Target Surface Data Import and Quality Control

In mineral exploration, the initial focus of any exploration program is to identify potential targets for drilling. After potential targets are determined, the project moves into a "proving" phase led by a geologist experienced in obtaining and interpreting drillhole data. A complete drilling program will acquire many types of data ranging from surface data including, topography, geophysics, geochemistry to drillhole data including, hole location (i.e. collar details), surveys (i.e. 3-Dimensional orientation), geologic rock types and descriptions, drill hole geochemical assays and borehole geophysical logs.

The Target system enables the import of a wide range of data types, including geology, geochemistry, geophysics and GIS. The user-friendly Import Wizards enable you to import data from different data sources, including ASCII, Excel, Access, and acQuire Technology Solutions' acQuire. Data can also be imported from CAD and GIS packages, such as Microstation, DXF format, MapInfo and ArcView.

Import Surface Data

Many of Target's features have been developed to provide integration with other Geosoft applications, including the montaj Geochemistry extension. Target provides the tools to import geochemistry survey and assay data and then merge and verify the data into a single database. Any mismatch between Sample numbers in either database will be reported in a merge report file.

Survey data must include the Sample numbers, X, Y locations and can optionally include Sample types (standards and duplicates). Assay data must include the Sample numbers with their associated Assay values. When importing Assay data into Target all elements are assigned the 'class' ASSAY, enabling the identification and extraction of the standards and duplicates using montaj Geochemistry tools. All montaj Geochemistry tools work with Assay data imported via the Target application.

In the following examples we import survey data and assay data and then merge the survey data into the assay database.

⚠️ *When importing combined geochemistry data sets (survey and assay data combined in one dataset), import using the **Import assay** menu option to ensure that the assay values are assigned to the 'ASSAY' class.*

Import Survey Data

Survey data must include the Sample names, X, Y locations and optionally Sample types (standards and duplicates).Survey information can be imported from a tabular ASCII file (including Excel CSV format files), an external database table, or the clipboard.

⚠️ *For detailed information click the **Help** button on your dialog of interest.*

To Import Survey Data

1. On the *Surface Mapping* menu, select *Import Data* and then select **Import Survey Data**.
   The *Import SURVEY data* dialog will appear.
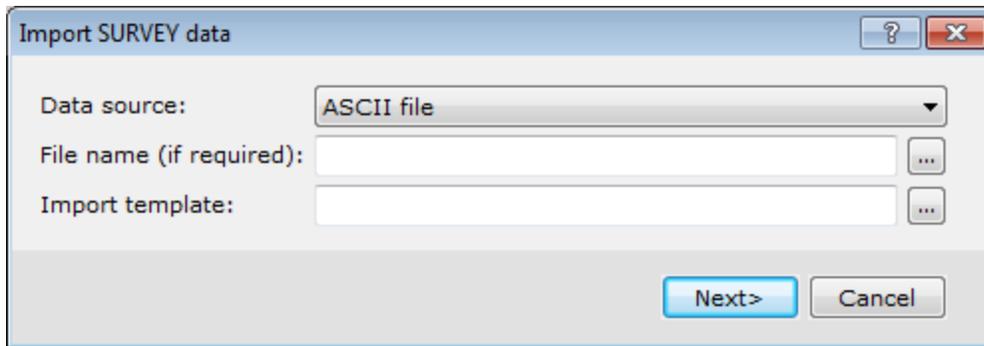
2. Select the data source and then use the **Browse** button to select the survey file from your working folder. If you leave the Import template blank the default template (_chsurvey.i3) will be created in your project directory.

