

APPENDIX F

**PROUCL DISTRIBUTION TEST AND BACKGROUND
THRESHOLD VALUE (BTV) CALCULATION RESULTS**

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/25/2013 10:55:48 AM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	0.95										
7												
8												
9	AIFine											
10												
11	Raw Statistics											
12	Number of Valid Observations	112										
13	Number of Distinct Observations	85										
14	Minimum	5200										
15	Maximum	38400										
16	Mean of Raw Data	17305										
17	Standard Deviation of Raw Data	5722										
18	Khat	9.065										
19	Theta hat	1909										
20	Kstar	8.829										
21	Theta star	1960										
22	Mean of Log Transformed Data	9.703										
23	Standard Deviation of Log Transformed Data	0.345										
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R	0.986										
28	Approximate Shapiro Wilk Test Statistic	0.973										
29	Approximate Shapiro Wilk P Value	0.193										
30	Lilliefors Test Statistic	0.0512										
31	Lilliefors Critical (0.05) Value	0.0837										
32	Data appear Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R	0.996										
37	A-D Test Statistic	0.248										
38	A-D Critical (0.05) Value	0.753										
39	K-S Test Statistic	0.0655										
40	K-S Critical(0.05) Value	0.0863										
41	Data appear Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R	0.99										
46	Approximate Shapiro Wilk Test Statistic	0.98										
47	Approximate Shapiro Wilk P Value	0.517										
48	Lilliefors Test Statistic	0.0881										
49	Lilliefors Critical (0.05) Value	0.0837										
50	Data appear Approximate_Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
1	Normal Background Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation			9/25/2013 10:59:27 AM								
5	From File			K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Coverage			90%								
9	New or Future K Observations			1								
10												
11	AIFine											
12												
13	General Statistics											
14	Total Number of Observations				112		Number of Distinct Observations				85	
15	Minimum				5200		First Quartile				12700	
16	Second Largest				32700		Median				16900	
17	Maximum				38400		Third Quartile				20825	
18	Mean				17305		SD				5722	
19	Coefficient of Variation				0.331		Skewness				0.657	
20	Mean of logged Data				9.703		SD of logged Data				0.345	
21												
22	Critical Values for Background Threshold Values (BTVs)											
23	Tolerance Factor K (For UTL)				1.509		d2max (for USL)				3.248	
24												
25	Normal GOF Test											
26	Shapiro Wilk Test Statistic				0.973		Normal GOF Test					
27	5% Shapiro Wilk P Value				0.193		Data appear Normal at 5% Significance Level					
28	Lilliefors Test Statistic				0.0512		Lilliefors GOF Test					
29	5% Lilliefors Critical Value				0.0837		Data appear Normal at 5% Significance Level					
30	Data appear Normal at 5% Significance Level											
31												
32	Background Statistics Assuming Normal Distribution											
33	95% UTL with 90% Coverage				25941		90% Percentile (z)				24638	
34	95% UPL (t)				26838		95% Percentile (z)				26716	
35	95% USL				35887		99% Percentile (z)				30615	
36												
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
38	data set free of outliers and consists of observations collected from clean unimpacted locations.											
39	The use of USL tends to provide a balance between false positives and false negatives provided the data											
40	represents a background data set and when many onsite observations need to be compared with the BTV.											
41												

	A	B	C	D	E	F	G	H	I	J	K	L		
1	Nonparametric Background Statistics for Data Sets with Non-Detects													
2	User Selected Options													
3	Date/Time of Computation	9/25/2013 11:14:18 AM												
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst												
5	Full Precision	OFF												
6	Confidence Coefficient	95%												
7	Coverage	90%												
8	Different or Future K Observations	1												
9														
10	SbFine													
11														
12	General Statistics													
13	Total Number of Observations	112								Number of Distinct Observations	8			
14	Number of Detects	78								Number of Non-Detects	34			
15	Number of Distinct Detects	8								Number of Distinct Non-Detects	1			
16	Minimum Detect	0.1								Minimum Non-Detect	0.1			
17	Maximum Detect	0.8								Maximum Non-Detect	0.1			
18	Variance Detected	0.0205								Percent Non-Detects	30.36%			
19	Mean Detected	0.205								SD Detected	0.143			
20	Mean of Detected Logged Data	-1.757								SD of Detected Logged Data	0.558			
21														
22	Critical Values for Background Threshold Values (BTVs)													
23	Tolerance Factor K (For UTL)	1.509								d2max (for USL)	3.248			
24														
25	Nonparametric Distribution Free Background Statistics													
26	Data do not follow a Discernible Distribution (0.05)													
27														
28	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution													
29	Mean	0.173								SD	0.128			
30	95% UTL90% Coverage	0.367								95% KM UPL (t)	0.387			
31	95% KM Chebyshev UPL	0.734								90% KM Percentile (z)	0.337			
32	95% KM Percentile (z)	0.384								99% KM Percentile (z)	0.471			
33	95% KM USL	0.589												
34														
35	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)													
36	Order of Statistic, r	105								95% UTL with90% Coverage	0.4			
37	Approximate f	1.458								Confidence Coefficient (CC) achieved by UTL	0.882			
38	95% UPL	0.435								95% USL	0.8			
39	95% KM Chebyshev UPL	0.734												
40														
41	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background													
42	data set free of outliers and consists of observations collected from clean unimpacted locations.													
43	The use of USL tends to provide a balance between false positives and false negatives provided the data													
44	represents a background data set and when many onsite observations need to be compared with the BTV.													
45														

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/25/2013 11:20:39 AM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	0.95										
7												
8												
9	AsFine											
10												
11	Raw Statistics											
12	Number of Valid Observations	112										
13	Number of Distinct Observations	76										
14	Minimum	2.6										
15	Maximum	116										
16	Mean of Raw Data	11.56										
17	Standard Deviation of Raw Data	13.83										
18	Khat	2.037										
19	Theta hat	5.676										
20	Kstar	1.988										
21	Theta star	5.815										
22	Mean of Log Transformed Data	2.183										
23	Standard Deviation of Log Transformed Data	0.628										
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R	0.663										
28	Approximate Shapiro Wilk Test Statistic	0.48										
29	Approximate Shapiro Wilk P Value	0										
30	Lilliefors Test Statistic	0.28										
31	Lilliefors Critical (0.05) Value	0.0837										
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R	0.816										
37	A-D Test Statistic	6.242										
38	A-D Critical (0.05) Value	0.765										
39	K-S Test Statistic	0.202										
40	K-S Critical(0.05) Value	0.0875										
41	Data not Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R	0.956										
46	Approximate Shapiro Wilk Test Statistic	0.921										
47	Approximate Shapiro Wilk P Value	2.5280E-7										
48	Lilliefors Test Statistic	0.139										
49	Lilliefors Critical (0.05) Value	0.0837										
50	Data not Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Nonparametric Background Statistics for Uncensored Full Data Sets												
2	User Selected Options												
3	Date/Time of Computation	9/25/2013 11:21:37 AM											
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst											
5	Full Precision	OFF											
6	Confidence Coefficient	95%											
7	Coverage	90%											
8	Number of Bootstrap Operations	2000											
9													
10	AsFine												
11													
12	General Statistics												
13	Total Number of Observations	112	Number of Distinct Observations						76				
14	Minimum	2.6	First Quartile						6.375				
15	Second Largest	80.2	Median						8.5				
16	Maximum	116	Third Quartile						10.98				
17	Mean	11.56	SD						13.83				
18	Coefficient of Variation	1.196	Skewness						5.336				
19	Mean of logged Data	2.183	SD of logged Data						0.628				
20													
21	Critical Values for Background Threshold Values (BTVs)												
22	Tolerance Factor K (For UTL)	1.509	d2max (for USL)						3.248				
23													
24	Nonparametric Distribution Free Background Statistics												
25	Data do not follow a Discernible Distribution (0.05)												
26													
27	Nonparametric Upper Limits for Background Threshold Values												
28	Order of Statistic, r	105	95% UTL with 90% Coverage						22.5				
29	Approximate f	1.458	Confidence Coefficient (CC) achieved by UTL						0.882				
30	95% Percentile Bootstrap UTL with 90% Coverage	22.5	95% BCA Bootstrap UTL with 90% Coverage						22.43				
31	95% UPL	34.64	90% Percentile						16.6				
32	90% Chebyshev UPL	53.24	95% Percentile						29.61				
33	95% Chebyshev UPL	72.11	99% Percentile						76.14				
34	95% USL	116											
35													
36	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background												
37	data set free of outliers and consists of observations collected from clean unimpacted locations.												
