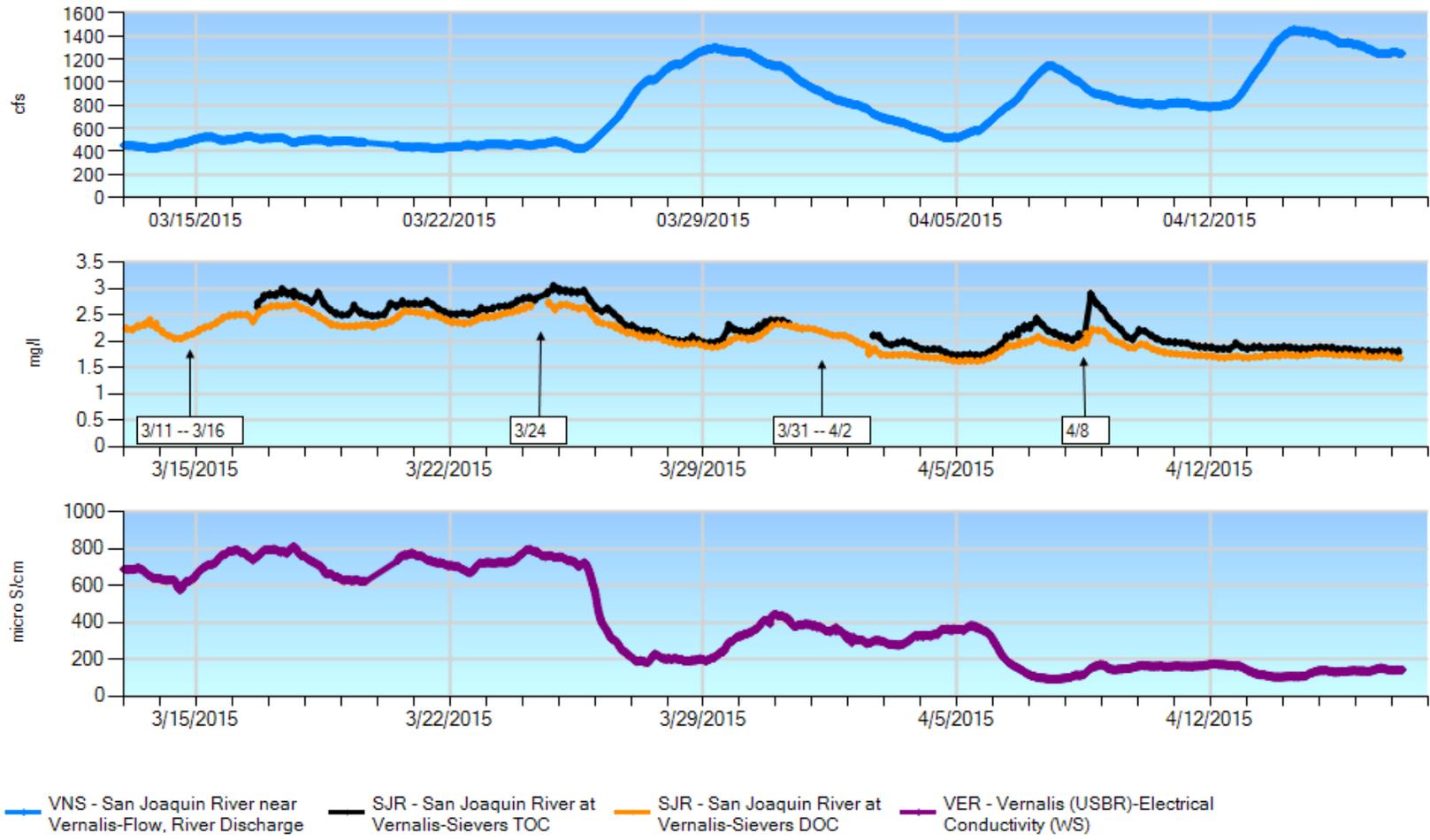
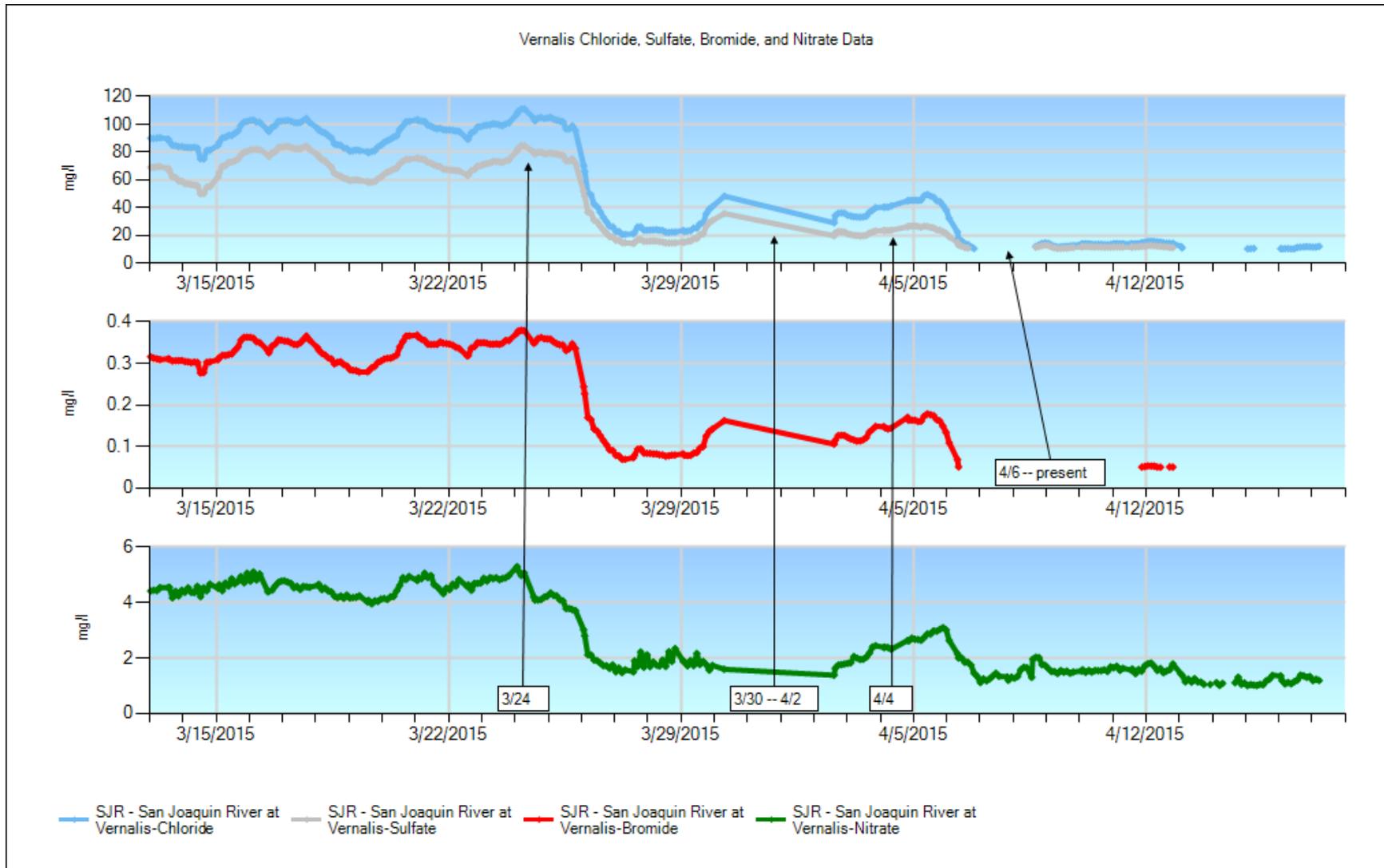