3. Click **Next>**. The *Create New Database* dialog will appear.
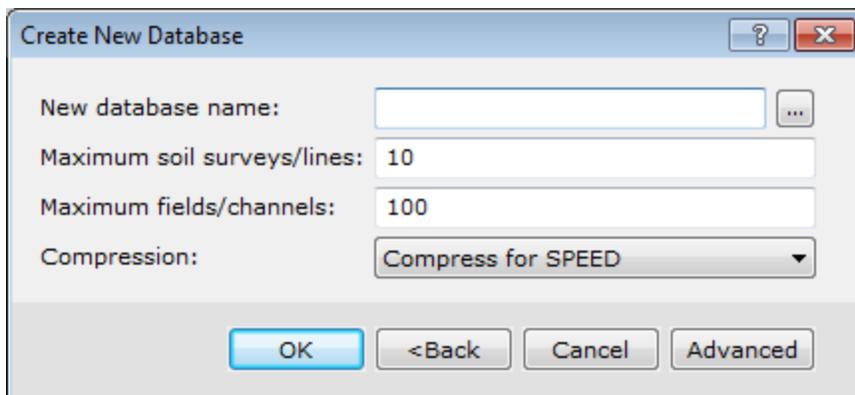
4. Specify the new database information and click the **OK** button.
   The system scans the survey import file and displays the first of three dialog boxes from the *Geochemistry Import Wizard* will appear.
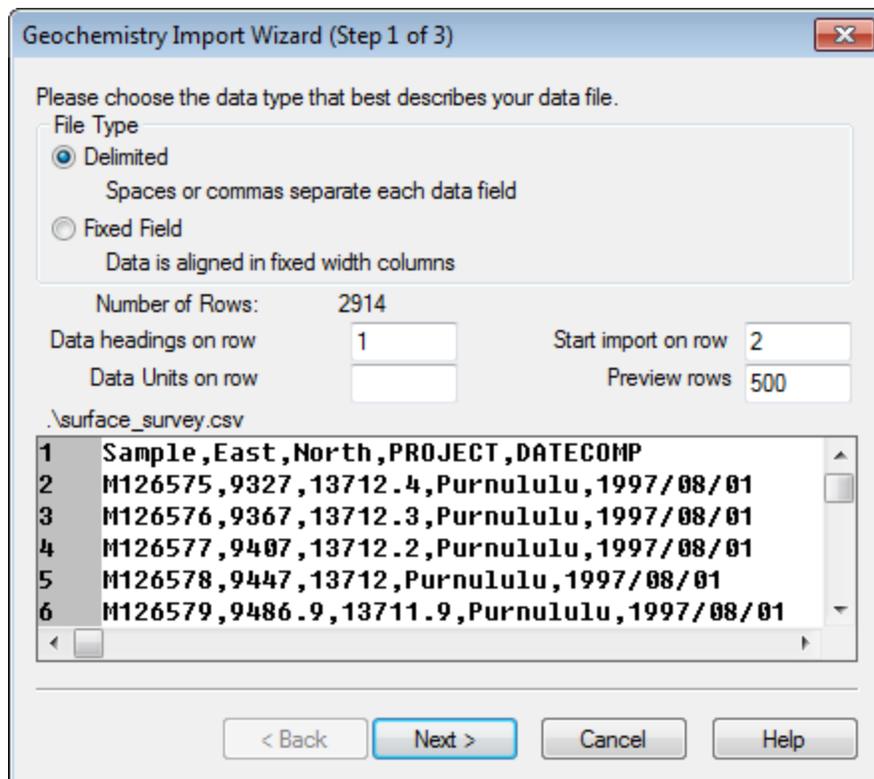
5. Choose the data type that best describes your data and click the **Next>** button. The second *Geochemistry Import Wizard* dialog will appear.
