	A	B	C	D	E	F	G	H	I	J	K	L
1				Background Statistics for Data Sets with Non-Detects								
2		User Selected Options										
3		Date/Time of Computation		7/30/2013 10:12:06 AM								
4		From File		WorkSheet.xls								
5		Full Precision		OFF								
6		Confidence Coefficient		95%								
7		Coverage		95%								
8		rent or Future K Observations		1								
9		mber of Bootstrap Operations		2000								
10												
11	Chlordane											
12												
13					General Statistics							
14			Total Number of Observations			67		Number of Missing Observations				0
15			Number of Distinct Observations			60						
16			Number of Detects			33		Number of Non-Detects				34
17			Number of Distinct Detects			33		Number of Distinct Non-Detects				27
18			Minimum Detect			0.117		Minimum Non-Detect				0.0438
19			Maximum Detect			1.18		Maximum Non-Detect				0.91
20			Variance Detected			0.0443		Percent Non-Detects				50.75%
21			Mean Detected			0.468		SD Detected				0.21
22			Mean of Detected Logged Data			-0.859		SD of Detected Logged Data				0.471
23												
24					Critical Values for Background Threshold Values (BTVs)							
25			Tolerance Factor K (For UTL)			1.994		d2max (for USL)				3.068
26												
27					Normal GOF Test on Detects Only							
28			Shapiro Wilk Test Statistic			0.912		Shapiro Wilk GOF Test				
29			5% Shapiro Wilk Critical Value			0.931		Data Not Normal at 5% Significance Level				
30			Lilliefors Test Statistic			0.174		Lilliefors GOF Test				
31			5% Lilliefors Critical Value			0.154		Data Not Normal at 5% Significance Level				
32					Data Not Normal at 5% Significance Level							
33												
34					Kaplan Meier (KM) Background Statistics Assuming Normal Distribution							
35			Mean			0.309		SD				0.242
36			95% UTL95% Coverage			0.79		95% KM UPL (t)				0.715
37			90% KM Percentile (z)			0.618		95% KM Percentile (z)				0.706
38			99% KM Percentile (z)			0.871		95% KM USL				1.05
39												
40					DL/2 Substitution Background Statistics Assuming Normal Distribution							
41			Mean			0.319		SD				0.222
42			95% UTL95% Coverage			0.763		95% UPL (t)				0.693
43			90% Percentile (z)			0.604		95% Percentile (z)				0.685
44			99% Percentile (z)			0.837		95% USL				1.001
45					DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons							
46												
47					Gamma GOF Tests on Detected Observations Only							
48			A-D Test Statistic			0.629		Anderson-Darling GOF Test				
49			5% A-D Critical Value			0.748		etected data appear Gamma Distributed at 5% Significance Lev				
50			K-S Test Statistic			0.144		Kolmogrov-Smirnoff GOF				
51			5% K-S Critical Value			0.154		etected data appear Gamma Distributed at 5% Significance Lev				
52					Detected data appear Gamma Distributed at 5% Significance Level							
53												
54					Gamma Statistics on Detected Data Only							
55			k hat (MLE)			5.199		k star (bias corrected MLE)				4.747
56			Theta hat (MLE)			0.0899		Theta star (bias corrected MLE)				0.0985
57			nu hat (MLE)			343.2		nu star (bias corrected)				313.3
58			MLE Mean (bias corrected)			0.468						
59			MLE Sd (bias corrected)			0.215		95% Percentile of Chisquare (2k)				17.61
60												
61					Gamma ROS Statistics using Imputed Non-Detects							
62					GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs							

	A	B	C	D	E	F	G	H	I	J	K	L
63	GROS may not be used when kstar of detected data is small such as < 0.1											
64	For such situations, GROS method tends to yield inflated values of UCLs and BTVs											
65	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
66					Minimum	0.077					Mean	0.324
67					Maximum	1.18					Median	0.286
68					SD	0.213					CV	0.659
69					k hat (MLE)	2.539					k star (bias corrected MLE)	2.435