38	The use of USL tends to provide a balance between false positives and false negatives provided the data												
39	represents a background data set and when many onsite observations need to be compared with the BTV.												
40													

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/25/2013 2:42:24 PM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	0.95										
7												
8												
9	BaFine											
10												
11	Raw Statistics											
12	Number of Valid Observations	112										
13	Number of Distinct Observations	92										
14	Minimum	48										
15	Maximum	795										
16	Mean of Raw Data	225.2										
17	Standard Deviation of Raw Data	133.2										
18	Khat	3.789										
19	Theta hat	59.43										
20	Kstar	3.694										
21	Theta star	60.97										
22	Mean of Log Transformed Data	5.279										
23	Standard Deviation of Log Transformed Data	0.518										
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R	0.898										
28	Approximate Shapiro Wilk Test Statistic	0.812										
29	Approximate Shapiro Wilk P Value	0										
30	Lilliefors Test Statistic	0.161										
31	Lilliefors Critical (0.05) Value	0.0837										
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R	0.966										
37	A-D Test Statistic	1.352										
38	A-D Critical (0.05) Value	0.757										
39	K-S Test Statistic	0.0909										
40	K-S Critical(0.05) Value	0.0867										
41	Data not Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R	0.992										
46	Approximate Shapiro Wilk Test Statistic	0.979										
47	Approximate Shapiro Wilk P Value	0.462										
48	Lilliefors Test Statistic	0.0604										
49	Lilliefors Critical (0.05) Value	0.0837										
50	Data appear Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Lognormal Background Statistics for Uncensored Full Data Sets												
2	User Selected Options												
3	Date/Time of Computation	9/25/2013 2:44:02 PM											
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst											
5	Full Precision	OFF											
6	Confidence Coefficient	95%											
7	Coverage	90%											
8	New or Future K Observations	1											
9	Number of Bootstrap Operations	2000											
10													
11	BaFine												
12													
13	General Statistics												
14	Total Number of Observations	112							Number of Distinct Observations	92			
15	Minimum	48							First Quartile	144			
16	Second Largest	762							Median	204.5			
17	Maximum	795							Third Quartile	267.3			
18	Mean	225.2							SD	133.2			
19	Coefficient of Variation	0.591							Skewness	2.078			
20	Mean of logged Data	5.279							SD of logged Data	0.518			
21													
22	Critical Values for Background Threshold Values (BTVs)												
23	Tolerance Factor K (For UTL)	1.509							d2max (for USL)	3.248			
24													
25	Lognormal GOF Test												
26	Shapiro Wilk Test Statistic	0.979							Shapiro Wilk Lognormal GOF Test				
27	5% Shapiro Wilk P Value	0.462							Data appear Lognormal at 5% Significance Level				
28	Lilliefors Test Statistic	0.0604							Lilliefors Lognormal GOF Test				
29	5% Lilliefors Critical Value	0.0837							Data appear Lognormal at 5% Significance Level				
30	Data appear Lognormal at 5% Significance Level												
31													
32	Background Statistics assuming Lognormal Distribution												
33	95% UTL with 90% Coverage	429							90% Percentile (z)	381.2			
34	95% UPL (t)	465.3							95% Percentile (z)	460.2			
35	95% USL	1056							99% Percentile (z)	655.1			
36													
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background												
38	data set free of outliers and consists of observations collected from clean unimpacted locations.												
39	The use of USL tends to provide a balance between false positives and false negatives provided the data												
40	represents a background data set and when many onsite observations need to be compared with the BTV.												
41													

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/25/2013 2:46:06 PM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	0.95										
7												
8												
9	BeFine											
10												
11	Raw Statistics											
12	Number of Valid Observations	112										
13	Number of Distinct Observations	13										
14	Minimum	0.2										
15	Maximum	1.6										
16	Mean of Raw Data	0.711										
17	Standard Deviation of Raw Data	0.233										
18	Khat	9.207										
19	Theta hat	0.0772										
20	Kstar	8.966										
21	Theta star	0.0793										
22	Mean of Log Transformed Data	-0.397										
23	Standard Deviation of Log Transformed Data	0.343										
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R	0.977										
28	Approximate Shapiro Wilk Test Statistic	0.958										
29	Approximate Shapiro Wilk P Value	0.00971										
30	Lilliefors Test Statistic	0.147										
31	Lilliefors Critical (0.05) Value	0.0837										
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R	0.989										
37	A-D Test Statistic	1.212										
38	A-D Critical (0.05) Value	0.752										
39	K-S Test Statistic	0.117										
40	K-S Critical(0.05) Value	0.0863										
41	Data not Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R	0.98										
46	Approximate Shapiro Wilk Test Statistic	0.965										
47	Approximate Shapiro Wilk P Value	0.0374										
48	Lilliefors Test Statistic	0.138										
49	Lilliefors Critical (0.05) Value	0.0837										
50	Data not Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
1	Nonparametric Background Statistics for Uncensored Full Data Sets											
2	User Selected Options											
3	Date/Time of Computation			9/25/2013 2:48:13 PM								
4	From File			K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst								
5	Full Precision			OFF								
6	Confidence Coefficient			95%								
7	Coverage			90%								
8	Number of Bootstrap Operations			2000								
9												
10	BeFine											
11												
12	General Statistics											
13	Total Number of Observations				112		Number of Distinct Observations				13	
14	Minimum				0.2		First Quartile				0.6	
15	Second Largest				1.3		Median				0.7	
16	Maximum				1.6		Third Quartile				0.8	
17	Mean				0.711		SD				0.233	
18	Coefficient of Variation				0.328		Skewness				0.699	
19	Mean of logged Data				-0.397		SD of logged Data				0.343	
20												
21	Critical Values for Background Threshold Values (BTVs)											
22	Tolerance Factor K (For UTL)				1.509		d2max (for USL)				3.248	
23												
24	Nonparametric Distribution Free Background Statistics											
25	Data do not follow a Discernible Distribution (0.05)											
26												
27	Nonparametric Upper Limits for Background Threshold Values											
28	Order of Statistic, r			105		95% UTL with 90% Coverage				1.1		
29	Approximate f			1.458		Confidence Coefficient (CC) achieved by UTL				0.882		
30	95% Percentile Bootstrap UTL with 90% Coverage			1.1		95% BCA Bootstrap UTL with 90% Coverage				1		
31	95% UPL			1.135		90% Percentile				1		
32	90% Chebyshev UPL			1.414		95% Percentile				1.1		
33	95% Chebyshev UPL			1.733		99% Percentile				1.289		
34	95% USL			1.6								
35												
36	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
37	data set free of outliers and consists of observations collected from clean unimpacted locations.											
