Draft: Water Quality Sensors Processing Flow Chart: pH and Conductivity Low Range (T Comp)

⇒ Copy Raw Data to the Raw File

⇒ Copy WQ Archive data, then 'Bolt' on the WQ Provisional Archive Dataset to the Raw File

⇒ Copy Raw data to the Working File

⇒ Load check data

⇒ Non-detect inspections can just contain the actual inspection times

⇒ Load data in the register

Editing the Data

⇒ All Edits to the data QC 400

⇒ All Synthetic Data QC 300

⇒ All Cautionary Data QC 200

⇒ All Missing Record QC100

◊ Run the hidden gap marker VM. Transform the outputs to the Working File (checks for hidden gaps in the data)

◊ Run the Pump Check VM. Copy the outputs to the working file (files missing record for periods where the flow meter data indicates zero flow)

◊ Remove all spikes and missing record around inspections with either visually interpolated data or allow the software to interpolate across the gap interval

◊ Remove all suspect and large spikes form the record

◊ Ramp corrected where appropriate (Often from the last large fresh (only for SPC, not for pH), and offset changes (where applicable)

Use the R code to check for data consistency, trends, distributions

Print off relevant plots that indicate suspect trends, and other information that maybe useful to the reviewer

Cautionary Data

⇒ Periods of data where it is unclear from inspection information weather the pump system is faulty

⇒ Where the Pump Check VM indicates zero flow, but the data has logged expected trends

⇒ Evidence of pump cavitation on data (often very noisy data)

⇒

Missing Record

⇒ Delete periods of record where the Pump VM indicates zero flow

⇒ Delete periods of record where the inspections indicate the pump is faulty. If no flow meter data is available, delete data 15 minutes past the previous inspection that indicated that the pump was working

⇒ Where the flow meter indicates only periodic flow being made to the inline sensors

⇒ Where the flow meter indicates f > 0, but the data exhibits suspect/faulty trends

⇒ Long periods of time where pump cavitation affects data

QC Final Dataset

⇒ < 0.2 pH Units or 3.00 % µs/cm QC 600

⇒ ≥ 0.2—0.5 pH Units or ≥ 3—10 % µs/cm QC 500

⇒ ≥ 0.5—0.8 pH Units or 10—15 % µs/cm QC 400

⇒ ≥ 0.8 or 15 % µs/cm QC 200

To Print

⇒ URF Cover Sheet

⇒ Raw and Final File Details

⇒ Processing Register

⇒ Comments

⇒ Full Plot with QC

⇒ Graph Over Time of QC and QC stats from Hydro

⇒ Full Plot of Raw and Final Dataset Over plotted with the Audit VM