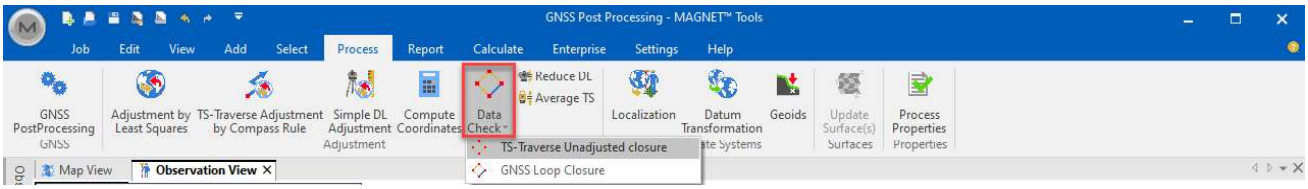
Perform Traverse Adjustment

To run the adjustment, click the **Adjustment** icon under the Process menu. By default, the Least Squares Adjustment is used for any network. For Total Station network, you can select the traverse adjustment by **Least Squares**, **Compass Rule** or **Traverse Unadjusted Closure** (under the Data Check button) methods.

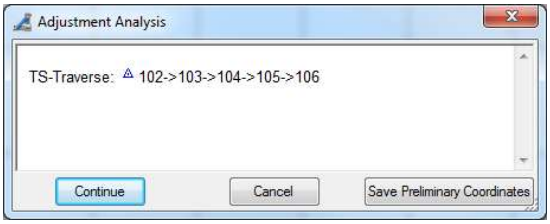
Least Squares	Only for Total Station observations in a network of connected points
Compass Rule	Traditional open or closed traverse where the precision of angles/directions is assumed to be equal to the precision in distances
Unadjusted Closure	Calculates the traverse coordinates from the original station positions without estimating the accuracy. Where multiple observations are available only one will be used for the calculation.

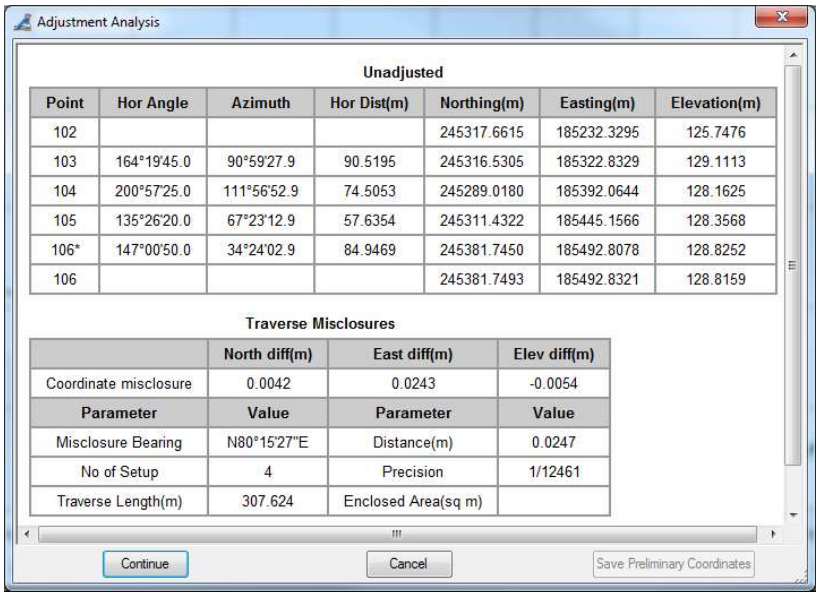


Adjustments of the TS observations will use the sphere of the mean Earth radius. All of the adjustments will consider the parameters of the geoid in the current job.

While analyzing, the network testing is interrupted, and the **Adjustment Analysis** window will display. The software automatically picks up the traverse and continues to the raw traverse closure results. This window shows information about the tests being executed and possible issues with the data that could prevent accurate network adjustment. In this window, you can:

- Proceed with the adjustment without any changes of data (by clicking **Continue** button),
- Stop the adjustment (by clicking **Cancel** button), and
- View the preliminary computed coordinates (by clicking **Save Preliminary Coordinates** button).

