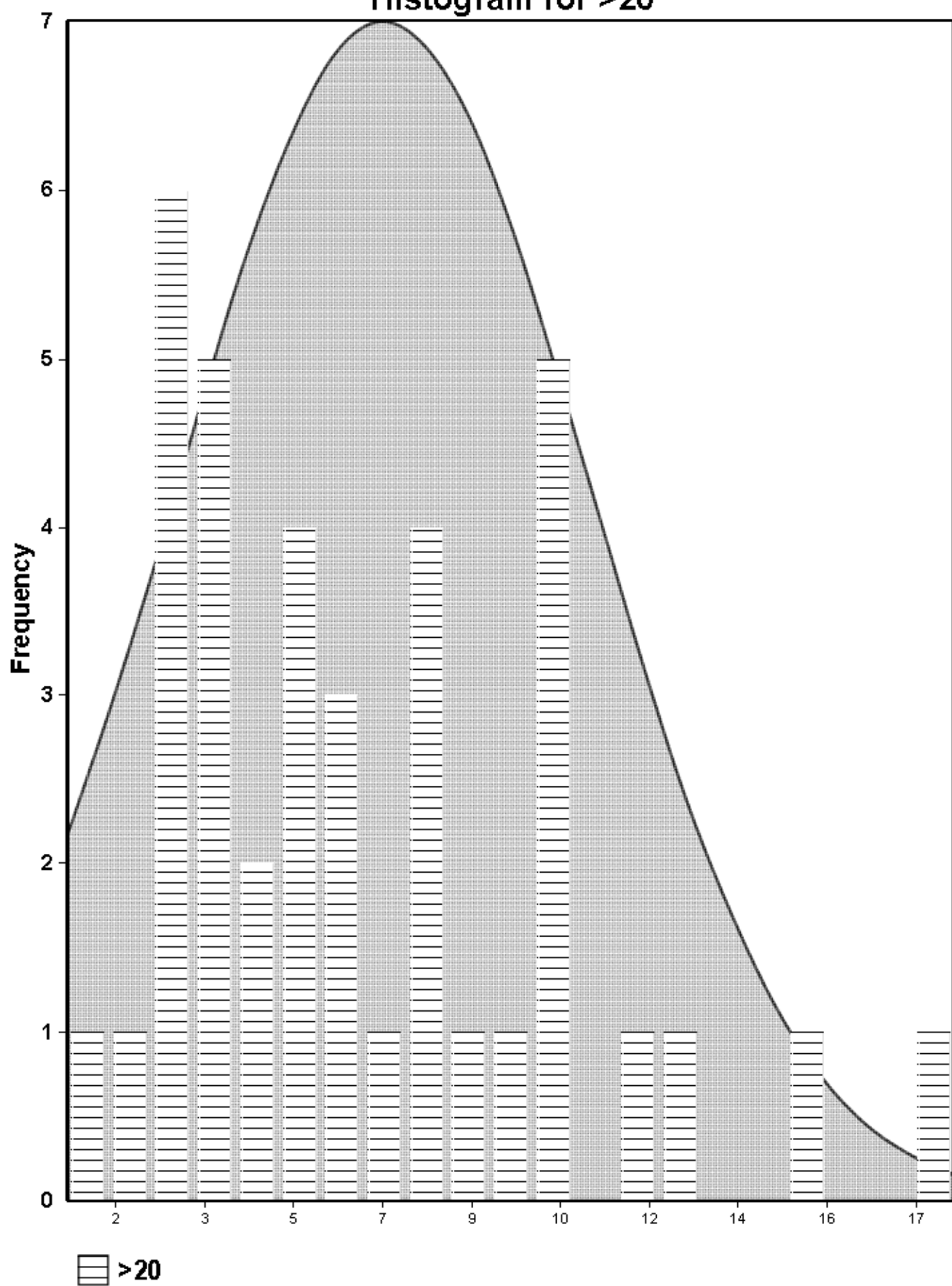
Data appear Gamma Distributed at 5% Significance Level							
Assuming Gamma Distribution				95% UTL with 95% Coverage		18	
90% Percentile		12.48		95% Percentile Bootstrap UTL with 95% Coverage		18	
95% Percentile		14.86		95% BCA Bootstrap UTL with 95% Coverage		18	
99% Percentile		20.04		95% UPL		16.1	
				95% Chebyshev UPL		24.58	
95% WH Approx. Gamma UPL		15.07		Upper Threshold Limit Based upon IQR		18.73	
95% HW Approx. Gamma UPL		15.45					
95% WH Approx. Gamma UTL with 95% Coverage		18.14					
95% HW Approx. Gamma UTL with 95% Coverage		18.89					

		Number of Distinct Observations	29					
		Minimum	0.76					
		Maximum	18					
		Mean of Raw Data	6.899					
		Standard Deviation of Raw Data	4.005					
		Kstar	2.741					
		Mean of Log Transformed Data	1.753					
		Standard Deviation of Log Transformed Data	0.643					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.962					
		Shapiro Wilk Test Statistic	0.923					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.0146					
		Lilliefors Test Statistic	0.137					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.99					
		A-D Test Statistic	0.407					
		A-D Critical (0.95) Value	0.755					
		K-S Test Statistic	0.104					
		K-S Critical(0.95) Value	0.144					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.973					
		Shapiro Wilk Test Statistic	0.955					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.181					
		Lilliefors Test Statistic	0.0791					
		Lilliefors Critical (0.95) Value	0.144					
		Data appear Lognormal at (0.05) Significance Level						

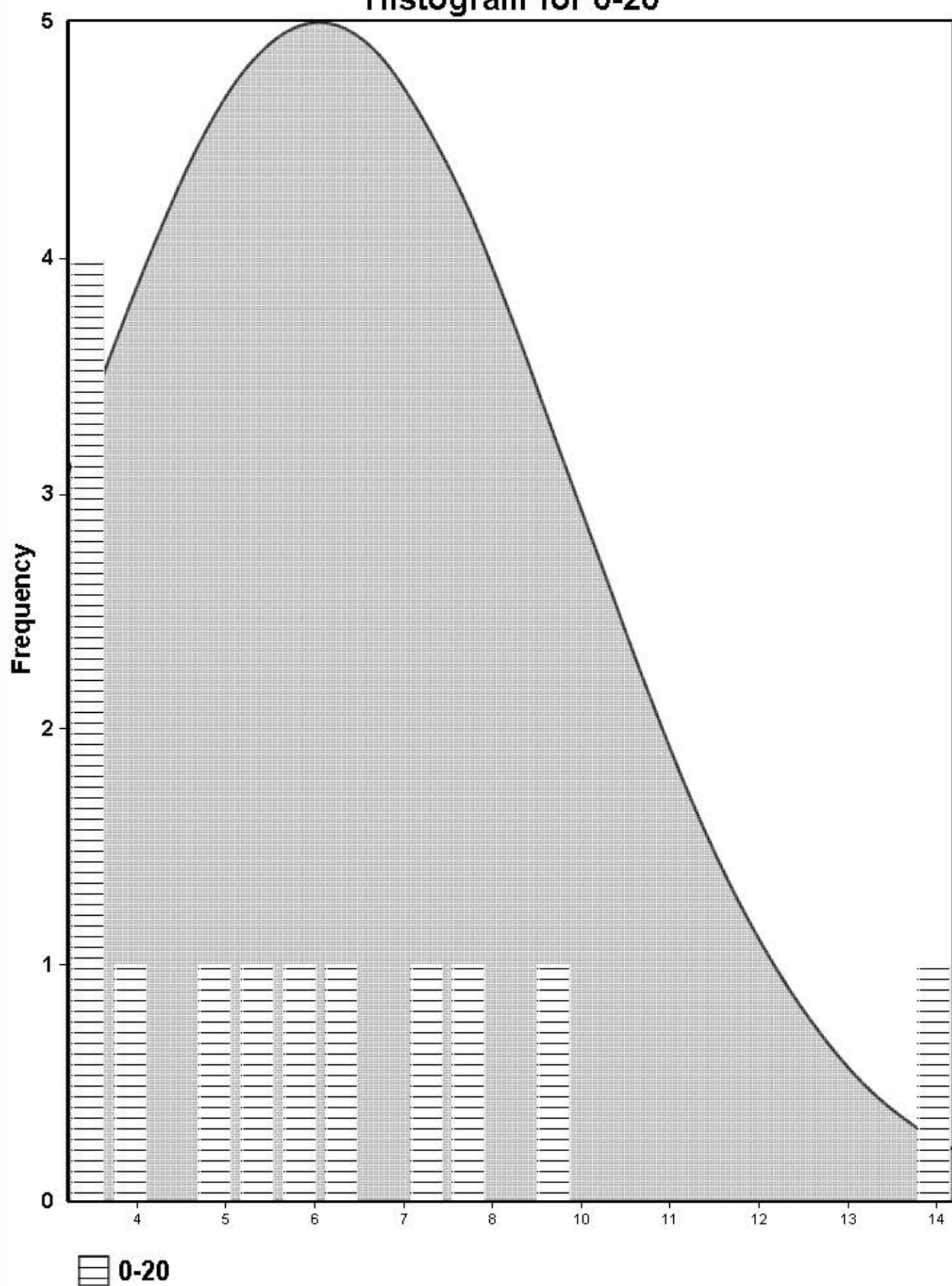
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Lead.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 14 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.510							
For 10% significance level, 14 is an outlier.							
For 5% significance level, 14 is not an outlier.							
For 1% significance level, 14 is not an outlier.							
2. Data Value 3.4 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.067							
For 10% significance level, 3.4 is not an outlier.							
For 5% significance level, 3.4 is not an outlier.							
For 1% significance level, 3.4 is not an outlier.							
Rosner's Outlier Test for >20							
Mean		6.899					
Standard Deviation		4.005					
Number of data		38					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	6.899	3.952	18	38	2.809	3.01	3.36
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Lead.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: >20					
Background Data: 0-20					
Raw Statistics					
	Site	Background			
Number of Valid Observations	38	13			
Number of Distinct Observations	29	13			
Minimum	0.76	3.4			
Maximum	18	14			
Mean	6.899	6.392			
Median	6.1	5.9			
SD	4.005	3.035			
SE of Mean	0.65	0.842			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	988.5				
WMW Test U-Stat	0				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	1				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for >20



Histogram for 0-20



Location	0-20
BG-1-2	6.8
BG-3-17	4
BG-4-2	6.4
BG-4-19	14
BG-1-10	3.8
BG-2-2	3.9
BG-2-10	3.4
BG-2-19	8.7
BG-3-2	5.9
BG-3-10	5.5
BG-4-10	9.4
BG-6-2	7.7
BG-6-9	3.6

Location	>20
BG-1-29	4.3
BG-1-40	0.76
BG-1-46	3.1
BG-1-92	2.4
BG-2-21	4.3
BG-2-32	3.5
BG-2-75	3.2
BG-3-29	3.6
BG-3-63	3.8
BG-3-65	5.5
BG-3-95	3.1
BG-3-105	5.4
BG-3-131	5.3
BG-3-136	11
BG-4-65	4
BG-4-82	7.3
BG-4-95	3.3
BG-4-117	2.7
BG-4-120	8.6
BG-6-58	3.6
BG-6-75	5.7
BG-6-98	6.5
BG-6-114	8.1
BG-6-127	13
BG-1-43	11
BG-1-55	2.7
BG-1-78	7.8
BG-2-30	11
BG-2-81	16
BG-3-22	6.6
BG-3-69	8.1
BG-4-40	12
BG-4-79	11
BG-4-161	6.7
BG-4-163	11
BG-6-28	10
BG-6-53	8.2
BG-6-87	18

		Number of Distinct Observations	27					
		Minimum	0.76					
		Maximum	13					
		Mean of Raw Data	5.272					
		Standard Deviation of Raw Data	2.682					
		Kstar	3.738					
		Mean of Log Transformed Data	1.535					
		Standard Deviation of Log Transformed Data	0.538					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.949					
		Shapiro Wilk Test Statistic	0.906					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.00792					
		Lilliefors Test Statistic	0.187					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.987					
		A-D Test Statistic	0.635					
		A-D Critical (0.95) Value	0.751					
		K-S Test Statistic	0.136					
		K-S Critical(0.95) Value	0.154					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.956					
		Shapiro Wilk Test Statistic	0.932					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.048					
		Lilliefors Test Statistic	0.136					
		Lilliefors Critical (0.95) Value	0.154					
		Data appear Lognormal at (0.05) Significance Level						

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs				
User Selected Options				
From File	Lead.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: Non-Clay				
Background Data: Clay				
Raw Statistics				
	Site	Background		
Number of Valid Observations	33	18		
Number of Distinct Observations	27	15		
Minimum	0.76	2.7		
Maximum	13	18		
Mean	5.272	9.517		
Median	4.3	9.1		
SD	2.682	3.959		
SE of Mean	0.467	0.933		
Wilcoxon-Mann-Whitney (WMW) Test				
H0: Mean/Median of Site or AOC = Mean/Median of Background				
Site Rank Sum W-Stat	667.5			
WMW Test U-Stat	3.745			
Lower Critical Value (0.025)	-1.96			
Upper Critical Value (0.975)	1.96			
P-Value	1.6676E-4			
Conclusion with Alpha = 0.05				
Reject H0, Conclude Site <> Background				
P-Value < alpha (0.05)				

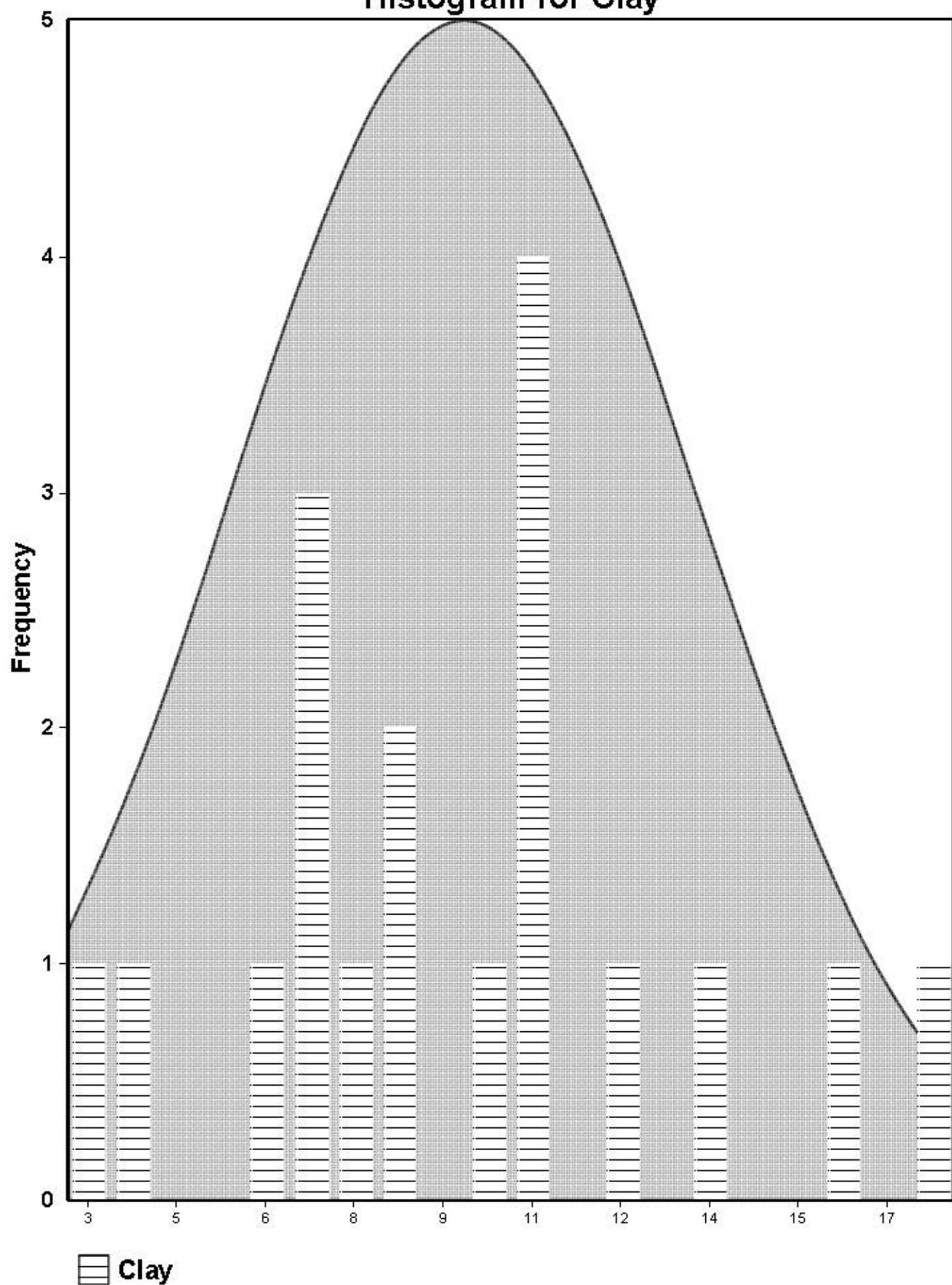
			General Background Statistics for Full Data Sets						
User Selected Options									
From File			Lead.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
Clay									
General Statistics									
Total Number of Observations			18		Number of Distinct Observations			15	
Raw Statistics				Log-Transformed Statistics					
		Minimum	2.7				Minimum	0.993	
		Maximum	18				Maximum	2.89	
		Second Largest	16				Second Largest	2.773	
		First Quartile	6.725				First Quartile	1.906	
		Median	9.1				Median	2.203	
		Third Quartile	11				Third Quartile	2.398	
		Mean	9.517				Mean	2.16	
		SD	3.959				SD	0.47	
		Coefficient of Variation	0.416						
		Skewness	0.437						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Shapiro Wilk Test Statistic	0.966				Shapiro Wilk Test Statistic	0.942	
		Shapiro Wilk Critical Value	0.897				Shapiro Wilk Critical Value	0.897	
Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	19.23				95% UTL with 95% Coverage	27.48	
		95% UPL (t)	16.59				95% UPL (t)	20.09	
		90% Percentile (z)	14.59				90% Percentile (z)	15.84	
		95% Percentile (z)	16.03				95% Percentile (z)	18.79	
		99% Percentile (z)	18.73				99% Percentile (z)	25.89	
Gamma Distribution Test				Data Distribution Test					
		k star	4.631		Data appear Normal at 5% Significance Level				
		Theta Star	2.055						
		MLE of Mean	9.517						
		MLE of Standard Deviation	4.422						
		nu star	166.7						
		A-D Test Statistic	0.295		Nonparametric Statistics				
		5% A-D Critical Value	0.743				90% Percentile	14.6	
		K-S Test Statistic	0.132				95% Percentile	16.3	
		5% K-S Critical Value	0.204				99% Percentile	17.66	
Data appear Gamma Distributed at 5% Significance Level									

Assuming Gamma Distribution					95% UTL with 95% Coverage		18		
	90% Percentile	15.44		95% Percentile Bootstrap UTL with 95% Coverage		18			
	95% Percentile	17.76		95% BCA Bootstrap UTL with 95% Coverage		18			
	99% Percentile	22.68				95% UPL		18	
						95% Chebyshev UPL		27.25	
	95% WH Approx. Gamma UPL	18.19		Upper Threshold Limit Based upon IQR		17.41			
	95% HW Approx. Gamma UPL	18.55							
	95% WH Approx. Gamma UTL with 95% Coverage	22.8							
	95% HW Approx. Gamma UTL with 95% Coverage	23.65							
Non-Clay									
General Statistics									
Total Number of Observations		33	Number of Distinct Observations				27		
Raw Statistics			Log-Transformed Statistics						
	Minimum	0.76				Minimum	-0.274		
	Maximum	13				Maximum	2.565		
	Second Largest	11				Second Largest	2.398		
	First Quartile	3.5				First Quartile	1.253		
	Median	4.3				Median	1.459		
	Third Quartile	6.5				Third Quartile	1.872		
	Mean	5.272				Mean	1.535		
	SD	2.682				SD	0.538		
	Coefficient of Variation	0.509							
	Skewness	1.097							
Background Statistics									
Normal Distribution Test			Lognormal Distribution Test						
	Shapiro Wilk Test Statistic	0.906				Shapiro Wilk Test Statistic	0.932		
	Shapiro Wilk Critical Value	0.931				Shapiro Wilk Critical Value	0.931		
Data not Normal at 5% Significance Level			Data appear Lognormal at 5% Significance Level						
Assuming Normal Distribution			Assuming Lognormal Distribution						
	95% UTL with 95% Coverage	11.11				95% UTL with 95% Coverage	14.96		
	95% UPL (t)	9.883				95% UPL (t)	11.7		
	90% Percentile (z)	8.709				90% Percentile (z)	9.248		
	95% Percentile (z)	9.683				95% Percentile (z)	11.24		
	99% Percentile (z)	11.51				99% Percentile (z)	16.22		
Gamma Distribution Test			Data Distribution Test						
	k star	3.738	Data appear Gamma Distributed at 5% Significance Level						
	Theta Star	1.41							
	MLE of Mean	5.272							
	MLE of Standard Deviation	2.727							
	nu star	246.7							
	A-D Test Statistic	0.635	Nonparametric Statistics						
	5% A-D Critical Value	0.751				90% Percentile	8.68		
	K-S Test Statistic	0.136				95% Percentile	10.04		
	5% K-S Critical Value	0.154				99% Percentile	12.36		

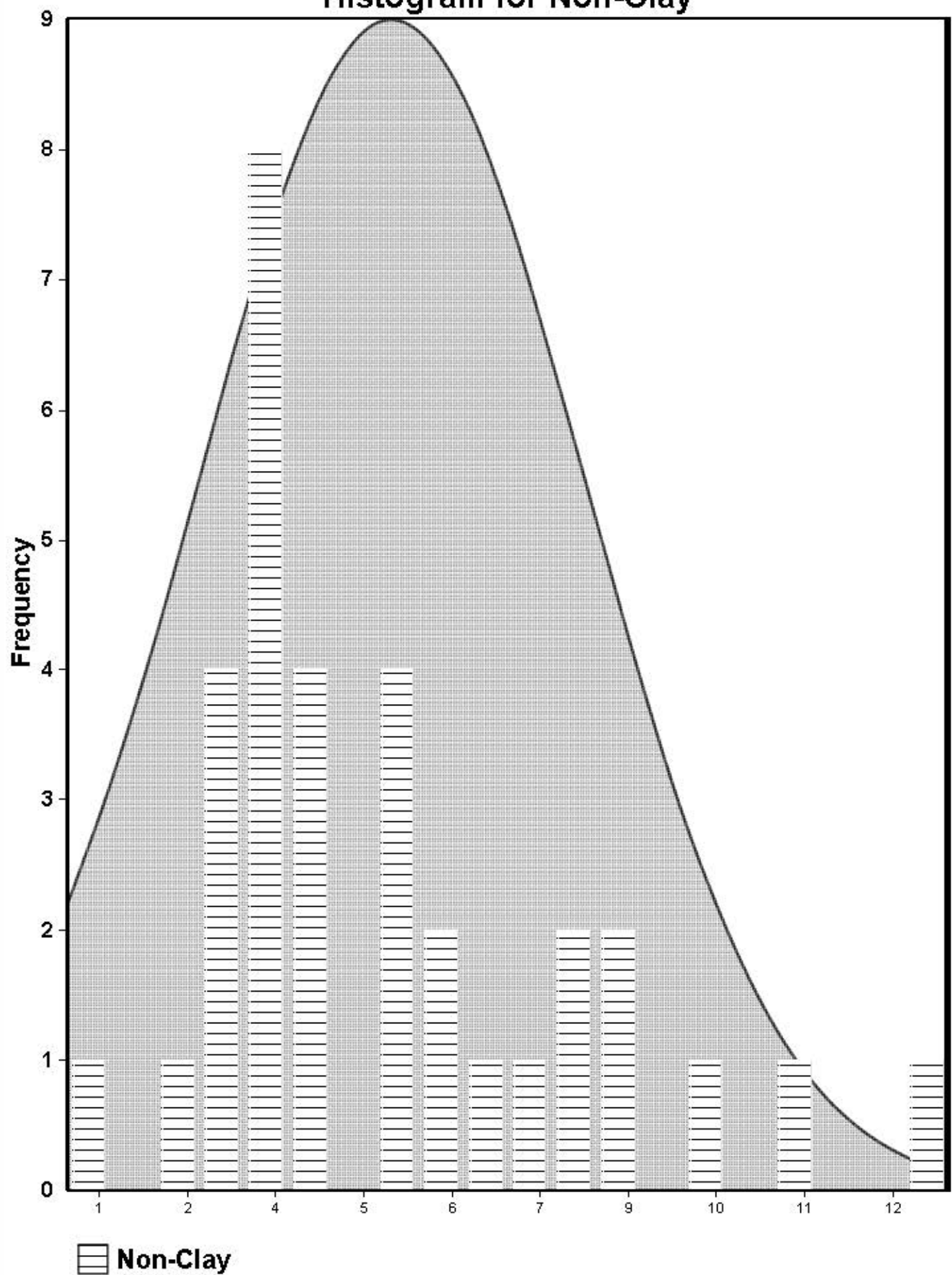
Data appear Gamma Distributed at 5% Significance Level									
Assuming Gamma Distribution				95% UTL with 95% Coverage					13
90% Percentile		8.927	95% Percentile Bootstrap UTL with 95% Coverage					13	
95% Percentile		10.41	95% BCA Bootstrap UTL with 95% Coverage					13	
99% Percentile		13.57	95% UPL					11.6	
			95% Chebyshev UPL					17.14	
95% WH Approx. Gamma UPL		10.54	Upper Threshold Limit Based upon IQR					11	
95% HW Approx. Gamma UPL		10.73							
95% WH Approx. Gamma UTL with 95% Coverage		12.56							
95% HW Approx. Gamma UTL with 95% Coverage		12.97							

			Outlier Tests for Selected Variables						
User Selected Options									
From File			Lead.wst						
Full Precision			OFF						
Test for Suspected Outliers with Dixon test			1						
Test for Suspected Outliers with Rosner test			1						
Dixon's Outlier Test for Clay									
Number of data = 18									
10% critical value: 0.424									
5% critical value: 0.475									
1% critical value: 0.561									
1. Data Value 18 is a Potential Outlier (Upper Tail)?									
Test Statistic: 0.345									
For 10% significance level, 18 is not an outlier.									
For 5% significance level, 18 is not an outlier.									
For 1% significance level, 18 is not an outlier.									
2. Data Value 2.7 is a Potential Outlier (Lower Tail)?									
Test Statistic: 0.327									
For 10% significance level, 2.7 is not an outlier.									
For 5% significance level, 2.7 is not an outlier.									
For 1% significance level, 2.7 is not an outlier.									
Rosner's Outlier Test for Non-Clay									
Mean			5.272						
Standard Deviation			2.682						
Number of data			33						
Number of suspected outliers			1						
			Potential	Obs.	Test	Critical	Critical		
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)		
1	5.272	2.641	13	33	2.926	2.95	3.29		
For 5% Significance Level, there is no Potential Outlier									
For 1% Significance Level, there is no Potential Outlier									

Histogram for Clay



Histogram for Non-Clay



Location	Clay
BG-1-2	6.8
BG-1-43	11
BG-1-55	2.7
BG-1-78	7.8
BG-2-30	11
BG-2-81	16
BG-3-17	4
BG-3-22	6.6
BG-3-69	8.1
BG-4-2	6.4
BG-4-19	14
BG-4-40	12
BG-4-79	11
BG-4-161	6.7
BG-4-163	11
BG-6-28	10
BG-6-53	8.2
BG-6-87	18

Location	Non-Clay
BG-1-10	3.8
BG-1-29	4.3
BG-1-40	0.76
BG-1-46	3.1
BG-1-92	2.4
BG-2-2	3.9
BG-2-10	3.4
BG-2-19	8.7
BG-2-21	4.3
BG-2-32	3.5
BG-2-75	3.2
BG-3-2	5.9
BG-3-10	5.5
BG-3-29	3.6
BG-3-63	3.8
BG-3-65	5.5
BG-3-95	3.1
BG-3-105	5.4
BG-3-131	5.3
BG-3-136	11
BG-4-10	9.4
BG-4-65	4
BG-4-82	7.3
BG-4-95	3.3
BG-4-117	2.7
BG-4-120	8.6
BG-6-2	7.7
BG-6-9	3.6
BG-6-58	3.6
BG-6-75	5.7
BG-6-98	6.5
BG-6-114	8.1
BG-6-127	13
Average	5.271515

[illegible]

		Number of Distinct Observations	30					
		Minimum	2.4					
		Maximum	18					
		Mean of Raw Data	7.349					
		Standard Deviation of Raw Data	3.973					
		Kstar	3.321					
		Mean of Log Transformed Data	1.848					
		Standard Deviation of Log Transformed Data	0.558					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.963					
		Shapiro Wilk Test Statistic	0.918					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.00849					
		Lilliefors Test Statistic	0.134					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.991					
		A-D Test Statistic	0.559					
		A-D Critical (0.95) Value	0.753					
		K-S Test Statistic	0.139					
		K-S Critical(0.95) Value	0.142					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.983					
		Shapiro Wilk Test Statistic	0.948					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.102					
		Lilliefors Test Statistic	0.13					
		Lilliefors Critical (0.95) Value	0.142					
		Data appear Lognormal at (0.05) Significance Level						

			Outlier Tests for Selected Variables					
User Selected Options								
From File			Lead.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 8.7 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.358								
For 10% significance level, 8.7 is not an outlier.								
For 5% significance level, 8.7 is not an outlier.								
For 1% significance level, 8.7 is not an outlier.								
2. Data Value 0.76 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.409								
For 10% significance level, 0.76 is not an outlier.								
For 5% significance level, 0.76 is not an outlier.								
For 1% significance level, 0.76 is not an outlier.								
Rosner's Outlier Test for MC								
Mean			7.349					
Standard Deviation			3.973					
Number of data			39					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	7.349	3.921	18	36	2.716	3.03	3.37	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								

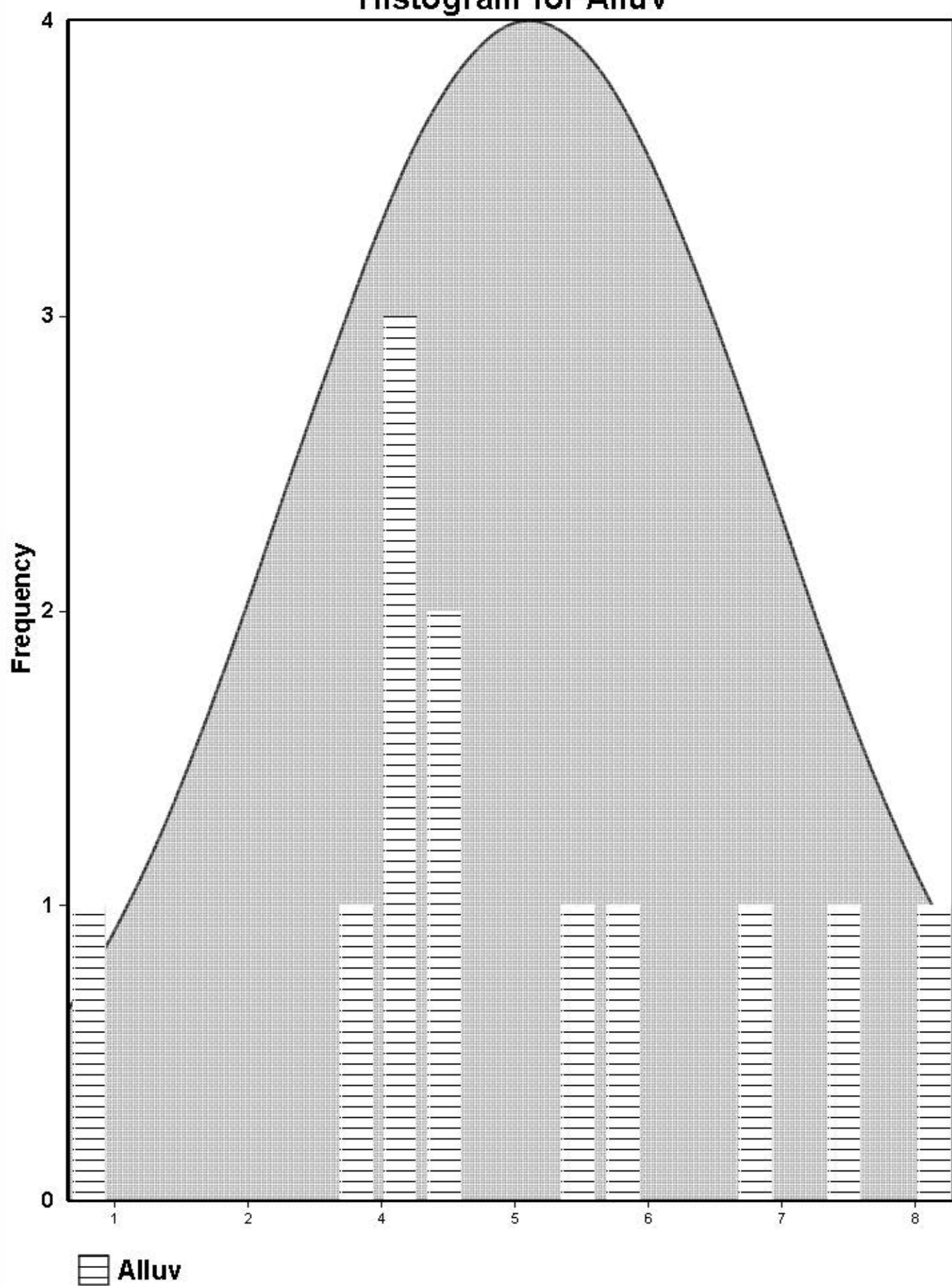
			General Background Statistics for Full Data Sets						
User Selected Options									
From File			Lead.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
Alluv									
General Statistics									
Total Number of Observations			12		Number of Distinct Observations			11	
Raw Statistics				Log-Transformed Statistics					
			Minimum	0.76				Minimum	-0.274
			Maximum	8.7				Maximum	2.163
			Second Largest	7.7				Second Largest	2.041
			First Quartile	3.75				First Quartile	1.321
			Median	4.3				Median	1.459
			Third Quartile	6.125				Third Quartile	1.81
			Mean	4.888				Mean	1.454
			SD	2.159				SD	0.627
			Coefficient of Variation	0.442					
			Skewness	0.0803					
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.958				Shapiro Wilk Test Statistic	0.798
			Shapiro Wilk Critical Value	0.859				Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	10.79				95% UTL with 95% Coverage	23.77
			95% UPL (t)	8.923				95% UPL (t)	13.81
			90% Percentile (z)	7.655				90% Percentile (z)	9.554
			95% Percentile (z)	8.439				95% Percentile (z)	12
			99% Percentile (z)	9.91				99% Percentile (z)	18.39
Gamma Distribution Test				Data Distribution Test					
			k star	2.991	Data appear Normal at 5% Significance Level				
			Theta Star	1.634					
			MLE of Mean	4.888					
			MLE of Standard Deviation	2.826					
			nu star	71.8					
			A-D Test Statistic	0.541	Nonparametric Statistics				
			5% A-D Critical Value	0.736				90% Percentile	7.61
			K-S Test Statistic	0.224				95% Percentile	8.15
			5% K-S Critical Value	0.246				99% Percentile	8.59
Data appear Gamma Distributed at 5% Significance Level									

Assuming Gamma Distribution				95% UTL with 95% Coverage			8.7		
90% Percentile			8.678	95% Percentile Bootstrap UTL with 95% Coverage			8.7		
95% Percentile			10.27	95% BCA Bootstrap UTL with 95% Coverage			8.7		
99% Percentile			13.71	95% UPL			8.7		
				95% Chebyshev UPL			14.68		
95% WH Approx. Gamma UPL			10.73	Upper Threshold Limit Based upon IQR			9.688		
95% HW Approx. Gamma UPL			11.24						
95% WH Approx. Gamma UTL with 95% Coverage			14.92						
95% HW Approx. Gamma UTL with 95% Coverage			16.19						
MC									
General Statistics									
Total Number of Observations			39	Number of Distinct Observations			30		
Raw Statistics				Log-Transformed Statistics					
Minimum		2.4	Minimum		0.875				
Maximum		18	Maximum		2.89				
Second Largest		16	Second Largest		2.773				
First Quartile		3.7	First Quartile		1.308				
Median		6.6	Median		1.887				
Third Quartile		10.5	Third Quartile		2.35				
Mean		7.349	Mean		1.848				
SD		3.973	SD		0.558				
Coefficient of Variation		0.541							
Skewness		0.788							
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
Shapiro Wilk Test Statistic		0.918	Shapiro Wilk Test Statistic		0.948				
Shapiro Wilk Critical Value		0.939	Shapiro Wilk Critical Value		0.939				
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
95% UTL with 95% Coverage		15.79	95% UTL with 95% Coverage		20.76				
95% UPL (t)		14.13	95% UPL (t)		16.45				
90% Percentile (z)		12.44	90% Percentile (z)		12.97				
95% Percentile (z)		13.88	95% Percentile (z)		15.89				
99% Percentile (z)		16.59	99% Percentile (z)		23.23				
Gamma Distribution Test				Data Distribution Test					
k star		3.321	Data appear Gamma Distributed at 5% Significance Level						
Theta Star		2.213							
MLE of Mean		7.349							
MLE of Standard Deviation		4.032							
nu star		259.1							
A-D Test Statistic		0.559	Nonparametric Statistics						
5% A-D Critical Value		0.753	90% Percentile		12.2				
K-S Test Statistic		0.139	95% Percentile		14.2				
5% K-S Critical Value		0.142	99% Percentile		17.24				

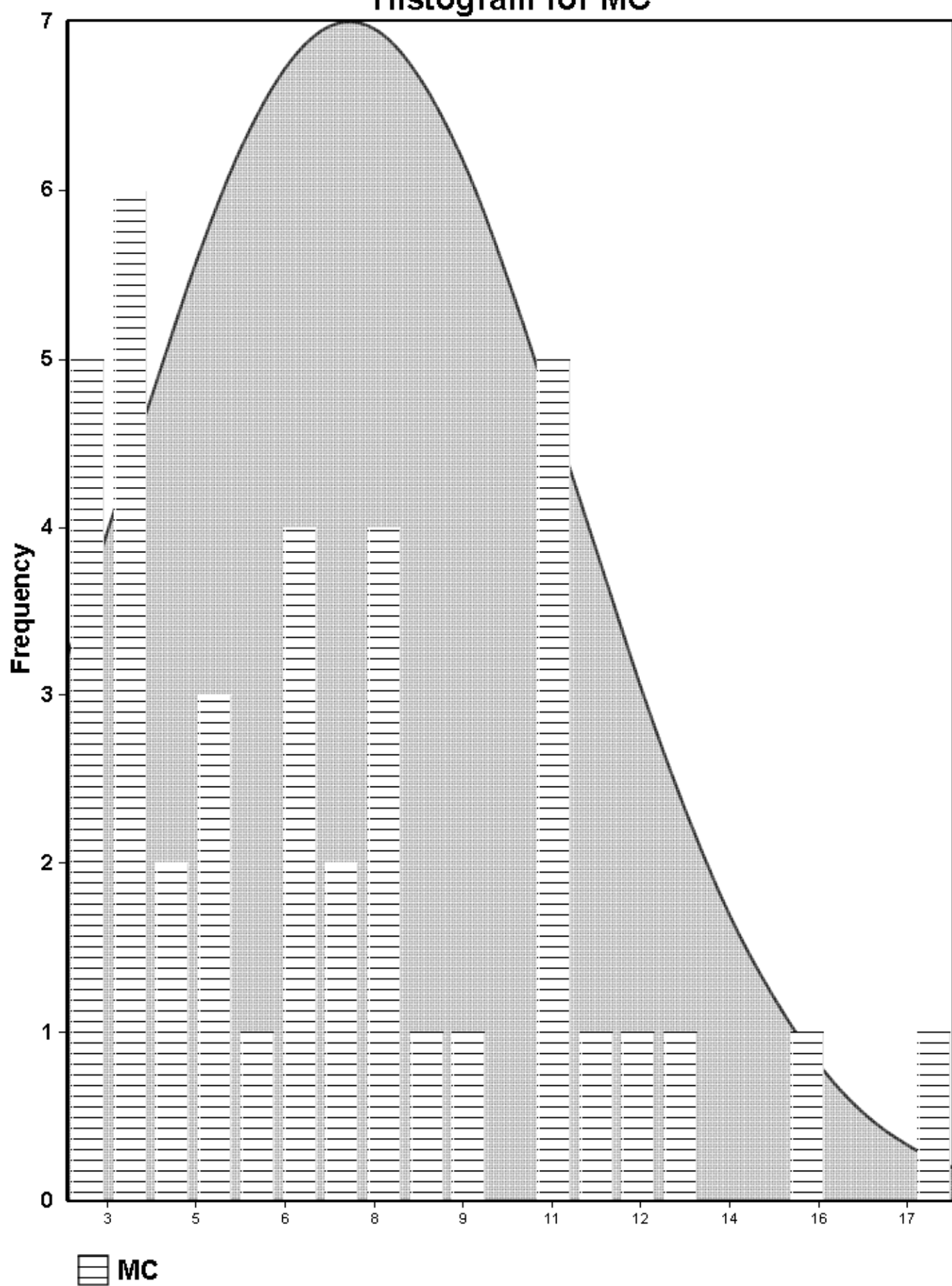
Data appear Gamma Distributed at 5% Significance Level									
Assuming Gamma Distribution				95% UTL with 95% Coverage					18
90% Percentile		12.76	95% Percentile Bootstrap UTL with 95% Coverage					18	
95% Percentile		14.98	95% BCA Bootstrap UTL with 95% Coverage					18	
99% Percentile		19.79	95% UPL					16	
			95% Chebyshev UPL					24.89	
95% WH Approx. Gamma UPL		15.18	Upper Threshold Limit Based upon IQR					20.7	
95% HW Approx. Gamma UPL		15.43							
95% WH Approx. Gamma UTL with 95% Coverage		18.01							
95% HW Approx. Gamma UTL with 95% Coverage		18.53							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Lead.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: MC					
Background Data: Alluv					
Raw Statistics					
	Site	Background			
Number of Valid Observations	39	12			
Number of Distinct Observations	30	11			
Minimum	2.4	0.76			
Maximum	18	8.7			
Mean	7.349	4.888			
Median	6.6	4.3			
SD	3.973	2.159			
SE of Mean	0.636	0.623			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1082				
WMW Test U-Stat	1.499				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.134				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for Alluv



Histogram for MC



Location	Alluv
BG-1-2	6.8
BG-1-10	3.8
BG-1-29	4.3
BG-1-40	0.76
BG-2-2	3.9
BG-2-10	3.4
BG-2-19	8.7
BG-2-21	4.3
BG-3-2	5.9
BG-3-10	5.5
BG-6-2	7.7
BG-6-9	3.6

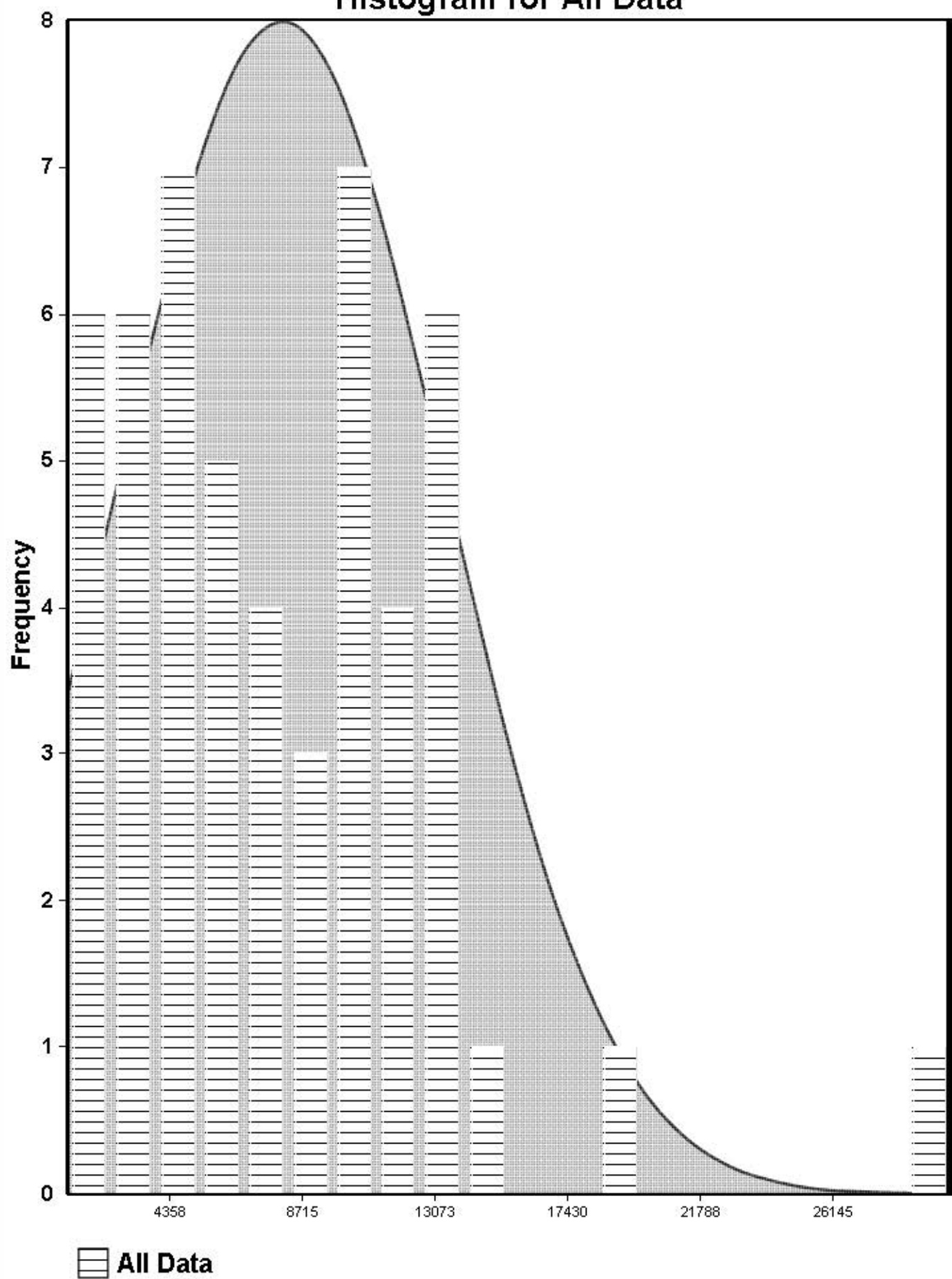
Location	MC
BG-1-43	11
BG-1-46	3.1
BG-1-55	2.7
BG-1-78	7.8
BG-1-92	2.4
BG-2-30	11
BG-2-32	3.5
BG-2-75	3.2
BG-2-81	16
BG-3-17	4
BG-3-22	6.6
BG-3-29	3.6
BG-3-63	3.8
BG-3-65	5.5
BG-3-69	8.1
BG-3-95	3.1
BG-3-105	5.4
BG-3-131	5.3
BG-3-136	11
BG-4-1	6.4
BG-4-10	9.4
BG-4-19	14
BG-4-40	12
BG-4-65	4
BG-4-79	11
BG-4-82	7.3
BG-4-95	3.3
BG-4-117	2.7
BG-4-120	8.6
BG-4-161	6.7
BG-4-163	11
BG-6-28	10
BG-6-53	8.2
BG-6-58	3.6
BG-6-75	5.7
BG-6-87	18
BG-6-98	6.5
BG-6-114	8.1
BG-1-127	13

