# Monitoring with Magnet

## Topcon Technical Support

- Writer: Javier Ramirez
- Product: Magnet and Robotic Total Stations

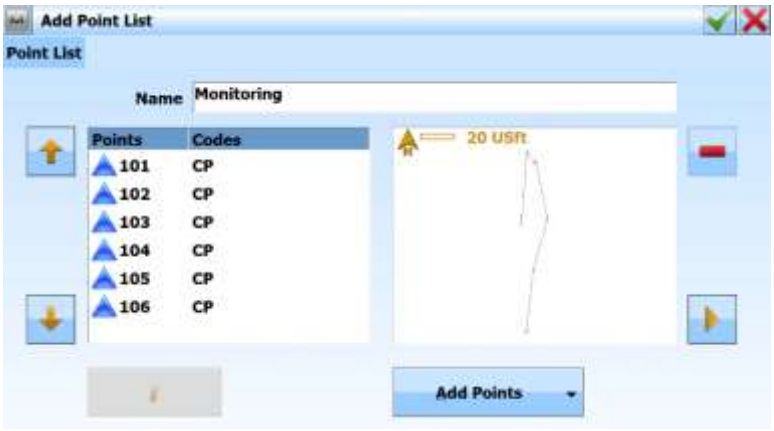
Data collection and Reports using Magnet products and Robotic Total Stations.

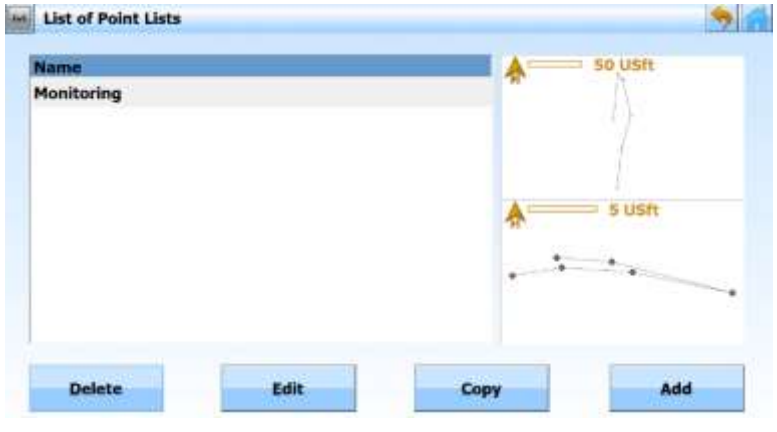
**Step 1** Create a Point list…….. **What Points we need to monitor…**

Set up a list of points, this list of point can be built with imported points, surveyed points or calculated points.
And set as Control Points.

**|Edit | Points |**


**Create the point list**




Magnet offers a few horizontal and vertical views of the point list.
Sequence of points can also be arranged by using the UP and Down arrows.

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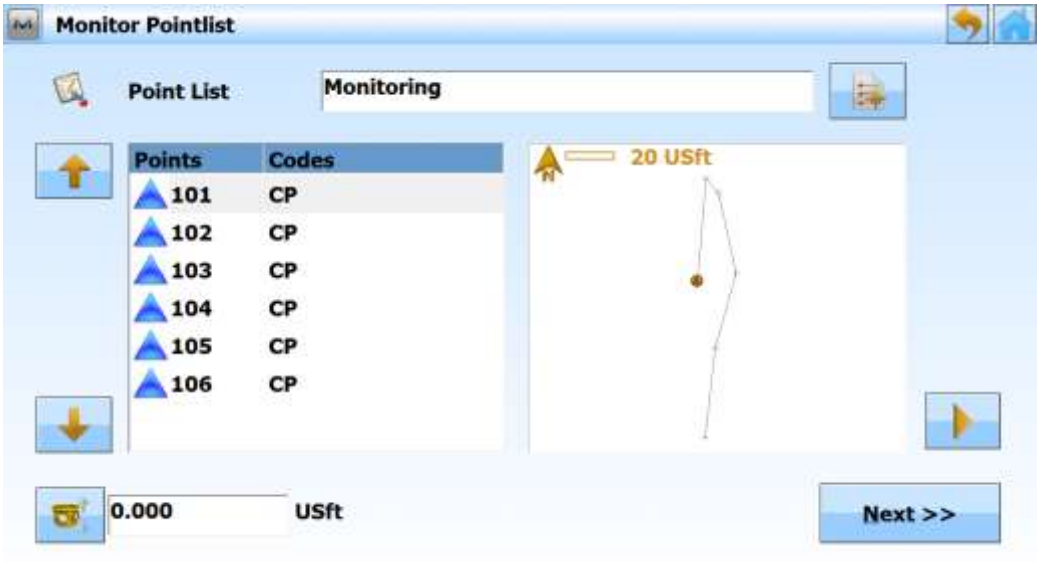
**Step 2** Orient the instrument, and Start Module……. **Let's do this thing! ...**