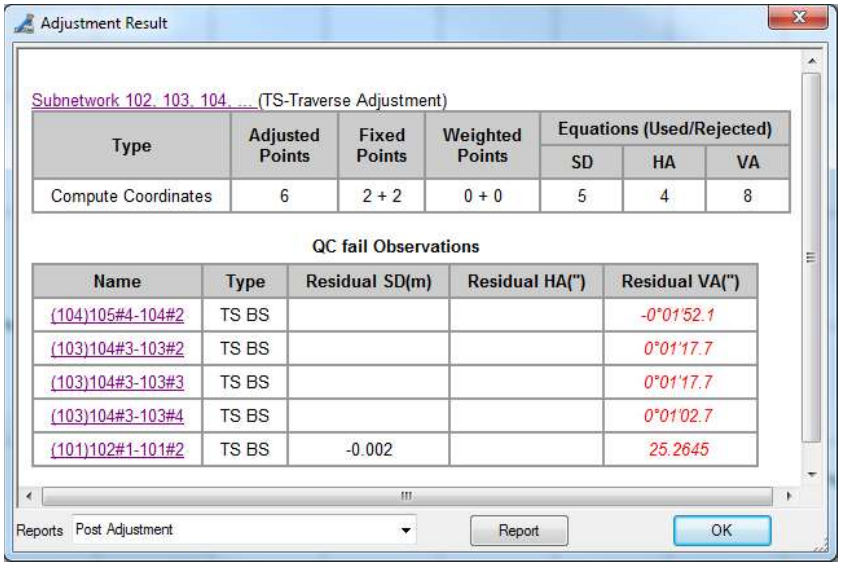




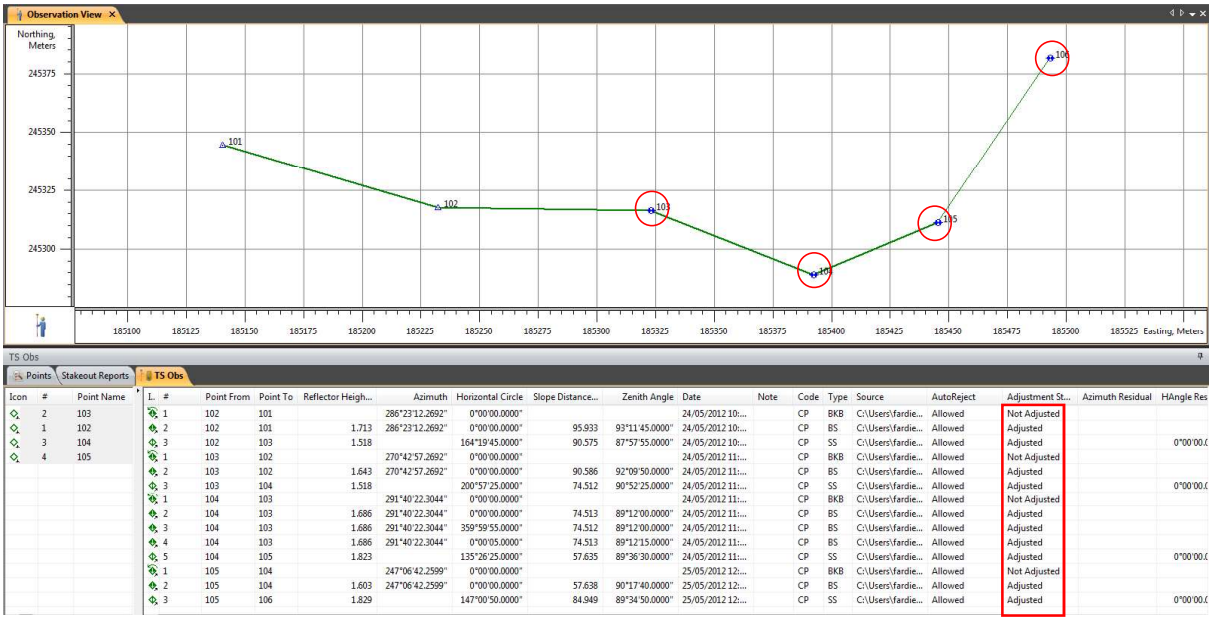
If you change the data of the job after starting the adjustment (for example delete a point), the Adjustment Analysis window will contain the **Restart** button. To perform the adjustment of the updated network, you need to click the button and an analysis of them will be done again.