		Goodness-of-Fit Test Statistics for Full Data Sets without Non-Detects				
User Selected Options						
From File	Magnesium.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
All Data						
Raw Statistics						
Number of Valid Observations	51					
Number of Distinct Observations	37					
Minimum	950					
Maximum	30000					
Mean of Raw Data	8016					
Standard Deviation of Raw Data	5392					
Kstar	2.002					
Mean of Log Transformed Data	8.734					
Standard Deviation of Log Transformed Data	0.79					
Normal Distribution Test Results						
Correlation Coefficient R	0.94					
Approximate Shapiro Wilk Test Statistic	0.895					
Approximate Shapiro Wilk P Value	1.3281E-4					
Lilliefors Test Statistic	0.0992					
Lilliefors Critical (0.95) Value	0.124					
Data appear Normal at (0.05) Significance Level						
Gamma Distribution Test Results						
Correlation Coefficient R	0.973					
A-D Test Statistic	0.613					
A-D Critical (0.95) Value	0.762					
K-S Test Statistic	0.0991					
K-S Critical(0.95) Value	0.126					
Data appear Gamma Distributed at (0.05) Significance Level						
Lognormal Distribution Test Results						
Correlation Coefficient R	0.97					
Approximate Shapiro Wilk Test Statistic	0.933					
Approximate Shapiro Wilk P Value	0.00833					
Lilliefors Test Statistic	0.122					
Lilliefors Critical (0.95) Value	0.124					
Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets						
User Selected Options									
From File		Magnesium.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
All Data									
General Statistics									
Total Number of Observations			51		Number of Distinct Observations			37	
Raw Statistics				Log-Transformed Statistics					
		Minimum	950				Minimum	6.856	
		Maximum	30000				Maximum	10.31	
		Second Largest	19000				Second Largest	9.852	
		First Quartile	3950				First Quartile	8.281	
		Median	6800				Median	8.825	
		Third Quartile	11500				Third Quartile	9.349	
		Mean	8016				Mean	8.734	
		SD	5392				SD	0.79	
		Coefficient of Variation	0.673						
		Skewness	1.41						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Lilliefors Test Statistic	0.0992				Lilliefors Test Statistic	0.122	
		Lilliefors Critical Value	0.124				Lilliefors Critical Value	0.124	
Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	19089				95% UTL with 95% Coverage	31463	
		95% UPL (t)	17140				95% UPL (t)	23648	
		90% Percentile (z)	14926				90% Percentile (z)	17096	
		95% Percentile (z)	16884				95% Percentile (z)	22779	
		99% Percentile (z)	20559				99% Percentile (z)	39024	
Gamma Distribution Test				Data Distribution Test					
		k star	2.002		Data appear Normal at 5% Significance Level				
		Theta Star	4004						
		MLE of Mean	8016						
		MLE of Standard Deviation	5666						
		nu star	204.2						
		A-D Test Statistic	0.613		Nonparametric Statistics				
		5% A-D Critical Value	0.762				90% Percentile	13000	
		K-S Test Statistic	0.0991				95% Percentile	14500	
		5% K-S Critical Value	0.126				99% Percentile	24500	
Data appear Gamma Distributed at 5% Significance Level									

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Magnesium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Rosner's Outlier Test for All Data							
Mean		8016					
Standard Deviation		5392					
Number of data		51					
Number of suspected outliers		1					
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	8016	5338	30000	50	4.118	3.137	3.488
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 30000 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 30000 is a Potential Statistical Outlier							

Histogram for All Data



Location	All Data
BG-1-2	19000
BG-1-10	13000
BG-2-2	4000
BG-2-10	3100
BG-2-19	9200
BG-3-2	2600
BG-3-10	3700
BG-6-2	8500
BG-6-9	9900
BG-4-1	8100
BG-4-10	12000
BG-4-19	13000
BG-3-17	1600
BG-1-43	10000
BG-1-46	5500
BG-1-55	6000
BG-1-78	11000
BG-1-92	3600
BG-2-30	15000
BG-2-32	3900
BG-2-75	4400
BG-2-81	14000
BG-3-22	1400
BG-3-29	1300
BG-3-63	1500
BG-3-65	3800
BG-3-69	4300
BG-3-95	950
BG-3-105	3100
BG-3-131	970
BG-3-136	6300
BG-4-40	11000
BG-4-65	5300
BG-4-79	13000
BG-4-82	12000
BG-4-95	5500
BG-4-117	4500
BG-4-120	9500
BG-4-161	7800
BG-4-163	13000
BG-6-28	9700
BG-6-53	12000
BG-6-58	4000
BG-6-75	6800
BG-6-87	12000
BG-6-98	6800
BG-6-114	13000
BG-1-127	11000
BG-1-29	11000
BG-1-40	30000
BG-2-21	6200

		Number of Distinct Observations	29					
		Minimum	950					
		Maximum	30000					
		Mean of Raw Data	7924					
		Standard Deviation of Raw Data	5532					
		Kstar	1.896					
		Mean of Log Transformed Data	8.713					
		Standard Deviation of Log Transformed Data	0.811					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.921					
		Shapiro Wilk Test Statistic	0.866					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	1.7189E-4					
		Lilliefors Test Statistic	0.133					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.961					
		A-D Test Statistic	0.577					
		A-D Critical (0.95) Value	0.759					
		K-S Test Statistic	0.112					
		K-S Critical(0.95) Value	0.145					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.962					
		Shapiro Wilk Test Statistic	0.922					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.0136					
		Lilliefors Test Statistic	0.13					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets						
User Selected Options									
From File		Magnesium.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
0-20									
General Statistics									
Total Number of Observations			13		Number of Distinct Observations			12	
Raw Statistics					Log-Transformed Statistics				
Minimum			1600		Minimum			7.378	
Maximum			19000		Maximum			9.852	
Second Largest			13000		Second Largest			9.473	
First Quartile			3700		First Quartile			8.216	
Median			8500		Median			9.048	
Third Quartile			12000		Third Quartile			9.393	
Mean			8285		Mean			8.797	
SD			5163		SD			0.753	
Coefficient of Variation			0.623						
Skewness			0.501						
Background Statistics									
Normal Distribution Test					Lognormal Distribution Test				
Shapiro Wilk Test Statistic			0.935		Shapiro Wilk Test Statistic			0.929	
Shapiro Wilk Critical Value			0.866		Shapiro Wilk Critical Value			0.866	
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level				
Assuming Normal Distribution					Assuming Lognormal Distribution				
95% UTL with 95% Coverage			22075		95% UTL with 95% Coverage			49432	
95% UPL (t)			17834		95% UPL (t)			26626	
90% Percentile (z)			14901		90% Percentile (z)			17358	
95% Percentile (z)			16777		95% Percentile (z)			22822	
99% Percentile (z)			20296		99% Percentile (z)			38130	
Gamma Distribution Test					Data Distribution Test				
k star			1.874		Data appear Normal at 5% Significance Level				
Theta Star			4421						
MLE of Mean			8285						
MLE of Standard Deviation			6052						
nu star			48.73						
A-D Test Statistic			0.41		Nonparametric Statistics				
5% A-D Critical Value			0.742		90% Percentile			13000	
K-S Test Statistic			0.188		95% Percentile			15400	
5% K-S Critical Value			0.239		99% Percentile			18280	
Data appear Gamma Distributed at 5% Significance Level									

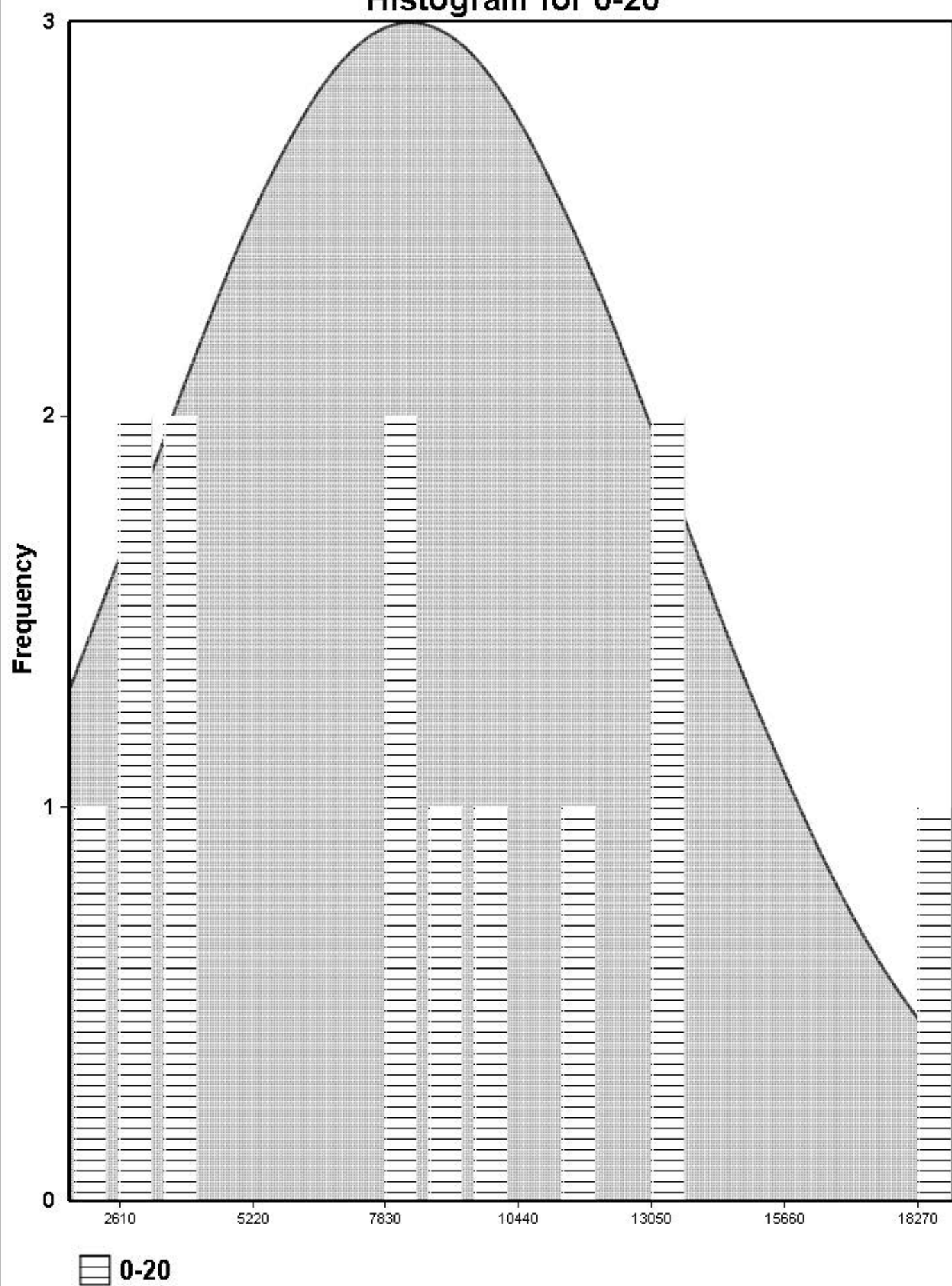
Assuming Gamma Distribution								95% UTL with 95% Coverage								19000			
90% Percentile				16362				95% Percentile Bootstrap UTL with 95% Coverage				19000							
95% Percentile				20062				95% BCA Bootstrap UTL with 95% Coverage				19000							
99% Percentile				28300				95% UPL				19000							
								95% Chebyshev UPL				31639							
95% WH Approx. Gamma UPL				21332				Upper Threshold Limit Based upon IQR				24450							
95% HW Approx. Gamma UPL				22244															
95% WH Approx. Gamma UTL with 95% Coverage				31196															
95% HW Approx. Gamma UTL with 95% Coverage				33883															
>20																			
General Statistics																			
Total Number of Observations				38				Number of Distinct Observations				29							
Raw Statistics								Log-Transformed Statistics											
Minimum				950				Minimum				6.856							
Maximum				30000				Maximum				10.31							
Second Largest				15000				Second Largest				9.616							
First Quartile				4075				First Quartile				8.312							
Median				6550				Median				8.786							
Third Quartile				11000				Third Quartile				9.306							
Mean				7924				Mean				8.713							
SD				5532				SD				0.811							
Coefficient of Variation				0.698															
Skewness				1.68															
Background Statistics																			
Normal Distribution Test								Lognormal Distribution Test											
Shapiro Wilk Test Statistic				0.866				Shapiro Wilk Test Statistic				0.922							
Shapiro Wilk Critical Value				0.938				Shapiro Wilk Critical Value				0.938							
Data not Normal at 5% Significance Level								Data not Lognormal at 5% Significance Level											
Assuming Normal Distribution								Assuming Lognormal Distribution											
95% UTL with 95% Coverage				19719				95% UTL with 95% Coverage				34259							
95% UPL (t)				17379				95% UPL (t)				24313							
90% Percentile (z)				15014				90% Percentile (z)				17190							
95% Percentile (z)				17024				95% Percentile (z)				23078							
99% Percentile (z)				20794				99% Percentile (z)				40103							
Gamma Distribution Test								Data Distribution Test											
k star				1.896				Data appear Gamma Distributed at 5% Significance Level											
Theta Star				4178															
MLE of Mean				7924															
MLE of Standard Deviation				5754															
nu star				144.1															
A-D Test Statistic				0.577				Nonparametric Statistics											
5% A-D Critical Value				0.759				90% Percentile				13000							
K-S Test Statistic				0.112				95% Percentile				14150							
5% K-S Critical Value				0.145				99% Percentile				24450							

Data appear Gamma Distributed at 5% Significance Level				
Assuming Gamma Distribution			95% UTL with 95% Coverage	30000
90% Percentile	15606	95% Percentile Bootstrap UTL with 95% Coverage	30000	
95% Percentile	19116	95% BCA Bootstrap UTL with 95% Coverage	30000	
99% Percentile	26927	95% UPL	15750	
		95% Chebyshev UPL	32353	
95% WH Approx. Gamma UPL	19422	Upper Threshold Limit Based upon IQR	21388	
95% HW Approx. Gamma UPL	20181			
95% WH Approx. Gamma UTL with 95% Coverage	24042			
95% HW Approx. Gamma UTL with 95% Coverage	25535			

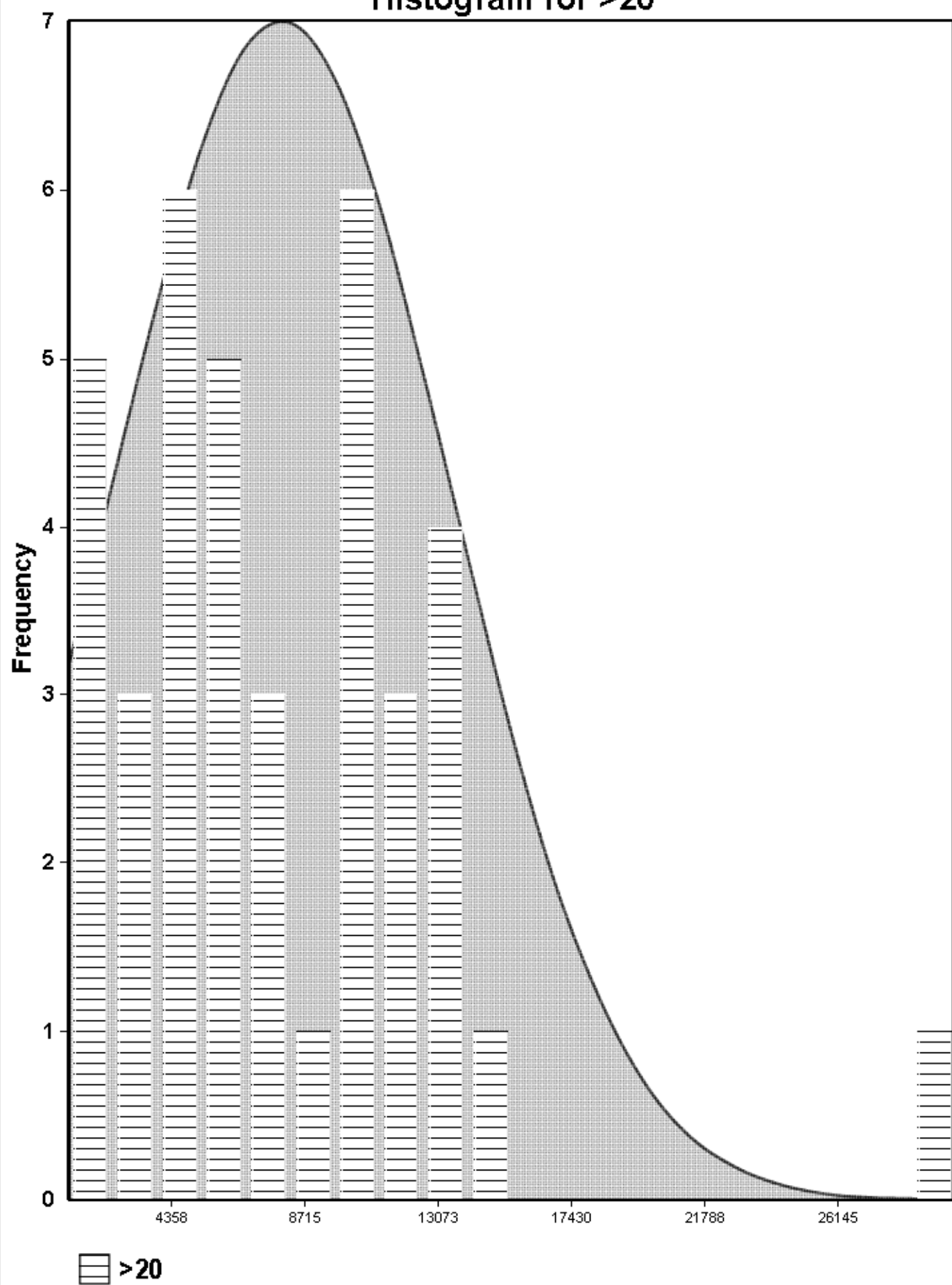
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Magnesium.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 19000 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.366							
For 10% significance level, 19000 is not an outlier.							
For 5% significance level, 19000 is not an outlier.							
For 1% significance level, 19000 is not an outlier.							
2. Data Value 1600 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.132							
For 10% significance level, 1600 is not an outlier.							
For 5% significance level, 1600 is not an outlier.							
For 1% significance level, 1600 is not an outlier.							
Rosner's Outlier Test for >20							
Mean			7924				
Standard Deviation			5532				
Number of data			38				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	7924	5459	30000	37	4.044	3.01	3.36
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 30000 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 30000 is a Potential Statistical Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Magnesium.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: >20					
Background Data: 0-20					
Raw Statistics					
	Site	Background			
Number of Valid Observations	38	13			
Number of Distinct Observations	29	12			
Minimum	950	1600			
Maximum	30000	19000			
Mean	7924	8285			
Median	6550	8500			
SD	5532	5163			
SE of Mean	897.4	1432			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	978.5				
WMW Test U-Stat	0.195				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.829				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for 0-20



Histogram for >20



Location	0-20
BG-1-2	19000
BG-1-10	13000
BG-2-2	4000
BG-2-10	3100
BG-2-19	9200
BG-3-2	2600
BG-3-10	3700
BG-6-2	8500
BG-6-9	9900
BG-4-1	8100
BG-4-10	12000
BG-4-19	13000
BG-3-17	1600

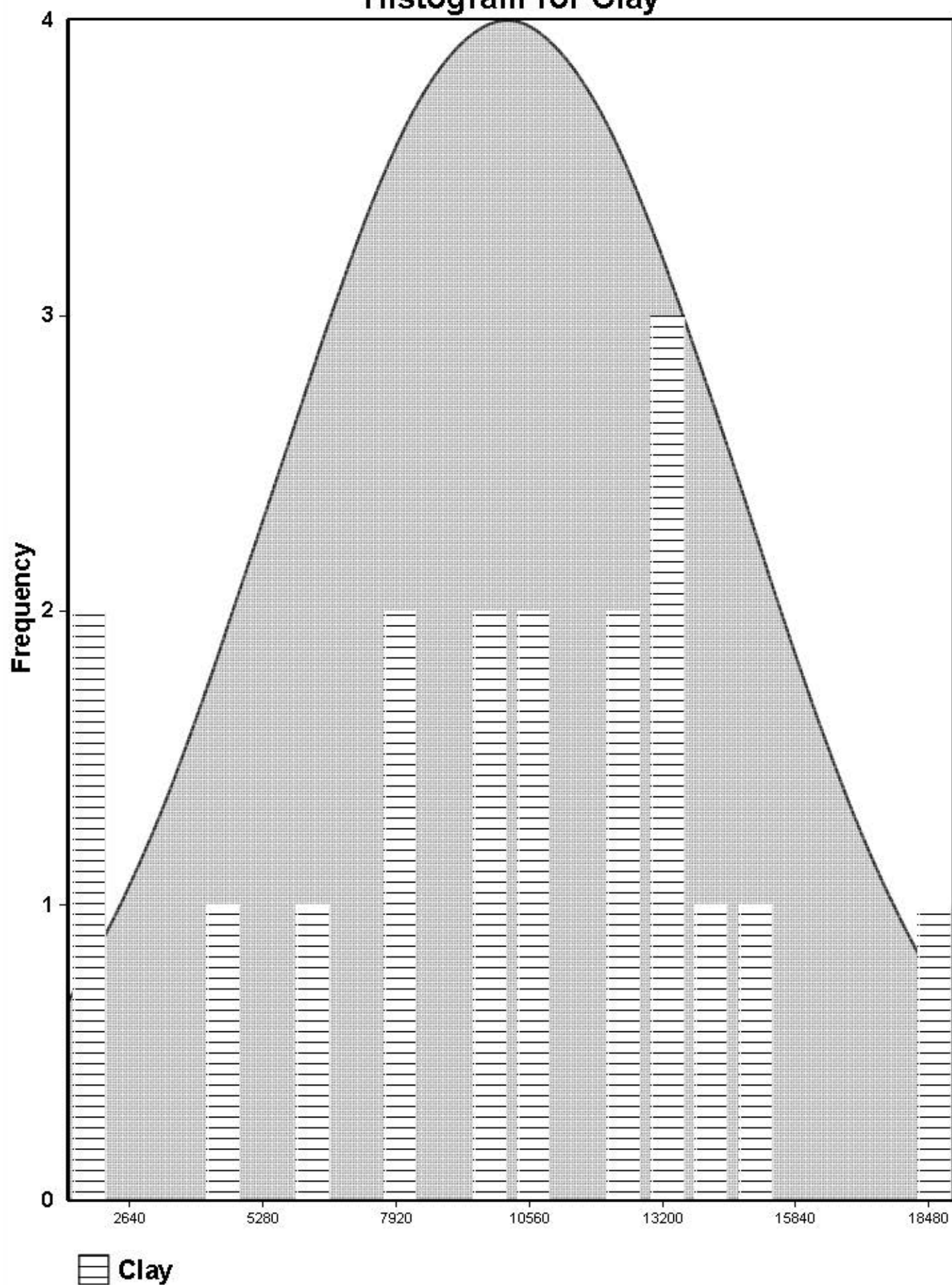
Location	>20
BG-1-43	10000
BG-1-46	5500
BG-1-55	6000
BG-1-78	11000
BG-1-92	3600
BG-2-30	15000
BG-2-32	3900
BG-2-75	4400
BG-2-81	14000
BG-3-22	1400
BG-3-29	1300
BG-3-63	1500
BG-3-65	3800
BG-3-69	4300
BG-3-95	950
BG-3-105	3100
BG-3-131	970
BG-3-136	6300
BG-4-40	11000
BG-4-65	5300
BG-4-79	13000
BG-4-82	12000
BG-4-95	5500
BG-4-117	4500
BG-4-120	9500
BG-4-161	7800
BG-4-163	13000
BG-6-28	9700
BG-6-53	12000
BG-6-58	4000
BG-6-75	6800
BG-6-87	12000
BG-6-98	6800
BG-6-114	13000
BG-1-127	11000
BG-1-29	11000
BG-1-40	30000
BG-2-21	6200

		Number of Distinct Observations	26					
		Minimum	950					
		Maximum	30000					
		Mean of Raw Data	6846					
		Standard Deviation of Raw Data	5530					
		Kstar	1.794					
		Mean of Log Transformed Data	8.554					
		Standard Deviation of Log Transformed Data	0.789					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.877					
		Shapiro Wilk Test Statistic	0.791					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	6.5174E-6					
		Lilliefors Test Statistic	0.17					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.954					
		A-D Test Statistic	0.301					
		A-D Critical (0.95) Value	0.76					
		K-S Test Statistic	0.0791					
		K-S Critical(0.95) Value	0.155					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.983					
		Shapiro Wilk Test Statistic	0.965					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.414					
		Lilliefors Test Statistic	0.0918					
		Lilliefors Critical (0.95) Value	0.154					
		Data appear Lognormal at (0.05) Significance Level						

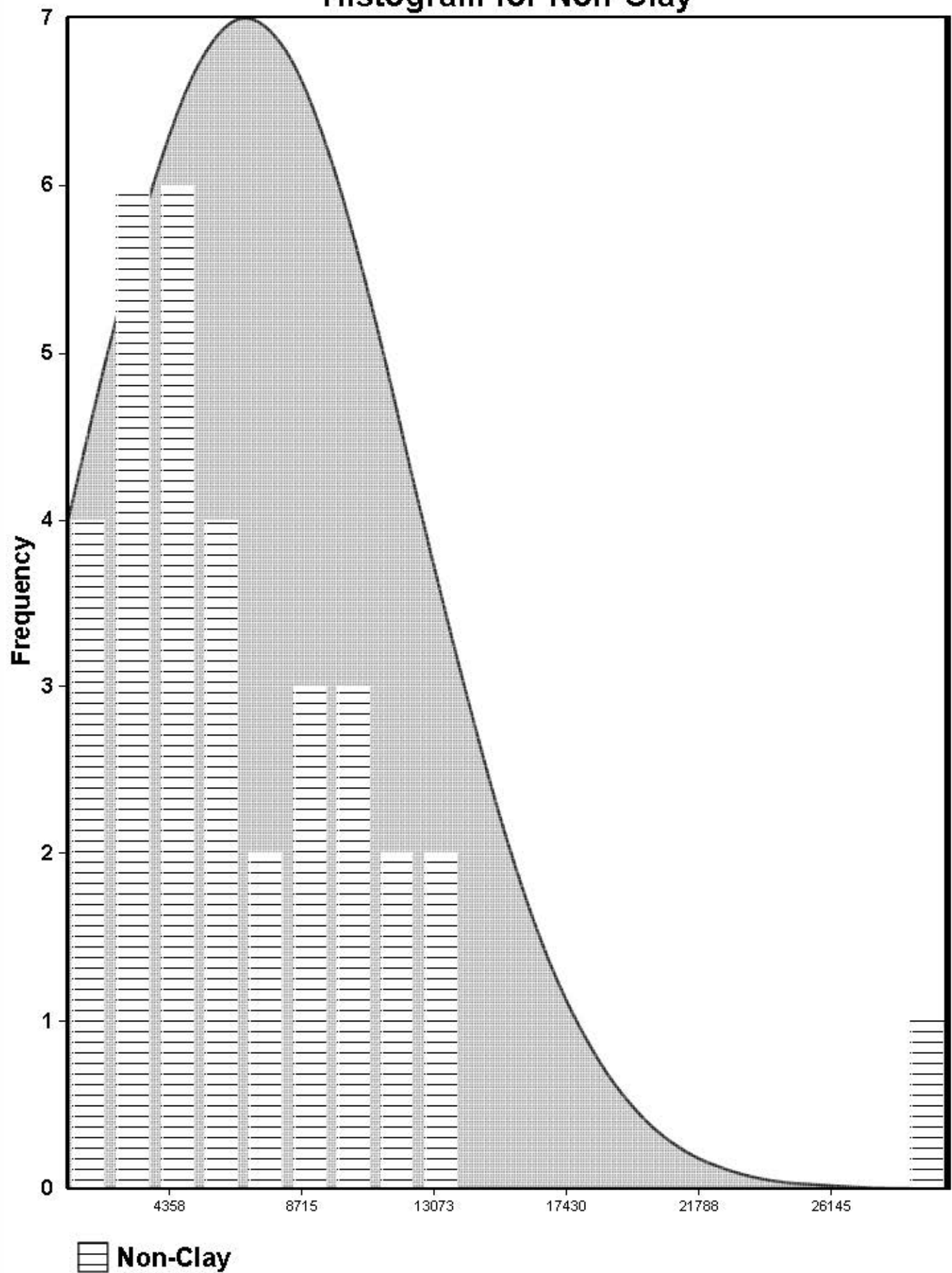
Assuming Gamma Distribution				95% UTL with 95% Coverage		19000			
90% Percentile			18532	95% Percentile Bootstrap UTL with 95% Coverage		19000			
95% Percentile			22159	95% BCA Bootstrap UTL with 95% Coverage		19000			
99% Percentile			30086	95% UPL		19000			
				95% Chebyshev UPL		30724			
95% WH Approx. Gamma UPL			22957	Upper Threshold Limit Based upon IQR		20688			
95% HW Approx. Gamma UPL			24229						
95% WH Approx. Gamma UTL with 95% Coverage			30426						
95% HW Approx. Gamma UTL with 95% Coverage			33178						
Non-Clay									
General Statistics									
Total Number of Observations			33	Number of Distinct Observations			26		
Raw Statistics				Log-Transformed Statistics					
Minimum		950	Minimum		6.856				
Maximum		30000	Maximum		10.31				
Second Largest		13000	Second Largest		9.473				
First Quartile		3600	First Quartile		8.189				
Median		5500	Median		8.613				
Third Quartile		9500	Third Quartile		9.159				
Mean		6846	Mean		8.554				
SD		5530	SD		0.789				
Coefficient of Variation		0.808							
Skewness		2.401							
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
Shapiro Wilk Test Statistic		0.791	Shapiro Wilk Test Statistic		0.965				
Shapiro Wilk Critical Value		0.931	Shapiro Wilk Critical Value		0.931				
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
95% UTL with 95% Coverage		18881	95% UTL with 95% Coverage		28885				
95% UPL (t)		16355	95% UPL (t)		20144				
90% Percentile (z)		13934	90% Percentile (z)		14259				
95% Percentile (z)		15943	95% Percentile (z)		18994				
99% Percentile (z)		19712	99% Percentile (z)		32523				
Gamma Distribution Test				Data Distribution Test					
k star		1.794	Data appear Gamma Distributed at 5% Significance Level						
Theta Star		3816							
MLE of Mean		6846							
MLE of Standard Deviation		5112							
nu star		118.4							
A-D Test Statistic		0.301	Nonparametric Statistics						
5% A-D Critical Value		0.76	90% Percentile		12000				
K-S Test Statistic		0.0791	95% Percentile		13000				
5% K-S Critical Value		0.155	99% Percentile		24560				

Data appear Gamma Distributed at 5% Significance Level													
Assuming Gamma Distribution					95% UTL with 95% Coverage								30000
90% Percentile				13663	95% Percentile Bootstrap UTL with 95% Coverage								30000
95% Percentile				16814	95% BCA Bootstrap UTL with 95% Coverage								19800
99% Percentile				23849	95% UPL								18100
					95% Chebyshev UPL								31315
95% WH Approx. Gamma UPL				17065	Upper Threshold Limit Based upon IQR								18350
95% HW Approx. Gamma UPL				17526									
95% WH Approx. Gamma UTL with 95% Coverage				21564									
95% HW Approx. Gamma UTL with 95% Coverage				22636									

Magnesium
Histogram for Clay



Magnesium
Histogram for Non-Clay



Location	Clay
BG-1-2	19000
BG-1-43	10000
BG-1-55	6000
BG-1-78	11000
BG-2-30	15000
BG-2-81	14000
BG-3-17	1600
BG-3-22	1400
BG-3-69	4300
BG-4-2	8100
BG-4-19	13000
BG-4-40	11000
BG-4-79	13000
BG-4-161	7800
BG-4-163	13000
BG-6-28	9700
BG-6-53	12000
BG-6-87	12000

Location	Non-Clay
BG-1-10	13000
BG-1-29	11000
BG-1-40	30000
BG-1-46	5500
BG-1-92	3600
BG-2-2	4000
BG-2-10	3100
BG-2-19	9200
BG-2-21	6200
BG-2-32	3900
BG-2-75	4400
BG-3-2	2600
BG-3-10	3700
BG-3-29	1300
BG-3-63	1500
BG-3-65	2800
BG-3-95	950
BG-3-105	3100
BG-3-131	970
BG-3-136	6300
BG-4-10	12000
BG-4-65	5300
BG-4-82	12000
BG-4-95	5500
BG-4-117	4500
BG-4-120	9500
BG-6-2	8500
BG-6-9	9900
BG-6-58	4000
BG-6-75	6800
BG-6-98	6800
BG-6-114	13000
BG-6-127	11000

Average 6846.060606

		Number of Distinct Observations	29					
		Minimum	950					
		Maximum	15000					
		Mean of Raw Data	7401					
		Standard Deviation of Raw Data	4305					
		Kstar	2.058					
		Mean of Log Transformed Data	8.666					
		Standard Deviation of Log Transformed Data	0.799					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.972					
		Shapiro Wilk Test Statistic	0.922					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.0117					
		Lilliefors Test Statistic	0.132					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.932					
		A-D Test Statistic	0.972					
		A-D Critical (0.95) Value	0.758					
		K-S Test Statistic	0.139					
		K-S Critical(0.95) Value	0.143					
		Data follow Appr. Gamma Distribution at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.946					
		Shapiro Wilk Test Statistic	0.877					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	3.2353E-4					
		Lilliefors Test Statistic	0.142					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Magnesium.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Alluv										
General Statistics										
Total Number of Observations				12		Number of Distinct Observations				12
Raw Statistics					Log-Transformed Statistics					
Minimum			2600		Minimum			7.863		
Maximum			30000		Maximum			10.31		
Second Largest			19000		Second Largest			9.852		
First Quartile			3925		First Quartile			8.275		
Median			8850		Median			9.087		
Third Quartile			11500		Third Quartile			9.347		
Mean			10017		Mean			8.955		
SD			7899		SD			0.75		
Coefficient of Variation			0.789							
Skewness			1.652							
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
Shapiro Wilk Test Statistic			0.835		Shapiro Wilk Test Statistic			0.964		
Shapiro Wilk Critical Value			0.859		Shapiro Wilk Critical Value			0.859		
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
95% UTL with 95% Coverage			31629		95% UTL with 95% Coverage			60323		
95% UPL (t)			24782		95% UPL (t)			31483		
90% Percentile (z)			20140		90% Percentile (z)			20259		
95% Percentile (z)			23010		95% Percentile (z)			26606		
99% Percentile (z)			28393		99% Percentile (z)			44362		
Gamma Distribution Test					Data Distribution Test					
k star			1.628		Data appear Gamma Distributed at 5% Significance Level					
Theta Star			6153							
MLE of Mean			10017							
MLE of Standard Deviation			7851							
nu star			39.07							
A-D Test Statistic			0.277		Nonparametric Statistics					
5% A-D Critical Value			0.741		90% Percentile			18400		
K-S Test Statistic			0.151		95% Percentile			23950		
5% K-S Critical Value			0.248		99% Percentile			28790		
Data appear Gamma Distributed at 5% Significance Level										

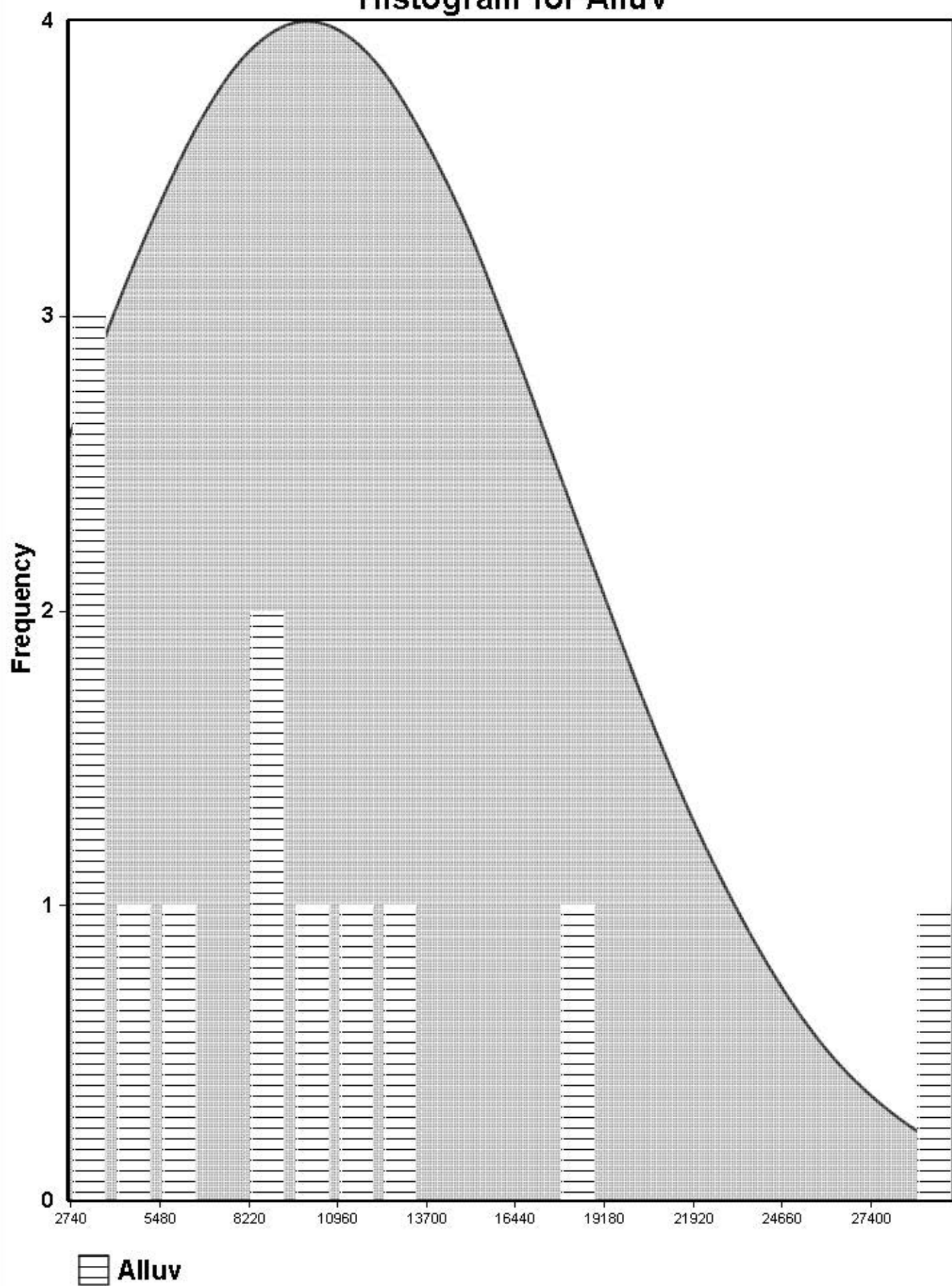
Assuming Gamma Distribution								95% UTL with 95% Coverage								30000	
90% Percentile								20462	95% Percentile Bootstrap UTL with 95% Coverage								30000
95% Percentile								25393	95% BCA Bootstrap UTL with 95% Coverage								30000
99% Percentile								36469	95% UPL								30000
									95% Chebyshev UPL								45855
95% WH Approx. Gamma UPL								27120	Upper Threshold Limit Based upon IQR								22863
95% HW Approx. Gamma UPL								27860									
95% WH Approx. Gamma UTL with 95% Coverage								41179									
95% HW Approx. Gamma UTL with 95% Coverage								44071									
MC																	
General Statistics																	
Total Number of Observations						39	Number of Distinct Observations						29				
Raw Statistics						Log-Transformed Statistics											
Minimum						950	Minimum						6.856				
Maximum						15000	Maximum						9.616				
Second Largest						14000	Second Largest						9.547				
First Quartile						3950	First Quartile						8.281				
Median						6800	Median						8.825				
Third Quartile						11500	Third Quartile						9.349				
Mean						7401	Mean						8.666				
SD						4305	SD						0.799				
Coefficient of Variation						0.582											
Skewness						0.0859											
Background Statistics																	
Normal Distribution Test						Lognormal Distribution Test											
Shapiro Wilk Test Statistic						0.922	Shapiro Wilk Test Statistic						0.877				
Shapiro Wilk Critical Value						0.939	Shapiro Wilk Critical Value						0.939				
Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level											
Assuming Normal Distribution						Assuming Lognormal Distribution											
95% UTL with 95% Coverage						16546	95% UTL with 95% Coverage						31677				
95% UPL (t)						14751	95% UPL (t)						22702				
90% Percentile (z)						12918	90% Percentile (z)						16156				
95% Percentile (z)						14482	95% Percentile (z)						21596				
99% Percentile (z)						17415	99% Percentile (z)						37220				
Gamma Distribution Test						Data Distribution Test											
k star						2.058	Data Follow Appr. Gamma Distribution at 5% Significance Level										
Theta Star						3596											
MLE of Mean						7401											
MLE of Standard Deviation						5159											
nu star						160.5											
A-D Test Statistic						0.972	Nonparametric Statistics										
5% A-D Critical Value						0.758	90% Percentile						13000				
K-S Test Statistic						0.139	95% Percentile						13100				
5% K-S Critical Value						0.143	99% Percentile						14620				

[illegible]

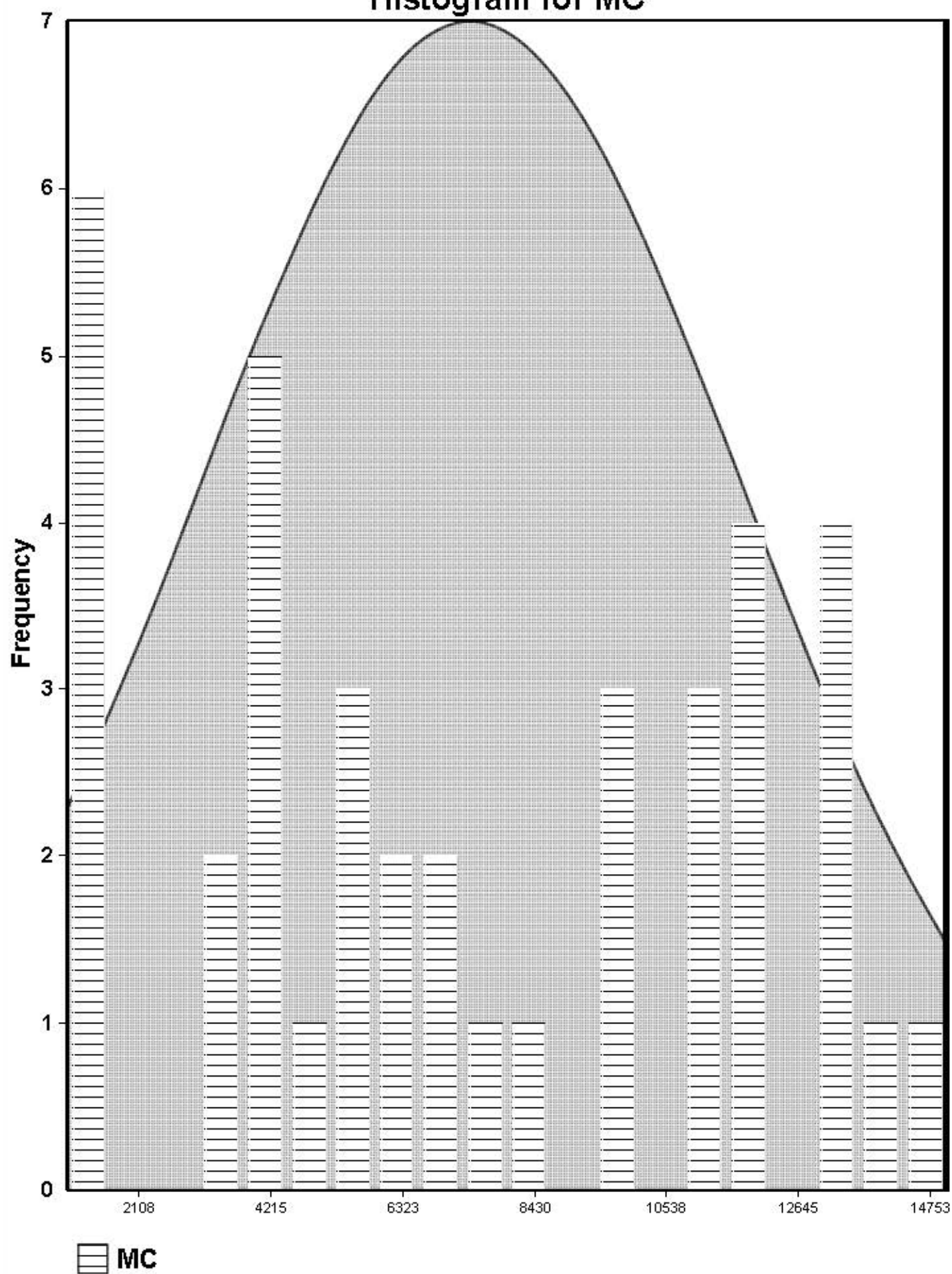
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Magnesium.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 30000 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.632								
For 10% significance level, 30000 is an outlier.								
For 5% significance level, 30000 is an outlier.								
For 1% significance level, 30000 is not an outlier.								
2. Data Value 2600 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.067								
For 10% significance level, 2600 is not an outlier.								
For 5% significance level, 2600 is not an outlier.								
For 1% significance level, 2600 is not an outlier.								
Rosner's Outlier Test for MC								
Mean 7401								
Standard Deviation 4305								
Number of data 39								
Number of suspected outliers 1								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	7401	4249	15000	6	1.788	3.03	3.37	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Magnesium.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: MC					
Background Data: Alluv					
Raw Statistics					
	Site	Background			
Number of Valid Observations	39	12			
Number of Distinct Observations	29	12			
Minimum	950	2600			
Maximum	15000	30000			
Mean	7401	10017			
Median	6800	8850			
SD	4305	7899			
SE of Mean	689.3	2280			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	987.5				
WMW Test U-Stat	0.577				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.549				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for Alluv



Histogram for MC



Location	Alluv
BG-1-2	270
BG-1-10	140
BG-1-29	110
BG-1-40	68
BG-2-2	100
BG-2-10	85
BG-2-19	90
BG-2-21	520
BG-3-2	200
BG-3-10	180
BG-6-2	360
BG-6-9	140

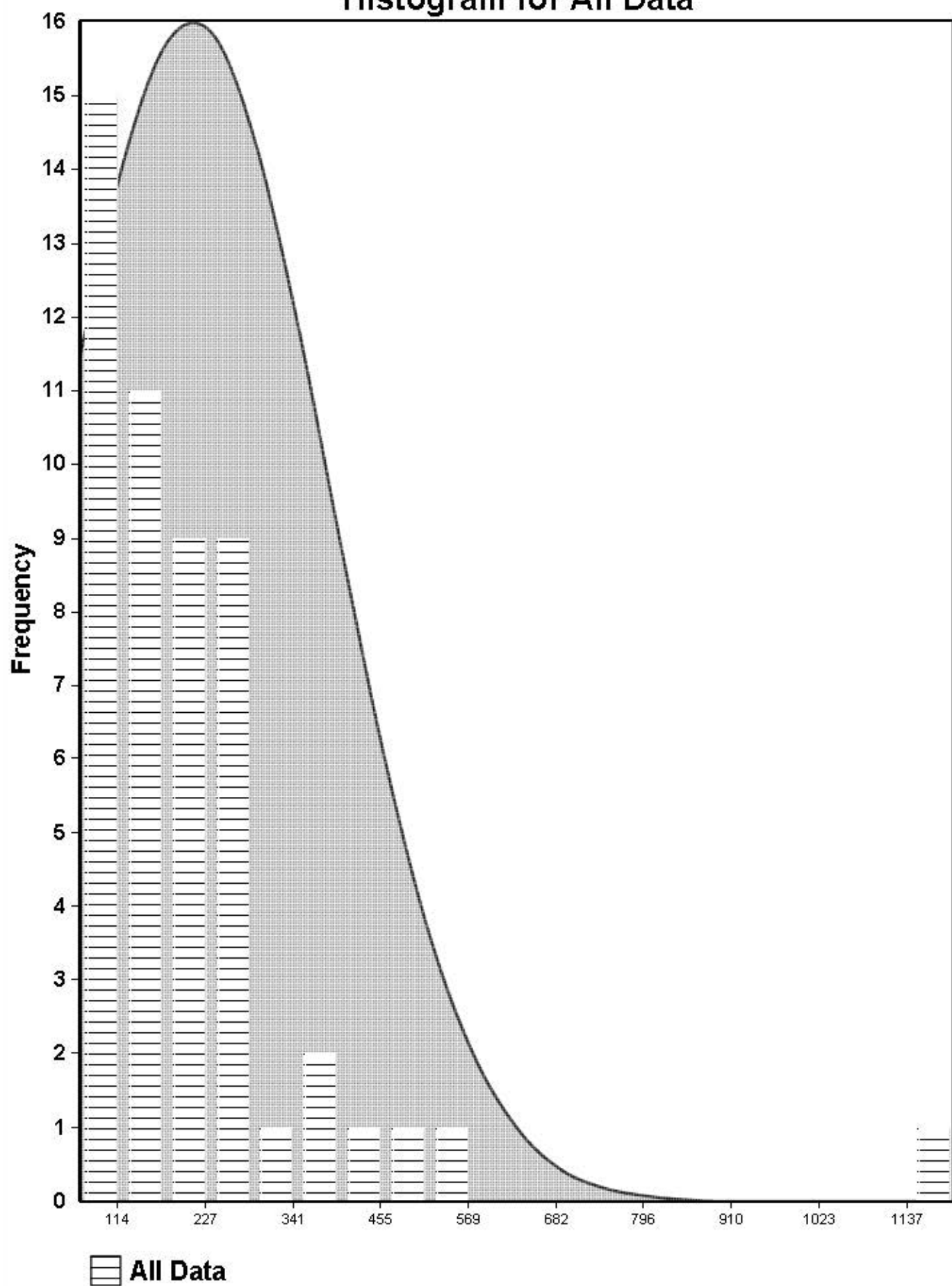
Location	MC
BG-1-43	160
BG-1-46	300
BG-1-55	240
BG-1-78	450
BG-1-92	130
BG-2-30	270
BG-2-32	63
BG-2-75	69
BG-2-81	250
BG-3-17	160
BG-3-22	1200
BG-3-29	75
BG-3-63	69
BG-3-65	130
BG-3-69	170
BG-3-95	69
BG-3-105	110
BG-3-131	500
BG-3-136	180
BG-4-1	130
BG-4-10	200
BG-4-19	260
BG-4-40	260
BG-4-65	90
BG-4-79	360
BG-4-82	190
BG-4-95	79
BG-4-117	73
BG-4-120	170
BG-4-161	290
BG-4-163	360
BG-6-28	210
BG-6-53	190
BG-6-58	99
BG-6-75	270
BG-6-87	260
BG-6-98	150
BG-6-114	190
BG-1-127	210