Orient the instrument will be necessary, if not already done so.

So please go to **|Set up | BS |**


Once the BS is set up proceed to

**|Survey | Monitor |**

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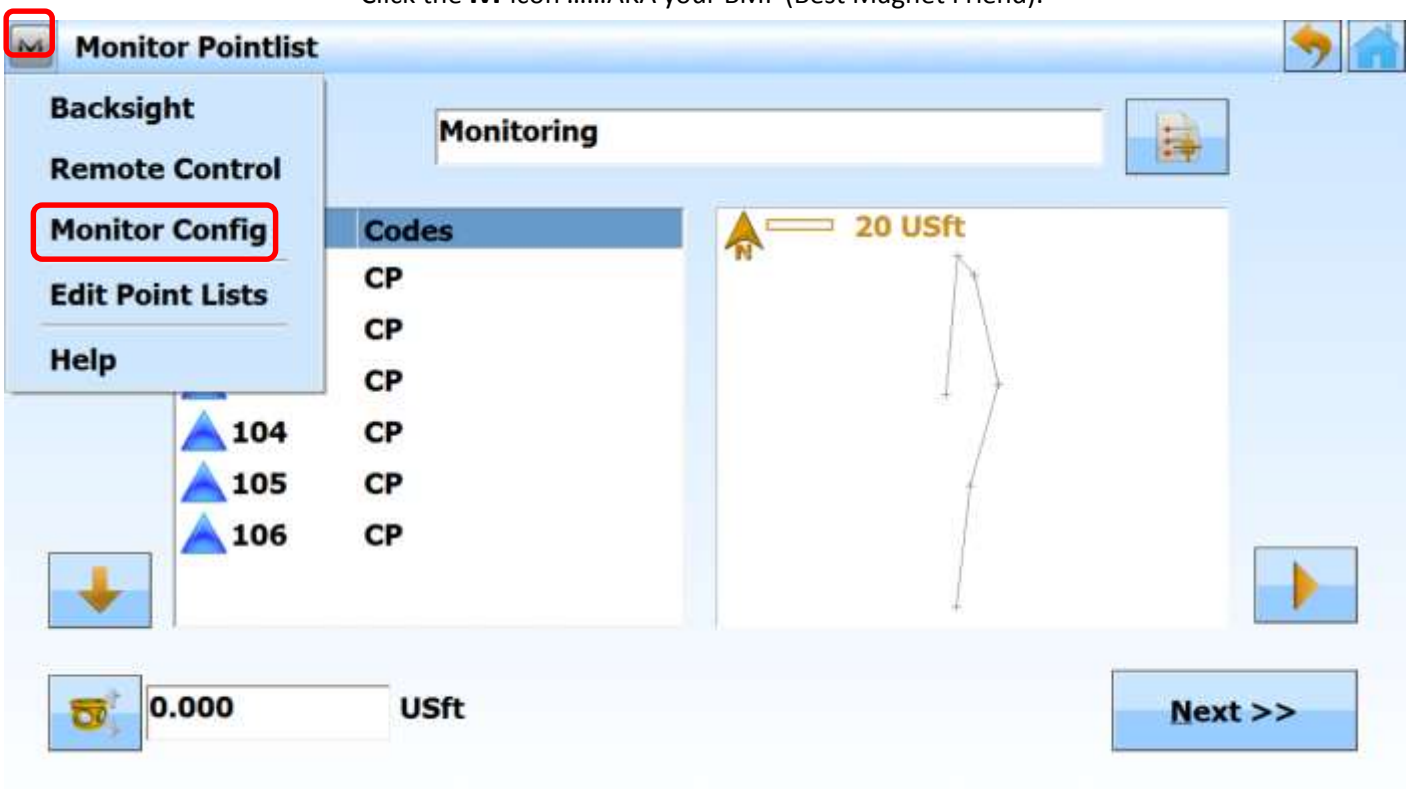
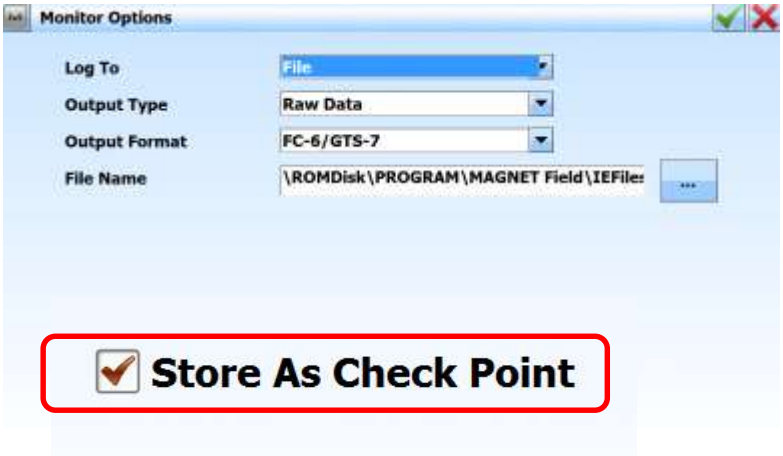
Click the **M** icon ……AKA your BMF (Best Magnet Friend).




