

# Calculating or Determining the 90<sup>th</sup> Percentile during Initial, Follow-up, Routine, and Reduced Monitoring

**Calculating the 90<sup>th</sup> percentile for 5 samples:**

- Rank your samples in order of concentration (mg/L), starting from lowest to highest.
- Find the average of the two highest results by adding them together and dividing by 2.
- The resultant number is recorded for the 90<sup>th</sup> percentile.

Sample Site #	Sample results
1	0.001
2	0.001
3	0.006
4	<b>0.008</b>
5	<b>0.014</b>

$$\begin{array}{r}
 0.008 \\
 + 0.014 \\
 \hline
 0.022
 \end{array}$$

Average: divide 0.022 by 2 = **0.011 (This is the number to record on Form 141A.)**  
(This is an example. Insert your own sample results.)

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**Calculating the 90<sup>th</sup> Percentile for 6 samples or more:**

- Rank your samples in order of concentration starting from lowest to highest.
- Take the total number of samples collected and multiply it by 0.90. The resultant number will tell you which sample to record.
  - If the number is not a whole number, you need to round to the nearest whole number.
    - If the number is exactly in the middle of two whole numbers, you round to the nearest even number.
      - i.e. 12.5 would be rounded to 12, and 13.5 would be rounded to 14.

**Example:** If you collect 10 samples, determine your 90<sup>th</sup> percentile like this:

- 10 x 0.90 = 9

Sample Site #	Sample results
1	0.001
2	0.001
3	0.001
4	0.001
5	0.001
6	0.004
7	0.005
8	0.006

<b>9</b>	<b>0.008</b>	<b>This sample should be recorded as the 90<sup>th</sup> percentile result on Form 141A.</b>
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10	0.010
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(This is an example. Insert your own sample results.)

(Use this form if your laboratory does not provide a 90th percentile summary for you)

Name of Public Water Supply: \_\_\_\_\_ ID No.: \_\_\_\_\_

**Results of Monitoring**

	Date Collected	Sample Location	Lead Result	Which Tier?
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

90<sup>th</sup> Percentile for Lead:

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	Date Collected	Sample Location	Copper Result	Which Tier?
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

90<sup>th</sup> Percentile for Copper:

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Mail to : Water Supply Operations Section  
Iowa Department of Natural Resources  
6200 Park Ave Ste 200  
Des Moines, IA 50321

Name of Public Water Supply: \_\_\_\_\_ ID No.: \_\_\_\_\_

Month & Year Samples were Collected: \_\_\_\_\_

### Sample Site Identification and Certification

#### Results of Monitoring

# Samples Required: \_\_\_\_\_ 90<sup>th</sup> Percentile Lead: \_\_\_\_\_ mg/L

# Samples Submitted: \_\_\_\_\_ 90<sup>th</sup> Percentile Copper: \_\_\_\_\_ mg/L

#### Change of Sampling Sites

Original Site Address:

\_\_\_\_\_

New Site Address:

\_\_\_\_\_

Distance between Sites (approximately): \_\_\_\_\_

Targeting Criteria: NEW: \_\_\_\_\_

OLD: \_\_\_\_\_

Reason for Change (attach additional pages if necessary):

Name (print or type) \_\_\_\_\_ Title \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

DNR Field Office: \_\_\_\_\_