	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation			3/1/2015 12:53:32 PM								
5	From File			EPC_204SubR1_EU02.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	Arsenic											
12												
13	General Statistics											
14	Total Number of Observations					11	Number of Distinct Observations					3
15							Number of Missing Observations					0
16	Minimum					6.7	Mean					16.43
17	Maximum					84	Median					10
18	SD					22.43	Std. Error of Mean					6.764
19	Coefficient of Variation					1.366	Skewness					3.305
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic					0.372	Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value					0.85	Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.522	Lilliefors GOF Test					
25	5% Lilliefors Critical Value					0.267	Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL					28.69	95% Adjusted-CLT UCL (Chen-1995)					34.75
31							95% Modified-t UCL (Johnson-1978)					29.81
32												
33	Gamma GOF Test											
34	A-D Test Statistic					3.295	Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value					0.741	Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.531	Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value					0.259	Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)					1.62	k star (bias corrected MLE)					1.239
42	Theta hat (MLE)					10.14	Theta star (bias corrected MLE)					13.26
43	nu hat (MLE)					35.65	nu star (bias corrected)					27.26
44	MLE Mean (bias corrected)					16.43	MLE Sd (bias corrected)					14.76
45							Approximate Chi Square Value (0.05)					16.35
46	Adjusted Level of Significance					0.0278	Adjusted Chi Square Value					14.99
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))					27.38	95% Adjusted Gamma UCL (use when n<50)					29.87
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic					0.454	Shapiro Wilk Lognormal GOF Test					

	A	B	C	D	E	F	G	H	I	J	K	L
53					5% Shapiro Wilk Critical Value	0.85		Data Not Lognormal at 5% Significance Level				
54					Lilliefors Test Statistic	0.502		**Lilliefors Lognormal GOF Test**				
55					5% Lilliefors Critical Value	0.267		Data Not Lognormal at 5% Significance Level				
56					**Data Not Lognormal at 5% Significance Level**							
57												
58					**Lognormal Statistics**							
59					Minimum of Logged Data	1.902				Mean of logged Data		2.46
60					Maximum of Logged Data	4.431				SD of logged Data		0.665
61												
62					**Assuming Lognormal Distribution**							
63					95% H-UCL	24.22				90% Chebyshev (MVUE) UCL		23.12
64					95% Chebyshev (MVUE) UCL	27.13				97.5% Chebyshev (MVUE) UCL		32.71
65					99% Chebyshev (MVUE) UCL	43.65						
66												
67					**Nonparametric Distribution Free UCL Statistics**							
68					**Data do not follow a Discernible Distribution (0.05)**							
69												
70					**Nonparametric Distribution Free UCLs**							
71					95% CLT UCL	27.55				95% Jackknife UCL		28.69
72					95% Standard Bootstrap UCL	N/A				95% Bootstrap-t UCL		N/A
73					95% Hall's Bootstrap UCL	N/A				95% Percentile Bootstrap UCL		N/A
74					95% BCA Bootstrap UCL	N/A						
75					90% Chebyshev(Mean, Sd) UCL	36.72				95% Chebyshev(Mean, Sd) UCL		45.91
76					97.5% Chebyshev(Mean, Sd) UCL	58.67				99% Chebyshev(Mean, Sd) UCL		83.73
77												
78					**Suggested UCL to Use**							
79					95% Chebyshev (Mean, Sd) UCL	45.91						
80												
81					Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.							
82					These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)							
83					and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.							
