

**Kachemak Bay
And Anchor River
Citizens' Environmental
Monitoring Program**

FIELD PROCEDURES

April 2008



Equipment List

PICK UP BEFORE EACH MONITORING EVENT

- ⇒ Datasheet
- ⇒ Sterile pipette
- ⇒ 2 Coliscan Easygel bottles (from freezer)
- ⇒ 1 Acid-washed sample bottle (white lid)
- ⇒ 2 Petri dishes (only if plating bacteria samples away from lab)
- ⇒ Replace any expired chemicals, empty camera, or low batteries
- ⇒ Replace any broken equipment

EQUIPMENT IN YOUR WATER MONITORING KIT

- Watch
- Clipboard
- Fine-point Sharpie
- #2 pencil
- Rubber Gloves
- 2.5gal. Plastic Bucket w/line
- Distilled Water Bottle
- Distilled Water Wash Bottle
- Waste Container
- Hanna Combo Meter
- Calibration beakers
- MSDS Sheets (5)
- Borger Color System Booklet
- Air Thermometer (red fill)
- Water Thermometer (green fill)
- Camera
- Cloth or hand towel
- 5 ml Test Tubes w/Caps (2)
- Octet pH Comparators (2)
- WR Indicator. Solution (30 ml)
- 60 ml Water Sample Bottles (1)
- 1 ml Titration Syringe with tip
- 30 ml Titration Vial
- Manganous Sulfate Solution (30ml)
- Alkaline Potassium Iodide Azide (30ml)
- Sulfuric Acid (30ml)
- Thiosulfate 0.025N Solution (60ml)
- Starch Indicator Solution (30ml)

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GENERAL OPERATING NOTES

PROCEDURE FOR RINSING GLASSWARE PRIOR TO TESTING

Before each test, all glassware should be rinsed three times with the sample to be analyzed. Pour out sample from holes in the side of the bucket. Do not immerse test tubes or bottles in sample bucket to fill (with the exception of the dissolved oxygen bottles), and don't pour rinse water back into sample bucket.

DISPOSAL OF REAGENT WASTE

1. After completion of each test that requires the use of a chemical reagent, discard the reagent waste into the labeled waste containers (brown 250 ml bottles) provided.
2. Rinse glassware twice with distilled water and discard each rinse into waste container.
3. When all tests have been completed transfer waste from 250 ml brown waste bottles to labeled gallon waste container provided.
4. Once the gallon container is full please bring it to the lab to exchange for an empty waste container.

RECORDING DECIMAL PLACES

When recording your results, be sure to record the number of decimal places given for that particular test.

Example: The water thermometer reads 6.0. Record 6.0 not 6. Or, if the thermometer reads 6.5, record 6.5 not 7 or 7.0. The thermometer reads to the 0.5 decimal place, so record your number to the 0.5 decimal place.

RECOMMENDED ORDER TO CONDUCT TESTS

Below is the order in which to conduct your tests. This order will maximize your efficiency and should be followed. Calibrate your Hanna Meter before going into the field.

