

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

**If you collect 5 samples, calculate your 90th percentile like this:**

- 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>

	<b>0.008</b>
	<b>0.014</b>
+	
	0.022 . . . . .
	.

This is the number to record on Form 141A.

Average            divide 0.022 by 2 = **0.011**  
*(This is an example. Insert your own sample results.)*

\*\*\*\*\*  
 \*

## 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 90th percentile like this:

- $10 \times 0.90 = 9$

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>
10	0.010

This sample should be recorded as the 90<sup>th</sup> percentile result on Form 141A.

*(This is an example. Insert your own sample results.)*

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

Public Water Supply ID No. \_\_\_\_\_

Name of Public Water Supply: \_\_\_\_\_

**Results of Monitoring:**

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

90th Percentile for Lead:

--	--	--	--

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

90th Percentile for Copper:

--	--	--	--

Mail to : Department of Natural Resources, Water Supply Section  
Water Supply Section  
401 SW 7<sup>th</sup> St., Suite M  
Des Moines, Iowa 50309-4611

PWSID # \_\_\_\_\_

NAME OF PUBLIC WATER SUPPLY: \_\_\_\_\_

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

**SAMPLES SITE IDENTIFICATION AND CERTIFICATION**

**RESULTS OF MONITORING**

# Samples Required _____	# Samples Submitted _____	90th Percentile Lead _____ <b>mg/L</b>
		90th Percentile Copper _____ <b>mg/L</b>

**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):  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE (name & title ) _____	Today's Date: _____
------------------------------------	---------------------

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