SOLID STATE Ph Cleaning Procedure

Users **will not** deviate from this Procedure. If there are any discrepancies found within the procedure immediately notify your supervisor

Read the entire procedure before beginning

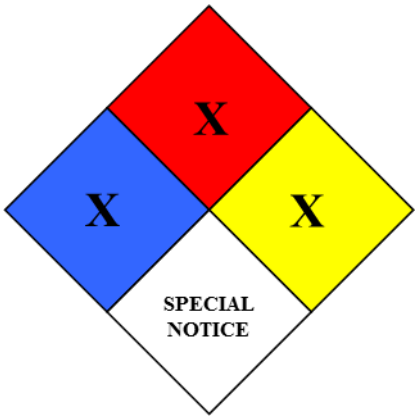
If any steps are unclear, DO NOT PROCEED.
Ask your supervisor for assistance

Tools/Materials Required

1. **Clean room swabs (McMaster Carr 6111T3)**
2. **Isopropyl alcohol**
3. **Deionized water**
4. Scotch Bright pad type A very fine
5. Tooth brush
6. Microscope

History Log

Rev Date	Authorized By	Rev	Description of changes



READ ALL MSDS REPORTS

MSDS reports available:

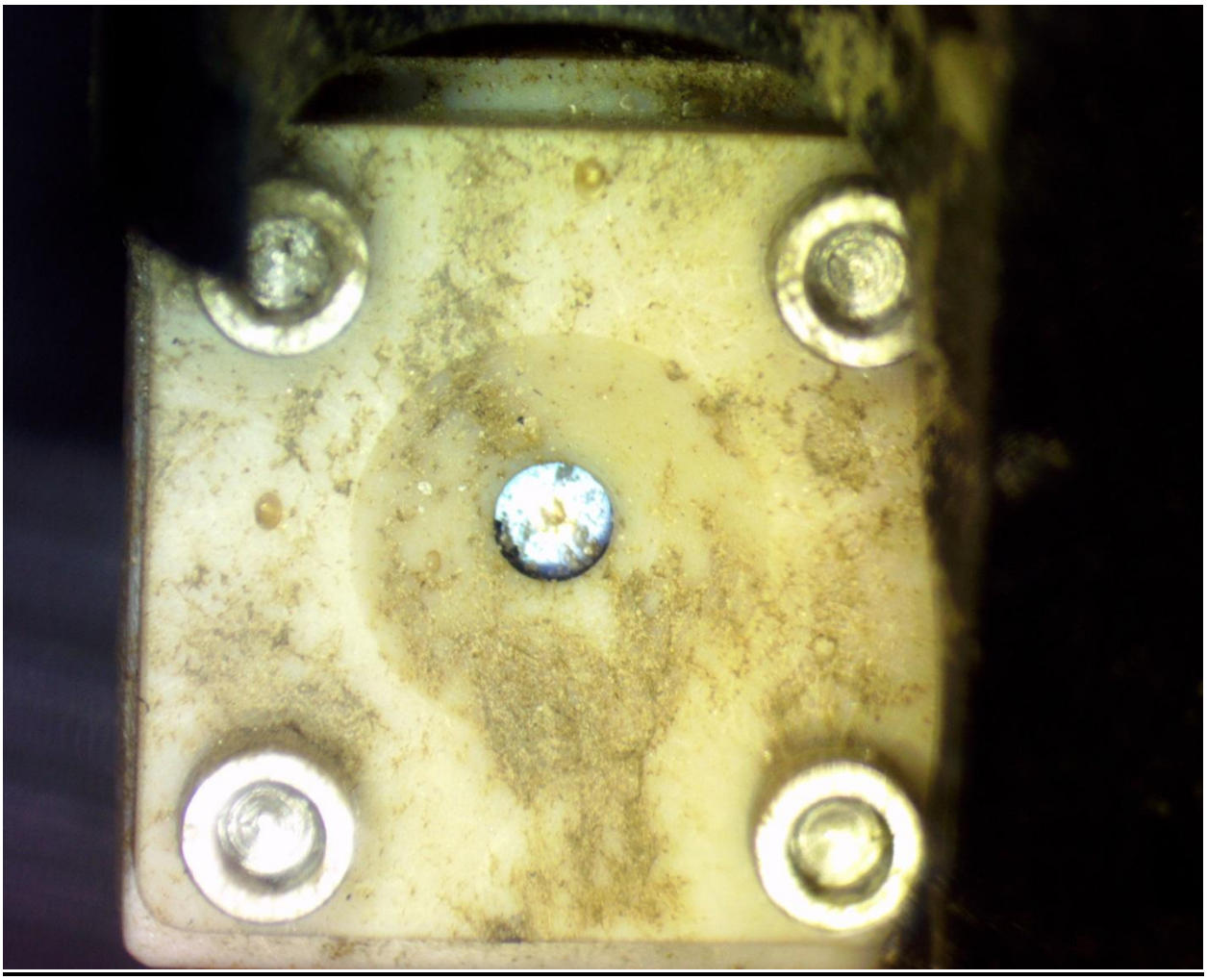
Precautions

Associated Drawings

Drawing Number	Drawing Title

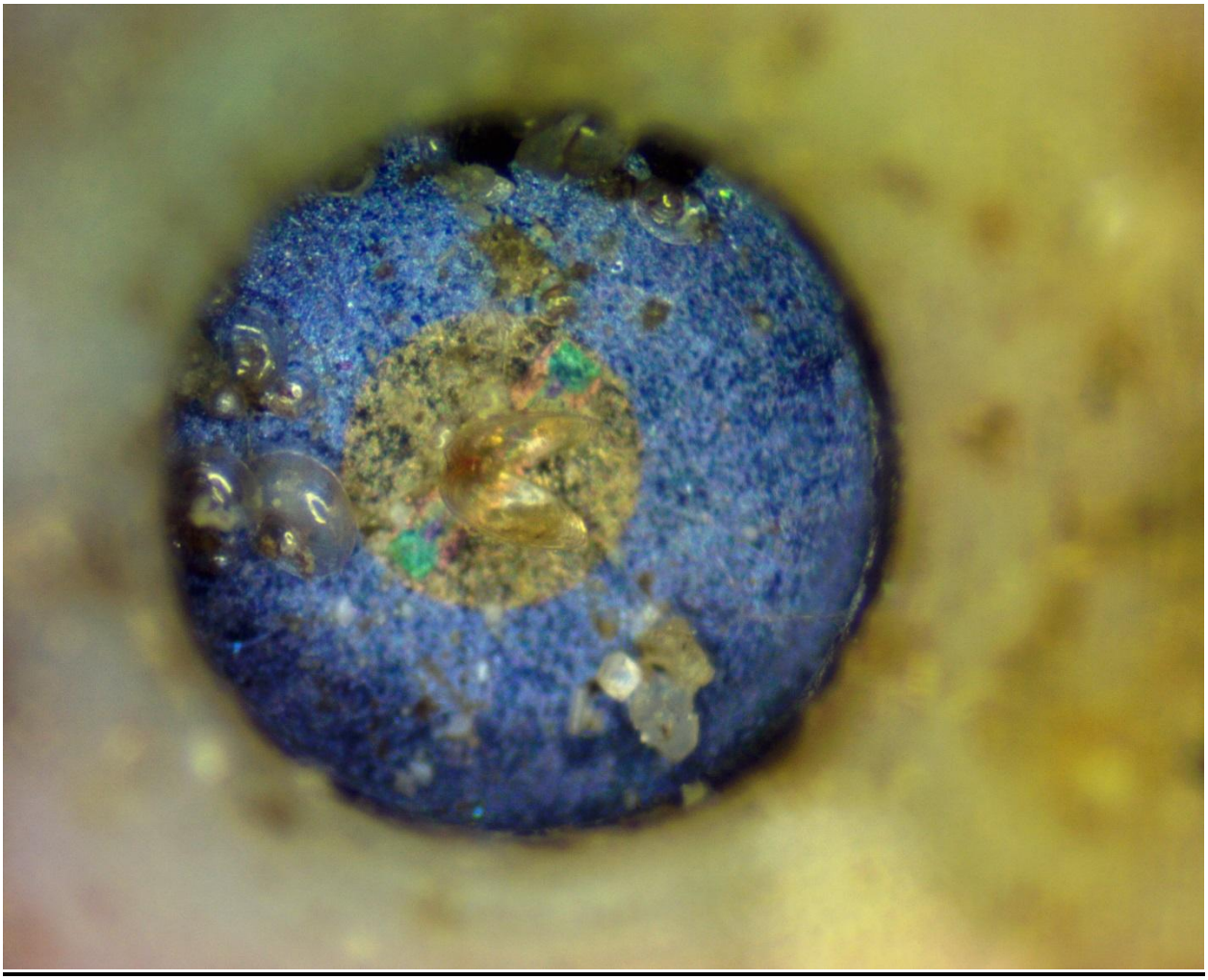
FET Sensor Contamination

Marine growth and other contaminants can attach themselves to all surfaces of the sensor.