84					For additional insight the user may want to consult a statistician.							
85												
86												
87	Iron											
88												
89					**General Statistics**							
90					Total Number of Observations	11				Number of Distinct Observations		11
91										Number of Missing Observations		0
92					Minimum	22361				Mean		25657
93					Maximum	29419				Median		26460
94					SD	2198				Std. Error of Mean		662.9
95					Coefficient of Variation	0.0857				Skewness		0.0399
96												
97					**Normal GOF Test**							
98					Shapiro Wilk Test Statistic	0.953		**Shapiro Wilk GOF Test**				
99					5% Shapiro Wilk Critical Value	0.85		Data appear Normal at 5% Significance Level				
100					Lilliefors Test Statistic	0.188		**Lilliefors GOF Test**				
101					5% Lilliefors Critical Value	0.267		Data appear Normal at 5% Significance Level				
102					**Data appear Normal at 5% Significance Level**							
103												
104					**Assuming Normal Distribution**							

	A	B	C	D	E	F	G	H	I	J	K	L
105	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
106					95% Student's-t UCL	26859				95% Adjusted-CLT UCL (Chen-1995)		26756
107										95% Modified-t UCL (Johnson-1978)		26860
108												
109	Gamma GOF Test											
110					A-D Test Statistic	0.339	Anderson-Darling Gamma GOF Test					
111					5% A-D Critical Value	0.726	Detected data appear Gamma Distributed at 5% Significance Level					
112					K-S Test Statistic	0.203	Kolmogrov-Smirnoff Gamma GOF Test					
113					5% K-S Critical Value	0.254	Detected data appear Gamma Distributed at 5% Significance Level					
114	Detected data appear Gamma Distributed at 5% Significance Level											
115												
116	Gamma Statistics											
117					k hat (MLE)	149.3				k star (bias corrected MLE)		108.6
118					Theta hat (MLE)	171.9				Theta star (bias corrected MLE)		236.2
119					nu hat (MLE)	3284				nu star (bias corrected)		2390
120					MLE Mean (bias corrected)	25657				MLE Sd (bias corrected)		2462
121										Approximate Chi Square Value (0.05)		2277
122					Adjusted Level of Significance	0.0278				Adjusted Chi Square Value		2259
123												
124	Assuming Gamma Distribution											
125					95% Approximate Gamma UCL (use when n>=50))	26925				95% Adjusted Gamma UCL (use when n<50)		27139
126												
127	Lognormal GOF Test											
128					Shapiro Wilk Test Statistic	0.95	Shapiro Wilk Lognormal GOF Test					
129					5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level					
130					Lilliefors Test Statistic	0.2	Lilliefors Lognormal GOF Test					
131					5% Lilliefors Critical Value	0.267	Data appear Lognormal at 5% Significance Level					
132	Data appear Lognormal at 5% Significance Level											
133												
134	Lognormal Statistics											
135					Minimum of Logged Data	10.02				Mean of logged Data		10.15
136					Maximum of Logged Data	10.29				SD of logged Data		0.086
137												
138	Assuming Lognormal Distribution											
139					95% H-UCL	N/A				90% Chebyshev (MVUE) UCL		27655
140					95% Chebyshev (MVUE) UCL	28560				97.5% Chebyshev (MVUE) UCL		29816
141					99% Chebyshev (MVUE) UCL	32283						
142												
143	Nonparametric Distribution Free UCL Statistics											
144	Data appear to follow a Discernible Distribution at 5% Significance Level											
145												
146	Nonparametric Distribution Free UCLs											
147					95% CLT UCL	26747				95% Jackknife UCL		26859
148					95% Standard Bootstrap UCL	26689				95% Bootstrap-t UCL		26853
149					95% Hall's Bootstrap UCL	26746				95% Percentile Bootstrap UCL		26719
150					95% BCA Bootstrap UCL	26645						
151					90% Chebyshev(Mean, Sd) UCL	27646				95% Chebyshev(Mean, Sd) UCL		28546
152					97.5% Chebyshev(Mean, Sd) UCL	29797				99% Chebyshev(Mean, Sd) UCL		32253
153												
154	Suggested UCL to Use											
155					95% Student's-t UCL	26859						
156												