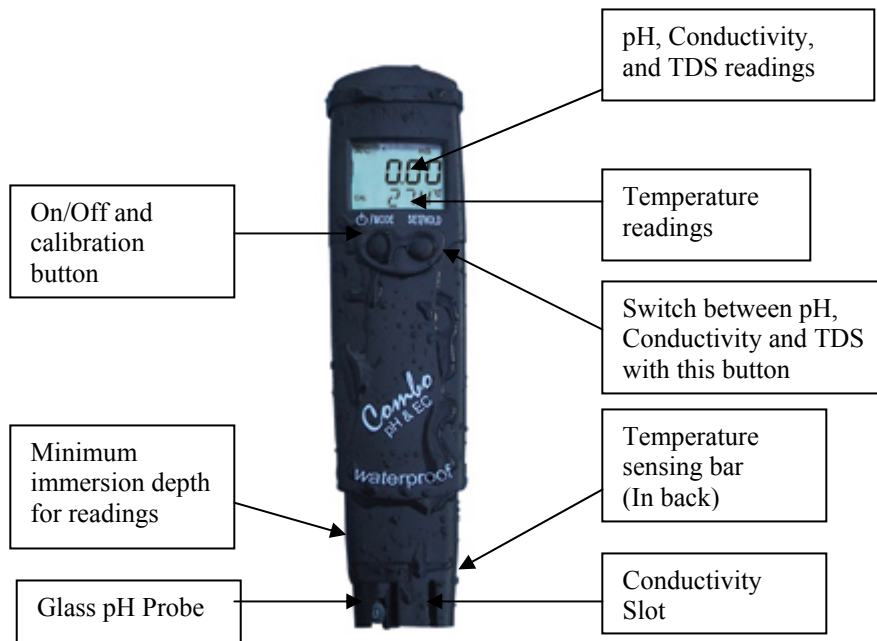
1. Calibrate Hanna Meter and record results.
2. Record the Sample Information on the datasheet: Site ID, Date, Time, Volunteers' names and signatures.
3. Hang your air thermometer.
4. Record site information (weather, sketch, photos, air temp).
5. Collect water sample in bucket.
6. Collect turbidity water sample.
7. Collect bacteria sample.
8. Place water thermometer and Hanna meter in bucket.
9. Fix Dissolved Oxygen.
10. Record Water Temp #1.
11. Note apparent color.
12. Record Water Temp #2.
13. Colormetric pH.
14. Hanna readings (temp, pH, specific conductance).

(Back at the lab after field work is complete.)

15. Plate Bacteria.
16. Titrate Dissolved Oxygen.
17. Record total volunteer hours worked and mileage driven.

Hanna Meter OPERATIONAL GUIDE

1. The Hanna meter is waterproof and will float. Be sure probes are fully immersed when taking measurements or calibrating.
2. **Turning the meter on and checking battery status:**
Press and HOLD the MODE button for 1-3 seconds. All the used segments of the LCD will be visible for a few seconds, followed by the remaining battery life expressed in percentage. (Ex: % 95 BATT)
If the battery % reads below 50%, replace the batteries.
3. **Changing between measurement modes:** To change from one mode to another, press and release the SET/HOLD button.
4. Freezing the Display: Press the SET/HOLD button for 2-3 seconds until hold appears on the secondary display. Press either button to return to normal mode.
5. Turning the meter off: Press the MODE button while in normal measurement mode. OFF will appear on the lower part of the display. Release the button.
6. Storage: **The Hanna meter should be stored upright in its original box with a small amount of pH 7.01 solution in the cylinder where the pH probe fits.**



AT HOME OR AT COOK INLETKEEPER LAB

HANNA METER CALIBRATION PROCEDURES

- **Put on rubber gloves & eye protection.**
- Calibration should be done at home or in the lab on each sampling day. Use solutions that are kept cool or refrigerated if possible.
- Record the meter's identification number on the datasheet.

Calibration Procedure

1. If the electrode has been left dry, soak in pH 7.01 solution for at least an hour to reactivate it.
2. Wash three small beakers, rinse with tap water, then rinse with distilled water. Rinse one beaker with a small amount of pH 7.01 solution (green). Pour pH 7.01 solution in the beaker, enough to be able to submerge the pH probe (approx. 30 ml).
3. Rinse second beaker with a small amount of pH 4.01 solution (pink). Pour pH 4.01 solution in the beaker, enough to be able to submerge the pH probe (approx. 30 ml).
4. Rinse third beaker with 1413 $\mu\text{S}/\text{cm}$ solution (clear). Pour 1413 $\mu\text{S}/\text{cm}$ solution in the beaker, enough to be able to submerge the probe (approx. 30 ml).
5. Rinse Hanna meter thoroughly with distilled water, clean gently with test tube brush if necessary, then rinse with a small amount of pH 7.01 solution.
6. Submerge the electrode in the pH 7.01 solution. While the meter is still submerged in 7.01 solution, turn the meter on by pressing the MODE button until the screen is activated.
7. If the meter is not reading pH, press SET/HOLD until it displays pH measurement mode on the top right corner of the LCD. If the LCD displays TEMP, you have held the MODE button in too long. Press the ON button and start over.
8. **Gently move the probe back and forth in the solution.** Allow the meter to stabilize for two minutes, then record the pH and Temp readings on the datasheet as initial pH.
9. To calibrate, press and hold the MODE button through the OFF reading until CAL, then release the button. CAL will flash only briefly so you must be watching for it. Once it flashes release the MODE button. The LCD will display pH 7.01 USE. A small CAL tag will blink on the left side of the LCD. Keep the meter in the solution until the meter has calibrated.
10. **Continue moving the probe gently back and forth.**