Vernalis Flow, Organic Carbon, and Electrical Conductivity Data

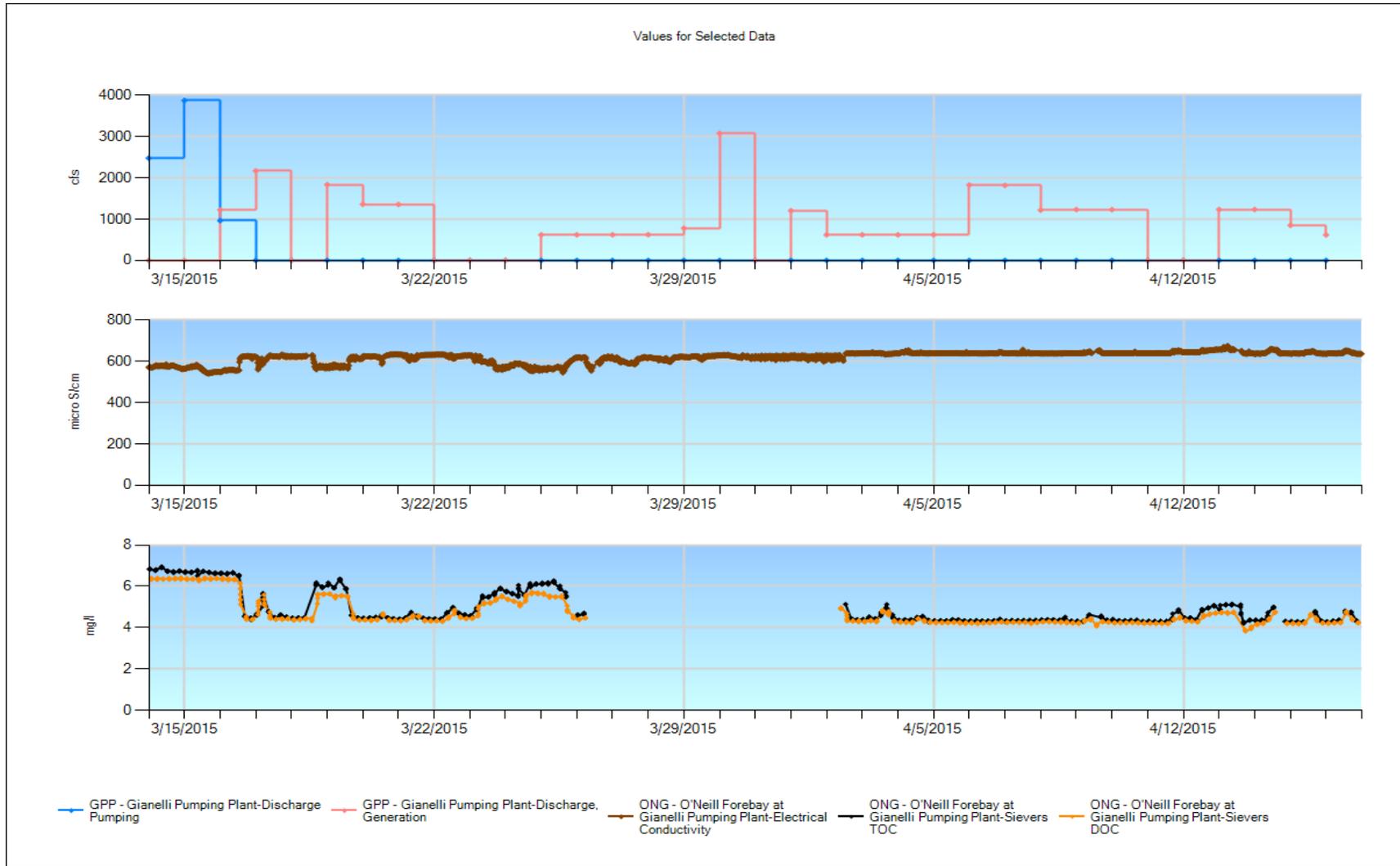


Filter Changes: 3/10 = all filters, 3/16 = prefilters and TOC 50 micron, 3/24 = all filters, 4/2 = prefilters, 4/8 = prefilters. **Events:** 3/11-3/16 = TOC solenoid valve leaking continuously into DOC, causing first 2 of 5 DOC results to be higher. Another TOC valve was left open (by Arin) during a QC event, allowing water to flow into a bypass instead of through the analyzer, not triggering the analyzer to sample. TOC solenoid valve replaced. 3/24 = Low flow from pump: intake cleaned and motor replaced with used one. H2O2 flush. 4/2 = Pump intake cleaned again.



