

WellCAD® v5.0 Build 1103 - patch notes

16.10.2014

A new patch for WellCAD version 5.0 has been released for maintenance purposes and adding new features as detailed in the list below. The patch is free but requires a license (dongle or license file) activated for WellCAD 5.0.

Improvements made

- **DLIS files** : a DLIS file export supporting Well, Formula, Mud, FWS and Image logs has been added to the LIS / DLIS add-on module.
- **Alias tables** : a curve description column has been added to the alias table. Curve descriptions (if defined) will be exported into LAS and DLIS file headers.
- **Common processes** : the resample logs and interpolate logs processes support circular data now.
- **Auto fill** : the auto fill option for cross section, polar & rose and chart logs supports the selection of a reference log providing the depth intervals.
- **Properties bar** : some changes have been made to the properties bar : the true / false option has been replaced with a check box ; drop down boxes expand on a single click and the DELETE key is supported when editing e.g. the log title.
- **Templates** : when applying a template the options page is displayed by default.
- **TFD files** : data import for new 2nd generation OBI tool has been added.
- **Save** : when saving a WellCAD document (*.WCL) using the save command the file size will no longer double after the file is closed in WellCAD.
- **Refresh** : minor fixes related to screen refresh problem have been made.
- **HeadCAD** : slight enhancements to the properties bar have been made (e.g. true / false switch has been replaced by a one-click YES/ NO, non-editable drop down lists open on first click).
- **HeadCAD** : refresh problem when changing the start and end coordinates of a line has been fixed.
- **HeadCAD** : legend for operational symbol fully supports drawing of used or all symbols option now.

Patch Download and Installation

The patch can be downloaded by clicking on the following links :

Dongle license

- ▶ [Download patch for 32 bit version](#)
- ▶ [Download patch for 64 bit version](#)

FlexIm license

- ▶ Please contact [support](#).

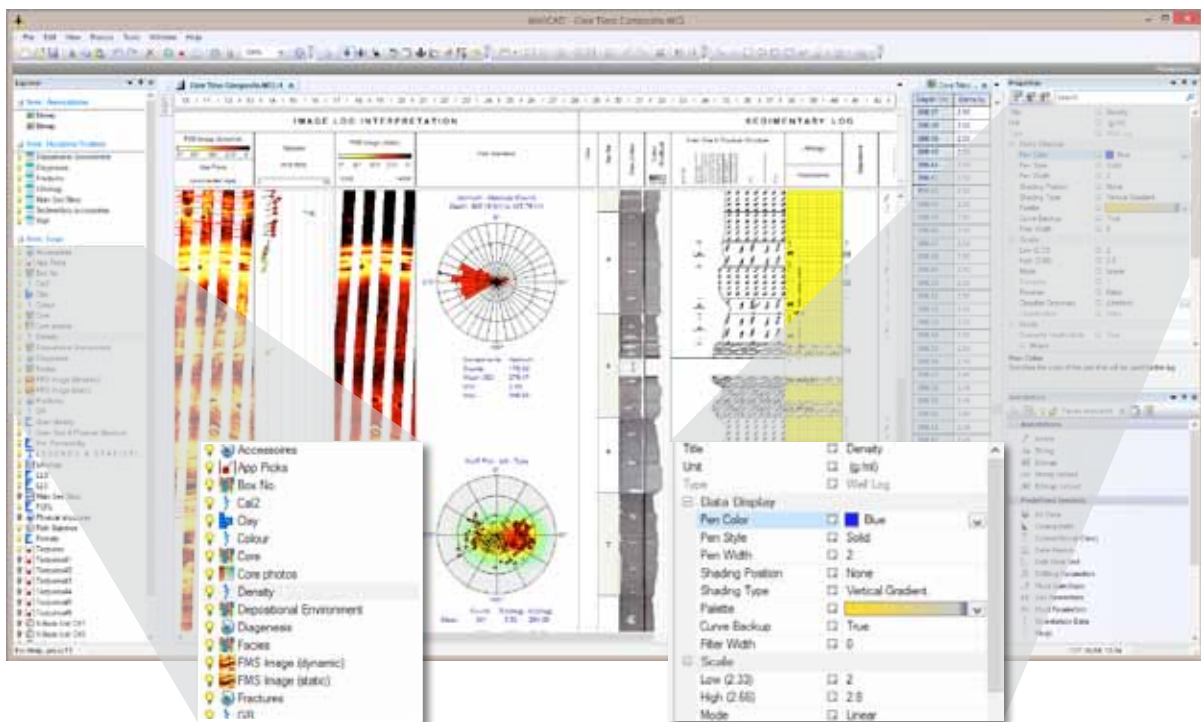
WellCAD v5.0 - release - fact sheet

March 2014

Highlights

- New user interface in WellCAD, LithCAD, ToadCAD and HeadCAD.
- New free hand log type.
- New chart log type with cross-plots, ternary diagrams and histograms.
- Customizable toolbars and menus.
- Better control of annotations and operational symbols (latter ones are open to all users now).
- New author protection system.
- New crossplot overlays.
- New AGS4 file import.