Goodness-of-Fit Test Statistics for Full Data Sets without Non-Detects			
User Selected Options			
From File	Manganese.wst		
Full Precision	OFF		
Confidence Coefficient	0.95		
All Data			
Raw Statistics			
Number of Valid Observations	51		
Number of Distinct Observations	31		
Minimum	63		
Maximum	1200		
Mean of Raw Data	209.4		
Standard Deviation of Raw Data	178.4		
Kstar	2.36		
Mean of Log Transformed Data	5.131		
Standard Deviation of Log Transformed Data	0.623		
Normal Distribution Test Results			
Correlation Coefficient R	0.794		
Approximate Shapiro Wilk Test Statistic	0.666		
Approximate Shapiro Wilk P Value	4.641E-14		
Lilliefors Test Statistic	0.21		
Lilliefors Critical (0.95) Value	0.124		
Data not Normal at (0.05) Significance Level			
Gamma Distribution Test Results			
Correlation Coefficient R	0.902		
A-D Test Statistic	0.847		
A-D Critical (0.95) Value	0.76		
K-S Test Statistic	0.108		
K-S Critical(0.95) Value	0.125		
Data follow Appr. Gamma Distribution at (0.05) Significance Level			
Lognormal Distribution Test Results			
Correlation Coefficient R	0.981		
Approximate Shapiro Wilk Test Statistic	0.96		
Approximate Shapiro Wilk P Value	0.149		
Lilliefors Test Statistic	0.0693		
Lilliefors Critical (0.95) Value	0.124		
Data appear Lognormal at (0.05) Significance Level			

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Manganese.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
All Data										
General Statistics										
Total Number of Observations				51		Number of Distinct Observations				31
Raw Statistics					Log-Transformed Statistics					
			Minimum	63				Minimum	4.143	
			Maximum	1200				Maximum	7.09	
			Second Largest	520				Second Largest	6.254	
			First Quartile	105				First Quartile	4.653	
			Median	170				Median	5.136	
			Third Quartile	260				Third Quartile	5.561	
			Mean	209.4				Mean	5.131	
			SD	178.4				SD	0.623	
			Coefficient of Variation	0.852						
			Skewness	3.721						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Lilliefors Test Statistic	0.21				Lilliefors Test Statistic	0.0693	
			Lilliefors Critical Value	0.124				Lilliefors Critical Value	0.124	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	575.8				95% UTL with 95% Coverage	607.4	
			95% UPL (t)	511.3				95% UPL (t)	485	
			90% Percentile (z)	438				90% Percentile (z)	375.5	
			95% Percentile (z)	502.8				95% Percentile (z)	470.9	
			99% Percentile (z)	624.4				99% Percentile (z)	719.7	
Gamma Distribution Test					Data Distribution Test					
			k star	2.36	Data Follow Appr. Gamma Distribution at 5% Significance Level					
			Theta Star	88.71						
			MLE of Mean	209.4						
			MLE of Standard Deviation	136.3						
			nu star	240.8						
			A-D Test Statistic	0.847	Nonparametric Statistics					
			5% A-D Critical Value	0.76				90% Percentile	360	
			K-S Test Statistic	0.108				95% Percentile	475	
			5% K-S Critical Value	0.125				99% Percentile	860	
Data follow Appx. Gamma Distribution at 5% Significance Level										

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Manganese.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Rosner's Outlier Test for All Data							
Mean		209.4					
Standard Deviation		178.4					
Number of data		51					
Number of suspected outliers		1					
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	209.4	176.7	1200	8	5.608	3.137	3.488
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 1200 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 1200 is a Potential Statistical Outlier							

Histogram for All Data



Location	All Data
BG-1-2	270
BG-1-43	160
BG-1-55	240
BG-1-78	450
BG-2-30	270
BG-2-81	250
BG-3-17	160
BG-3-22	1200
BG-3-69	170
BG-4-2	130
BG-4-19	260
BG-4-40	260
BG-4-79	360
BG-4-161	290
BG-4-163	360
BG-6-28	210
BG-6-53	190
BG-6-87	260
BG-1-10	140
BG-1-29	110
BG-1-40	68
BG-1-46	300
BG-1-92	130
BG-2-2	100
BG-2-10	85
BG-2-19	90
BG-2-21	520
BG-2-32	63
BG-2-75	69
BG-3-2	200
BG-3-10	180
BG-3-29	75
BG-3-63	69
BG-3-65	130
BG-3-95	69
BG-3-105	110
BG-3-131	500
BG-3-136	180
BG-4-10	200
BG-4-65	90
BG-4-82	190
BG-4-95	79
BG-4-117	73
BG-4-120	170
BG-6-2	140
BG-6-9	140
BG-6-58	99
BG-6-75	270
BG-6-98	150
BG-6-114	190
BG-6-127	210

		Number of Distinct Observations	27					
		Minimum	63					
		Maximum	1200					
		Mean of Raw Data	225.9					
		Standard Deviation of Raw Data	201.9					
		Kstar	1.986					
		Mean of Log Transformed Data	5.168					
		Standard Deviation of Log Transformed Data	0.688					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.811					
		Shapiro Wilk Test Statistic	0.687					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	1.7683E-9					
		Lilliefors Test Statistic	0.21					
		Lilliefors Critical (0.95) Value	0.144					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.922					
		A-D Test Statistic	0.669					
		A-D Critical (0.95) Value	0.759					
		K-S Test Statistic	0.0996					
		K-S Critical(0.95) Value	0.145					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.979					
		Shapiro Wilk Test Statistic	0.954					
		Shapiro Wilk Critical (0.95) Value	0.938					
		Approximate Shapiro Wilk P Value	0.162					
		Lilliefors Test Statistic	0.0876					
		Lilliefors Critical (0.95) Value	0.144					
		Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Manganese.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
0-20										
General Statistics										
Total Number of Observations				13		Number of Distinct Observations				10
Raw Statistics					Log-Transformed Statistics					
			Minimum	85				Minimum	4.443	
			Maximum	270				Maximum	5.598	
			Second Largest	260				Second Largest	5.561	
			First Quartile	130				First Quartile	4.868	
			Median	140				Median	4.942	
			Third Quartile	200				Third Quartile	5.298	
			Mean	161.2				Mean	5.02	
			SD	59.1				SD	0.369	
			Coefficient of Variation	0.367						
			Skewness	0.616						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.928				Shapiro Wilk Test Statistic	0.954	
			Shapiro Wilk Critical Value	0.866				Shapiro Wilk Critical Value	0.866	
Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	319				95% UTL with 95% Coverage	405.6	
			95% UPL (t)	270.5				95% UPL (t)	299.6	
			90% Percentile (z)	236.9				90% Percentile (z)	243	
			95% Percentile (z)	258.4				95% Percentile (z)	277.8	
			99% Percentile (z)	298.6				99% Percentile (z)	357.2	
Gamma Distribution Test					Data Distribution Test					
			k star	6.375	Data appear Normal at 5% Significance Level					
			Theta Star	25.28						
			MLE of Mean	161.2						
			MLE of Standard Deviation	63.83						
			nu star	165.7						
			A-D Test Statistic	0.275	Nonparametric Statistics					
			5% A-D Critical Value	0.735				90% Percentile	248	
			K-S Test Statistic	0.147				95% Percentile	264	
			5% K-S Critical Value	0.237				99% Percentile	268.8	
Data appear Gamma Distributed at 5% Significance Level										

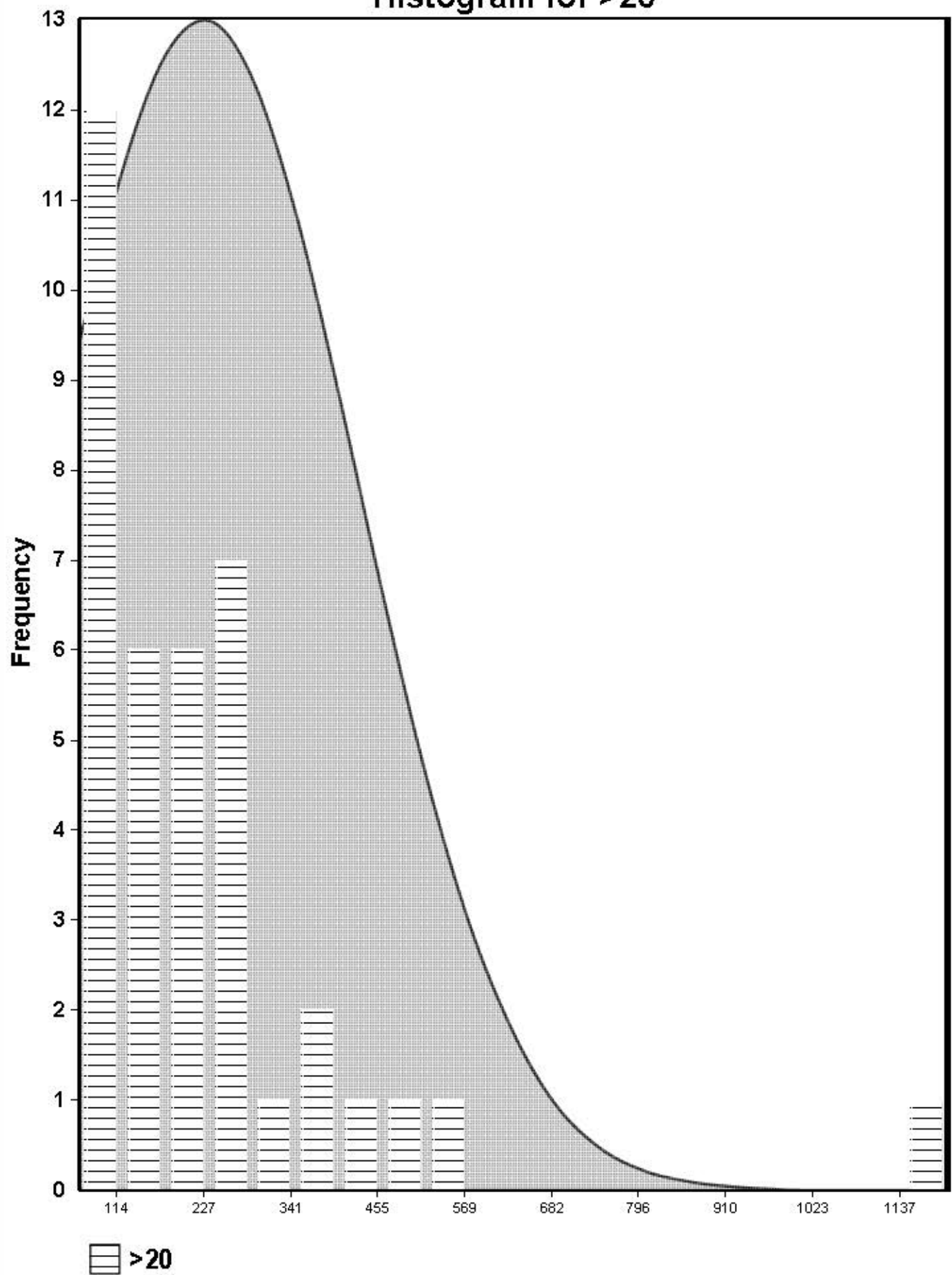
Assuming Gamma Distribution								95% UTL with 95% Coverage				270			
90% Percentile				246.4		95% Percentile Bootstrap UTL with 95% Coverage				270					
95% Percentile				278.4		95% BCA Bootstrap UTL with 95% Coverage				270					
99% Percentile				345.3		95% UPL				270					
						95% Chebyshev UPL				428.5					
95% WH Approx. Gamma UPL				285.7		Upper Threshold Limit Based upon IQR				305					
95% HW Approx. Gamma UPL				288.7											
95% WH Approx. Gamma UTL with 95% Coverage				362.1											
95% HW Approx. Gamma UTL with 95% Coverage				370.9											
>20															
General Statistics															
Total Number of Observations				38		Number of Distinct Observations				27					
Raw Statistics						Log-Transformed Statistics									
Minimum				63		Minimum				4.143					
Maximum				1200		Maximum				7.09					
Second Largest				520		Second Largest				6.254					
First Quartile				101.8		First Quartile				4.621					
Median				185		Median				5.22					
Third Quartile				267.5		Third Quartile				5.589					
Mean				225.9		Mean				5.168					
SD				201.9		SD				0.688					
Coefficient of Variation				0.894											
Skewness				3.279											
Background Statistics															
Normal Distribution Test						Lognormal Distribution Test									
Shapiro Wilk Test Statistic				0.687		Shapiro Wilk Test Statistic				0.954					
Shapiro Wilk Critical Value				0.938		Shapiro Wilk Critical Value				0.938					
Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level									
Assuming Normal Distribution						Assuming Lognormal Distribution									
95% UTL with 95% Coverage				656.5		95% UTL with 95% Coverage				762.1					
95% UPL (t)				571.1		95% UPL (t)				569.6					
90% Percentile (z)				484.7		90% Percentile (z)				424.3					
95% Percentile (z)				558.1		95% Percentile (z)				544.9					
99% Percentile (z)				695.7		99% Percentile (z)				871.1					
Gamma Distribution Test						Data Distribution Test									
k star				1.986		Data appear Gamma Distributed at 5% Significance Level									
Theta Star				113.7											
MLE of Mean				225.9											
MLE of Standard Deviation				160.3											
nu star				150.9											
A-D Test Statistic				0.669		Nonparametric Statistics									
5% A-D Critical Value				0.759		90% Percentile				387					
K-S Test Statistic				0.0996		95% Percentile				503					
5% K-S Critical Value				0.145		99% Percentile				948.4					

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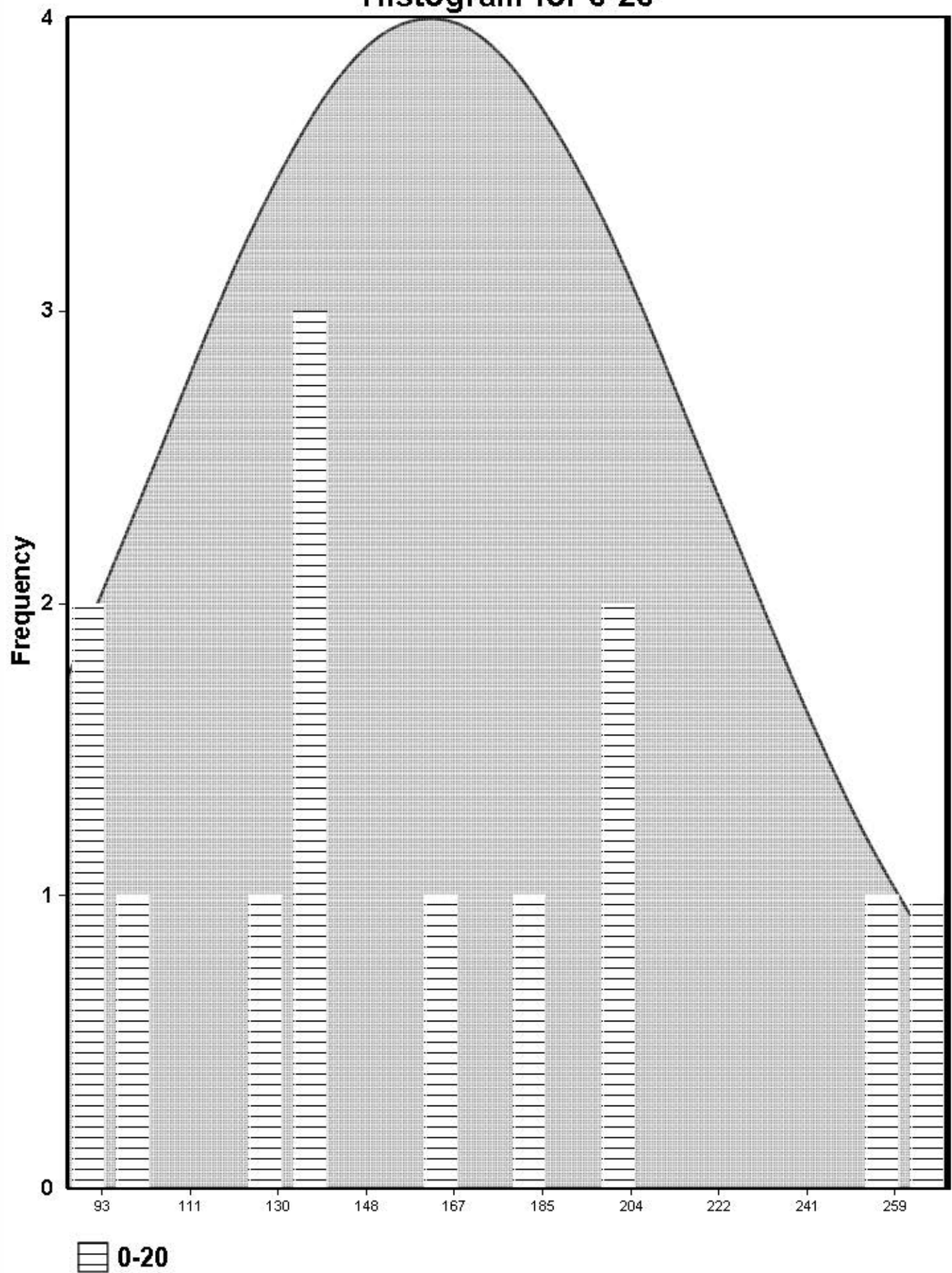
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Manganese.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers with Rosner test			1				
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 270 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.389							
For 10% significance level, 270 is not an outlier.							
For 5% significance level, 270 is not an outlier.							
For 1% significance level, 270 is not an outlier.							
2. Data Value 85 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.086							
For 10% significance level, 85 is not an outlier.							
For 5% significance level, 85 is not an outlier.							
For 1% significance level, 85 is not an outlier.							
Rosner's Outlier Test for >20							
Mean			225.9				
Standard Deviation			201.9				
Number of data			38				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	225.9	199.3	1200	30	4.888	3.01	3.36
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 1200 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 1200 is a Potential Statistical Outlier							

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Manganese.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: >20					
Background Data: 0-20					
Raw Statistics					
	Site	Background			
Number of Valid Observations	38	13			
Number of Distinct Observations	27	10			
Minimum	63	85			
Maximum	1200	270			
Mean	225.9	161.2			
Median	185	140			
SD	201.9	59.1			
SE of Mean	32.76	16.39			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1020				
WMW Test U-Stat	0.67				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.503				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for >20



Histogram for 0-20



Location	0-20
BG-1-2	270
BG-3-17	160
BG-4-2	130
BG-4-19	260
BG-1-10	140
BG-2-2	100
BG-2-10	85
BG-2-19	90
BG-3-2	200
BG-3-10	180
BG-4-10	200
BG-6-2	140
BG-6-9	140

Location	>20
BG-1-29	110
BG-1-40	68
BG-1-46	300
BG-1-92	130
BG-2-21	520
BG-2-32	63
BG-2-75	69
BG-3-29	75
BG-3-63	69
BG-3-65	130
BG-3-95	69
BG-3-105	110
BG-3-131	500
BG-3-136	180
BG-4-65	90
BG-4-82	190
BG-4-95	79
BG-4-117	73
BG-4-120	170
BG-6-58	99
BG-6-75	270
BG-6-98	150
BG-6-114	190
BG-6-127	210
BG-1-43	160
BG-1-55	240
BG-1-78	450
BG-2-30	270
BG-2-81	250
BG-3-22	1200
BG-3-69	170
BG-4-40	260
BG-4-79	360
BG-4-161	290
BG-4-163	360
BG-6-28	210
BG-6-53	190
BG-6-87	260

		Number of Distinct Observations	23					
		Minimum	63					
		Maximum	520					
		Mean of Raw Data	157.2					
		Standard Deviation of Raw Data	109					
		Kstar	2.88					
		Mean of Log Transformed Data	4.891					
		Standard Deviation of Log Transformed Data	0.555					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.858					
		Shapiro Wilk Test Statistic	0.742					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	4.7705E-7					
		Lilliefors Test Statistic	0.196					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.944					
		A-D Test Statistic	0.964					
		A-D Critical (0.95) Value	0.753					
		K-S Test Statistic	0.113					
		K-S Critical(0.95) Value	0.154					
		Data follow Appr. Gamma Distribution at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.969					
		Shapiro Wilk Test Statistic	0.928					
		Shapiro Wilk Critical (0.95) Value	0.931					
		Approximate Shapiro Wilk P Value	0.0374					
		Lilliefors Test Statistic	0.0927					
		Lilliefors Critical (0.95) Value	0.154					
		Data not Lognormal at (0.05) Significance Level						

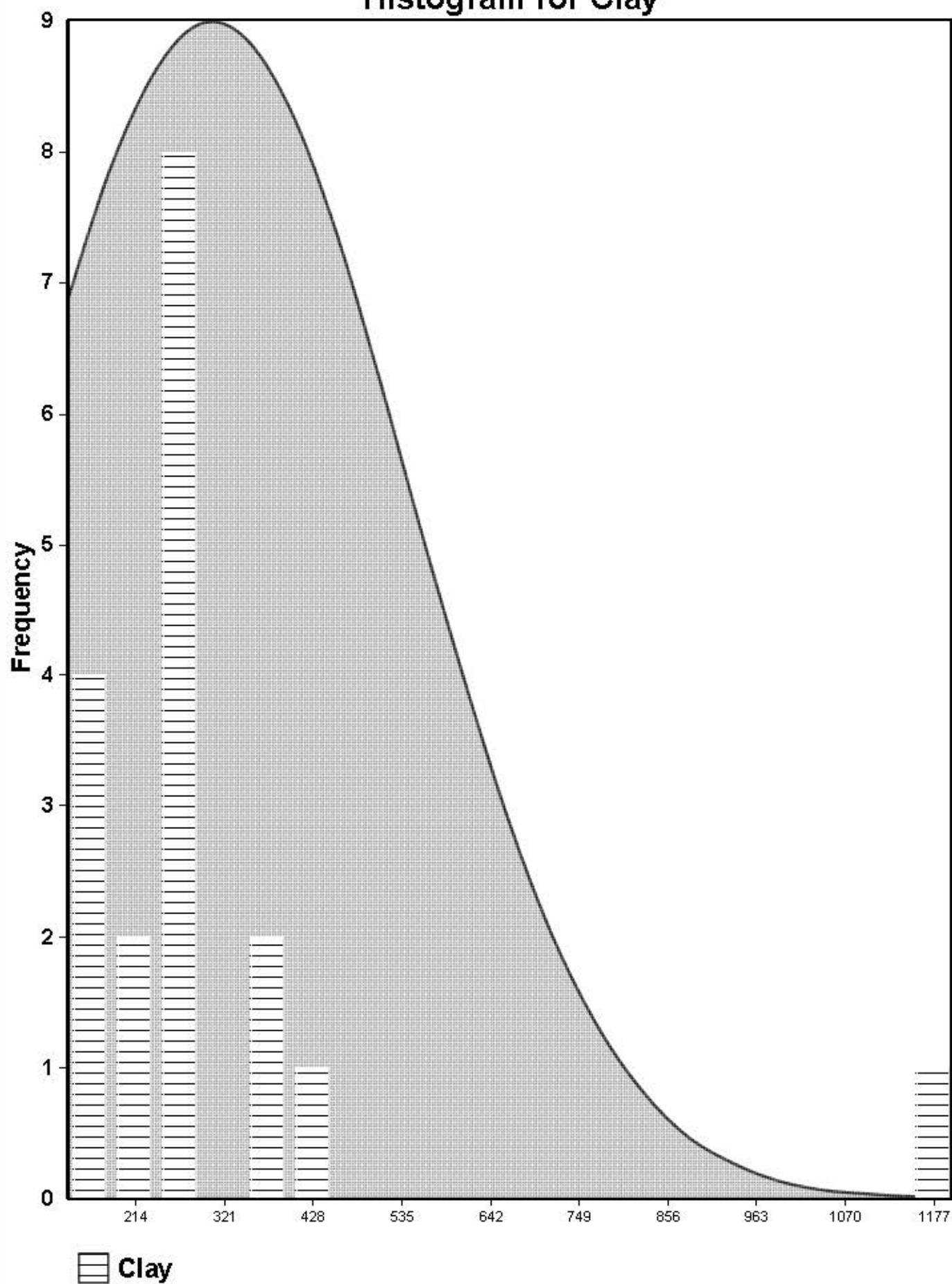
Assuming Gamma Distribution				95% UTL with 95% Coverage		1200			
90% Percentile			543	95% Percentile Bootstrap UTL with 95% Coverage		1200			
95% Percentile			643.1	95% BCA Bootstrap UTL with 95% Coverage		1200			
99% Percentile			860.2	95% UPL		1200			
				95% Chebyshev UPL		1368			
95% WH Approx. Gamma UPL			654.1	Upper Threshold Limit Based upon IQR		420			
95% HW Approx. Gamma UPL			647.7						
95% WH Approx. Gamma UTL with 95% Coverage		856.1							
95% HW Approx. Gamma UTL with 95% Coverage		858.5							
Non-Clay									
General Statistics									
Total Number of Observations		33	Number of Distinct Observations				23		
Raw Statistics			Log-Transformed Statistics						
Minimum		63	Minimum		4.143				
Maximum		520	Maximum		6.254				
Second Largest		500	Second Largest		6.215				
First Quartile		85	First Quartile		4.443				
Median		130	Median		4.868				
Third Quartile		190	Third Quartile		5.247				
Mean		157.2	Mean		4.891				
SD		109	SD		0.555				
Coefficient of Variation		0.693							
Skewness		2.208							
Background Statistics									
Normal Distribution Test			Lognormal Distribution Test						
Shapiro Wilk Test Statistic		0.742	Shapiro Wilk Test Statistic		0.928				
Shapiro Wilk Critical Value		0.931	Shapiro Wilk Critical Value		0.931				
Data not Normal at 5% Significance Level			Data not Lognormal at 5% Significance Level						
Assuming Normal Distribution			Assuming Lognormal Distribution						
95% UTL with 95% Coverage		394.4	95% UTL with 95% Coverage		444.7				
95% UPL (t)		344.6	95% UPL (t)		345.2				
90% Percentile (z)		296.9	90% Percentile (z)		270.8				
95% Percentile (z)		336.5	95% Percentile (z)		331.2				
99% Percentile (z)		410.7	99% Percentile (z)		483.4				
Gamma Distribution Test			Data Distribution Test						
k star		2.88	Data Follow Appr. Gamma Distribution at 5% Significance Level						
Theta Star		54.6							
MLE of Mean		157.2							
MLE of Standard Deviation		92.66							
nu star		190.1							
A-D Test Statistic		0.964	Nonparametric Statistics						
5% A-D Critical Value		0.753	90% Percentile		258				
K-S Test Statistic		0.113	95% Percentile		380				
5% K-S Critical Value		0.154	99% Percentile		513.6				

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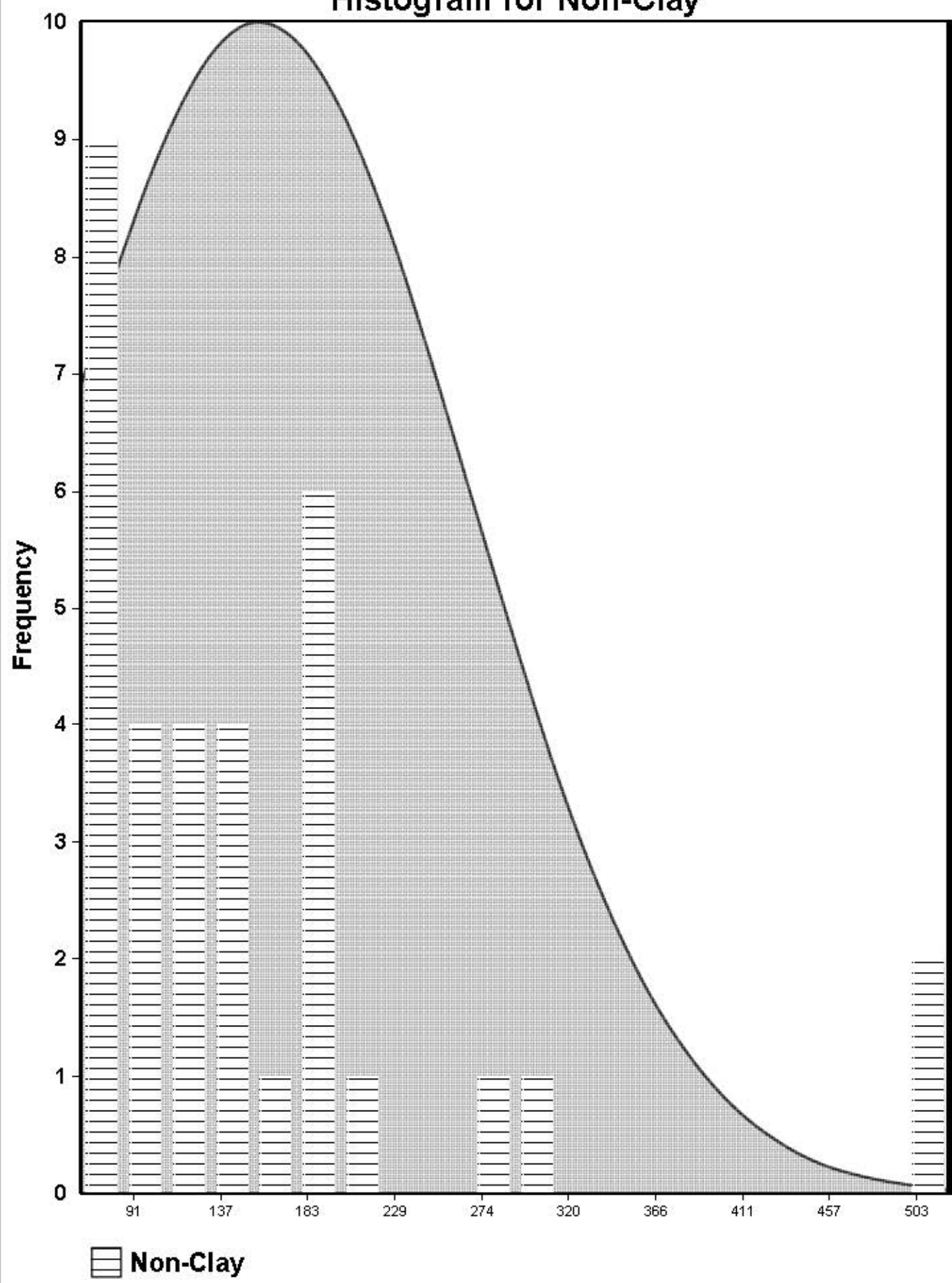
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Manganese.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for Clay								
Number of data = 18								
10% critical value: 0.424								
5% critical value: 0.475								
1% critical value: 0.561								
1. Data Value 1200 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.808								
For 10% significance level, 1200 is an outlier.								
For 5% significance level, 1200 is an outlier.								
For 1% significance level, 1200 is an outlier.								
2. Data Value 130 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.130								
For 10% significance level, 130 is not an outlier.								
For 5% significance level, 130 is not an outlier.								
For 1% significance level, 130 is not an outlier.								
Rosner's Outlier Test for Non-Clay								
Mean			157.2					
Standard Deviation			109					
Number of data			33					
Number of suspected outliers			1					
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	157.2	107.3	520	9	3.381	2.95	3.29	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 520 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 520 is a Potential Statistical Outlier								

Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs									
User Selected Options									
From File		Manganese.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Substantial Difference		0.000							
Selected Null Hypothesis		Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)							
Alternative Hypothesis		Site or AOC Mean/Median Not Equal to Background Mean/Median							
Area of Concern Data: Non-Clay									
Background Data: Clay									
Raw Statistics									
		Site	Background						
Number of Valid Observations		33	18						
Number of Distinct Observations		23	13						
Minimum		63	130						
Maximum		520	1200						
Mean		157.2	305						
Median		130	260						
SD		109	237.3						
SE of Mean		18.97	55.93						
Wilcoxon-Mann-Whitney (WMW) Test									
H0: Mean/Median of Site or AOC = Mean/Median of Background									
Site Rank Sum W-Stat		662							
WMW Test U-Stat		3.853							
Lower Critical Value (0.025)		-1.96							
Upper Critical Value (0.975)		1.96							
P-Value		1.0746E-4							
Conclusion with Alpha = 0.05									
Reject H0, Conclude Site <> Background									
P-Value < alpha (0.05)									

Manganese
Histogram for Clay



Manganese
Histogram for Non-Clay



Location	Clay
BG-1-2	270
BG-1-43	160
BG-1-55	240
BG-1-78	450
BG-2-30	270
BG-2-81	250
BG-3-17	160
BG-3-22	1200
BG-3-69	170
BG-4-2	130
BG-4-19	260
BG-4-40	260
BG-4-79	360
BG-4-161	290
BG-4-163	360
BG-6-28	210
BG-6-53	190
BG-6-87	260

Location	Non-Clay
BG-1-10	140
BG-1-29	110
BG-1-40	68
BG-1-46	300
BG-1-92	130
BG-2-2	100
BG-2-10	85
BG-2-19	90
BG-2-21	520
BG-2-32	63
BG-2-75	69
BG-3-2	200
BG-3-10	180
BG-3-29	75
BG-3-63	69
BG-3-65	130
BG-3-95	69
BG-3-105	110
BG-3-131	500
BG-3-136	180
BG-4-10	200
BG-4-65	90
BG-4-82	190
BG-4-95	79
BG-4-117	73
BG-4-120	170
BG-6-2	140
BG-6-9	140
BG-6-58	99
BG-6-75	270
BG-6-98	150
BG-6-114	190
BG-6-127	210

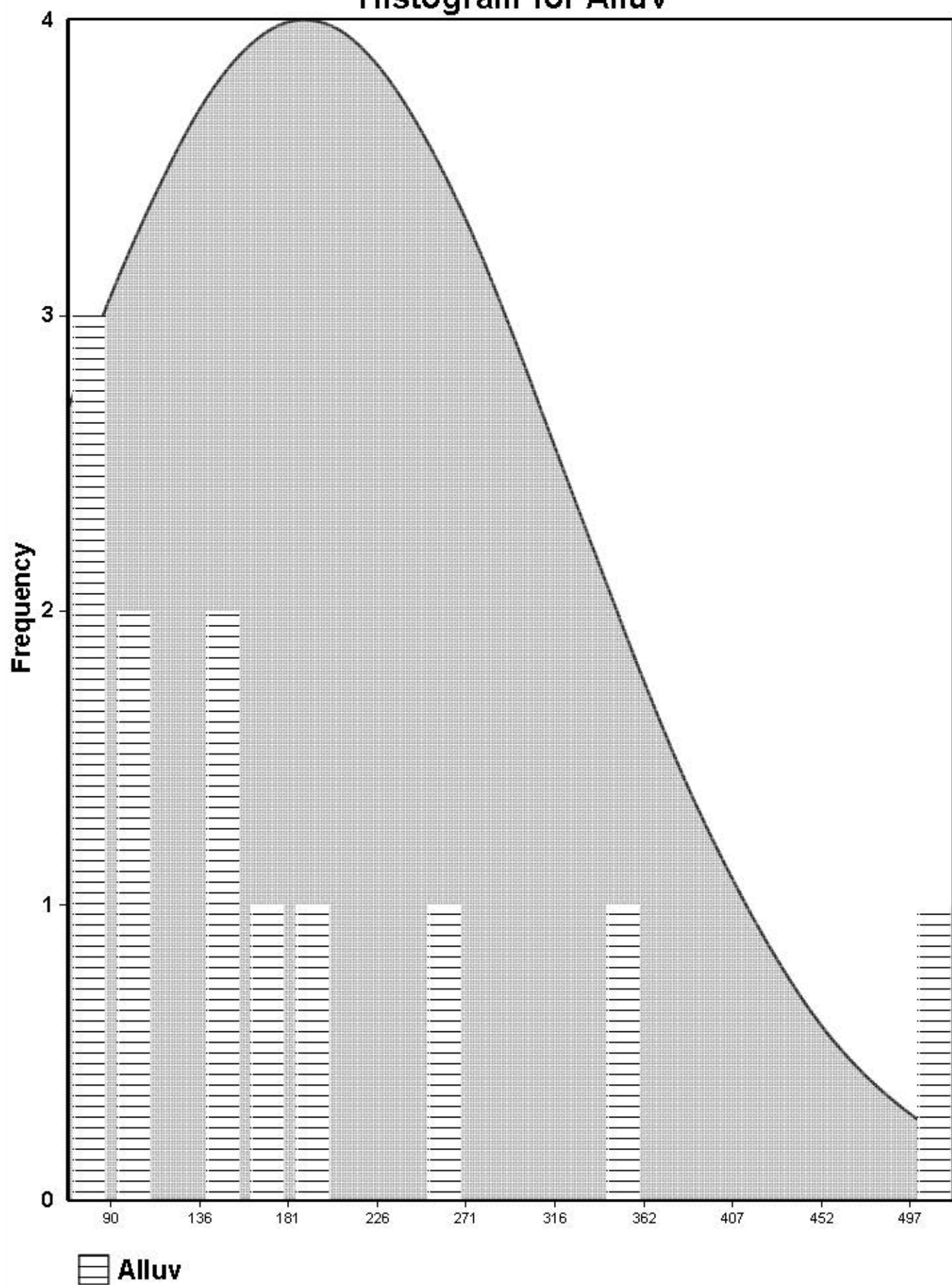
		Number of Distinct Observations	26					
		Minimum	63					
		Maximum	1200					
		Mean of Raw Data	221.4					
		Standard Deviation of Raw Data	191.9					
		Kstar	2.256					
		Mean of Log Transformed Data	5.18					
		Standard Deviation of Log Transformed Data	0.639					
		Normal Distribution Test Results						
		Correlation Coefficient R	0.785					
		Shapiro Wilk Test Statistic	0.651					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	1.209E-10					
		Lilliefors Test Statistic	0.221					
		Lilliefors Critical (0.95) Value	0.142					
		Data not Normal at (0.05) Significance Level						
		Gamma Distribution Test Results						
		Correlation Coefficient R	0.891					
		A-D Test Statistic	0.696					
		A-D Critical (0.95) Value	0.757					
		K-S Test Statistic	0.118					
		K-S Critical(0.95) Value	0.143					
		Data appear Gamma Distributed at (0.05) Significance Level						
		Lognormal Distribution Test Results						
		Correlation Coefficient R	0.977					
		Shapiro Wilk Test Statistic	0.956					
		Shapiro Wilk Critical (0.95) Value	0.939					
		Approximate Shapiro Wilk P Value	0.181					
		Lilliefors Test Statistic	0.0779					
		Lilliefors Critical (0.95) Value	0.142					
		Data appear Lognormal at (0.05) Significance Level						

			General Background Statistics for Full Data Sets							
User Selected Options										
From File			Manganese.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Alluv										
General Statistics										
Total Number of Observations				12		Number of Distinct Observations				11
Raw Statistics					Log-Transformed Statistics					
			Minimum	68				Minimum	4.22	
			Maximum	520				Maximum	6.254	
			Second Largest	360				Second Largest	5.886	
			First Quartile	97.5				First Quartile	4.579	
			Median	140				Median	4.942	
			Third Quartile	217.5				Third Quartile	5.373	
			Mean	188.6				Mean	5.048	
			SD	134.8				SD	0.621	
			Coefficient of Variation	0.715						
			Skewness	1.638						
Background Statistics										
Normal Distribution Test					Lognormal Distribution Test					
			Shapiro Wilk Test Statistic	0.815				Shapiro Wilk Test Statistic	0.951	
			Shapiro Wilk Critical Value	0.859				Shapiro Wilk Critical Value	0.859	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
			95% UTL with 95% Coverage	557.3				95% UTL with 95% Coverage	850.8	
			95% UPL (t)	440.5				95% UPL (t)	496.9	
			90% Percentile (z)	361.3				90% Percentile (z)	345	
			95% Percentile (z)	410.3				95% Percentile (z)	432.3	
			99% Percentile (z)	502.1				99% Percentile (z)	659.8	
Gamma Distribution Test					Data Distribution Test					
			k star	2.134	Data appear Gamma Distributed at 5% Significance Level					
			Theta Star	88.38						
			MLE of Mean	188.6						
			MLE of Standard Deviation	129.1						
			nu star	51.21						
			A-D Test Statistic	0.44	Nonparametric Statistics					
			5% A-D Critical Value	0.74				90% Percentile	351	
			K-S Test Statistic	0.188				95% Percentile	432	
			5% K-S Critical Value	0.248				99% Percentile	502.4	
Data appear Gamma Distributed at 5% Significance Level										

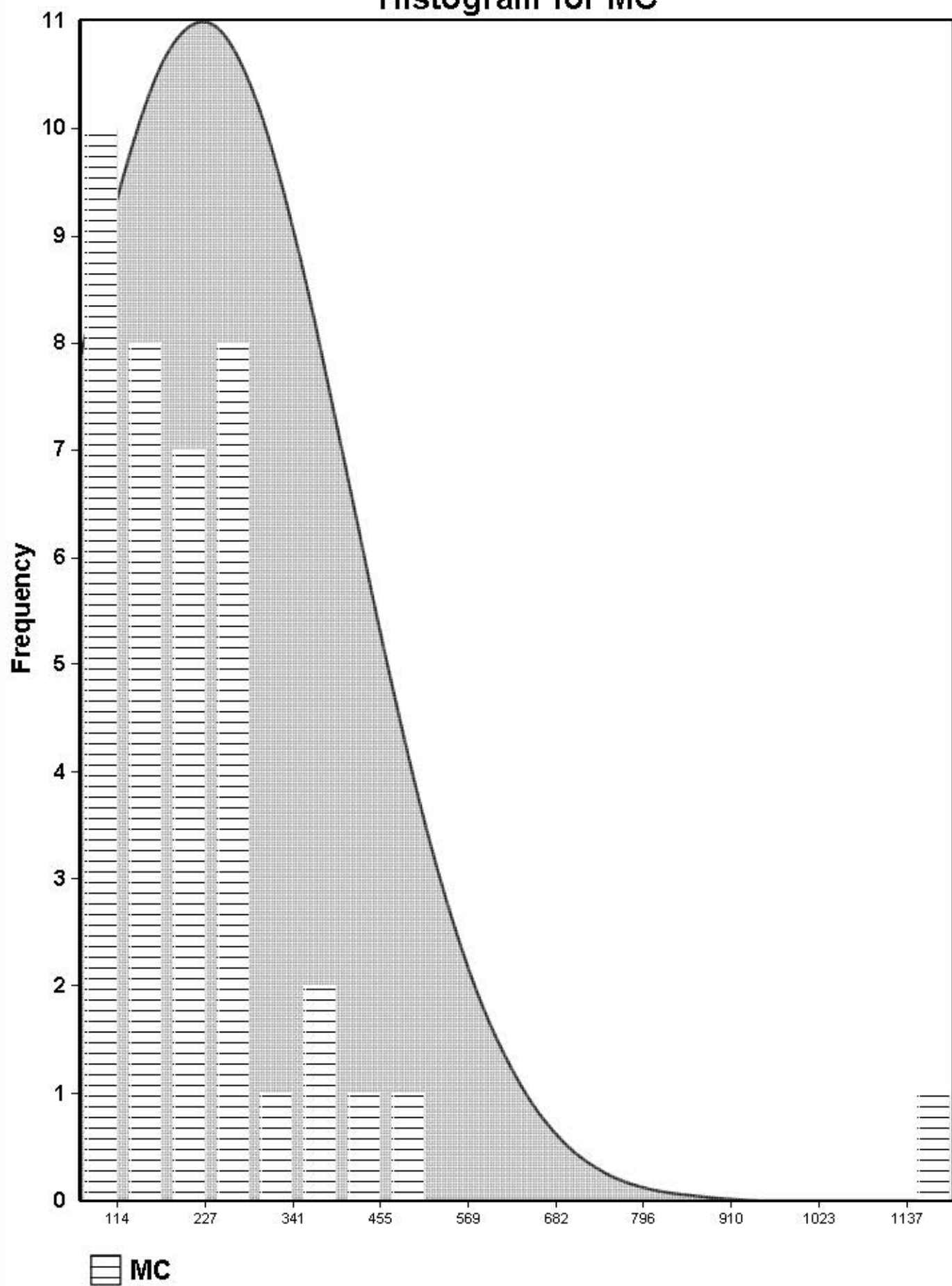
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Manganese.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers with Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 520 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.575								
For 10% significance level, 520 is an outlier.								
For 5% significance level, 520 is an outlier.								
For 1% significance level, 520 is not an outlier.								
2. Data Value 68 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.075								
For 10% significance level, 68 is not an outlier.								
For 5% significance level, 68 is not an outlier.								
For 1% significance level, 68 is not an outlier.								
Rosner's Outlier Test for MC								
Mean			221.4					
Standard Deviation			191.9					
Number of data			39					
Number of suspected outliers			1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	221.4	189.4	1200	11	5.167	3.03	3.37	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1200 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1200 is a Potential Statistical Outlier								

		Wilcoxon-Mann-Whitney Site vs Background Comparison Test for Full Data Sets without NDs			
User Selected Options					
From File	Manganese.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: MC					
Background Data: Alluv					
Raw Statistics					
	Site	Background			
Number of Valid Observations	39	12			
Number of Distinct Observations	26	11			
Minimum	63	68			
Maximum	1200	520			
Mean	221.4	188.6			
Median	190	140			
SD	191.9	134.8			
SE of Mean	30.72	38.9			
Wilcoxon-Mann-Whitney (WMW) Test					
H0: Mean/Median of Site or AOC = Mean/Median of Background					
Site Rank Sum W-Stat	1043				
WMW Test U-Stat	0.633				
Lower Critical Value (0.025)	-1.96				
Upper Critical Value (0.975)	1.96				
P-Value	0.527				
Conclusion with Alpha = 0.05					
Do Not Reject H0, Conclude Site = Background					
P-Value >= alpha (0.05)					

Histogram for Alluv



Histogram for MC



Location	Alluv
BG-1-2	19000
BG-1-10	13000
BG-1-29	11000
BG-1-40	30000
BG-2-2	4000
BG-2-10	3100
BG-2-19	9200
BG-2-21	6200
BG-3-2	2600
BG-3-10	3700
BG-6-2	8500
BG-6-9	9900

Location	MC
BG-1-43	10000
BG-1-46	5500
BG-1-55	6000
BG-1-78	11000
BG-1-92	3600
BG-2-30	15000
BG-2-32	3900
BG-2-75	4400
BG-2-81	14000
BG-3-17	1600
BG-3-22	1400
BG-3-29	1300
BG-3-63	1500
BG-3-65	3800
BG-3-69	4300
BG-3-95	950
BG-3-105	3100
BG-3-131	970
BG-3-136	6300
BG-4-1	8100
BG-4-10	12000
BG-4-19	13000
BG-4-40	11000
BG-4-65	5300
BG-4-79	13000
BG-4-82	12000
BG-4-95	5500
BG-4-117	4500
BG-4-120	9500
BG-4-161	7800
BG-4-163	13000
BG-6-28	9700
BG-6-53	12000
BG-6-58	4000
BG-6-75	6800
BG-6-87	12000
BG-6-98	6800
BG-6-114	13000
BG-1-127	11000

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options						
From File	Mercury.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
Clay						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	18	0	18	8	10	55.56%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	10	0.02	0.025	0.0227	0.023	0.00177
Statistics (Detects Only)	8	0.0034	0.36	0.0564	0.0106	0.123
Statistics (All: NDs treated as DL value)	18	0.0034	0.36	0.0377	0.022	0.0809
Statistics (All: NDs treated as DL/2 value)	18	0.0034	0.36	0.0314	0.0115	0.0823
Statistics (Normal ROS Estimated Data)	18	-0.0278	0.36	0.0347	0.0203	0.0851
Statistics (Gamma ROS Estimated Data)	18	1.000E-12	0.36	0.0494	0.0225	0.0886
Statistics (Lognormal ROS Estimated Data)	18	0.0034	0.36	0.03	0.00807	0.0828
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	0.482	0.439	0.117	-4.201	1.5	-0.357
Statistics (NDs = DL)	0.85	0.746	0.0443	-3.972	0.987	-0.249
Statistics (NDs = DL/2)	0.679	0.603	0.0462	-4.357	0.975	-0.224
Statistics (Gamma ROS Estimates)	0.163	0.173	0.304	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	-4.577	1.108	-0.242
Normal Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.68	0.558	0.53	0.706		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilks (Detects Only)	0.491	0.818	Data Not Normal			
Lilliefors (Detects Only)	0.441	0.313	Data Not Normal			
Shapiro-Wilks (NDs = DL)	0.343	0.897	Data Not Normal			
Lilliefors (NDs = DL)	0.453	0.209	Data Not Normal			
Shapiro-Wilks (NDs = DL/2)	0.312	0.897	Data Not Normal			
Lilliefors (NDs = DL/2)	0.444	0.209	Data Not Normal			
Shapiro-Wilks (Normal ROS Estimates)	0.53	0.897	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.327	0.209	Data Not Normal			
Gamma Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.929	0.772	0.784	0.953		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	1.066	0.765				
Kolmogorov-Smirnov (Detects Only)	0.294	0.31	Data appear Approximate Gamma Distribution			
Anderson-Darling (NDs = DL)	2.557	0.773				
Kolmogorov-Smirnov (NDs = DL)	0.38	0.211	Data Not Gamma Distributed			

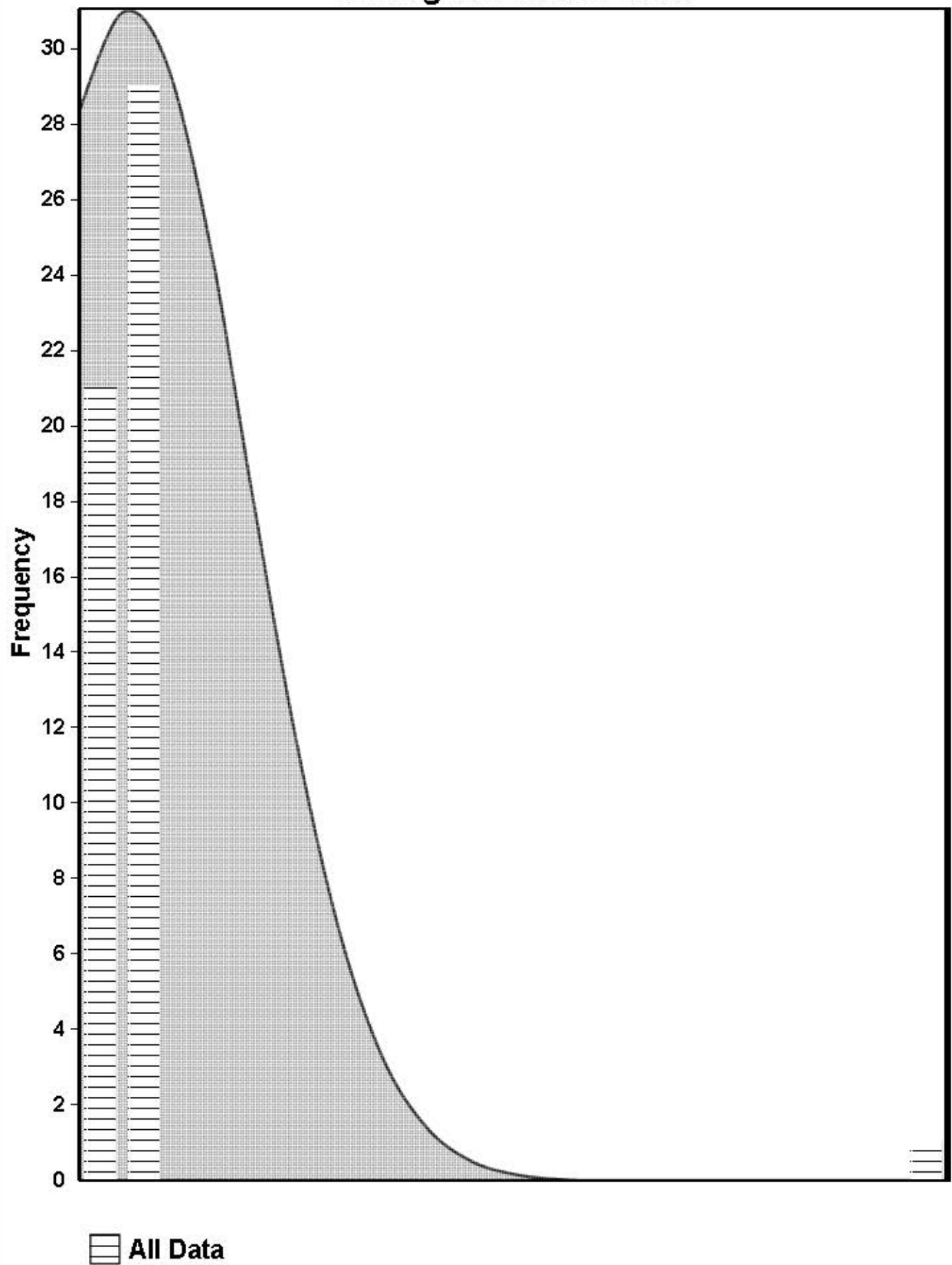
Anderson-Darling (NDs = DL/2)		3.682	0.784						
Kolmogorov-Smirnov (NDs = DL/2)		0.424	0.212	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		2.565	0.899						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.351	0.227	Data Not Gamma Distributed					
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.927	0.885	0.824	0.889					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.869	0.818	Data Appear Lognormal						
Lilliefors (Detects Only)	0.184	0.313	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL)	0.812	0.897	Data Not Lognormal						
Lilliefors (NDs = DL)	0.276	0.209	Data Not Lognormal						
Shapiro-Wilks (NDs = DL/2)	0.712	0.897	Data Not Lognormal						
Lilliefors (NDs = DL/2)	0.344	0.209	Data Not Lognormal						
Shapiro-Wilks (Lognormal ROS Estimates)	0.806	0.897	Data Not Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.167	0.209	Data Appear Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									
Non-Clay									
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs			
Raw Statistics	33	0	33	17	16	48.48%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	16	0.02	0.025	0.0224	0.024	0.00203			
Statistics (Detects Only)	17	0.001	0.026	0.00494	0.0032	0.00582			
Statistics (All: NDs treated as DL value)	33	0.001	0.026	0.0134	0.02	0.00988			
Statistics (All: NDs treated as DL/2 value)	33	0.001	0.026	0.00798	0.01	0.00525			
Statistics (Normal ROS Estimated Data)	33	-0.00134	0.026	0.00466	0.0039	0.00469			
Statistics (Gamma ROS Estimated Data)	33	0.001	0.026	0.00495	0.00488	0.00411			
Statistics (Lognormal ROS Estimated Data)	33	0.001	0.026	0.0043	0.00322	0.00436			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	1.612	1.485	0.00307	-5.651	0.764	-0.135			
Statistics (NDs = DL)	1.268	1.173	0.0106	-4.754	1.085	-0.228			
Statistics (NDs = DL/2)	2.074	1.905	0.00385	-5.09	0.801	-0.157			
Statistics (Gamma ROS Estimates)	3	2.747	0.00165	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	-5.698	0.652	-0.114			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.739	0.899	0.918	0.835					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.575	0.892	Data Not Normal						
Lilliefors (Detects Only)	0.319	0.215	Data Not Normal						
Shapiro-Wilks (NDs = DL)	0.782	0.931	Data Not Normal						
Lilliefors (NDs = DL)	0.262	0.154	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.854	0.931	Data Not Normal						

Note: Substitution methods such as DL or DL/2 are not recommended.