11. Once the meter has calibrated for pH 7.01, it will flash OK and then display 4.01 USE on the LCD. This happens quickly so you must be watching for it.
12. Remove the meter from the 7.01 solution and thoroughly rinse with distilled water then rinse with a small amount of pH 4.01 solution to eliminate cross contamination.
13. Place the electrode in the 4.01 solution. Gently swirl the probe to fully coat the probe with pH 4.01. When the second buffer is recognized and has calibrated, the LCD will flash "OK" for 1 second, and the meter will return to normal measurement mode, reading the pH 4.01 solution. **Continue moving the probe gently back and forth.** Record the pH reading and the temperature reading on the datasheet.
14. The CAL symbol on the LCD means that the meter is calibrated.
15. Rinse the meter thoroughly with distilled water and immerse the probe in the 1413 $\mu\text{S}/\text{cm}$ solution, **moving the probe gently back and forth.**
16. Press the SET/HOLD button until the LCD displays " μS " in the top right corner.
17. **Continue moving the probe gently back and forth.** Allow the Temperature and Specific Conductance to stabilize for two minutes, then record the temperature and specific conductance readings on the datasheet.
18. Press and hold the MODE button until CAL is displayed on the lower LCD. Release the button. If the LCD displays TEMP, you have held the MODE button in too long.
19. **Continue moving the probe back and forth in the solution.**
20. The LCD will display 1413 USE and a small CAL tag will blink on the left side of the LCD. Once the calibration has been automatically performed, the LCD will display OK for 1 second and the meter will return to the normal measurement mode. This happens quickly so you must be watching for it.
21. The CAL symbol on the LCD means that the meter is calibrated.
22. Record the initial specific conductance and temperature on the datasheet.
23. Rinse meter with distilled water, and replace the cover, keeping a small amount of pH 7.01 solution in the cap where the pH electrode fits.
24. Dispose of calibration solutions according to chemical waste management procedures.

AT THE SITE

SITE CHARACTERIZATION AND CONDITIONS

1. Hang air thermometer (red liquid fill) in shaded area approximately 5 feet off the ground or other location where the thermometer is not influenced by site conditions (*e.g.*, snow cover). Allow it to stabilize and read after 10 minutes. Keep checking at 1 minute intervals until the reading comes up the same twice in a row.
2. Fill out page one of the datasheet: monitor names and signatures, site ID, and date.
3. Record air temperature on datasheet.
4. Record weather description; precipitation the last 24 hours (in inches); wind speed, direction and character; water surface condition; observations (including odor, debris, wildlife, etc.). Use the Beaufort Wind Scale (page 11) to help determine wind speed and the Odor Identification chart (below) to identify odors.
5. Sketch your sampling site. Include where your sample was taken and a permanent fixed object (*i.e.* bridge, road, etc.) that can act as a point of reference.

NATURE OF ODOR		DESCRIPTION OF ODOR, SUCH AS ODOR OF:
Aromatic (spicy)	Camphor, cloves, lavender, lemon	
Balsamic (flowery)	Geranium, violet, vanilla	
Chemical	Industrial wastes or treatments	
	Chlorinous	Chlorine
	Hydrocarbon	Oil refinery wastes
	Medicinal	Phenol Iodine
	Sulfur	Hydrogen sulfide (rotten eggs)
Disagreeable (pronounced, unpleasant)	Fishy	Uroglenopsis, Dinobryon (dead algae)
	Pigpen	Anabaena algae (visit a pig farm to sample this distinctive odor)
	Septic	Stale sewage
Earthy	Damp earth	
	Peaty	Peat
Grassy	Crushed grass	
Musty	Decomposing straw	
	Moldy	Damp cellar
Vegetable	Root Vegetables	

6. Take photos of your site (one looking upstream, one looking downstream, and one of the site itself) and record photo number and photo description on datasheet. Attach a scrap piece of paper to the clipboard with site# and date in bold print, and include this clipboard in the photos to clearly document where and when the photos are taken. If no pictures were taken, make a note to that effect. **Note:** If necessary take more pictures to document changes in your sampling site, *e.g.*, erosion, newly constructed beaver dams, etc.

