

DatView 1.02

Introduction

DatView was developed to assist users of SonTek/YSI FlowTrackers in reviewing discharge measurements. The software provides for a quick visual review and highlights data that contains possible quality issues.

Installing the program

Simply copy the program file DatView.exe to a folder on your computer.

Note: The following FlowTracker measurement ASCII files are used by DatView: Discharge (.DIS), Summary (.SUM), and Data, (.DAT). Before loading a file in DatView, the binary (.wad) FlowTracker file must be exported to the required ASCII data files using the Sontek/YSI FlowTracker software. Please see the SonTek/YSI FlowTracker manual for instructions on exporting ASCII file types.

Basic Operations

Locate the file DatView.exe on the computer and run the executable.

Load a FlowTracker measurement using the Load FlowTracker data set menu.

Menus

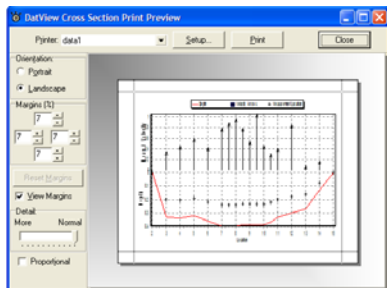
File... Load FlowTracker data set

Opens a data file for displaying. A dialog box opens where you can select the file you want to open. In the window you can select the file, click “Open”, and the file will be loaded and displayed. The title bar then displays the name and folder for the file that is currently loaded.



File... Print... Cross Section

Opens a print preview window that allows the cross section plot to be sent to a printer.



File... Exit

Exits the program.