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File	Mercury.wst								
Full Precision	OFF								
Confidence Coefficient	0.95								
All Data									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	51	0	51	25	26	50.98%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	26	0.02	0.025	0.0225	0.0235	0.0019			
Statistics (Detects Only)	25	0.001	0.36	0.0215	0.0047	0.071			
Statistics (All: NDs treated as DL value)	51	0.001	0.36	0.022	0.02	0.0492			
Statistics (All: NDs treated as DL/2 value)	51	0.001	0.36	0.0163	0.01	0.0495			
Statistics (Normal ROS Estimated Data)	51	-0.032	0.36	0.0169	0.0055	0.0519			
Statistics (Gamma ROS Estimated Data)	51	0.001	0.36	0.0212	0.0159	0.0493			
Statistics (Lognormal ROS Estimated Data)	51	9.8300E-4	0.36	0.0133	0.00439	0.0499			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	0.479	0.464	0.0449	-5.175	1.238	-0.239			
Statistics (NDs = DL)	0.892	0.852	0.0247	-4.472	1.106	-0.247			
Statistics (NDs = DL/2)	0.834	0.798	0.0195	-4.825	0.927	-0.192			
Statistics (Gamma ROS Estimates)	0.877	0.838	0.0242	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	-5.324	1.012	-0.19			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.503	0.492	0.427	0.609					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.283	0.918	Data Not Normal						
Lilliefors (Detects Only)	0.395	0.177	Data Not Normal						
Lilliefors (NDs = DL)	0.429	0.124	Data Not Normal						
Lilliefors (NDs = DL/2)	0.452	0.124	Data Not Normal						
Lilliefors (Normal ROS Estimates)	0.278	0.124	Data Not Normal						
Gamma Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS					
Correlation Coefficient R	0.793	0.671	0.641	0.897					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Anderson-Darling (Detects Only)	3.513	0.812							
Kolmogorov-Smirnov (Detects Only)	0.302	0.185	Data Not Gamma Distributed						
Anderson-Darling (NDs = DL)	3.463	0.786							
Kolmogorov-Smirnov (NDs = DL)	0.264	0.128	Data Not Gamma Distributed						
Anderson-Darling (NDs = DL/2)	5.752	0.789							
Kolmogorov-Smirnov (NDs = DL/2)	0.364	0.129	Data Not Gamma Distributed						
Anderson-Darling (Gamma ROS Estimates)	2.519	0.786							

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Mercury.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Rosner's Outlier Test for All Data							
Mean		0.0163					
Standard Deviation		0.0495					
Number of data		51					
Number of suspected outliers		1					
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	0.0163	0.049	0.36	6	7.016	3.137	3.488
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.36 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.36 is a Potential Statistical Outlier							

Histogram for All Data



Location	All Data	D_All Data
BG-1-2	0.012	1
BG-1-43	0.0091	1
BG-1-55	0.0200	0
BG-1-78	0.0360	1
BG-2-30	0.0200	1
BG-2-81	0.3600	1
BG-3-17	0.0034	1
BG-3-22	0.0048	1
BG-3-69	0.0055	1
BG-4-2	0.0210	0
BG-4-19	0.0240	0
BG-4-40	0.0230	0
BG-4-79	0.0200	0
BG-4-161	0.0240	0
BG-4-163	0.0230	0
BG-6-28	0.0230	0
BG-6-53	0.0240	0
BG-6-87	0.0250	0
BG-1-10	0.0050	1
BG-1-29	0.0093	1
BG-1-40	0.0093	1
BG-1-46	0.0018	1
BG-1-92	0.0200	0
BG-2-2	0.0028	1
BG-2-10	0.0200	0
BG-2-19	0.0047	1
BG-2-21	0.0021	1
BG-2-32	0.0017	1
BG-2-75	0.0200	0
BG-3-2	0.0026	1
BG-3-10	0.0041	1
BG-3-29	0.0039	1
BG-3-63	0.0250	0
BG-3-65	0.0025	1
BG-3-95	0.0017	1
BG-3-105	0.0032	1
BG-3-131	0.0010	1
BG-3-136	0.0048	1
BG-4-10	0.0220	0
BG-4-65	0.0200	0
BG-4-82	0.0240	0
BG-4-95	0.0240	0
BG-4-117	0.0240	0
BG-4-120	0.0240	0
BG-6-2	0.0200	0
BG-6-9	0.0200	0
BG-6-58	0.0240	0
BG-6-75	0.0240	0
BG-6-98	0.0260	1
BG-6-114	0.0240	0
BG-6-127	0.0240	0

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File	Mercury.wst								
Full Precision	OFF								
Confidence Coefficient	0.95								
0-20									

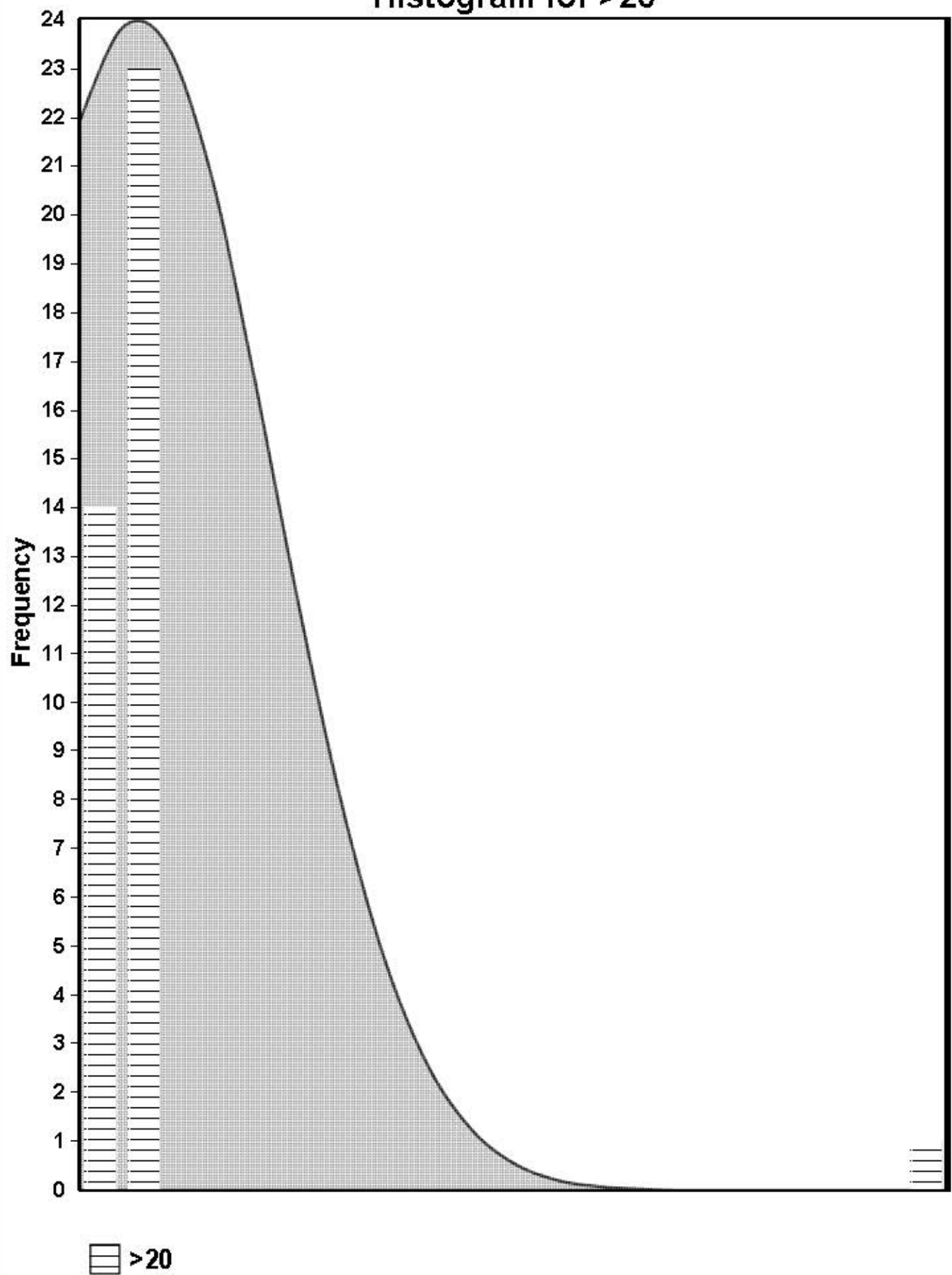
Note: Substitution methods such as DL or DL/2 are not recommended.

General Background Statistics for Data Sets with Non-Detects									
User Selected Options									
From File		Mercury.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
0-20									
General Statistics									
Number of Valid Data		13		Number of Detected Data		7			
Number of Distinct Detected Data		7		Number of Non-Detect Data		6			
				Percent Non-Detects		46.15%			
Raw Statistics				Log-transformed Statistics					
Minimum Detected		0.0026		Minimum Detected		-5.952			
Maximum Detected		0.012		Maximum Detected		-4.423			
Mean of Detected		0.00494		Mean of Detected		-5.442			
SD of Detected		0.00324		SD of Detected		0.513			
Minimum Non-Detect		0.02		Minimum Non-Detect		-3.912			
Maximum Non-Detect		0.024		Maximum Non-Detect		-3.73			
Data with Multiple Detection Limits				Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL		13			
For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL		0			
Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage		100.00%			
Warning: There are only 7 Detected Values in this data									
Note: It should be noted that even though bootstrap may be performed on this data set									
the resulting calculations may not be reliable enough to draw conclusions									
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.									
Background Statistics									
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic		0.714		Shapiro Wilk Test Statistic		0.874			
5% Shapiro Wilk Critical Value		0.803		5% Shapiro Wilk Critical Value		0.803			
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
DL/2 Substitution Method				DL/2 Substitution Method					
Mean		0.00755		Mean (Log Scale)		-5.031			
SD		0.00375		SD (Log Scale)		0.589			
95% UTL		95% Coverage		95% UTL		95% Coverage		0.0316	
		95% UPL (t)				95% UPL (t)		0.0194	
		90% Percentile (z)				90% Percentile (z)		0.0139	
		95% Percentile (z)				95% Percentile (z)		0.0172	
		99% Percentile (z)				99% Percentile (z)		0.0258	

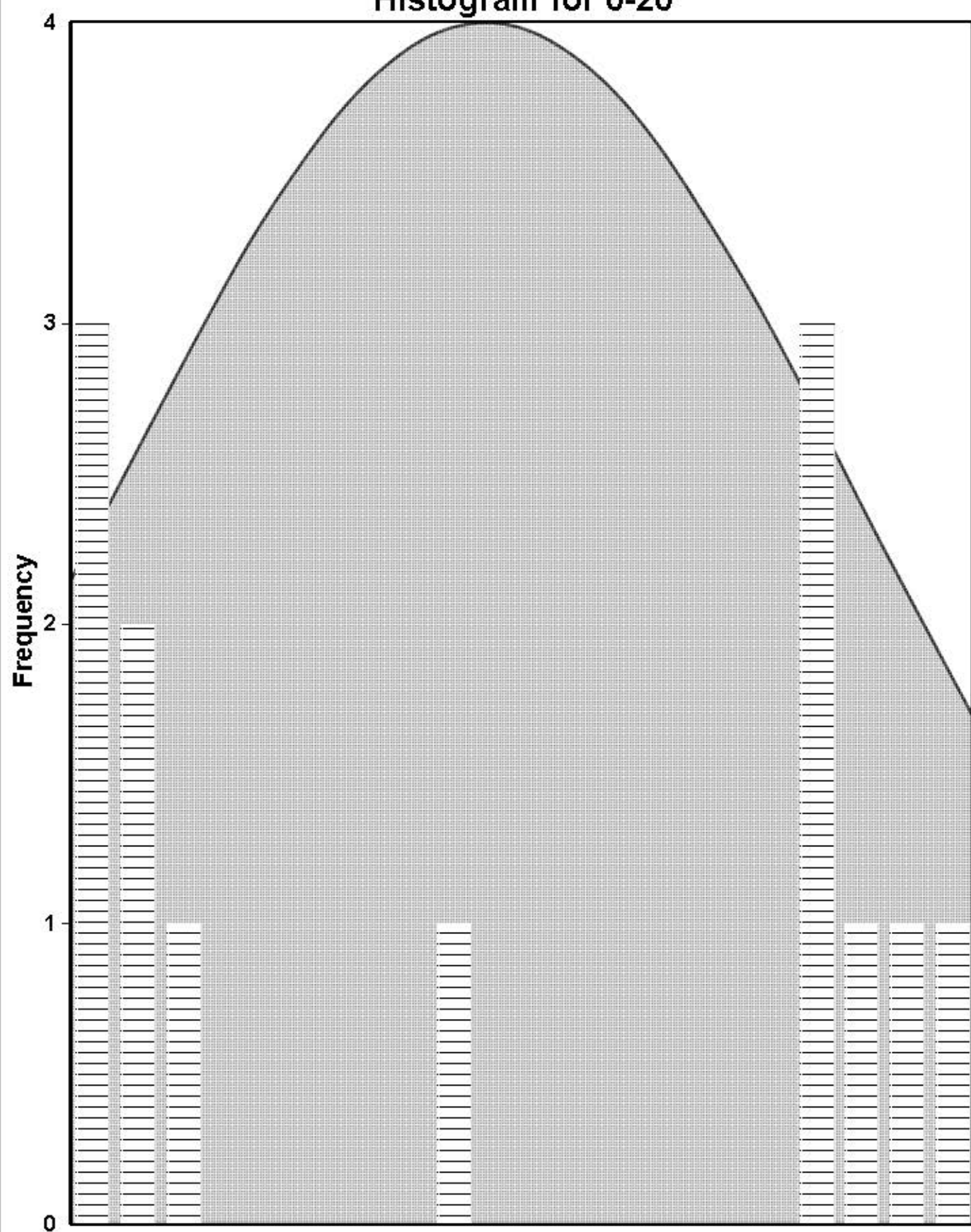
Data with Multiple Detection Limits					Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL					35
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL					3
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage					92.11%
Background Statistics										
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic				0.335	Shapiro Wilk Test Statistic				0.893	
5% Shapiro Wilk Critical Value				0.897	5% Shapiro Wilk Critical Value				0.897	
Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
DL/2 Substitution Method					DL/2 Substitution Method					
Mean				0.0193	Mean (Log Scale)				-4.755	
SD				0.0572	SD (Log Scale)				1.014	
95% UTL		95% Coverage		0.141	95% UTL		95% Coverage		0.0748	
95% UPL (t)				0.117	95% UPL (t)				0.0487	
90% Percentile (z)				0.0925	90% Percentile (z)				0.0316	
95% Percentile (z)				0.113	95% Percentile (z)				0.0456	
99% Percentile (z)				0.152	99% Percentile (z)				0.091	
Maximum Likelihood Estimate(MLE) Method					Log ROS Method					
Mean				-0.393	Mean in Original Scale				0.0161	
SD				0.293	SD in Original Scale				0.0578	
95% UTL with		95% Coverage		0.232	95% UTL with		95% Coverage		0.0583	
					95% BCA UTL with		95% Coverage		0.36	
					95% Bootstrap (%) UTL with		95% Coverage		0.36	
95% UPL (t)				0.108	95% UPL (t)				0.0357	
90% Percentile (z)				-0.0176	90% Percentile (z)				0.0218	
95% Percentile (z)				0.0889	95% Percentile (z)				0.0332	
99% Percentile (z)				0.288	99% Percentile (z)				0.073	
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only					
k star (bias corrected)				0.4	Data do not follow a Discernable Distribution (0.05)					
Theta Star				0.0699						
nu star				14.38						
A-D Test Statistic					Nonparametric Statistics					
5% A-D Critical Value				0.814	Kaplan-Meier (KM) Method					
K-S Test Statistic				0.311	Mean				0.0158	
5% K-S Critical Value				0.217	SD				0.057	
Data not Gamma Distributed at 5% Significance Level					SE of Mean				0.00955	
					95% KM UTL with				95% Coverage	
Assuming Gamma Distribution					95% KM Chebyshev UPL				0.268	
Gamma ROS Statistics with Extrapolated Data					95% KM UPL (t)				0.113	
Mean				0.0286	90% Percentile (z)				0.0889	
Median				0.0201	95% Percentile (z)				0.11	
SD				0.057	99% Percentile (z)				0.149	
k star				0.761						
Theta star				0.0376	Gamma ROS Limits with Extrapolated Data					
Nu star				57.8	95% Wilson HIlferty (WH) Approx. Gamma UPL				0.089	
95% Percentile of Chisquare (2k)				5.025	95% Hawkins Wixley (HW) Approx. Gamma UPL				0.0903	

[illegible]

Histogram for >20



Histogram for 0-20



0-20

Location	0-20	D_0-20
BG-1-2	0.012	1
BG-3-17	0.0034	1
BG-4-2	0.0210	0
BG-4-19	0.0240	0
BG-1-10	0.0050	1
BG-2-2	0.0028	1
BG-2-10	0.0200	0
BG-2-19	0.0047	1
BG-3-2	0.0026	1
BG-3-10	0.0041	1
BG-4-10	0.0220	0
BG-6-2	0.0200	0
BG-6-9	0.0200	0

Location	>20	D_>20
BG-1-29	0.0093	1
BG-1-40	0.0093	1
BG-1-46	0.0018	1
BG-1-92	0.0200	0
BG-2-21	0.0021	1
BG-2-32	0.0017	1
BG-2-75	0.0200	0
BG-3-29	0.0039	1
BG-3-63	0.0250	0
BG-3-65	0.0025	1
BG-3-95	0.0017	1
BG-3-105	0.0032	1
BG-3-131	0.0010	1
BG-3-136	0.0048	1
BG-4-65	0.0200	0
BG-4-82	0.0240	0
BG-4-95	0.0240	0
BG-4-117	0.0240	0
BG-4-120	0.0240	0
BG-6-58	0.0240	0
BG-6-75	0.0240	0
BG-6-98	0.0260	1
BG-6-114	0.0240	0
BG-6-127	0.0240	0
BG-1-43	0.0091	1
BG-1-55	0.0200	0
BG-1-78	0.0360	1
BG-2-30	0.0200	1
BG-2-81	0.3600	1
BG-3-22	0.0048	1
BG-3-69	0.0055	1
BG-4-40	0.0230	0
BG-4-79	0.0200	0
BG-4-161	0.0240	0
BG-4-163	0.0230	0
BG-6-28	0.0230	0
BG-6-53	0.0240	0
BG-6-87	0.0250	0

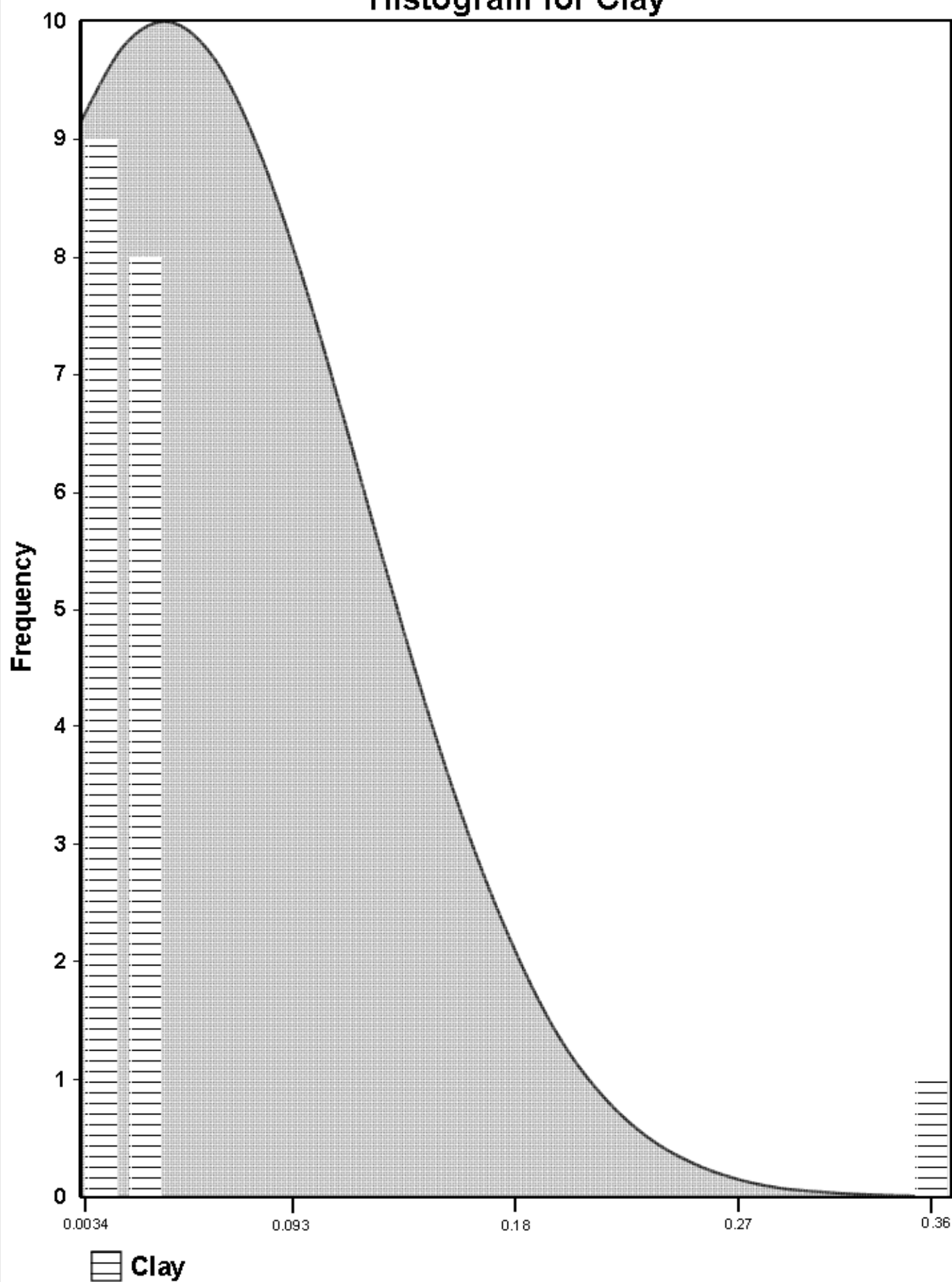
Data with Multiple Detection Limits					Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL					32
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL					1
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage					96.97%
Background Statistics										
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic				0.575	Shapiro Wilk Test Statistic				0.945	
5% Shapiro Wilk Critical Value				0.892	5% Shapiro Wilk Critical Value				0.892	
Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
DL/2 Substitution Method					DL/2 Substitution Method					
Mean				0.00798	Mean (Log Scale)				-5.09	
SD				0.00525	SD (Log Scale)				0.801	
95% UTL		95% Coverage		0.0194	95% UTL		95% Coverage		0.0351	
95% UPL (t)				0.017	95% UPL (t)				0.0244	
90% Percentile (z)				0.0147	90% Percentile (z)				0.0172	
95% Percentile (z)				0.0166	95% Percentile (z)				0.023	
99% Percentile (z)				0.0202	99% Percentile (z)				0.0396	
Maximum Likelihood Estimate(MLE) Method					N/A	Log ROS Method				
						Mean in Original Scale				0.0043
						SD in Original Scale				0.00436
						Mean in Log Scale				-5.698
						SD in Log Scale				0.652
						95% UTL		95% Coverage		0.0138
						95% UPL (t)				0.0103
						90% Percentile (z)				0.00773
						95% Percentile (z)				0.00979
						99% Percentile (z)				0.0153
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only					
k star (bias corrected)				1.367	Data appear Lognormal at 5% Significance Level					
Theta Star				0.00362						
nu star				46.46						
A-D Test Statistic					0.869	Nonparametric Statistics				
5% A-D Critical Value				0.754	Kaplan-Meier (KM) Method					
K-S Test Statistic				0.213	Mean				0.0043	
5% K-S Critical Value				0.213	SD				0.00435	
Data not Gamma Distributed at 5% Significance Level					SE of Mean					8.6454E-4
					95% KM UTL with		95% Coverage		0.0138	
Assuming Gamma Distribution					95% KM Chebyshev UPL					0.0236
Gamma ROS Statistics with Extrapolated Data					95% KM UPL (t)				0.0118	
Mean				0.00495	90% Percentile (z)				0.00988	
Median				0.00488	95% Percentile (z)				0.0115	
SD				0.00411	99% Percentile (z)				0.0144	
k star				2.747						
Theta star				0.0018	Gamma ROS Limits with Extrapolated Data					
Nu star				181.3	95% Wilson Hilferty (WH) Approx. Gamma UPL				0.0107	
95% Percentile of Chisquare (2k)				11.83	95% Hawkins Wixley (HW) Approx. Gamma UPL				0.0107	

[illegible]

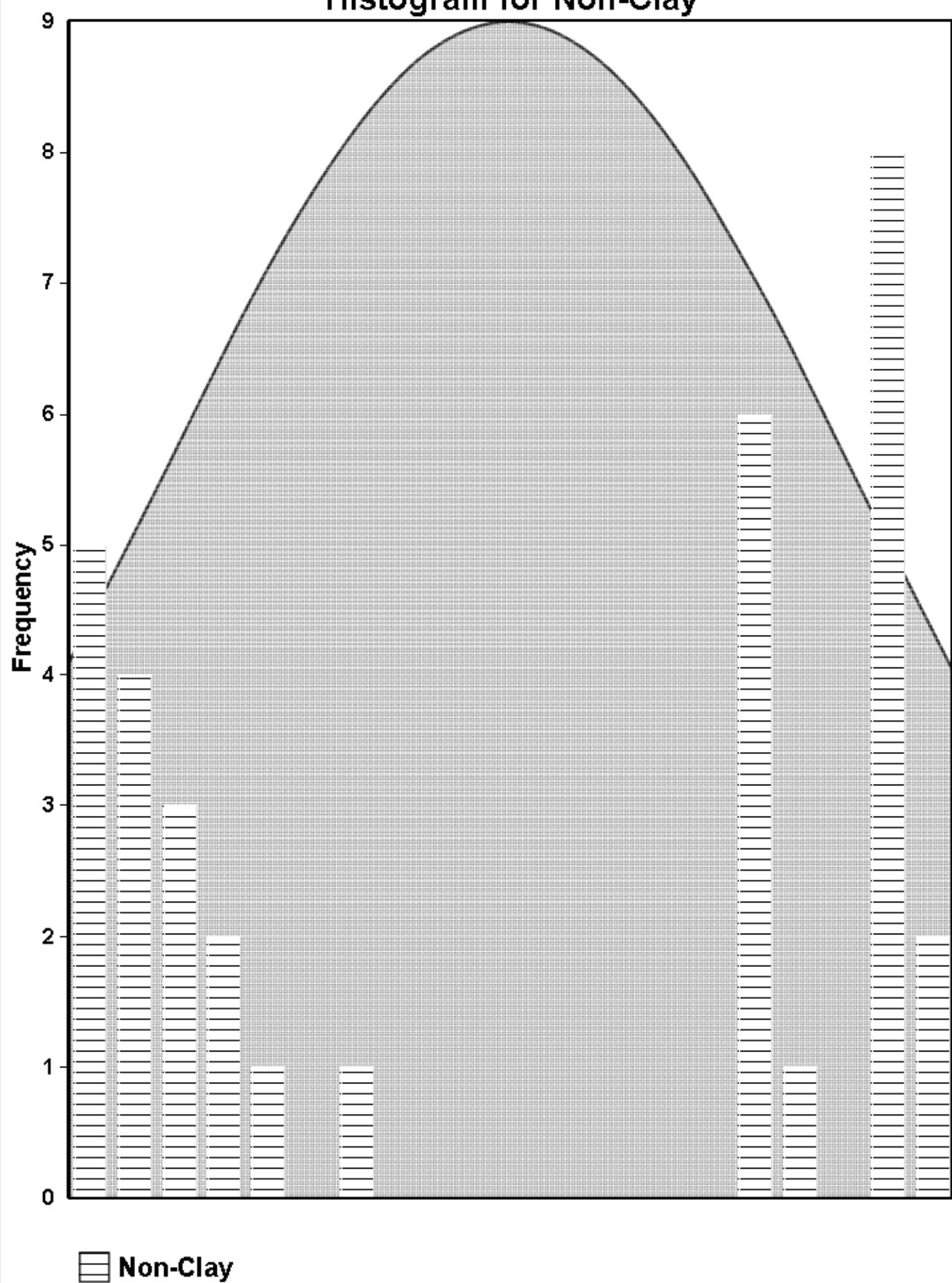
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Mercury.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Dixon's Outlier Test for Clay							
Number of data = 18							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Data Value 0.36 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.959							
For 10% significance level, 0.36 is an outlier.							
For 5% significance level, 0.36 is an outlier.							
For 1% significance level, 0.36 is an outlier.							
2. Data Value 0.0034 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.127							
For 10% significance level, 0.0034 is not an outlier.							
For 5% significance level, 0.0034 is not an outlier.							
For 1% significance level, 0.0034 is not an outlier.							
Rosner's Outlier Test for Non-Clay							
Mean			0.00798				
Standard Deviation			0.00525				
Number of data			33				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.00798	0.00517	0.026	31	3.485	2.95	3.29
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.026 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.026 is a Potential Statistical Outlier							

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects				
User Selected Options				
From File	Mercury.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: Non-Clay				
Background Data: Clay				
Raw Statistics				
	Site	Background		
Number of Valid Data	33	18		
Number of Non-Detect Data	16	10		
Number of Detect Data	17	8		
Minimum Non-Detect	0.02	0.02		
Maximum Non-Detect	0.025	0.025		
Percent Non detects	48.48%	55.56%		
Minimum Detected	0.001	0.0034		
Maximum Detected	0.026	0.36		
Mean of Detected Data	0.00494	0.0564		
Median of Detected Data	0.0032	0.0106		
SD of Detected Data	0.00582	0.123		
Site vs Background Gehan Test				
H0: Mu of Site or AOC = Mu of background				
Gehan z Test Value	-2.456			
Lower Critical z (0.025)	-1.96			
Upper Critical z (0.975)	1.96			
P-Value	0.0141			
Conclusion with Alpha = 0.05				
Reject H0, Conclude Site <> Background				
P-Value < alpha (0.05)				

Histogram for Clay



Histogram for Non-Clay



Location	Clay	D_Clay
BG-1-2	0.012	1
BG-1-43	0.0091	1
BG-1-55	0.0200	0
BG-1-78	0.0360	1
BG-2-30	0.0200	1
BG-2-81	0.3600	1
BG-3-17	0.0034	1
BG-3-22	0.0048	1
BG-3-69	0.0055	1
BG-4-2	0.0210	0
BG-4-19	0.0240	0
BG-4-40	0.0230	0
BG-4-79	0.0200	0
BG-4-161	0.0240	0
BG-4-163	0.0230	0
BG-6-28	0.0230	0
BG-6-53	0.0240	0
BG-6-87	0.0250	0

Location	Non-Clay	D_Non-Clay
BG-1-10	0.0050	1
BG-1-29	0.0093	1
BG-1-40	0.0068	1
BG-1-46	0.0018	1
BG-1-92	0.0200	0
BG-2-2	0.0028	1
BG-2-10	0.0200	0
BG-2-19	0.0047	1
BG-2-21	0.0021	1
BG-2-32	0.0017	1
BG-2-75	0.0200	0
BG-3-2	0.0026	1
BG-3-10	0.0041	1
BG-3-29	0.0039	1
BG-3-63	0.0250	0
BG-3-65	0.0025	1
BG-3-95	0.0017	1
BG-3-105	0.0032	1
BG-3-131	0.0010	1
BG-3-136	0.0048	1
BG-4-10	0.0220	0
BG-4-65	0.0200	0
BG-4-82	0.0240	0
BG-4-95	0.0240	0
BG-4-117	0.0240	0
BG-4-120	0.0240	0
BG-6-2	0.0200	0
BG-6-9	0.0200	0
BG-6-58	0.0240	0
BG-6-75	0.0240	0
BG-6-98	0.0260	1
BG-6-114	0.0240	0
BG-6-127	0.0240	0

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File	Mercury.wst								
Full Precision	OFF								
Confidence Coefficient	0.95								
Alluv									
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs			
Raw Statistics	12	0	12	9	3	25.00%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	3	0.02	0.02	0.02	0.02	0			
Statistics (Detects Only)	9	0.0021	0.012	0.00549	0.0047	0.00333			
Statistics (All: NDs treated as DL value)	12	0.0021	0.02	0.00912	0.0059	0.00715			
Statistics (All: NDs treated as DL/2 value)	12	0.0021	0.012	0.00662	0.0059	0.00349			
Statistics (Normal ROS Estimated Data)	12	0.0021	0.012	0.00549	0.00485	0.00304			
Statistics (Gamma ROS Estimated Data)	12	0.0021	0.012	0.00553	0.00485	0.00305			
Statistics (Lognormal ROS Estimated Data)	12	0.0021	0.012	0.00538	0.0047	0.00302			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	3.377	2.589	0.00163	-5.36	0.589	-0.11			
Statistics (NDs = DL)	1.812	1.415	0.00503	-4.998	0.825	-0.165			
Statistics (NDs = DL/2)	3.418	2.619	0.00194	-5.172	0.607	-0.117			
Statistics (Gamma ROS Estimates)	3.804	2.909	0.00145	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	-5.36	0.542	-0.101			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.947	0.914	0.959	0.958					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.891	0.829	Data Appear Normal						
Lilliefors (Detects Only)	0.225	0.295	Data Appear Normal						
Shapiro-Wilks (NDs = DL)	0.811	0.859	Data Not Normal						
Lilliefors (NDs = DL)	0.218	0.256	Data Appear Normal						
Shapiro-Wilks (NDs = DL/2)	0.899	0.859	Data Appear Normal						
Lilliefors (NDs = DL/2)	0.195	0.256	Data Appear Normal						
Shapiro-Wilks (Normal ROS Estimates)	0.912	0.859	Data Appear Normal						
Lilliefors (Normal ROS Estimates)	0.167	0.256	Data Appear Normal						
Gamma Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS					
Correlation Coefficient R	0.99	0.931	0.939	0.995					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Anderson-Darling (Detects Only)	0.257	0.726							
Kolmogorov-Smirnov (Detects Only)	0.161	0.281	Data Appear Gamma Distributed						
Anderson-Darling (NDs = DL)	0.535	0.743							
Kolmogorov-Smirnov (NDs = DL)	0.183	0.249	Data Appear Gamma Distributed						

Anderson-Darling (NDs = DL/2)		0.521	0.738						
Kolmogorov-Smirnov (NDs = DL/2)		0.217	0.247	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		0.221	0.736						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.156	0.247	Data Appear Gamma Distributed					
Lognormal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R		0.988	0.969	0.961	0.987				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)		0.963	0.829	Data Appear Lognormal					
Lilliefors (Detects Only)		0.144	0.295	Data Appear Lognormal					
Shapiro-Wilks (NDs = DL)		0.914	0.859	Data Appear Lognormal					
Lilliefors (NDs = DL)		0.156	0.256	Data Appear Lognormal					
Shapiro-Wilks (NDs = DL/2)		0.904	0.859	Data Appear Lognormal					
Lilliefors (NDs = DL/2)		0.209	0.256	Data Appear Lognormal					
Shapiro-Wilks (Lognormal ROS Estimates)		0.964	0.859	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)		0.145	0.256	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.									
MC									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics		39	0	39	15	24	61.54%		
		Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)		24	0.02	0.026	0.023	0.024	0.00184		
Statistics (Detects Only)		15	0.001	0.36	0.0306	0.0039	0.0916		
Statistics (All: NDs treated as DL value)		39	0.001	0.36	0.0259	0.022	0.0557		
Statistics (All: NDs treated as DL/2 value)		39	0.001	0.36	0.0189	0.0115	0.0564		
Statistics (Normal ROS Estimated Data)		39	-0.05	0.36	0.021	0.00666	0.0611		
Statistics (Gamma ROS Estimated Data)		39	0.001	0.36	0.03	0.0257	0.0559		
Statistics (Lognormal ROS Estimated Data)		39	6.6032E-4	0.36	0.0149	0.00386	0.0571		
		K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)		0.389	0.376	0.0788	-5.186	1.491	-0.288		
Statistics (NDs = DL)		0.881	0.83	0.0294	-4.318	1.143	-0.265		
Statistics (NDs = DL/2)		0.771	0.729	0.0245	-4.744	0.974	-0.205		
Statistics (Gamma ROS Estimates)		0.865	0.815	0.0346	--	--	--		
Statistics (Lognormal ROS Estimates)		--	--	--	-5.44	1.126	-0.207		
Normal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R		0.565	0.501	0.443	0.702				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)		0.35	0.881	Data Not Normal					
Lilliefors (Detects Only)		0.413	0.229	Data Not Normal					
Shapiro-Wilks (NDs = DL)		0.292	0.939	Data Not Normal					
Lilliefors (NDs = DL)		0.448	0.142	Data Not Normal					
Shapiro-Wilks (NDs = DL/2)		0.234	0.939	Data Not Normal					

Note: Substitution methods such as DL or DL/2 are not recommended.