38	The use of USL tends to provide a balance between false positives and false negatives provided the data											
39	represents a background data set and when many onsite observations need to be compared with the BTV.											
40												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Nonparametric Background Statistics for Data Sets with Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/25/2013 11:32:11 AM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	95%										
7	Coverage	90%										
8	Different or Future K Observations	1										
9												
10	CdFine											
11												
12	General Statistics											
13	Total Number of Observations	112								Number of Distinct Observations	11	
14	Number of Detects	102								Number of Non-Detects	10	
15	Number of Distinct Detects	11								Number of Distinct Non-Detects	1	
16	Minimum Detect	0.1								Minimum Non-Detect	0.1	
17	Maximum Detect	1.6								Maximum Non-Detect	0.1	
18	Variance Detected	0.0542								Percent Non-Detects	8.929%	
19	Mean Detected	0.337								SD Detected	0.233	
20	Mean of Detected Logged Data	-1.253								SD of Detected Logged Data	0.557	
21												
22	Critical Values for Background Threshold Values (BTVs)											
23	Tolerance Factor K (For UTL)	1.509								d2max (for USL)	3.248	
24												
25	Nonparametric Distribution Free Background Statistics											
26	Data do not follow a Discernible Distribution (0.05)											
27												
28	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution											
29	Mean	0.316								SD	0.231	
30	95% UTL90% Coverage	0.665								95% KM UPL (t)	0.701	
31	95% KM Chebyshev UPL	1.329								90% KM Percentile (z)	0.612	
32	95% KM Percentile (z)	0.696								99% KM Percentile (z)	0.854	
33	95% KM USL	1.067										
34												
35	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)											
36	Order of Statistic, r	105								95% UTL with90% Coverage	0.7	
37	Approximate f	1.458								Confidence Coefficient (CC) achieved by UTL	0.882	
38	95% UPL	0.9								95% USL	1.6	
39	95% KM Chebyshev UPL	1.329										
40												
41	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
42	data set free of outliers and consists of observations collected from clean unimpacted locations.											
43	The use of USL tends to provide a balance between false positives and false negatives provided the data											
44	represents a background data set and when many onsite observations need to be compared with the BTV.											
45												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation		9/25/2013 2:54:00 PM									
4	From File		K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst									
5	Full Precision		OFF									
6	Confidence Coefficient		0.95									
7												
8												
9	CrFine											
10												
11	Raw Statistics											
12	Number of Valid Observations				112							
13	Number of Distinct Observations				86							
14	Minimum				8.5							
15	Maximum				160							
16	Mean of Raw Data				24.78							
17	Standard Deviation of Raw Data				15.75							
18	Khat				5.178							
19	Theta hat				4.786							
20	Kstar				5.045							
21	Theta star				4.912							
22	Mean of Log Transformed Data				3.11							
23	Standard Deviation of Log Transformed Data				0.41							
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R				0.725							
28	Approximate Shapiro Wilk Test Statistic				0.581							
29	Approximate Shapiro Wilk P Value				0							
30	Lilliefors Test Statistic				0.19							
31	Lilliefors Critical (0.05) Value				0.0837							
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R				0.802							
37	A-D Test Statistic				2.07							
38	A-D Critical (0.05) Value				0.754							
39	K-S Test Statistic				0.108							
40	K-S Critical(0.05) Value				0.0865							
41	Data not Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R				0.969							
46	Approximate Shapiro Wilk Test Statistic				0.961							
47	Approximate Shapiro Wilk P Value				0.0155							
48	Lilliefors Test Statistic				0.0686							
49	Lilliefors Critical (0.05) Value				0.0837							
50	Data appear Approximate_Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Lognormal Background Statistics for Uncensored Full Data Sets												
2	User Selected Options												
3	Date/Time of Computation	9/25/2013 2:55:56 PM											
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst											
5	Full Precision	OFF											
6	Confidence Coefficient	95%											
7	Coverage	90%											
8	New or Future K Observations	1											
9	Number of Bootstrap Operations	2000											
10													
11	CrFine												
12													
13	General Statistics												
14	Total Number of Observations	112							Number of Distinct Observations	86			
15	Minimum	8.5							First Quartile	17.45			
16	Second Largest	66.8							Median	22.05			
17	Maximum	160							Third Quartile	27.5			
18	Mean	24.78							SD	15.75			
19	Coefficient of Variation	0.636							Skewness	6.003			
20	Mean of logged Data	3.11							SD of logged Data	0.41			
21													
22	Critical Values for Background Threshold Values (BTVs)												
23	Tolerance Factor K (For UTL)	1.509							d2max (for USL)	3.248			
24													
25	Lognormal GOF Test												
26	Shapiro Wilk Test Statistic	0.961							Shapiro Wilk Lognormal GOF Test				
27	5% Shapiro Wilk P Value	0.0155							Data Not Lognormal at 5% Significance Level				
28	Lilliefors Test Statistic	0.0686							Lilliefors Lognormal GOF Test				
29	5% Lilliefors Critical Value	0.0837							Data appear Lognormal at 5% Significance Level				
30	Data appear Approximate Lognormal at 5% Significance Level												
31													
32	Background Statistics assuming Lognormal Distribution												
33	95% UTL with 90% Coverage	41.65							90% Percentile (z)	37.94			
34	95% UPL (t)	44.41							95% Percentile (z)	44.03			
35	95% USL	84.95							99% Percentile (z)	58.22			
36													
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background												
38	data set free of outliers and consists of observations collected from clean unimpacted locations.												
39	The use of USL tends to provide a balance between false positives and false negatives provided the data												
40	represents a background data set and when many onsite observations need to be compared with the BTV.												
41													

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/25/2013 2:58:16 PM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	0.95										
7												
8												
9	CrIIIFine											
10												
11	Raw Statistics											
12	Number of Valid Observations	112										
13	Number of Distinct Observations	34										
14	Minimum	8										
15	Maximum	160										
16	Mean of Raw Data	24.77										
17	Standard Deviation of Raw Data	15.77										
18	Khat	5.158										
19	Theta hat	4.802										
20	Kstar	5.026										
21	Theta star	4.928										
22	Mean of Log Transformed Data	3.109										
23	Standard Deviation of Log Transformed Data	0.411										
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R	0.725										
28	Approximate Shapiro Wilk Test Statistic	0.582										
29	Approximate Shapiro Wilk P Value	0										
30	Lilliefors Test Statistic	0.187										
31	Lilliefors Critical (0.05) Value	0.0837										
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R	0.802										
37	A-D Test Statistic	2.143										
38	A-D Critical (0.05) Value	0.754										
39	K-S Test Statistic	0.106										
40	K-S Critical(0.05) Value	0.0865										
41	Data not Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R	0.969										
46	Approximate Shapiro Wilk Test Statistic	0.961										
47	Approximate Shapiro Wilk P Value	0.0175										
48	Lilliefors Test Statistic	0.0715										
49	Lilliefors Critical (0.05) Value	0.0837										
50	Data appear Approximate_Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
1	Lognormal Background Statistics for Uncensored Full Data Sets											
2	User Selected Options											
3	Date/Time of Computation			9/25/2013 3:00:36 PM								
4	From File			K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst								
5	Full Precision			OFF								
6	Confidence Coefficient			95%								
7	Coverage			90%								
8	New or Future K Observations			1								
9	Number of Bootstrap Operations			2000								
10												
11	CritIFine											
12												
13	General Statistics											
14	Total Number of Observations				112		Number of Distinct Observations				34	
15	Minimum				8		First Quartile				17.75	
16	Second Largest				67		Median				22	
17	Maximum				160		Third Quartile				28	
18	Mean				24.77		SD				15.77	
19	Coefficient of Variation				0.637		Skewness				5.99	
20	Mean of logged Data				3.109		SD of logged Data				0.411	
21												
22	Critical Values for Background Threshold Values (BTVs)											
23	Tolerance Factor K (For UTL)				1.509		d2max (for USL)				3.248	
24												
25	Lognormal GOF Test											
26	Shapiro Wilk Test Statistic				0.961		Shapiro Wilk Lognormal GOF Test					
27	5% Shapiro Wilk P Value				0.0175		Data Not Lognormal at 5% Significance Level					
28	Lilliefors Test Statistic				0.0715		Lilliefors Lognormal GOF Test					
29	5% Lilliefors Critical Value				0.0837		Data appear Lognormal at 5% Significance Level					
30	Data appear Approximate Lognormal at 5% Significance Level											
31												
32	Background Statistics assuming Lognormal Distribution											
33	95% UTL with 90% Coverage				41.67		90% Percentile (z)				37.94	
34	95% UPL (t)				44.44		95% Percentile (z)				44.05	
35	95% USL				85.11		99% Percentile (z)				58.29	
36												
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
38	data set free of outliers and consists of observations collected from clean unimpacted locations.											