BEAUFORT WIND SCALE				
Beaufort Number of Force	Wind Speed		World Meteorological Organization Discription	Estimating Wind Speed effects Observed
	knots	mph		
0	Under 1	Under 1	Calm	Calm; smoke rises vertically
1	1-3	1-3	Light air	Smoke drift indicates wind direction; vanes do not move
2	4-6	4-7	Light breeze	Wind felt on face; leave rustle; vanes begin to move
3	7-10	8-12	Gentle breeze	Leaves and small twigs in constant motion; light flags extended
4	11-16	13-18	Moderate breeze	Dust, leaves, loose paper raised up; small branches move
5	17-21	19-24	Fresh breeze	Small trees in leaf begin to sway
6	22-27	25-31	Strong breeze	Larger branches of trees in motion; whistling heard in wires
7	28-33	32-38	Near gale	Whole trees in motion; resistance felt in walking against wind
8	34-40	39-46	Gale	Twigs and small branches broken off trees; progress generally impaired
9	41-47	47-54	Strong gale	Slight structural damage occurs; slate blown from roofs
10	48-55	55-63	Storm	Trees broken or uprooted; considerable structural damage occurs
11	56-63	64-72	Violent storm	Usually accompanied by widespread damage
12	64 and over	73 and over	Hurricane	

COLLECTING WATER SAMPLES

2.5 Gallon Sample Bucket

1. Rinse the bucket three times with sample water downstream of your sampling site.
2. At your sampling site, lower the bucket gently into the water, and fill it to a level about 2 inches from the lip of the bucket. If the water at your site is more than an arm's length away, your bucket should have a rope tied to the handle. After securing the other end of the rope to something solid, fill the bucket by turning it upside down and dropping it straight down into the water. This will help avoid the futility of having the empty bucket floating all over the surface and refusing to fill.
3. If you are working in very shallow water, do not disturb the bottom while collecting the sample, this will artificially increase the turbidity. Don't slosh the bucket around, as this may increase the dissolved oxygen content. Once you've collected the sample, handle it gently and avoid letting debris enter the bucket.
4. Keep bucket in the shade so the temperature will not increase rapidly.
5. Record the time the sample bucket was collected.

250 ml Sample Bottle

1. Completely fill in the label of your acid-washed 250ml bottle with sample#, site#, date, time, and your name.
2. Record the bottle number on your datasheet.
3. Rinse the sample bottle three times with sample water downstream of your sampling site.
4. Fill the bottle *in situ* at your sampling site, mid stream and mid depth. If filling the sample bottle *in situ* is not possible, fill the bottle from the bucket.
5. Record the sample collection time and location on your datasheet.
6. This sample will be returned to the lab for turbidity analysis.
7. When finished with monitoring, take sample bottle to the lab and refrigerate there, or, if you are not going directly to the lab, keep refrigerated (4-10°C) until brought in to the lab. The holding time for the analysis to be performed is 24 hours recommended, up to 48 hours allowed, so bring the sample in on Monday morning or ASAP if sampling on Sunday.

BACTERIA PIPETTING

1. Use your sharpie to mark the lids of 2 bottles of Coliscan Easygel™ with the numbers 1 and 5.
2. Use the sterile pipette included in your kit to carefully draw a 1 ml water sample *in situ* or from your sample bucket and deposit it into the Easygel™ bottle you have marked as 1. Repeat the process once more, this time drawing and depositing a 5 mL sample into the bottle marked 5.
3. Record the time mixed on your datasheet and circle the location you drew the sample from. You have six hours holding time until you need to plate the sample in a petri dish. Keep the bottles cool until then.