Summary View

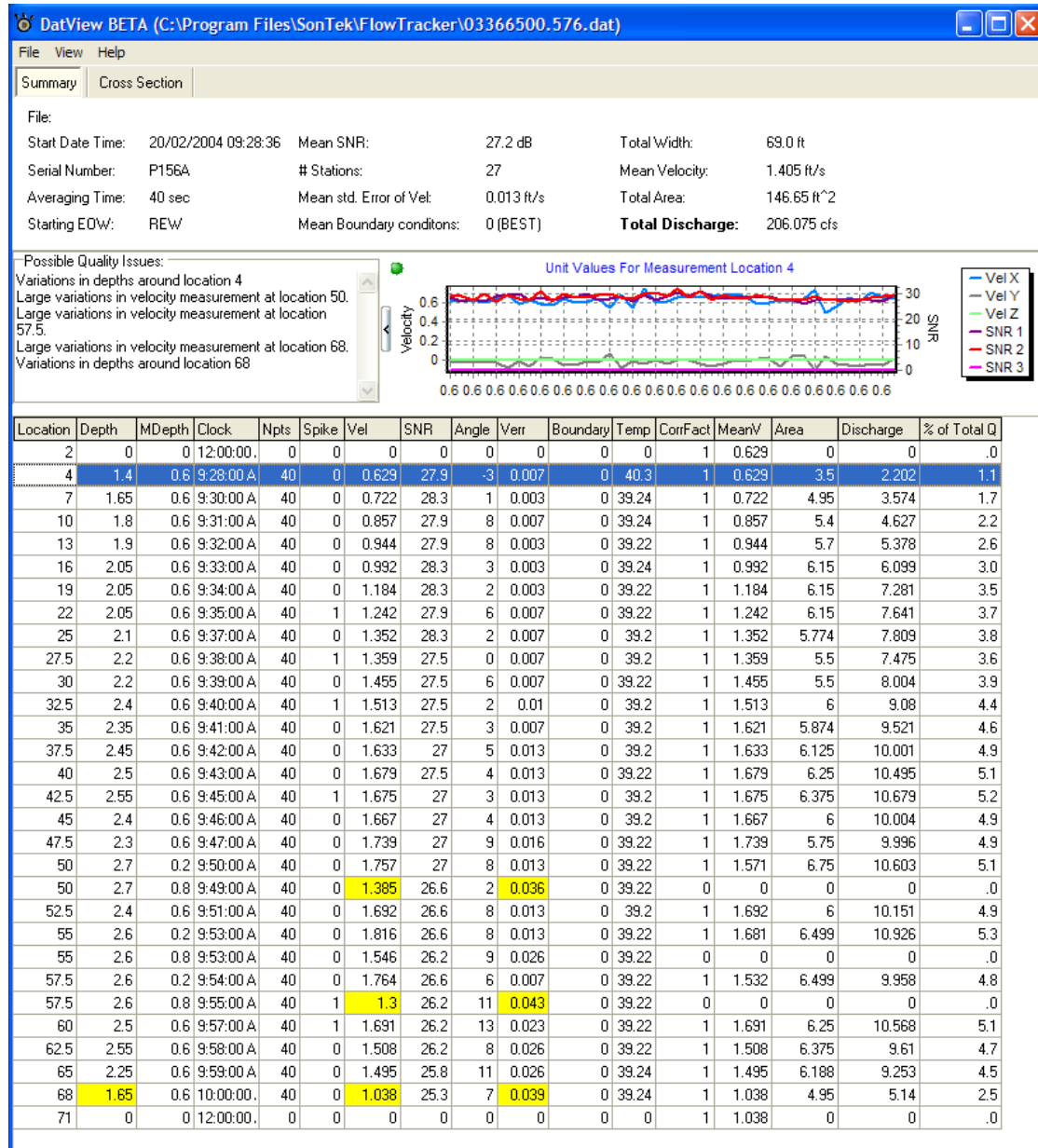


Figure 1. Main window of DatView software with Summary tab selected.

Discharge Summary

File:					
Start Date Time:	20/02/2004 09:28:36	Mean SNR:	27.2 dB	Total Width:	69.0 ft
Serial Number:	P156A	# Stations:	27	Mean Velocity:	1.405 ft/s
Averaging Time:	40 sec	Mean std. Error of Vel:	0.013 ft/s	Total Area:	146.65 ft ²
Starting EOW:	REW	Mean Boundary conditons:	0 (BEST)	Total Discharge:	206.075 cfs

Figure 2. Top panel of Summary tab.

Possible Quality Indicators

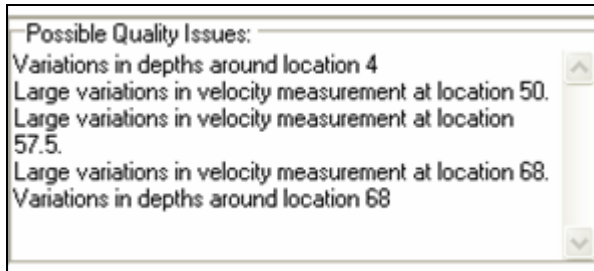


Figure 3. Possible quality indicators panel.

Scanning Criteria

If a value exceeds a scanning threshold, the appropriate message is added to the Possible Quality Indicators panel and the cell that contains the value is highlighted in the measurement summary table.

Possible Quality Indicator Messages:

Message: Measurement contains than 20 stations.
Number of station is less than 20.

Message: Depth at location 'XX' is less than 0.3. Boundary issues possible.'
Depth at a station is less than 0.3.

Message: Large variations in velocity measurement at location 'XX'.
Error velocity for a velocity measurement is greater than 0.03 and the error velocity is greater than the mean error velocity for the entire discharge measurement + 0.02.

Message: Mean SNR at location 'XX' is less than 5db.
Mean SNR at a station is less than 5.

Message: SNR at location 'XX' indicates possible boundary issues.' The mean SNR is more than 20 percent from the mean of the surrounding stations SNR.

Message: Very large angle at location 'XX'.
The mean velocity angle for a sample is greater than 45 degrees.

Message: Large angle at location 'XX'
The mean velocity angle for a measurement point is between 20 and 45 degrees.

Message: Discharge at location 'XX' is greater than 10% of total.
The discharge at a station is greater than 10 percent of the total measurement discharge.

Message: Discharge at location 'XX' is greater than 6% of total.
The discharge at a station is between 6 and 10 percent of the total measurement discharge.

Message: Variations in depths around location 'XX'.
The standard error of depth for a station is greater than 10.

Message: Variations in velocities around location 'XX'.
The standard error of velocity for a station is greater than 10.

Message: Variations in SNR around location 'XX'.
The standard error of SNR is greater than 100 for a station that is not neighboring the edge of water.

Message: Variations in Angles around location 'XX'.
The standard error of flow angle is greater than 6000 for a station that is not neighboring the edge of water.

Message: Large difference in beam SNRs at location 'XX'.
The 1 second samples of SNR have a difference greater than 5 db between beam 1 and beam 2.

