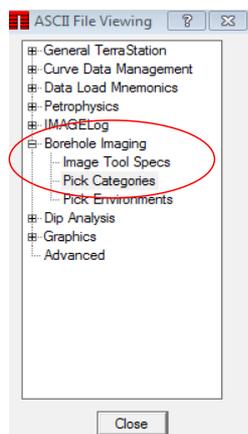


## Pick Classification Scheme And Pick Filtering Within TerraStation

Before you begin picking different pick categories you should have set up your classification scheme. The pick classification scheme is controlled by the configuration file called **tspicktyp.v70**. By default this file is located in your system `c:\Program Files\TerraStation\apps\params` folder (note: on network installations this location will be different. It will be on the server machine). If you wish to modify it, then you should make sure you have a copy in a writeable folder. Normally this is your 'userdata' folder.

### How to edit the **tspicktyp.v70** file

Click the **Edit** menu on the main TerraStation menu bar. Select **ASCII File Editing** from this menu. Next Click on the Plus next to **Borehole Imaging** followed by **Pick Categories**.



A window appears with a table on it. It will look something like this:

CATEGORY	SUBTYPE	NAME	STATE	COLOR	STYLE	WEIGHT	SYMBOL	SYMBOL2	SYMBOL3	COMMENT	ENVIRONMENT
0	0	Unclassified	1	1	0	2	64				-1
1	0	Bedding 1	1	2	0	2	64				-1
1	1	Shale Bedding	1	4	0	2	64				3
1	2	Heterolithics	1	29	0	2	65				1
1	3	Disturbed Bedding	1	26	0	2	16				1
1	4	Sabkha	1	1	0	2	64				4
1	5	Sand Flat	1	1	0	2	64				4
1	6	Shale Flat	1	1	0	2	64				4
1	7	Stylolite	1	1	0	2	64				4
2	0	Bedding 2	1	4	0	2	64				3
2	1	Sand Bedding	1	44	0	2	64				0
2	2	Bed Top	1	5	0	2	69				2
2	3	Bed Base	1	7	0	2	68				2
2	4	Internal Bedding	1	26	0	2	16				2
2	5	Carbonate/Cemented Bedding	1	35	0	2	55				3
2	6	Lithology Boundary	1	7	0	2	65				3
2	7	Laminated Sandstone	1	5	0	2	69				1
2	8	Erosion Surface	1	43	0	2	56				1
2	9	Reactivation Surface	1	44	0	2	64				4
2	10	Horizontal Bedding	1	40	0	2	64				0
2	11	Boundary Surface 1	1	40	0	2	64				4
2	12	Boundary Surface 2	1	40	0	2	64				4
2	13	Boundary Surface 3	1	40	0	2	64				4
2	21	Cross Bedding	1	2	0	2	68				1
2	22	Low Angle Cross Bedding	1	44	0	2	64				0
2	23	Normal / Flat Bedding	1	40	0	2	64				0
2	24	Gradational	1	44	0	2	64				0
2	25	Abrupt	1	44	0	2	64				0
2	26	Deformed	1	44	0	2	64				0
2	27	Brecciated	1	2	0	2	64				0
6	0	Slump	1	39	0	2	57				3
6	1	Shale Slump	1	11	0	2	57				3
6	2	Sandstone Slump	1	10	0	2	57				3
6	3	Slump Axial Plane	1	39	0	2	58				3
6	4	Oversteep Bedding	1	2	0	2	49				3
9	0	Unconformity	1	5	0	2	-9				-1
9	1	Disconformity	1	12	0	2	-2				0
9	2	Para sequence	1	5	0	2	32				0
9	3	Hard Ground	1	8	0	2	3				0
9	4	Maximum Flooding Surface	1	4	0	2	30				0
11	0	Auto-Picked	1	1	0	2	64				-1
11	0	Fracture	1	43	0	2	67	65	64	Quartz Filled	-1
11	1	Closed Fracture	1	36	0	2	67				-1
11	2	Open Fracture	1	19	0	2	66				-1
11	3	Resistive Fracture	1	3	0	2	67				-1
11	4	Conductive Fracture	1	13	0	2	67				-1
11	5	Low Amplitude Fracture	1	3	0	2	67				-1
11	6	High Amplitude Fracture	1	13	0	2	67				-1
11	7	Fault	1	6	0	2	50				0
11	8	Normal Fault	1	6	0	2	65				-1
11	9	Reverse Fault	1	6	0	2	66				-1

