

Middle Creek Water Monitoring Data Sheet

Monitor's Name: _____

Sample Site #/Location: _____ Date: _____ Time: _____

Weather Conditions: Clear ☀ Partly Cloudy ☁ Cloudy ☁ Rain ☔ Snow ❄

Precipitation in the Past 48 hours: None Trace Light Moderate Heavy

Water Appearance: Scum Foam Oily Sheen Muddy Milky Clear Other:

Streambed Coating: Orange/Red Yellowish Green Black Brown None Other:

Odor: Rotten Egg Musky Acrid None Other:

Air Temperature: °C Stream Flow: Low Moderate High

Prepare all tubes, sample cells and droppers by rinsing 3 times in sample water. Do *3rd replicate only as needed.

TEMPERATURE

1. Tie a string to the end of the thermometer and lower it about 4 inches below the surface.
2. Keep the thermometer in the water for about 2 minutes or until a constant reading is obtained.

_____ °C

TRANSPARENCY/TURBIDITY TUBE

1. Rinse tube 3 times in the stream.
2. Make sure drain is closed and fill the tube.

Or

1. Collect sample in a bucket or bottle.
2. Shake the sample to re-suspend particles, then pour into tube.

Then

3. Stand with your back to the sun and slowly release clamp while looking down through the opening. Tighten clamp when you can faintly see the black and white pattern in the bottom of the tube.
4. Read and record the height of the column of water.

_____ cm #1

DISSOLVED OXYGEN

1. Rinse bottle 3 times in the stream.
2. Slowly fill the bottle, tap sides to dislodge any air bubbles.
3. Place the stopper while the bottle is still submerged. (there should still be a small amount of water around the cap)
4. Uncap the bottle and add one Dissolved Oxygen 1 powder pillow.
5. Add one Dissolved Oxygen 2 powder pillow.
6. Replace the stopper, avoid trapping air bubbles, and shake to mix.
7. Allow precipitate to settle to the line on bottle.
8. Shake again, allow precipitate to settle to the line again.
9. Uncap and add one Dissolved Oxygen 3 powder pillow.
10. Replace the stopper, avoid trapping air bubbles, and shake until most of the precipitate has dissolved. Sample will now be a clear yellowish color.

Sample is now fixed and can be stored for 6 hours until testing can be completed.

11. Fill plastic tube level to the top.
12. Pour into the square mixing bottle.
13. Add Sodium Thiosulfate, drop by drop, counting each drop as you go.
14. Add drops until the sample is colorless.
15. Number of drops = mg/L of DO.

_____ mg/L DO #1 _____ mg/L DO #2 _____ mg/L DO #3* +/-1 unit

pH

Collect sample in beaker, let sit for 10 minutes, dip strip in water and compare and match color(s).

_____ pH #1 _____ pH #2 _____ pH #3* +/-0.5 unit

Phosphorus as ORTHOPHOSPHATES

1. Fill one of the test tubes to the top line. Use dropper if needed. Place in left hand opening of the color comparator.
2. Fill square mixing bottle exactly to the 20mL mark with sample water.
3. Add one PhosVer 3 powder pillow. Swirl for 30 seconds. Wait for 8 minutes, but not more than 10 minutes.
4. Transfer sample to the test tube. Fill tube to the top line. Use dropper if needed. Place in right hand opening.
5. **Leave tubes uncapped.** Hold comparator up to a light source and rotate disc to match the colors. **Divide the scale reading by 50 to obtain mg/L orthophosphate.**

$$\frac{\text{_____}}{\text{scale reading}} / 50 = \text{_____} \text{ mg/L Orthophosphates \#1}$$

$$\frac{\text{_____}}{\text{scale reading}} / 50 = \text{_____} \text{ mg/L Orthophosphates \#2}$$

$$\frac{\text{_____}}{\text{scale reading}} / 50 = \text{_____} \text{ mg/L Orthophosphates \#3* } \pm 0.04 \text{ unit}$$

SULFATES

1. Fill square cell with 25mL of sample.
2. Add one SulfaVer4 powder pillow.
3. Cap and shake for 15 sec. Wait for 5 min.
4. Invert sample cell to mix any remaining solids.
5. Pour contents into graduated cylinder.
6. Hold cylinder vertically, looking down through the opening.
7. Slowly lower dipstick in to the cylinder until the black dot is no longer visible.
8. Read mg/L on the dipstick at the water surface.

☠Dispose of water in your toxic waste bottle.

$$\text{_____} \text{ mg/L Sulfates \#1} \quad \text{_____} \text{ mg/L Sulfates \#2} \quad \text{_____} \text{ mg/L Sulfates \#3* } \pm 10 \text{ units}$$

NITRATES- Choose either low range or high range process

Low Range-

1. Fill test tube to the 5.0mL mark (bottom line) with sample water. Go to step 3.

High Range-

1. Fill dropper to the 0.5 mL mark and transfer to a tube.
2. With distilled water, fill the test tube to the 5.0mL mark (bottom line).
3. Add one NitraVer 6 powder pillow. Shake vigorously for 3 minutes.
4. Isolate the cadmium particles by pouring the sample into an empty test tube. Leave about 0.5mL to be sure the cadmium stays behind.
5. Add one NitroVer 3 powder pillow to the new sample tube. Shake for 30 seconds. Place the treated sample tube in the right hand opening of the color comparator. Wait 10 minutes for color to develop.
6. While you are waiting, prepare the blank. Rinse the original sample tube, **☠collect rinse water in your toxic waste bottle.** Fill tube with untreated sample water and place in the left hand opening.
7. After 10 minutes, but before 20 minutes, read the color comparator by holding it up to a light source and rotate the color disc and match the color.

Low Range- mg/L is indicated on the scale.

High Range- Multiply scale by 10 = mg/L.

$$\frac{\text{_____}}{\text{scale reading}} = \text{mg/L Nitrates \#1}$$

$$\frac{\text{_____}}{\text{scale reading}} = \text{mg/L Nitrates \#2}$$

$$\frac{\text{_____}}{\text{scale reading}} = \text{mg/L Nitrates \#3* } \pm 0.04 \text{ unit}$$

$$\frac{\text{_____}}{\text{scale reading}} * 10 = \text{_____} \text{ mg/L Nitrates \#1}$$

$$\frac{\text{_____}}{\text{scale reading}} * 10 = \text{_____} \text{ mg/L Nitrates \#2}$$

$$\frac{\text{_____}}{\text{scale reading}} * 10 = \text{_____} \text{ mg/L Nitrates \#3* } \pm 0.1 \text{ unit}$$

Perform all tests on this page at room temperature