39	The use of USL tends to provide a balance between false positives and false negatives provided the data											
40	represents a background data set and when many onsite observations need to be compared with the BTV.											
41												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/25/2013 3:07:05 PM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	0.95										
7												
8												
9	CoFine											
10												
11	Raw Statistics											
12	Number of Valid Observations	112										
13	Number of Distinct Observations	56										
14	Minimum	1.5										
15	Maximum	18.2										
16	Mean of Raw Data	6.57										
17	Standard Deviation of Raw Data	2.278										
18	Khat	8.887										
19	Theta hat	0.739										
20	Kstar	8.655										
21	Theta star	0.759										
22	Mean of Log Transformed Data	1.825										
23	Standard Deviation of Log Transformed Data	0.347										
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R	0.952										
28	Approximate Shapiro Wilk Test Statistic	0.93										
29	Approximate Shapiro Wilk P Value	4.0561E-6										
30	Lilliefors Test Statistic	0.0778										
31	Lilliefors Critical (0.05) Value	0.0837										
32	Data appear Approximate Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R	0.974										
37	A-D Test Statistic	0.515										
38	A-D Critical (0.05) Value	0.753										
39	K-S Test Statistic	0.0765										
40	K-S Critical(0.05) Value	0.0863										
41	Data appear Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R	0.979										
46	Approximate Shapiro Wilk Test Statistic	0.979										
47	Approximate Shapiro Wilk P Value	0.451										
48	Lilliefors Test Statistic	0.0872										
49	Lilliefors Critical (0.05) Value	0.0837										
50	Data appear Approximate_Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
1	Normal Background Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation			9/26/2013 11:06:59 AM								
5	From File			K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Coverage			90%								
9	New or Future K Observations			1								
10												
11	CoFine											
12												
13	General Statistics											
14	Total Number of Observations				112		Number of Distinct Observations				56	
15	Minimum				1.5		First Quartile				5.075	
16	Second Largest				14		Median				6.35	
17	Maximum				18.2		Third Quartile				7.7	
18	Mean				6.57		SD				2.278	
19	Coefficient of Variation				0.347		Skewness				1.462	
20	Mean of logged Data				1.825		SD of logged Data				0.347	
21												
22	Critical Values for Background Threshold Values (BTVs)											
23	Tolerance Factor K (For UTL)				1.509		d2max (for USL)				3.248	
24												
25	Normal GOF Test											
26	Shapiro Wilk Test Statistic				0.93		Normal GOF Test					
27	5% Shapiro Wilk P Value				4.0561E-6		Data Not Normal at 5% Significance Level					
28	Lilliefors Test Statistic				0.0778		Lilliefors GOF Test					
29	5% Lilliefors Critical Value				0.0837		Data appear Normal at 5% Significance Level					
30	Data appear Approximate Normal at 5% Significance Level											
31												
32	Background Statistics Assuming Normal Distribution											
33	95% UTL with 90% Coverage				10.01		90% Percentile (z)				9.489	
34	95% UPL (t)				10.37		95% Percentile (z)				10.32	
35	95% USL				13.97		99% Percentile (z)				11.87	
36												
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
38	data set free of outliers and consists of observations collected from clean unimpacted locations.											
39	The use of USL tends to provide a balance between false positives and false negatives provided the data											
40	represents a background data set and when many onsite observations need to be compared with the BTV.											
41												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation		9/25/2013 3:10:22 PM									
4	From File		K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst									
5	Full Precision		OFF									
6	Confidence Coefficient		0.95									
7												
8												
9	CuFine											
10												
11	Raw Statistics											
12	Number of Valid Observations				112							
13	Number of Distinct Observations				108							
14	Minimum				15.2							
15	Maximum				533							
16	Mean of Raw Data				65.63							
17	Standard Deviation of Raw Data				68.75							
18	Khat				1.96							
19	Theta hat				33.49							
20	Kstar				1.913							
21	Theta star				34.31							
22	Mean of Log Transformed Data				3.908							
23	Standard Deviation of Log Transformed Data				0.671							
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R				0.759							
28	Approximate Shapiro Wilk Test Statistic				0.609							
29	Approximate Shapiro Wilk P Value				0							
30	Lilliefors Test Statistic				0.267							
31	Lilliefors Critical (0.05) Value				0.0837							
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R				0.904							
37	A-D Test Statistic				4.65							
38	A-D Critical (0.05) Value				0.766							
39	K-S Test Statistic				0.162							
40	K-S Critical(0.05) Value				0.0875							
41	Data not Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R				0.972							
46	Approximate Shapiro Wilk Test Statistic				0.94							
47	Approximate Shapiro Wilk P Value				8.6117E-5							
48	Lilliefors Test Statistic				0.0981							
49	Lilliefors Critical (0.05) Value				0.0837							
50	Data not Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
1	Nonparametric Background Statistics for Uncensored Full Data Sets											
2	User Selected Options											
3	Date/Time of Computation			9/25/2013 3:12:04 PM								
4	From File			K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst								
5	Full Precision			OFF								
6	Confidence Coefficient			95%								
7	Coverage			90%								
8	Number of Bootstrap Operations			2000								
9												
10	CuFine											
11												
12	General Statistics											
13	Total Number of Observations				112		Number of Distinct Observations				108	
14	Minimum				15.2		First Quartile				32.18	
15	Second Largest				307		Median				44.15	
16	Maximum				533		Third Quartile				68.5	
17	Mean				65.63		SD				68.75	
18	Coefficient of Variation				1.048		Skewness				3.961	
19	Mean of logged Data				3.908		SD of logged Data				0.671	
20												
21	Critical Values for Background Threshold Values (BTVs)											
22	Tolerance Factor K (For UTL)				1.509		d2max (for USL)				3.248	
23												
24	Nonparametric Distribution Free Background Statistics											
25	Data do not follow a Discernible Distribution (0.05)											
26												
27	Nonparametric Upper Limits for Background Threshold Values											
28	Order of Statistic, r			105		95% UTL with 90% Coverage				165		
29	Approximate f			1.458		Confidence Coefficient (CC) achieved by UTL				0.882		
30	95% Percentile Bootstrap UTL with 90% Coverage				165		95% BCA Bootstrap UTL with 90% Coverage				165	
31	95% UPL				189.2		90% Percentile				117.7	
32	90% Chebyshev UPL				272.8		95% Percentile				178.9	
33	95% Chebyshev UPL				366.6		99% Percentile				306	
34	95% USL				533							
35												
36	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
37	data set free of outliers and consists of observations collected from clean unimpacted locations.											
