AT Land-use Field Trip – Test Procedures

Turbidity Test Procedure (La Motte):

1. Fill one Turbidity Column to the 50 ml line with the sample water. If the black dot on the bottom of the tube is not visible when looking down through the column of liquid, pour out a sufficient amount of the test sample so that the tube is filled to the 25 ml line.
2. Fill the second Turbidity column with an amount of turbidity-free water that is equal to the amount of sample being measured. This is the "clear water" tube.
3. Place the two tubes side by side and note the difference in clarity. If the black dot is equally clear in both tubes, the turbidity is zero. If the black dot in the sample tube is less clear, proceed to Step 4.
4. Shake the Standard Turbidity Reagent vigorously. Add 0.5 ml to the "clear water" tube. Use the stirring rod to stir contents of both tubes to equally distribute turbid particles. Check for amount of turbidity by looking down through the solution at the black dot. If the turbidity of the sample water is greater than that of the "clear water", continue to add Standard Turbidity Reagent in 0.5 ml increments to the "clear water "tube, mixing after each addition until the turbidity equals that of the sample. Record total amount of Turbidity Reagent added.
5. Each 0.5 ml addition to the 50 ml size sample is equal to 5 Jackson Turbidity Units (JTU's) If a 25 ml sample size is used, each 0.5 ml addition of the Standard Turbidity Reagent is equal to 10 Jackson Turbidity Units (JTU's). See the table below. Rinse both tubes carefully after each determination.
6. Dispose of Waste in the TEST WASTE.

TURBIDITY CONVERSION CHART:

Number of measured additions	Amount in ml	50 ml Graduation (JTU)	25ml Graduation (JTU)
1	0.5	5	10
2	1.0	10	20
3	1.5	15	30
4	2.0	20	40
5	2.5	25	50
6	3.0	30	60
7	3.5	35	70
8	4.0	40	80
9	4.5	45	90
10	5.0	50	100
15	7.5	75	150
20	10.0	100	200

AT Land-use Field Trip – Test Procedures

Nitrate Test Procedure (La Motte):

1. Place approximately 3 ml of a sample of water in the calibrated tube.

2. Add enough Nitrate Test Solution #1 (2 ml) to bring the sample up to 5 ml. Mix vigorously.

3. With a plastic spatula, add 2 level measures of Nitrate Indicator Powder #2.

4. Replace the cover of the tube and shake vigorously until the powder is completely dissolved. Allow to stand 2 – 5 minutes for the color to develop. The time interval is necessary to allow for the reduction of nitrate to nitrite.

5. Interpret the results:

Color	**Nitrates Present**
pale pink	Trace
Medium	++
Dark magenta	+++

*****Dispose of test solutions in the NITRATE TEST WASTE.

AT Land-use Field Trip – Test Procedures

Dissolved Oxygen Test Procedure (La Motte):

1. Rinse the Water Sampling Bottle.
2. Cap bottle, submerge in water, remove cap and allow the bottle to fill. Tap the sides of the bottle to dislodge any air bubbles. Replace the cap while the bottle is still submerged. Retrieve the bottle and make sure that no air bubbles are trapped inside.
3. * Put on gloves. Remove top, add 8 drops of Manganous Sulfate Solution, and 8 drops of Alkaline Potassium Iodide Azide.
4. Cap the bottle and mix. A precipitate will form. Allow precipitate to settle to the bottom.
5. Use the 1.0 g spoon and add 1.0 g of Sulfamic Acid Powder.
6. Cap and gently invert the bottle to mix the contents until the precipitate and the reagent have totally dissolved. The solution will be clear yellow to orange is the sample contains dissolved oxygen. (At this point, the sample has been "fixed" and contact between the sample and the atmosphere will not affect the test result.
7. Fill the titration tube to the 20 ml line with the fixed sampled. Cap the tube.
8. Depress plunger of the Titrator. Insert the Titrator into the plug in the Sodium Thiosulfate titrating solution.
9. Invert the bottle and slowly withdraw the plunger until the bottom of the plunger is opposite the zero mark on the scale. (If small air bubbles appear in the Titrator barrel, expel them by partially filling the barrel and pumping the titration solution back into the reagent container. Repeat until bubble disappears.)
10. Turn the bottle upright and remove the Titrator.
11. Insert the tip of the Titrator into the opening of the titration tube cap. Slowly depress the plunger to dispense the titrating solution until the yellow-brown color changes to a very pale yellow. Gently swirl the tube during the titration to mix the contents. Carefully remove the Titrator and cap. Do not disturb the Titrator plunger.
12. Add 8 drops of Starch Indicator Solution. The sample should turn blue.
13. Cap the titration tube. Insert the tip of the Titrator into the opening of the titration tube cap. Continue titrating until the blue color disappears and the solution become colorless.
14. Record the test result where the titrator tip meets the scale. Record as ppm Dissolved Oxygen. Each minor division on the Titrator scale equals 0.2 ppm
15. Dispose of solutions in the DO test waste kit.