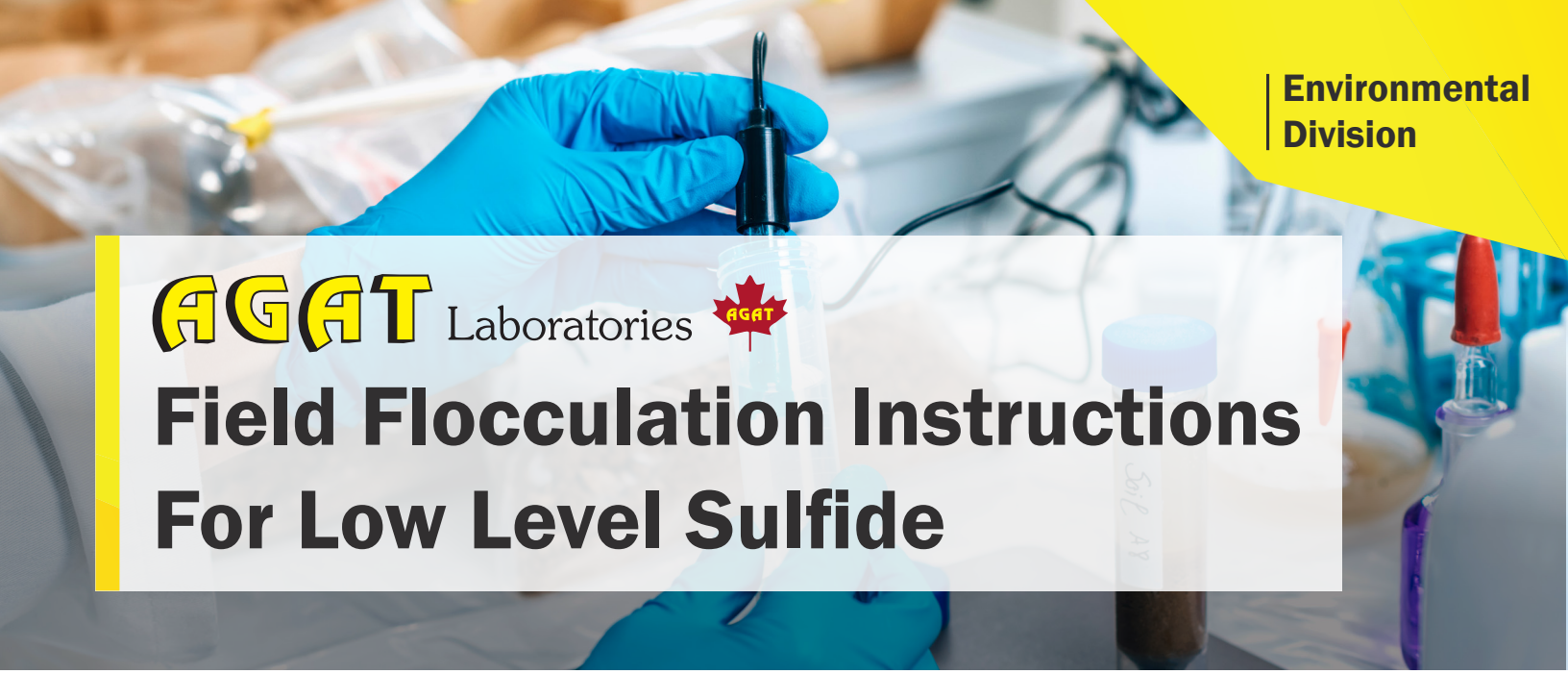

Environmental Division

AGAT Laboratories

Field Flocculation Instructions For Low Level Sulfide

Sampling Containers

1 x 250 mL Amber Bottle
1 x 500mL Clear Glass Bottle
Preservatives
1 x 2mL 2N Zinc Acetate (ZnOAc)

Flocculation Reagents

~0.8 mL (16-20 drops) of 6N Sodium Hydroxide (6N NaOH) Solution
~0.8 mL (16-20 drops) of 70% Aluminum Chloride (AlCl3) Solution

Flocculation Procedure

1. Take the field pH and record on the chain of custody (CoC) for each sample.
2. Pre-charge the 250mL amber bottle with the ZnOAc preservative and keep aside (to be used in step 10).
3. Take the 500mL clear glass bottle and add 16-20 drops (0.8mL) of 6N NaOH.
4. Fill the clear bottle with sampled water and immediately add 16-20 drops (0.8mL) of $AlCl_3$ solution.
5. Cap the bottle with zero headspace.
6. Hold the capped bottle upright and rotate in a figure 8 vigorously back and forth for 1 minute or longer to allow a floc to form and clarify the sample.
7. Test the pH of the solution in the clear glass bottle.
8. The pH should be between 6 and 9. Further amounts of the 6N NaOH and $AlCl_3$ may be required to adjust the pH into range. Do not use excessive amounts.
9. Let the sample settle until reasonably clear supernatant can be drawn off. For proper flocculation, this may take 5 to 15 minutes. Do not wait longer than necessary.
10. Once settled, transfer the solution from the clear glass bottle to the pre-charged amber bottle.

Important: Field pH is required for calculations. Please record it on the CoC.

Flocculation Procedure Reference

"Standard Methods for the Examination of Water and Wastewater." 2017, 23rd ed., American Public Health Association, American Water Works Association, and Water Environment Federation. 4500 S2-, Sulfide, B. Separation of Soluble and Insoluble Sulfides.