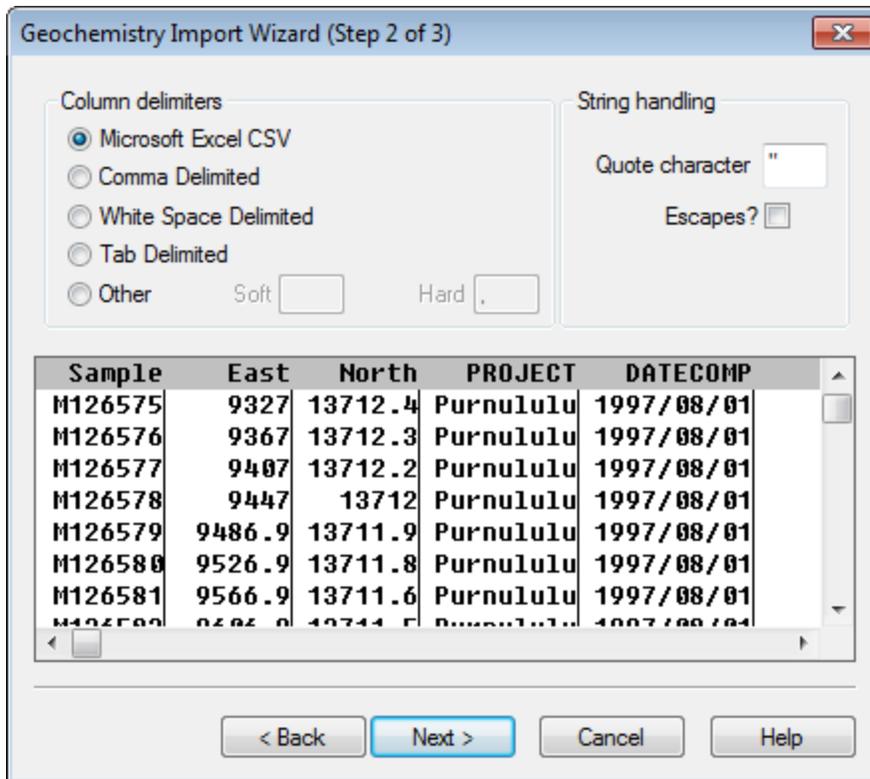
6. Depending on the previously selected data type you may be asked to define the column delimiters and string handling and then click the **Next** button.
The third *Geochemistry Import Wizard* dialog will appear.
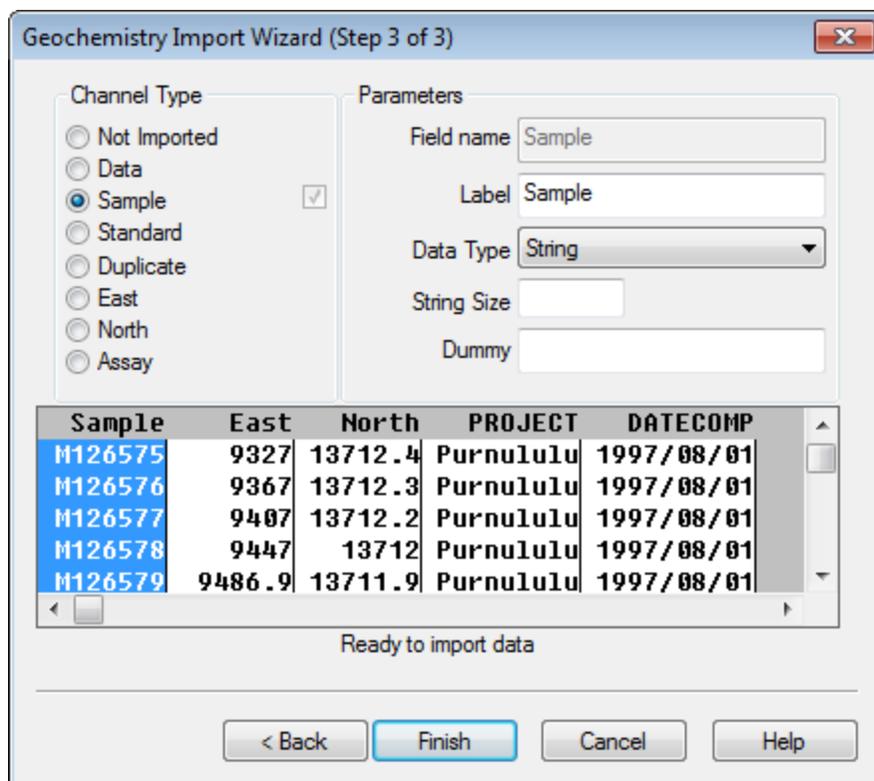
7. Specify channel types and parameters for each imported channel (column) and click the **Finish** button.
    The survey data will be imported into the new database and displayed in a spreadsheet window in your open project.

