

## PCBC and PCSLC Release Notes for 6.8.3

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### Overview

This is a broad overview of the updates in version 6.8.3. Several user notes or guides have also been updated.

- General updates apply to both block caving and sub-level caving toolsets.
  - These are broken into major (of interest to most users) and minor (for selected users)
- PCBC are specific to block caving
- PCSLC are specific to sub-level caving

The updates are related to development since 6.8.2

### Highlights

Some of the more important updates in this release are as follows:

- New module for short term interval control (SIC) within Draw Order Tool.
- Complete rework of the way that grade elements are used within PCBC and PCSLC. Includes potential upgrade to a maximum of 300 grade elements.
- Further enhancements of export options to MineSched and Surpac
- Speed improvements to numerous Excel reports
- Updated menus
- Performance and import/export improvements to CA3D (Advanced Flow utility)
- TRIM rings to solids utility in PCSLC. Around 100 times faster than the previous workflow.
- Removal of several old / obsolete profile editors and menu options
- DTF import updated: Improved feedback, performance, and more.

### **General Updates**

- Complete overhaul of Grade list management for PCBC and PCSLC. Significant update which affects many different tools. Some related tools which are affected
  - Display profiles for draw points and/or rings
  - View slice file data
  - Draw point/ring export attribute list
  - Slice file to bucket tool
  - Excel grade reports
  - Various mouse over and info windows
  - All core workflows relating to grade elements
- Updated menus. Various menus updated to remove obsolete menu options. Includes access to old format slice file (.SLF). Only .DSF format is now supported.
- Updated toolbars. Updated to reflect changes to profile editors
- Improved refresh of grade list if grade elements are changed. (Lists are updated, but data such as slice file or ring file would have same behavior as before)

### **CA3D**

- Performance improvement to CA3D. Should be about 40% faster.
- Ability to use a block attribute for swell factor.
- Automatic saving of excel reports.
- Update to Defaults in the CA3D Advanced Profile.
  - Obsolete Mix parameters removed
  - SWELL\_MODEL added
  - PERFIN\_MODEL added (replaces setting previously in the general profile)
- Various other minor bugs and tweaks

### **SIMULIA Integration**

- Ability to initialise, import, and manipulate block models using a command line parameter and a control file. (Useful when using ISIGHT and ABAQUS.)

### **PCBC Updates**

- Removal of several old profile editors
  - General properties profile editor
  - Types profile editor
  - Production blocks profile editor
  - Mixing profile editor
- Avoidance of other GEMS profile editors. (It is possible that some of these might still be used in obscure cases, but not in typical new workflows or new projects)
  - Profile groups profile editor
  - Rock type profile editor
  - Economic profile editor
  - Grade elements. (Still may be required for GEMS related work)
- Update to Caving area set up.
  - Removal of access to above editors
  - Simplification of caving area
- Removal of CMS properties from Caving area
- Removal of Geological properties from Caving area
- New module for Short Interval Control (SIC)
  - Supplement to current DOT module. Simplified set up and operation
  - Access via SIC control panel

- DTF support
- Assays support
- Constraints support
- New SIC multi-field workspace
- Basic reports
- AUTO mode for DOT to generate draw order from external triggers
- Refinements to Slusher Module for slusher type caving operation
- RESTART keyword added to scheduler to enable restart after TM run
- Footprint Finder. Added PREMIUM\_OPTION keyword
- Footprint Finder. Added MODEL\_HR and FILTER\_HR keyword
- “Type” changed to “Cone Type” in various dialogs where the field now refers to the Cone instead of the draw point type
- Economic profile not shown the properties dialogs, and Advanced now refers to Setup
- Added Wet/Dry constraint type to PCBC Schedule optimization toolset
- Enable block selection in ID Block update tool
- New PCBC General Utilities Menu
- PCBC Scheduler : Improved Excel reporting (using array instead of individual cells) to PROD\_SUM and related reports

### Slice file related

- Option to update slice file using assays (custom)
- The summation of Ore and Waste (internally within the slice file generation tool) has changed. The order in which the “bits” of material is added has changed. Due to numerical rounding, this can result in a slice file with numerically different tons and grades. (These differences are likely only in the least significant digits, but will be noticeable)
- Option to get grades from Excel for TIN layers in Build slice file
- Update the View Slice File Dialog
- Option to allow TIN grades from Excel tin\_input sheet instead of TIN workspace for slice file creation below surfaces. (TIN\_INPUT keyword)
- Old slice file format (.SLF) no longer supported.