The most important part of this table are the two columns labelled CATEGORY and SUBTYPE. These are used to create a classification scheme. You can divide your different types of feature into major categories. Each category can contain up to 99 sub-types.

For example, in the default classification scheme shown above, there is a group of features that are collectively grouped together as Category 1. They will have the category name of Bedding 1. Within that major category are 8 sub-types – Bedding 1 (the first sub type name is also used as the category name within TerraStation), Shale Bedding, Heterolithic, Bioturbated bedding, Sabhka, Sand Flat, Shale Flat, and Stylolite.

Note that each entry for this category has the same CATEGORY number, but a different SUBTYPE number.

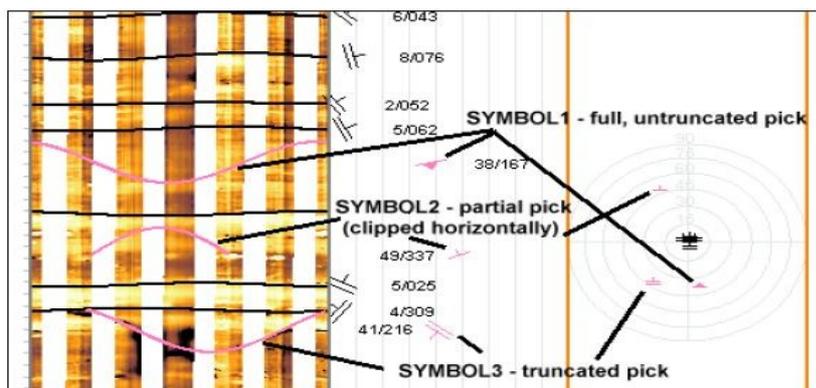
**NOTE:** It is **VERY IMPORTANT** that you have the classification scheme settled **BEFORE** you begin picking features on images, or loading features in using the Auxiliary Well Data loader. You can also change the names, colour, symbols and so on that are used within TerraStation. You can delete and add to this classification scheme as you see fit. Many people simply use the provided classification. Others have simplified or add even more to it.

Click on the **X** button at the top right of the window in order to save your changes and exit the table editor.

**NOTE:** If you do change the scheme it is very important that you do not do so in the default 'params' location. Whenever TerraStation is updated the installation process overwrites this directory. Make sure you have copied the tspcktyp.v70 file to another location (e.g. userdata) before you modify the file. That way your changes will remain in effect, even after a TerraStation update has occurred.

### What are SYMBOL1, SYMBOL2, and SYMBOL3?

The three symbols allow you to represent complete, partial and truncated picks with different symbols. This allows you to differentiate them on stereonet, and other displays. For example in the image below are the representation three picks (in pink). One is a complete sine wave, one is truncated by a pick above it, and the last is 'chopped' off laterally. This latter one is called a 'partial' pick.