WATER TEMPERATURE

1. If possible, hang thermometer (green liquid fill) *in situ* where sample was collected. If you are not able to measure in stream, hang water thermometer inside sample bucket immediately after pipetting bacteria sample.
2. Read thermometer after 5 minutes. Record on datasheet under Replicate 1.
3. Record the time. Add 5 minutes to the time of the first temp recorded and record under Replicate 2.
4. Check the thermometer again in 5 minutes. If the temperature is not the same as the first reading, continue checking the thermometer at one minute intervals until you get identical readings. The two identical readings need to be made within 5 minutes of each other.

DISSOLVED OXYGEN FIXING

1. Rinse the outsides and insides of each 60 ml sample bottle 3 times.
2. Fill each sample bottle *in situ* or from bucket by submerging upright **capped** bottles to mid depth, uncapping, and re-capping when filled. Invert cap while bottle is filling and tap the side of the bottle to dislodge air bubbles.
3. Invert bottles to check for bubbles after each one is filled. If bubbles are present, refill.
4. When all bottles are filled and free of bubbles, place bottles in kit.
5. **Wearing gloves and safety goggles**, uncap all 3 bottles. Add 8 drops of manganous sulfate solution (pink reagent) to each sample. Then add 8 drops of alkaline potassium iodide azide (clear reagent) to each sample. Avoid splashing, mixing in air, and dropper tips touching the sample. Re-cap all three bottles and mix gently back and forth for 15 seconds.
6. Allow the precipitate to settle past the neck and down to the shoulder of the bottle. While the precipitate is settling, begin the apparent color test.
7. When precipitate has settled below the top of the label on the bottles, uncap all three bottles.
8. Add 8 drops of sulfuric acid (clear solution) to each sample bottle.
9. Cap the bottles and mix by tipping gently as before until the precipitate has dissolved. The DO is now “fixed”.
10. Record the fix time and the temperature of the water *in situ* or in the bucket at this time.
11. Proceed with Apparent Color method. Perform DO titration at home or in the field within 6 hours.

APPARENT COLOR

1. Record a one or two word description of the apparent color of your sample on your datasheet under Color.
2. Compare the color of the water in your sampling bucket with the BCS numbers in the Borger Color System booklet (if deciding on one BCS number is too difficult, you may use up to 2 BCS numbers to describe apparent color). Record the BCS# on your datasheet.
3. Rinse a Turbidity Column three times with sample water and fill to the 50 ml line. Record a verbal description and BCS#, looking straight down the column.
4. Remember to fix the DO bottles if you haven't yet.

pH COLORIMETRIC METHOD

1. Rinse two 5 ml glass test tubes and caps with sample water three times.
2. Fill each tube to the 5 ml line with sample water.
3. While holding the dropper vertically, add 10 drops of indicator solution (green Wide Range Indicator Solution) to each test tube.
4. Cap, invert and shake each tube several times to mix.
5. Remove the cap and insert one test tube into the Octet Comparator (Black Box) and match sample color to appropriate color standard. HINT: Hold the comparator up so that light enters through the special light-diffusing screen in the back, but avoid viewing the comparator against direct sunlight or an irregularly lighted background.
6. Read pH measurement to the nearest 0.25 units. Record result next to Replicate 1.
7. Repeat step 5 for the second test tube and record result next to Replicate 2. Check the DQO box if the two readings meet DQOs. Re-do the test if DQOs are not met.

HANNA METER TESTS

1. Turn the Hanna Meter on by pressing the MODE button. If reading from the sample bucket, rinse Hanna meter thoroughly with sample water from the bucket before immersing Hanna meter in sample bucket.
2. Submerge the probe in the bucket. Allow the meter to stabilize in the bucket. **Record the Meter # and Start Temp** on the datasheet.
3. Keep probe submerged throughout the pH, specific conductance, and temperature readings.

Hanna Meter pH Measurements

1. Select the pH mode with the SET/HOLD button.
2. Continue to submerge the meter until the pH reading has stabilized. The stability symbol (clock) on the top left of the LCD should not be visible, and pH should not be drifting. It may take a while for pH to stabilize.
3. Proceed with recording pH Reps, in 15-second intervals, using 0.01 pH for the DQO. The idea here is to allow the meter to stabilize on a final reading. If possible, get two consecutive readings that are identical.

