

# Combination Outfit

For General Water Analysis

## Test Kit Instruction Manual

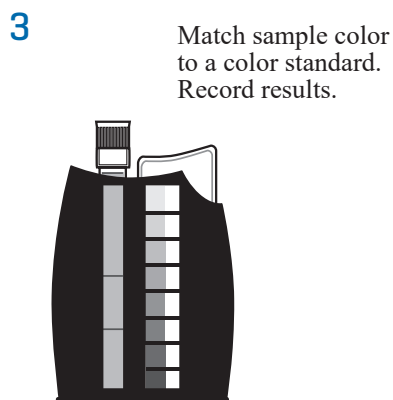
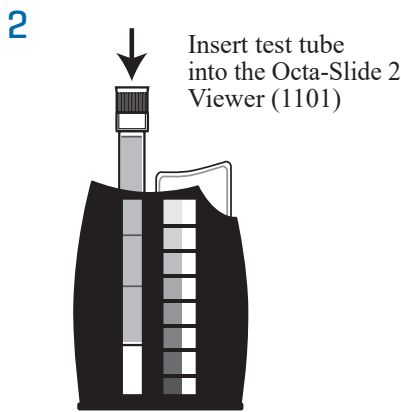
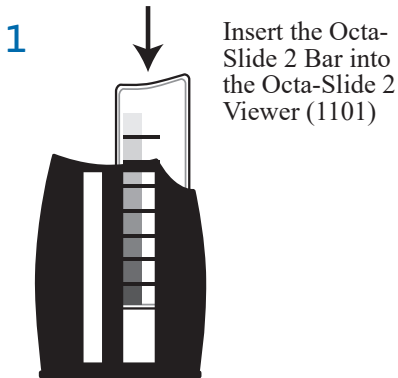
Code 4783-03

Code 3590-03



## USE OF THE OCTA-SLIDE 2 VIEWER

The Octa-Slide 2 Viewer should be held so non-direct light enters through the back of the Viewer. Slide the Octa-Slide 2 Bar into the Viewer. Insert the reacted sample into the top of the Viewer. Match the color of the reaction to the color standards.



## COMBINATION WATER OUTFIT

CODE 4783-03

CODE 3590-03

QUANTITY	CONTENTS	CODE
15 mL	*Hardness Reagent #5	*4483-E
50	Hardness Reagent #6 Tablets	4484A-H
60 mL	Hardness Reagent #7	4487WT-H
30 mL	*Iron Reagent #1	*4450-G
4.5 g	*Iron Reagent #2 Powder	*4451-S
30 mL	*Wide Range Indicator	*2218-G
30 mL†	*Sulfide Reagent A	*4458-G
15 mL†	*Sulfide Reagent B	*4459-E
60 mL†	Sulfide Reagent C	4460-H
1	Test Tube, w/cap	4488
1	Spoon, 0.05 g, plastic	0696
4 (6†)	Test Tubes, plastic, 2.5-5-10 mL, w/caps	0106
1†	Pipet, 1.0 mL, plastic	0354
1	Iron Octa-Slide 2 Bar, 0.5-10.0 ppm	4448-01
1	Wide Range pH Octa-Slide 2 Bar, 5.0-10.0 ppm	3483-01
1†	Sulfide Octa-Slide 2 Bar, 0.2-20 ppm	4457-01
1	Octa Slide 2 Viewer	1101

\*WARNING: Reagents marked with an \* are considered to be potential health hazards.

To order individual reagents or test kit components, use the specified code number.

†Code 3590-03 Only

## TOTAL HARDNESS TEST PROCEDURE

1



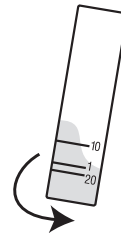
Fill the test tube (4488) to the desired line with the sample water,  
 upper line: 1 drop = 10 ppm  $\text{CaCO}_3$   
 middle line: 1 drop = 1 gpg  $\text{CaCO}_3$   
 lower line: 1 drop = 20 ppm  $\text{CaCO}_3$

2



Add 5 drops of \*Hardness Reagent #5 (4483).

3



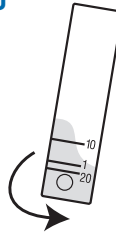
Swirl to mix.

4



Add 1 Hardness Reagent #6 Tablet (4484A).

5



Swirl until tablet has disintegrated. Solution will turn Red if hardness is present. Proceed to next step. If solution is Blue, there is no measurable amount of hardness.

6



While gently swirling the tube, add Hardness Reagent #7 (4487WT) one drop at a time until the red color changes to blue. Count the number of drops added. Hold bottle vertically.