	A	B	C	D	E	F	G	H	I	J	K	L
157	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
158	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
159	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
160	For additional insight the user may want to consult a statistician.											
161												
162												
163	**Manganese**											
164												
165	**General Statistics**											
166	Total Number of Observations					11	Number of Distinct Observations					11
167							Number of Missing Observations					0
168	Minimum					417	Mean					719.1
169	Maximum					1173	Median					660
170	SD					210.2	Std. Error of Mean					63.37
171	Coefficient of Variation					0.292	Skewness					0.836
172												
173	**Normal GOF Test**											
174	Shapiro Wilk Test Statistic					0.942	**Shapiro Wilk GOF Test**					
175	5% Shapiro Wilk Critical Value					0.85	Data appear Normal at 5% Significance Level					
176	Lilliefors Test Statistic					0.157	**Lilliefors GOF Test**					
177	5% Lilliefors Critical Value					0.267	Data appear Normal at 5% Significance Level					
178	**Data appear Normal at 5% Significance Level**											
179												
180	**Assuming Normal Distribution**											
181	**95% Normal UCL**						**95% UCLs (Adjusted for Skewness)**					
182	95% Student's-t UCL					833.9	95% Adjusted-CLT UCL (Chen-1995)					840.4
183							95% Modified-t UCL (Johnson-1978)					836.6
184												
185	**Gamma GOF Test**											
186	A-D Test Statistic					0.235	**Anderson-Darling Gamma GOF Test**					
187	5% A-D Critical Value					0.729	Detected data appear Gamma Distributed at 5% Significance Level					
188	K-S Test Statistic					0.132	**Kolmogrov-Smirnoff Gamma GOF Test**					
189	5% K-S Critical Value					0.255	Detected data appear Gamma Distributed at 5% Significance Level					
190	**Detected data appear Gamma Distributed at 5% Significance Level**											
191												
192	**Gamma Statistics**											
193	k hat (MLE)					13.52	k star (bias corrected MLE)					9.89
194	Theta hat (MLE)					53.21	Theta star (bias corrected MLE)					72.71
195	nu hat (MLE)					297.3	nu star (bias corrected)					217.6
196	MLE Mean (bias corrected)					719.1	MLE Sd (bias corrected)					228.7
197							Approximate Chi Square Value (0.05)					184.4
198	Adjusted Level of Significance					0.0278	Adjusted Chi Square Value					179.5
199												
200	**Assuming Gamma Distribution**											
201	95% Approximate Gamma UCL (use when n>=50))					848.3	95% Adjusted Gamma UCL (use when n<50)					871.8
202												
203	**Lognormal GOF Test**											
204	Shapiro Wilk Test Statistic					0.979	**Shapiro Wilk Lognormal GOF Test**					
205	5% Shapiro Wilk Critical Value					0.85	Data appear Lognormal at 5% Significance Level					
206	Lilliefors Test Statistic					0.125	**Lilliefors Lognormal GOF Test**					
207	5% Lilliefors Critical Value					0.267	Data appear Lognormal at 5% Significance Level					
208	**Data appear Lognormal at 5% Significance Level**											

	A	B	C	D	E	F	G	H	I	J	K	L
209												
210						Lognormal Statistics						
211					Minimum of Logged Data	6.033				Mean of logged Data		6.541
212					Maximum of Logged Data	7.067				SD of logged Data		0.286
213												
214						Assuming Lognormal Distribution						
215					95% H-UCL	859.9				90% Chebyshev (MVUE) UCL		906.4
216					95% Chebyshev (MVUE) UCL	991.4				97.5% Chebyshev (MVUE) UCL		1109
217					99% Chebyshev (MVUE) UCL	1341						
218												
219						Nonparametric Distribution Free UCL Statistics						
220						Data appear to follow a Discernible Distribution at 5% Significance Level						
221												
222						Nonparametric Distribution Free UCLs						
223					95% CLT UCL	823.3				95% Jackknife UCL		833.9
224					95% Standard Bootstrap UCL	817.6				95% Bootstrap-t UCL		873
225					95% Hall's Bootstrap UCL	870				95% Percentile Bootstrap UCL		824.4
226					95% BCA Bootstrap UCL	842.4						
227					90% Chebyshev(Mean, Sd) UCL	909.2				95% Chebyshev(Mean, Sd) UCL		995.3
228					97.5% Chebyshev(Mean, Sd) UCL	1115				99% Chebyshev(Mean, Sd) UCL		1350
229												
230						Suggested UCL to Use						
231					95% Student's-t UCL	833.9						
232												
233						Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.						
234						These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)						
235						and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.						