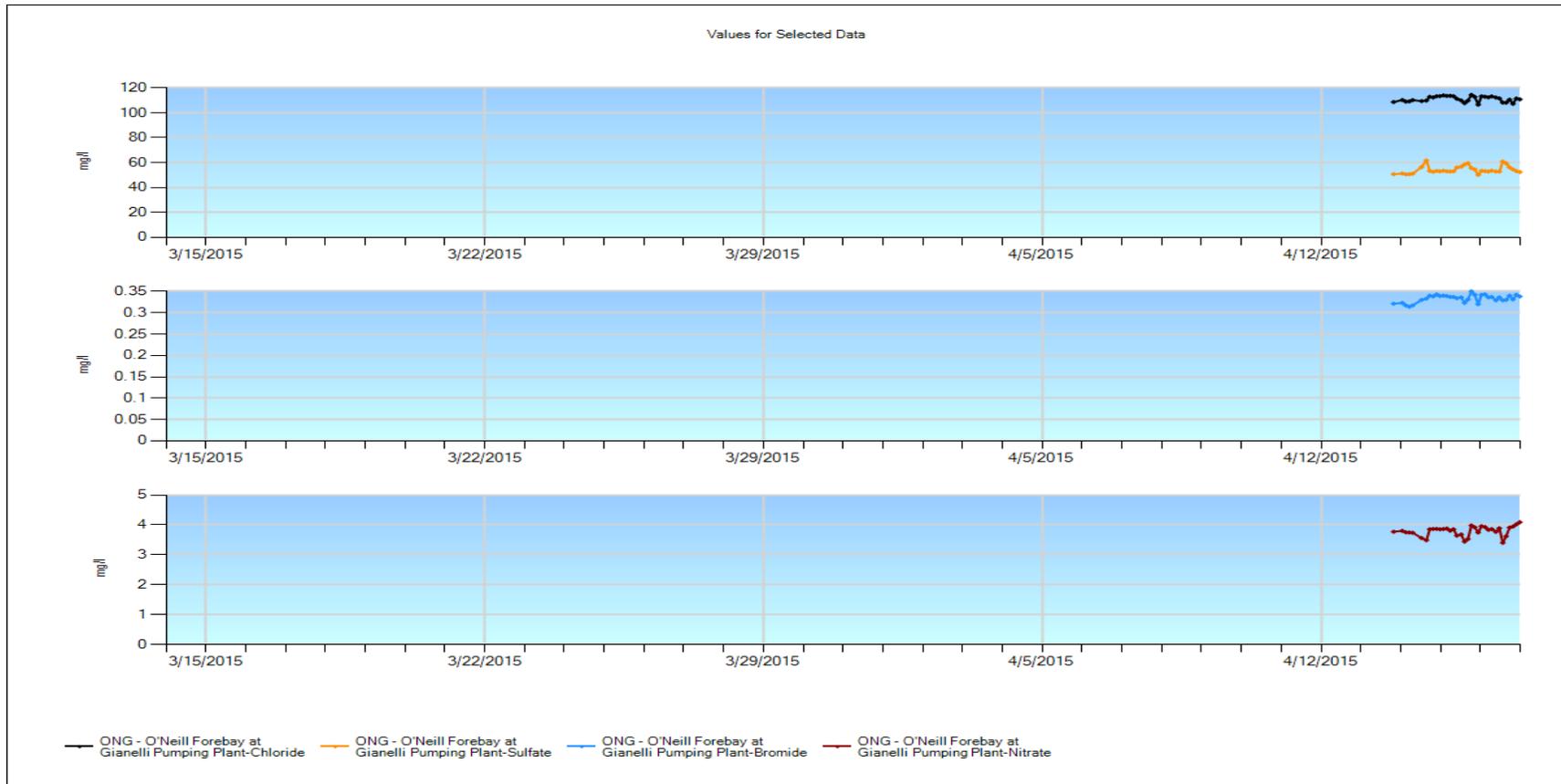
Events: 3/24 = H₂O₂ flush. 4/2 = Dionex over-pressured and shut down to idle. First the column filters were changed, but resin had already started to leak from the column and the pressure was still too high, >3000 psi. New columns were installed. 4/4 = Dionex recalibrated. 4/6 - present = Fisheries spring pulse flow, 3/24 – 4/2, brought EC down and anion levels to below the MWQI reporting limits for some constituents.

Gianelli – Pumping, Organic Carbon, EC



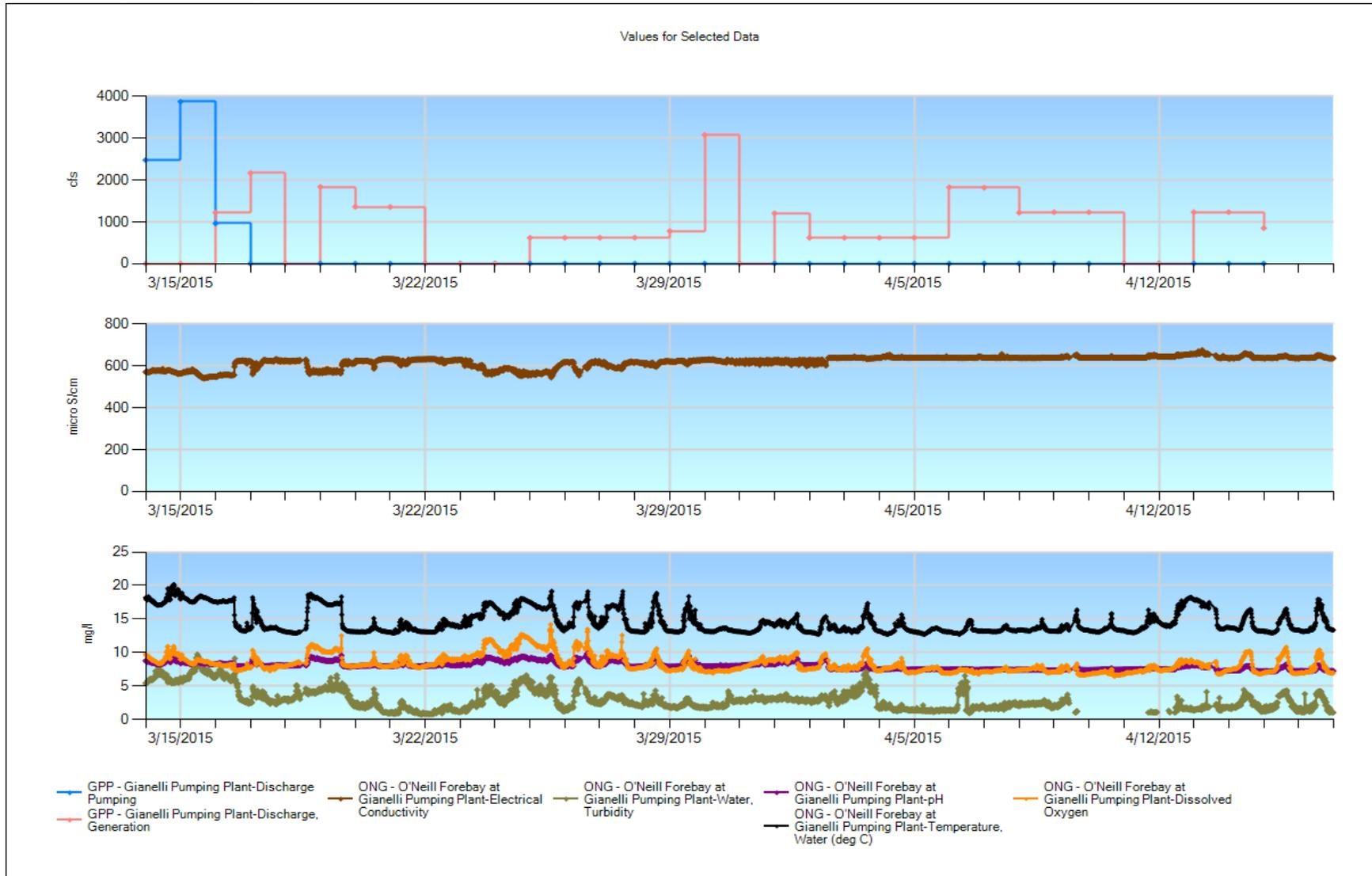
TOC & DOC (3/26 – 3/3) --- Instrument was not removed from “Grab” mode after QC visit so online samples did not start automatically.