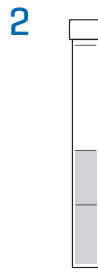
7

Multiply the number of drops used in Step 6 as follows:  
 upper line: each drop equals 10 ppm Hardness as  $\text{CaCO}_3$   
 middle line: each drop equals 1 gpg Hardness as  $\text{CaCO}_3$   
 lower line: each drop equals 20 ppm Hardness as  $\text{CaCO}_3$

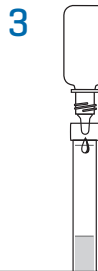
## IRON TEST PROCEDURE



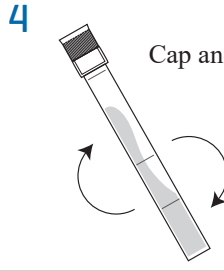
1 Insert the Iron Octa-Slide 2 Bar (4448-01) into the Octa-Slide 2 Viewer (1101).



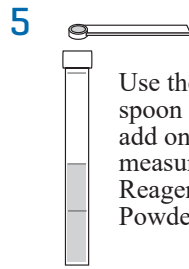
2 Rinse test tube (0106) with sample water. Fill to 5 mL line.



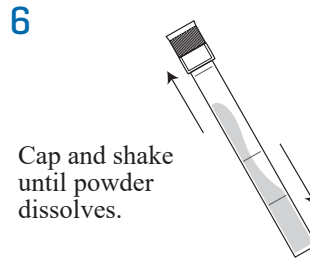
3 Add 5 drops of \*Iron Reagent #1 (4450).



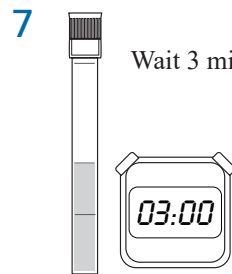
4 Cap and mix.



5 Use the 0.05g spoon (0690) to add one level measure of \*Iron Reagent #2 Powder (4451).



6 Cap and shake until powder dissolves.

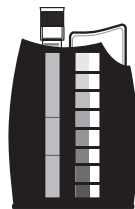


7 Wait 3 minutes.



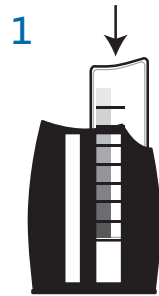
8 Insert test tube into the Octa-Slide 2 Viewer (1101).

9



Match sample color to a standard. Record results as ppm iron.

## pH TEST PROCEDURE



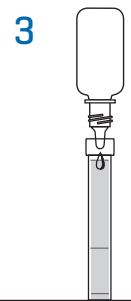
1

Insert Wide Range pH Octa-Slide 2 Bar (3483-01) into the Octa-Slide 2 Viewer (1101)



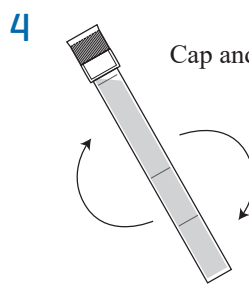
2

Fill a test tube (0106) to the 10 mL line with sample water.



3

Add 8 drops of \*Wide Range pH Indicator (2218).



4

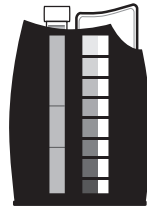
Cap and mix.



5

Insert test tube into the Octa-Slide 2 Viewer (1101).

6



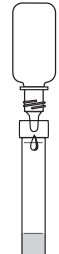
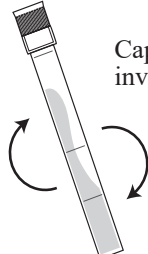
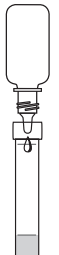
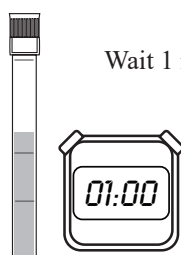
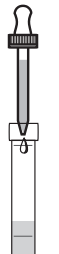




Match sample color to a color standard. Record results as pH.

## TOTAL SULFIDE TEST PROCEDURE

†Supplied only with Code 3590-03

Note: Collect sample with a minimum of aeration and analyze promptly.

<p><b>1</b></p>  <p>Insert the Sulfide Octa-Slide 2 Bar (4457-01) into the Octa-Slide 2 Viewer (1101).</p>	<p><b>2</b></p>  <p>Fill a test tube (0106) to the 5 mL line with the sample water.</p>
<p><b>3</b></p>  <p>Add 15 drops of *Sulfide Reagent A (4458).</p>	<p><b>4</b></p>  <p>Cap and gently invert to mix.</p>
<p><b>5</b></p>  <p>Add 3 drops of *Sulfide Reagent B (4459). Cap and mix.</p>	<p><b>6</b></p>  <p>Wait 1 minute.</p>
<p><b>7</b></p>  <p>Use the pipet (0354) to add 1.0 mL of Sulfide Reagent C (4460). Cap and mix.</p>	<p><b>8</b></p>  <p>Insert test tube into the Octa-Slide 2 Viewer (1101).</p>
<p><b>9</b></p>  <p>Match sample color to a color standard. Record results as ppm Sulfide.</p>	<p><b>EPA accepted procedure</b></p> <p>A known concentration of sulfide in the range of 0.2-20.0 ppm <math>S^{=}</math> may be prepared as a check standard by referring to APHA Standard Methods 4500-S2-D, 17th Ed., 1989. Run this test on the check standard. If the result is incorrect, discard the old reagents and order the reagent refill package.</p>