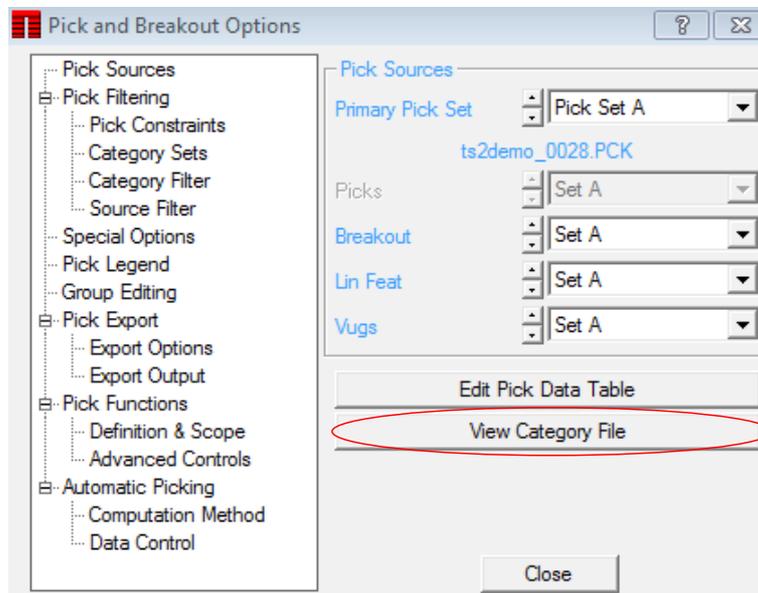


## Warnings about changing the classification scheme after the fact.

If you decide to modify your scheme after you have been using it for a while, we recommend that you do not change CATEGORY and SUBTYPE identifying numbers. Feel free to add new categories, and even new subtypes to an existing category, but avoid changing existing number, or deleting lines, unless you are really sure you want to do so.

The reason is that once you begin picking features, each individual feature that you pick carries with it the category and subtype number of that type of feature. If you had picked many bedding planes that had a category of 1 and a subtype of 3, and you later changed the tspcktyp.v70 file entry for that feature type to have a category of 4 and a sub type of 1, then the next time you displayed that pick data, it would potentially appear to be wrongly classified.

It should be noted that you can also access the **tspcktyp.v70** file from the **Pick and Breakout Options** within the **Formation Viewer** or the **Data Options** from within many of the tracks that use dip/azimuth data within **IMAGElog**. E.g. Tadpole tracks, SCAT displays and so on. Click the **View Category File** button to do this. For example:

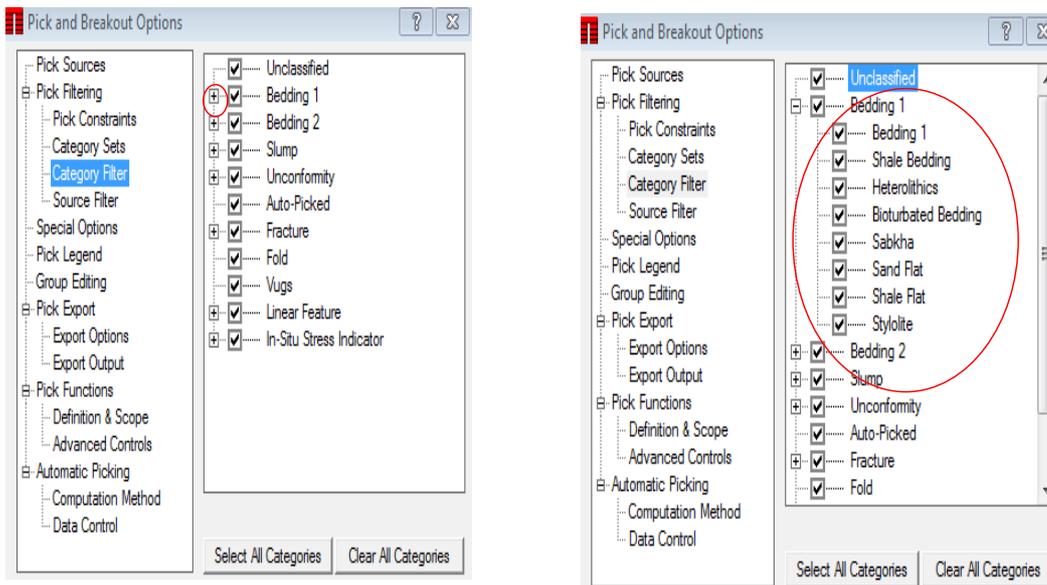


## Controlling the pick data display within Formation Viewer/IMAGElog.

Let us now assume that you have settled on your classification scheme, and you have successfully picked a number of features of different categories and sub-types. How do you control which features are displayed?