💡 *At this point, the Geochemistry extension tools can be used for users with this license. Refer to the **Help** for more information.*

Importing Assay Data

Assay data must include the Sample names with their associated Assay values. When importing Assay data into Target all elements are assigned the 'class' ASSAY, enabling the identification and extraction of the standards and duplicates using montaj Geochemistry tools. All montaj Geochemistry tools work with Assay data imported via the Target application.

To Import Assay Data

1. On the *Surface Mapping* menu, select *Import Data* and then select **Import Assay Data**.
   The *Import ASSAY data* dialog will appear.

⚠️ *If you have loaded a Channel attribute file that contains detection limits for each element, choose 'Yes' for the 'Convert negatives?' option in the Import Assay Data dialog, any value less than the detection limit (including those less than 0.0) will be replaced with a value that is one half the detection limit.*

2. Select the Data source and then use the **Browse** button to select the assay file from your project folder. If you leave the Import template blank the default template (_chassay.i3) will be created in your project directory.

3. Select the parameters from the Lab ID and Assay method dropdown lists.

⚠️ *To add new Lab ID and Assay methods items, type the new information in the appropriate box; the dropdown list will be automatically updated. To manage the lists by adding or deleting items, click the **Lab IDs** or **Assays** buttons to display the appropriate dialog. User defined pick lists are stored in the \Geosoft\Oasis montaj\user\csv\ directory. For more information, click the **Help** button.*

4. Specify the remaining import file parameters. For detailed information on the import assay data parameters, click the **Help** button.

5. Click the **Next>** button. The *Create New Database* dialog is displayed.
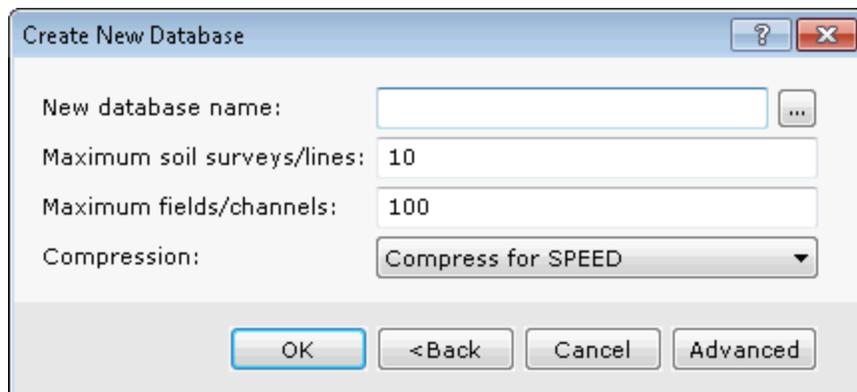
6. Specify a filename for the import database and the parameters for Maximum soil surveys/lines, Maximum field/channels, and Compression type.

7. Click the **OK** button. The new database is displayed in the background of your project (and under Databases in the *Project Explorer* window) and the first of the *Geochemistry Import Wizard* dialogs is displayed.
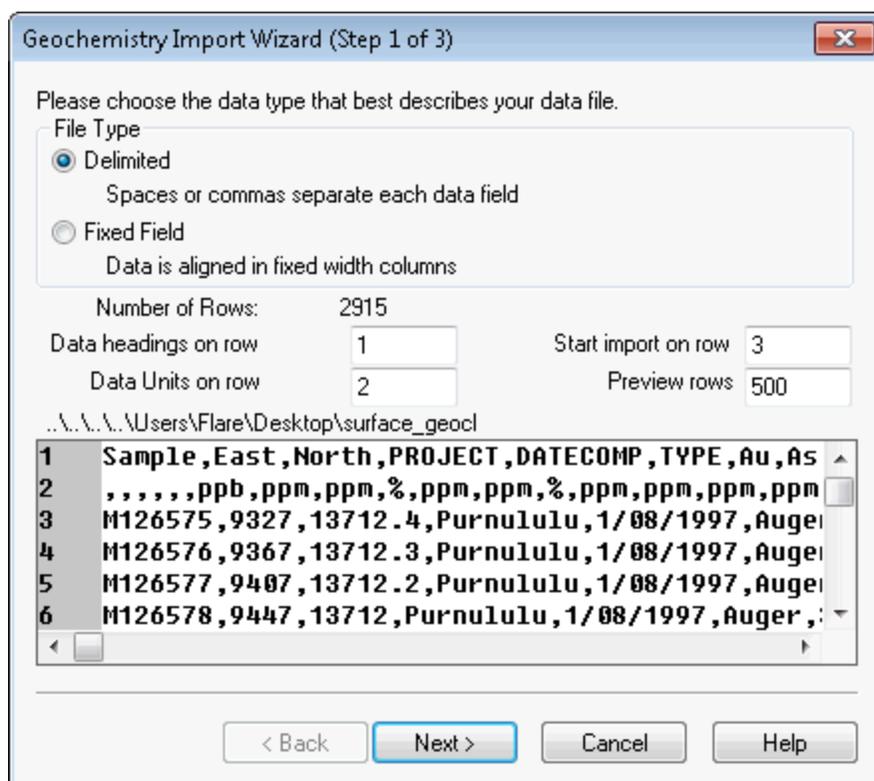
8. Choose the data type that best describes your data (*Delimited* or *Fixed Field*). In the four fields in the middle of the dialog, specify which line in the file contains the data headings (i.e. channel names), data units (ppm, ppb, %, etc.), which line to begin importing data, and the number of lines to display in the preview window.