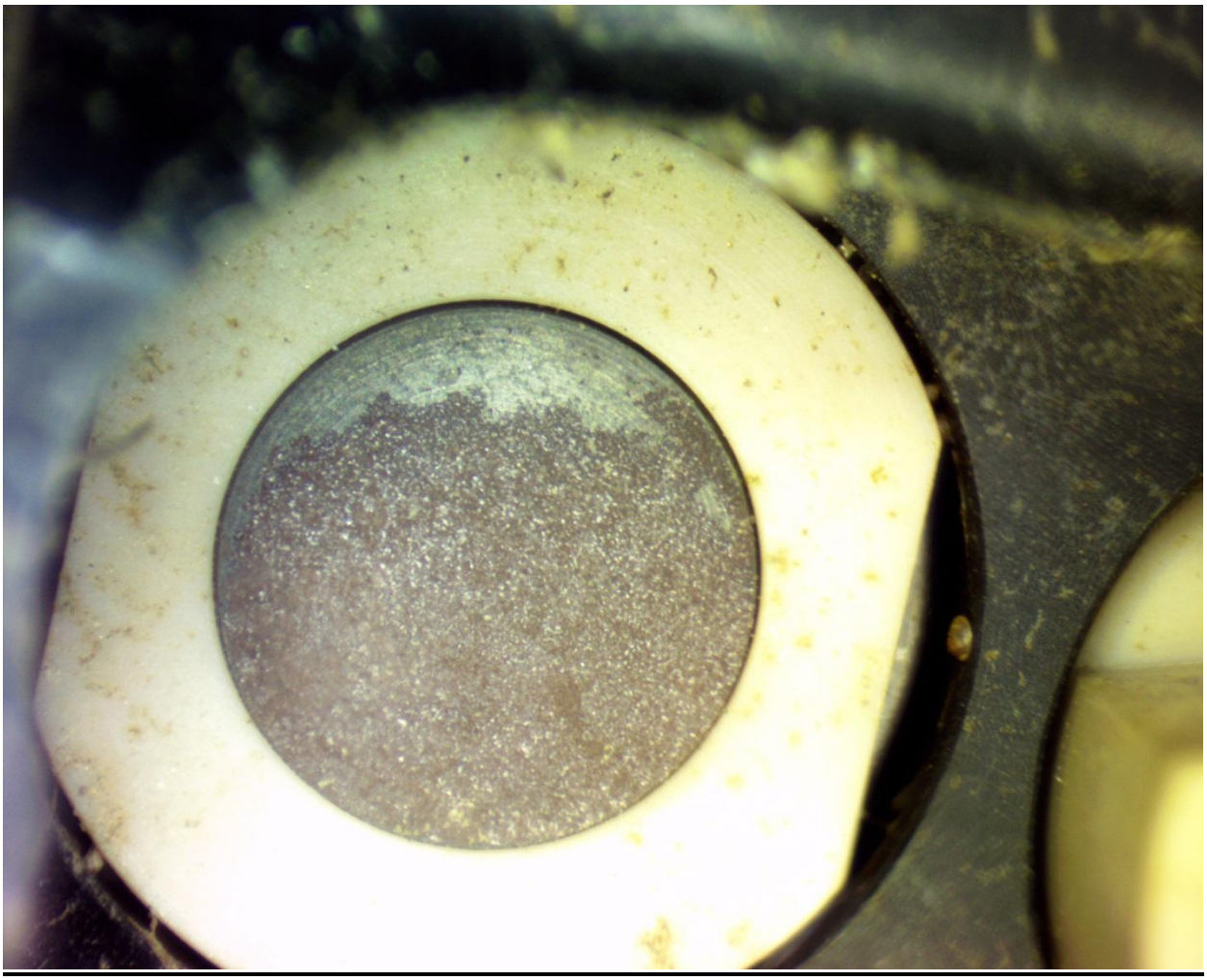
FET Chip Contamination

Small organisms can even attach themselves to the surface of the FET chip



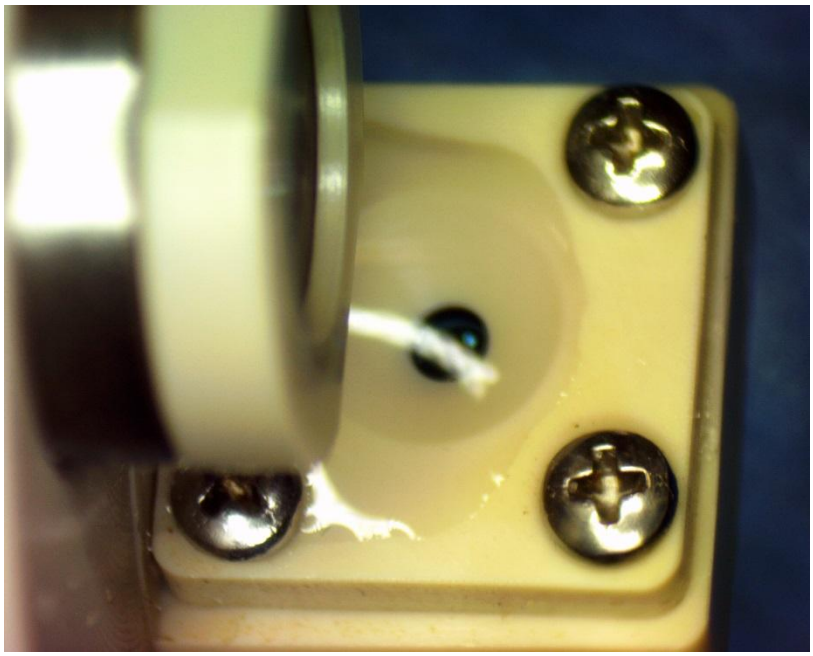
Contamination

Various contaminants can also cover the surface of the reference electrode



PRE CLEANING

Pre-wet the FET sensor element with deionized water before cleaning. Make sure that the FET chip surface fully wets and that no bubbles are present. It is important that the FET chip surface is wetted to promote dissolving of any salt crystals that may be present.



PRE CLEANING

Fill the pH sensor plenum with deionized water and let soak to soften any surface contaminates.

CLEANING

Gently scrub the exterior surfaces of the sensor with a toothbrush and de-ionized water to remove contaminates and fouling.

Important Avoid directly scrubbing the sensing element (face) of the FET chip.

Rinse often with de-ionized water during scrubbing to carry away loose debris.

