```
\\Ares\Environmental Data Validation\
Dissolved Oxygen\DO Saturation
```

Logsheet Loader → Processing Period and Batch Number → Check Hydrometric and Provisional Archive

Chits: Last inspection previous batch – latest inspection → Copy in Docs and label batch no. → Create new Hilltop file (*batch.hts*) in processing folder

Hilltop SiteName_Raw file (nearest site)
\\Ares\Original\Internal\<SiteCode>.hts

Check all chits present/correct

Copy Dissolved Oxygen (DO Saturation), voltage, logger status, stage/flow and water temperature. → If you believe this will be a difficult batch have a look at the previous batch of processing

SiteName_Raw

Collate the Processing information

Field Inspections
- Photocopy Inspection Chits/Lake Sampling forms
- Check Logsheet Loader and field inspection chits are correct
- Photos
- SmarTroll profiles (use as checks as well) found: \\ares\Hydrology\Water Quality Sites\Lake Sampling SOE's\

SOE Inspections
- WQ Archive – Sampler Provisional (QC accordingly)
- Check Logsheet Loader and field inspection chits are correct

Calibration Information
- All verifications and calibrations are up to date. Annual calibration – check before and after membrane change

Yes → **NEMS QC**
No → **QC 200**

Additional Data Sources
Rainfall data, stage data, upstream/downstream sites, Previous batch + provisional archive

Non-Conformance Reports
Check Non-conformances which are site specific or data source specific

Quality code for data

Working File → Append previous DO Processing Register to new register (continuous register) for site

Conservative Editing of the data:
Only remove spikes that are outside sensor range, coincide with spikes of other datasources at the site, or when staff onsite. Gaps ≤ 1 hour closed with interpolated data, gaps > 1 hour are to be left as missing record

Corrected

Supplementary Processing Information
From Hydrometric – Provisional Archive – RAW data is NOT to be used
- Baromentric Pressure
- Water Temperature

Apply VM corrected

Transform Corrected VM to DO Saturation Sitename

Sitename

Provisional Archive

Review

Near-NEMS Quality Code & Lake QCs

Quality coding is required for all the changes that have been made to the data. Tighter tolerances apply to Lake data as it is harder to accurately fill missing records therefore at present there is no Synthetic Data with all gaps > 1 hour being left as missing record

- **600** within Tolerance ±(3% + 5% reference value)
- **500** >100% Saturation
- **400** ≥2x Tolerance [±(3% + 5% reference value)]; edits to the data ≤ 1 hours with comment
- Cautionary Data **QC 200** with comment
- Missing record **100** with comment (any gaps > 1 hour are to be left as missing record)

- **200** Failed Calibration [Downgrade Quality Code + Comment]
- **200** Out of Calibration (>12 months)/ unknown calibration
- Check data (YSI/Troll) failed calibration: **200** inspection + not used in processing (still logged), comment + Non-conformance report

When inserting quality codes, the lowest quality prevails.
Quality codes are applied from the previous inspection, i.e. the quality code you calculated for each inspection are applied to the previous inspection when you enter the information into Hilltop.

```
VM for Quality Coding 100% Saturation

Put Imhist
Get DO Saturation as x
        Y = 500
        Z = 600
If x > 100 then
        Put y
        Else
        put Z
        endif
Repack 15 minutes
```