Using this options will allows to easy create a report in Magnet Tools as well to view the points and delta values for XYZ in Magnet field.

***The Log to file OPTION PROVIDES the ability to export data, to a file or to a comport, data can be Raw data such as FC-5, FC6, GTS-6 and GTS-7, and Coordinate data to GGA format***

***Store as check point option it is recommended, this option is unchecked by default.***

***This option will save the observations during the Monitoring process linking them to the point from the "Point list" creating an additional tab "Check Point" on for the point information that will display the deltas with respect to the point coordinate from "the Point list" as well as the coordinates from each observation to it respective point***

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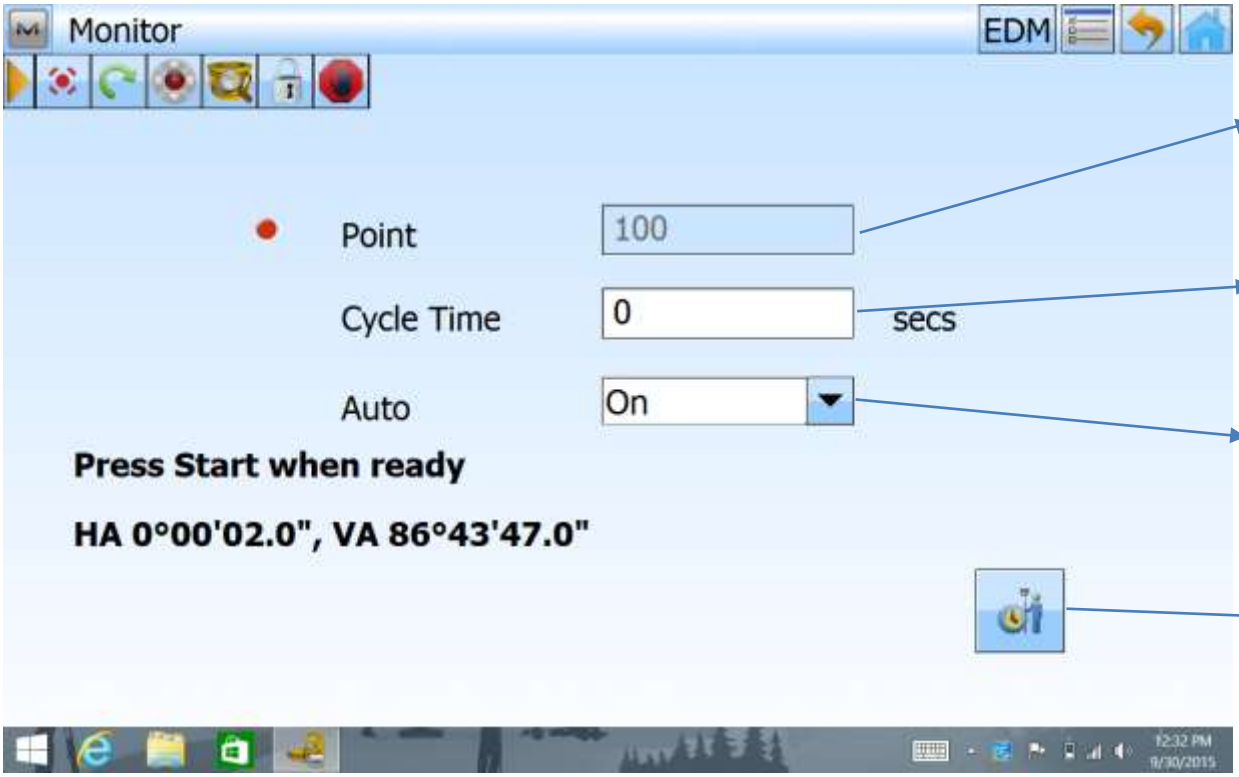
So once we are ready to start……. Push the **start button**.