Gianelli – Chloride, Sulfate, Bromide, Nitrate



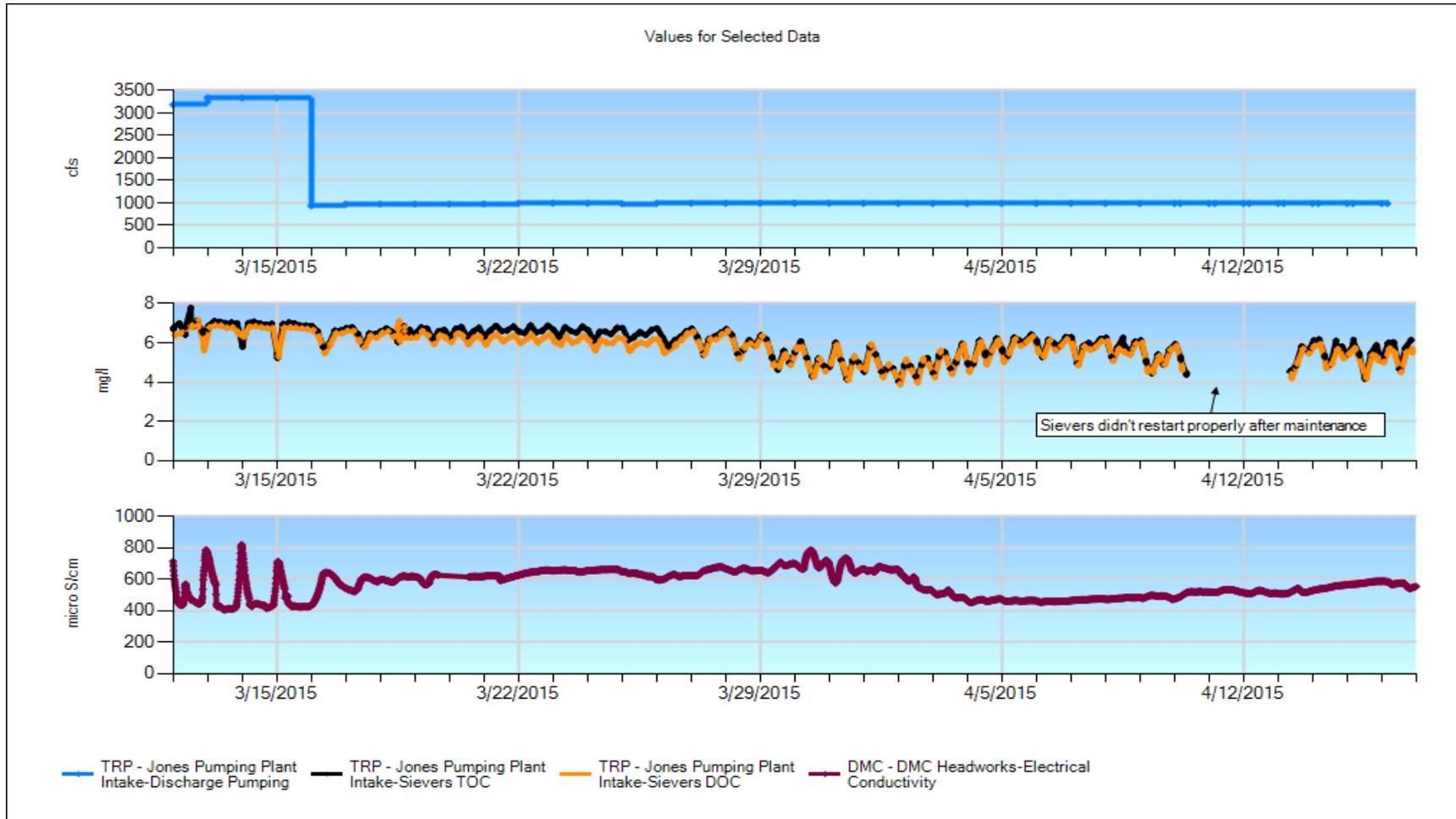
- All parameters (3/12 – 4/13) --- The Metrohm was reporting large fluctuations for most of the month. Many samples and QC/check standards reported within the expected or acceptable range however, they were interspersed with samples and checks of high concentration. Early indications pointed to varying operations at the plant as the cause of the fluctuations in online samples. This was reconsidered due to the continually increasing sample and check standard concentrations. A PM visit was scheduled and a technician worked on the instrument on 4/13. Since that point, both online and QC samples have looked much better. All samples during this period were marked as “unacceptable” and not reported since it is unknown whether a specific sample was or was not affected by the instrument problems.

