1. Procedure summary

This procedure details the steps required to determine Alkalinity values within a pond sample using the Titroline machine.

1.1. Related Procedures

1.1. Alkalinity plate assay using Spectramax machine. <Related procedure number>

1.2. 1.2. Procedure impacts and concerns

Safety	Wear gloves when working with samples as cultures may have been treated with pesticides or other harmful chemicals.	<Additional notes>
Quality	<Quality impacts>	<Additional notes>
Delivery	<Delivery impacts>	<Additional notes>
Environmental	<Environmental impacts>	<Additional notes>
Cost	<Cost impacts>	<Additional notes>
Compliance	<Compliance impacts>	<Additional notes>

1.3. Responsibilities and owners

Document Owner	Manage contentment and distribution	**<Name>**
Process Owner	Responsible for content and process validation	**<Name>**
Plant Manager	Responsible for implementation and conformance	Rebecca White

2. Process

2.1. 2.1 Process description

The procedure involves diluting a pond culture with gibco ultra pure water to determine the Alkalinty in a pond sample. The titroline machine will periodically dispense small volumes of hydrochloric acid into the 50ml beaker while performing the mixing event. Use the speed control knob on the machine to control spinning rate of the small magnetic stir bar inside the beaker. <Additional notes>

2.2. 2.2 Process diagram: Work Instruction

<Additional notes>

Equipment

Samples
50 ml Beaker
Magnetic stir bar

Pipette (5, 25ml)
Kim wipes (Fisher Cat# 06-666-11C)
Pipette Aid

Reagents

Gibco Ultra Pure Distilled H20
PH Electrode Storage solution
RO water

2.3. 2.3 Process steps

1. Obtain 1 liter pond samples. <Additional notes>
2. Obtain ultra pure water and a 50ml beaker, place small magnetic stir bar in beaker.
3. Using a serological pipette and Aliquot 25ml of ultra pure water into the 50ml beaker.
4. Then add 5ml of pond culture to the same 50ml beaker.
5. Place 50ml beaker on Titroline machine make sure Ph probe on the machine is placed in the mixture inside the 50 ml beaker. Do not allow the tip of the Ph probe to touch the small stir bar at the bottom of the beaker.
6. Place the dispenser tip inside the 50ml beaker; make sure the dispenser tip that dispenses the hydrochloric acid does not touch the contents of the 50 ml beaker.
7. The pH and temperature values of the mixture can be seen on the display screen of the Titroline machine.
8. The titration process will begin as soon as you press the start button.
9. When the process is completed a value will be displayed on the machine.
10. Calculate the alkalinity by multiplying the value displayed on the machine by 6 then divide the result by 50. Record your result in Meq units.

3. Required documents

3.1. Input documents

<Input document and storage instructions> <Input document number>

3.2. Output documents

<Output document number>

4. Document control

4.1. Revision history

R0 – Initial Release – <Editor name>	<Date>
R1 – <Editor name>	<Date>

4.2. Document approval

<Name> <Approval date>

4.3. Document reviewers

<Name> <Last reviewed date>
<Name> <Last reviewed date>

5. Risk analysis

<Risk name> <Mitigation plan> <Owner> <RPN>