Using this options will allows to easy create a report in Magnet Tools
as well to view the points and delta values for XYZ in Magnet field.
One you start with this configuration the instrument will go as long as the user allows it, and you can stop this application on any moment, using the stop button.

Also is important to know that if a target is blocked, the software will attempt to find the target 2 more times, and if the target is not sighted, then it will created a record that the target was not available.

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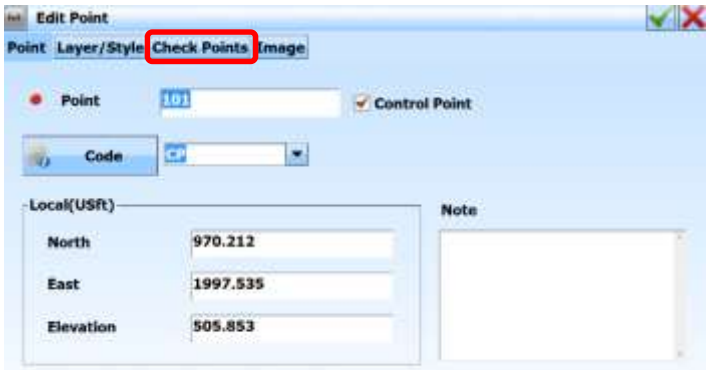
Once we obtain as many cycles as needed, all data observation can be seems under edit points in the check shots tab as well as the raw data.

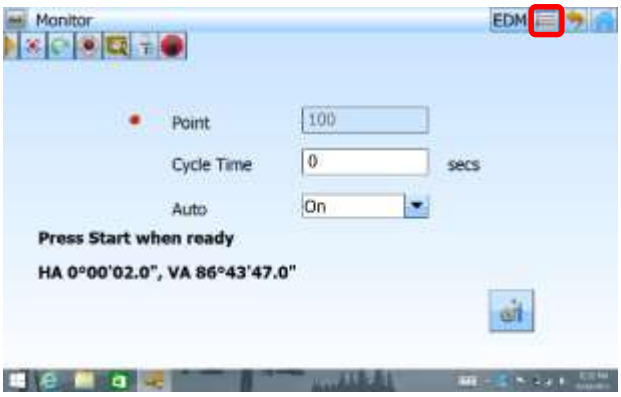
Example of collected points using the "**Store as check point**" option

