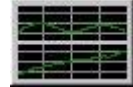




10 QUALITY CONTROL

To start the Quality Control module select *Execute / Quality Control* from the main menu or click on the QC button, then select the line from the line list.



The QC module allows interactive browsing of time series plots of QC data. With the exception of shot time interval which is available immediately after the input of P2 data, the data for these plots is a product of the network adjustment.

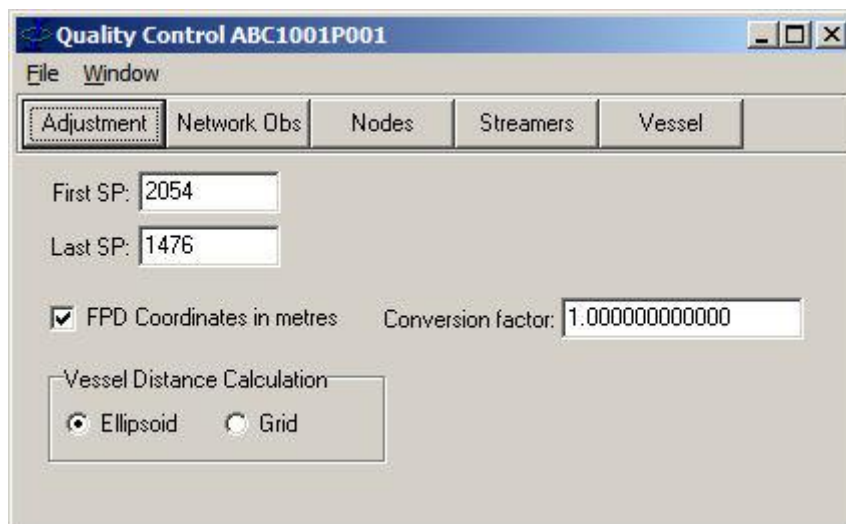


Figure 10.1

10.1 Options

10.1.1 Field Positioning Data Units

Check the *FPD Coordinates in metres* checkbox to display Field Positioning Data (Node QC) in metres so that comparisons can be made with nodes whose coordinates have been computed by SeisPos.

10.1.2 Vessel Distance Calculation

Check either *Ellipsoid* or *Grid* to specify the mode for distance calculations applied to the *Vessel* plots.

Note: distances for *Node* plots are always calculated on the ellipsoid.



10.2 Available plots

Adjustment:

- Number of iterations
- Degrees of freedom
- Unit variance

Network Observations:

- Value – inclusive of fixed and variable C-O, scale, propagation speed and grid convergence or scale factor.
- Residual
- Normalised residual (W statistic)
- Marginally detectable error
- A priori standard deviation

Nodes:

- Cross line distance from pre-plotted survey line
- Along line distance from pre-plotted start of survey line
- Easting
- Northing
- Semi-major axis of the 95% probability error ellipse
- External reliability, $\sqrt{\delta E^2 + \delta N^2}$, where δE and δN are the respective East and North components of maximum external reliability. This quantity is exclusive of vessel positioning observations.
- Number of observations to/from a node, including derived observations

Streamers:

- Rotation
- Stretch
- Feather relative to pre-plotted survey line

Vessel:

- Shot time interval, available immediately after input of P2 data.
- For each vessel:
 - Inter shot distance
 - Speed
 - Course made good

Any number of these plots may be viewed simultaneously.

Referring to Figure 10.1, the shotpoint range in the main QC window defaults to the first and last good shotpoints as shown in the Project details for the line. To view any



of the plots with a different shotpoint range enter the required shotpoint range prior to clicking on the appropriate data type button.



10.3 Plot Data

The data from which these plots are taken is overwritten each time a network adjustment, or partial network adjustment is carried out, if the relevant outputs are enabled (refer to section 10. Network Adjustment). These plots therefore represent the most recent network adjustment of every part of the line. For example if an adjustment for shotpoints 100 to 1000 is computed, followed by a re-computation of the adjustment for shotpoints 500 to 1000 then the plots will show data from the first adjustment for shotpoints 100 to 499, and from the second adjustment for shotpoints 500 to 1000.

For parts of the line where no data has been output, e.g. auto-rejection of observations, the plot will appear blank.

10.3.1 Network Observations

In the case of Network Observations, the only data available for streamer compasses and gyro compasses is the value as these observations are not directly used in the least squares process.

The data for derived observations pertains to the most recent adjustment configuration. All data for derived observations will be overwritten if the network configuration in the network adjustment module is changed and adjusted.

10.3.2 Nodes

Coordinates for nodes computed by SeisPos are always in metres even if the P2 format specifies a non-metric unit.

For streamer compasses, the semi-major axis and external reliability is not available as these nodes are not solved as part of the least squares process.

If field derived positioning data has been recorded in the P2 in E12 records then these nodes will also appear in the node list. The naming convention adopted is:

* FPD ##


where:

* = node name as appears in the database node table
= sequence as defined in the P2 format



Plotting Functions

Refer to [Section 15. Multiplot](#) for detailed descriptions of the plotting functions and statistics.

When viewing the observation plots an additional function is provided to view the network diagram, accessible from the  button.