## Filtering by category

Click on the **Pluses** next to each *Category* to expand the tree and see the *Sub Types*.



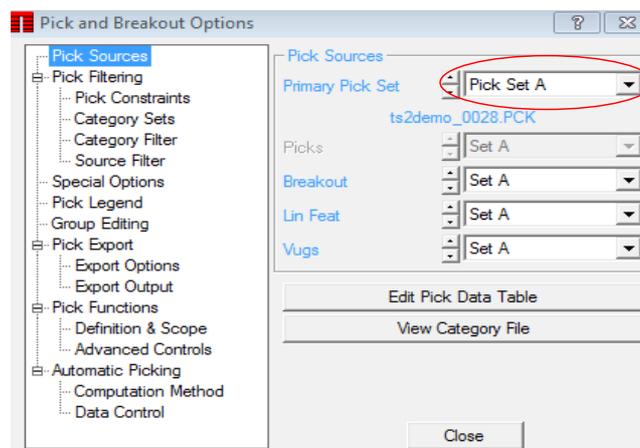
You use this to switch off and on the display of picks based on their *Category* and *Sub Type*. Simply check a box on or off to switch those picks with that category on or off. Note that this category filtering is specific to the track. This allows you to have multiple tracks of the same image data but with only specific categories of picks on each track.

## Other filters that may apply to dip picks.

There are two other ways to control which picks are displayed on a particular track.

### a) Selecting the Pick Set

The first is the selection of the main pick set file. This **Pick Set** toggle is on *Pick Sources* of the **Pick and Breakout Options** window.

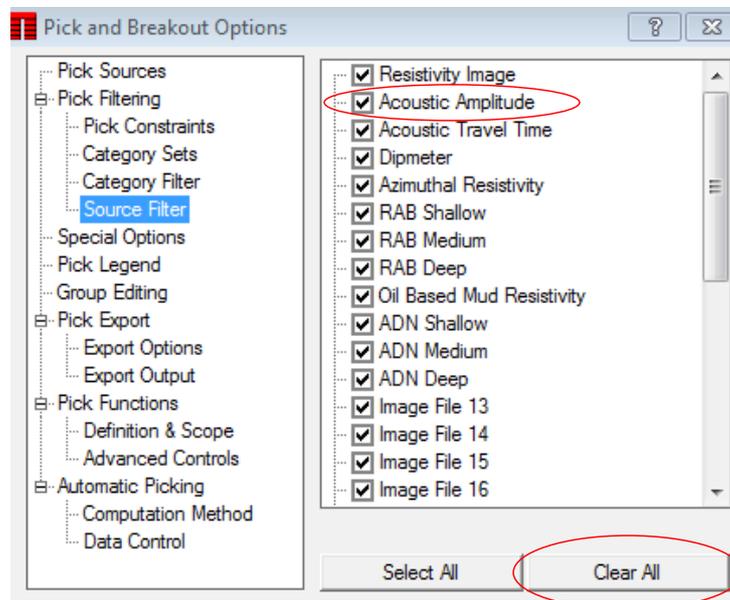


This toggle is used to control which pick set is the active pick set for the track. It can be any one of 4 planar pick sets (picks displayed as sinusoids). There can be up to 4 different planar pick sets. These are identified as Pick Set A, B, C, and D. There is also a linear features and a breakout set. There is also an option to use dip/azimuth values loaded as curve data, but data loaded this way are not broken into category and subcategories.

One use of the ability to have multiple pick sets might be to have your own interactively picked features in Pick Set A, and pre-existing picks from another data vendor in Pick Set B. You can then compare picks by having tracks displaying the different pick sets side by side.