Gianelli – EC, Temperature, pH, DO & Turbidity



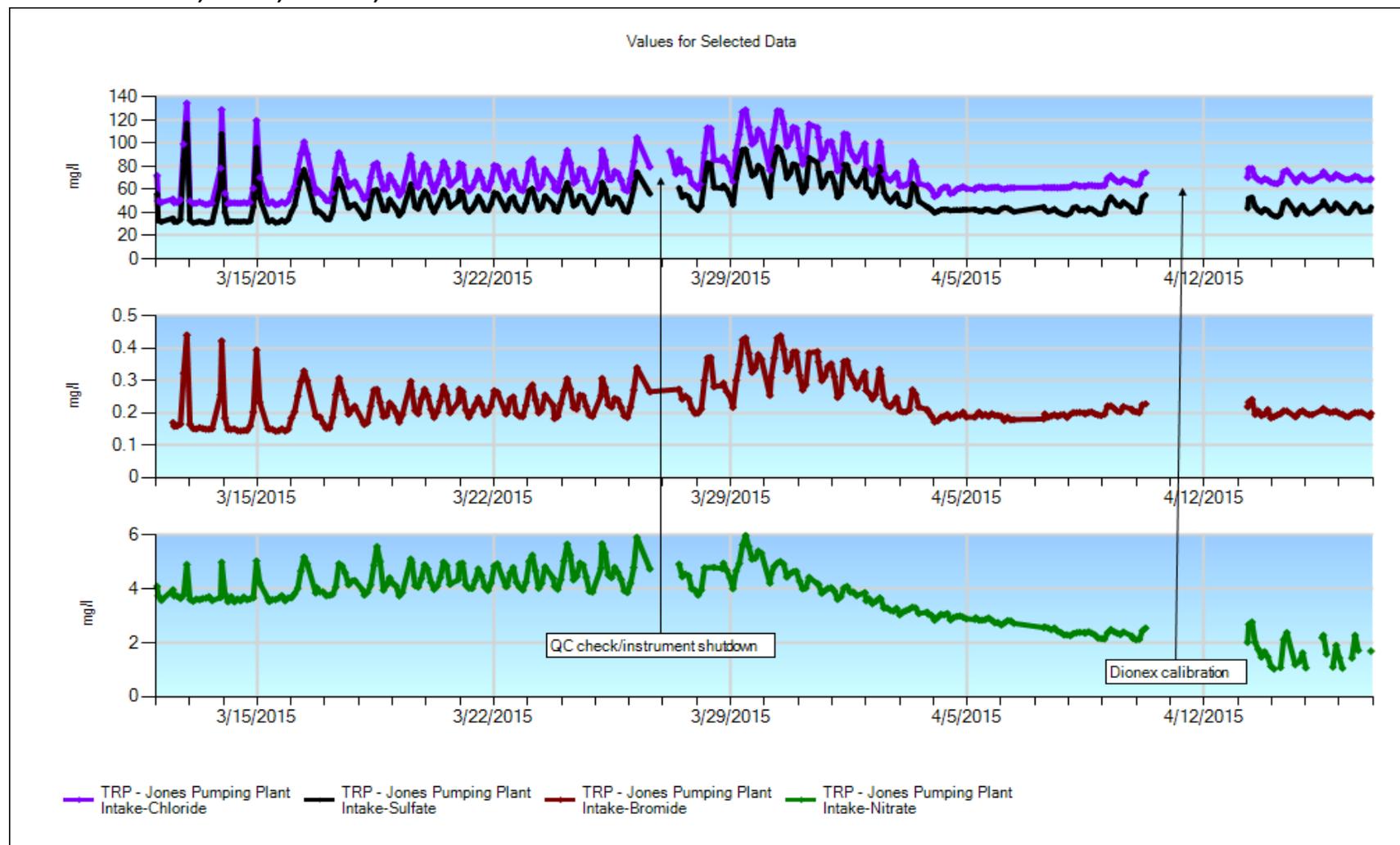
➤ Turbidity (4/9 – 4/11) --- Values were reported below 1 NTU, all surrounding QC checks reported within the acceptable range.