After the adjustment is completed, the Adjustment Result window will display. This window shows the final results of adjustments:

- Type of the network adjustment,
- Quantity of the adjusted points,
- Quantity of fixed points and weighted points,
- List of rejected observations, and
- List of the points which did not pass the Quality Control test.



You can also generate an adjustment report of the traverse by selecting **Post Adjustment** on Reports field and click the Report button.



Icon	#	Point Name
	2	103
	1	102
	3	104
	4	105

I..	#	Point From	Point To	Reflector Heigh...	Azimuth	Horizontal Circle	Slope Distance...	Zenith Angle	Date	Note	Code	Type	Source	AutoReject	Adjustment St...	Azimuth Residual	HAngle Res
	1	102	101		286°23'12.2692"	0°00'00.0000"			24/05/2012 10:...		CP	BKB	C:\Users\fardie...	Allowed	Not Adjusted		
	2	102	101	1.713	286°23'12.2692"	0°00'00.0000"	95.933	93°11'45.0000"	24/05/2012 10:...		CP	BS	C:\Users\fardie...	Allowed	Adjusted		
	3	102	103	1.518		164°19'45.0000"	90.575	87°57'55.0000"	24/05/2012 10:...		CP	SS	C:\Users\fardie...	Allowed	Adjusted		0°00'00.0
	1	103	102		270°42'57.2692"	0°00'00.0000"			24/05/2012 11:...		CP	BKB	C:\Users\fardie...	Allowed	Not Adjusted		
	2	103	102	1.643	270°42'57.2692"	0°00'00.0000"	90.586	92°09'50.0000"	24/05/2012 11:...		CP	BS	C:\Users\fardie...	Allowed	Adjusted		
	3	103	104	1.518		200°57'25.0000"	74.512	90°52'25.0000"	24/05/2012 11:...		CP	SS	C:\Users\fardie...	Allowed	Adjusted		0°00'00.0
	1	104	103		291°40'22.3044"	0°00'00.0000"			24/05/2012 11:...		CP	BKB	C:\Users\fardie...	Allowed	Not Adjusted		
	2	104	103	1.686	291°40'22.3044"	0°00'00.0000"	74.513	89°12'00.0000"	24/05/2012 11:...		CP	BS	C:\Users\fardie...	Allowed	Adjusted		
	3	104	103	1.686	291°40'22.3044"	359°59'55.0000"	74.512	89°12'00.0000"	24/05/2012 11:...		CP	BS	C:\Users\fardie...	Allowed	Adjusted		
	4	104	103	1.686	291°40'22.3044"	0°00'05.0000"	74.513	89°12'15.0000"	24/05/2012 11:...		CP	BS	C:\Users\fardie...	Allowed	Adjusted		
	5	104	105	1.823		135°26'25.0000"	57.635	89°36'30.0000"	24/05/2012 11:...		CP	SS	C:\Users\fardie...	Allowed	Adjusted		0°00'00.0
	1	105	104		247°06'42.2599"	0°00'00.0000"			25/05/2012 12:...		CP	BKB	C:\Users\fardie...	Allowed	Not Adjusted		
	2	105	104	1.603	247°06'42.2599"	0°00'00.0000"	57.638	90°17'40.0000"	25/05/2012 12:...		CP	BS	C:\Users\fardie...	Allowed	Adjusted		
	3	105	106	1.829		147°00'50.0000"	84.949	89°34'50.0000"	25/05/2012 12:...		CP	SS	C:\Users\fardie...	Allowed	Adjusted		0°00'00.0

To check if points were already adjusted, the adjusted point should now change its symbol and the adjustment status displays **Adjusted.**

An example of generated post adjustment report from the traverse adjusted is shown below.