## b) Using the Source filter option

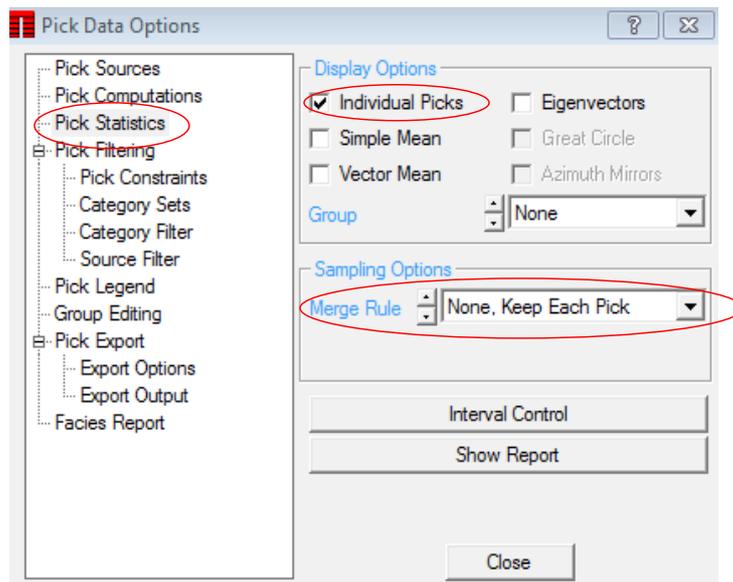
The **Source Filter** on the **Pick and Breakout Options window** is not often used. However, if you have multiple images of a different types, and you have picked features on one image and then features on another image, you can control which picks are displayed based on what image they were picked on. An example is shown over the page.



By default the program has all the sources switched on, so that picks are not filtered by image source. If you only want to see those picks made on an Acoustic Amplitude image you would switch everything off – by Clicking the **Clear All** button, and then check the box labelled **Acoustic Amplitude**.

### c) Tadpole/Stereonet and SCAT type tracks also have additional controls

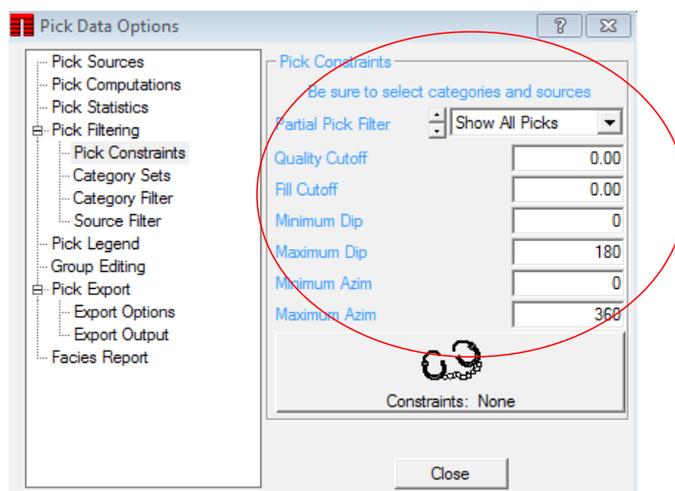
On certain tracks, there are a series of other controls that can impact the display of the pick data. These can be found under *Pick Statistics* and *Pick Constraints*.



In most cases you probably should have the **Individual picks** box checked. If you do not then you will not see the individual tadpoles or points on a stereonet, and so on.

Things to watch for that may be causing you to be missing some or all of your data on the display are:

**Merge Rule** – set this to *None, Keep Each Pick* (See above picture).



**Quality cutoff** – set this to zero to avoid having any data filtered out based on quality value. Any picks with a quality value below this cutoff value will not be displayed in the track.

**Minimum and Maximum Dip values** – any picks with dips outside of this range will not be displayed in the track.

**Thank you for using TerraStation**