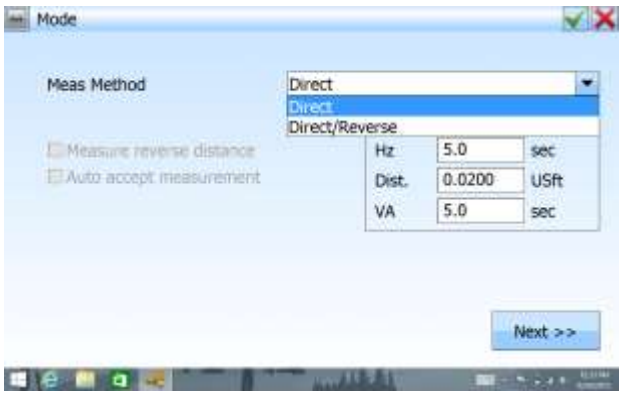


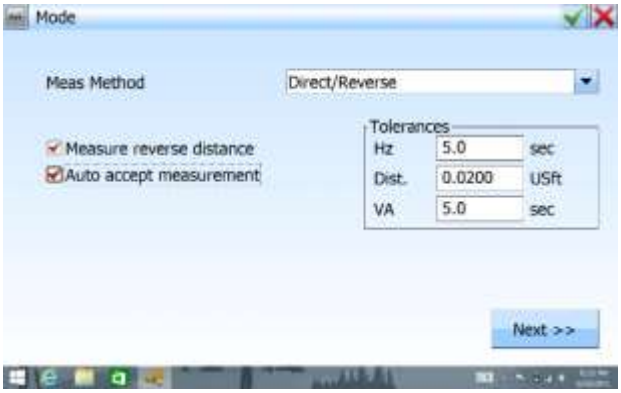


This allows for a quick analysis and preview of the data.

Also know that if desired you can measure the targets Direct and Reverse by simply…….



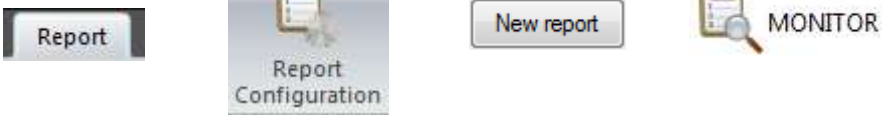



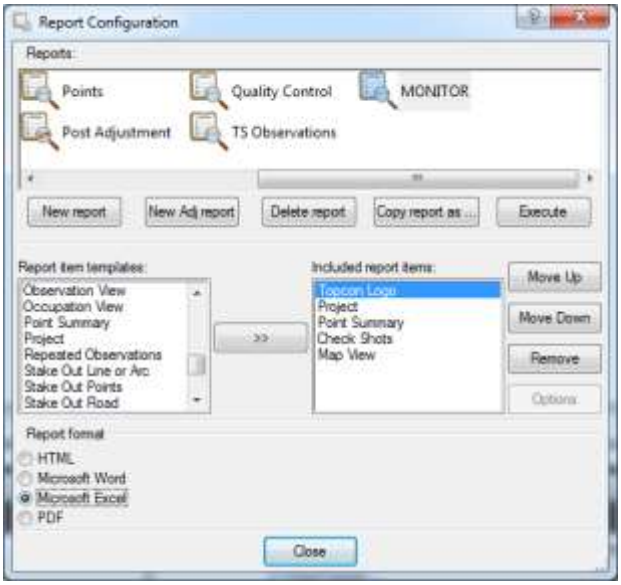

**Step 3 Create the report**… Time to share…

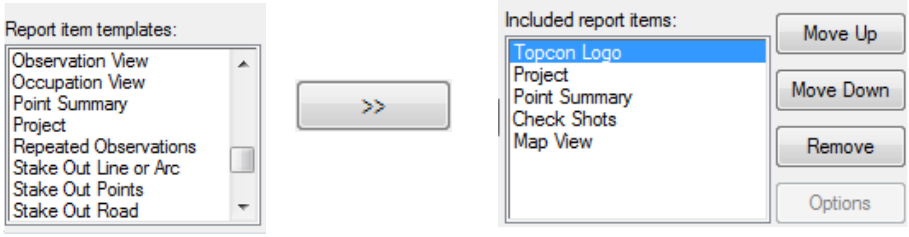
For the first time executing a report we must first have the report configuration of the data that we want to include in the report.