		General Background Statistics for Data Sets with Non-Detects									
User Selected Options											
From File		Mercury.wst									
Full Precision		OFF									
Confidence Coefficient		95%									
Coverage		95%									
Different or Future K Values		1									
Number of Bootstrap Operations		2000									
Alluv											
General Statistics											
Number of Valid Data				12		Number of Detected Data				9	
Number of Distinct Detected Data				9		Number of Non-Detect Data				3	
						Percent Non-Detects				25.00%	
Raw Statistics						Log-transformed Statistics					
Minimum Detected				0.0021		Minimum Detected				-6.166	
Maximum Detected				0.012		Maximum Detected				-4.423	
Mean of Detected				0.00549		Mean of Detected				-5.36	
SD of Detected				0.00333		SD of Detected				0.589	
Minimum Non-Detect				0.02		Minimum Non-Detect				-3.912	
Maximum Non-Detect				0.02		Maximum Non-Detect				-3.912	
Warning: There are only 9 Detected Values in this data											
Note: It should be noted that even though bootstrap may be performed on this data set											
the resulting calculations may not be reliable enough to draw conclusions											
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.											
Background Statistics											
Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic				0.891		Shapiro Wilk Test Statistic				0.963	
5% Shapiro Wilk Critical Value				0.829		5% Shapiro Wilk Critical Value				0.829	
Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution						Assuming Lognormal Distribution					
DL/2 Substitution Method						DL/2 Substitution Method					
Mean				0.00662		Mean (Log Scale)				-5.172	
SD				0.00349		SD (Log Scale)				0.607	
95% UTL		95% Coverage		0.0162		95% UTL		95% Coverage		0.0299	
95% UPL (t)				0.0131		95% UPL (t)				0.0177	
90% Percentile (z)				0.0111		90% Percentile (z)				0.0124	
95% Percentile (z)				0.0124		95% Percentile (z)				0.0154	
99% Percentile (z)				0.0147		99% Percentile (z)				0.0233	
Maximum Likelihood Estimate(MLE) Method				N/A		Log ROS Method					
						Mean in Original Scale				0.00538	
						SD in Original Scale				0.00302	
						Mean in Log Scale				-5.36	

					SD in Log Scale					0.542	
					95% UTL 95% Coverage					0.0207	
					95% UPL (t)					0.0129	
					90% Percentile (z)					0.00941	
					95% Percentile (z)					0.0115	
					99% Percentile (z)					0.0166	
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only						
k star (bias corrected)				2.326		Data appear Normal at 5% Significance Level					
Theta Star				0.00236							
nu star				41.86							
A-D Test Statistic				0.257		Nonparametric Statistics					
5% A-D Critical Value				0.726		Kaplan-Meier (KM) Method					
K-S Test Statistic				0.161		Mean				0.00549	
5% K-S Critical Value				0.281		SD				0.00314	
Data appear Gamma Distributed at 5% Significance Level					SE of Mean				0.00111		
						95% KM UTL with 95% Coverage				0.0141	
Assuming Gamma Distribution						95% KM Chebyshev UPL				0.0197	
Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)				0.0114	
Mean				0.00553		90% Percentile (z)				0.00951	
Median				0.00485		95% Percentile (z)				0.0106	
SD				0.00305		99% Percentile (z)				0.0128	
k star				2.909							
Theta star				0.0019		Gamma ROS Limits with Extrapolated Data					
Nu star				69.81		95% Wilson Hilferty (WH) Approx. Gamma UPL				0.0123	
95% Percentile of Chisquare (2k)				12.32		95% Hawkins Wixley (HW) Approx. Gamma UPL				0.0125	
					95% WH Approx. Gamma UTL with 95% Coverage				0.0172		
90% Percentile				0.00988		95% HW Approx. Gamma UTL with 95% Coverage				0.018	
95% Percentile				0.0117							
99% Percentile				0.0157							
Note: DL/2 is not a recommended method.											
MC											
General Statistics											
Number of Valid Data				39		Number of Detected Data				15	
Number of Distinct Detected Data				13		Number of Non-Detect Data				24	
					Percent Non-Detects				61.54%		
Raw Statistics					Log-transformed Statistics						
Minimum Detected				0.001		Minimum Detected				-6.908	
Maximum Detected				0.36		Maximum Detected				-1.022	
Mean of Detected				0.0306		Mean of Detected				-5.186	
SD of Detected				0.0916		SD of Detected				1.491	
Minimum Non-Detect				0.02		Minimum Non-Detect				-3.912	
Maximum Non-Detect				0.026		Maximum Non-Detect				-3.65	
Data with Multiple Detection Limits					Single Detection Limit Scenario						
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL				37		
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL				2		

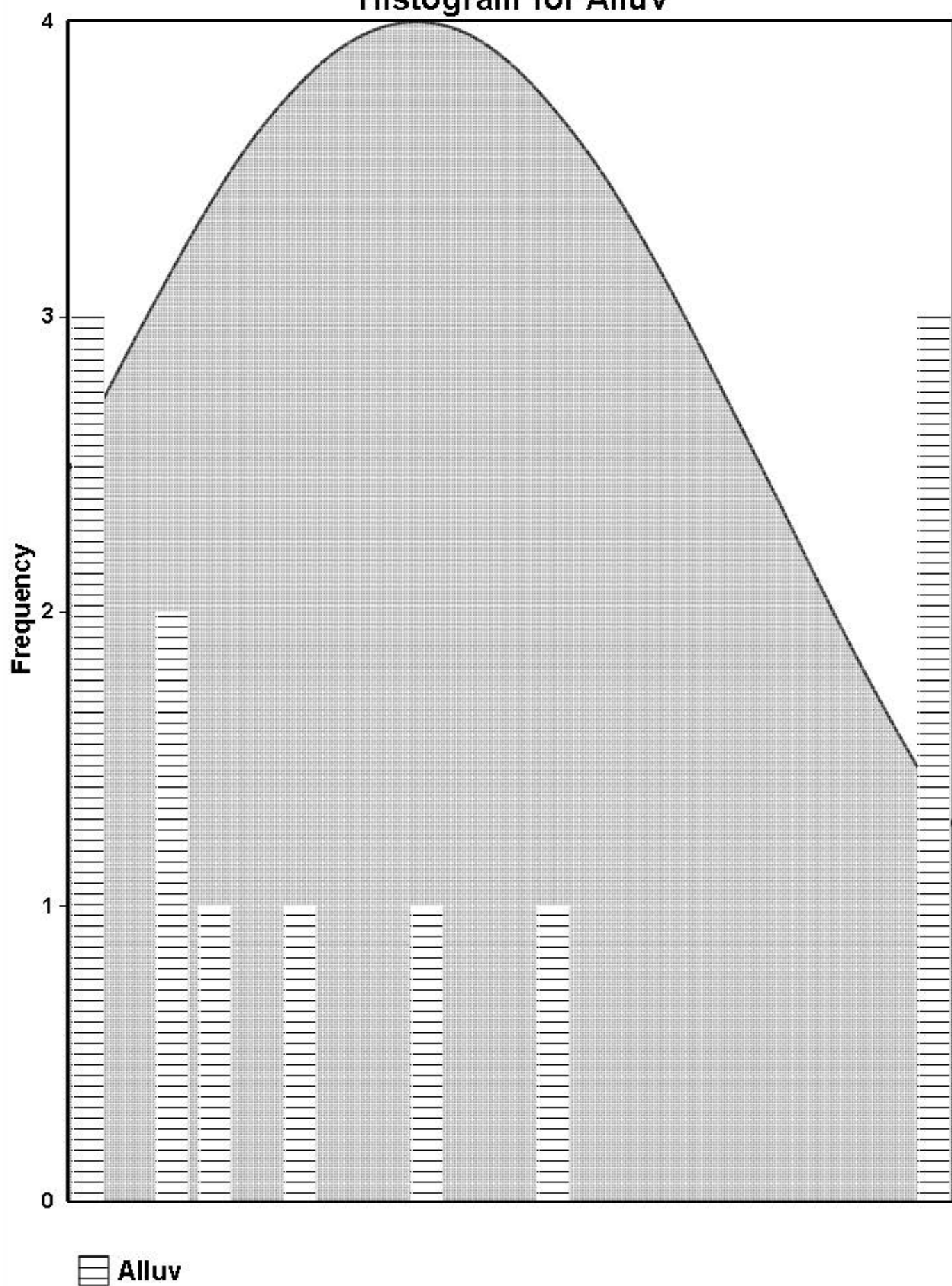
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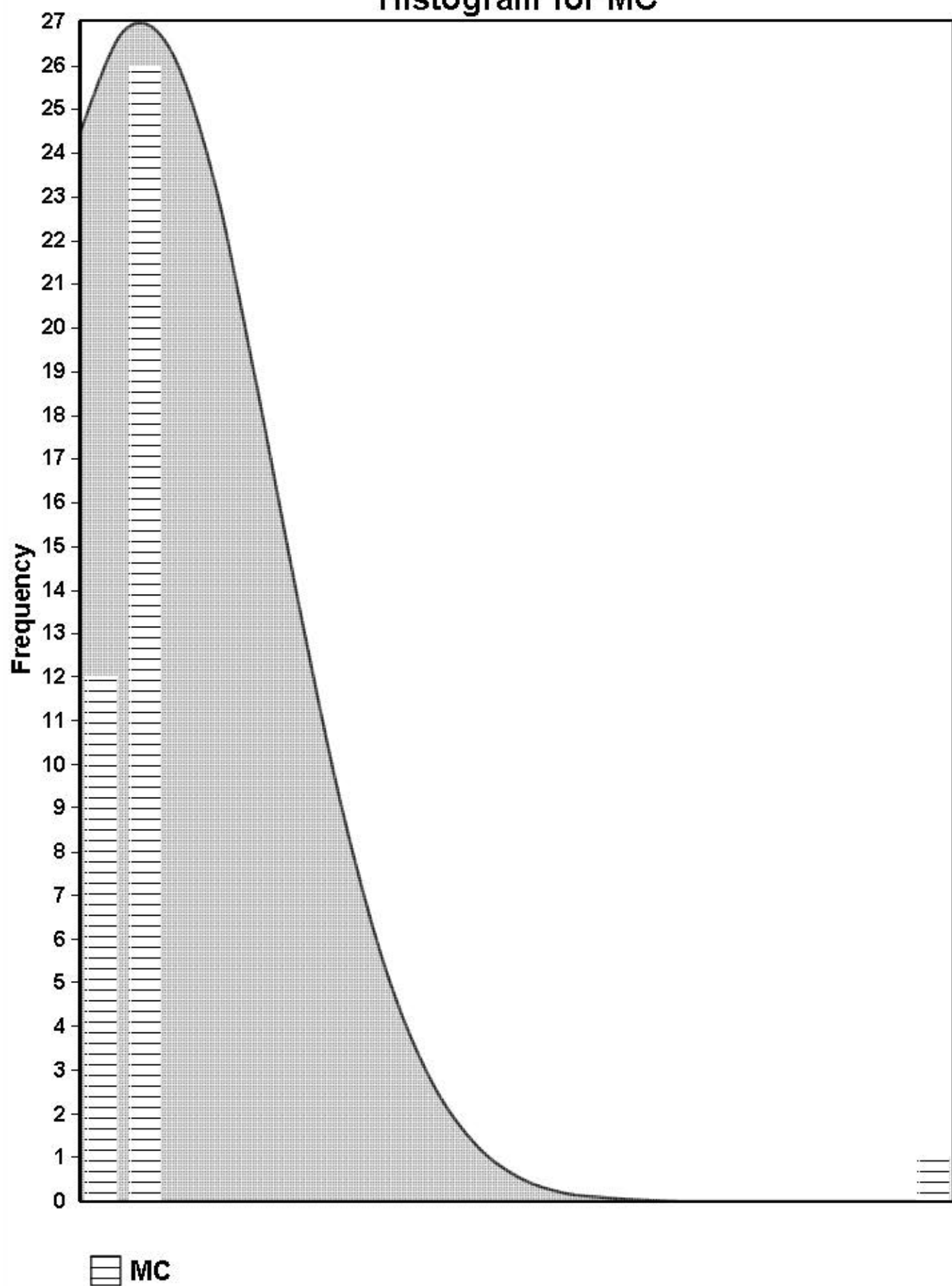
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Mercury.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Dixon's Outlier Test for Alluv							
Number of data = 12							
10% critical value: 0.49							
5% critical value: 0.546							
1% critical value: 0.642							
1. Data Value 0.012 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.213							
For 10% significance level, 0.012 is not an outlier.							
For 5% significance level, 0.012 is not an outlier.							
For 1% significance level, 0.012 is not an outlier.							
2. Data Value 0.0021 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.089							
For 10% significance level, 0.0021 is not an outlier.							
For 5% significance level, 0.0021 is not an outlier.							
For 1% significance level, 0.0021 is not an outlier.							
Rosner's Outlier Test for MC							
Mean			0.0189				
Standard Deviation			0.0564				
Number of data			39				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.0189	0.0557	0.36	9	6.129	3.03	3.37
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.36 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 0.36 is a Potential Statistical Outlier							

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects				
User Selected Options				
From File	Mercury.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: MC				
Background Data: Alluv				
Raw Statistics				
	Site	Background		
Number of Valid Data	39	12		
Number of Non-Detect Data	24	3		
Number of Detect Data	15	9		
Minimum Non-Detect	0.02	0.02		
Maximum Non-Detect	0.026	0.02		
Percent Non detects	61.54%	25.00%		
Minimum Detected	0.001	0.0021		
Maximum Detected	0.36	0.012		
Mean of Detected Data	0.0306	0.00549		
Median of Detected Data	0.0039	0.0047		
SD of Detected Data	0.0916	0.00333		
Site vs Background Gehan Test				
H0: Mu of Site or AOC = Mu of background				
Gehan z Test Value	-0.148			
Lower Critical z (0.025)	-1.96			
Upper Critical z (0.975)	1.96			
P-Value	0.882			
Conclusion with Alpha = 0.05				
Do Not Reject H0, Conclude Site = Background				
P-Value >= alpha (0.05)				

Histogram for Alluv



Histogram for MC



Location	Alluv	D_Alluv
BG-1-2	0.012	1
BG-1-10	0.005	1
BG-1-29	0.0093	1
BG-1-40	0.0068	1
BG-2-2	0.0028	1
BG-2-10	0.02	0
BG-2-19	0.0047	1
BG-2-21	0.0021	1
BG-3-2	0.0026	1
BG-3-10	0.0041	1
BG-6-2	0.02	0
BG-6-9	0.02	0

Location	MC	D_MC
BG-1-43	0.0091	1
BG-1-46	0.0018	1
BG-1-55	0.02	0
BG-1-78	0.036	1
BG-1-92	0.02	0
BG-2-30	0.02	1
BG-2-32	0.0017	1
BG-2-75	0.02	0
BG-2-81	0.36	1
BG-3-17	0.0034	1
BG-3-22	0.0048	1
BG-3-29	0.0039	1
BG-3-63	0.025	0
BG-3-65	0.0025	1
BG-3-69	0.0055	1
BG-3-95	0.0017	1
BG-3-105	0.0032	1
BG-3-131	0.001	1
BG-3-136	0.0048	1
BG-4-1	0.021	0
BG-4-10	0.022	0
BG-4-19	0.024	0
BG-4-40	0.023	0
BG-4-65	0.02	0
BG-4-79	0.02	0
BG-4-82	0.024	0
BG-4-95	0.024	0
BG-4-117	0.024	0
BG-4-120	0.024	0
BG-4-161	0.024	0
BG-4-163	0.023	0
BG-6-28	0.023	0
BG-6-53	0.024	0
BG-6-58	0.024	0
BG-6-75	0.024	0
BG-6-87	0.025	0
BG-6-98	0.026	0
BG-6-114	0.024	0
BG-1-127	0.024	0

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options						
From File	Molybdenum.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
All Data						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	51	0	51	47	4	7.84%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	4	0.25	1.3	0.513	0.25	0.525
Statistics (Detects Only)	47	0.14	12	1.407	0.41	2.516
Statistics (All: NDs treated as DL value)	51	0.14	12	1.336	0.4	2.429
Statistics (All: NDs treated as DL/2 value)	51	0.125	12	1.316	0.4	2.435
Statistics (Normal ROS Estimated Data)	51	-2.04	12	1.225	0.4	2.51
Statistics (Gamma ROS Estimated Data)	51	1.000E-12	12	1.31	0.4	2.438
Statistics (Lognormal ROS Estimated Data)	51	0.0906	12	1.312	0.4	2.436
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	0.763	0.731	1.844	-0.442	1.084	-2.453
Statistics (NDs = DL)	0.771	0.738	1.734	-0.484	1.069	-2.21
Statistics (NDs = DL/2)	0.738	0.708	1.784	-0.538	1.111	-2.064
Statistics (Gamma ROS Estimates)	0.299	0.294	4.386	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	-0.546	1.111	-2.037
Normal Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.704	0.695	0.694	0.749		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilks (Detects Only)	0.512	0.946	Data Not Normal			
Lilliefors (Detects Only)	0.355	0.129	Data Not Normal			
Lilliefors (NDs = DL)	0.348	0.124	Data Not Normal			
Lilliefors (NDs = DL/2)	0.365	0.124	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.347	0.124	Data Not Normal			
Gamma Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.926	0.921	0.922	0.969		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	5.089	0.791				
Kolmogorov-Smirnov (Detects Only)	0.309	0.134	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL)	5.427	0.792				
Kolmogorov-Smirnov (NDs = DL)	0.3	0.129	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL/2)	5.03	0.794				
Kolmogorov-Smirnov (NDs = DL/2)	0.299	0.129	Data Not Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	6.715	0.863				

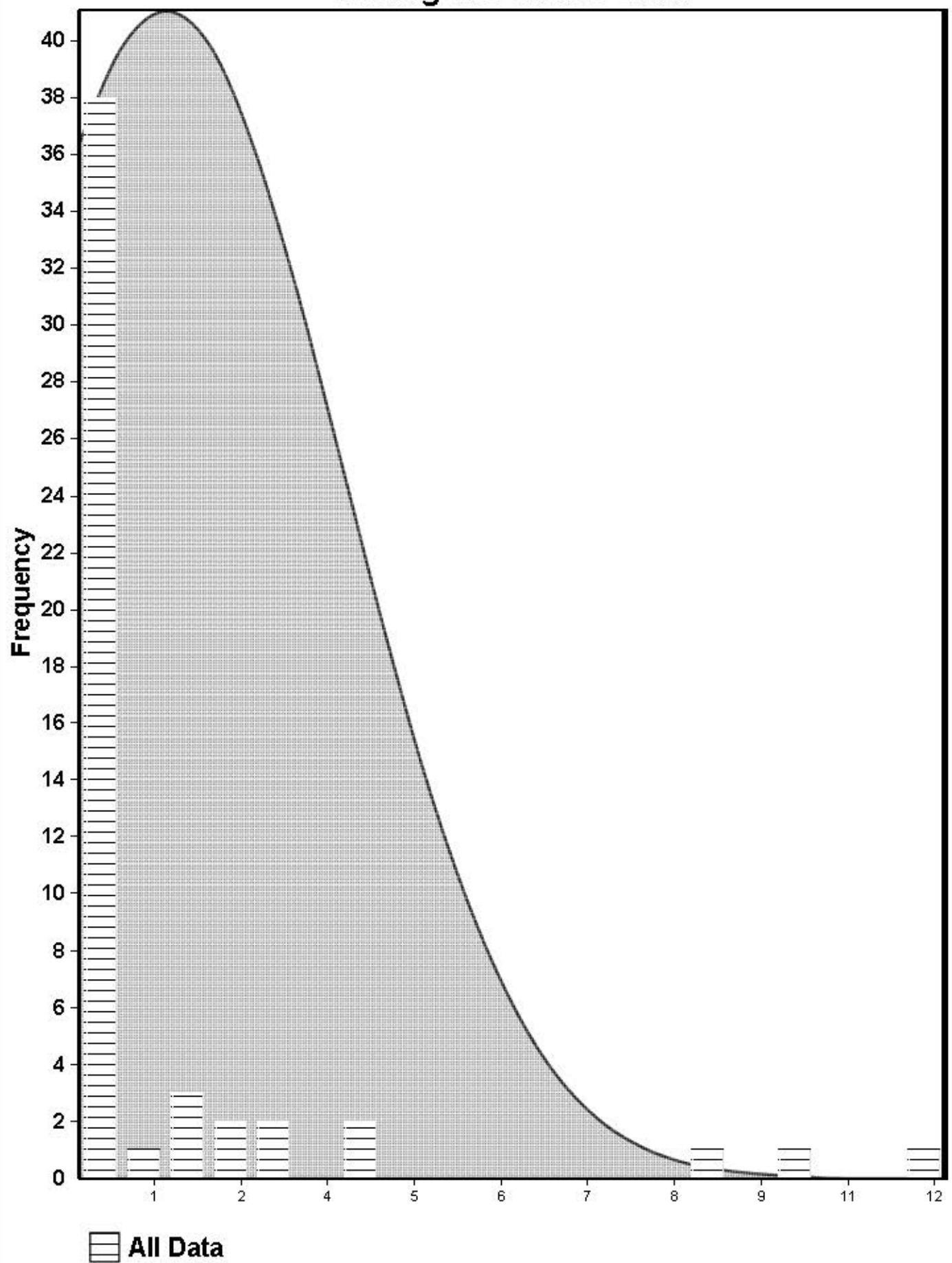
Kolmogorov-Smirnov (Gamma ROS Est.)	0.352	0.135	Data Not Gamma Distributed						
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.921	0.921	0.938	0.936					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.842	0.946	Data Not Lognormal						
Lilliefors (Detects Only)	0.231	0.129	Data Not Lognormal						
Lilliefors (NDs = DL)	0.22	0.124	Data Not Lognormal						
Lilliefors (NDs = DL/2)	0.207	0.124	Data Not Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.215	0.124	Data Not Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									

			General Background Statistics for Data Sets with Non-Detects						
User Selected Options									
From File			Molybdenum.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
All Data									
General Statistics									
Number of Valid Data			51		Number of Detected Data			47	
Number of Distinct Detected Data			34		Number of Non-Detect Data			4	
					Percent Non-Detects			7.84%	
Raw Statistics					Log-transformed Statistics				
Minimum Detected		0.14		Minimum Detected		-1.966			
Maximum Detected		12		Maximum Detected		2.485			
Mean of Detected		1.407		Mean of Detected		-0.442			
SD of Detected		2.516		SD of Detected		1.084			
Minimum Non-Detect		0.25		Minimum Non-Detect		-1.386			
Maximum Non-Detect		1.3		Maximum Non-Detect		0.262			
Data with Multiple Detection Limits					Single Detection Limit Scenario				
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL		39		
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL		12		
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage		76.47%		
Background Statistics									
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only				
Shapiro Wilk Test Statistic		0.512		Shapiro Wilk Test Statistic		0.842			
5% Shapiro Wilk Critical Value		0.946		5% Shapiro Wilk Critical Value		0.946			
Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level				
Assuming Normal Distribution					Assuming Lognormal Distribution				
DL/2 Substitution Method				DL/2 Substitution Method					
Mean		1.316		Mean (Log Scale)		-0.538			
SD		2.435		SD (Log Scale)		1.111			
95% UTL		95% Coverage		95% UTL		95% Coverage		5.712	
95% UPL (t)		5.436		95% UPL (t)		3.823			
90% Percentile (z)		4.436		90% Percentile (z)		2.423			
95% Percentile (z)		5.321		95% Percentile (z)		3.627			
99% Percentile (z)		6.98		99% Percentile (z)		7.731			
Maximum Likelihood Estimate(MLE) Method					Log ROS Method				
Mean		-3.176		Mean in Original Scale		1.312			
SD		5.967		SD in Original Scale		2.436			
95% UTL with		95% Coverage		95% UTL with		95% Coverage		5.68	
				95% BCA UTL with		95% Coverage		10.35	
				95% Bootstrap (%) UTL with		95% Coverage		11	
95% UPL (t)		6.922		95% UPL (t)		3.801			

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Molybdenum.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Rosner's Outlier Test for All Data							
Mean		1.316					
Standard Deviation		2.435					
Number of data		51					
Number of suspected outliers		1					
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	1.316	2.411	12	27	4.432	3.137	3.488
For 5% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 12 is a Potential Statistical Outlier							
For 1% Significance Level, there is 1 Potential Outlier							
Therefore, Observation 12 is a Potential Statistical Outlier							

Molybdenum

Histogram for All Data



Location	All Data	D_All Data
BG-1-2	0.39	1
BG-1-43	1.3	0
BG-1-55	0.18	1
BG-1-78	0.25	0
BG-2-30	10	1
BG-2-81	3.8	1
BG-3-17	1.7	1
BG-3-22	2.6	1
BG-3-69	2	1
BG-4-2	0.44	1
BG-4-19	0.24	1
BG-4-40	0.34	1
BG-4-79	0.27	1
BG-4-161	0.34	1
BG-4-163	0.34	1
BG-6-28	0.46	1
BG-6-53	0.23	1
BG-6-87	0.14	1
BG-1-10	0.41	1
BG-1-29	0.25	0
BG-1-40	0.61	1
BG-1-46	0.25	0
BG-1-92	0.24	1
BG-2-2	0.62	1
BG-2-10	0.63	1
BG-2-19	8.7	1
BG-2-21	12	1
BG-2-32	1.5	1
BG-2-75	3.7	1
BG-3-2	1.6	1
BG-3-10	2.6	1
BG-3-29	0.39	1
BG-3-63	0.62	1
BG-3-65	0.57	1
BG-3-95	0.48	1
BG-3-105	0.47	1
BG-3-131	2.3	1
BG-3-136	0.4	1
BG-4-10	0.38	1
BG-4-65	0.32	1
BG-4-82	0.43	1
BG-4-95	0.34	1
BG-4-117	0.38	1
BG-4-120	0.27	1
BG-6-2	0.7	1
BG-6-9	0.22	1
BG-6-58	0.4	1
BG-6-75	0.35	1
BG-6-98	0.35	1
BG-6-114	0.34	1
BG-6-127	0.32	1

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

User Selected Options

From File	Molybdenum.wst
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Full Precision	OFF
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Confidence Coefficient	0.95
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0-20

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	13	0	13	13	0	0.00%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Full: no NDs)	13	0.22	8.7	1.433	0.62	2.296

	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Full: no NDs)	0.903	0.746	1.588	-0.288	1.049	-3.647

Normal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.723	0.723	0.723	0.723

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.55	0.866	Data Not Normal
Lilliefors (Full: no NDs)	0.318	0.246	Data Not Normal

Gamma Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma RO5
Correlation Coefficient R	0.92	0.92	0.92	0.92

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Full: no NDs)	1.081	0.762	
Kolmogorov-Smirnov (Full: no NDs)	0.287	0.244	Data Not Gamma Distributed

Lognormal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.946	0.946	0.946	0.946

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.898	0.866	Data Appear Lognormal
Lilliefors (Full: no NDs)	0.219	0.246	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

>20

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	38	0	38	34	4	10.53%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	4	0.25	1.3	0.513	0.25	0.525

Statistics (Detects Only)		34	0.14	12	1.396	0.395	2.629	
Statistics (All: NDs treated as DL value)		38	0.14	12	1.303	0.385	2.502	
Statistics (All: NDs treated as DL/2 value)		38	0.125	12	1.276	0.385	2.509	
Statistics (Normal ROS Estimated Data)		38	-2.244	12	1.139	0.385	2.619	
Statistics (Gamma ROS Estimated Data)		38	1.000E-12	12	1.27	0.385	2.513	
Statistics (Lognormal ROS Estimated Data)		38	0.0794	12	1.269	0.383	2.511	
		K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV	
Statistics (Detects Only)		0.721	0.681	1.937	-0.501	1.107	-2.21	
Statistics (NDs = DL)		0.736	0.695	1.772	-0.551	1.082	-1.964	
Statistics (NDs = DL/2)		0.697	0.659	1.832	-0.624	1.131	-1.814	
Statistics (Gamma ROS Estimates)		0.247	0.245	5.133	--	--	--	
Statistics (Lognormal ROS Estimates)		--	--	--	-0.645	1.145	-1.775	
Normal Distribution Test Results								
		No NDs	NDs = DL	NDs = DL/2	Normal ROS			
Correlation Coefficient R		0.687	0.676	0.674	0.747			
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Detects Only)		0.492	0.933	Data Not Normal				
Lilliefors (Detects Only)		0.381	0.152	Data Not Normal				
Shapiro-Wilks (NDs = DL)		0.478	0.938	Data Not Normal				
Lilliefors (NDs = DL)		0.371	0.144	Data Not Normal				
Shapiro-Wilks (NDs = DL/2)		0.476	0.938	Data Not Normal				
Lilliefors (NDs = DL/2)		0.388	0.144	Data Not Normal				
Shapiro-Wilks (Normal ROS Estimates)		0.587	0.938	Data Not Normal				
Lilliefors (Normal ROS Estimates)		0.368	0.144	Data Not Normal				
Gamma Distribution Test Results								
		No NDs	NDs = DL	NDs = DL/2	Gamma ROS			
Correlation Coefficient R		0.919	0.911	0.912	0.969			
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Anderson-Darling (Detects Only)		4.297	0.79					
Kolmogorov-Smirnov (Detects Only)		0.341	0.157	Data Not Gamma Distributed				
Anderson-Darling (NDs = DL)		4.672	0.79					
Kolmogorov-Smirnov (NDs = DL)		0.326	0.149	Data Not Gamma Distributed				
Anderson-Darling (NDs = DL/2)		4.286	0.794					
Kolmogorov-Smirnov (NDs = DL/2)		0.324	0.149	Data Not Gamma Distributed				
Anderson-Darling (Gamma ROS Estimates)		5.822	0.88					
Kolmogorov-Smirnov (Gamma ROS Est.)		0.375	0.157	Data Not Gamma Distributed				
Lognormal Distribution Test Results								
		No NDs	NDs = DL	NDs = DL/2	Log ROS			
Correlation Coefficient R		0.903	0.905	0.925	0.927			
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Detects Only)		0.814	0.933	Data Not Lognormal				
Lilliefors (Detects Only)		0.26	0.152	Data Not Lognormal				
Shapiro-Wilks (NDs = DL)		0.817	0.938	Data Not Lognormal				

Note: Substitution methods such as DL or DL/2 are not recommended.

			General Background Statistics for Data Sets with Non-Detects						
User Selected Options									
From File		Molybdenum.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
0-20									
General Statistics									
Total Number of Observations			13		Number of Distinct Observations			13	
Raw Statistics				Log-Transformed Statistics					
		Minimum	0.22				Minimum	-1.514	
		Maximum	8.7				Maximum	2.163	
		Second Largest	2.6				Second Largest	0.956	
		First Quartile	0.39				First Quartile	-0.942	
		Median	0.62				Median	-0.478	
		Third Quartile	1.6				Third Quartile	0.47	
		Mean	1.433				Mean	-0.288	
		SD	2.296				SD	1.049	
		Coefficient of Variation	1.602						
		Skewness	3.062						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Shapiro Wilk Test Statistic	0.55				Shapiro Wilk Test Statistic	0.898	
		Shapiro Wilk Critical Value	0.866				Shapiro Wilk Critical Value	0.866	
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	7.565				95% UTL with 95% Coverage	12.36	
		95% UPL (t)	5.679				95% UPL (t)	5.222	
		90% Percentile (z)	4.375				90% Percentile (z)	2.877	
		95% Percentile (z)	5.209				95% Percentile (z)	4.212	
		99% Percentile (z)	6.773				99% Percentile (z)	8.611	
Gamma Distribution Test				Data Distribution Test					
		k star	0.746		Data appear Lognormal at 5% Significance Level				
		Theta Star	1.922						
		MLE of Mean	1.433						
		MLE of Standard Deviation	1.66						
		nu star	19.38						
		A-D Test Statistic	1.081		Nonparametric Statistics				
		5% A-D Critical Value	0.762				90% Percentile	2.42	
		K-S Test Statistic	0.287				95% Percentile	5.04	
		5% K-S Critical Value	0.244				99% Percentile	7.968	
Data not Gamma Distributed at 5% Significance Level									

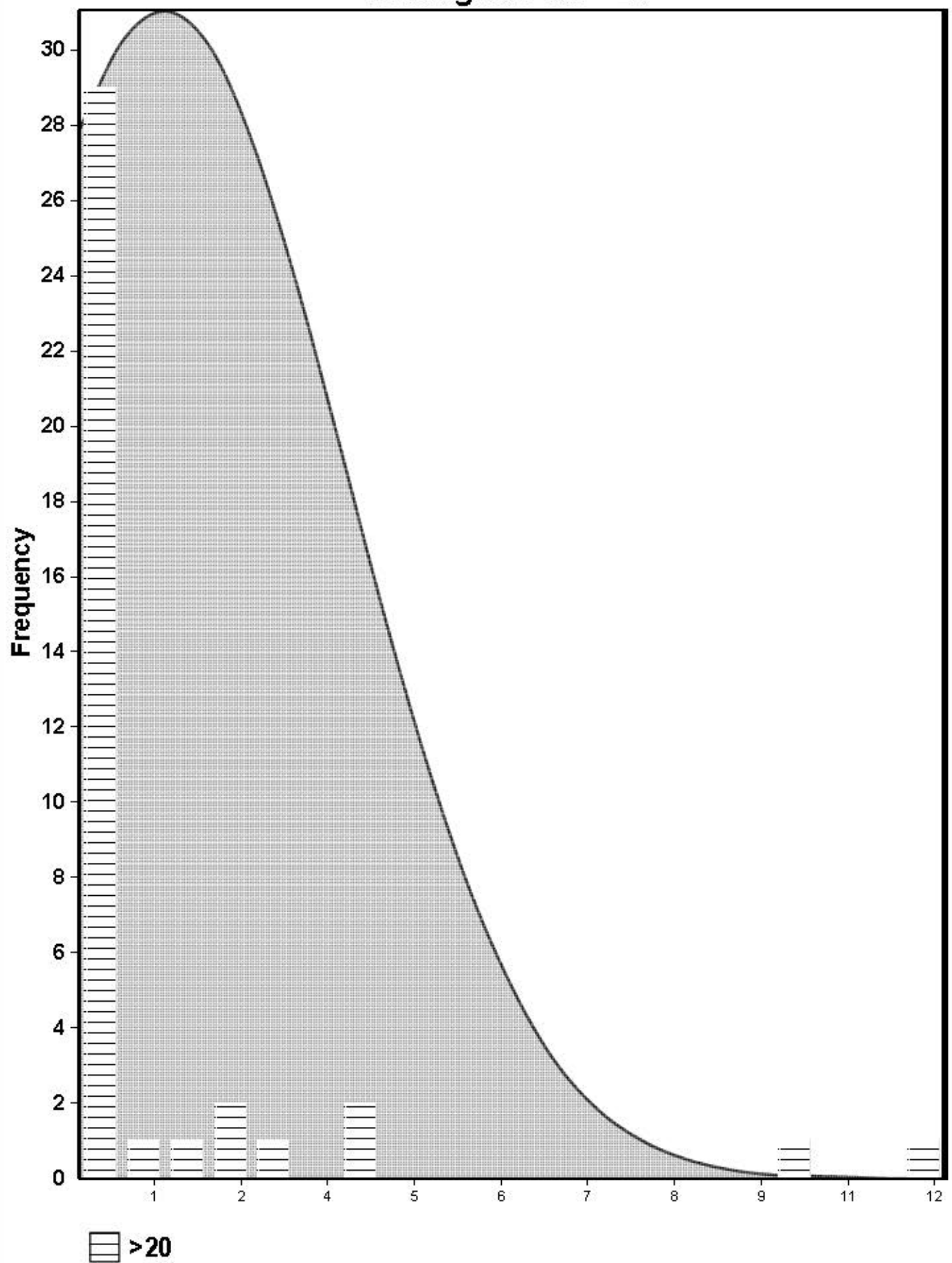
[illegible]

Note: DL/2 is not a recommended method.

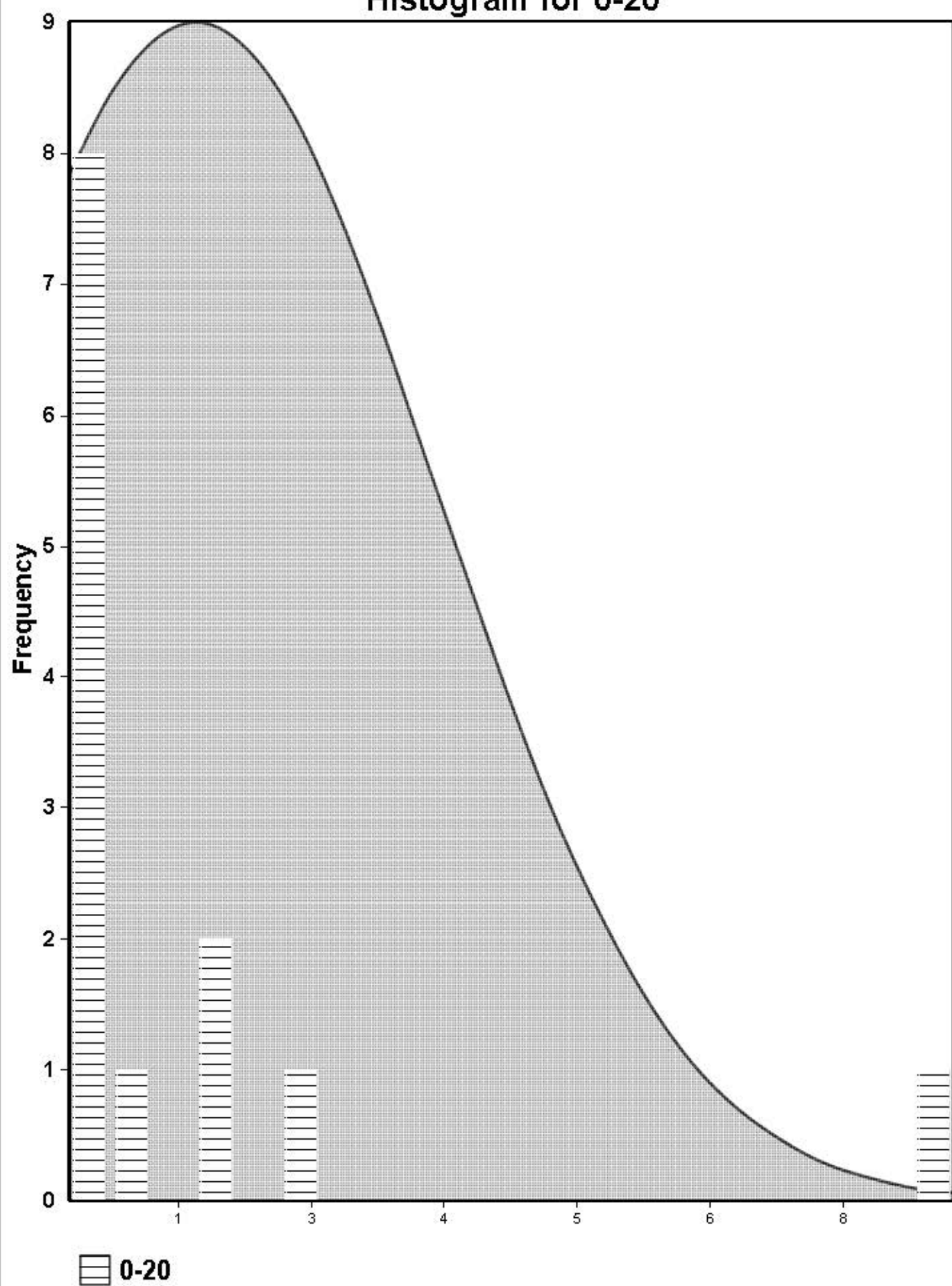
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Molybdenum.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for 0-20								
Number of data = 13								
10% critical value: 0.467								
5% critical value: 0.521								
1% critical value: 0.615								
1. Data Value 8.7 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.827								
For 10% significance level, 8.7 is an outlier.								
For 5% significance level, 8.7 is an outlier.								
For 1% significance level, 8.7 is an outlier.								
2. Data Value 0.22 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.067								
For 10% significance level, 0.22 is not an outlier.								
For 5% significance level, 0.22 is not an outlier.								
For 1% significance level, 0.22 is not an outlier.								
Rosner's Outlier Test for >20								
Mean			1.276					
Standard Deviation			2.509					
Number of data			38					
Number of suspected outliers			1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	1.276	2.475	12	5	4.332	3.01	3.36	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 12 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 12 is a Potential Statistical Outlier								

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects				
User Selected Options				
From File	Molybdenum.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: 0-20				
Background Data: >20				
Raw Statistics				
	Site	Background		
Number of Valid Data	13	38		
Number of Non-Detect Data	0	4		
Number of Detect Data	13	34		
Minimum Non-Detect	N/A	0.25		
Maximum Non-Detect	N/A	1.3		
Percent Non detects	0.00%	10.53%		
Minimum Detected	0.22	0.14		
Maximum Detected	8.7	12		
Mean of Detected Data	1.433	1.396		
Median of Detected Data	0.62	0.395		
SD of Detected Data	2.296	2.629		
Site vs Background Gehan Test				
H0: Mu of Site or AOC = Mu of background				
Gehan z Test Value	1.421			
Lower Critical z (0.025)	-1.96			
Upper Critical z (0.975)	1.96			
P-Value	0.155			
Conclusion with Alpha = 0.05				
Do Not Reject H0, Conclude Site = Background				
P-Value >= alpha (0.05)				

Histogram for >20



Histogram for 0-20



Location	0-20	D_0-20
BG-1-2	0.39	1
BG-3-17	1.7	1
BG-4-2	0.44	1
BG-4-19	0.24	1
BG-1-10	0.41	1
BG-2-2	0.62	1
BG-2-10	0.63	1
BG-2-19	8.7	1
BG-3-2	1.6	1
BG-3-10	2.6	1
BG-4-10	0.38	1
BG-6-2	0.7	1
BG-6-9	0.22	1

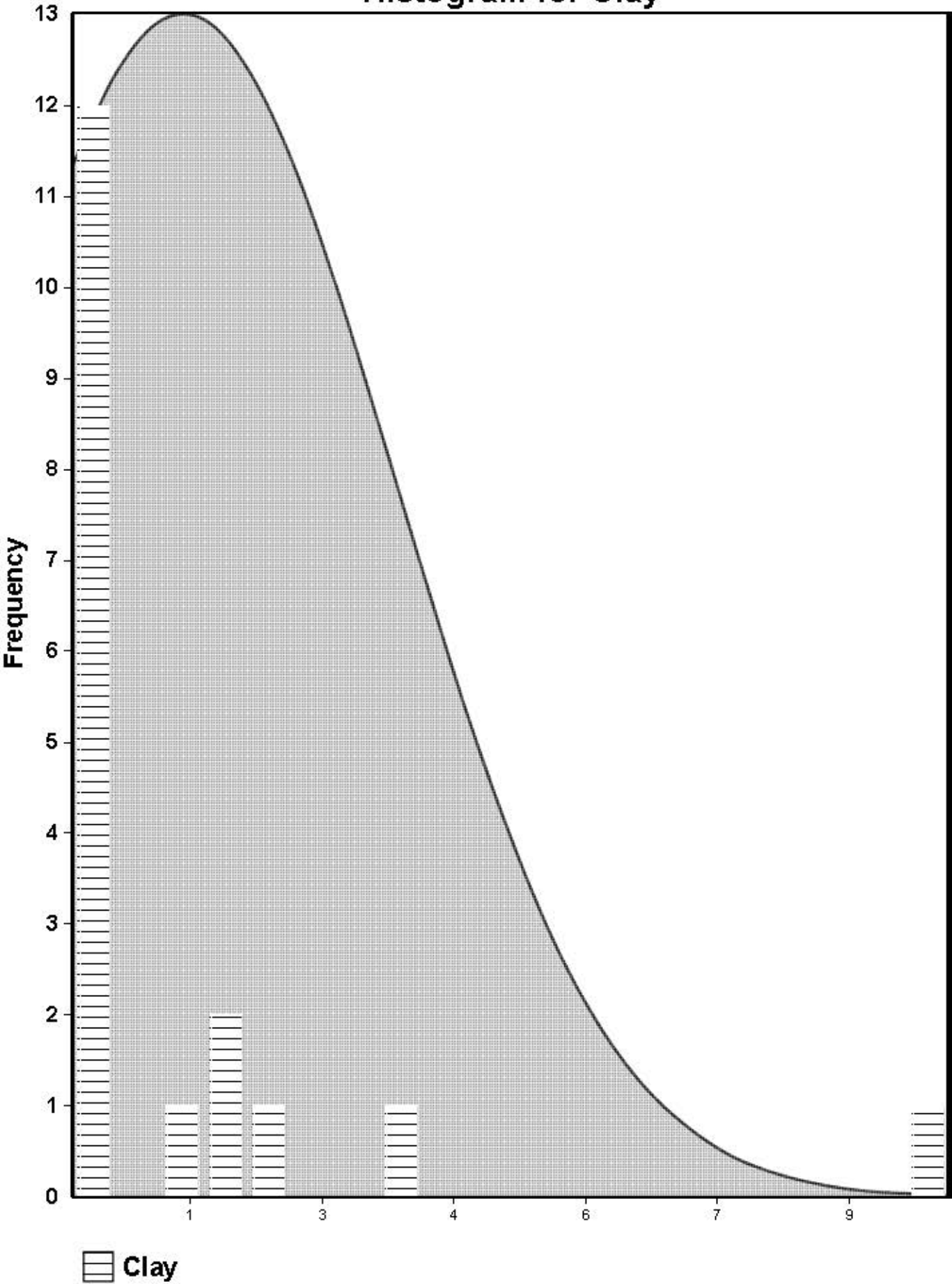
Location	>20	D_>20
BG-1-29	0.25	0
BG-1-40	0.61	1
BG-1-46	0.25	0
BG-1-92	0.24	1
BG-2-21	12	1
BG-2-32	1.5	1
BG-2-75	3.7	1
BG-3-29	0.39	1
BG-3-63	0.62	1
BG-3-65	0.57	1
BG-3-95	0.48	1
BG-3-105	0.47	1
BG-3-131	2.3	1
BG-3-136	0.4	1
BG-4-65	0.32	1
BG-4-82	0.43	1
BG-4-95	0.34	1
BG-4-117	0.38	1
BG-4-120	0.27	1
BG-6-58	0.4	1
BG-6-75	0.35	1
BG-6-98	0.35	1
BG-6-114	0.34	1
BG-6-127	0.32	1
BG-1-43	1.3	0
BG-1-55	0.18	1
BG-1-78	0.25	0
BG-2-30	10	1
BG-2-81	3.8	1
BG-3-22	2.6	1
BG-3-69	2	1
BG-4-40	0.34	1
BG-4-79	0.27	1
BG-4-161	0.34	1
BG-4-163	0.34	1
BG-6-28	0.46	1
BG-6-53	0.23	1
BG-6-87	0.14	1

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options						
From File	Molybdenum.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
Clay						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	18	0	18	16	2	11.11%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	2	0.25	1.3	0.775	0.775	0.742
Statistics (Detects Only)	16	0.14	10	1.467	0.365	2.514
Statistics (All: NDs treated as DL value)	18	0.14	10	1.39	0.365	2.379
Statistics (All: NDs treated as DL/2 value)	18	0.125	10	1.347	0.365	2.389
Statistics (Normal ROS Estimated Data)	18	-0.765	10	1.293	0.365	2.426
Statistics (Gamma ROS Estimated Data)	18	1.000E-12	10	1.335	0.365	2.394
Statistics (Lognormal ROS Estimated Data)	18	0.14	10	1.331	0.342	2.395
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	0.693	0.614	2.117	-0.49	1.246	-2.541
Statistics (NDs = DL)	0.726	0.642	1.913	-0.498	1.204	-2.417
Statistics (NDs = DL/2)	0.693	0.615	1.943	-0.575	1.229	-2.136
Statistics (Gamma ROS Estimates)	0.301	0.288	4.44	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	-0.602	1.224	-2.032
Normal Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.738	0.731	0.723	0.752		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilks (Detects Only)	0.568	0.887	Data Not Normal			
Lilliefors (Detects Only)	0.343	0.222	Data Not Normal			
Shapiro-Wilks (NDs = DL)	0.558	0.897	Data Not Normal			
Lilliefors (NDs = DL)	0.319	0.209	Data Not Normal			
Shapiro-Wilks (NDs = DL/2)	0.547	0.897	Data Not Normal			
Lilliefors (NDs = DL/2)	0.337	0.209	Data Not Normal			
Shapiro-Wilks (Normal ROS Estimates)	0.594	0.897	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.339	0.209	Data Not Normal			
Gamma Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.951	0.944	0.943	0.982		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	1.49	0.78				
Kolmogorov-Smirnov (Detects Only)	0.337	0.224	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL)	1.527	0.78				
Kolmogorov-Smirnov (NDs = DL)	0.315	0.212	Data Not Gamma Distributed			

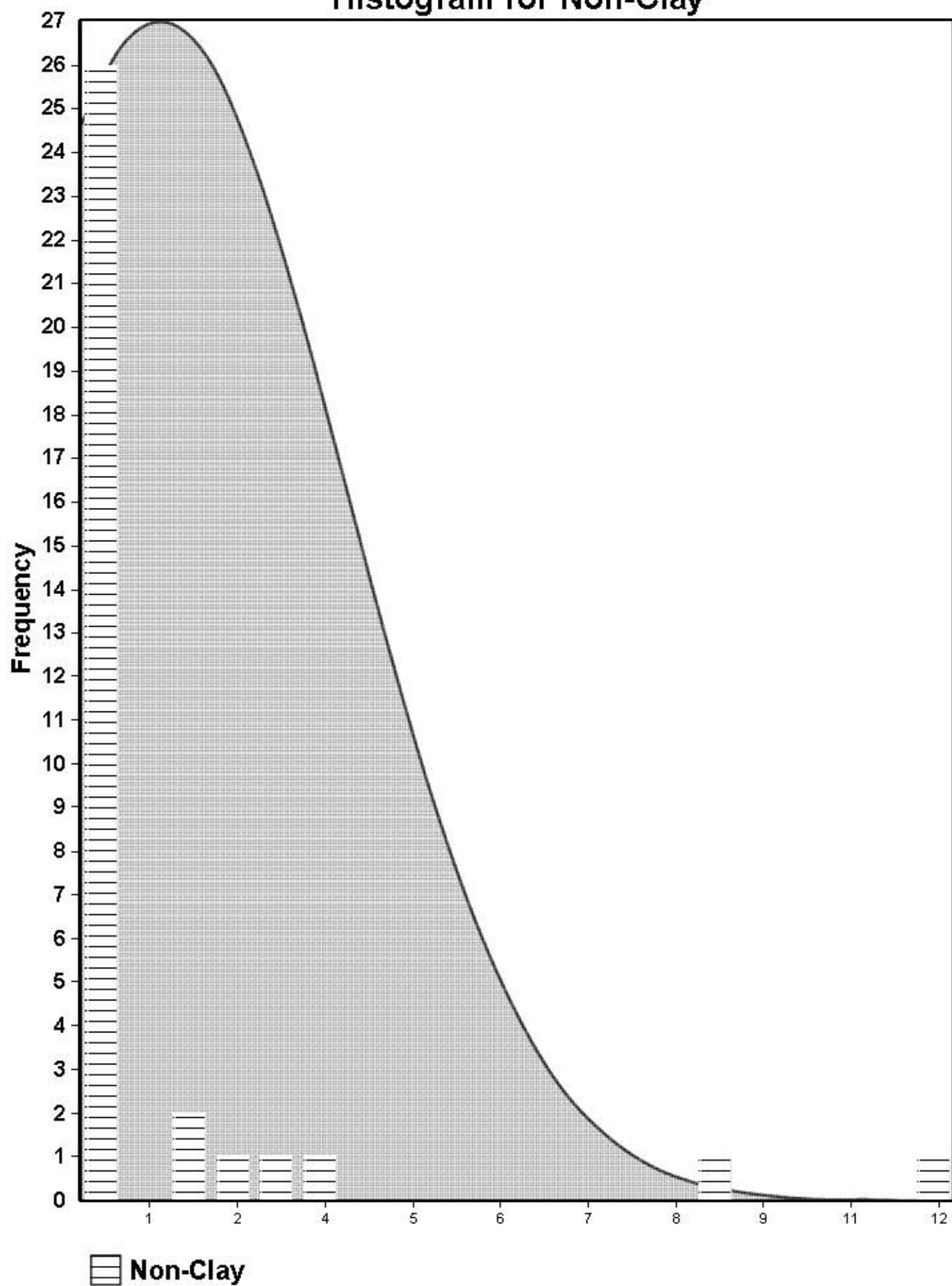
	Lilliefors (NDs = DL/2)	0.383	0.154	Data Not Normal			
	Shapiro-Wilks (Normal ROS Estimates)	0.575	0.931	Data Not Normal			
	Lilliefors (Normal ROS Estimates)	0.36	0.154	Data Not Normal			
	Gamma Distribution Test Results						
		No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
	Correlation Coefficient R	0.905	0.899	0.904	0.964		
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
	Anderson-Darling (Detects Only)	4.025	0.785				
	Kolmogorov-Smirnov (Detects Only)	0.336	0.164	Data Not Gamma Distributed			
	Anderson-Darling (NDs = DL)	4.316	0.785				
	Kolmogorov-Smirnov (NDs = DL)	0.333	0.159	Data Not Gamma Distributed			
	Anderson-Darling (NDs = DL/2)	3.803	0.787				
	Kolmogorov-Smirnov (NDs = DL/2)	0.324	0.159	Data Not Gamma Distributed			
	Anderson-Darling (Gamma ROS Estimates)	5.003	0.857				
	Kolmogorov-Smirnov (Gamma ROS Est.)	0.393	0.166	Data Not Gamma Distributed			
	Lognormal Distribution Test Results						
		No NDs	NDs = DL	NDs = DL/2	Log ROS		
	Correlation Coefficient R	0.892	0.891	0.923	0.927		
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
	Shapiro-Wilks (Detects Only)	0.796	0.929	Data Not Lognormal			
	Lilliefors (Detects Only)	0.26	0.159	Data Not Lognormal			
	Shapiro-Wilks (NDs = DL)	0.794	0.931	Data Not Lognormal			
	Lilliefors (NDs = DL)	0.252	0.154	Data Not Lognormal			
	Shapiro-Wilks (NDs = DL/2)	0.855	0.931	Data Not Lognormal			
	Lilliefors (NDs = DL/2)	0.237	0.154	Data Not Lognormal			
	Shapiro-Wilks (Lognormal ROS Estimates)	0.866	0.931	Data Not Lognormal			
	Lilliefors (Lognormal ROS Estimates)	0.235	0.154	Data Not Lognormal			
	Note: Substitution methods such as DL or DL/2 are not recommended.						