38	The use of USL tends to provide a balance between false positives and false negatives provided the data											
39	represents a background data set and when many onsite observations need to be compared with the BTV.											
40												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/26/2013 11:11:41 AM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	0.95										
7												
8												
9	FeFine											
10												
11	Raw Statistics											
12	Number of Valid Observations	112										
13	Number of Distinct Observations	73										
14	Minimum	7230										
15	Maximum	31800										
16	Mean of Raw Data	18043										
17	Standard Deviation of Raw Data	4158										
18	Khat	17.48										
19	Theta hat	1032										
20	Kstar	17.01										
21	Theta star	1060										
22	Mean of Log Transformed Data	9.772										
23	Standard Deviation of Log Transformed Data	0.251										
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R	0.981										
28	Approximate Shapiro Wilk Test Statistic	0.965										
29	Approximate Shapiro Wilk P Value	0.0442										
30	Lilliefors Test Statistic	0.113										
31	Lilliefors Critical (0.05) Value	0.0837										
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R	0.981										
37	A-D Test Statistic	1.839										
38	A-D Critical (0.05) Value	0.75										
39	K-S Test Statistic	0.12										
40	K-S Critical(0.05) Value	0.0862										
41	Data not Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R	0.958										
46	Approximate Shapiro Wilk Test Statistic	0.922										
47	Approximate Shapiro Wilk P Value	3.5623E-7										
48	Lilliefors Test Statistic	0.138										
49	Lilliefors Critical (0.05) Value	0.0837										
50	Data not Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Nonparametric Background Statistics for Uncensored Full Data Sets												
2	User Selected Options												
3	Date/Time of Computation	9/26/2013 11:13:02 AM											
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst											
5	Full Precision	OFF											
6	Confidence Coefficient	95%											
7	Coverage	90%											
8	Number of Bootstrap Operations	2000											
9													
10	FeFine												
11													
12	General Statistics												
13	Total Number of Observations	112							Number of Distinct Observations	73			
14	Minimum	7230							First Quartile	15850			
15	Second Largest	29900							Median	18100			
16	Maximum	31800							Third Quartile	20075			
17	Mean	18043							SD	4158			
18	Coefficient of Variation	0.23							Skewness	0.222			
19	Mean of logged Data	9.772							SD of logged Data	0.251			
20													
21	Critical Values for Background Threshold Values (BTVs)												
22	Tolerance Factor K (For UTL)	1.509							d2max (for USL)	3.248			
23													
24	Nonparametric Distribution Free Background Statistics												
25	Data do not follow a Discernible Distribution (0.05)												
26													
27	Nonparametric Upper Limits for Background Threshold Values												
28	Order of Statistic, r	105							95% UTL with 90% Coverage	24400			
29	Approximate f	1.458							Confidence Coefficient (CC) achieved by UTL	0.882			
30	95% Percentile Bootstrap UTL with 90% Coverage	24400							95% BCA Bootstrap UTL with 90% Coverage	24400			
31	95% UPL	24905							90% Percentile	22850			
32	90% Chebyshev UPL	30573							95% Percentile	24690			
33	95% Chebyshev UPL	36248							99% Percentile	29746			
34	95% USL	31800											
35													
36	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background												
37	data set free of outliers and consists of observations collected from clean unimpacted locations.												
38	The use of USL tends to provide a balance between false positives and false negatives provided the data												
39	represents a background data set and when many onsite observations need to be compared with the BTV.												
40													

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/25/2013 3:18:33 PM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	0.95										
7												
8												
9	PbFine											
10												
11	Raw Statistics											
12	Number of Valid Observations	112										
13	Number of Distinct Observations	56										
14	Minimum	6.2										
15	Maximum	45										
16	Mean of Raw Data	17.05										
17	Standard Deviation of Raw Data	7.501										
18	Khat	5.659										
19	Theta hat	3.013										
20	Kstar	5.514										
21	Theta star	3.093										
22	Mean of Log Transformed Data	2.745										
23	Standard Deviation of Log Transformed Data	0.429										
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R	0.964										
28	Approximate Shapiro Wilk Test Statistic	0.924										
29	Approximate Shapiro Wilk P Value	6.5971E-7										
30	Lilliefors Test Statistic	0.109										
31	Lilliefors Critical (0.05) Value	0.0837										
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R	0.996										
37	A-D Test Statistic	0.35										
38	A-D Critical (0.05) Value	0.754										
39	K-S Test Statistic	0.0622										
40	K-S Critical(0.05) Value	0.0865										
41	Data appear Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R	0.997										
46	Approximate Shapiro Wilk Test Statistic	0.977										
47	Approximate Shapiro Wilk P Value	0.358										
48	Lilliefors Test Statistic	0.0446										
49	Lilliefors Critical (0.05) Value	0.0837										
50	Data appear Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Lognormal Background Statistics for Uncensored Full Data Sets												
2	User Selected Options												
3	Date/Time of Computation	9/25/2013 3:19:21 PM											
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst											
5	Full Precision	OFF											
6	Confidence Coefficient	95%											
7	Coverage	90%											
8	New or Future K Observations	1											
9	Number of Bootstrap Operations	2000											
10													
11	PbFine												
12													
13	General Statistics												
14	Total Number of Observations	112	Number of Distinct Observations						56				
15	Minimum	6.2	First Quartile						11.88				
16	Second Largest	38.6	Median						15.2				
17	Maximum	45	Third Quartile						21				
18	Mean	17.05	SD						7.501				
19	Coefficient of Variation	0.44	Skewness						1.067				
20	Mean of logged Data	2.745	SD of logged Data						0.429				
21													
22	Critical Values for Background Threshold Values (BTVs)												
23	Tolerance Factor K (For UTL)	1.509	d2max (for USL)						3.248				
24													
25	Lognormal GOF Test												
26	Shapiro Wilk Test Statistic	0.977	Shapiro Wilk Lognormal GOF Test										
27	5% Shapiro Wilk P Value	0.358	Data appear Lognormal at 5% Significance Level										
28	Lilliefors Test Statistic	0.0446	Lilliefors Lognormal GOF Test										
29	5% Lilliefors Critical Value	0.0837	Data appear Lognormal at 5% Significance Level										
30	Data appear Lognormal at 5% Significance Level												
31													
32	Background Statistics assuming Lognormal Distribution												
33	95% UTL with 90% Coverage	29.77	90% Percentile (z)						27				
34	95% UPL (t)	31.85	95% Percentile (z)						31.56				
35	95% USL	62.82	99% Percentile (z)						42.29				
36													
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background												
38	data set free of outliers and consists of observations collected from clean unimpacted locations.												
39	The use of USL tends to provide a balance between false positives and false negatives provided the data												
40	represents a background data set and when many onsite observations need to be compared with the BTV.												