Project Summary

Post Adjustment
Project name: **Traverse Adjustment**
Project folder: **C:\Users\fardiente\Documents\MAGNET Tools Jobs**
Creation time: **14/10/2013 3:26:24 AM**
Created by:
Comment:
Linear unit: **Meters**
Angular unit: **DMS**
Projection: **SPC83-New Jersey**
Datum: **NAD83(CORS96)**
Geoid: **g2009u08**
Time Zone: **E. Australia Standard Time**

Before Adjustment

Coordinate misclosure(m): North diff: **0.004** East diff: **0.024** Elev diff: **-0.005**
Misclosure Bearing: **N80°15'27"E** Distance(m): **0.025**
Precision: **1/12461** No of Setup: **4**
Traverse Distance(m): **307.624** Area(sq m):

After Adjustment

Coordinate misclosure(m): North diff: **0.000** East diff: **0.000** Elev diff: **0.000**
Misclosure Bearing: **N0°00'00"E** Distance(m): **0.000**
Precision: - No of Setup: **4**
Traverse Distance(m): **307.624** Area(sq m):

Traverse Point Summary

Name	Before Grid Northing (m)	Before Grid Easting (m)	Before Elevation (m)	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code
102	245317.661	185232.329	125.748	245317.661	185232.329	125.748	CP
103	245316.531	185322.833	129.111	245316.531	185322.833	129.111	CP
104	245289.018	185392.064	128.163	245289.018	185392.064	128.163	CP
105	245311.432	185445.157	128.357	245311.432	185445.157	128.357	CP
106	245381.749	185492.832	128.820	245381.745	185492.808	128.825	CP
101	245344.682	185140.444	120.343	245344.682	185140.444	120.339	CP

Traverse Observations

#	Point From	Point To	Instrument Height (m)	Reflector Height (m)	Type	Horizontal Circle	Zenith Angle	Slope Distance (m)	HAngle Residual	ZAngle Residual	SDist Res
1-1	102	101	1.661		BKB	0°00'00.0000"					
1-2	102	101	1.661	1.713	BS	0°00'00.0000"	93°11'45.0000"	95.933		-0°00'25.2645"	-0.0
1-3	102	103	1.661	1.518	SS	164°19'45.0000"	87°57'55.0000"	90.575	0°00'00.0000"	0°00'06.8005"	-0.0
2-1	103	102	1.704		BKB	0°00'00.0000"					
2-2	103	102	1.704	1.643	BS	0°00'00.0000"	92°09'50.0000"	90.586		-0°00'06.1106"	
2-3	103	104	1.704	1.518	SS	200°57'25.0000"	90°52'25.0000"	74.512	0°00'00.0000"	0°00'05.5440"	-0.0
3-1	104	103	1.622		BKB	0°00'00.0000"					
3-2	104	103	1.622	1.686	BS	0°00'00.0000"	89°12'00.0000"	74.513		-0°01'17.6767"	
3-3	104	103	1.622	1.686	BS	359°59'55.0000"	89°12'00.0000"	74.512		-0°01'17.6745"	
3-4	104	103	1.622	1.686	BS	0°00'05.0000"	89°12'15.0000"	74.513		-0°01'02.6765"	
3-5	104	105	1.622	1.823	SS	135°26'25.0000"	89°36'30.0000"	57.635	0°00'00.0000"	0°00'07.2076"	-0.0
4-1	105	104	1.673		BKB	0°00'00.0000"					
4-2	105	104	1.673	1.603	BS	0°00'00.0000"	90°17'40.0000"	57.638		0°01'52.1231"	
4-3	105	106	1.673	1.829	SS	147°00'50.0000"	89°34'50.0000"	84.949	0°00'00.0000"	0°00'05.7137"	0.0