90% Percentile (z)				4.615	90% Percentile (z)				2.628	
95% Percentile (z)				6.446	95% Percentile (z)				4.099	
99% Percentile (z)				9.882	99% Percentile (z)				9.438	
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only					
k star (bias corrected)				0.605	Data do not follow a Discernable Distribution (0.05)					
Theta Star				2.426						
nu star				19.35						
A-D Test Statistic				1.49	Nonparametric Statistics					
5% A-D Critical Value				0.78	Kaplan-Meier (KM) Method					
K-S Test Statistic				0.337	Mean					1.331
5% K-S Critical Value				0.224	SD					2.327
Data not Gamma Distributed at 5% Significance Level					SE of Mean					0.566
					95% KM UTL with 95% Coverage					7.039
Assuming Gamma Distribution					95% KM Chebyshev UPL					11.75
Gamma ROS Statistics with Extrapolated Data					95% KM UPL (t)					5.49
Mean				1.335	90% Percentile (z)					4.313
Median				0.365	95% Percentile (z)					5.159
SD				2.394	99% Percentile (z)					6.745
k star				0.288						
Theta star				4.642	Gamma ROS Limits with Extrapolated Data					
Nu star				10.36	95% Wilson Hilferty (WH) Approx. Gamma UPL					5.179
95% Percentile of Chisquare (2k)				2.667	95% Hawkins Wixley (HW) Approx. Gamma UPL					5.785
					95% WH Approx. Gamma UTL with 95% Coverage					8.613
90% Percentile				3.958	95% HW Approx. Gamma UTL with 95% Coverage					10.56
95% Percentile				6.191						
99% Percentile				12.03						
Note: DL/2 is not a recommended method.										
Non-Clay										
General Statistics										
Number of Valid Data				33	Number of Detected Data				31	
Number of Distinct Detected Data				25	Number of Non-Detect Data				2	
					Percent Non-Detects				6.06%	
Raw Statistics					Log-transformed Statistics					
Minimum Detected				0.22	Minimum Detected				-1.514	
Maximum Detected				12	Maximum Detected				2.485	
Mean of Detected				1.375	Mean of Detected				-0.417	
SD of Detected				2.558	SD of Detected				1.012	
Minimum Non-Detect				0.25	Minimum Non-Detect				-1.386	
Maximum Non-Detect				0.25	Maximum Non-Detect				-1.386	
Background Statistics										
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic				0.475	Shapiro Wilk Test Statistic				0.796	
5% Shapiro Wilk Critical Value				0.929	5% Shapiro Wilk Critical Value				0.929	
Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level					

Histogram for Clay



Histogram for Non-Clay



Location	Clay	D_Clay
BG-1-2	0.39	1
BG-1-43	1.3	0
BG-1-55	0.18	1
BG-1-78	0.25	0
BG-2-30	10	1
BG-2-81	3.8	1
BG-3-17	1.7	1
BG-3-22	2.6	1
BG-3-69	2	1
BG-4-2	0.44	1
BG-4-19	0.24	1
BG-4-40	0.34	1
BG-4-79	0.27	1
BG-4-161	0.34	1
BG-4-163	0.34	1
BG-6-28	0.46	1
BG-6-53	0.23	1
BG-6-87	0.14	1

Location	Non-Clay	D_Non-Clay
BG-1-10	0.41	1
BG-1-29	0.25	0
BG-1-40	0.61	1
BG-1-46	0.25	0
BG-1-92	0.24	1
BG-2-2	0.62	1
BG-2-10	0.63	1
BG-2-19	8.7	1
BG-2-21	12	1
BG-2-32	1.5	1
BG-2-75	3.7	1
BG-3-2	1.6	1
BG-3-10	2.6	1
BG-3-29	0.39	1
BG-3-63	0.62	1
BG-3-65	0.57	1
BG-3-95	0.48	1
BG-3-105	0.47	1
BG-3-131	2.3	1
BG-3-136	0.4	1
BG-4-10	0.38	1
BG-4-65	0.32	1
BG-4-82	0.43	1
BG-4-95	0.34	1
BG-4-117	0.38	1
BG-4-120	0.27	1
BG-6-2	0.7	1
BG-6-9	0.22	1
BG-6-58	0.4	1
BG-6-75	0.35	1
BG-6-98	0.35	1
BG-6-114	0.34	1
BG-6-127	0.32	1

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options						
From File	Molybenum.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
Alluv						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	12	0	12	11	1	8.33%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Detects Only)	11	0.22	12	2.589	0.63	3.966
Statistics (All: NDs treated as DL value)	12	0.22	12	2.394	0.625	3.841
Statistics (All: NDs treated as DL/2 value)	12	0.125	12	2.384	0.625	3.848
Statistics (Normal ROS Estimated Data)	12	-3.072	12	2.117	0.625	4.119
Statistics (Gamma ROS Estimated Data)	12	1.000E-12	12	2.373	0.625	3.855
Statistics (Lognormal ROS Estimated Data)	12	0.118	12	2.383	0.625	3.848
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	0.698	0.579	3.71	0.085	1.292	15.2
Statistics (NDs = DL)	0.668	0.557	3.584	-0.0376	1.303	-34.68
Statistics (NDs = DL/2)	0.636	0.532	3.751	-0.0953	1.381	-14.49
Statistics (Gamma ROS Estimates)	0.233	0.23	10.2	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	-0.1	1.389	-13.85
Normal Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.792	0.777	0.78	0.85		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilks (Detects Only)	0.635	0.85	Data Not Normal			
Lilliefors (Detects Only)	0.326	0.267	Data Not Normal			
Shapiro-Wilks (NDs = DL)	0.613	0.859	Data Not Normal			
Lilliefors (NDs = DL)	0.337	0.256	Data Not Normal			
Shapiro-Wilks (NDs = DL/2)	0.619	0.859	Data Not Normal			
Lilliefors (NDs = DL/2)	0.336	0.256	Data Not Normal			
Shapiro-Wilks (Normal ROS Estimates)	0.744	0.859	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.301	0.256	Data Not Normal			
Gamma Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.961	0.958	0.96	0.97		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	1.082	0.766				
Kolmogorov-Smirnov (Detects Only)	0.318	0.266	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL)	1.188	0.772				
Kolmogorov-Smirnov (NDs = DL)	0.322	0.256	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL/2)	1.019	0.774				

Kolmogorov-Smirnov (NDs = DL/2)		0.31	0.257	Data Not Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)		1.612	0.852				
Kolmogorov-Smirnov (Gamma ROS Est.)		0.365	0.269	Data Not Gamma Distributed			
Lognormal Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS			
Correlation Coefficient R	0.941	0.94	0.961	0.962			
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Detects Only)	0.88	0.85	Data Appear Lognormal				
Lilliefors (Detects Only)	0.27	0.267	Data Not Lognormal				
Shapiro-Wilks (NDs = DL)	0.875	0.859	Data Appear Lognormal				
Lilliefors (NDs = DL)	0.263	0.256	Data Not Lognormal				
Shapiro-Wilks (NDs = DL/2)	0.921	0.859	Data Appear Lognormal				
Lilliefors (NDs = DL/2)	0.242	0.256	Data Appear Lognormal				
Shapiro-Wilks (Lognormal ROS Estimates)	0.924	0.859	Data Appear Lognormal				
Lilliefors (Lognormal ROS Estimates)	0.24	0.256	Data Appear Lognormal				
Note: Substitution methods such as DL or DL/2 are not recommended.							
MC							
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs	
Raw Statistics	39	0	39	36	3	7.69%	
	Number	Minimum	Maximum	Mean	Median	SD	
Statistics (Non-Detects Only)	3	0.25	1.3	0.6	0.25	0.606	
Statistics (Detects Only)	36	0.14	10	1.045	0.385	1.804	
Statistics (All: NDs treated as DL value)	39	0.14	10	1.011	0.38	1.741	
Statistics (All: NDs treated as DL/2 value)	39	0.125	10	0.988	0.38	1.744	
Statistics (Normal ROS Estimated Data)	39	-1.11	10	0.936	0.38	1.784	
Statistics (Gamma ROS Estimated Data)	39	1.000E-12	10	0.983	0.38	1.747	
Statistics (Lognormal ROS Estimated Data)	39	0.114	10	0.982	0.38	1.746	
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV	
Statistics (Detects Only)	0.903	0.85	1.158	-0.603	0.977	-1.62	
Statistics (NDs = DL)	0.922	0.868	1.096	-0.621	0.965	-1.553	
Statistics (NDs = DL/2)	0.885	0.834	1.117	-0.674	0.995	-1.475	
Statistics (Gamma ROS Estimates)	0.343	0.334	2.864	--	--	--	
Statistics (Lognormal ROS Estimates)	--	--	--	-0.683	0.989	-1.449	
Normal Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS			
Correlation Coefficient R	0.682	0.679	0.676	0.719			
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Detects Only)	0.496	0.935	Data Not Normal				
Lilliefors (Detects Only)	0.371	0.148	Data Not Normal				
Shapiro-Wilks (NDs = DL)	0.495	0.939	Data Not Normal				
Lilliefors (NDs = DL)	0.358	0.142	Data Not Normal				
Shapiro-Wilks (NDs = DL/2)	0.49	0.939	Data Not Normal				
Lilliefors (NDs = DL/2)	0.372	0.142	Data Not Normal				

Note: Substitution methods such as DL or DL/2 are not recommended.

Gamma Distribution Test with Detected Values Only				Data Distribution Test with Detected Values Only					
k star (bias corrected)			0.568	Data appear Lognormal at 5% Significance Level					
Theta Star			4.557						
nu star			12.5						
A-D Test Statistic			1.082	Nonparametric Statistics					
5% A-D Critical Value			0.766	Kaplan-Meier (KM) Method					
K-S Test Statistic			0.318	Mean				2.392	
5% K-S Critical Value			0.266	SD				3.679	
Data not Gamma Distributed at 5% Significance Level				SE of Mean				1.114	
				95% KM UTL with 95% Coverage				12.46	
Assuming Gamma Distribution				95% KM Chebyshev UPL				19.08	
Gamma ROS Statistics with Extrapolated Data				95% KM UPL (t)				9.269	
Mean			2.373	90% Percentile (z)				7.107	
Median			0.625	95% Percentile (z)				8.443	
SD			3.855	99% Percentile (z)				10.95	
k star			0.23						
Theta star			10.32	Gamma ROS Limits with Extrapolated Data					
Nu star			5.521	95% Wilson Hilferty (WH) Approx. Gamma UPL				10.71	
95% Percentile of Chisquare (2k)			2.282	95% Hawkins Wixley (HW) Approx. Gamma UPL				12.73	
				95% WH Approx. Gamma UTL with 95% Coverage				20.72	
90% Percentile			7.158	95% HW Approx. Gamma UTL with 95% Coverage				28.36	
95% Percentile			11.77						
99% Percentile			24.2						
Note: DL/2 is not a recommended method.									
MC									
General Statistics									
Number of Valid Data			39	Number of Detected Data				36	
Number of Distinct Detected Data			26	Number of Non-Detect Data				3	
				Percent Non-Detects				7.69%	
Raw Statistics				Log-transformed Statistics					
Minimum Detected			0.14	Minimum Detected				-1.966	
Maximum Detected			10	Maximum Detected				2.303	
Mean of Detected			1.045	Mean of Detected				-0.603	
SD of Detected			1.804	SD of Detected				0.977	
Minimum Non-Detect			0.25	Minimum Non-Detect				-1.386	
Maximum Non-Detect			1.3	Maximum Non-Detect				0.262	
Data with Multiple Detection Limits				Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL				31	
For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL				8	
Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage				79.49%	
Background Statistics									
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic			0.496	Shapiro Wilk Test Statistic				0.824	
5% Shapiro Wilk Critical Value			0.935	5% Shapiro Wilk Critical Value				0.935	
Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					

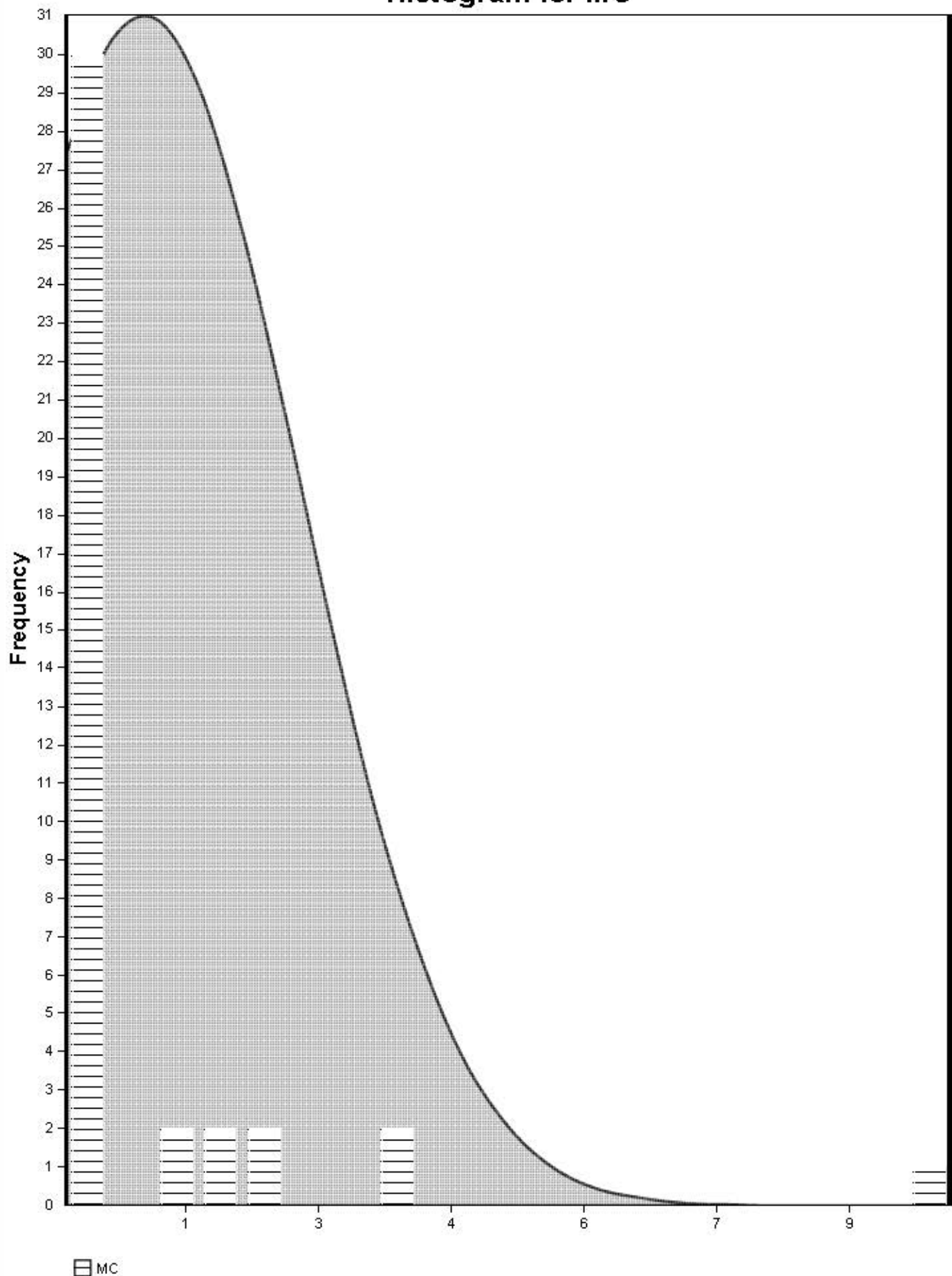
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Molybenum.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for Alluv								
Number of data = 12								
10% critical value: 0.49								
5% critical value: 0.546								
1% critical value: 0.642								
1. Data Value 12 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.798								
For 10% significance level, 12 is an outlier.								
For 5% significance level, 12 is an outlier.								
For 1% significance level, 12 is an outlier.								
2. Data Value 0.125 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.031								
For 10% significance level, 0.125 is not an outlier.								
For 5% significance level, 0.125 is not an outlier.								
For 1% significance level, 0.125 is not an outlier.								
Rosner's Outlier Test for MC								
Mean			0.988					
Standard Deviation			1.744					
Number of data			39					
Number of suspected outliers			1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	0.988	1.722	10	6	5.234	3.03	3.37	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 10 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 10 is a Potential Statistical Outlier								

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects				
User Selected Options				
From File	Molybenum.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: MC				
Background Data: Alluv				
Raw Statistics				
	Site	Background		
Number of Valid Data	39	12		
Number of Non-Detect Data	3	1		
Number of Detect Data	36	11		
Minimum Non-Detect	0.25	0.25		
Maximum Non-Detect	1.3	0.25		
Percent Non detects	7.69%	8.33%		
Minimum Detected	0.14	0.22		
Maximum Detected	10	12		
Mean of Detected Data	1.045	2.589		
Median of Detected Data	0.385	0.63		
SD of Detected Data	1.804	3.966		
Site vs Background Gehan Test				
H0: Mu of Site or AOC = Mu of background				
Gehan z Test Value	-1.912			
Lower Critical z (0.025)	-1.96			
Upper Critical z (0.975)	1.96			
P-Value	0.0558			
Conclusion with Alpha = 0.05				
Do Not Reject H0, Conclude Site = Background				
P-Value >= alpha (0.05)				

Histogram for Alluv



Histogram for MC



Location	Alluv	D_Alluv
BG-1-2	0.39	1
BG-1-10	0.41	1
BG-1-29	0.25	0
BG-1-40	0.61	1
BG-2-2	0.62	1
BG-2-10	0.63	1
BG-2-19	8.7	1
BG-2-21	12	1
BG-3-2	1.6	1
BG-3-10	2.6	1
BG-6-2	0.7	1
BG-6-9	0.22	1

Location	MC	D_MC
BG-1-43	1.3	0
BG-1-46	0.25	0
BG-1-55	0.18	1
BG-1-78	0.25	0
BG-1-92	0.24	1
BG-2-30	10	1
BG-2-32	1.5	1
BG-2-75	3.7	1
BG-2-81	3.8	1
BG-3-17	1.7	1
BG-3-22	2.6	1
BG-3-29	0.39	1
BG-3-63	0.62	1
BG-3-65	0.57	1
BG-3-69	2	1
BG-3-95	0.48	1
BG-3-105	0.47	1
BG-3-131	2.3	1
BG-3-136	0.4	1
BG-4-1	0.44	1
BG-4-10	0.38	1
BG-4-19	0.24	1
BG-4-40	0.34	1
BG-4-65	0.32	1
BG-4-79	0.27	1
BG-4-82	0.43	1
BG-4-95	0.34	1
BG-4-117	0.38	1
BG-4-120	0.27	1
BG-4-161	0.34	1
BG-4-163	0.34	1
BG-6-28	0.46	1
BG-6-53	0.23	1
BG-6-58	0.4	1
BG-6-75	0.35	1
BG-6-87	0.14	1
BG-6-98	0.35	1
BG-6-114	0.34	1
BG-1-127	0.32	1

				Outlier Tests for Selected Variables							
User Selected Options											
From File				Nickel.wst							
Full Precision				OFF							
Test for Suspected Outliers with Dixon test				1							
Test for Suspected Outliers for Rosner test				1							
Rosner's Outlier Test for All Data											
Mean				8.829							
Standard Deviation				6.528							
Number of data				51							
Number of suspected outliers				1							
			Potential	Obs.	Test	Critical	Critical				
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)				
1	8.829	6.464	28	18	2.966	3.137	3.488				
For 5% Significance Level, there is no Potential Outlier											
For 1% Significance Level, there is no Potential Outlier											

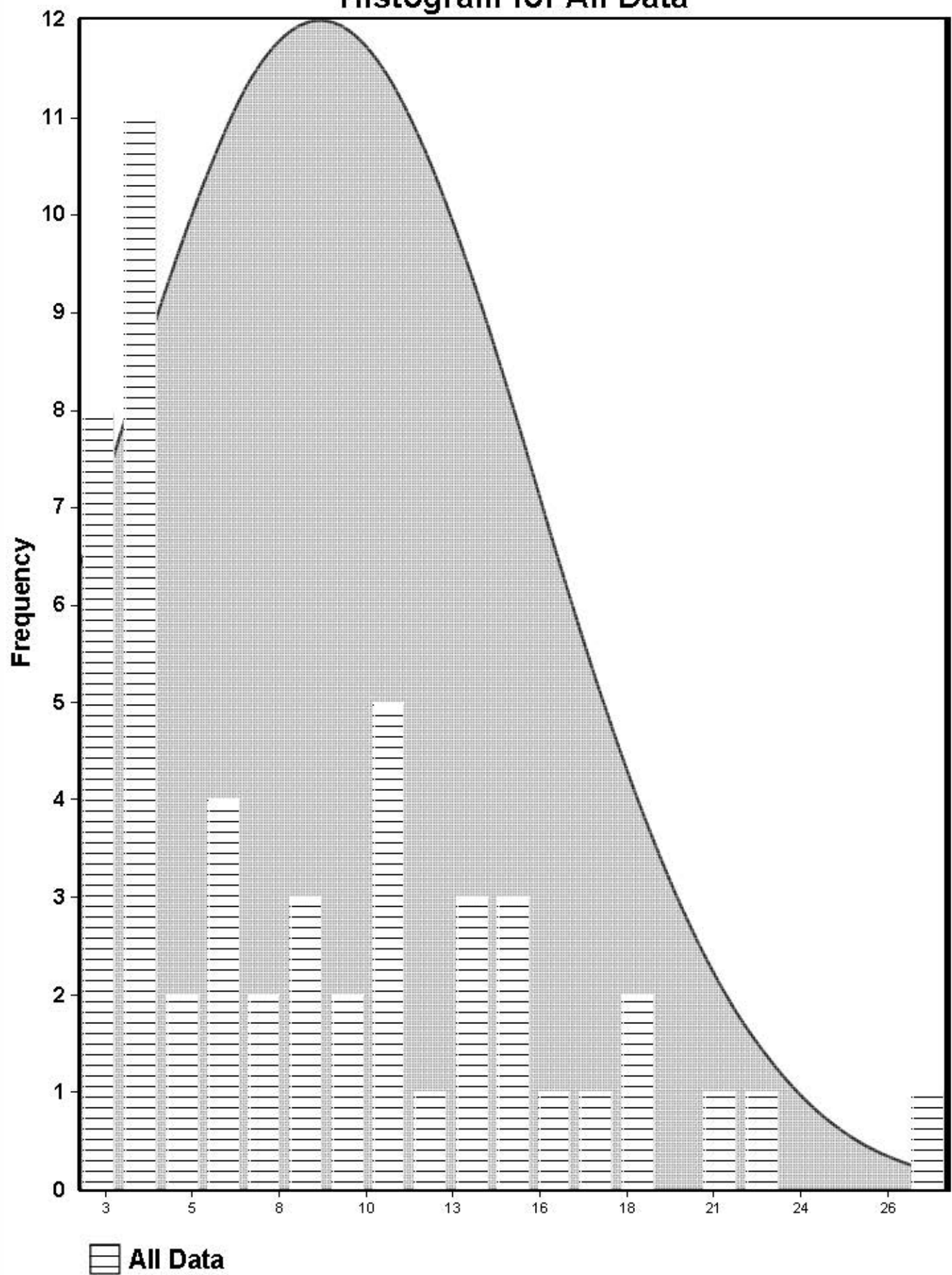
		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File	Nickel.wst								
Full Precision	OFF								
Confidence Coefficient	0.95								
All Data									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	51	0	51	48	3	5.88%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	3	5	11	8.667	10	3.215			
Statistics (Detects Only)	48	1.8	28	9.11	7.5	6.623			
Statistics (All: NDs treated as DL value)	51	1.8	28	9.084	8	6.454			
Statistics (All: NDs treated as DL/2 value)	51	1.8	28	8.829	6.5	6.528			
Statistics (Normal ROS Estimated Data)	51	1.8	28	8.873	6.5	6.496			
Statistics (Gamma ROS Estimated Data)	51	1.8	28	8.919	6.801	6.473			
Statistics (Lognormal ROS Estimated Data)	51	1.8	28	8.826	6.5	6.524			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	1.978	1.875	4.606	1.936	0.769	0.397			
Statistics (NDs = DL)	2.068	1.959	4.393	1.946	0.751	0.386			
Statistics (NDs = DL/2)	1.981	1.877	4.457	1.905	0.761	0.399			
Statistics (Gamma ROS Estimates)	2.048	1.941	4.354	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	1.907	0.755	0.396			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.946	0.949	0.94	0.941					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.884	0.947	Data Not Normal						
Lilliefors (Detects Only)	0.167	0.128	Data Not Normal						
Lilliefors (NDs = DL)	0.148	0.124	Data Not Normal						
Lilliefors (NDs = DL/2)	0.163	0.124	Data Not Normal						
Lilliefors (Normal ROS Estimates)	0.167	0.124	Data Not Normal						
Gamma Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS					
Correlation Coefficient R	0.989	0.991	0.99	0.991					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Anderson-Darling (Detects Only)	0.904	0.762							
Kolmogorov-Smirnov (Detects Only)	0.158	0.13	Data Not Gamma Distributed						
Anderson-Darling (NDs = DL)	0.813	0.762							
Kolmogorov-Smirnov (NDs = DL)	0.142	0.126	Data Not Gamma Distributed						
Anderson-Darling (NDs = DL/2)	0.957	0.763							
Kolmogorov-Smirnov (NDs = DL/2)	0.144	0.126	Data Not Gamma Distributed						
Anderson-Darling (Gamma ROS Estimates)	0.837	0.763							

Kolmogorov-Smirnov (Gamma ROS Est.)	0.152	0.126	Data Not Gamma Distributed						
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.98	0.983	0.982	0.981					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.939	0.947	Data Not Lognormal						
Lilliefors (Detects Only)	0.138	0.128	Data Not Lognormal						
Lilliefors (NDs = DL)	0.124	0.124	Data Not Lognormal						
Lilliefors (NDs = DL/2)	0.124	0.124	Data Appear Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.134	0.124	Data Not Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									

			General Background Statistics for Data Sets with Non-Detects						
User Selected Options									
From File			Nickel.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
All Data									
General Statistics									
Number of Valid Data			51		Number of Detected Data			48	
Number of Distinct Detected Data			39		Number of Non-Detect Data			3	
					Percent Non-Detects			5.88%	
Raw Statistics					Log-transformed Statistics				
Minimum Detected		1.8		Minimum Detected		0.588			
Maximum Detected		28		Maximum Detected		3.332			
Mean of Detected		9.11		Mean of Detected		1.936			
SD of Detected		6.623		SD of Detected		0.769			
Minimum Non-Detect		5		Minimum Non-Detect		1.609			
Maximum Non-Detect		11		Maximum Non-Detect		2.398			
Data with Multiple Detection Limits					Single Detection Limit Scenario				
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL		33		
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL		18		
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage		64.71%		
Background Statistics									
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only				
Shapiro Wilk Test Statistic		0.884		Shapiro Wilk Test Statistic		0.939			
5% Shapiro Wilk Critical Value		0.947		5% Shapiro Wilk Critical Value		0.947			
Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level				
Assuming Normal Distribution					Assuming Lognormal Distribution				
DL/2 Substitution Method				DL/2 Substitution Method					
Mean		8.829		Mean (Log Scale)		1.905			
SD		6.528		SD (Log Scale)		0.761			
95% UTL		95% Coverage		95% UTL		95% Coverage		32.05	
95% UPL (t)		19.88		95% UPL (t)		24.34			
90% Percentile (z)		17.2		90% Percentile (z)		17.81			
95% Percentile (z)		19.57		95% Percentile (z)		23.48			
99% Percentile (z)		24.02		99% Percentile (z)		39.44			
Maximum Likelihood Estimate(MLE) Method					Log ROS Method				
Mean		7.821		Mean in Original Scale		8.826			
SD		8.176		SD in Original Scale		6.524			
95% UTL with		95% Coverage		95% UTL with		95% Coverage		31.74	
				95% BCA UTL with		95% Coverage		25	
				95% Bootstrap (%) UTL with		95% Coverage		26	
95% UPL (t)		21.66		95% UPL (t)		24.16			

Note: DL/2 is not a recommended method.

Histogram for All Data



Location	All Data	All Data
BG-1-2	14	1
BG-1-43	20	1
BG-1-55	2.7	1
BG-1-78	12	1
BG-2-30	24	1
BG-2-81	16	1
BG-3-17	4.2	1
BG-3-22	10	0
BG-3-69	14	1
BG-4-2	9	1
BG-4-19	22	1
BG-4-40	17	1
BG-4-79	15	1
BG-4-161	7	1
BG-4-163	13	1
BG-6-28	15	1
BG-6-53	11	1
BG-6-87	28	1
BG-1-10	5.9	1
BG-1-29	6.5	1
BG-1-40	5	0
BG-1-46	4.1	1
BG-1-92	3.3	1
BG-2-2	2.6	1
BG-2-10	2.2	1
BG-2-19	4.7	1
BG-2-21	2	1
BG-2-32	3.2	1
BG-2-75	3.6	1
BG-3-2	4	1
BG-3-10	11	1
BG-3-29	3.4	1
BG-3-63	4	1
BG-3-65	8.3	1
BG-3-95	2.6	1
BG-3-105	8.7	1
BG-3-131	11	0
BG-3-136	19	1
BG-4-10	11	1
BG-4-65	3.4	1
BG-4-82	8	1
BG-4-95	2.4	1
BG-4-117	1.8	1
BG-4-120	14	1
BG-6-2	5.8	1
BG-6-9	2.8	1
BG-6-58	3.9	1
BG-6-75	4	1
BG-6-98	9.2	1
BG-6-114	10	1
BG-6-127	18	1

Statistics (Detects Only)		35	1.8	28	9.66	8.3	6.93		
Statistics (All: NDs treated as DL value)		38	1.8	28	9.582	8.5	6.69		
Statistics (All: NDs treated as DL/2 value)		38	1.8	28	9.239	7.5	6.811		
Statistics (Normal ROS Estimated Data)		38	1.8	28	9.299	7.5	6.765		
Statistics (Gamma ROS Estimated Data)		38	1.8	28	9.377	7.541	6.723		
Statistics (Lognormal ROS Estimated Data)		38	1.8	28	9.234	7.5	6.806		
		K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV		
Statistics (Detects Only)		1.925	1.791	5.017	1.986	0.795	0.4		
Statistics (NDs = DL)		2.043	1.899	4.69	1.996	0.77	0.386		
Statistics (NDs = DL/2)		1.919	1.785	4.815	1.941	0.785	0.404		
Statistics (Gamma ROS Estimates)		2.017	1.875	4.65	--	--	--		
Statistics (Lognormal ROS Estimates)		--	--	--	1.944	0.777	0.4		
Normal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R		0.953	0.956	0.945	0.946				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)		0.898	0.934	Data Not Normal					
Lilliefors (Detects Only)		0.189	0.15	Data Not Normal					
Shapiro-Wilks (NDs = DL)		0.904	0.938	Data Not Normal					
Lilliefors (NDs = DL)		0.162	0.144	Data Not Normal					
Shapiro-Wilks (NDs = DL/2)		0.884	0.938	Data Not Normal					
Lilliefors (NDs = DL/2)		0.169	0.144	Data Not Normal					
Shapiro-Wilks (Normal ROS Estimates)		0.886	0.938	Data Not Normal					
Lilliefors (Normal ROS Estimates)		0.174	0.144	Data Not Normal					
Gamma Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R		0.985	0.989	0.988	0.989				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)		0.781	0.761						
Kolmogorov-Smirnov (Detects Only)		0.184	0.151	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)		0.667	0.759						
Kolmogorov-Smirnov (NDs = DL)		0.161	0.145	Data appear Approximate Gamma Distribution					
Anderson-Darling (NDs = DL/2)		0.791	0.76						
Kolmogorov-Smirnov (NDs = DL/2)		0.164	0.145	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		0.666	0.759						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.154	0.145	Data appear Approximate Gamma Distribution					
Lognormal Distribution Test Results									
		No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R		0.975	0.979	0.979	0.978				
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilks (Detects Only)		0.933	0.934	Data Not Lognormal					
Lilliefors (Detects Only)		0.165	0.15	Data Not Lognormal					
Shapiro-Wilks (NDs = DL)		0.941	0.938	Data Appear Lognormal					

Note: Substitution methods such as DL or DL/2 are not recommended.

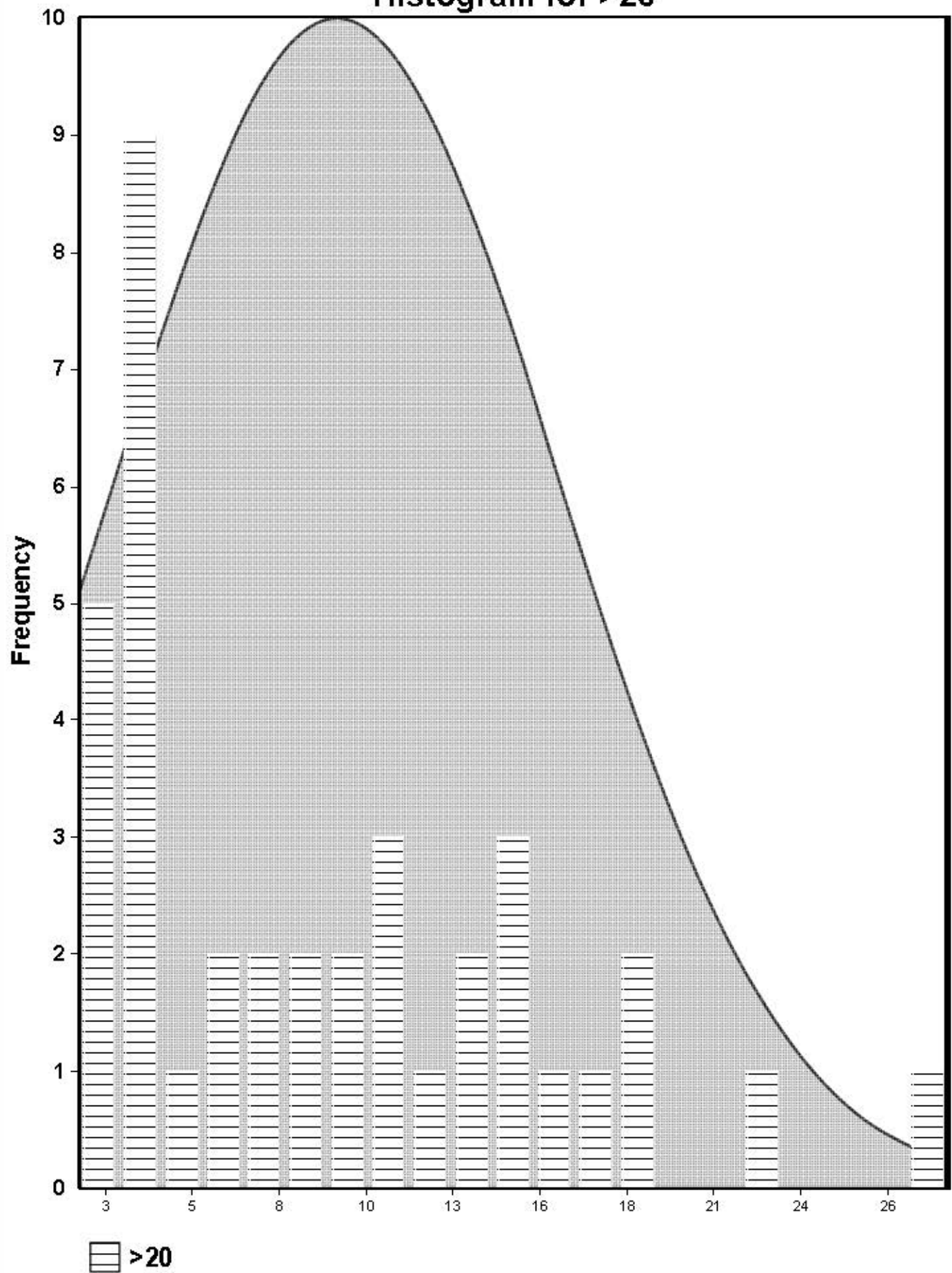
			General Background Statistics for Data Sets with Non-Detects						
User Selected Options									
From File		Nickel.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
0-20									
General Statistics									
Total Number of Observations			13		Number of Distinct Observations			12	
Raw Statistics				Log-Transformed Statistics					
		Minimum	2.2				Minimum	0.788	
		Maximum	22				Maximum	3.091	
		Second Largest	14				Second Largest	2.639	
		First Quartile	4				First Quartile	1.386	
		Median	5.8				Median	1.758	
		Third Quartile	11				Third Quartile	2.398	
		Mean	7.631				Mean	1.8	
		SD	5.698				SD	0.704	
		Coefficient of Variation	0.747						
		Skewness	1.479						
Background Statistics									
Normal Distribution Test				Lognormal Distribution Test					
		Shapiro Wilk Test Statistic	0.847				Shapiro Wilk Test Statistic	0.963	
		Shapiro Wilk Critical Value	0.866				Shapiro Wilk Critical Value	0.866	
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		95% UTL with 95% Coverage	22.85				95% UTL with 95% Coverage	39.63	
		95% UPL (t)	18.17				95% UPL (t)	22.23	
		90% Percentile (z)	14.93				90% Percentile (z)	14.91	
		95% Percentile (z)	17				95% Percentile (z)	19.25	
		99% Percentile (z)	20.89				99% Percentile (z)	31.1	
Gamma Distribution Test				Data Distribution Test					
		k star	1.825		Data appear Gamma Distributed at 5% Significance Level				
		Theta Star	4.182						
		MLE of Mean	7.631						
		MLE of Standard Deviation	5.649						
		nu star	47.44						
		A-D Test Statistic	0.334		Nonparametric Statistics				
		5% A-D Critical Value	0.742				90% Percentile	13.4	
		K-S Test Statistic	0.175				95% Percentile	17.2	
		5% K-S Critical Value	0.239				99% Percentile	21.04	
Data appear Gamma Distributed at 5% Significance Level									

Note: DL/2 is not a recommended method.

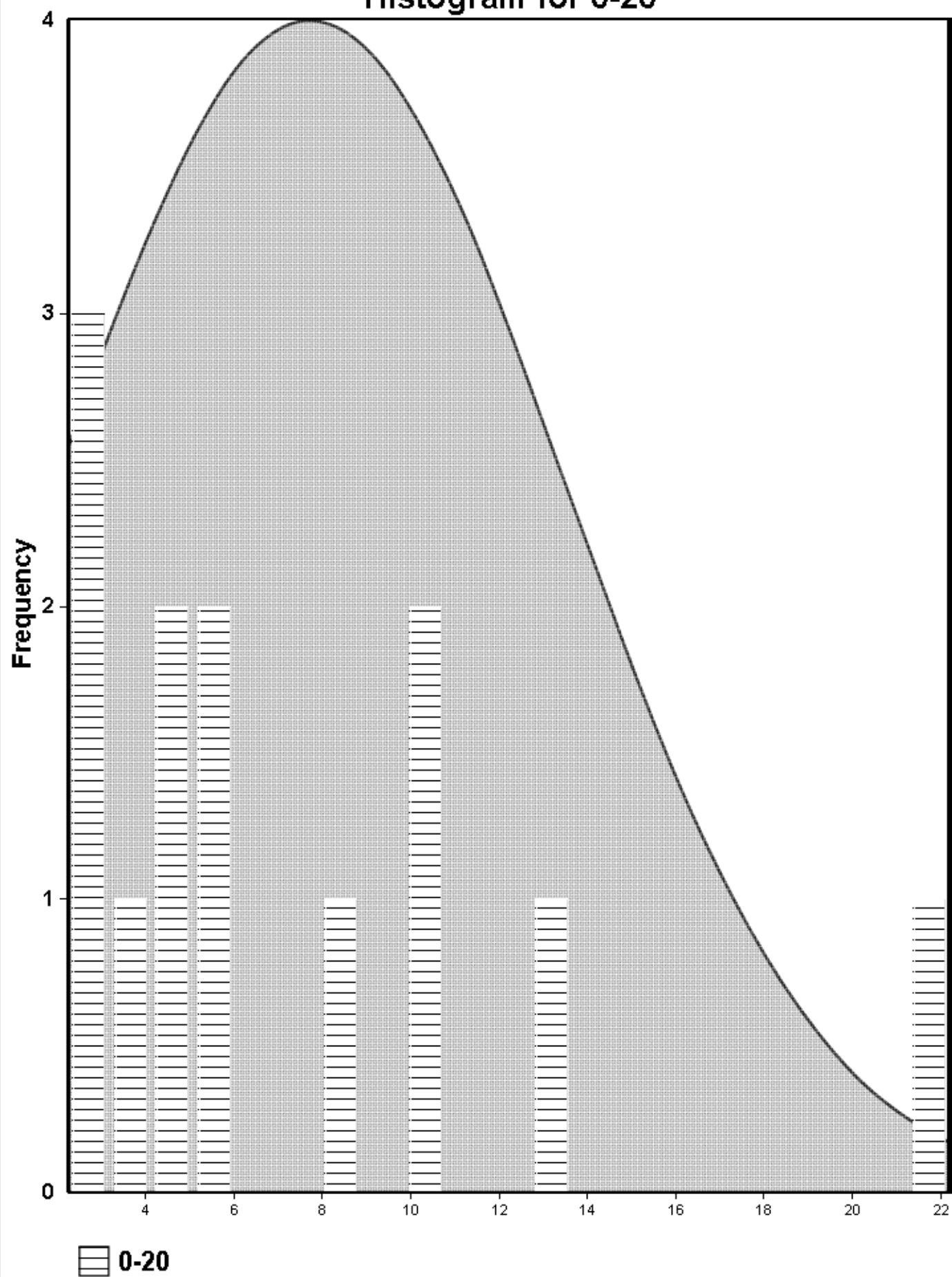
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Nickel.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Dixon's Outlier Test for 0-20							
Number of data = 13							
10% critical value: 0.467							
5% critical value: 0.521							
1% critical value: 0.615							
1. Data Value 22 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.567							
For 10% significance level, 22 is an outlier.							
For 5% significance level, 22 is an outlier.							
For 1% significance level, 22 is not an outlier.							
2. Data Value 2.2 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.051							
For 10% significance level, 2.2 is not an outlier.							
For 5% significance level, 2.2 is not an outlier.							
For 1% significance level, 2.2 is not an outlier.							
Rosner's Outlier Test for >20							
Mean			9.239				
Standard Deviation			6.811				
Number of data			38				
Number of suspected outliers			1				
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	9.239	6.72	28	38	2.792	3.01	3.36
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects				
User Selected Options				
From File	Nickel.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: 0-20				
Background Data: >20				
Raw Statistics				
	Site	Background		
Number of Valid Data	13	38		
Number of Non-Detect Data	0	3		
Number of Detect Data	13	35		
Minimum Non-Detect	N/A	5		
Maximum Non-Detect	N/A	11		
Percent Non detects	0.00%	7.89%		
Minimum Detected	2.2	1.8		
Maximum Detected	22	28		
Mean of Detected Data	7.631	9.66		
Median of Detected Data	5.8	8.3		
SD of Detected Data	5.698	6.93		
Site vs Background Gehan Test				
H0: Mu of Site or AOC = Mu of background				
Gehan z Test Value	-0.556			
Lower Critical z (0.025)	-1.96			
Upper Critical z (0.975)	1.96			
P-Value	0.578			
Conclusion with Alpha = 0.05				
Do Not Reject H0, Conclude Site = Background				
P-Value >= alpha (0.05)				

Histogram for >20



Histogram for 0-20



Location	0-20	D_0-20
BG-1-2	14	1
BG-3-17	4.2	1
BG-4-2	9	1
BG-4-19	22	1
BG-1-10	5.9	1
BG-2-2	2.6	1
BG-2-10	2.2	1
BG-2-19	4.7	1
BG-3-2	4	1
BG-3-10	11	1
BG-4-10	11	1
BG-6-2	5.8	1
BG-6-9	2.8	1

Location	>20	D_>20
BG-1-29	6.5	1
BG-1-40	5	0
BG-1-46	4.1	1
BG-1-92	3.3	1
BG-2-21	2	1
BG-2-32	3.2	1
BG-2-75	3.6	1
BG-3-29	3.4	1
BG-3-63	4	1
BG-3-65	8.3	1
BG-3-95	2.6	1
BG-3-105	8.7	1
BG-3-131	11	0
BG-3-136	19	1
BG-4-65	3.4	1
BG-4-82	8	1
BG-4-95	2.4	1
BG-4-117	1.8	1
BG-4-120	14	1
BG-6-58	3.9	1
BG-6-75	4	1
BG-6-98	9.2	1
BG-6-114	10	1
BG-6-127	18	1
BG-1-43	20	1
BG-1-55	2.7	1
BG-1-78	12	1
BG-2-30	24	1
BG-2-81	16	1
BG-3-22	10	0
BG-3-69	14	1
BG-4-40	17	1
BG-4-79	15	1
BG-4-161	7	1
BG-4-163	13	1
BG-6-28	15	1
BG-6-53	11	1
BG-6-87	28	1

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options								
From File		Nickel.wst						
Full Precision		OFF						
Confidence Coefficient		0.95						
Clay								
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs	
Raw Statistics		18	0	18	17	1	5.56%	
		Number	Minimum	Maximum	Mean	Median	SD	
Statistics (Detects Only)		17	2.7	28	14.35	14	6.711	
Statistics (All: NDs treated as DL value)		18	2.7	28	14.11	14	6.591	
Statistics (All: NDs treated as DL/2 value)		18	2.7	28	13.83	14	6.874	
Statistics (Normal ROS Estimated Data)		18	2.7	28	13.87	14	6.817	
Statistics (Gamma ROS Estimated Data)		18	2.7	28	13.9	14	6.776	
Statistics (Lognormal ROS Estimated Data)		18	2.7	28	13.88	14	6.806	
		K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV	
Statistics (Detects Only)		3.754	3.165	3.822	2.524	0.605	0.24	
Statistics (NDs = DL)		3.879	3.269	3.637	2.512	0.59	0.235	
Statistics (NDs = DL/2)		3.425	2.891	4.037	2.474	0.626	0.253	
Statistics (Gamma ROS Estimates)		3.607	3.043	3.855	--	--	--	
Statistics (Lognormal ROS Estimates)		--	--	--	2.483	0.613	0.247	
Normal Distribution Test Results								
		No NDs	NDs = DL	NDs = DL/2	Normal ROS			
Correlation Coefficient R		0.991	0.991	0.99	0.991			
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Detects Only)		0.981	0.892	Data Appear Normal				
Lilliefors (Detects Only)		0.111	0.215	Data Appear Normal				
Shapiro-Wilks (NDs = DL)		0.981	0.897	Data Appear Normal				
Lilliefors (NDs = DL)		0.113	0.209	Data Appear Normal				
Shapiro-Wilks (NDs = DL/2)		0.976	0.897	Data Appear Normal				
Lilliefors (NDs = DL/2)		0.1	0.209	Data Appear Normal				
Shapiro-Wilks (Normal ROS Estimates)		0.978	0.897	Data Appear Normal				
Lilliefors (Normal ROS Estimates)		0.101	0.209	Data Appear Normal				
Gamma Distribution Test Results								
		No NDs	NDs = DL	NDs = DL/2	Gamma ROS			
Correlation Coefficient R		0.979	0.984	0.98	0.981			
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Anderson-Darling (Detects Only)		0.399	0.743					
Kolmogorov-Smirnov (Detects Only)		0.142	0.21	Data Appear Gamma Distributed				
Anderson-Darling (NDs = DL)		0.325	0.743					
Kolmogorov-Smirnov (NDs = DL)		0.117	0.205	Data Appear Gamma Distributed				
Anderson-Darling (NDs = DL/2)		0.369	0.744					

Kolmogorov-Smirnov (NDs = DL/2)		0.139	0.205	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		0.312	0.744						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.131	0.205	Data Appear Gamma Distributed					
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.944	0.95	0.958	0.96					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.897	0.892	Data Appear Lognormal						
Lilliefors (Detects Only)	0.182	0.215	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL)	0.909	0.897	Data Appear Lognormal						
Lilliefors (NDs = DL)	0.148	0.209	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL/2)	0.918	0.897	Data Appear Lognormal						
Lilliefors (NDs = DL/2)	0.174	0.209	Data Appear Lognormal						
Shapiro-Wilks (Lognormal ROS Estimates)	0.923	0.897	Data Appear Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.168	0.209	Data Appear Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									
Non-Clay									
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs			
Raw Statistics	33	0	33	31	2	6.06%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	2	5	11	8	8	4.243			
Statistics (Detects Only)	31	1.8	19	6.239	4	4.542			
Statistics (All: NDs treated as DL value)	33	1.8	19	6.345	4.1	4.482			
Statistics (All: NDs treated as DL/2 value)	33	1.8	19	6.103	4	4.447			
Statistics (Normal ROS Estimated Data)	33	1.8	19	6.135	4	4.421			
Statistics (Gamma ROS Estimated Data)	33	1.8	19	6.186	4.1	4.408			
Statistics (Lognormal ROS Estimated Data)	33	1.8	19	6.095	4	4.436			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	2.45	2.248	2.546	1.613	0.653	0.405			
Statistics (NDs = DL)	2.524	2.314	2.514	1.637	0.647	0.395			
Statistics (NDs = DL/2)	2.49	2.284	2.451	1.595	0.644	0.404			
Statistics (Gamma ROS Estimates)	2.582	2.368	2.395	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	1.597	0.636	0.399			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.907	0.915	0.903	0.902					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.818	0.929	Data Not Normal						
Lilliefors (Detects Only)	0.23	0.159	Data Not Normal						
Shapiro-Wilks (NDs = DL)	0.832	0.931	Data Not Normal						
Lilliefors (NDs = DL)	0.207	0.154	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.812	0.931	Data Not Normal						
Lilliefors (NDs = DL/2)	0.219	0.154	Data Not Normal						

Note: Substitution methods such as DL or DL/2 are not recommended.