New user interface in WellCAD, LithCAD, ToadCAD and HeadCAD

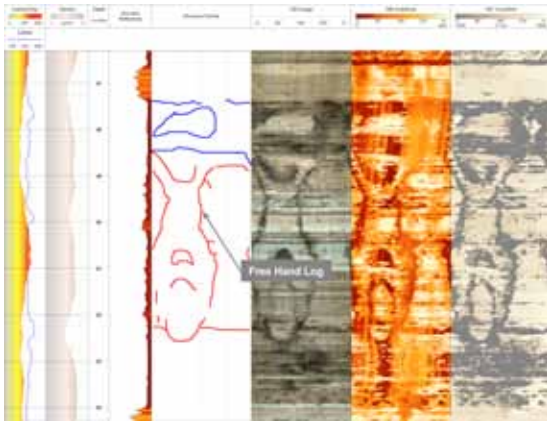


- **Explorer bar** to control the content (logs, headers, annotations, ...) of the borehole document, select and hide logs.
- **Properties bar** for effective control and direct application of data presentation settings (main, base and title settings).
- **Tabbed windows** for convenient handling and arrangement of multiple windows.
- **Customizable toolbars and menus** for personal preferences.
- Create **your own toolbars, menus and keyboard shortcuts** automatically stored in the user profile.
- Selectable **GUI colour** schemes.
- Log summary bar showing data distribution histogram.

WellCAD v5.0 - release - fact sheet

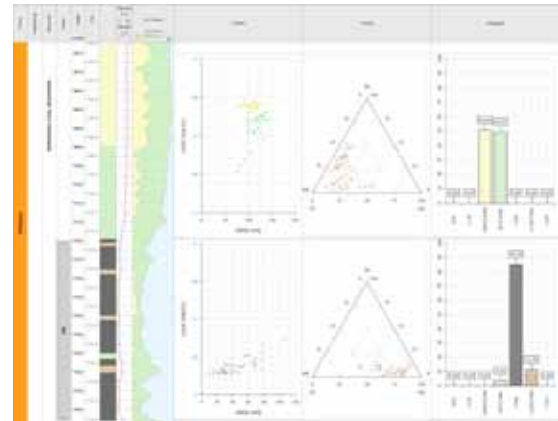
March 2014

Free hand log



- **Free hand drawing** of curves and shapes without constraints.
- Optional **conversion of free hand curves** into a **Well log** to generate digitized data.

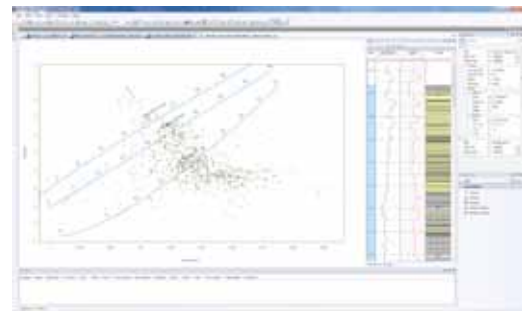
Chart log



- **Insert cross-plots, ternary diagrams or histograms** directly as a log into the borehole document.
- **Direct link** between displayed chart and source logs.

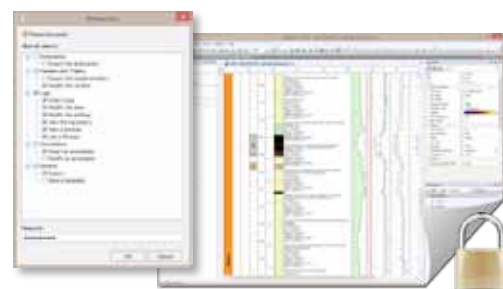
Cross-plot overlays

- Create **custom cross-plot overlays** from data arrays or formulas.
- Overlays are described in **XML files** – easy to edit, easy to share and easy to reuse.
- All **formatting** – line, label and tick mark styles – can be **predefined** in the **overlay file** as default but edited on the fly in the WellCAD chart workspace.



Author protection system

- **Protect borehole documents, headers and symbol libraries** with a personal password.
- Select from **different protection levels** to customize the degree of freedom the end-user of a borehole document has.
- **Header designs** and LithCAD / ToadCAD **symbol libraries** can be protected in a similar way.



Enhanced litho bar functionality

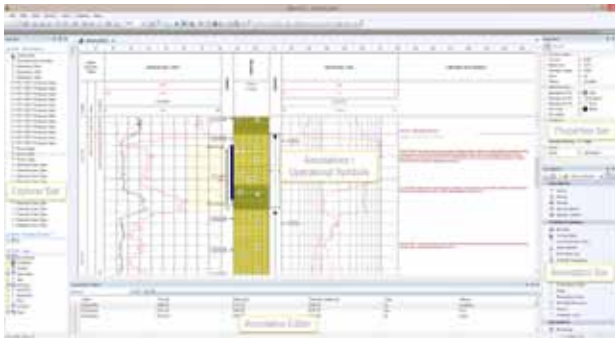
- **Litho patterns or symbols** can now be inserted from the **litho bar by drag & drop**.
- Patterns **automatically snap** from the drop point to the nearest boundary or **extend to fill a gap** if dropped between existing patterns.
- The litho bar supports the **auto hide** functionality, i.e. automatic retraction if the cursor is outside the bar.
- Right click on the litho bar to **sort list alphabetically**, by **most used** or by **sort code**