41													

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation		9/25/2013 3:22:04 PM									
4	From File		K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst									
5	Full Precision		OFF									
6	Confidence Coefficient		0.95									
7												
8												
9	MnFine											
10												
11	Raw Statistics											
12	Number of Valid Observations		112									
13	Number of Distinct Observations		104									
14	Minimum		61									
15	Maximum		1560									
16	Mean of Raw Data		477									
17	Standard Deviation of Raw Data		256.6									
18	Khat		3.897									
19	Theta hat		122.4									
20	Kstar		3.799									
21	Theta star		125.6									
22	Mean of Log Transformed Data		6.034									
23	Standard Deviation of Log Transformed Data		0.537									
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R		0.935									
28	Approximate Shapiro Wilk Test Statistic		0.88									
29	Approximate Shapiro Wilk P Value		4.587E-13									
30	Lilliefors Test Statistic		0.14									
31	Lilliefors Critical (0.05) Value		0.0837									
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R		0.984									
37	A-D Test Statistic		0.692									
38	A-D Critical (0.05) Value		0.757									
39	K-S Test Statistic		0.0783									
40	K-S Critical(0.05) Value		0.0867									
41	Data appear Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R		0.984									
46	Approximate Shapiro Wilk Test Statistic		0.972									
47	Approximate Shapiro Wilk P Value		0.161									
48	Lilliefors Test Statistic		0.1									
49	Lilliefors Critical (0.05) Value		0.0837									
50	Data appear Approximate_Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
1	Gamma Background Statistics for Uncensored Full Data Sets											
2	User Selected Options											
3	Date/Time of Computation			9/25/2013 3:23:21 PM								
4	From File			K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst								
5	Full Precision			OFF								
6	Confidence Coefficient			95%								
7	Coverage			90%								
8	Number of Bootstrap Operations			2000								
9												
10	MnFine											
11												
12	General Statistics											
13	Total Number of Observations				112		Number of Distinct Observations				104	
14	Minimum				61		First Quartile				330	
15	Second Largest				1440		Median				412	
16	Maximum				1560		Third Quartile				581.3	
17	Mean				477		SD				256.6	
18	Coefficient of Variation				0.538		Skewness				1.656	
19	Mean of logged Data				6.034		SD of logged Data				0.537	
20												
21	Critical Values for Background Threshold Values (BTVs)											
22	Tolerance Factor K (For UTL)				1.509		d2max (for USL)				3.248	
23												
24	Gamma GOF Test											
25	A-D Test Statistic				0.692		Anderson-Darling Gamma GOF Test					
26	5% A-D Critical Value				0.757		Detected data appear Gamma Distributed at 5% Significance Level					
27	K-S Test Statistic				0.0783		Kolmogrov-Smirnoff Gamma GOF Test					
28	5% K-S Critical Value				0.0867		Detected data appear Gamma Distributed at 5% Significance Level					
29	Detected data appear Gamma Distributed at 5% Significance Level											
30												
31	Gamma Statistics											
32	k hat (MLE)				3.897		k star (bias corrected MLE)				3.799	
33	Theta hat (MLE)				122.4		Theta star (bias corrected MLE)				125.6	
34	nu hat (MLE)				873		nu star (bias corrected)				850.9	
35	MLE Mean (bias corrected)				477		MLE Sd (bias corrected)				244.8	
36												
37	Background Statistics Assuming Gamma Distribution											
38	95% Wilson Hilferty (WH) Approx. Gamma UPL				938		90% Percentile				805.2	
39	95% Hawkins Wixley (HW) Approx. Gamma UPL				951.9		95% Percentile				937.5	
40	95% WH Approx. Gamma UTL with 90% Coverage				879.8		99% Percentile				1221	
41	95% HW Approx. Gamma UTL with 90% Coverage				889.4							
42	95% WH USL				1675		95% HW USL				1784	
43												
44	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
45	data set free of outliers and consists of observations collected from clean unimpacted locations.											
46	The use of USL tends to provide a balance between false positives and false negatives provided the data											
47	represents a background data set and when many onsite observations need to be compared with the BTV.											
48												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation		9/25/2013 3:26:01 PM									
4	From File		K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst									
5	Full Precision		OFF									
6	Confidence Coefficient		0.95									
7												
8												
9	NIFine											
10												
11	Raw Statistics											
12	Number of Valid Observations				112							
13	Number of Distinct Observations				89							
14	Minimum				5.8							
15	Maximum				114							
16	Mean of Raw Data				18.14							
17	Standard Deviation of Raw Data				11.17							
18	Khat				5.026							
19	Theta hat				3.61							
20	Kstar				4.897							
21	Theta star				3.705							
22	Mean of Log Transformed Data				2.795							
23	Standard Deviation of Log Transformed Data				0.431							
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R				0.743							
28	Approximate Shapiro Wilk Test Statistic				0.609							
29	Approximate Shapiro Wilk P Value				0							
30	Lilliefors Test Statistic				0.17							
31	Lilliefors Critical (0.05) Value				0.0837							
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R				0.809							
37	A-D Test Statistic				1.293							
38	A-D Critical (0.05) Value				0.755							
39	K-S Test Statistic				0.082							
40	K-S Critical(0.05) Value				0.0865							
41	Data follow Appr. Gamma Distribution at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R				0.973							
46	Approximate Shapiro Wilk Test Statistic				0.963							
47	Approximate Shapiro Wilk P Value				0.0272							
48	Lilliefors Test Statistic				0.0558							
49	Lilliefors Critical (0.05) Value				0.0837							
50	Data appear Approximate_Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
1	Lognormal Background Statistics for Uncensored Full Data Sets											
2	User Selected Options											
3	Date/Time of Computation			9/25/2013 3:27:01 PM								
4	From File			K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst								
5	Full Precision			OFF								
6	Confidence Coefficient			95%								
7	Coverage			90%								
8	New or Future K Observations			1								
9	Number of Bootstrap Operations			2000								
10												
11	NIFine											
12												
13	General Statistics											
14	Total Number of Observations				112		Number of Distinct Observations				89	
15	Minimum				5.8		First Quartile				12.95	
16	Second Largest				44		Median				16.7	
17	Maximum				114		Third Quartile				21.03	
18	Mean				18.14		SD				11.17	
19	Coefficient of Variation				0.616		Skewness				5.87	
20	Mean of logged Data				2.795		SD of logged Data				0.431	
21												
22	Critical Values for Background Threshold Values (BTVs)											
23	Tolerance Factor K (For UTL)				1.509		d2max (for USL)				3.248	
24												
25	Lognormal GOF Test											
26	Shapiro Wilk Test Statistic				0.963		Shapiro Wilk Lognormal GOF Test					
27	5% Shapiro Wilk P Value				0.0272		Data Not Lognormal at 5% Significance Level					
28	Lilliefors Test Statistic				0.0558		Lilliefors Lognormal GOF Test					
29	5% Lilliefors Critical Value				0.0837		Data appear Lognormal at 5% Significance Level					
30	Data appear Approximate Lognormal at 5% Significance Level											
31												
32	Background Statistics assuming Lognormal Distribution											
33	95% UTL with 90% Coverage				31.36		90% Percentile (z)				28.43	
34	95% UPL (t)				33.55		95% Percentile (z)				33.24	
35	95% USL				66.3		99% Percentile (z)				44.58	
36												
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
38	data set free of outliers and consists of observations collected from clean unimpacted locations.											
39	The use of USL tends to provide a balance between false positives and false negatives provided the data											
40	represents a background data set and when many onsite observations need to be compared with the BTV.											