Unit Values Graph Panel

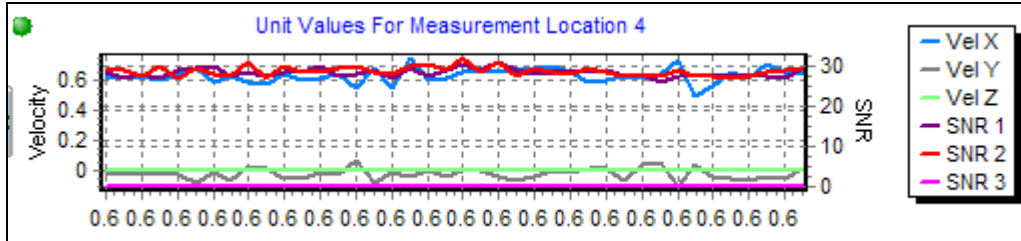


Figure 4. Unit Values Graph Panel

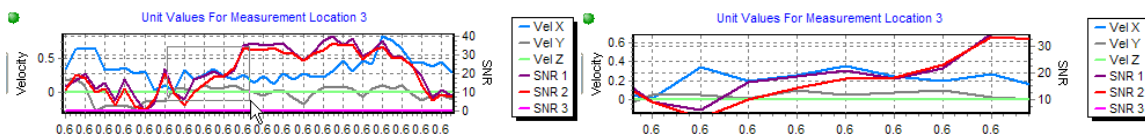
The unit values graph panel is a graph of the one second samples for X, Y, and Z velocities along with Beam 1, 2, and 3 SNR of location selected in the summary table.

Zooming in and out

By default, the unit values graph is set to “auto scaling” which means that the graph display range is just as large as it needs to be to display the complete data set. Keep in mind that the Y-axis does not always start with 0 this way; it starts with the lowest data point! Zooming in (or out) to the desired view can be done in several ways.

Users can zoom drawing a rectangle around the Chart area they want to see in detail.

Click and hold the left mouse button while dragging the mouse over the image. This will create a zoom to area rectangle. As soon as the mouse button is released, DatView repaints to show the zoomed area. Note: Dragging should be done from top / left to bottom down. Dragging in the opposite direction resets axis scales (zoom back to the full view of the graph).



Panning

Panning is done by dragging the mouse over the graph while pressing the right mouse button.