Hanna Meter Specific Conductance Measurements

1. Immerse meter so that the probes are completely submerged. Select specific conductance (conductivity normalized to 25°C) with the SET/HOLD button. “ μS ” will be displayed as the unit. Gently move the meter front to back.
2. Continue to submerge the meter until both the specific conductance and temperature readings have stabilized. The stability symbol (clock) on the top left of the LCD should not be visible, and the Specific Conductance value should not be drifting.
3. Record the specific conductance reading under “Cond” and next to Rep #1. Wait 15 seconds and record the specific conductance reading again next to Rep #2. If the difference between the readings is within the data quality objective (DQO) for specific conductance of $1\mu\text{S}/\text{cm}$, move on to reading pH. If the readings do not meet the DQO, in other words if Rep #1 and Rep #2 differ by more than $1\mu\text{S}/\text{cm}$, wait 15 seconds and record the specific conductance reading again next to Rep #3. Check Reps #2 and #3 for meeting the DQO. Repeat until consecutive readings meet the DQO (differ by $1\mu\text{S}/\text{cm}$ or less). The idea here is to allow the meter to stabilize on a final reading. If possible, get two consecutive readings that are identical.

Hanna Meter Temperature Measurements

1. With the Hanna meter in pH mode, proceed with recording the Stop Temp, using 0.1 °C for the DQO. The idea here is to allow the meter to stabilize on a final reading. If possible, get two consecutive readings that are identical.
2. Record the Stop Temp on the datasheet.
3. Turn off the Hanna meter by pressing the MODE button until OFF is displayed, then releasing.
4. Clean the Hanna meter gently with the test tube brush and rinse with distilled water. Place a few drops of pH 7.01 solution in the protective cap where the pH electrode fits. Put protective cap on and return the Hanna meter to its box for storage. **Store upright to help keep pH probe wet.**

IN THE LAB (OR AT HOME)

BACTERIA PLATING AND INCUBATING

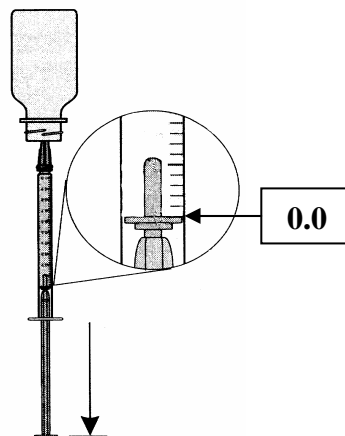
1. Use the sharpie marker to mark the lids (the larger half) of two pretreated petri dishes with the date, the time, the name and number of your sampling site, and the amounts 1 ml and 5 ml. (Keep your writing close to the edge of the lids).
2. Match the bottles of Coliscan-water mixture to the petri dishes marked with the same number.
3. One at a time, pour each bottle of Coliscan-water mixture into the bottom half (the smaller half) of its respective petri dish. Cover the dishes with the designated lids and gently swirl the liquid so that it covers the entire bottom of the dish, using a figure 8 pattern.
4. Place the petri dishes containing the Coliscan-water mix into the incubator.

(If you are using a home-incubator:

5. Turn the petri dishes over after 45 minutes, when the medium has completely gelled.
6. Incubate at 89°F for 48 hours from the time of plating.
7. After 48 hours, count the number of *E. coli* colonies (purple and dark blue) that have formed in each petri dish. Use the quadrant grid on your Coliscan Datasheet to facilitate counting. Record the *E. coli* count for each sample on your datasheet.
8. Count the number of pink or red colonies and add this to the *E. coli* count. This is the total coliform count for the sample. Record the total coliform counts for each sample (1 ml and 5 ml) on your datasheet.
9. Count the number of teal colonies for each sample and record the results on your datasheet.
10. Record the date, time, and incubator temperature.
11. Place a teaspoon of bleach onto the bottom of each petri dish, where the colonies have grown, swirl the plate to distribute the bleach, and put the plates in a plastic bag and dispose of them in the trash. You may bring the plates to the lab for disposal if you wish.)