Jones PP – pumping, organic carbon and EC

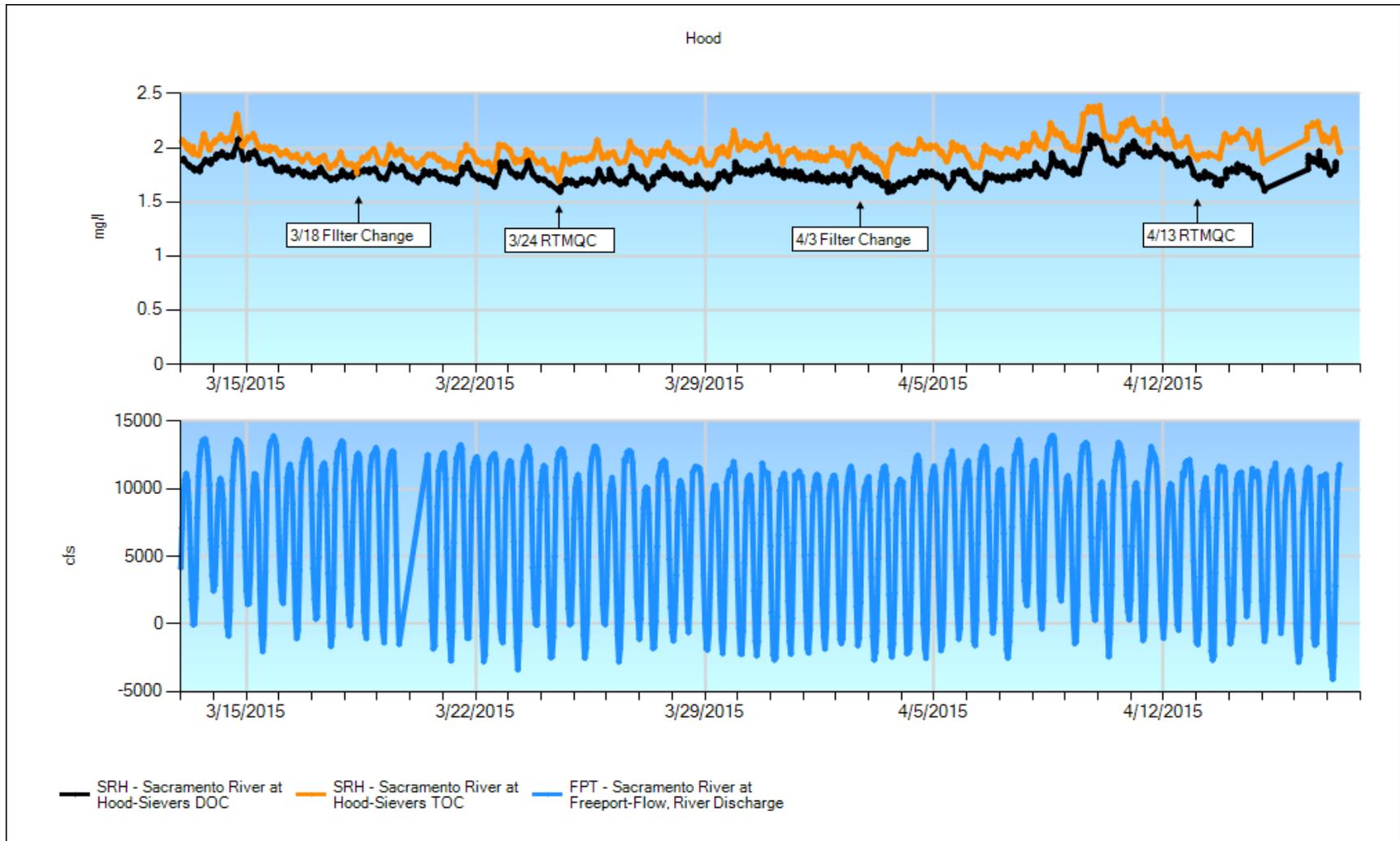


3/12 – QC check and filter change. **3/18** – filter change. **4/2** – pre-filter change. **4/8** – pre-filter change. **4/10** – replaced TOC/DOC valves. **4/10 – 4/13** – the Sievers did not restart properly after maintenance. The outage was prolonged because the Sievers was down over the weekend. The Sievers was restarted. **4/15** – filter change. **Note:** graphical data appears to be overlapping, but the instrument is functioning normally. It has repeatedly passed QC checks and the data is acceptable. The reason for data appearing to overlap is the four hour gap between samples and the tidal influence which usually changes significantly between each sample.

Jones PP – chloride, sulfate, bromide, and nitrate



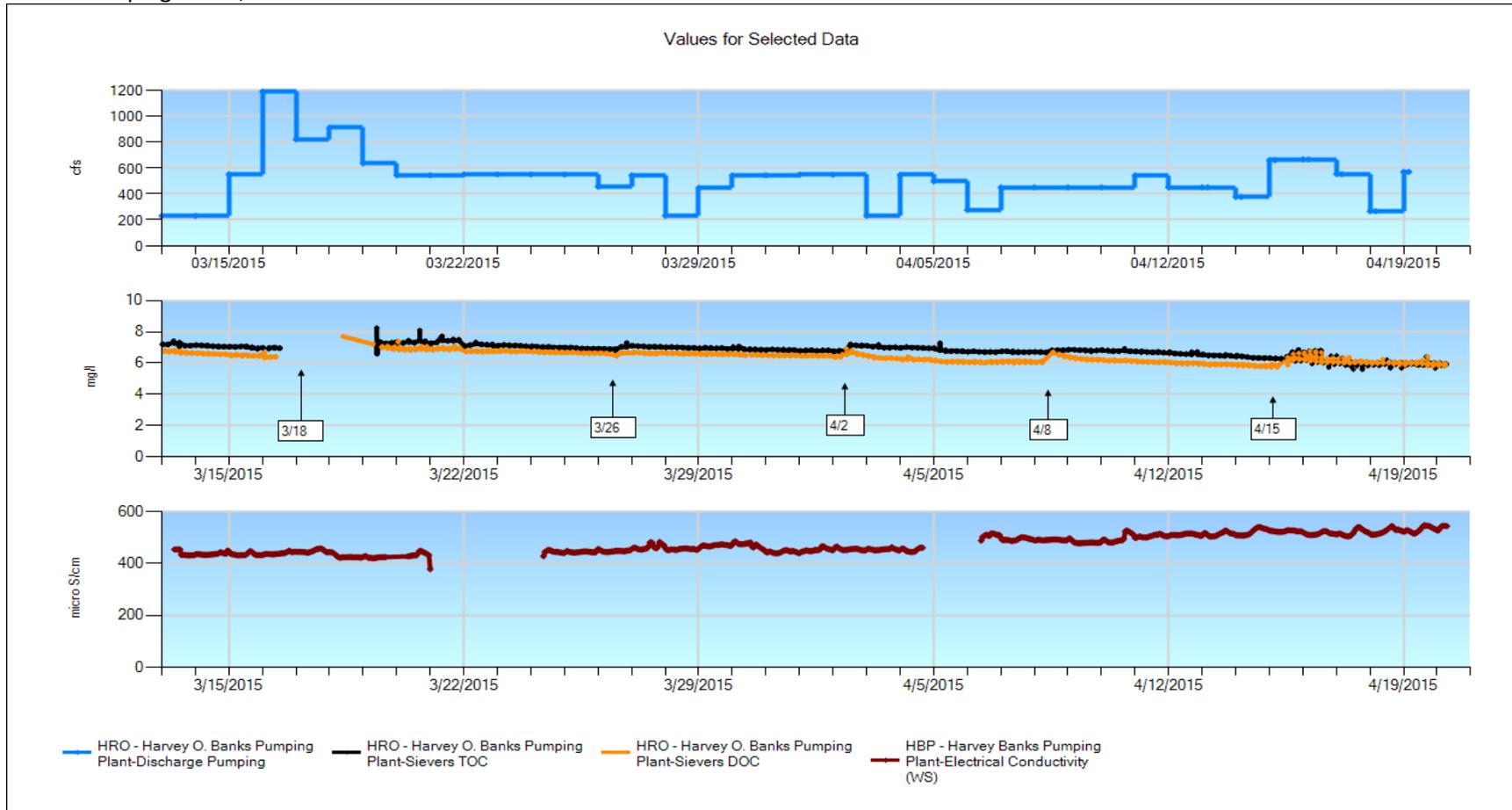
3/26 – 3/27 – There was a brief outage due to a build up of organic plant matter in the intake lines which caused a blockage of the flow stream. **3/27** – Dionex intake lines were flushed and instrument restarted. **4/10** – replaced stock and check standard. Replaced deionized water reservoir and flushed sample tubing. Recalibrated Dionex. **4/13** – Dionex brought back online. **4/15** – flushed intake lines.



