

## CALCULATING THE 95th PERCENTILE AND PREDICTING POSSIBLE OUTLIERS

Data Set	ln(x)		
0			
3	1.099	Number of Data Points* <input style="width: 50px;" type="text" value="53"/>	COLOR KEY <span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> User Inputs
197	5.283		
15.9	2.766	Enter Percentile <input style="width: 50px;" type="text" value="0.95"/>	(Note: Enter in decimal form, e.g. 0.95)
44.1	3.786		
72.7	4.286	Allowable Limit** <input style="width: 50px;" type="text" value="55.120"/>	" For a normal distribution"
7.06	1.954		
17.6	2.868	ln(x) value at percentile <input style="width: 50px;" type="text" value="4.012062"/>	
0.98	-0.02		
7.11	1.962	Allowable Limit** <input style="width: 50px;" type="text" value="55.261"/>	"For a lognormal distribution"
3.7	1.308		
49	3.892		
24.3	3.19	*Enter the data in column A starting with Cell A5; the spreadsheet will count the number of entries.	
9.05	2.203	Enter up to 200 data points. Data can be entered at random in any cell in the column.	
21.3	3.059		
30.6	3.421	**This calculated value indicates the limit which will have the entered percentage (percentile) of data points below the "Allowable Limit". In other words, this limit represents the "confidence" that a permittee will be capable of compliance based on the percentile.	
7.35	1.995		
57.1	4.045		
6.9	1.932		
29.5	3.384	<b>***Possible Outliers: Any Data Set values more than two standard deviations from the Mean (Ref: Chauvenet's criterion) will be formatted with a RED BACKGROUND. These values should be reviewed for possible exclusion from the data.</b>	
21.5	3.068		
1.29	0.255		
15.9	2.766		
1.8	0.588		
19.5	2.97	Permit Engineer: _____	Date: _____
53.8	3.985		
30.8	3.428		
3.7	1.308	Reviewing Engineer: _____	Date: _____
10.5	2.351		
5.26	1.66	DATA SOURCE: _____	

5.87	1.77
3.97	1.379
1.3	0.262
11.5	2.442
2.31	0.837
2.6	0.956
1.3	0.262
4.4	1.482
13	2.565
7.9	2.067
9.8	2.282
4	1.386
25	3.219
6.4	1.856
10	2.303
18	2.89
1.2	0.182
2	0.693
2.4	0.875
5.6	1.723
8.3	2.116
3	1.099
8.8	2.175

## ***E OUTLIERS***

***Outliers\*\*\****

Mean = 17.49

Std Dev ( $\sigma$ ) = 29.51

Min Value = 0

Mean -  $2\sigma$  = -41.5

Max Value = 197

Mean +  $2\sigma$  = 76.51