Cross Section View

The Cross section tab contains two panels,

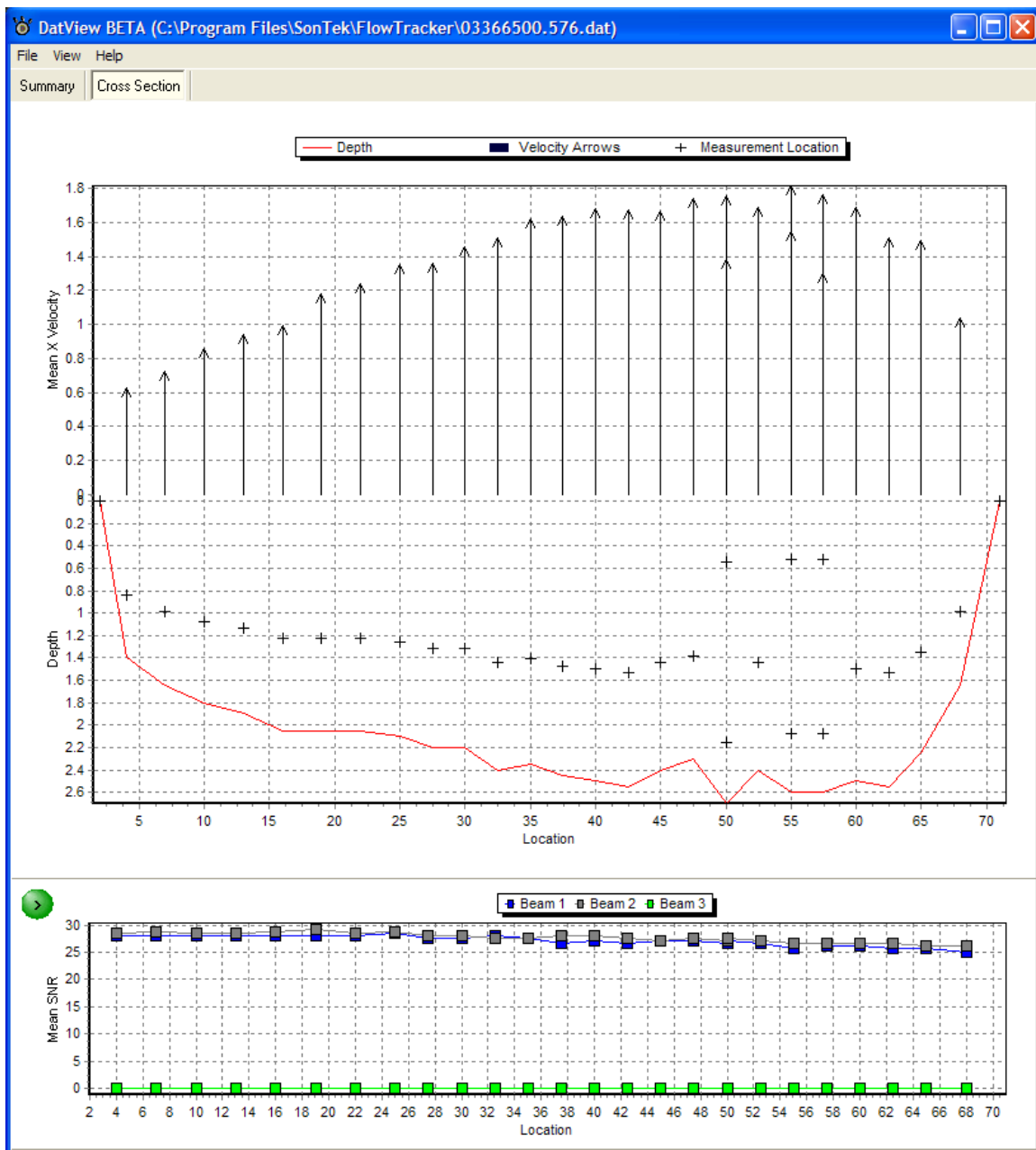


Figure 5. Main window of DatView with Cross Section tab selected.

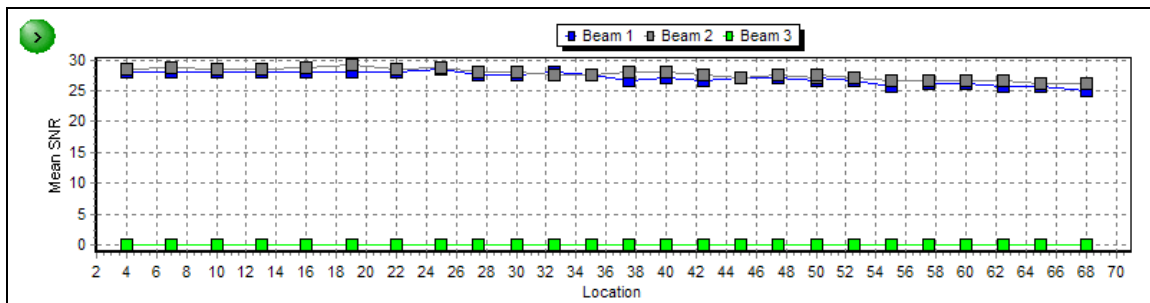


Figure 6 Mean measurement signal-to-noise ratio.

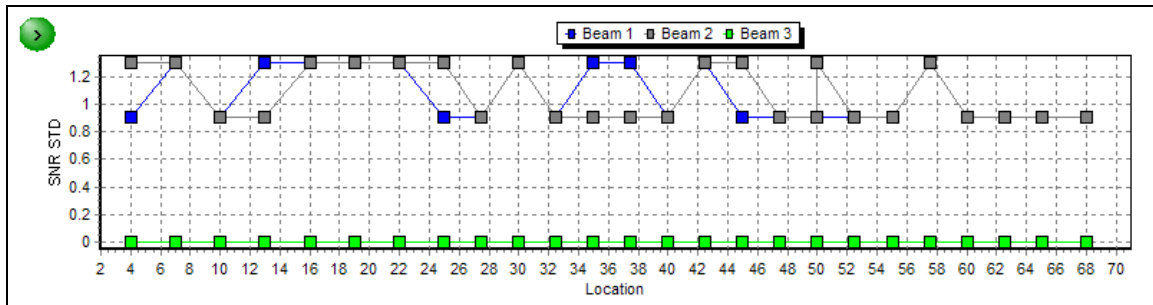


Figure 7. Signal-to-noise ratio standard deviation.

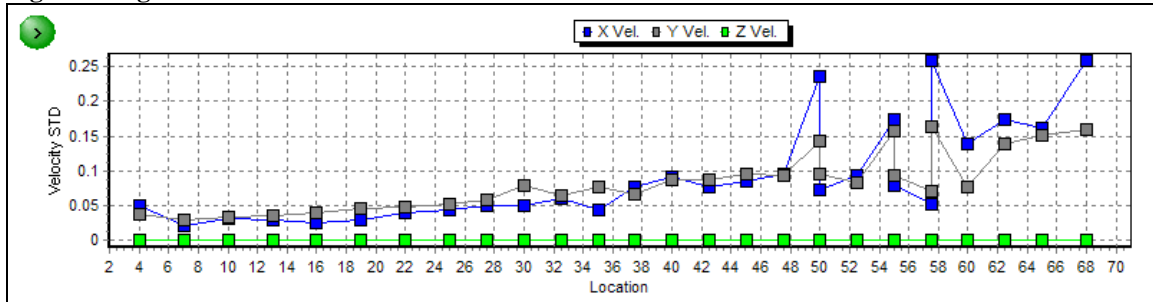


Figure 8. X, Y, and Z velocity standard deviation.