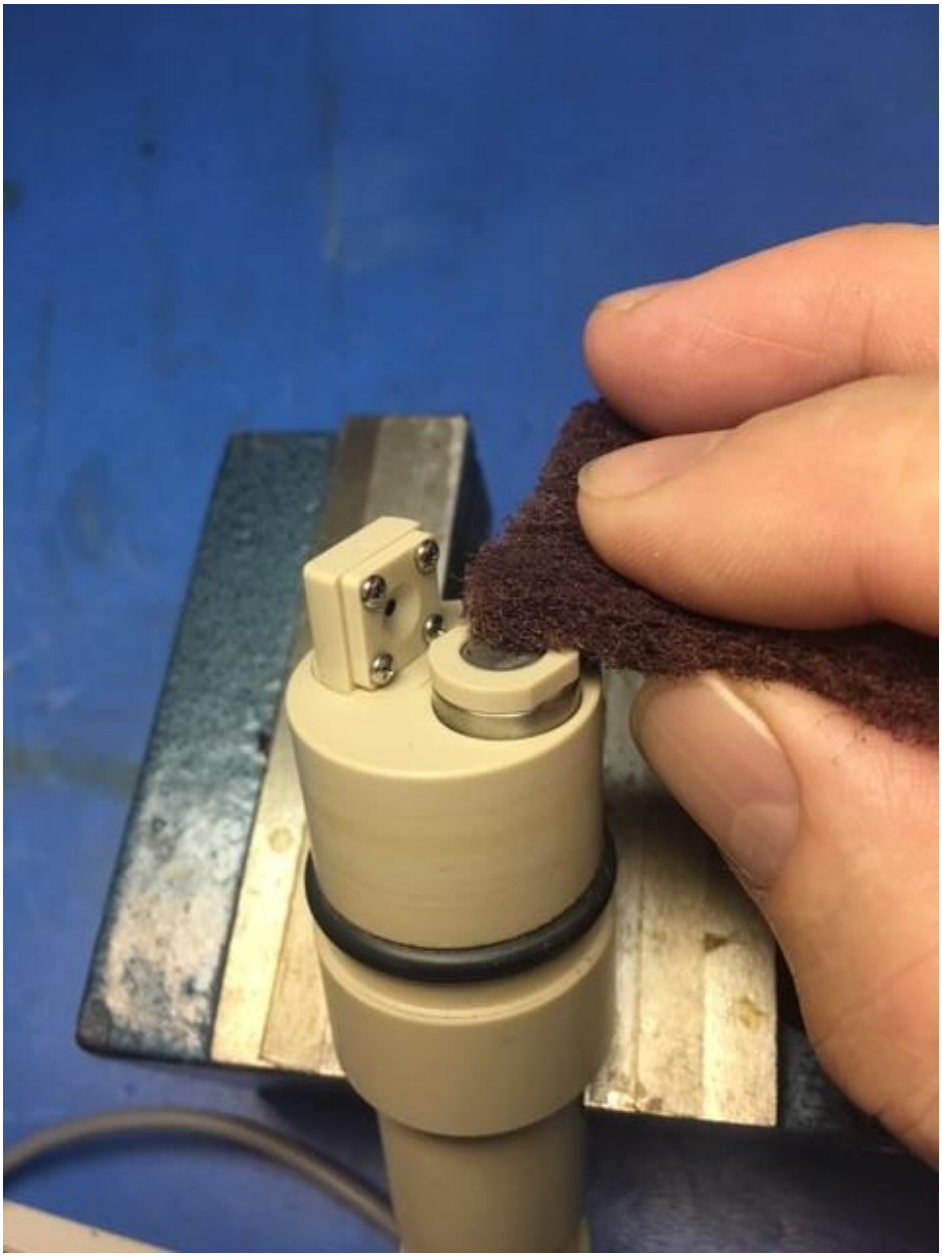
CLEANING

Gently scrub the face of the reference electrode to remove surface fouling.

Repeat cleaning process with isopropyl alcohol if the surface contamination is not removed with de-ionized water.

REF CLEANING

If the reference electrode does not clean up with mild scrubbing, a more aggressive approach may be required. Clean the electrode with fine scotch brite and isopropyl alcohol.
IMPORTANT: Cleaning with scotch brite will likely remove the seasoning from the surface of the reference electrode surface. Soaking the electrode in real seawater for a week to 1\ten days will be required for the sensor to work normally. Re-calibration may also be required.