9. Click the **Next>** button and the second *Import Wizard* dialog is displayed.
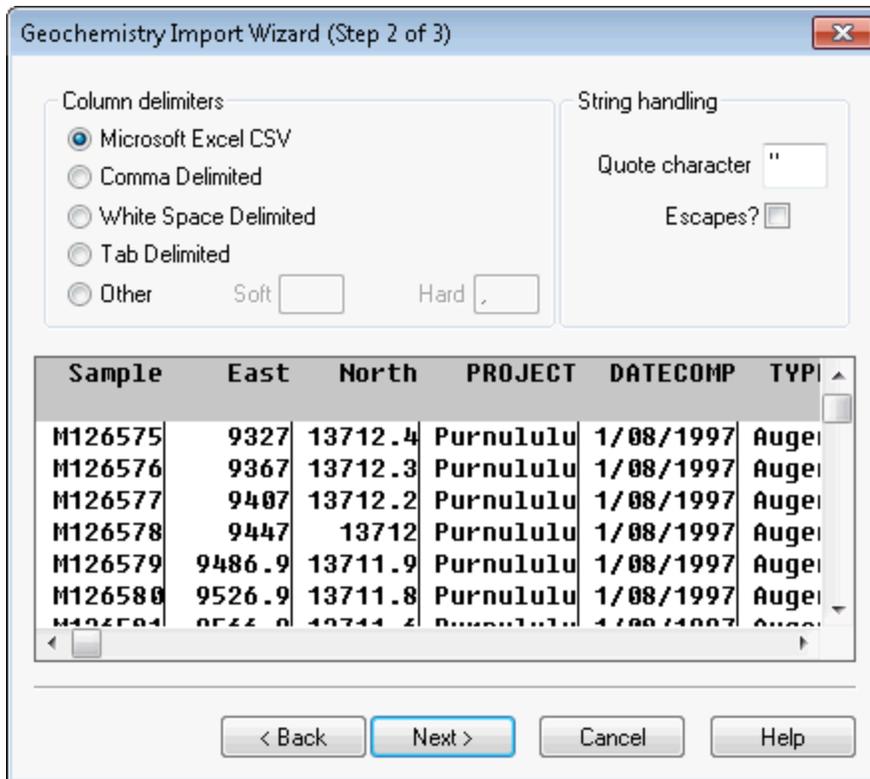
10. Select the column delimiters (type of character or white space used to separate the column text) and then click the **Next>** button.
The system displays the third *Import Wizard* dialog.

⚠️ *The Import Wizard scans your data to determine the type of data with which you are working (i.e. Channel Type). It is a good idea to review your data to ensure that the wizard selected the correct channel types.*

⚠️ *The Parameters box displays the Field name, Label, Data type, Data format and Dummy value of the column currently highlighted in the preview window. The message below the preview window indicates how many channels remain unspecified. Each channel must have a name to continue the import process.*

11. When you are finished modifying the channels, click the **Finish** button. The data will be imported into the database and a spreadsheet window is displayed, indicating that the import process is finished.