41												

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Nonparametric Background Statistics for Data Sets with Non-Detects												
2	User Selected Options												
3	Date/Time of Computation	9/25/2013 11:35:40 AM											
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst											
5	Full Precision	OFF											
6	Confidence Coefficient	95%											
7	Coverage	90%											
8	Different or Future K Observations	1											
9													
10	SeFine												
11													
12	General Statistics												
13	Total Number of Observations	112							Number of Distinct Observations	9			
14	Number of Detects	95							Number of Non-Detects	17			
15	Number of Distinct Detects	9							Number of Distinct Non-Detects	1			
16	Minimum Detect	0.2							Minimum Non-Detect	0.2			
17	Maximum Detect	1.3							Maximum Non-Detect	0.2			
18	Variance Detected	0.0337							Percent Non-Detects	15.18%			
19	Mean Detected	0.433							SD Detected	0.184			
20	Mean of Detected Logged Data	-0.918							SD of Detected Logged Data	0.401			
21													
22	Critical Values for Background Threshold Values (BTVs)												
23	Tolerance Factor K (For UTL)	1.509							d2max (for USL)	3.248			
24													
25	Nonparametric Distribution Free Background Statistics												
26	Data do not follow a Discernible Distribution (0.05)												
27													
28	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution												
29	Mean	0.397							SD	0.188			
30	95% UTL90% Coverage	0.681							95% KM UPL (t)	0.71			
31	95% KM Chebyshev UPL	1.219							90% KM Percentile (z)	0.638			
32	95% KM Percentile (z)	0.706							99% KM Percentile (z)	0.834			
33	95% KM USL	1.007											
34													
35	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)												
36	Order of Statistic, r	105							95% UTL with90% Coverage	0.7			
37	Approximate f	1.458							Confidence Coefficient (CC) achieved by UTL	0.882			
38	95% UPL	0.7							95% USL	1.3			
39	95% KM Chebyshev UPL	1.219											
40													
41	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background												
42	data set free of outliers and consists of observations collected from clean unimpacted locations.												
43	The use of USL tends to provide a balance between false positives and false negatives provided the data												
44	represents a background data set and when many onsite observations need to be compared with the BTV.												
45													

	A	B	C	D	E	F	G	H	I	J	K	L		
1	Nonparametric Background Statistics for Data Sets with Non-Detects													
2	User Selected Options													
3	Date/Time of Computation	9/25/2013 11:59:52 AM												
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst												
5	Full Precision	OFF												
6	Confidence Coefficient	95%												
7	Coverage	90%												
8	Different or Future K Observations	1												
9														
10	AgFine													
11														
12	General Statistics													
13	Total Number of Observations	112								Number of Distinct Observations	6			
14	Number of Detects	47								Number of Non-Detects	65			
15	Number of Distinct Detects	6								Number of Distinct Non-Detects	4			
16	Minimum Detect	0.1								Minimum Non-Detect	0.1			
17	Maximum Detect	0.6								Maximum Non-Detect	0.5			
18	Variance Detected	0.0116								Percent Non-Detects	58.04%			
19	Mean Detected	0.181								SD Detected	0.108			
20	Mean of Detected Logged Data	-1.842								SD of Detected Logged Data	0.494			
21														
22	Critical Values for Background Threshold Values (BTVs)													
23	Tolerance Factor K (For UTL)	1.509								d2max (for USL)	3.248			
24														
25	Nonparametric Distribution Free Background Statistics													
26	Data do not follow a Discernible Distribution (0.05)													
27														
28	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution													
29	Mean	0.14								SD	0.0817			
30	95% UTL90% Coverage	0.264								95% KM UPL (t)	0.277			
31	95% KM Chebyshev UPL	0.498								90% KM Percentile (z)	0.245			
32	95% KM Percentile (z)	0.275								99% KM Percentile (z)	0.331			
33	95% KM USL	0.406												
34														
35	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)													
36	Order of Statistic, r	105								95% UTL with90% Coverage	0.5			
37	Approximate f	1.458								Confidence Coefficient (CC) achieved by UTL	0.882			
38	95% UPL	0.5								95% USL	0.6			
39	95% KM Chebyshev UPL	0.498												
40														
41	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background													
42	data set free of outliers and consists of observations collected from clean unimpacted locations.													
43	The use of USL tends to provide a balance between false positives and false negatives provided the data													
44	represents a background data set and when many onsite observations need to be compared with the BTV.													
45														

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation	9/25/2013 3:29:35 PM										
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst										
5	Full Precision	OFF										
6	Confidence Coefficient	0.95										
7												
8												
9	TIFine											
10												
11	Raw Statistics											
12	Number of Valid Observations	112										
13	Number of Distinct Observations	36										
14	Minimum	0.07										
15	Maximum	0.62										
16	Mean of Raw Data	0.249										
17	Standard Deviation of Raw Data	0.0953										
18	Khat	7.372										
19	Theta hat	0.0337										
20	Kstar	7.181										
21	Theta star	0.0346										
22	Mean of Log Transformed Data	-1.461										
23	Standard Deviation of Log Transformed Data	0.378										
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R	0.964										
28	Approximate Shapiro Wilk Test Statistic	0.931										
29	Approximate Shapiro Wilk P Value	5.7142E-6										
30	Lilliefors Test Statistic	0.102										
31	Lilliefors Critical (0.05) Value	0.0837										
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R	0.991										
37	A-D Test Statistic	0.363										
38	A-D Critical (0.05) Value	0.753										
39	K-S Test Statistic	0.0524										
40	K-S Critical(0.05) Value	0.0864										
41	Data appear Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R	0.994										
46	Approximate Shapiro Wilk Test Statistic	0.989										
47	Approximate Shapiro Wilk P Value	0.917										
48	Lilliefors Test Statistic	0.0567										
49	Lilliefors Critical (0.05) Value	0.0837										
50	Data appear Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
1	Lognormal Background Statistics for Uncensored Full Data Sets											
2	User Selected Options											
3	Date/Time of Computation			9/25/2013 3:30:32 PM								
4	From File			K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst								
5	Full Precision			OFF								
6	Confidence Coefficient			95%								
7	Coverage			90%								
8	New or Future K Observations			1								
9	Number of Bootstrap Operations			2000								
10												
11	TIFine											
12												
13	General Statistics											
14	Total Number of Observations				112		Number of Distinct Observations				36	
15	Minimum				0.07		First Quartile				0.18	
16	Second Largest				0.55		Median				0.235	
17	Maximum				0.62		Third Quartile				0.303	
18	Mean				0.249		SD				0.0953	
19	Coefficient of Variation				0.383		Skewness				1.169	
20	Mean of logged Data				-1.461		SD of logged Data				0.378	
21												
22	Critical Values for Background Threshold Values (BTVs)											
23	Tolerance Factor K (For UTL)				1.509		d2max (for USL)				3.248	
24												
25	Lognormal GOF Test											
26	Shapiro Wilk Test Statistic				0.989		Shapiro Wilk Lognormal GOF Test					
27	5% Shapiro Wilk P Value				0.917		Data appear Lognormal at 5% Significance Level					
28	Lilliefors Test Statistic				0.0567		Lilliefors Lognormal GOF Test					
29	5% Lilliefors Critical Value				0.0837		Data appear Lognormal at 5% Significance Level					
30	Data appear Lognormal at 5% Significance Level											
31												
32	Background Statistics assuming Lognormal Distribution											
33	95% UTL with 90% Coverage				0.41		90% Percentile (z)				0.376	
34	95% UPL (t)				0.435		95% Percentile (z)				0.432	
35	95% USL				0.791		99% Percentile (z)				0.559	
36												
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
38	data set free of outliers and consists of observations collected from clean unimpacted locations.											
39	The use of USL tends to provide a balance between false positives and false negatives provided the data											
40	represents a background data set and when many onsite observations need to be compared with the BTV.											