Significant Events: March 13th 2015 to April 18th 2015

- **3/18 Filter Change:** Changed the 100 μ to a 75 μ (micron) filter.
- **3/24 RTMQC:** Replaced the 50 μ and 75 μ filters for new ones.
- **4/3 Filter Change:** Replaced the 75 μ and 5 μ filters for new ones.
- **4/13 RTMQC:** Replaced the 75 μ and 50 μ for new ones and flushed the DI tan lines.

Banks: Pumping – TOC, DOC - EC



3/18: Replaced sample intake foot valve due to clogging

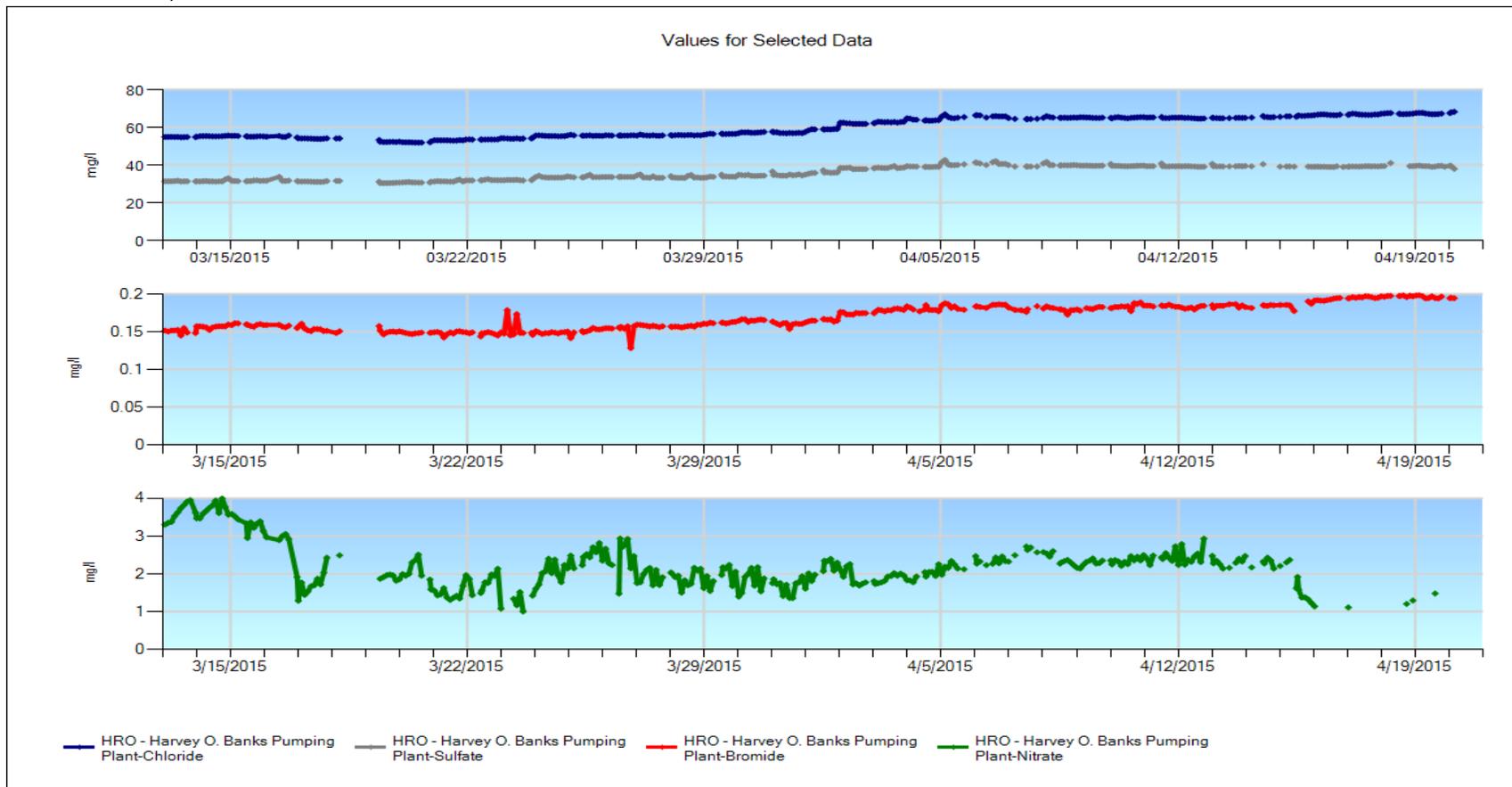
3/27: Changed 100 um filter, analyzed all QC samples

4/2: Changed all delivery system filters

4/8: Changed all delivery system filters

4/15: Changed the 100 um and 0.45 um filters, analyzed all QC samples, cleaned all delivery system lines and flushed FDOM valves