236						For additional insight the user may want to consult a statistician.						
237												
238												
239	PAH, Total											
240												
241						General Statistics						
242					Total Number of Observations	11				Number of Distinct Observations		3
243										Number of Missing Observations		0
244					Minimum	2.7000E-4				Mean		0.0311
245					Maximum	0.062				Median		0.0311
246					SD	0.0138				Std. Error of Mean		0.00416
247					Coefficient of Variation	0.443				Skewness		-9.45E-16
248												
249						Normal GOF Test						
250					Shapiro Wilk Test Statistic	0.627				Shapiro Wilk GOF Test		
251					5% Shapiro Wilk Critical Value	0.85				Data Not Normal at 5% Significance Level		
252					Lilliefors Test Statistic	0.409				Lilliefors GOF Test		
253					5% Lilliefors Critical Value	0.267				Data Not Normal at 5% Significance Level		
254						Data Not Normal at 5% Significance Level						
255												
256						Assuming Normal Distribution						
257					95% Normal UCL					95% UCLs (Adjusted for Skewness)		
258					95% Student's-t UCL	0.0387				95% Adjusted-CLT UCL (Chen-1995)		0.038
259										95% Modified-t UCL (Johnson-1978)		0.0387
260												

	A	B	C	D	E	F	G	H	I	J	K	L
261						Gamma GOF Test						
262					A-D Test Statistic	2.958	Anderson-Darling Gamma GOF Test					
263					5% A-D Critical Value	0.742	Data Not Gamma Distributed at 5% Significance Level					
264					K-S Test Statistic	0.517	Kolmogrov-Smirnoff Gamma GOF Test					
265					5% K-S Critical Value	0.26	Data Not Gamma Distributed at 5% Significance Level					
266						Data Not Gamma Distributed at 5% Significance Level						
267												
268						Gamma Statistics						
269					k hat (MLE)	1.5				k star (bias corrected MLE)		1.151
270					Theta hat (MLE)	0.0208				Theta star (bias corrected MLE)		0.027
271					nu hat (MLE)	33				nu star (bias corrected)		25.33
272					MLE Mean (bias corrected)	0.0311				MLE Sd (bias corrected)		0.029
273										Approximate Chi Square Value (0.05)		14.87
274					Adjusted Level of Significance	0.0278				Adjusted Chi Square Value		13.57
275												
276						Assuming Gamma Distribution						
277					95% Approximate Gamma UCL (use when n>=50))	0.0531				95% Adjusted Gamma UCL (use when n<50)		0.0581
278												
279						Lognormal GOF Test						
280					Shapiro Wilk Test Statistic	0.431	Shapiro Wilk Lognormal GOF Test					
281					5% Shapiro Wilk Critical Value	0.85	Data Not Lognormal at 5% Significance Level					
282					Lilliefors Test Statistic	0.508	Lilliefors Lognormal GOF Test					
283					5% Lilliefors Critical Value	0.267	Data Not Lognormal at 5% Significance Level					
284						Data Not Lognormal at 5% Significance Level						
285												
286						Lognormal Statistics						
287					Minimum of Logged Data	-8.217				Mean of logged Data		-3.838
288					Maximum of Logged Data	-2.781				SD of logged Data		1.467
289												
290						Assuming Lognormal Distribution						
291					95% H-UCL	0.396				90% Chebyshev (MVUE) UCL		0.13
292					95% Chebyshev (MVUE) UCL	0.165				97.5% Chebyshev (MVUE) UCL		0.213
293					99% Chebyshev (MVUE) UCL	0.307						
294												
295						Nonparametric Distribution Free UCL Statistics						
296						Data do not follow a Discernible Distribution (0.05)						
297												
298						Nonparametric Distribution Free UCLs						
299					95% CLT UCL	0.038				95% Jackknife UCL		0.0387
300					95% Standard Bootstrap UCL	N/A				95% Bootstrap-t UCL		N/A
301					95% Hall's Bootstrap UCL	N/A				95% Percentile Bootstrap UCL		N/A
302					95% BCA Bootstrap UCL	N/A						
303					90% Chebyshev(Mean, Sd) UCL	0.0436				95% Chebyshev(Mean, Sd) UCL		0.0493
304					97.5% Chebyshev(Mean, Sd) UCL	0.0571				99% Chebyshev(Mean, Sd) UCL		0.0725
305												
306						Suggested UCL to Use						
307					95% Chebyshev (Mean, Sd) UCL	0.0493						
308												
309						Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.						
310						These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)						
311						and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.						
312						For additional insight the user may want to consult a statistician.						

	A	B	C	D	E	F	G	H	I	J	K	L
313												
314	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
315	reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.											