✔ D0:0	mMask	East X	North Y	PROJECT	DATECOMP	TYPE	Au	As
0.0	1	9327.0	13712.4	Purnululu	1997/08/01	Auger	275	23.
1.0	1	9367.0	13712.3	Purnululu	1997/08/01	Auger	68	22.
2.0	1	9407.0	13712.2	Purnululu	1997/08/01	Auger	145	33.
3.0	1	9447.0	13712.0	Purnululu	1997/08/01	Auger	35	3.
4.0	1	9486.9	13711.9	Purnululu	1997/08/01	Auger	12	4.
5.0	1	9526.9	13711.8	Purnululu	1997/08/01	Auger	12	4.
6.0	1	9566.9	13711.6	Purnululu	1997/08/01	Auger	7	4.
7.0	1	9606.9	13711.5	Purnululu	1997/08/01	Auger	8	5.
8.0	1	9646.9	13711.4	Purnululu	1997/08/01	Auger	4	8.
9.0	1	9686.8	13711.3	Purnululu	1997/08/01	Auger	6	9.
10.0	1	9726.8	13711.1	Purnululu	1997/08/01	Auger	3	25.
11.0	1	9766.8	13711.0	Purnululu	1997/08/01	Auger	4	44.
12.0	1	9806.8	13710.9	Purnululu	1997/08/01	Auger	5	43.
13.0	1	9846.8	13710.7	Purnululu	1997/08/01	Auger	5	7.
14.0	1	9886.7	13710.6	Purnululu	1997/08/01	Auger	8	12.
15.0	1	9926.7	13710.5	Purnululu	1997/08/01	Auger	9	13.
16.0	1	9966.7	13710.4	Purnululu	1997/08/01	Auger	17	11.
17.0	1	10006.7	13710.2	Purnululu	1997/08/01	Auger	12	30.
18.0	1	10046.7	13710.1	Purnululu	1997/08/01	Auger	16	38.
19.0	1	10086.6	13710.0	Purnululu	1997/08/01	Auger	28	36.
20.0	1	10126.6	13709.8	Purnululu	1997/08/01	Auger	38	23.
21.0	1	10166.6	13709.7	Purnululu	1997/08/01	Auger	37	16.
22.0	1	10206.6	13709.6	Purnululu	1997/08/01	Auger	41	12.
23.0	1	10246.6	13709.5	Purnululu	1997/08/01	Auger	86	14.
24.0	1	10286.5	13709.3	Purnululu	1997/08/01	Auger	158	10.

Chan   Sample

Merge Survey and Assay Data

Target provides the tools to import geochemistry survey and assay data and then verify and merge the data into a single database. Any mismatch between Sample names in either database will be reported in a merge report file.

Survey data must include the Sample names, X, Y locations and can optionally included Sample types (standards and duplicates). Assay data must include the Sample names with their associated Assay values. When importing Assay data into Target all elements are assigned the 'class' ASSAY, enabling the identification and extraction of the standards and duplicates using montaj Geochemistry tools.

Many of Target's features have been developed to provide integration with other Geosoft applications, including the montaj Geochemistry extension. All montaj Geochemistry tools work with Assay data imported via the Target application.

To Merge Survey and Assay Data

1. On the *Surface Mapping* menu, select *Import Data* and then select **Merge and Verify Data**.
   The *Merge survey data into assays* dialog will appear.
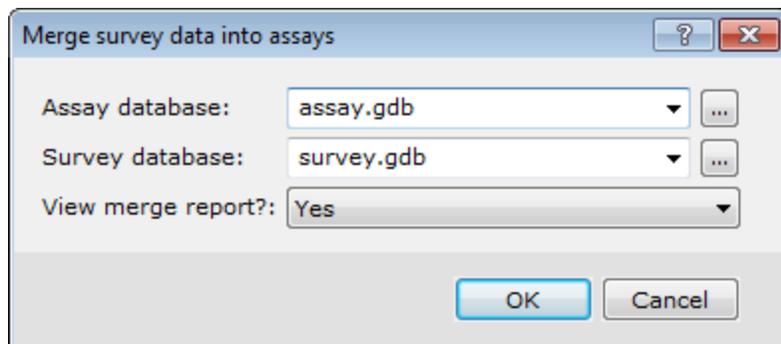
2. Select the *Assay database* and *Survey database* from your working directory, and then select whether to *View merge report*, or not?

