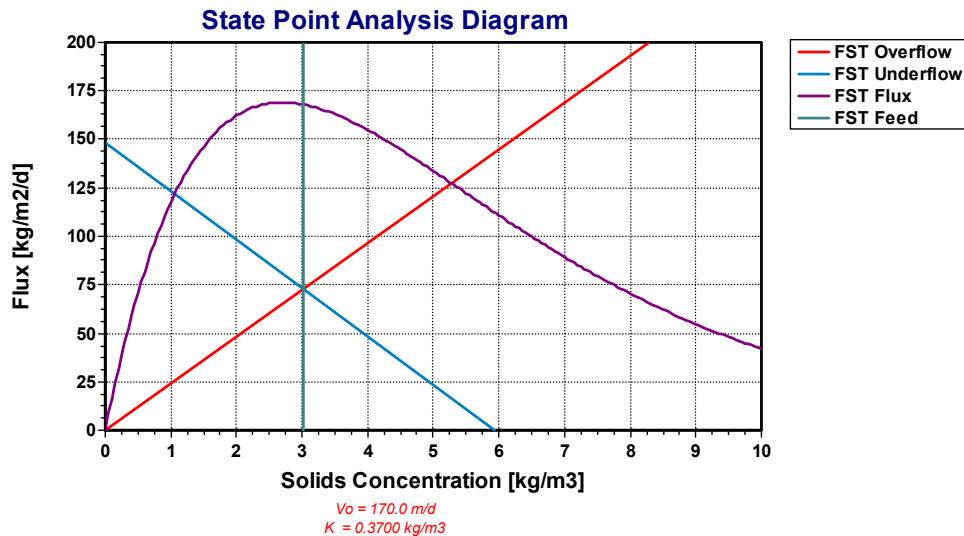


## BioWin 2.2 - Additions and Improvements

### SETTLING TANK STATE POINT ANALYSIS (SPA) DIAGRAM

Settling flux curves are used in secondary settling tank state point analysis. These can be generated for both ideal and model settling tanks. The diagram can be generated for steady state cases, and is updated during dynamic simulations. The plot can include lines for the Overflow rate, Underflow rate and feed concentration as well as a time history of operating state points (in dynamic simulations). To plot a state point analysis diagram, right click on a settler, and select **Add to Album** → **Chart...** → **State Point** tab. An example of an SPA diagram is shown below.



### METHANOL AND CHEMICAL ADDITION

Features have been added for methanol and chemical addition elements. Users can now specify flow-paced or mass flow based methanol and chemical (Fe, Al) addition regimes. Previously only the addition flow rate and concentration could be specified.

### INFLUENT DEFAULT FRACTIONS

Users may select default "Raw" or default "Settled" wastewater characteristics with a single click of a button.

### DYNAMIC SIMULATION

Dynamic simulations can be started from one of three times (conditions):

1. Start the simulation from the default "simulation start date" [stored in **Project / Info...**].
2. Continue the simulation from the current simulation time - that is, wherever the simulator was previously stopped.
3. Start from any time after the simulation start date. This is useful when a specific period must be simulated, for example a given month in a one year database.

### LAST STEADY STATE SIMULATION SAVED

BioWin now keeps a record of the last successful steady state simulation, so the user can start a new run (dynamic or steady state) from the last steady state condition.

### IMPROVEMENTS IN REPORTING

The "Report to Word" feature has been extended:

1. Influent tables are now rotated to improve appearance.
2. Aeration equipment parameters are split into two tables to improve appearance.
3. Active SRT name is included in the report.

4. Surface aerated elements report more relevant information.
5. MS Word does not close automatically when the report document is complete.

#### **ALBUM UPGRADES**

Navigation tools have been added to the album to facilitate navigation between album pages.

Adding a chart now automatically opens the Add series dialog box saving a few clicks.

#### **OTHER IMPROVEMENTS**

- An alarm is generated to draw attention to possibly unintended low pH conditions in anaerobic digesters.
- Alarm conditions have been added to warn the user when Calcium, Magnesium, or other cations or other anions become limiting.
- New warnings help to identify entry errors in itinerary editors.
- Parameter editors list units for all parameters.
- Water chemistry variables (ionized compounds, pH, etc.) are now available for use in the Model Builder.
- The default anaerobic digester temperature has been changed to 35 degrees Celsius.
- Metal modeling is now automatically enabled when a metal addition element is added to the configuration.
- And many other miscellaneous improvements and fixes...