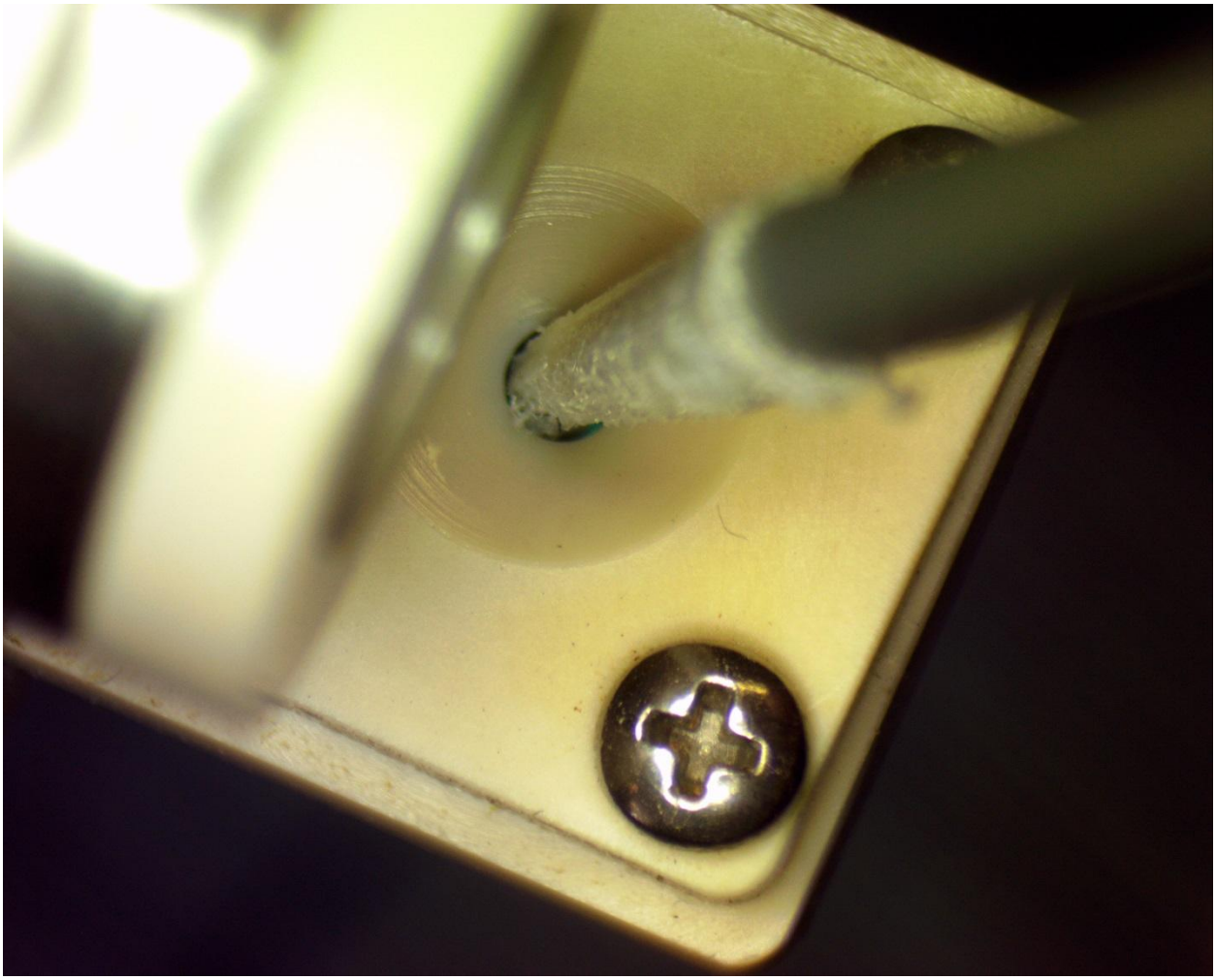


FET CLEANING

Using the Clean room swabs (McMaster Carr 6111T3) and isopropyl alcohol, clean the face of the FET chip by gently contacting the chip face with the tip of the swab and then rotating the swab slowly between your fingers.
Important: This procedure should be done under a microscope using the least amount of contact pressure possible.

FET CLEANING

The point of this process is to loosen any contamination and then flush away the debris with alcohol or de-ionized water. **Important:** The danger here is that aggressive scrubbing of debris could result in the scratching and damaging of the sensor element.



Finally wash the entire sensor with de-ionized water. Inspect all sensor elements and repeat cleaning if necessary.