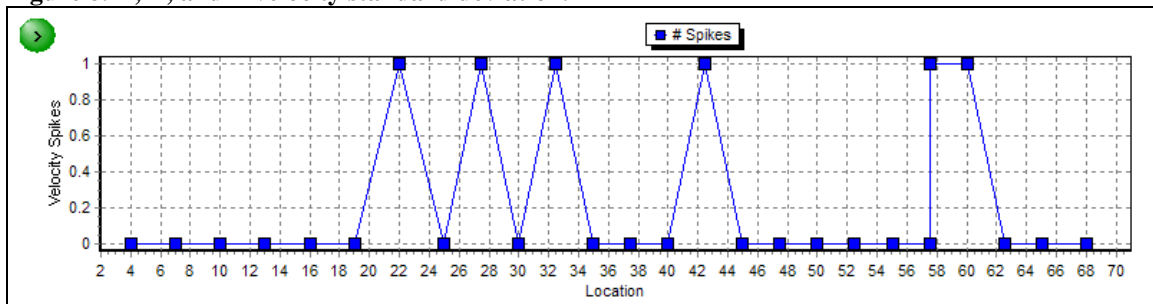


Figure 9. Number of filtered velocity spikes graph.

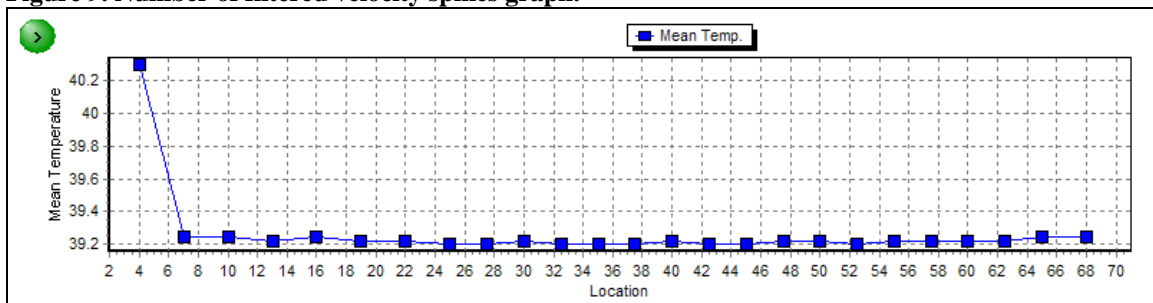


Figure 10. Mean water temperature graph.

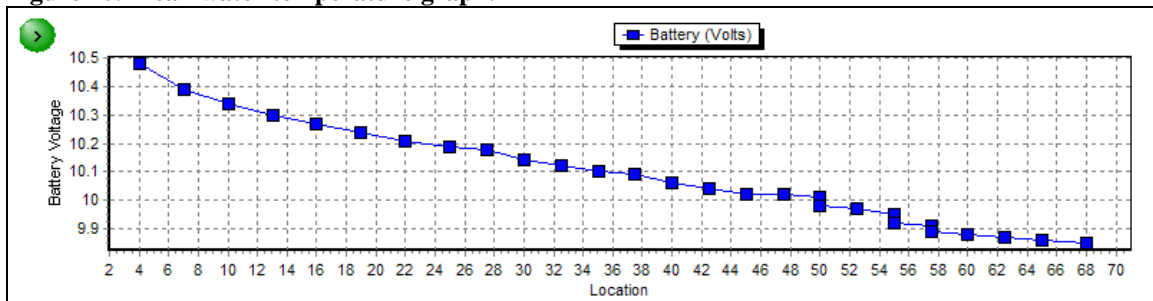


Figure 11. Battery voltage graph.

Revision History

Version 1.02

Added quality screening for temperature.

Version 1.01

Fixed an issue with loading FlowTracker measurements containing varying velocity sample times.

Version 1.00

Added compatibility with SonTek FlowTracker software version 2.11(and later) export formats.

Disclaimers

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Contact Information

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