WellCAD v5.0 - release - fact sheet

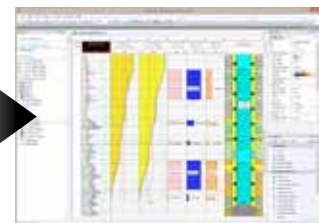
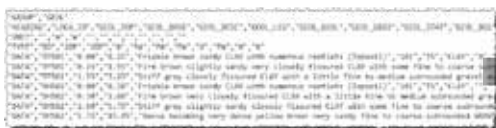
March 2014

Annotations and operational symbols



- **Operational symbols** are available to all users now (part of WellCAD Basic).
- Adding annotations has been facilitated through implementation of the **annotation bar**, **annotation editor** and **removal of the annotation mode**.
- Annotations can be **accurately positioned horizontally and in depth**.
- Annotations and operational symbols can be imported from ASCII files using the **annotation editor**.

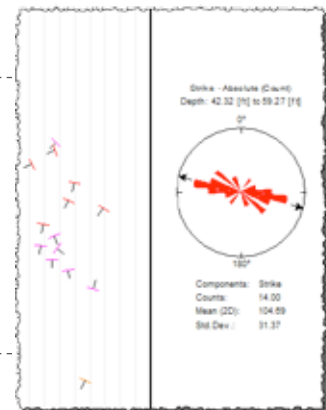
AGS 4 file import



- WellCAD supports now the **import of the AGS data transfer format version 4** developed by the association of geotechnical and geoenvironmental specialists (www.ags.org.uk).
- To account for the **variety of groups and headings** available in the AGS v4 format an **AGS configuration file** describes the data transfer into WellCAD. It is open for editing and extension in a text editor following a simple **XML syntax**.

ToadCAD / polar & rose log

- **Spreadsheet view** facilitates management of symbols (e.g. simply drag a single or multiple rows to a new position to change the sort order).
- **Line thickness** can be used as class attribute now.
- New **strike** symbol added.
- **Rose plot** display supports counting of **the strike** direction.



HeadCAD

- Explorer bar facilitates management of header objects.
- The properties bar allows convenient edition of the object settings.
- Optional markers ("Ghosts") indicate the area occupied by each object.
- Text style preview for each dynamic text field.
- Dynamic text objects have an invisible ID instead of a visible title (no need to hide the position of a title anymore).



Full spectrum analysis for spectral gamma data

- Spectral gamma processing: added support for MEDUSA calibration files enabling WellCAD to perform full spectrum analysis and borehole condition correction of spectral gamma data.

WellCAD v5.0 - release - fact sheet

March 2014

Draft and draft & fit presentation modes

- The new draft mode  simply freezes the log titles on top of the window but maintains the original document width.
- The draft & fit option  freezes the log titles and scales the original document width to the window width.

Interval and multi log statistics

- New advanced statistical options like **skewness, kurtosis and quartiles** added.
- Option to support data with **circular geometry** (e.g. averaging azimuth and title) correctly.
- Option to **cumulate results**: (e.g. compute the min, max and mean density per lithology type for the entire zone of interest).
- Compute statistics from **multiple logs of the same parameter** (e.g. mean of an up and down run).

Time based data import from LAS files

- The LAS import algorithm has been extended. WellCAD detects date / time format definitions in the STRT and STOP unit declarations of the LAS header and applies the necessary conversion to the first data column. Thereby the support of the ISO 8601 date/time formats (e.g. yyyy-MM-dd"THH:mm:ss.fffzzz) has been added. ISO 8601 formats are also supported by the text file import wizard now.

Minimum curvature method

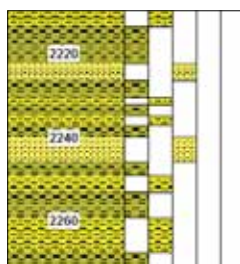
- The borehole deviation coordinates dialog box now contains a new option: minimum curvature. While the classical tangential and balanced tangential methods have been designed for wellbore trajectories following a straight line course the radius of curvature method targets curved segments. The minimum curvature method is applicable to any trajectory path.

Extended shift logs by option

- For all who need to shift a data block within a log without going through time consuming slice, shift and merge operations the option to define a depth interval within the shift logs by process provides a solution. Select one or multiple logs, right click on a selected log title and choose shift by. Enter the top and base of the interval you would like to shift (e.g. the top and base of a core) and click OK.

Circular data handling

- Application of an average filter to an azimuth curve requires taking the circular geometry of the data into account (e.g. the average of 358° and 2° is not 180°). A corresponding option has been added to the common > process > filter option.



Conversion to lithology logs

- Splitting up lithology column into multiple logs holding one type of litho type per column is now possible using the conversion to litho or strata log option. In a similar manner a classified well log can be converted into multiple lithology columns.