41												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation		9/25/2013 3:33:30 PM									
4	From File		K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst									
5	Full Precision		OFF									
6	Confidence Coefficient		0.95									
7												
8												
9	VFine											
10												
11	Raw Statistics											
12	Number of Valid Observations				112							
13	Number of Distinct Observations				90							
14	Minimum				11.9							
15	Maximum				99							
16	Mean of Raw Data				32.41							
17	Standard Deviation of Raw Data				13.56							
18	Khat				7.263							
19	Theta hat				4.462							
20	Kstar				7.074							
21	Theta star				4.581							
22	Mean of Log Transformed Data				3.408							
23	Standard Deviation of Log Transformed Data				0.367							
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R				0.911							
28	Approximate Shapiro Wilk Test Statistic				0.845							
29	Approximate Shapiro Wilk P Value				0							
30	Lilliefors Test Statistic				0.136							
31	Lilliefors Critical (0.05) Value				0.0837							
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R				0.957							
37	A-D Test Statistic				0.747							
38	A-D Critical (0.05) Value				0.753							
39	K-S Test Statistic				0.081							
40	K-S Critical(0.05) Value				0.0864							
41	Data appear Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R				0.991							
46	Approximate Shapiro Wilk Test Statistic				0.983							
47	Approximate Shapiro Wilk P Value				0.668							
48	Lilliefors Test Statistic				0.0566							
49	Lilliefors Critical (0.05) Value				0.0837							
50	Data appear Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Lognormal Background Statistics for Uncensored Full Data Sets												
2	User Selected Options												
3	Date/Time of Computation	9/25/2013 3:34:25 PM											
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst											
5	Full Precision	OFF											
6	Confidence Coefficient	95%											
7	Coverage	90%											
8	New or Future K Observations	1											
9	Number of Bootstrap Operations	2000											
10													
11	VFine												
12													
13	General Statistics												
14	Total Number of Observations	112							Number of Distinct Observations	90			
15	Minimum	11.9							First Quartile	23.95			
16	Second Largest	95.4							Median	30.4			
17	Maximum	99							Third Quartile	37.6			
18	Mean	32.41							SD	13.56			
19	Coefficient of Variation	0.419							Skewness	2.166			
20	Mean of logged Data	3.408							SD of logged Data	0.367			
21													
22	Critical Values for Background Threshold Values (BTVs)												
23	Tolerance Factor K (For UTL)	1.509							d2max (for USL)	3.248			
24													
25	Lognormal GOF Test												
26	Shapiro Wilk Test Statistic	0.983							Shapiro Wilk Lognormal GOF Test				
27	5% Shapiro Wilk P Value	0.668							Data appear Lognormal at 5% Significance Level				
28	Lilliefors Test Statistic	0.0566							Lilliefors Lognormal GOF Test				
29	5% Lilliefors Critical Value	0.0837							Data appear Lognormal at 5% Significance Level				
30	Data appear Lognormal at 5% Significance Level												
31													
32	Background Statistics assuming Lognormal Distribution												
33	95% UTL with 90% Coverage	52.58							90% Percentile (z)	48.36			
34	95% UPL (t)	55.7							95% Percentile (z)	55.26			
35	95% USL	99.58							99% Percentile (z)	70.98			
36													
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background												
38	data set free of outliers and consists of observations collected from clean unimpacted locations.												
39	The use of USL tends to provide a balance between false positives and false negatives provided the data												
40	represents a background data set and when many onsite observations need to be compared with the BTV.												
41													

	A	B	C	D	E	F	G	H	I	J	K	L
1	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects											
2	User Selected Options											
3	Date/Time of Computation		9/25/2013 10:37:44 AM									
4	From File		K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst									
5	Full Precision		OFF									
6	Confidence Coefficient		0.95									
7												
8												
9	ZnFine											
10												
11	Raw Statistics											
12	Number of Valid Observations				112							
13	Number of Distinct Observations				61							
14	Minimum				20							
15	Maximum				194							
16	Mean of Raw Data				73.21							
17	Standard Deviation of Raw Data				26.57							
18	Khat				8.308							
19	Theta hat				8.813							
20	Kstar				8.091							
21	Theta star				9.049							
22	Mean of Log Transformed Data				4.232							
23	Standard Deviation of Log Transformed Data				0.355							
24												
25	Normal GOF Test Results											
26												
27	Correlation Coefficient R				0.954							
28	Approximate Shapiro Wilk Test Statistic				0.924							
29	Approximate Shapiro Wilk P Value				7.7391E-7							
30	Lilliefors Test Statistic				0.13							
31	Lilliefors Critical (0.05) Value				0.0837							
32	Data not Normal at (0.05) Significance Level											
33												
34	Gamma GOF Test Results											
35												
36	Correlation Coefficient R				0.984							
37	A-D Test Statistic				1.094							
38	A-D Critical (0.05) Value				0.753							
39	K-S Test Statistic				0.0957							
40	K-S Critical(0.05) Value				0.0864							
41	Data not Gamma Distributed at (0.05) Significance Level											
42												
43	Lognormal GOF Test Results											
44												
45	Correlation Coefficient R				0.984							
46	Approximate Shapiro Wilk Test Statistic				0.978							
47	Approximate Shapiro Wilk P Value				0.394							
48	Lilliefors Test Statistic				0.0857							
49	Lilliefors Critical (0.05) Value				0.0837							
50	Data appear Approximate_Lognormal at (0.05) Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Lognormal Background Statistics for Uncensored Full Data Sets												
2	User Selected Options												
3	Date/Time of Computation	9/25/2013 10:38:26 AM											
4	From File	K:\project\12042\ProUCLStats\MBSI_Final_ProUCL.wst											
5	Full Precision	OFF											
6	Confidence Coefficient	95%											
7	Coverage	90%											
8	New or Future K Observations	1											
9	Number of Bootstrap Operations	2000											
10													
11	ZnFine												
12													
13	General Statistics												
14	Total Number of Observations	112							Number of Distinct Observations	61			
15	Minimum	20							First Quartile	58			
16	Second Largest	153							Median	65			
17	Maximum	194							Third Quartile	86.25			
18	Mean	73.21							SD	26.57			
19	Coefficient of Variation	0.363							Skewness	1.321			
20	Mean of logged Data	4.232							SD of logged Data	0.355			
21													
22	Critical Values for Background Threshold Values (BTVs)												
23	Tolerance Factor K (For UTL)	1.509							d2max (for USL)	3.248			
24													
25	Lognormal GOF Test												
26	Shapiro Wilk Test Statistic	0.978							Shapiro Wilk Lognormal GOF Test				
27	5% Shapiro Wilk P Value	0.394							Data appear Lognormal at 5% Significance Level				
28	Lilliefors Test Statistic	0.0857							Lilliefors Lognormal GOF Test				
29	5% Lilliefors Critical Value	0.0837							Data Not Lognormal at 5% Significance Level				
30	Data appear Approximate Lognormal at 5% Significance Level												
31													
32	Background Statistics assuming Lognormal Distribution												
33	95% UTL with 90% Coverage	117.7							90% Percentile (z)	108.6			
34	95% UPL (t)	124.4							95% Percentile (z)	123.5			
35	95% USL	218.3							99% Percentile (z)	157.3			
36													
37	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background												
38	data set free of outliers and consists of observations collected from clean unimpacted locations.												
39	The use of USL tends to provide a balance between false positives and false negatives provided the data												
40	represents a background data set and when many onsite observations need to be compared with the BTV.												
41													