			General Background Statistics for Data Sets with Non-Detects						
User Selected Options									
From File			Nickel.wst						
Full Precision			OFF						
Confidence Coefficient			95%						
Coverage			95%						
Different or Future K Values			1						
Number of Bootstrap Operations			2000						
Clay									
General Statistics									
Number of Valid Data			18		Number of Detected Data			17	
Number of Distinct Detected Data			15		Number of Non-Detect Data			1	
						Percent Non-Detects			5.56%
Raw Statistics				Log-transformed Statistics					
		Minimum Detected	2.7				Minimum Detected	0.993	
		Maximum Detected	28				Maximum Detected	3.332	
		Mean of Detected	14.35				Mean of Detected	2.524	
		SD of Detected	6.711				SD of Detected	0.605	
		Minimum Non-Detect	10				Minimum Non-Detect	2.303	
		Maximum Non-Detect	10				Maximum Non-Detect	2.303	
Background Statistics									
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
		Shapiro Wilk Test Statistic	0.981				Shapiro Wilk Test Statistic	0.897	
		5% Shapiro Wilk Critical Value	0.892				5% Shapiro Wilk Critical Value	0.892	
Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
		DL/2 Substitution Method					DL/2 Substitution Method		
		Mean	13.83				Mean (Log Scale)	2.474	
		SD	6.874				SD (Log Scale)	0.626	
95% UTL		95% Coverage	30.69		95% UTL		95% Coverage	55.07	
		95% UPL (t)	26.11				95% UPL (t)	36.31	
		90% Percentile (z)	22.64				90% Percentile (z)	26.46	
		95% Percentile (z)	25.13				95% Percentile (z)	33.21	
		99% Percentile (z)	29.82				99% Percentile (z)	50.87	
Maximum Likelihood Estimate(MLE) Method				Log ROS Method					
		Mean	13.89				Mean in Original Scale	13.88	
		SD	6.741				SD in Original Scale	6.806	
95% UTL with		95% Coverage	30.43		95% UTL with		95% Coverage	53.88	
					95% BCA UTL with		95% Coverage	28	
					95% Bootstrap (%) UTL with		95% Coverage	28	
		95% UPL (t)	25.94				95% UPL (t)	35.83	
		90% Percentile (z)	22.53				90% Percentile (z)	26.28	
		95% Percentile (z)	24.98				95% Percentile (z)	32.83	
		99% Percentile (z)	29.57				99% Percentile (z)	49.86	

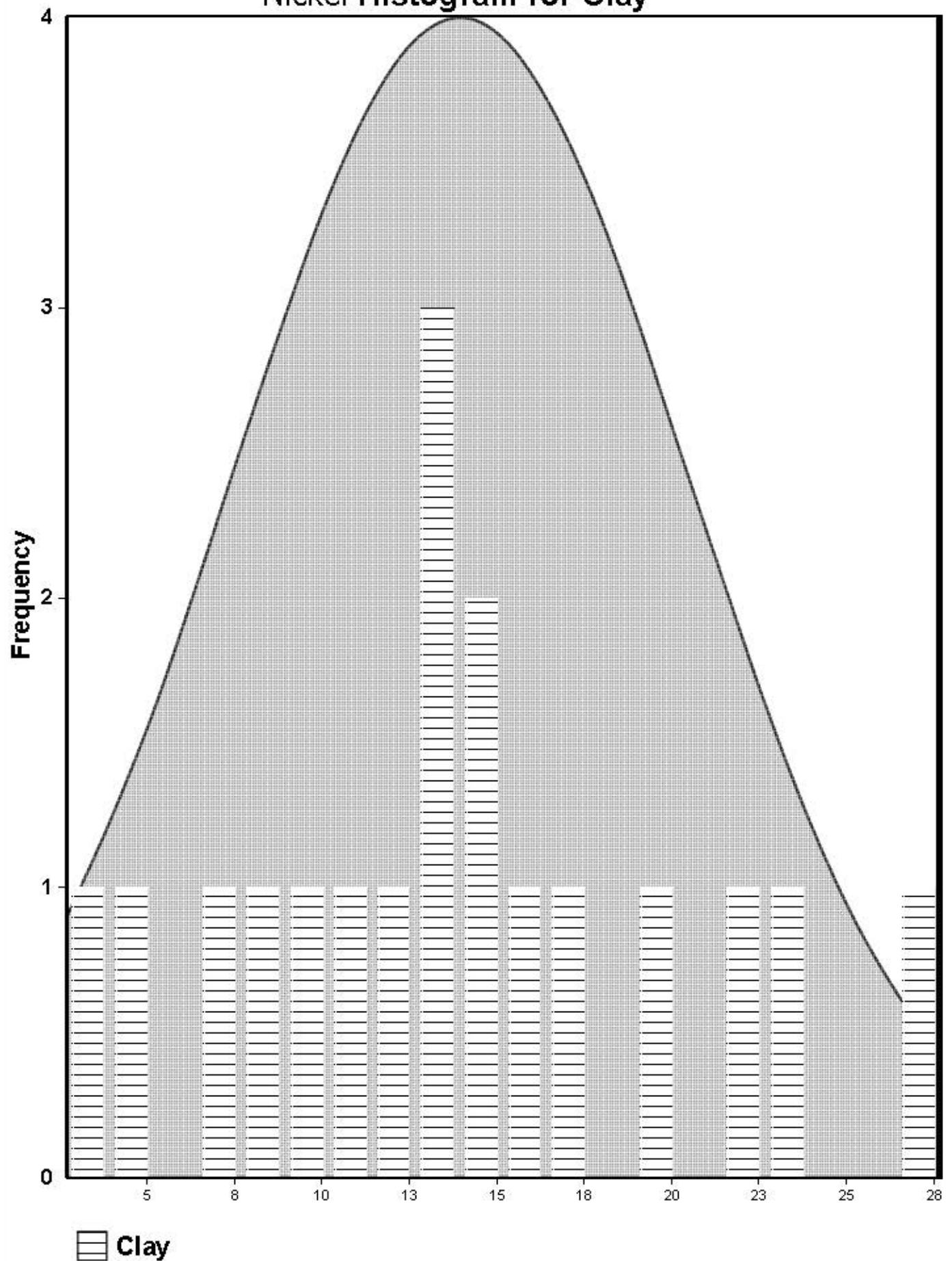
Gamma Distribution Test with Detected Values Only			Data Distribution Test with Detected Values Only		
k star (bias corrected)		3.131	Data appear Normal at 5% Significance Level		
Theta Star		4.582			
nu star		106.4			
A-D Test Statistic		0.399	Nonparametric Statistics		
5% A-D Critical Value		0.743	Kaplan-Meier (KM) Method		
K-S Test Statistic		0.142	Mean	13.87	
5% K-S Critical Value		0.21	SD	6.654	
Data appear Gamma Distributed at 5% Significance Level			SE of Mean	1.624	
			95% KM UTL with 95% Coverage	30.19	
Assuming Gamma Distribution			95% KM Chebyshev UPL	43.66	
Gamma ROS Statistics with Extrapolated Data			95% KM UPL (t)	25.76	
Mean		13.9	90% Percentile (z)	22.39	
Median		14	95% Percentile (z)	24.81	
SD		6.776	99% Percentile (z)	29.35	
k star		3.043			
Theta star		4.57	Gamma ROS Limits with Extrapolated Data		
Nu star		109.5	95% Wilson Hilferty (WH) Approx. Gamma UPL	30.01	
95% Percentile of Chisquare (2k)		12.72	95% Hawkins Wixley (HW) Approx. Gamma UPL	31.01	
			95% WH Approx. Gamma UTL with 95% Coverage	39.16	
90% Percentile		24.59	95% HW Approx. Gamma UTL with 95% Coverage	41.49	
95% Percentile		29.06			
99% Percentile		38.74			
Note: DL/2 is not a recommended method.					
Non-Clay					
General Statistics					
Number of Valid Data		33	Number of Detected Data		31
Number of Distinct Detected Data		26	Number of Non-Detect Data		2
			Percent Non-Detects		6.06%
Raw Statistics			Log-transformed Statistics		
Minimum Detected		1.8	Minimum Detected		0.588
Maximum Detected		19	Maximum Detected		2.944
Mean of Detected		6.239	Mean of Detected		1.613
SD of Detected		4.542	SD of Detected		0.653
Minimum Non-Detect		5	Minimum Non-Detect		1.609
Maximum Non-Detect		11	Maximum Non-Detect		2.398
Data with Multiple Detection Limits			Single Detection Limit Scenario		
Note: Data have multiple DLs - Use of KM Method is recommended			Number treated as Non-Detect with Single DL		28
For all methods (except KM, DL/2, and ROS Methods),			Number treated as Detected with Single DL		5
Observations < Largest ND are treated as NDs			Single DL Non-Detect Percentage		84.85%
Background Statistics					
Normal Distribution Test with Detected Values Only			Lognormal Distribution Test with Detected Values Only		
Shapiro Wilk Test Statistic		0.818	Shapiro Wilk Test Statistic		0.947
5% Shapiro Wilk Critical Value		0.929	5% Shapiro Wilk Critical Value		0.929
Data not Normal at 5% Significance Level			Data appear Lognormal at 5% Significance Level		

Note: DL/2 is not a recommended method.

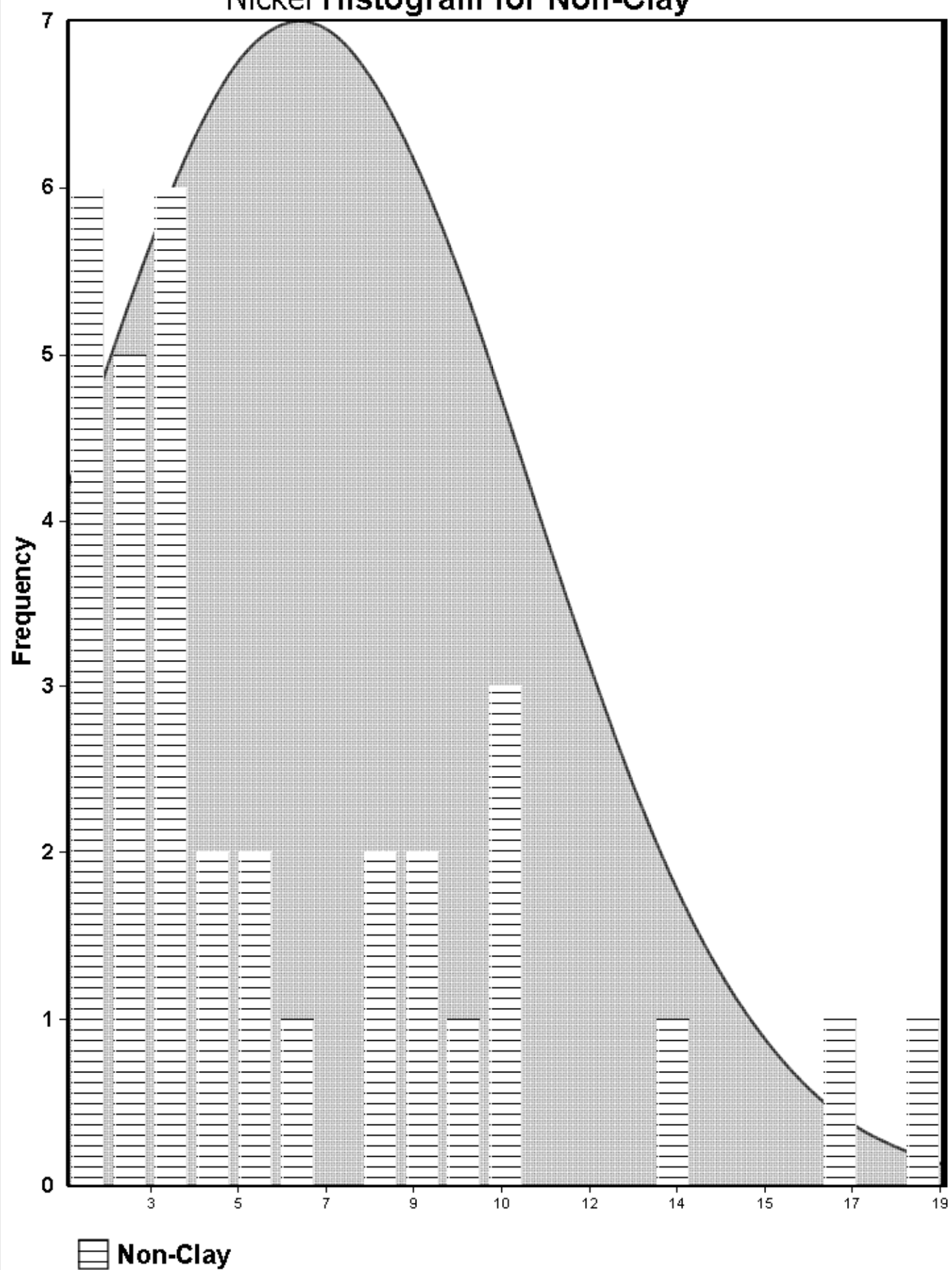
			Outlier Tests for Selected Variables				
User Selected Options							
From File			Nickel.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Dixon's Outlier Test for Clay							
Number of data = 18							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Data Value 28 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.261							
For 10% significance level, 28 is not an outlier.							
For 5% significance level, 28 is not an outlier.							
For 1% significance level, 28 is not an outlier.							
2. Data Value 2.7 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.119							
For 10% significance level, 2.7 is not an outlier.							
For 5% significance level, 2.7 is not an outlier.							
For 1% significance level, 2.7 is not an outlier.							
Rosner's Outlier Test for Non-Clay							
Mean		6.103					
Standard Deviation		4.447					
Number of data		33					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	6.103	4.379	19	20	2.945	2.95	3.29
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects				
User Selected Options				
From File	Nickel.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: Clay				
Background Data: Non-Clay				
Raw Statistics				
	Site	Background		
Number of Valid Data	18	33		
Number of Non-Detect Data	1	2		
Number of Detect Data	17	31		
Minimum Non-Detect	10	5		
Maximum Non-Detect	10	11		
Percent Non detects	5.56%	6.06%		
Minimum Detected	2.7	1.8		
Maximum Detected	28	19		
Mean of Detected Data	14.35	6.239		
Median of Detected Data	14	4		
SD of Detected Data	6.711	4.542		
Site vs Background Gehan Test				
H0: Mu of Site or AOC = Mu of background				
Gehan z Test Value	3.922			
Lower Critical z (0.025)	-1.96			
Upper Critical z (0.975)	1.96			
P-Value	8.7740E-5			
Conclusion with Alpha = 0.05				
Reject H0, Conclude Site <> Background				
P-Value < alpha (0.05)				

Nickel Histogram for Clay



Nickel Histogram for Non-Clay



Location	Clay	D_Clay
BG-1-2	14	1
BG-1-43	20	1
BG-1-55	2.7	1
BG-1-78	12	1
BG-2-30	24	1
BG-2-81	16	1
BG-3-17	4.2	1
BG-3-22	10	0
BG-3-69	14	1
BG-4-2	9	1
BG-4-19	22	1
BG-4-40	17	1
BG-4-79	15	1
BG-4-161	7	1
BG-4-163	13	1
BG-6-28	15	1
BG-6-53	11	1
BG-6-87	28	1

Location	Non-Clay	D_Non-Clay
BG-1-10	5.9	1
BG-1-29	6.5	1
BG-1-40	5	0
BG-1-46	4.1	1
BG-1-92	3.3	1
BG-2-2	2.6	1
BG-2-10	2.2	1
BG-2-19	4.7	1
BG-2-21	2	1
BG-2-32	3.2	1
BG-2-75	3.6	1
BG-3-2	4	1
BG-3-10	11	1
BG-3-29	3.4	1
BG-3-63	4	1
BG-3-65	8.3	1
BG-3-95	2.6	1
BG-3-105	8.7	1
BG-3-131	11	0
BG-3-136	19	1
BG-4-10	11	1
BG-4-65	3.4	1
BG-4-82	8	1
BG-4-95	2.4	1
BG-4-117	1.8	1
BG-4-120	14	1
BG-6-2	5.8	1
BG-6-9	2.8	1
BG-6-58	3.9	1
BG-6-75	4	1
BG-6-98	9.2	1
BG-6-114	10	1
BG-6-127	18	1

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options							
From File	Nickel.wst						
Full Precision	OFF						
Confidence Coefficient	0.95						
Alluv							
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs	
Raw Statistics	12	0	12	11	1	8.33%	
	Number	Minimum	Maximum	Mean	Median	SD	
Statistics (Detects Only)	11	2	14	5.591	4.7	3.813	
Statistics (All: NDs treated as DL value)	12	2	14	5.542	4.85	3.64	
Statistics (All: NDs treated as DL/2 value)	12	2	14	5.333	4.35	3.743	
Statistics (Normal ROS Estimated Data)	12	2	14	5.393	4.35	3.7	
Statistics (Gamma ROS Estimated Data)	12	2	14	5.446	4.35	3.67	
Statistics (Lognormal ROS Estimated Data)	12	2	14	5.376	4.35	3.711	
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV	
Statistics (Detects Only)	2.787	2.145	2.006	1.531	0.637	0.416	
Statistics (NDs = DL)	3.019	2.32	1.836	1.538	0.608	0.396	
Statistics (NDs = DL/2)	2.731	2.104	1.953	1.48	0.633	0.428	
Statistics (Gamma ROS Estimates)	2.949	2.267	1.846	--	--	--	
Statistics (Lognormal ROS Estimates)	--	--	--	1.496	0.62	0.415	
Normal Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS			
Correlation Coefficient R	0.92	0.917	0.907	0.909			
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Shapiro-Wilks (Detects Only)	0.846	0.85	Data Not Normal				
Lilliefors (Detects Only)	0.224	0.267	Data Appear Normal				
Shapiro-Wilks (NDs = DL)	0.842	0.859	Data Not Normal				
Lilliefors (NDs = DL)	0.229	0.256	Data Appear Normal				
Shapiro-Wilks (NDs = DL/2)	0.822	0.859	Data Not Normal				
Lilliefors (NDs = DL/2)	0.211	0.256	Data Appear Normal				
Shapiro-Wilks (Normal ROS Estimates)	0.828	0.859	Data Not Normal				
Lilliefors (Normal ROS Estimates)	0.216	0.256	Data Appear Normal				
Gamma Distribution Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS			
Correlation Coefficient R	0.98	0.976	0.976	0.977			
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)				
Anderson-Darling (Detects Only)	0.347	0.735					
Kolmogorov-Smirnov (Detects Only)	0.159	0.257	Data Appear Gamma Distributed				
Anderson-Darling (NDs = DL)	0.347	0.739					
Kolmogorov-Smirnov (NDs = DL)	0.151	0.247	Data Appear Gamma Distributed				
Anderson-Darling (NDs = DL/2)	0.464	0.74					

Kolmogorov-Smirnov (NDs = DL/2)	0.19	0.248	Data Appear Gamma Distributed						
Anderson-Darling (Gamma ROS Estimates)	0.363	0.739							
Kolmogorov-Smirnov (Gamma ROS Est.)	0.14	0.247	Data Appear Gamma Distributed						
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.981	0.982	0.972	0.978					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.948	0.85	Data Appear Lognormal						
Lilliefors (Detects Only)	0.148	0.267	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL)	0.954	0.859	Data Appear Lognormal						
Lilliefors (NDs = DL)	0.132	0.256	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL/2)	0.931	0.859	Data Appear Lognormal						
Lilliefors (NDs = DL/2)	0.178	0.256	Data Appear Lognormal						
Shapiro-Wilks (Lognormal ROS Estimates)	0.944	0.859	Data Appear Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.153	0.256	Data Appear Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									
MC									
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs			
Raw Statistics	39	0	39	37	2	5.13%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	2	10	11	10.5	10.5	0.707			
Statistics (Detects Only)	37	1.8	28	10.16	9	6.951			
Statistics (All: NDs treated as DL value)	39	1.8	28	10.17	9.2	6.767			
Statistics (All: NDs treated as DL/2 value)	39	1.8	28	9.905	8.7	6.854			
Statistics (Normal ROS Estimated Data)	39	1.8	28	9.941	8.7	6.83			
Statistics (Gamma ROS Estimated Data)	39	1.8	28	9.978	8.7	6.81			
Statistics (Lognormal ROS Estimated Data)	39	1.8	28	9.885	8.7	6.868			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdev	Log CV			
Statistics (Detects Only)	2.06	1.918	4.931	2.056	0.771	0.375			
Statistics (NDs = DL)	2.163	2.014	4.704	2.071	0.753	0.364			
Statistics (NDs = DL/2)	2.094	1.95	4.729	2.036	0.756	0.371			
Statistics (Gamma ROS Estimates)	2.133	1.986	4.678	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	2.032	0.758	0.373			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.959	0.963	0.956	0.957					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.908	0.936	Data Not Normal						
Lilliefors (Detects Only)	0.183	0.146	Data Not Normal						
Shapiro-Wilks (NDs = DL)	0.915	0.939	Data Not Normal						
Lilliefors (NDs = DL)	0.17	0.142	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.902	0.939	Data Not Normal						
Lilliefors (NDs = DL/2)	0.156	0.142	Data Not Normal						

Note: Substitution methods such as DL or DL/2 are not recommended.

			General Background Statistics for Data Sets with Non-Detects							
User Selected Options										
From File			Nickel.wst							
Full Precision			OFF							
Confidence Coefficient			95%							
Coverage			95%							
Different or Future K Values			1							
Number of Bootstrap Operations			2000							
Alluv										
General Statistics										
Number of Valid Data			12	Number of Detected Data						11
Number of Distinct Detected Data			11	Number of Non-Detect Data						1
				Percent Non-Detects						8.33%
Raw Statistics				Log-transformed Statistics						
Minimum Detected			2	Minimum Detected			0.693			
Maximum Detected			14	Maximum Detected			2.639			
Mean of Detected			5.591	Mean of Detected			1.531			
SD of Detected			3.813	SD of Detected			0.637			
Minimum Non-Detect			5	Minimum Non-Detect			1.609			
Maximum Non-Detect			5	Maximum Non-Detect			1.609			
Background Statistics										
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only						
Shapiro Wilk Test Statistic			0.846	Shapiro Wilk Test Statistic			0.948			
5% Shapiro Wilk Critical Value			0.85	5% Shapiro Wilk Critical Value			0.85			
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level						
Assuming Normal Distribution				Assuming Lognormal Distribution						
DL/2 Substitution Method				DL/2 Substitution Method						
Mean			5.333	Mean (Log Scale)			1.48			
SD			3.743	SD (Log Scale)			0.633			
95% UTL		95% Coverage	15.58	95% UTL		95% Coverage	24.83			
95% UPL (t)			12.33	95% UPL (t)			14.35			
90% Percentile (z)			10.13	90% Percentile (z)			9.888			
95% Percentile (z)			11.49	95% Percentile (z)			12.45			
99% Percentile (z)			14.04	99% Percentile (z)			19.16			
Maximum Likelihood Estimate(MLE) Method				Log ROS Method						
Mean			3.732	Mean in Original Scale			5.376			
SD			5.362	SD in Original Scale			3.711			
95% UTL with		95% Coverage	18.4	95% UTL with		95% Coverage	24.34			
				95% BCA UTL with			95% Coverage	14		
				95% Bootstrap (%) UTL with			95% Coverage	14		
95% UPL (t)			13.76	95% UPL (t)			14.22			
90% Percentile (z)			10.6	90% Percentile (z)			9.878			
95% Percentile (z)			12.55	95% Percentile (z)			12.37			
99% Percentile (z)			16.21	99% Percentile (z)			18.88			

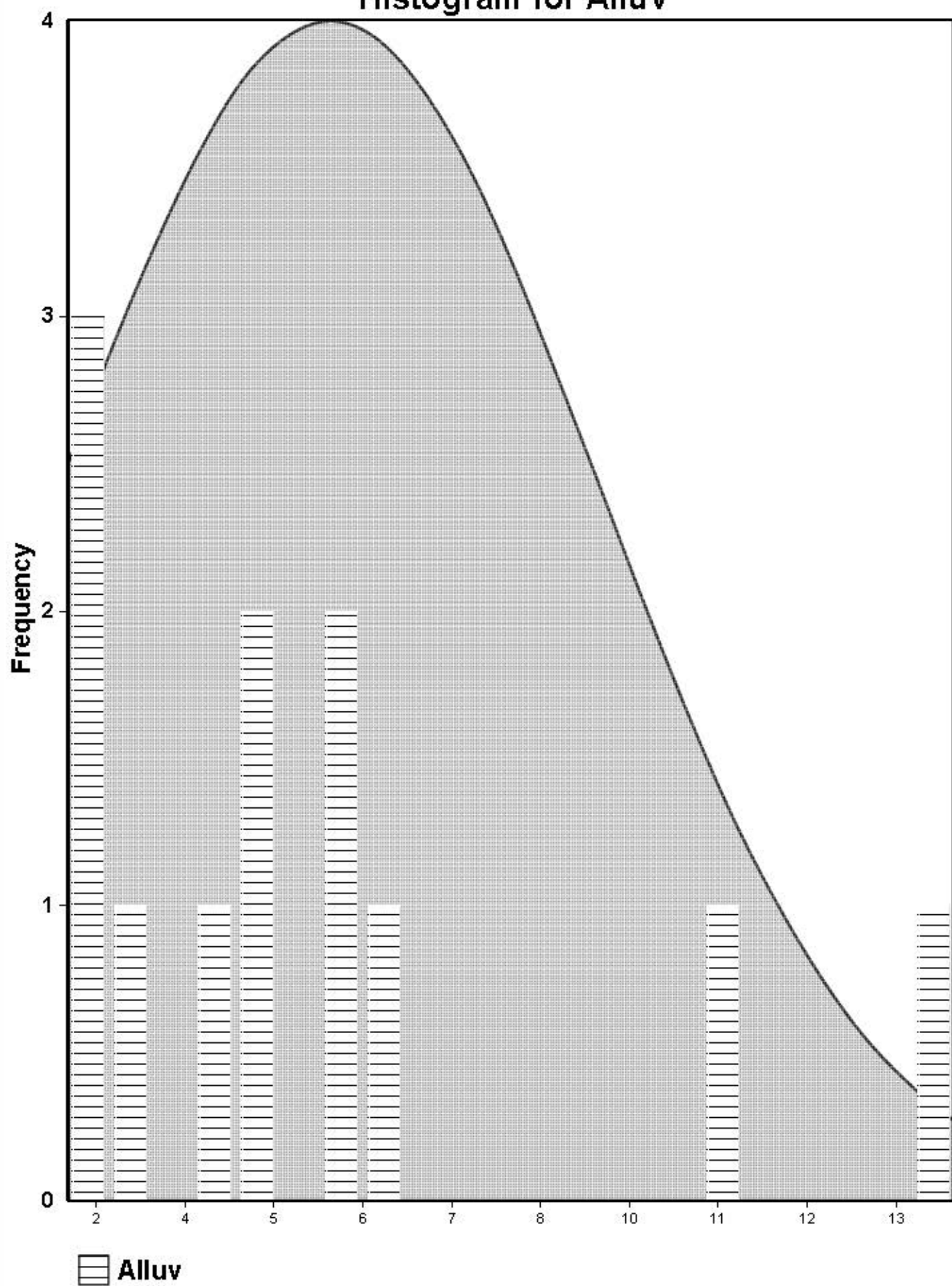
Gamma Distribution Test with Detected Values Only			Data Distribution Test with Detected Values Only		
k star (bias corrected)		2.087	Data appear Gamma Distributed at 5% Significance Level		
Theta Star		2.679			
nu star		45.92			
A-D Test Statistic		0.347	Nonparametric Statistics		
5% A-D Critical Value		0.735	Kaplan-Meier (KM) Method		
K-S Test Statistic		0.159	Mean		5.379
5% K-S Critical Value		0.257	SD		3.562
Data appear Gamma Distributed at 5% Significance Level			SE of Mean		1.082
			95% KM UTL with 95% Coverage		15.12
Assuming Gamma Distribution			95% KM Chebyshev UPL		
Gamma ROS Statistics with Extrapolated Data			95% KM UPL (t)		
Mean		5.446	90% Percentile (z)		
Median		4.35	95% Percentile (z)		
SD		3.67	99% Percentile (z)		
k star		2.267			
Theta star		2.402	Gamma ROS Limits with Extrapolated Data		
Nu star		54.42	95% Wilson Hilferty (WH) Approx. Gamma UPL		13.09
95% Percentile of Chisquare (2k)		10.34	95% Hawkins Wixley (HW) Approx. Gamma UPL		13.3
			95% WH Approx. Gamma UTL with 95% Coverage		18.95
90% Percentile		10.29	95% HW Approx. Gamma UTL with 95% Coverage		19.84
95% Percentile		12.42			
99% Percentile		17.12			
Note: DL/2 is not a recommended method.					
MC					
General Statistics					
Number of Valid Data		39	Number of Detected Data		37
Number of Distinct Detected Data		32	Number of Non-Detect Data		2
			Percent Non-Detects		5.13%
Raw Statistics			Log-transformed Statistics		
Minimum Detected		1.8	Minimum Detected		0.588
Maximum Detected		28	Maximum Detected		3.332
Mean of Detected		10.16	Mean of Detected		2.056
SD of Detected		6.951	SD of Detected		0.771
Minimum Non-Detect		10	Minimum Non-Detect		2.303
Maximum Non-Detect		11	Maximum Non-Detect		2.398
Data with Multiple Detection Limits			Single Detection Limit Scenario		
Note: Data have multiple DLs - Use of KM Method is recommended			Number treated as Non-Detect with Single DL		23
For all methods (except KM, DL/2, and ROS Methods),			Number treated as Detected with Single DL		16
Observations < Largest ND are treated as NDs			Single DL Non-Detect Percentage		58.97%
Background Statistics					
Normal Distribution Test with Detected Values Only			Lognormal Distribution Test with Detected Values Only		
Shapiro Wilk Test Statistic		0.908	Shapiro Wilk Test Statistic		0.931
5% Shapiro Wilk Critical Value		0.936	5% Shapiro Wilk Critical Value		0.936
Data not Normal at 5% Significance Level			Data not Lognormal at 5% Significance Level		

Note: DL/2 is not a recommended method.

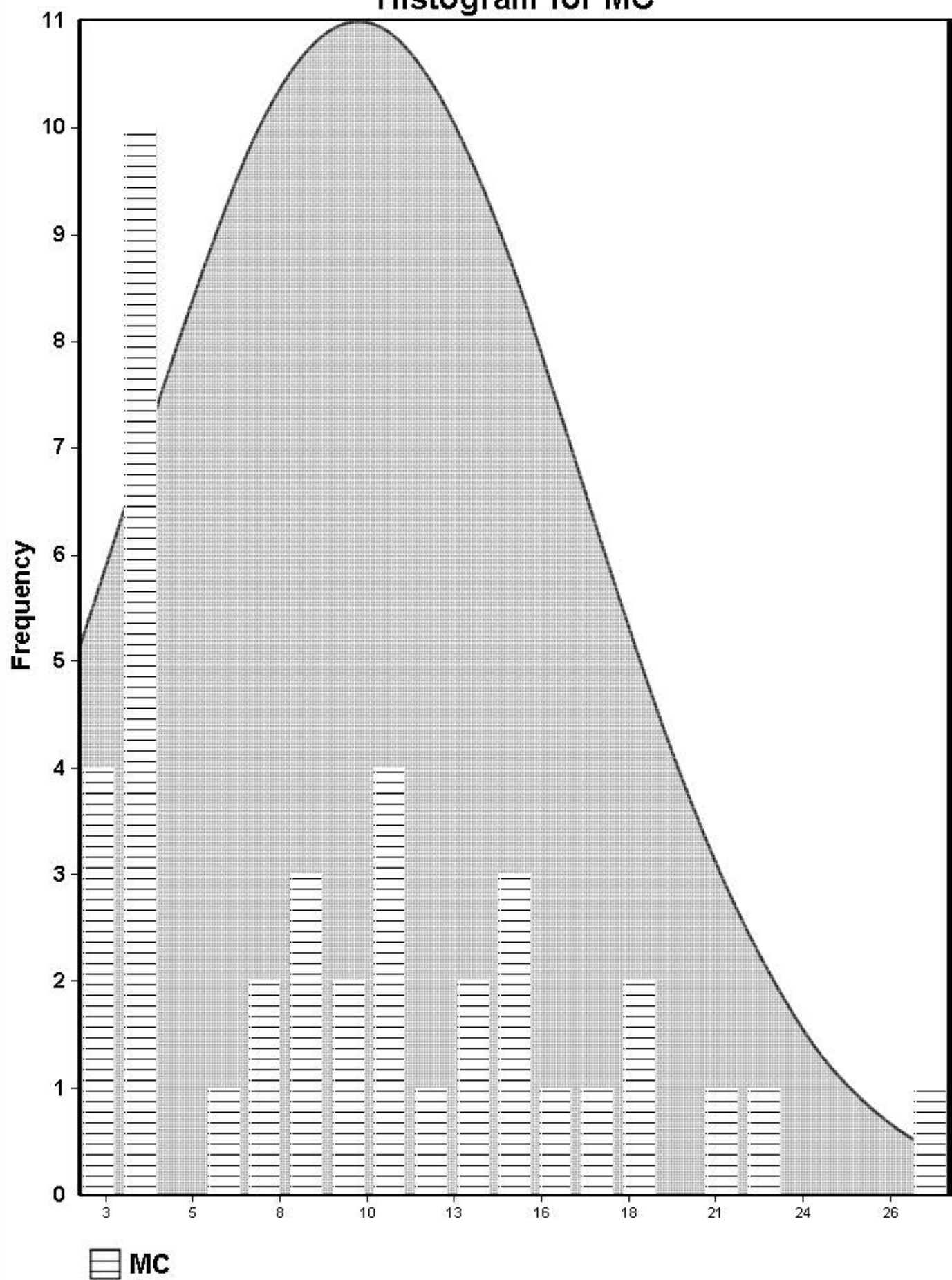
		Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects			
User Selected Options					
From File	Nickel.wst				
Full Precision	OFF				
Confidence Coefficient	95%				
Substantial Difference	0.000				
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)				
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median				
Area of Concern Data: Alluv					
Background Data: MC					
Raw Statistics					
	Site	Background			
Number of Valid Data	12	39			
Number of Non-Detect Data	1	2			
Number of Detect Data	11	37			
Minimum Non-Detect	5	10			
Maximum Non-Detect	5	11			
Percent Non detects	8.33%	5.13%			
Minimum Detected	2	1.8			
Maximum Detected	14	28			
Mean of Detected Data	5.591	10.16			
Median of Detected Data	4.7	9			
SD of Detected Data	3.813	6.951			
Site vs Background Gehan Test					
H0: Mu of Site or AOC = Mu of background					
Gehan z Test Value	-2.124				
Lower Critical z (0.025)	-1.96				
Upper Critical z (0.975)	1.96				
P-Value	0.0337				
Conclusion with Alpha = 0.05					
Reject H0, Conclude Site <> Background					
P-Value < alpha (0.05)					

			Outlier Tests for Selected Variables				
User Selected Options							
From File			Nickel.wst				
Full Precision			OFF				
Test for Suspected Outliers with Dixon test			1				
Test for Suspected Outliers for Rosner test			1				
Dixon's Outlier Test for Alluv							
Number of data = 12							
10% critical value: 0.49							
5% critical value: 0.546							
1% critical value: 0.642							
1. Data Value 14 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.636							
For 10% significance level, 14 is an outlier.							
For 5% significance level, 14 is an outlier.							
For 1% significance level, 14 is not an outlier.							
2. Data Value 2 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.056							
For 10% significance level, 2 is not an outlier.							
For 5% significance level, 2 is not an outlier.							
For 1% significance level, 2 is not an outlier.							
Rosner's Outlier Test for MC							
Mean		9.905					
Standard Deviation		6.854					
Number of data		39					
Number of suspected outliers		1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	9.905	6.765	28	36	2.675	3.03	3.37
For 5% Significance Level, there is no Potential Outlier							
For 1% Significance Level, there is no Potential Outlier							

Histogram for Alluv



Histogram for MC



Location	Alluv	D_Alluv
BG-1-2	14	1
BG-1-10	5.9	1
BG-1-29	6.5	1
BG-1-40	5	0
BG-2-2	2.6	1
BG-2-10	2.2	1
BG-2-19	4.7	1
BG-2-21	2	1
BG-3-2	4	1
BG-3-10	11	1
BG-6-2	5.8	1
BG-6-9	2.8	1

Location	MC	D_MC
BG-1-43	20	1
BG-1-46	4.1	1
BG-1-55	2.7	1
BG-1-78	12	1
BG-1-92	3.3	1
BG-2-30	24	1
BG-2-32	3.2	1
BG-2-75	3.6	1
BG-2-81	16	1
BG-3-17	4.2	1
BG-3-22	10	0
BG-3-29	3.4	1
BG-3-63	4	1
BG-3-65	8.3	1
BG-3-69	14	1
BG-3-95	2.6	1
BG-3-105	8.7	1
BG-3-131	11	0
BG-3-136	19	1
BG-4-1	9	1
BG-4-10	11	1
BG-4-19	22	1
BG-4-40	17	1
BG-4-65	3.4	1
BG-4-79	15	1
BG-4-82	8	1
BG-4-95	2.4	1
BG-4-117	1.8	1
BG-4-120	14	1
BG-4-161	7	1
BG-4-163	13	1
BG-6-28	15	1
BG-6-53	11	1
BG-6-58	3.9	1
BG-6-75	4	1
BG-6-87	28	1
BG-6-98	9.2	1
BG-6-114	10	1
BG-1-127	18	1

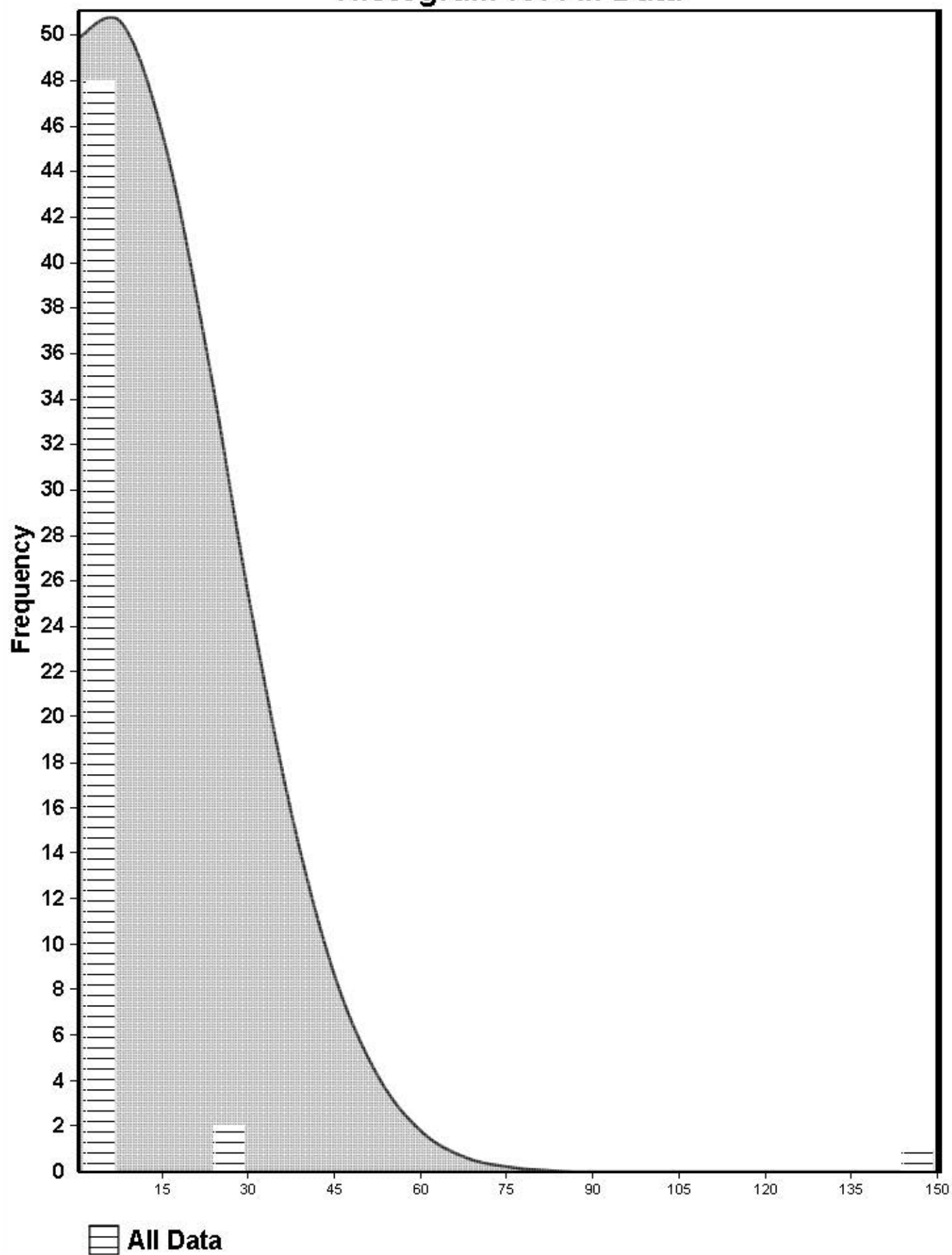
Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options						
From File	Nitrate.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
All Data						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	51	0	51	21	30	58.82%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	30	1	1.2	1.12	1.2	0.0961
Statistics (Detects Only)	21	0.25	150	10.17	0.54	32.87
Statistics (All: NDs treated as DL value)	51	0.25	150	4.847	1	21.27
Statistics (All: NDs treated as DL/2 value)	51	0.25	150	4.518	0.56	21.33
Statistics (Normal ROS Estimated Data)	51	-20.45	150	5.459	0.56	22.75
Statistics (Gamma ROS Estimated Data)	51	1.000E-12	150	9.767	7.609	20.98
Statistics (Lognormal ROS Estimated Data)	51	0.0648	150	4.613	0.515	21.32
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	0.296	0.292	34.36	-0.015	1.768	-117.7
Statistics (NDs = DL)	0.428	0.416	11.32	0.0583	1.122	19.24
Statistics (NDs = DL/2)	0.36	0.352	12.54	-0.349	1.155	-3.307
Statistics (Gamma ROS Estimates)	0.412	0.401	23.69	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	-0.434	1.387	-3.197
Normal Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.556	0.42	0.414	0.681		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilks (Detects Only)	0.335	0.908	Data Not Normal			
Lilliefors (Detects Only)	0.422	0.193	Data Not Normal			
Lilliefors (NDs = DL)	0.488	0.124	Data Not Normal			
Lilliefors (NDs = DL/2)	0.482	0.124	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.229	0.124	Data Not Normal			
Gamma Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.895	0.733	0.752	0.943		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	3.996	0.848				
Kolmogorov-Smirnov (Detects Only)	0.391	0.206	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL)	11.71	0.832				
Kolmogorov-Smirnov (NDs = DL)	0.49	0.133	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL/2)	14.59	0.848				
Kolmogorov-Smirnov (NDs = DL/2)	0.49	0.134	Data Not Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	2.726	0.836				

			General Background Statistics for Data Sets with Non-Detects						
User Selected Options									
From File		Nitrate.wst							
Full Precision		OFF							
Confidence Coefficient		95%							
Coverage		95%							
Different or Future K Values		1							
Number of Bootstrap Operations		2000							
All Data									
General Statistics									
Number of Valid Data			51		Number of Detected Data			21	
Number of Distinct Detected Data			19		Number of Non-Detect Data			30	
					Percent Non-Detects			58.82%	
Raw Statistics				Log-transformed Statistics					
Minimum Detected		0.25		Minimum Detected		-1.386			
Maximum Detected		150		Maximum Detected		5.011			
Mean of Detected		10.17		Mean of Detected		-0.015			
SD of Detected		32.87		SD of Detected		1.768			
Minimum Non-Detect		1		Minimum Non-Detect		0			
Maximum Non-Detect		1.2		Maximum Non-Detect		0.182			
Data with Multiple Detection Limits				Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL		45			
For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL		6			
Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage		88.24%			
Background Statistics									
Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic		0.335		Shapiro Wilk Test Statistic		0.719			
5% Shapiro Wilk Critical Value		0.908		5% Shapiro Wilk Critical Value		0.908			
Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution				Assuming Lognormal Distribution					
DL/2 Substitution Method				DL/2 Substitution Method					
Mean		4.518		Mean (Log Scale)		-0.349			
SD		21.33		SD (Log Scale)		1.155			
95% UTL		95% Coverage		95% UTL		95% Coverage		7.565	
95% UPL (t)		40.61		95% UPL (t)		4.982			
90% Percentile (z)		31.85		90% Percentile (z)		3.1			
95% Percentile (z)		39.6		95% Percentile (z)		4.717			
99% Percentile (z)		54.14		99% Percentile (z)		10.37			
Maximum Likelihood Estimate(MLE) Method				Log ROS Method					
Mean		-103.3		Mean in Original Scale		4.613			
SD		85.82		SD in Original Scale		21.32			
95% UTL with		95% Coverage		95% UTL with		95% Coverage		11.19	
				95% BCA UTL with		95% Coverage		87.5	
				95% Bootstrap (%) UTL with		95% Coverage		87.5	
95% UPL (t)		41.97		95% UPL (t)		6.776			

Note: DL/2 is not a recommended method.