316												
317												
318	Uranium-238											
319												
320	General Statistics											
321					Total Number of Observations	11			Number of Distinct Observations		3	
322									Number of Missing Observations		0	
323					Minimum	1.08			Mean		2.5	
324					Maximum	3.92			Median		2.5	
325					SD	0.635			Std. Error of Mean		0.191	
326					Coefficient of Variation	0.254			Skewness		0	
327												
328	Normal GOF Test											
329					Shapiro Wilk Test Statistic	0.627			Shapiro Wilk GOF Test			
330					5% Shapiro Wilk Critical Value	0.85			Data Not Normal at 5% Significance Level			
331					Lilliefors Test Statistic	0.409			Lilliefors GOF Test			
332					5% Lilliefors Critical Value	0.267			Data Not Normal at 5% Significance Level			
333	Data Not Normal at 5% Significance Level											
334												
335	Assuming Normal Distribution											
336	95% Normal UCL								95% UCLs (Adjusted for Skewness)			
337					95% Student's-t UCL	2.847			95% Adjusted-CLT UCL (Chen-1995)		2.815	
338									95% Modified-t UCL (Johnson-1978)		2.847	
339												
340	Gamma GOF Test											
341					A-D Test Statistic	2.421			Anderson-Darling Gamma GOF Test			
342					5% A-D Critical Value	0.729			Data Not Gamma Distributed at 5% Significance Level			
343					K-S Test Statistic	0.444			Kolmogrov-Smirnoff Gamma GOF Test			
344					5% K-S Critical Value	0.255			Data Not Gamma Distributed at 5% Significance Level			
345	Data Not Gamma Distributed at 5% Significance Level											
346												
347	Gamma Statistics											
348					k hat (MLE)	14.28			k star (bias corrected MLE)		10.45	
349					Theta hat (MLE)	0.175			Theta star (bias corrected MLE)		0.239	
350					nu hat (MLE)	314.3			nu star (bias corrected)		229.9	
351					MLE Mean (bias corrected)	2.5			MLE Sd (bias corrected)		0.773	
352									Approximate Chi Square Value (0.05)		195.8	
353					Adjusted Level of Significance	0.0278			Adjusted Chi Square Value		190.7	
354												
355	Assuming Gamma Distribution											
356					95% Approximate Gamma UCL (use when n>=50))	2.935			95% Adjusted Gamma UCL (use when n<50)		3.014	
357												
358	Lognormal GOF Test											
359					Shapiro Wilk Test Statistic	0.584			Shapiro Wilk Lognormal GOF Test			
360					5% Shapiro Wilk Critical Value	0.85			Data Not Lognormal at 5% Significance Level			
361					Lilliefors Test Statistic	0.456			Lilliefors Lognormal GOF Test			
362					5% Lilliefors Critical Value	0.267			Data Not Lognormal at 5% Significance Level			
363	Data Not Lognormal at 5% Significance Level											
364												

	A	B	C	D	E	F	G	H	I	J	K	L
365	**Lognormal Statistics**											
366					Minimum of Logged Data	0.077				Mean of logged Data		0.881
367					Maximum of Logged Data	1.366				SD of logged Data		0.299
368												
369	**Assuming Lognormal Distribution**											
370					95% H-UCL	3.033				90% Chebyshev (MVUE) UCL		3.197
371					95% Chebyshev (MVUE) UCL	3.507				97.5% Chebyshev (MVUE) UCL		3.938
372					99% Chebyshev (MVUE) UCL	4.783						
373												
374	**Nonparametric Distribution Free UCL Statistics**											
375	**Data do not follow a Discernible Distribution (0.05)**											
376												
377	**Nonparametric Distribution Free UCLs**											
378					95% CLT UCL	2.815				95% Jackknife UCL		2.847
379					95% Standard Bootstrap UCL	N/A				95% Bootstrap-t UCL		N/A
380					95% Hall's Bootstrap UCL	N/A				95% Percentile Bootstrap UCL		N/A
381					95% BCA Bootstrap UCL	N/A						
382					90% Chebyshev(Mean, Sd) UCL	3.074				95% Chebyshev(Mean, Sd) UCL		3.335
383					97.5% Chebyshev(Mean, Sd) UCL	3.696				99% Chebyshev(Mean, Sd) UCL		4.405