Banks: Chloride, Sulfate – Bromide - Nitrate



3/18: Replaced sample intake foot valve due to clogging

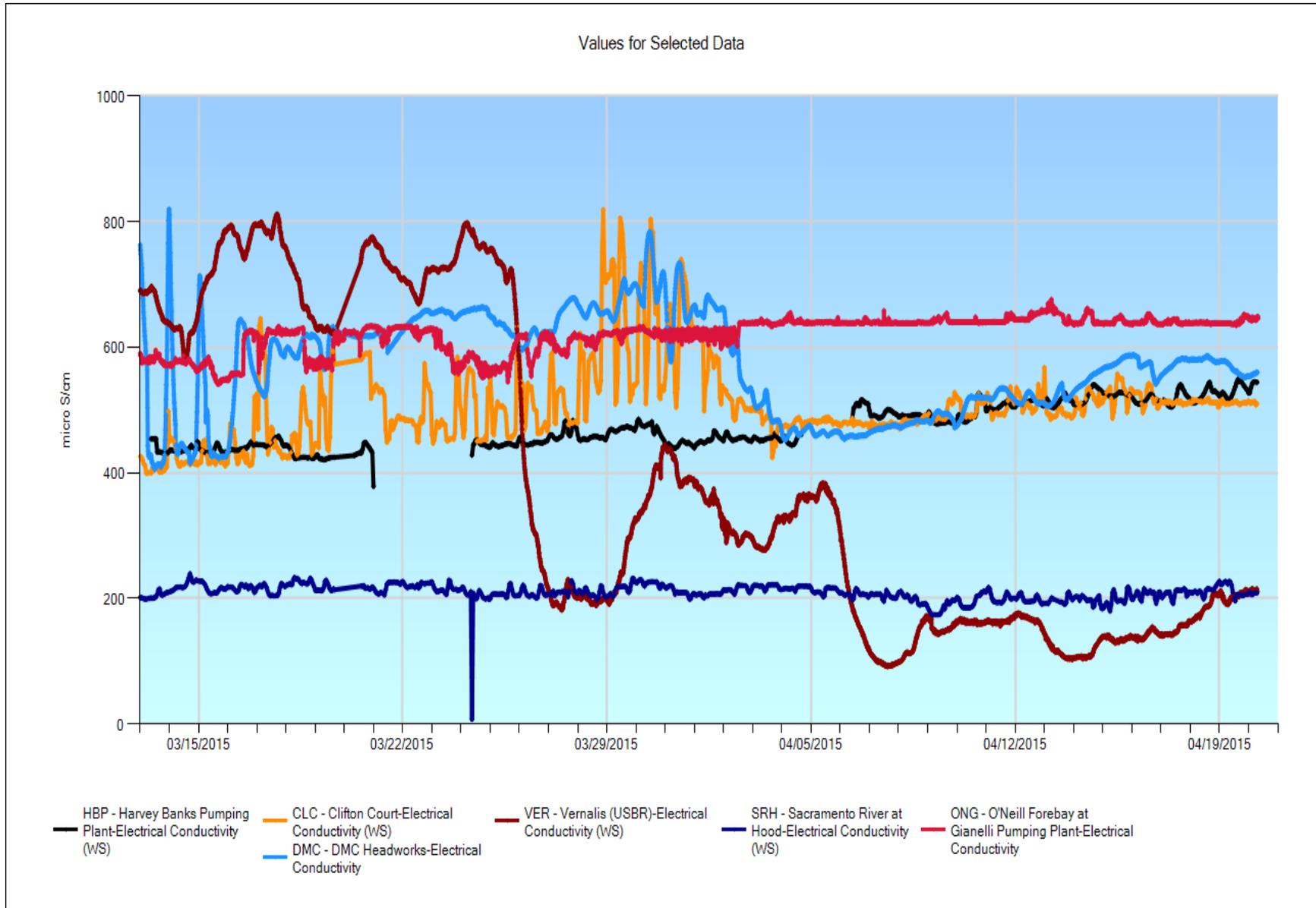
3/27: Changed 100 um filter, analyzed all QC samples

4/2: Changed all delivery system filters

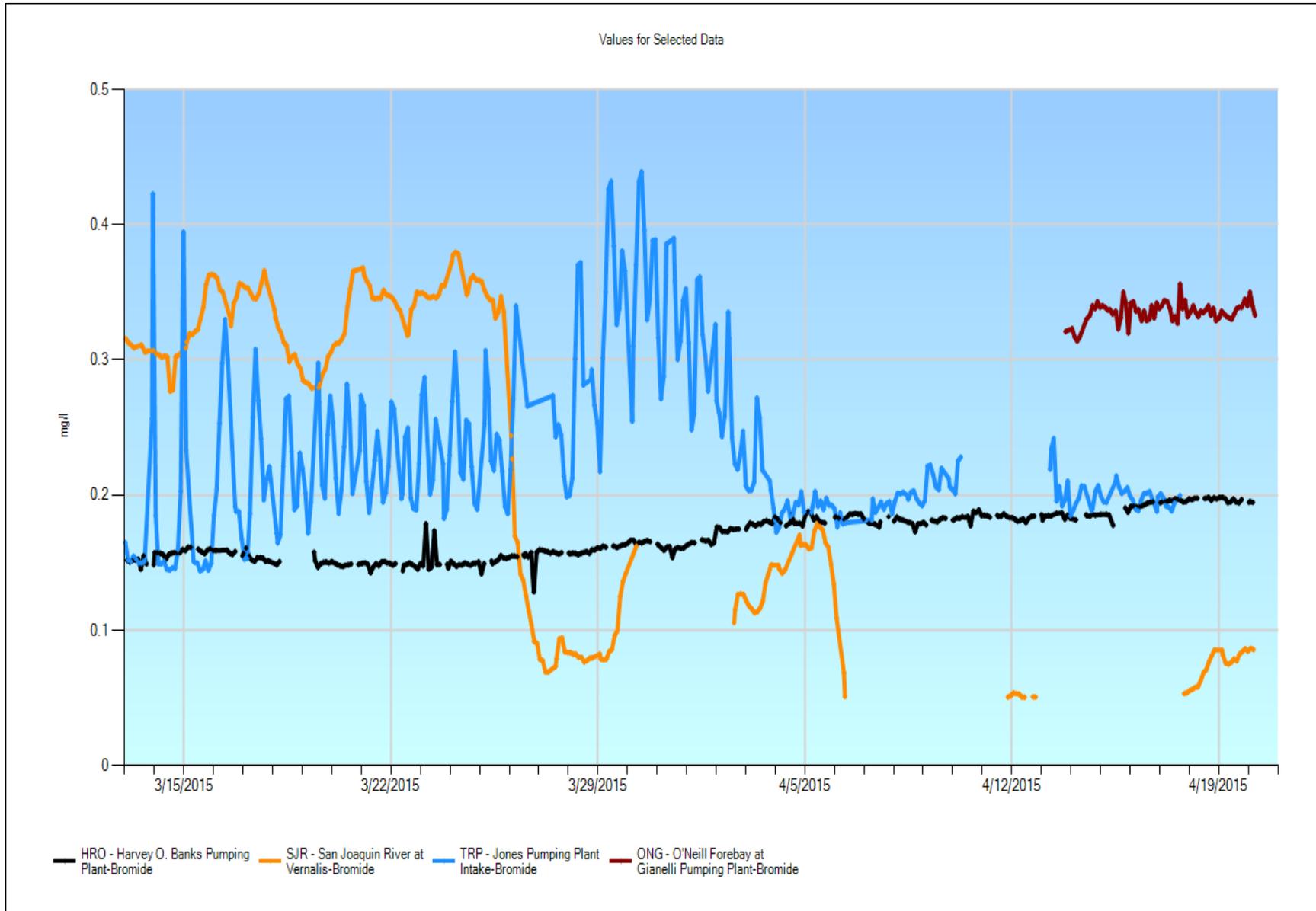
4/8: Changed all delivery system filters

4/15: Changed the 100 um and 0.45 um filters, analyzed all QC samples, cleaned all delivery system lines and flushed FDOM valves

All Station EC



All Station Bromide



All Station DOC