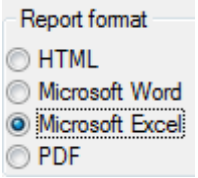
Magnet tools creating a Report.

**Report Tab | Report Configuration | Add New Report|**




Report Formats: This will allow you to create the report on the desired format.

Offering a clean ready look to share the information or to do further analysis.

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**Sample of report on HTML format:**

Project

MONITOR
Project name: Monitoring
Project folder: C:\Users\jramirez\Documents\MAGNET Tools\Jobs
Creation time: 10/5/2015 1:24:19 PM
Created by:
Comment:
Linear unit: USFeet
Angular unit: DMS
Projection:
Datum: WGS84
Geoid:
Time Zone: GMT Standard Time

Point Summary

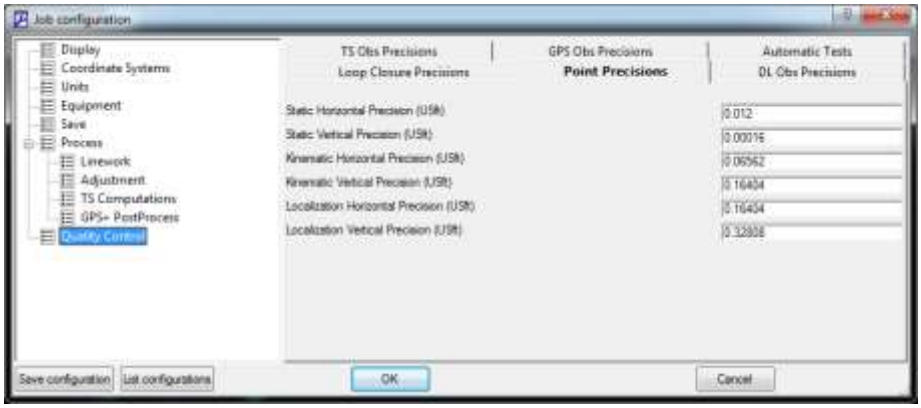
| Name | Ground Northing (USft) | Ground Easting (USft) | Elevation (USft) | Code |
|---|---|---|---|---|
| 1 | 1000.000 | 2000.000 | 500.000 | CP |
| 100 | 801.515 | 2000.000 | 499.953 | CP |
| 101 | 970.212 | 1997.535 | 505.853 | CP |
| 102 | 1011.994 | 2001.099 | 506.443 | CP |
| 103 | 1006.239 | 2006.211 | 506.110 | CP |
| 104 | 973.329 | 2013.387 | 504.621 | CP |
| 105 | 942.758 | 2004.731 | 506.854 | CP |
| 106 | 806.795 | 2000.738 | 507.100 | CP |
| 107 | 970.213 | 1997.534 | 505.853 | |
| 108 | 1011.994 | 2001.100 | 506.443 | |
| 109 | 1006.234 | 2006.252 | 506.110 | |
| 110 | 973.328 | 2013.385 | 504.621 | |

Check Shots

| Design Point | Checked Point | Code | Ground Northing (USft) | Ground Easting (USft) | Elevation (USft) | Checked Ground Northing (USft) | Checked Ground Easting (USft) | Checked Elevation (USft) | dN (USft) | dE (USft) | dH (USft) | Cal (USft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | 101 check 1 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 2 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 3 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 4 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 5 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 6 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 7 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 8 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 9 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 10 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |
| 101 | 101 check 11 | CP | 970.212 | 1997.535 | 505.853 | 970.213 | 1997.532 | 505.865 | 0.001 | -0.003 | 0.012 | 0.000 |

Notice the red items this is done by setting up tolerences for the points preciotions if the value goes above the determine precsion it will be displayed in red.

**Job Configuration | Quality Control | Point Precisions |**




Happy Surveying!