70					Theta hat (MLE)	0.128					Theta star (bias corrected MLE)	0.133
71					nu hat (MLE)	340.2					nu star (bias corrected)	326.3
72					MLE Mean (bias corrected)	0.324					MLE Sd (bias corrected)	0.208
73					95% Percentile of Chisquare (2k)	10.87					90% Percentile	0.602
74					95% Percentile	0.723					99% Percentile	0.989
75	**The following statistics are computed using Gamma ROS Statistics on Imputed Data**											
76	**Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods**											
77					WH	HW					WH	HW
78			Approx. Gamma UTL with 95% Coverage		0.843	0.87			95% Approx. Gamma UPL		0.728	0.742
79				95% Gamma USL	1.332	1.438						
80												
81	**The following statistics are computed using gamma distribution and KM estimates**											
82	**Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods**											
83					k hat (KM)	1.631					nu hat (KM)	218.5
84					WH	HW					WH	HW
85			Approx. Gamma UTL with 95% Coverage		1.055	1.144			95% Approx. Gamma UPL		0.871	0.922
86				95% Gamma USL	1.879	2.216						
87												
88	**Lognormal GOF Test on Detected Observations Only**											
89				Shapiro Wilk Test Statistic		0.944	**Shapiro Wilk GOF Test**					
90				5% Shapiro Wilk Critical Value		0.931	Detected Data appear Lognormal at 5% Significance Level					
91				Lilliefors Test Statistic		0.167	**Lilliefors GOF Test**					
92				5% Lilliefors Critical Value		0.154	Data Not Lognormal at 5% Significance Level					
93	**Detected Data appear Approximate Lognormal at 5% Significance Level**											
94												
95	**Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects**											
96				Mean in Original Scale		0.339				Mean in Log Scale		-1.226
97				SD in Original Scale		0.199				SD in Log Scale		0.526
98				95% UTL95% Coverage		0.838				95% BCA UTL95% Coverage		0.814
99				95% Bootstrap (%) UTL95% Coverage		0.825				95% UPL (t)		0.711
100				90% Percentile (z)		0.576				95% Percentile (z)		0.698
101				99% Percentile (z)		0.999				95% USL		1.475
102												
103	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
104				KM Mean of Logged Data		-1.63				95% KM UTL (Lognormal)95% Coverage		1.687
105				KM SD of Logged Data		1.08				95% KM UPL (Lognormal)		1.203
106				95% KM Percentile Lognormal (z)		1.157				95% KM USL (Lognormal)		5.377
107												
108	**Background DL/2 Statistics Assuming Lognormal Distribution**											
109				Mean in Original Scale		0.319				Mean in Log Scale		-1.458
110				SD in Original Scale		0.222				SD in Log Scale		0.918
111				95% UTL95% Coverage		1.452				95% UPL (t)		1.089
112				90% Percentile (z)		0.755				95% Percentile (z)		1.054
113				99% Percentile (z)		1.97				95% USL		3.891
114	**DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.**											
115												
116	**Nonparametric Distribution Free Background Statistics**											
117	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
118												
119	**Nonparametric Uppper Limits for BTVs(no distinction made between detects and nondetects)**											
120				Order of Statistic, r		66				95% UTL with95% Coverage		0.91
121				Approximate f		1.737				Confidence Coefficient (CC) achieved by UTL		0.854
122				95% UPL		0.81				95% USL		1.18
123				95% KM Chebyshev UPL		1.37						
124												

	A	B	C	D	E	F	G	H	I	J	K	L
125	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
126	data set free of outliers and consists of observations collected from clean unimpacted locations.											
127	The use of USL tends to provide a balance between false positives and false negatives provided the data											
128	represents a background data set and when many onsite observations need to be compared with the BTV.											
129												