

## What's new in TSG8, 5 June 2018

This is mostly a maintenance release, bringing various small fixes and improvements. Only some of the updates will be listed here. If you are interested, you will find more detail in the log file (<ftp://ftp.csiro.au/MMTG/tsglog1618.docx>).

Note this build of TSG carries a **dataset version bump**. Older TSG8 versions will not be able to read a dataset that has been created or modified by this one. Remember that **updating TSG8 is free**.

### ASD import

TSG's ASD import has been revamped. For the specialists, radiance and AbsRef files are supported. The HALO summary-file import has been reworked.

The module is now documented: [ftp://ftp.csiro.au/MMTG/tsg8\\_importing\\_ASD.pdf](ftp://ftp.csiro.au/MMTG/tsg8_importing_ASD.pdf)

### “Headless” TSG

“Headless” TSG documentation is up to date for what you are about to read.

[ftp://ftp.csiro.au/MMTG/tsg\\_headless\\_reference.pdf](ftp://ftp.csiro.au/MMTG/tsg_headless_reference.pdf)

### TPOLYCAL module

This is a new module for checking TIR wavelength calibration according to known wavelengths of polystyrene transmission absorptions. It works on datasets that include measurements of polystyrene (film, not the puffy white stuff). It automatically finds suitable dataset spectra to test according to a spectral match against a standard polystyrene spectrum that's built into TSG.

It was developed using a polystyrene-film-on-gold standard and has hardly been tested – only once so far on a dataset that included a polystyrene-film-on-aluminium sample (with the film probably coming from an envelope window).

It produces a CSV report file like the one that you get from the TESTROX module.

### Example script

```
MULTIOPTIONS tir noassoc
multifile c:\00me\swift\*.*
task_begin
operation tpolycal
report_file c:\00me\swift\0tpolyrep.csv
task_end
```

### TESTROX module

This module has been improved and generalised. It used to work only with measurements of “TestRocks” plates and expected its calibration items (mylar, talc etc) at specific locations on the plate. Now it locates calibration spectra automatically according to a spectral match against standard spectra built into TSG. As such, it is no

longer restricted to “TestRocks” measurements. For example, if you have drillhole or field datasets that include good talc spectra then you can run them through this module, asking for a report on just the talc features.

## TSG scalar updates

### Profile scalar

There is a new profile type: **EB Wavelength at Minimum**

Here “EB” stands for “Extrapolated Bisection” and TSG’s method is derived from Changjiang Zhu and Leonard M. Hanssen, "Comparison and development of absorption peak determination algorithms for wavelength standards", Proceedings of SPIE 4103, October 2000.

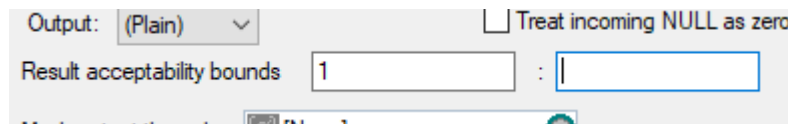
It is implemented for absorptions rather than peaks in TSG, and is another way of finding the position of an absorption minimum. It gets mentioned along with the “centroid” method but copes better with asymmetry and is far less dependent on FWHM (an elusive measure in the mineral reflectance spectra that we commonly deal with).

### Script world

This profile type is called **ebwmin**. E.g., `stat=ebwmin`

### Arith scalar

There are two new parameters called **Result acceptability bounds**.



The left one is a lower bound and the right an upper bound. You can leave either or both blank – a blank field means “no bound”. If a lower bound is given and the expression’s result is less than it then the result goes NULL. Likewise, if an upper bound is given and the expression’s result is greater than it then the result goes NULL. These new parameters allow you to do **result masking** in the ARITH scalar itself, instead of having to make a separate mask scalar.

This change incurred a **dataset version bump**.

### Script world

There are two new parameters for these bounds, both optional: **smallest=** and **biggest=**

## Chinese core logger

There is a new import module for the Chinese step-and-measure core logger. Its entry on the Import wizard’s **Format** list is called: **Core logging: ASD-based Chinese core-logger (drillhole directory)**

## jCLST unmixing updates

Some “fringe” glitches have been fixed in TSG’s implementation of Andy Green’s jCLST unmixing method.

- If there is no viable TIR starting result at all but there is a viable SWIR result that includes at least one subgroup that can be seen in the TIR (but works better in the SWIR) then the jCLST run is primed with the appropriate SWIR subgroup(s). (In the past, TSG’s jCLST implementation would just return “aspectral” in such cases.)
- There was a glitch in the stage where starting TIR candidates are pruned of any components for which the SWIR response is expected to be better and the controlling SWIR TSAPlus result doesn't have the component concerned.

## Various

- TSG’s handling of multiple screens has improved a little. You shouldn’t get drop-down-list contents showing up on “the other screen” anymore.
- Licence tweaks and adjustments. Better warnings about HASP dongle issues on HASP-locked installations. Reactivating on “the same PC” should be more robust. The automatic daily licence check will actually *tell* you if it finds that you aren’t running the latest official build of TSG.
- Hole screen: Once again this screen can be scoped on a class scalar that has only one class, like HoleID in almost every NVCL dataset for instance. (This glitch was causing trouble with old datasets.)
- Tray screen: minor adjustment to depth ticks displayed around missing intervals.