⚠️   *For more information on these or any dialog parameters, click the **Help** on the dialog of interest.*

3. Click the **OK** button. The survey database will be merged with the assay database and the merge report file (chmerge.txt) will be displayed in your project.

💡   *At this point, the Geochemistry extension tools can be used for users who are licensed to use it. Refer to the **Help** for more information.*

Save a Database

It is always a good habit to save changes you make to your databases, including new databases.

To Save your Databases

1. Select (highlight) the database to be saved, and click the **Save Database Changes** button on the main Standard Bar. The database will be saved in your current working folder.

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Quality Control

After your data has been imported correctly into the system, your master database should contain only valid or correct data. Practical experience in exploration geochemistry, however, shows that this is often not the case and quality control may be required, even after data import. The Target system is intended to streamline quality control by providing a single environment for quickly calculating summary statistics and manipulating data values. In addition, you may want to further evaluate your data by applying math expressions and evaluating results, or by editing or removing individual (problem) data values.

Calculating and Saving Statistics

The Target system quickly calculates and displays statistical analysis of your ASSAY channels. The system also enables the export of the ASSAY channel statistics to a txt file. The txt file is saved to your current project directory.

To Calculate and Save Statistics

1. Open and select your database.

2. Click twice on the channel header cell to highlight the data in the current line and then right-click.

    ⚠️ *Clicking three times on the channel header cell highlights the data in all of the selected lines (groups) in the database.*

3. From the pop-up menu select **Statistics**.
   The *Stats Report* dialog is displayed.

Key fields you should examine carefully include the number of items and the number of dummies. The following table describes the summary statistical values that are reported.

Channel	Name of the channel.
Line(s)	Name of the Line(s) reported.
Fid Range	Range of fiducial values.
Num of items	Number of "non-dummy" items in the channel.
Num of dummies	Number of blank items. Dummies are ignored in the calculation.
Minimum	Minimum value in the channel.
Maximum	Maximum value in the channel.
Mean	Arithmetic mean or average value. This is equal to the sum of all values divided by the number of items.
Standard deviation	Standard deviation in the data. This is equal to the square root of the variance in the data, and is an estimator for the "width" of the data.
Arithmetic sum	The sum of all of the values in the channel.

4. To save the statistics, click the **Save Stats** button.
   The *Save Stats* dialog is displayed.
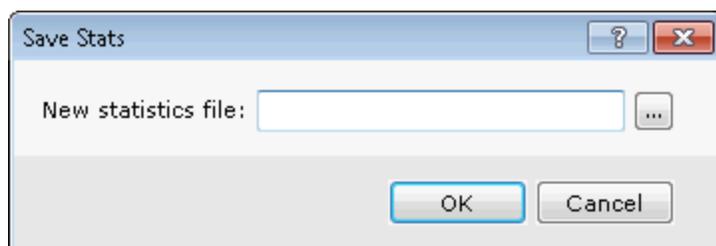
5. Specify a New statistics file name and click the **OK** button. The statistics file will be saved in your project directory and the *Stats Report* dialog will again be displayed.

6. Click the **OK** button to continue.

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Working with montaj Geochemistry Tools

Many of Target's features have been developed to provide integration with other Geosoft software extensions, including the Geochemistry application. The following how-to guide has been provided for users who have a license for the montaj Geochemistry extension, and would like to extract the standards and duplicates from their assay database.

When importing assay data into Target all elements are assigned the 'class' ASSAY, enabling the identification and

extraction of the standards and duplicates using Geochemistry tools. All Geochemistry tools work with assay data imported via the Target application. The Target system also provides the ability to auto convert negative or below detection limit assays when importing.

Loading the Geochemistry Menus

Before you can start working with the Geochemistry features, you must load the Geochemistry menus.

> ⚠️ *You can add Geochemistry as another default menu by adding it to the Default menus parameter on the* ***Edit|Settings|General*** *dialog.*

To Load the Geochemistry Menus Manually

1. On the *GX* menu, click **Load Menu**. The *Load menu* dialog appears.

2. Select *geochemistry.omn* from the list of files and click the **OK** button. The system displays three new menus on your menu bar (GeochemImport, GeochemMap and GeochemAnalyse).

For detailed information on working with the Geochemistry tools, download the Geochemistry extension How-To Guides from the Geosoft web site.

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