384												
385	**Suggested UCL to Use**											
386					95% Student's-t UCL	2.847				or 95% Modified-t UCL		2.847
387												
388	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
389	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
390	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
391	For additional insight the user may want to consult a statistician.											
392												
393												
394	**Vanadium**											
395												
396	**General Statistics**											
397					Total Number of Observations	11				Number of Distinct Observations		10
398										Number of Missing Observations		0
399					Minimum	90				Mean		114.1
400					Maximum	132				Median		117
401					SD	12.9				Std. Error of Mean		3.888
402					Coefficient of Variation	0.113				Skewness		-0.649
403												
404	**Normal GOF Test**											
405					Shapiro Wilk Test Statistic	0.945				**Shapiro Wilk GOF Test**		
406					5% Shapiro Wilk Critical Value	0.85				Data appear Normal at 5% Significance Level		
407					Lilliefors Test Statistic	0.195				**Lilliefors GOF Test**		
408					5% Lilliefors Critical Value	0.267				Data appear Normal at 5% Significance Level		
409	**Data appear Normal at 5% Significance Level**											
410												
411	**Assuming Normal Distribution**											
412	**95% Normal UCL**						**95% UCLs (Adjusted for Skewness)**					
413					95% Student's-t UCL	121.1				95% Adjusted-CLT UCL (Chen-1995)		119.7
414										95% Modified-t UCL (Johnson-1978)		121
415												
416	**Gamma GOF Test**											

	A	B	C	D	E	F	G	H	I	J	K	L
417					A-D Test Statistic	0.383	**Anderson-Darling Gamma GOF Test**					
418					5% A-D Critical Value	0.727	Detected data appear Gamma Distributed at 5% Significance Level					
419					K-S Test Statistic	0.211	**Kolmogrov-Smirnoff Gamma GOF Test**					
420					5% K-S Critical Value	0.255	Detected data appear Gamma Distributed at 5% Significance Level					
421	**Detected data appear Gamma Distributed at 5% Significance Level**											
422												
423	**Gamma Statistics**											
424					k hat (MLE)	81.75	k star (bias corrected MLE)					59.52
425					Theta hat (MLE)	1.396	Theta star (bias corrected MLE)					1.917
426					nu hat (MLE)	1799	nu star (bias corrected)					1309
427					MLE Mean (bias corrected)	114.1	MLE Sd (bias corrected)					14.79
428							Approximate Chi Square Value (0.05)					1226
429					Adjusted Level of Significance	0.0278	Adjusted Chi Square Value					1213
430												
431	**Assuming Gamma Distribution**											
432					95% Approximate Gamma UCL (use when n>=50))	121.8	95% Adjusted Gamma UCL (use when n<50)					123.1
433												
434	**Lognormal GOF Test**											
435					Shapiro Wilk Test Statistic	0.926	**Shapiro Wilk Lognormal GOF Test**					
436					5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level					
437					Lilliefors Test Statistic	0.213	**Lilliefors Lognormal GOF Test**					
438					5% Lilliefors Critical Value	0.267	Data appear Lognormal at 5% Significance Level					
439	**Data appear Lognormal at 5% Significance Level**											
440												
441	**Lognormal Statistics**											
442					Minimum of Logged Data	4.5	Mean of logged Data					4.731
443					Maximum of Logged Data	4.883	SD of logged Data					0.118
444												
445	**Assuming Lognormal Distribution**											
446					95% H-UCL	122.1	90% Chebyshev (MVUE) UCL					126.3
447					95% Chebyshev (MVUE) UCL	131.8	97.5% Chebyshev (MVUE) UCL					139.4
448					99% Chebyshev (MVUE) UCL	154.5						
449												
450	**Nonparametric Distribution Free UCL Statistics**											
451	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
452												
453	**Nonparametric Distribution Free UCLs**											
454					95% CLT UCL	120.5	95% Jackknife UCL					121.1
455					95% Standard Bootstrap UCL	120.1	95% Bootstrap-t UCL					120.5
456					95% Hall's Bootstrap UCL	119.9	95% Percentile Bootstrap UCL					120.3
457					95% BCA Bootstrap UCL	119.5						
458					90% Chebyshev(Mean, Sd) UCL	125.8	95% Chebyshev(Mean, Sd) UCL					131
459					97.5% Chebyshev(Mean, Sd) UCL	138.4	99% Chebyshev(Mean, Sd) UCL					152.8
460												
461	**Suggested UCL to Use**											
462					95% Student's-t UCL	121.1						
463												
464	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
465	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
466	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
467	For additional insight the user may want to consult a statistician.											
468												

	A	B	C	D	E	F	G	H	I	J	K	L
469	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
470	reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.											
471												