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Histogram for All Data



Location	All Data	All Data
BG-1-2	0.4	1
BG-1-43	0.55	1
BG-1-55	1	0
BG-1-78	1	0
BG-2-30	1	0
BG-2-81	0.56	1
BG-3-17	0.36	1
BG-3-22	0.31	1
BG-3-69	1.1	0
BG-4-2	25	1
BG-4-19	1.2	0
BG-4-40	1.2	0
BG-4-79	1	0
BG-4-161	1.2	0
BG-4-163	1.2	0
BG-6-28	1.2	1
BG-6-53	1.2	0
BG-6-87	1.2	0
BG-1-10	0.3	1
BG-1-29	0.33	1
BG-1-40	0.32	1
BG-1-46	1	0
BG-1-92	1	0
BG-2-2	1.3	1
BG-2-10	0.54	1
BG-2-19	1	0
BG-2-21	1	0
BG-2-32	1	0
BG-2-75	1	0
BG-3-2	4.8	1
BG-3-10	0.71	1
BG-3-29	0.61	1
BG-3-63	0.28	1
BG-3-65	1.2	0
BG-3-95	0.47	1
BG-3-105	0.31	1
BG-3-131	0.25	1
BG-3-136	1.2	0
BG-4-10	1.1	0
BG-4-65	1	0
BG-4-82	1.2	0
BG-4-95	1.2	0
BG-4-117	1.2	0
BG-4-120	1.2	0
BG-6-2	150	1
BG-6-9	25	1
BG-6-58	1.2	0
BG-6-75	1.2	0
BG-6-98	1.2	0
BG-6-114	1.2	0
BG-6-127	1.2	0

		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects							
User Selected Options									
From File	Nitrate.wst								
Full Precision	OFF								
Confidence Coefficient	0.95								
0-20									
		Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	13	0	13	10	3	23.08%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	3	1	1.2	1.1	1.1	0.1			
Statistics (Detects Only)	10	0.3	150	20.84	1.005	46.47			
Statistics (All: NDs treated as DL value)	13	0.3	150	16.29	1.1	41.16			
Statistics (All: NDs treated as DL/2 value)	13	0.3	150	16.16	0.6	41.21			
Statistics (Normal ROS Estimated Data)	13	-2.174	150	15.53	0.54	41.49			
Statistics (Gamma ROS Estimated Data)	13	0.118	150	16.06	0.54	41.25			
Statistics (Lognormal ROS Estimated Data)	13	0.3	150	16.15	0.54	41.22			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	0.322	0.299	64.78	0.918	2.205	2.402			
Statistics (NDs = DL)	0.329	0.305	49.46	0.727	1.944	2.673			
Statistics (NDs = DL/2)	0.31	0.29	52.17	0.567	2.023	3.565			
Statistics (Gamma ROS Estimates)	0.273	0.261	58.79	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	0.557	2.029	3.644			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.697	0.645	0.644	0.66					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.513	0.842	Data Not Normal						
Lilliefors (Detects Only)	0.364	0.28	Data Not Normal						
Shapiro-Wilks (NDs = DL)	0.445	0.866	Data Not Normal						
Lilliefors (NDs = DL)	0.379	0.246	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.444	0.866	Data Not Normal						
Lilliefors (NDs = DL/2)	0.378	0.246	Data Not Normal						
Shapiro-Wilks (Normal ROS Estimates)	0.465	0.866	Data Not Normal						
Lilliefors (Normal ROS Estimates)	0.371	0.246	Data Not Normal						
Gamma Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS					
Correlation Coefficient R	0.96	0.937	0.941	0.984					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Anderson-Darling (Detects Only)	0.974	0.81							
Kolmogorov-Smirnov (Detects Only)	0.284	0.287	Data appear Approximate Gamma Distribution						
Anderson-Darling (NDs = DL)	1.629	0.824							
Kolmogorov-Smirnov (NDs = DL)	0.357	0.255	Data Not Gamma Distributed						

Anderson-Darling (NDs = DL/2)		1.819	0.828						
Kolmogorov-Smirnov (NDs = DL/2)		0.339	0.256	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		1.395	0.84						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.303	0.258	Data Not Gamma Distributed					
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.936	0.921	0.892	0.889					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.861	0.842	Data Appear Lognormal						
Lilliefors (Detects Only)	0.217	0.28	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL)	0.844	0.866	Data Not Lognormal						
Lilliefors (NDs = DL)	0.287	0.246	Data Not Lognormal						
Shapiro-Wilks (NDs = DL/2)	0.792	0.866	Data Not Lognormal						
Lilliefors (NDs = DL/2)	0.289	0.246	Data Not Lognormal						
Shapiro-Wilks (Lognormal ROS Estimates)	0.786	0.866	Data Not Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.287	0.246	Data Not Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									
>20									
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs			
Raw Statistics	38	0	38	11	27	71.05%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	27	1	1.2	1.122	1.2	0.0974			
Statistics (Detects Only)	11	0.25	1.2	0.472	0.33	0.273			
Statistics (All: NDs treated as DL value)	38	0.25	1.2	0.934	1	0.341			
Statistics (All: NDs treated as DL/2 value)	38	0.25	1.2	0.535	0.555	0.153			
Statistics (Normal ROS Estimated Data)	38	0.0465	1.2	0.436	0.416	0.217			
Statistics (Gamma ROS Estimated Data)	38	0.25	1.2	0.469	0.463	0.143			
Statistics (Lognormal ROS Estimated Data)	38	0.196	1.2	0.426	0.381	0.187			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	4.626	4.278	0.102	-0.863	0.465	-0.538			
Statistics (NDs = DL)	5.051	4.67	0.185	-0.171	0.514	-3.016			
Statistics (NDs = DL/2)	13.29	12.26	0.0403	-0.663	0.284	-0.428			
Statistics (Gamma ROS Estimates)	15.25	14.07	0.0308	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	-0.928	0.381	-0.411			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.85	0.868	0.837	0.964					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.741	0.85	Data Not Normal						
Lilliefors (Detects Only)	0.244	0.267	Data Appear Normal						
Shapiro-Wilks (NDs = DL)	0.732	0.938	Data Not Normal						
Lilliefors (NDs = DL)	0.314	0.144	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.738	0.938	Data Not Normal						

Note: Substitution methods such as DL or DL/2 are not recommended.

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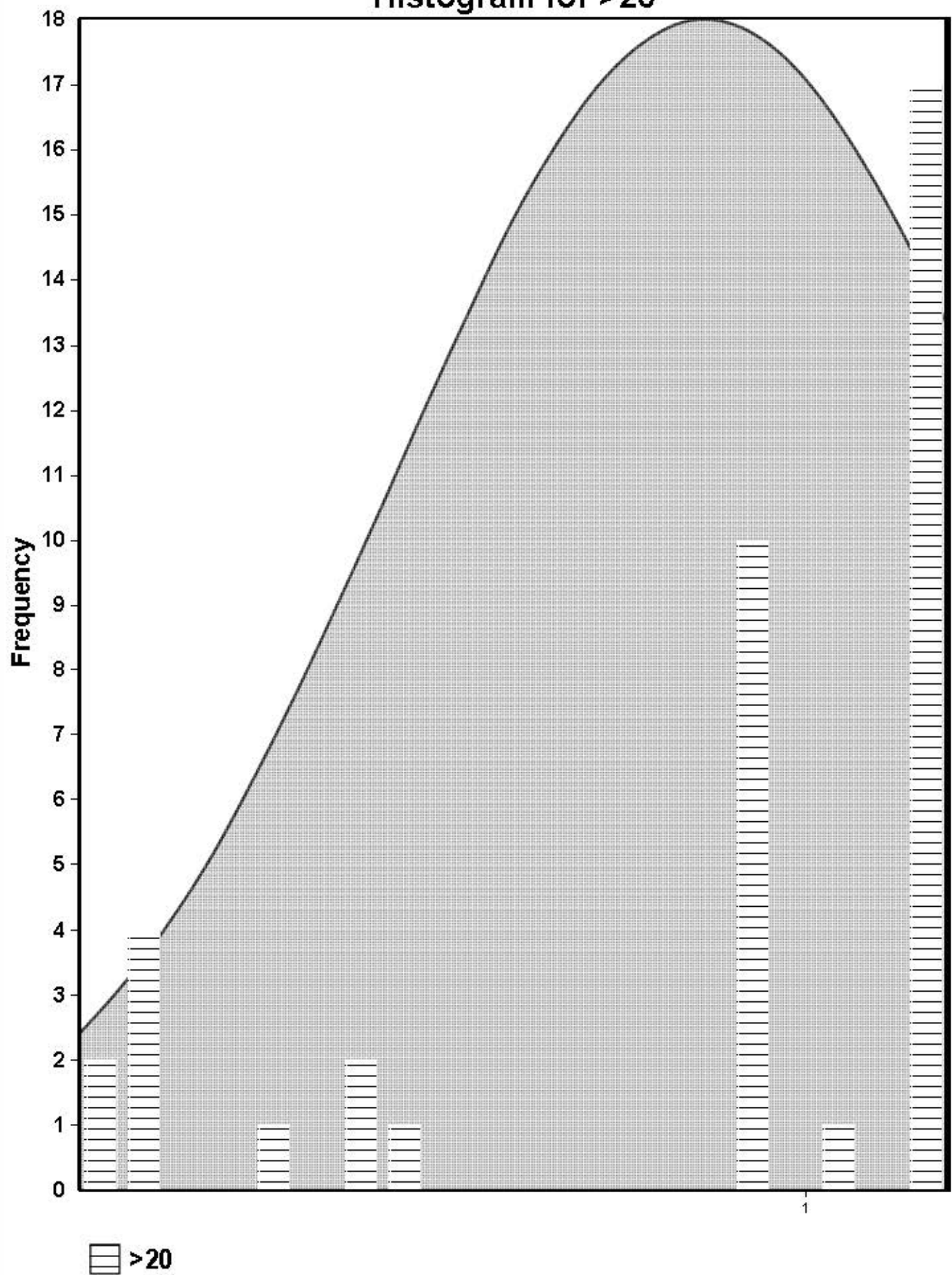
			90% Percentile (z)	69.58				90% Percentile (z)	23.51	
			95% Percentile (z)	97.34				95% Percentile (z)	49.13	
			99% Percentile (z)	149.4				99% Percentile (z)	195.9	
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only					
			k star (bias corrected)	0.292	Data follow Appr. Gamma Distribution at 5% Significance Level					
			Theta Star	71.4						
			nu star	5.837						
			A-D Test Statistic	0.974	Nonparametric Statistics					
			5% A-D Critical Value	0.81	Kaplan-Meier (KM) Method					
			K-S Test Statistic	0.284					Mean	16.14
			5% K-S Critical Value	0.287					SD	39.6
Data follow Appx. Gamma Distribution at 5% Significance Level									SE of Mean	11.58
					95% KM UTL with 95% Coverage				121.9	
Assuming Gamma Distribution					95% KM Chebyshev UPL					195.3
			Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)				89.39	
			Mean	16.06	90% Percentile (z)				66.89	
			Median	0.54	95% Percentile (z)				81.28	
			SD	41.25	99% Percentile (z)				108.3	
			k star	0.261						
			Theta star	61.44	Gamma ROS Limits with Extrapolated Data					
			Nu star	6.796	95% Wilson Hilferty (WH) Approx. Gamma UPL				70.29	
			95% Percentile of Chisquare (2k)	2.497	95% Hawkins Wixley (HW) Approx. Gamma UPL				70.06	
					95% WH Approx. Gamma UTL with 95% Coverage				149.1	
			90% Percentile	48.04	95% HW Approx. Gamma UTL with 95% Coverage				171.5	
			95% Percentile	76.7						
			99% Percentile	152.5						
Note: DL/2 is not a recommended method.										
>20										
General Statistics										
			Number of Valid Data	38				Number of Detected Data	11	
			Number of Distinct Detected Data	10				Number of Non-Detect Data	27	
								Percent Non-Detects	71.05%	
Raw Statistics					Log-transformed Statistics					
			Minimum Detected	0.25				Minimum Detected	-1.386	
			Maximum Detected	1.2				Maximum Detected	0.182	
			Mean of Detected	0.472				Mean of Detected	-0.863	
			SD of Detected	0.273				SD of Detected	0.465	
			Minimum Non-Detect	1				Minimum Non-Detect	0	
			Maximum Non-Detect	1.2				Maximum Non-Detect	0.182	
Data with Multiple Detection Limits					Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL				37	
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL				1	
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage				97.37%	
Background Statistics										

Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only				
Shapiro Wilk Test Statistic			0.741	Shapiro Wilk Test Statistic			0.881	
5% Shapiro Wilk Critical Value			0.85	5% Shapiro Wilk Critical Value			0.85	
Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level				
Assuming Normal Distribution				Assuming Lognormal Distribution				
DL/2 Substitution Method				DL/2 Substitution Method				
Mean			0.535	Mean (Log Scale)			-0.663	
SD			0.153	SD (Log Scale)			0.284	
95% UTL	95% Coverage		0.862	95% UTL	95% Coverage		0.944	
95% UPL (t)			0.797	95% UPL (t)			0.837	
90% Percentile (z)			0.732	90% Percentile (z)			0.741	
95% Percentile (z)			0.787	95% Percentile (z)			0.822	
99% Percentile (z)			0.892	99% Percentile (z)			0.998	
Maximum Likelihood Estimate(MLE) Method			N/A	Log ROS Method				
				Mean in Original Scale			0.426	
				SD in Original Scale			0.187	
				Mean in Log Scale			-0.928	
				SD in Log Scale			0.381	
				95% UTL	95% Coverage		0.892	
				95% UPL (t)			0.759	
				90% Percentile (z)			0.644	
				95% Percentile (z)			0.74	
				99% Percentile (z)			0.96	
Gamma Distribution Test with Detected Values Only				Data Distribution Test with Detected Values Only				
k star (bias corrected)			3.425	Data follow Appr. Gamma Distribution at 5% Significance Level				
Theta Star			0.138					
nu star			75.35					
A-D Test Statistic			0.714	Nonparametric Statistics				
5% A-D Critical Value			0.732	Kaplan-Meier (KM) Method				
K-S Test Statistic			0.26	Mean			0.42	
5% K-S Critical Value			0.256	SD			0.179	
Data follow Appx. Gamma Distribution at 5% Significance Level				SE of Mean			0.0465	
				95% KM UTL with 95% Coverage			0.802	
Assuming Gamma Distribution				95% KM Chebyshev UPL				1.212
Gamma ROS Statistics with Extrapolated Data				95% KM UPL (t)			0.727	
Mean			0.469	90% Percentile (z)			0.65	
Median			0.463	95% Percentile (z)			0.715	
SD			0.143	99% Percentile (z)			0.837	
k star			14.07					
Theta star			0.0334	Gamma ROS Limits with Extrapolated Data				
Nu star			1069	95% Wilson Hilferty (WH) Approx. Gamma UPL			0.695	
95% Percentile of Chisquare (2k)			41.5	95% Hawkins Wixley (HW) Approx. Gamma UPL			0.694	
				95% WH Approx. Gamma UTL with 95% Coverage			0.764	
90% Percentile			0.635	95% HW Approx. Gamma UTL with 95% Coverage			0.765	
95% Percentile			0.692					
99% Percentile			0.808					
Note: DL/2 is not a recommended method.								

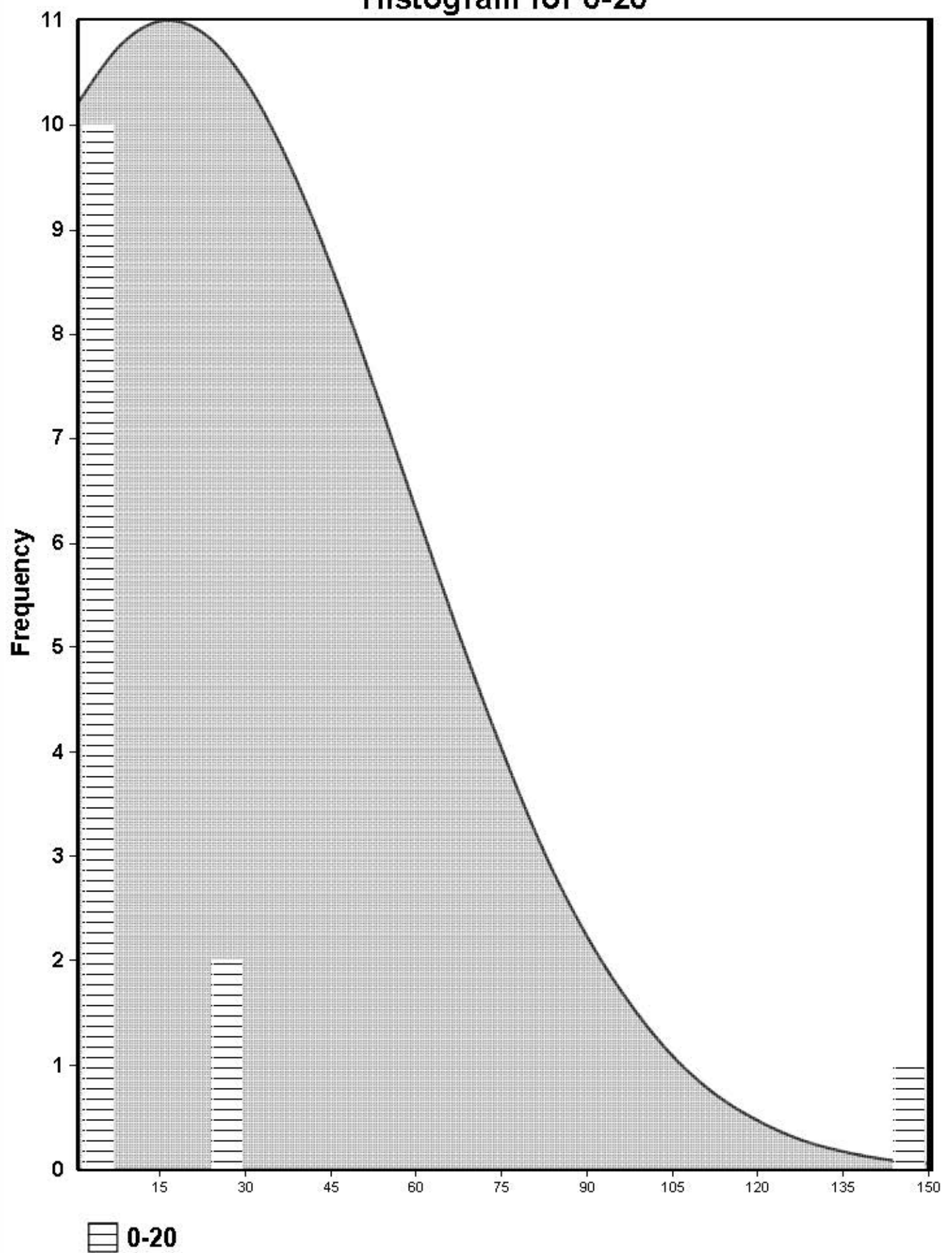
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Nitrate.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for 0-20								
Number of data = 13								
10% critical value: 0.467								
5% critical value: 0.521								
1% critical value: 0.615								
1. Data Value 150 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.835								
For 10% significance level, 150 is an outlier.								
For 5% significance level, 150 is an outlier.								
For 1% significance level, 150 is an outlier.								
2. Data Value 0.3 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.004								
For 10% significance level, 0.3 is not an outlier.								
For 5% significance level, 0.3 is not an outlier.								
For 1% significance level, 0.3 is not an outlier.								
Rosner's Outlier Test for >20								
Mean			0.535					
Standard Deviation			0.153					
Number of data			38					
Number of suspected outliers			1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	0.535	0.151	1.2	36	4.396	3.01	3.36	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.2 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.2 is a Potential Statistical Outlier								

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects				
User Selected Options				
From File	Nitrate.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: >20				
Background Data: 0-20				
Raw Statistics				
	Site	Background		
Number of Valid Data	38	13		
Number of Non-Detect Data	27	3		
Number of Detect Data	11	10		
Minimum Non-Detect	1	1		
Maximum Non-Detect	1.2	1.2		
Percent Non detects	71.05%	23.08%		
Minimum Detected	0.25	0.3		
Maximum Detected	1.2	150		
Mean of Detected Data	0.472	20.84		
Median of Detected Data	0.33	1.005		
SD of Detected Data	0.273	46.47		
Site vs Background Gehan Test				
H0: Mu of Site or AOC = Mu of background				
Gehan z Test Value	-3.604			
Lower Critical z (0.025)	-1.96			
Upper Critical z (0.975)	1.96			
P-Value	3.1378E-4			
Conclusion with Alpha = 0.05				
Reject H0, Conclude Site <> Background				
P-Value < alpha (0.05)				

Histogram for >20



Histogram for 0-20



Location	0-20	D_0-20
BG-1-2	0.4	1
BG-3-17	0.36	1
BG-4-2	25	1
BG-4-19	1.2	0
BG-1-10	0.3	1
BG-2-2	1.3	1
BG-2-10	0.54	1
BG-2-19	1	0
BG-3-2	4.8	1
BG-3-10	0.71	1
BG-4-10	1.1	0
BG-6-2	150	1
BG-6-9	25	1

Location	>20	D_>20
BG-1-29	0.33	1
BG-1-40	0.32	1
BG-1-46	1	0
BG-1-92	1	0
BG-2-21	1	0
BG-2-32	1	0
BG-2-75	1	0
BG-3-29	0.61	1
BG-3-63	0.28	1
BG-3-65	1.2	0
BG-3-95	0.47	1
BG-3-105	0.31	1
BG-3-131	0.25	1
BG-3-136	1.2	0
BG-4-65	1	0
BG-4-82	1.2	0
BG-4-95	1.2	0
BG-4-117	1.2	0
BG-4-120	1.2	0
BG-6-58	1.2	0
BG-6-75	1.2	0
BG-6-98	1.2	0
BG-6-114	1.2	0
BG-6-127	1.2	0
BG-1-43	0.55	1
BG-1-55	1	0
BG-1-78	1	0
BG-2-30	1	0
BG-2-81	0.56	1
BG-3-22	0.31	1
BG-3-69	1.1	0
BG-4-40	1.2	0
BG-4-79	1	0
BG-4-161	1.2	0
BG-4-163	1.2	0
BG-6-28	1.2	1
BG-6-53	1.2	0
BG-6-87	1.2	0

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options						
From File	Nitrate.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
Clay						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	18	0	18	7	11	61.11%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	11	1	1.2	1.118	1.2	0.0982
Statistics (Detects Only)	7	0.31	25	4.054	0.55	9.241
Statistics (All: NDs treated as DL value)	18	0.31	25	2.26	1.05	5.685
Statistics (All: NDs treated as DL/2 value)	18	0.31	25	1.918	0.555	5.763
Statistics (Normal ROS Estimated Data)	18	-4.517	25	2.261	0.555	6.257
Statistics (Gamma ROS Estimated Data)	18	1.000E-12	25	3.832	2.89	5.675
Statistics (Lognormal ROS Estimated Data)	18	0.145	25	1.938	0.52	5.766
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	0.427	0.393	9.502	-0.127	1.54	-12.17
Statistics (NDs = DL)	0.75	0.662	3.014	0.0169	0.925	54.83
Statistics (NDs = DL/2)	0.586	0.525	3.274	-0.407	0.946	-2.326
Statistics (Gamma ROS Estimates)	0.311	0.296	12.32	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	-0.504	1.112	-2.207
Normal Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.671	0.519	0.495	0.787		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilks (Detects Only)	0.479	0.803	Data Not Normal			
Lilliefors (Detects Only)	0.478	0.335	Data Not Normal			
Shapiro-Wilks (NDs = DL)	0.299	0.897	Data Not Normal			
Lilliefors (NDs = DL)	0.518	0.209	Data Not Normal			
Shapiro-Wilks (NDs = DL/2)	0.274	0.897	Data Not Normal			
Lilliefors (NDs = DL/2)	0.494	0.209	Data Not Normal			
Shapiro-Wilks (Normal ROS Estimates)	0.652	0.897	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.259	0.209	Data Not Normal			
Gamma Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.932	0.753	0.767	0.988		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	1.48	0.763				
Kolmogorov-Smirnov (Detects Only)	0.407	0.33	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL)	3.738	0.778				
Kolmogorov-Smirnov (NDs = DL)	0.481	0.211	Data Not Gamma Distributed			

Anderson-Darling (NDs = DL/2)		5.179	0.793						
Kolmogorov-Smirnov (NDs = DL/2)		0.501	0.214	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		2.034	0.84						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.297	0.22	Data Not Gamma Distributed					
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.822	0.805	0.68	0.875					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.697	0.803	Data Not Lognormal						
Lilliefors (Detects Only)	0.33	0.335	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL)	0.679	0.897	Data Not Lognormal						
Lilliefors (NDs = DL)	0.373	0.209	Data Not Lognormal						
Shapiro-Wilks (NDs = DL/2)	0.496	0.897	Data Not Lognormal						
Lilliefors (NDs = DL/2)	0.433	0.209	Data Not Lognormal						
Shapiro-Wilks (Lognormal ROS Estimates)	0.792	0.897	Data Not Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.2	0.209	Data Appear Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									
Non-Clay									
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs			
Raw Statistics	33	0	33	14	19	57.58%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	19	1	1.2	1.121	1.2	0.0976			
Statistics (Detects Only)	14	0.25	150	13.23	0.505	39.9			
Statistics (All: NDs treated as DL value)	33	0.25	150	6.258	1	26.15			
Statistics (All: NDs treated as DL/2 value)	33	0.25	150	5.935	0.6	26.22			
Statistics (Normal ROS Estimated Data)	33	-23.12	150	7.213	0.61	27.92			
Statistics (Gamma ROS Estimated Data)	33	0.25	150	12.76	8.801	25.71			
Statistics (Lognormal ROS Estimated Data)	33	0.0669	150	6.037	0.503	26.2			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	0.275	0.27	48.08	0.0407	1.925	47.28			
Statistics (NDs = DL)	0.379	0.364	16.52	0.0809	1.229	15.19			
Statistics (NDs = DL/2)	0.324	0.315	18.3	-0.318	1.268	-3.986			
Statistics (Gamma ROS Estimates)	0.521	0.494	24.48	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	-0.414	1.504	-3.634			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.588	0.446	0.442	0.705					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.376	0.874	Data Not Normal						
Lilliefors (Detects Only)	0.441	0.237	Data Not Normal						
Shapiro-Wilks (NDs = DL)	0.232	0.931	Data Not Normal						
Lilliefors (NDs = DL)	0.484	0.154	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.228	0.931	Data Not Normal						

	Lilliefors (NDs = DL/2)	0.479	0.154	Data Not Normal		
	Shapiro-Wilks (Normal ROS Estimates)	0.539	0.931	Data Not Normal		
	Lilliefors (Normal ROS Estimates)	0.236	0.154	Data Not Normal		
	Gamma Distribution Test Results					
		No NDs	NDs = DL	NDs = DL/2	Gamma ROS	
	Correlation Coefficient R	0.921	0.773	0.79	0.962	
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)		
	Anderson-Darling (Detects Only)	2.639	0.842			
	Kolmogorov-Smirnov (Detects Only)	0.377	0.249	Data Not Gamma Distributed		
	Anderson-Darling (NDs = DL)	7.705	0.838			
	Kolmogorov-Smirnov (NDs = DL)	0.489	0.165	Data Not Gamma Distributed		
	Anderson-Darling (NDs = DL/2)	9.373	0.85			
	Kolmogorov-Smirnov (NDs = DL/2)	0.493	0.166	Data Not Gamma Distributed		
	Anderson-Darling (Gamma ROS Estimates)	1.772	0.809			
	Kolmogorov-Smirnov (Gamma ROS Est.)	0.2	0.162	Data Not Gamma Distributed		
	Lognormal Distribution Test Results					
		No NDs	NDs = DL	NDs = DL/2	Log ROS	
	Correlation Coefficient R	0.852	0.821	0.726	0.914	
		Test value	Crit. (0.05)	Conclusion with Alpha(0.05)		
	Shapiro-Wilks (Detects Only)	0.732	0.874	Data Not Lognormal		
	Lilliefors (Detects Only)	0.293	0.237	Data Not Lognormal		
	Shapiro-Wilks (NDs = DL)	0.699	0.931	Data Not Lognormal		
	Lilliefors (NDs = DL)	0.35	0.154	Data Not Lognormal		
	Shapiro-Wilks (NDs = DL/2)	0.553	0.931	Data Not Lognormal		
	Lilliefors (NDs = DL/2)	0.404	0.154	Data Not Lognormal		
	Shapiro-Wilks (Lognormal ROS Estimates)	0.853	0.931	Data Not Lognormal		
	Lilliefors (Lognormal ROS Estimates)	0.156	0.154	Data Not Lognormal		
	Note: Substitution methods such as DL or DL/2 are not recommended.					

General Background Statistics for Data Sets with Non-Detects											
User Selected Options											
From File		Nitrate.wst									
Full Precision		OFF									
Confidence Coefficient		95%									
Coverage		95%									
Different or Future K Values		1									
Number of Bootstrap Operations		2000									
Clay											
General Statistics											
Number of Valid Data			18		Number of Detected Data			7			
Number of Distinct Detected Data			7		Number of Non-Detect Data			11			
					Percent Non-Detects			61.11%			
Raw Statistics					Log-transformed Statistics						
Minimum Detected			0.31		Minimum Detected			-1.171			
Maximum Detected			25		Maximum Detected			3.219			
Mean of Detected			4.054		Mean of Detected			-0.127			
SD of Detected			9.241		SD of Detected			1.54			
Minimum Non-Detect			1		Minimum Non-Detect			0			
Maximum Non-Detect			1.2		Maximum Non-Detect			0.182			
Data with Multiple Detection Limits					Single Detection Limit Scenario						
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL			16			
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL			2			
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage			88.89%			
Warning: There are only 7 Detected Values in this data											
Note: It should be noted that even though bootstrap may be performed on this data set											
the resulting calculations may not be reliable enough to draw conclusions											
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.											
Background Statistics											
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only						
Shapiro Wilk Test Statistic			0.479		Shapiro Wilk Test Statistic			0.697			
5% Shapiro Wilk Critical Value			0.803		5% Shapiro Wilk Critical Value			0.803			
Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level						
Assuming Normal Distribution					Assuming Lognormal Distribution						
DL/2 Substitution Method					DL/2 Substitution Method						
Mean			1.918		Mean (Log Scale)			-0.407			
SD			5.763		SD (Log Scale)			0.946			
95% UTL		95% Coverage		16.06		95% UTL		95% Coverage		6.777	
95% UPL (t)			12.22		95% UPL (t)			3.611			
90% Percentile (z)			9.304		90% Percentile (z)			2.238			
95% Percentile (z)			11.4		95% Percentile (z)			3.155			
99% Percentile (z)			15.33		99% Percentile (z)			6.012			

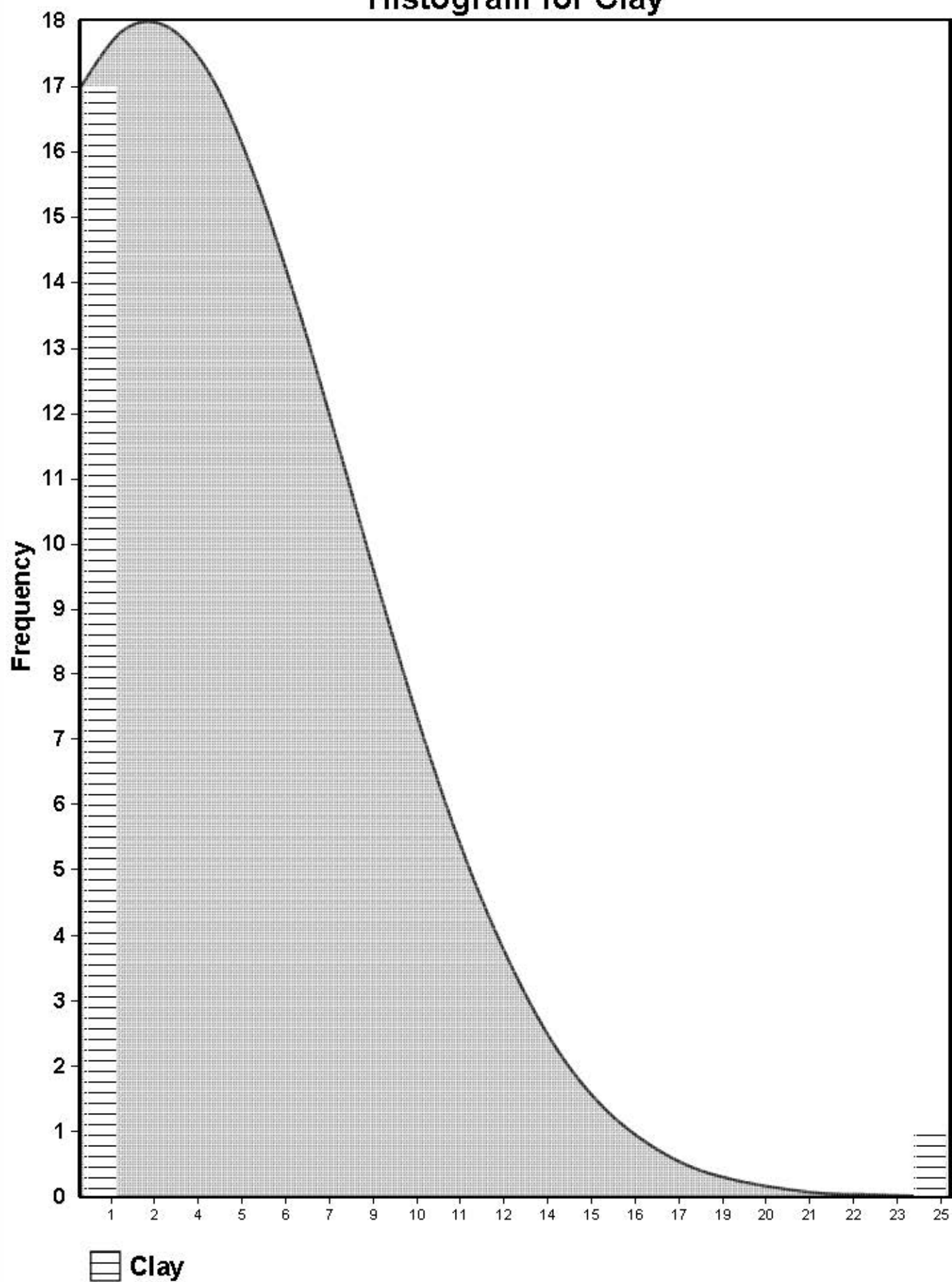
[illegible]

Data with Multiple Detection Limits					Single Detection Limit Scenario					
Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL					29
For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL					4
Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage					87.88%
Background Statistics										
Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only					
Shapiro Wilk Test Statistic				0.376	Shapiro Wilk Test Statistic				0.732	
5% Shapiro Wilk Critical Value				0.874	5% Shapiro Wilk Critical Value				0.874	
Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level					
Assuming Normal Distribution					Assuming Lognormal Distribution					
DL/2 Substitution Method					DL/2 Substitution Method					
Mean				5.935	Mean (Log Scale)				-0.318	
SD				26.22	SD (Log Scale)				1.268	
95% UTL		95% Coverage		62.99	95% UTL		95% Coverage		11.49	
95% UPL (t)				51.01	95% UPL (t)				6.437	
90% Percentile (z)				39.53	90% Percentile (z)				3.695	
95% Percentile (z)				49.06	95% Percentile (z)				5.856	
99% Percentile (z)				66.93	99% Percentile (z)				13.9	
Maximum Likelihood Estimate(MLE) Method					Log ROS Method					
Mean				-125.3	Mean in Original Scale				6.037	
SD				106.1	SD in Original Scale				26.2	
95% UTL with		95% Coverage		105.6	95% UTL with		95% Coverage		17.44	
					95% BCA UTL with		95% Coverage		150	
					95% Bootstrap (%) UTL with		95% Coverage		150	
95% UPL (t)				57.1	95% UPL (t)				8.777	
90% Percentile (z)				10.65	90% Percentile (z)				4.543	
95% Percentile (z)				49.19	95% Percentile (z)				7.847	
99% Percentile (z)				121.5	99% Percentile (z)				21.87	
Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only					
k star (bias corrected)				0.264	Data do not follow a Discernable Distribution (0.05)					
Theta Star				50.15						
nu star				7.386						
A-D Test Statistic				2.639	Nonparametric Statistics					
5% A-D Critical Value				0.842	Kaplan-Meier (KM) Method					
K-S Test Statistic				0.377	Mean				5.85	
5% K-S Critical Value				0.249	SD				25.84	
Data not Gamma Distributed at 5% Significance Level					SE of Mean				4.667	
					95% KM UTL with				95% Coverage	62.07
Assuming Gamma Distribution					95% KM Chebyshev UPL					120.2
Gamma ROS Statistics with Extrapolated Data					95% KM UPL (t)				50.27	
Mean				12.76	90% Percentile (z)				38.96	
Median				8.801	95% Percentile (z)				48.34	
SD				25.71	99% Percentile (z)				65.95	
k star				0.494						
Theta star				25.83	Gamma ROS Limits with Extrapolated Data					
Nu star				32.6	95% Wilson Hiferty (WH) Approx. Gamma UPL				46.58	
95% Percentile of Chisquare (2k)				3.812	95% Hawkins Wixley (HW) Approx. Gamma UPL				49.79	

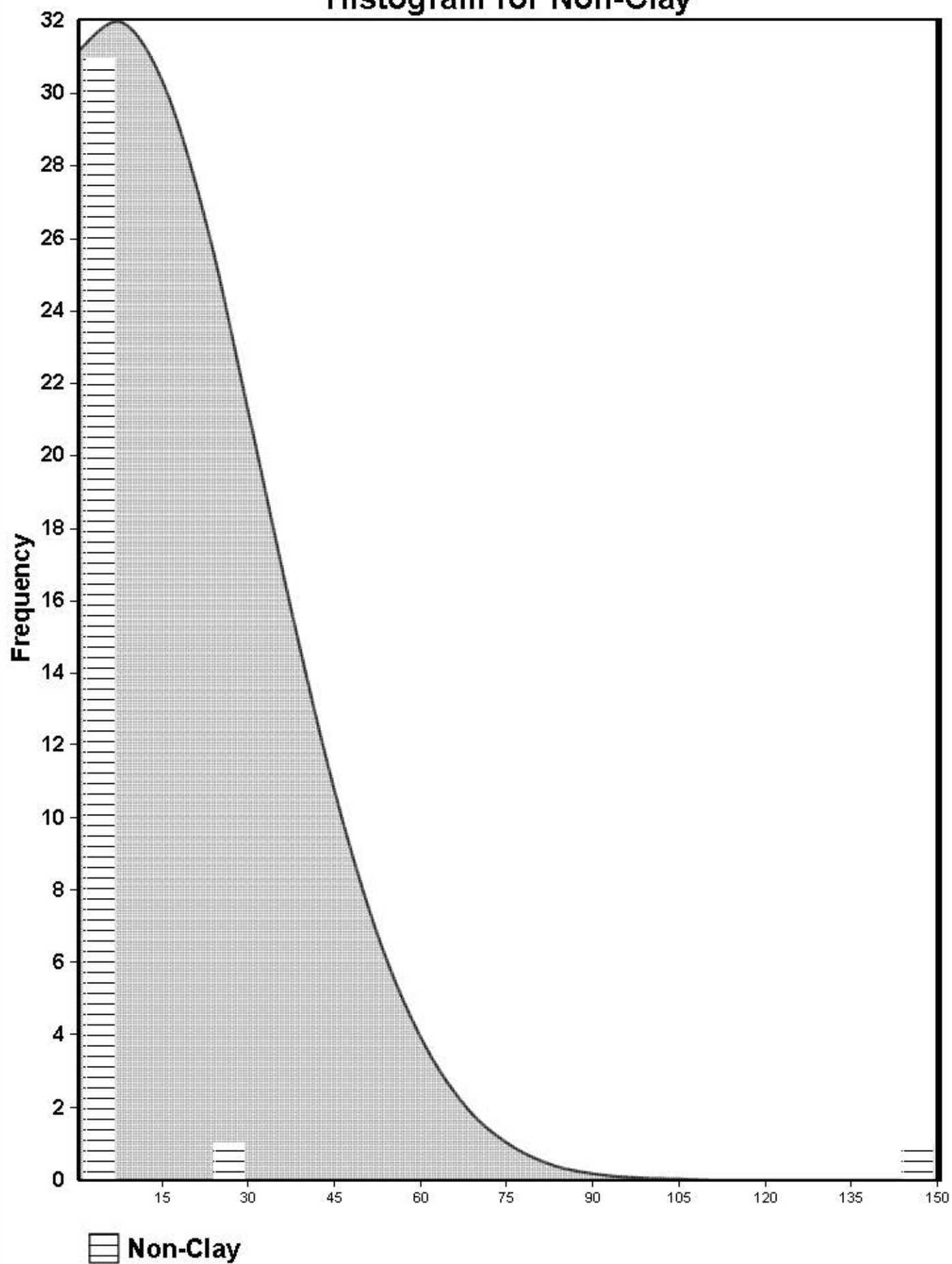
			Outlier Tests for Selected Variables					
User Selected Options								
From File			Nitrate.wst					
Full Precision			OFF					
Test for Suspected Outliers with Dixon test			1					
Test for Suspected Outliers for Rosner test			1					
Dixon's Outlier Test for Clay								
Number of data = 18								
10% critical value: 0.424								
5% critical value: 0.475								
1% critical value: 0.561								
1. Data Value 25 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.992								
For 10% significance level, 25 is an outlier.								
For 5% significance level, 25 is an outlier.								
For 1% significance level, 25 is an outlier.								
2. Data Value 0.31 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.310								
For 10% significance level, 0.31 is not an outlier.								
For 5% significance level, 0.31 is not an outlier.								
For 1% significance level, 0.31 is not an outlier.								
Rosner's Outlier Test for Non-Clay								
Mean			5.935					
Standard Deviation			26.22					
Number of data			33					
Number of suspected outliers			1					
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	5.935	25.82	150	27	5.58	2.95	3.29	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 150 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 150 is a Potential Statistical Outlier								

Gehan Site vs Background Comparison Hypothesis Test for Data Sets with Non-Detects				
User Selected Options				
From File	Nitrate.wst			
Full Precision	OFF			
Confidence Coefficient	95%			
Substantial Difference	0.000			
Selected Null Hypothesis	Site or AOC Mean/Median Equal to Background Mean/Median (Two Sided Alternative)			
Alternative Hypothesis	Site or AOC Mean/Median Not Equal to Background Mean/Median			
Area of Concern Data: Non-Clay				
Background Data: Clay				
Raw Statistics				
	Site	Background		
Number of Valid Data	33	18		
Number of Non-Detect Data	19	11		
Number of Detect Data	14	7		
Minimum Non-Detect	1	1		
Maximum Non-Detect	1.2	1.2		
Percent Non detects	57.58%	61.11%		
Minimum Detected	0.25	0.31		
Maximum Detected	150	25		
Mean of Detected Data	13.23	4.054		
Median of Detected Data	0.505	0.55		
SD of Detected Data	39.9	9.241		
Site vs Background Gehan Test				
H0: Mu of Site or AOC = Mu of background				
Gehan z Test Value	-0.102			
Lower Critical z (0.025)	-1.96			
Upper Critical z (0.975)	1.96			
P-Value	0.919			
Conclusion with Alpha = 0.05				
Do Not Reject H0, Conclude Site = Background				
P-Value >= alpha (0.05)				

Histogram for Clay



Histogram for Non-Clay



Location	Clay	D_Clay
BG-1-2	0.4	1
BG-1-43	0.55	1
BG-1-55	1	0
BG-1-78	1	0
BG-2-30	1	0
BG-2-81	0.56	1
BG-3-17	0.36	1
BG-3-22	0.31	1
BG-3-69	1.1	0
BG-4-2	25	1
BG-4-19	1.2	0
BG-4-40	1.2	0
BG-4-79	1	0
BG-4-161	1.2	0
BG-4-163	1.2	0
BG-6-28	1.2	1
BG-6-53	1.2	0
BG-6-87	1.2	0

Location	Non-Clay	D_Non-Clay
BG-1-10	0.3	1
BG-1-29	0.33	1
BG-1-40	0.32	1
BG-1-46	1	0
BG-1-92	1	0
BG-2-2	1.3	1
BG-2-10	0.54	1
BG-2-19	1	0
BG-2-21	1	0
BG-2-32	1	0
BG-2-75	1	0
BG-3-2	4.8	1
BG-3-10	0.71	1
BG-3-29	0.61	1
BG-3-63	0.28	1
BG-3-65	1.2	0
BG-3-95	0.47	1
BG-3-105	0.31	1
BG-3-131	0.25	1
BG-3-136	1.2	0
BG-4-10	1.1	0
BG-4-65	1	0
BG-4-82	1.2	0
BG-4-95	1.2	0
BG-4-117	1.2	0
BG-4-120	1.2	0
BG-6-2	150	1
BG-6-9	25	1
BG-6-58	1.2	0
BG-6-75	1.2	0
BG-6-98	1.2	0
BG-6-114	1.2	0
BG-6-127	1.2	0

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects						
User Selected Options						
From File	Nitrate.wst					
Full Precision	OFF					
Confidence Coefficient	0.95					
Alluv						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	12	0	12	10	2	16.67%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	2	1	1	1	1	0
Statistics (Detects Only)	10	0.3	150	18.37	0.625	46.88
Statistics (All: NDs treated as DL value)	12	0.3	150	15.48	0.855	42.94
Statistics (All: NDs treated as DL/2 value)	12	0.3	150	15.39	0.52	42.97
Statistics (Normal ROS Estimated Data)	12	-9.717	150	15.35	0.625	43.19
Statistics (Gamma ROS Estimated Data)	12	1.000E-12	150	15.63	0.625	42.89
Statistics (Lognormal ROS Estimated Data)	12	0.254	150	15.41	0.625	42.96
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	0.285	0.269	64.4	0.473	2.136	4.513
Statistics (NDs = DL)	0.295	0.277	52.47	0.394	1.941	4.921
Statistics (NDs = DL/2)	0.283	0.268	54.29	0.279	1.985	7.116
Statistics (Gamma ROS Estimates)	0.167	0.18	93.86	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	0.275	2.006	7.291
Normal Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.654	0.618	0.617	0.665		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilks (Detects Only)	0.457	0.842	Data Not Normal			
Lilliefors (Detects Only)	0.414	0.28	Data Not Normal			
Shapiro-Wilks (NDs = DL)	0.412	0.859	Data Not Normal			
Lilliefors (NDs = DL)	0.432	0.256	Data Not Normal			
Shapiro-Wilks (NDs = DL/2)	0.411	0.859	Data Not Normal			
Lilliefors (NDs = DL/2)	0.431	0.256	Data Not Normal			
Shapiro-Wilks (Normal ROS Estimates)	0.476	0.859	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.38	0.256	Data Not Normal			
Gamma Distribution Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.954	0.933	0.936	0.978		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	1.461	0.82				
Kolmogorov-Smirnov (Detects Only)	0.337	0.289	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL)	1.942	0.826				
Kolmogorov-Smirnov (NDs = DL)	0.378	0.266	Data Not Gamma Distributed			

Anderson-Darling (NDs = DL/2)		2.097	0.831						
Kolmogorov-Smirnov (NDs = DL/2)		0.366	0.266	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)		1.067	0.877						
Kolmogorov-Smirnov (Gamma ROS Est.)		0.331	0.272	Data Not Gamma Distributed					
Lognormal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Log ROS					
Correlation Coefficient R	0.896	0.89	0.865	0.886					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.799	0.842	Data Not Lognormal						
Lilliefors (Detects Only)	0.249	0.28	Data Appear Lognormal						
Shapiro-Wilks (NDs = DL)	0.793	0.859	Data Not Lognormal						
Lilliefors (NDs = DL)	0.277	0.256	Data Not Lognormal						
Shapiro-Wilks (NDs = DL/2)	0.75	0.859	Data Not Lognormal						
Lilliefors (NDs = DL/2)	0.29	0.256	Data Not Lognormal						
Shapiro-Wilks (Lognormal ROS Estimates)	0.787	0.859	Data Not Lognormal						
Lilliefors (Lognormal ROS Estimates)	0.253	0.256	Data Appear Lognormal						
Note: Substitution methods such as DL or DL/2 are not recommended.									
MC									
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs			
Raw Statistics	39	0	39	10	29	74.36%			
	Number	Minimum	Maximum	Mean	Median	SD			
Statistics (Non-Detects Only)	29	1	1.2	1.124	1.2	0.0951			
Statistics (Detects Only)	10	0.25	1.2	0.49	0.415	0.281			
Statistics (All: NDs treated as DL value)	39	0.25	1.2	0.962	1.1	0.323			
Statistics (All: NDs treated as DL/2 value)	39	0.25	1.2	0.544	0.56	0.146			
Statistics (Normal ROS Estimated Data)	39	0.0364	1.2	0.447	0.435	0.221			
Statistics (Gamma ROS Estimated Data)	39	0.25	1.2	0.487	0.477	0.139			
Statistics (Lognormal ROS Estimated Data)	39	0.195	1.2	0.437	0.397	0.189			
	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV			
Statistics (Detects Only)	4.568	4.233	0.107	-0.827	0.475	-0.575			
Statistics (NDs = DL)	5.817	5.386	0.165	-0.128	0.482	-3.774			
Statistics (NDs = DL/2)	15.09	13.95	0.036	-0.643	0.266	-0.414			
Statistics (Gamma ROS Estimates)	16.76	15.48	0.029	--	--	--			
Statistics (Lognormal ROS Estimates)	--	--	--	-0.904	0.386	-0.427			
Normal Distribution Test Results									
	No NDs	NDs = DL	NDs = DL/2	Normal ROS					
Correlation Coefficient R	0.869	0.858	0.821	0.972					
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)						
Shapiro-Wilks (Detects Only)	0.773	0.842	Data Not Normal						
Lilliefors (Detects Only)	0.235	0.28	Data Appear Normal						
Shapiro-Wilks (NDs = DL)	0.719	0.939	Data Not Normal						
Lilliefors (NDs = DL)	0.317	0.142	Data Not Normal						
Shapiro-Wilks (NDs = DL/2)	0.716	0.939	Data Not Normal						

Note: Substitution methods such as DL or DL/2 are not recommended.