DISSOLVED OXYGEN TITRATION

1. Titration must be performed within six hours after fixing.
2. Rinse the titration vial with a small amount of the solution from sample bottle 1.
3. Fill it to the 20 ml line with the bottom of the meniscus at the top of the line, then cap the vial.
4. Attach titrator tip and fill titrator with sodium thiosulfate to the 0.0 line. Avoid air bubbles by swiftly drawing in a few ml and expelling into the thiosulfate bottle until no bubbles are present in the titrator.
5. Insert the titrator into the central hole of the titration vial cap until it snaps into place.
6. Add 3 drops of sodium thiosulfate and swirl the vial to mix.
7. Continue this titration process until the solution is a pale yellow color—lighter than when you started titrating (around 4 or 5 on the titrator).
8. Gently remove the titration vial cap with the titrator still attached. Be very careful not to change the position of the plunger or to shake any fluid loose from its tip.
9. **Shake the starch indicator solution bottle well** and add 8 drops to the vial. The sample solution will turn from pale yellow to dark blue. It is better to add the starch solution too early than too late.
10. Replace the cap with the titrator carefully on the titration vial and swirl until the solution turns a uniform blue.
11. Continue the titration process one drop at a time until the solution just turns from blue to clear. Avoid going past 10.0 mg/l mark on titrator. If you reach 10.0 before the solution turns clear, refill the titrator with thiosulfate to 0.0.
12. When the blue turns to clear, read the titrator and record this figure on your datasheet to the nearest 0.1 mg/l. Remember to add 10.0 mg/l if titrator was refilled.
13. Carry out the titration steps on the sample bottles marked 2 and 3.
14. If all three titration values are within 0.6 mg/l of each other then you are done with the test.
15. If any titration reading differs by 0.6 mg/l or more, titrate another 20 ml sample from the bottle whose reading fell outside the 0.6 mg/l range and record the result. Record the titration date and time.



COMPLETENESS

Check to see that all fields are filled in on the datasheet, front and back, and that the writing is legible. If a test was not performed for some reason, explain in the Comments section and make a reference to that explanation in the blank for recording the data. Each volunteer needs to sign the datasheet.

CLEANING AND MAINTAINING EQUIPMENT AND SUPPLIES

It is important to clean and properly stow all of your equipment and reagents after each monitoring event. Most of your equipment is re-usable and, if properly cared for, will serve you and other volunteer monitors for years to come.

The color chart and other paper materials should be kept as dry as possible and stored in the zip-lock bags provided for them. All equipment should be dried and properly stowed in the black plastic "suitcase" to protect it from excess exposure to light. Keep the kit in a dry place protected from extremes of heat and cold. Don't leave it in your car, which can get hot in the summer and cold in the winter. Chemicals may freeze if kept in your car, garage or arctic entry. The empty Coliscan Easygel bottles may be returned to the lab for recycling.

Keep all chemicals and equipment out of reach of children and pets.

CLEANING PROCEDURES

1. Rinse thoroughly with tap water.
2. Wash with a phosphate-free soap (the lab uses Liqui-Nox). Use the brush provided when necessary.
3. Rinse thoroughly with tap water.
4. Rinse three times with distilled water.
5. Allow to dry before returning to kit.
6. Wipe down inside and outside of kit with damp rag and then dry. Allow the inside of kit to completely dry before closing. A good strategy is to leave your kit open to dry for 48 hours, then close it up.

CLEAN ALL OF THE FOLLOWING SUPPLIES:

- ◆ Rubber gloves
- ◆ Sample bucket
- ◆ Air and water thermometers
- ◆ Turbidity column
- ◆ All test tubes
- ◆ 3 DO sample bottles and lids
- ◆ Titrator, plunger and plastic tip
- ◆ Titration vial and cap
- ◆ Hanna Meter
- ◆ Anything else that is dirty

Notes

Notes

Notes

Cook Inletkeeper is a member supported nonprofit organization dedicated to protecting the Cook Inlet watershed and the life it sustains.

Cook Inletkeeper
3734 Ben Walters Lane
Homer, Alaska 99603
907.235.4068
www.inletkeeper.org

Tori Lentfer
Volunteer Monitoring Coordinator
907.235.4068 x29
tori@inletkeeper.org