### **PCSLC updates**

- Add extra fields to FFSLC Bit\_results report (both insitu and mined tons and grades)
- New shape bucket functionality for detailed ring shapes of longitudinal SLC layouts
- Cleanup of obsolete PCSLC features
- Update to workspace group created for SLC (shape bucket workspace added)
- Update to TRIM utility
- Updated “Export Ring SDMs for MineSched” to use the new SDM v2
  - Keyword SDM\_VERSION in the SETUP advanced profile can be used to export to previous version if required.

### TM3D

- Add Volume to TM3D\_residual.csv report so that density calculations can be done (and for ID tool)
- Add TM3D\_insitu.csv report in TM3D. Useful for metal recovery calculations

### TTL

- Improved Excel reporting (using array instead of individual cells) to period reports
  - PROD\_SUM and related reports in production scheduler
- TTL : PAST tons mining option added for reporting

- Enable zero tons to be mined in a period in TTL without terminating program.
- Improved input checking for Sector\_input sheet.

**Other utilities**

- PCSLC -> System Tools -> Test functions -> Test 2
  - Select Rings Inside any Active Solid or Select Rings Outside all Active solids

**General bug fixes**

- Negative value rounding in color Profile tree corrected.
- Fixed bug with Constraint name usage for Constraints in DOT and TTL
- TM3D. Fixed bug relating to use of multiple External bins
- TM3D. Allow “future” links to boundary using a negative Boundary field value
- TTL tool. Change plots for Draw point opening. Previously opened draw points are now plotted in Grey (and new in Red).
- TTL Tool. Added PAST method for mid-run restart
- Various other minor bugs and tweaks
- Various SLC workflows now refer to the Ring Volumetrics Tool instead of create grades.
- Improved workflow of the Edit Draw Point (PCBC) and Edit Rings (PCSLC) dialog.
- Many Menu and Tool Bar Updates.
- SLC Planning Tool check box Fix to sync with info window
- BHOD. Totals for draw points corrected on some reports
- Slice file report to excel slice\_info sheet. Multiple draw points should be correctly positioned
- Fix for display of rings with invalid shapes. PCSLC Rings with invalid shapes will not be displayed instead of shutting down GEMS.
- Fix bug in Solids to allow support of longer solid names.
- Fix BHOD bugs in number of draw points reports
- Fix grade element names in FF CSV report
- Fix MaxSectors Active option in TTL tool.
- Fix for editing multiline Memo buckets (like the shape bucket):
- Fix ID block update tool for SLC cases using TM3D\_residual.csv file. New keyword SLC\_FILE
- Fix to enable PCBC production scheduler to run even if Status field is not set up correctly
- New Menu Item: PCBC > User Tools > Other Utilities

**Other**

| Changes summary to August 2019             |                                   |
|--|-----------------------------------|
| Item                                       | Value                             |
| Recent changes summary                     | August 2019                       |
| Caving Area set up                         | Simplified                        |
| Grade Elements Editor                      | Removed - See GRADEn in AP        |
| Economic profile Editor                    | Removed - See ECON in AP          |
| General Information profile Editor         | Removed                           |
| TYPES profile Editor                       | Removed                           |
| Production Blocks profile Editor           | Removed                           |
| Mixing profile Editor                      | Removed                           |
| Profile Groups profile editor              | No longer needed                  |
| Production Schedule publish workspace      | Removed                           |
| Default slice file in Caving area          | Removed                           |
| Arena module                               | Removed                           |
| Block Fractions (old version)              | Removed                           |
| Transfer blocks to slice file (old)        | Removed                           |
| Numerous old slice file reporting options  | Removed                           |
| Rock Type profile Editor                   | Removed                           |
| Associated grade elements (from rock type) | Removed                           |
| Per Fine from Rock types                   | Removed                           |
| Unused Toolbar buttons                     | Removed                           |
| Geological properties in Caving area       | Removed                           |
| CMS properties in Caving area              | Removed                           |
| Sequential Mixing                          | Removed (Use TM instead)          |
| Support for old .253 type slice file       | Terminated (must use .DSF)        |
| Per Fine from Block model                  | Keyword in SF profile             |
| Constant Per Fine value                    | Keyword in SF profile             |
| Block Model mappings                       | Block Attribute must = Grade name |
| Maximum Grade elements                     | 200                               |
| Max elements (with two APs)                | 300                               |
| Maximum characters per Grade element       | 30                                |
| Draw cones                                 | Set as TYPE per draw point        |
| Integration accuracy for slice file        | Keyword in SF profile             |
| Grade elements                             | Set per Caving area via AP        |
| Residual grades                            | Set in GRADEn AP                  |
| Economic info                              | Set per Caving area via AP        |
| MCOST                                      | Keyword in ECON AP                |
| Grade revenues                             | ECON profile                      |
| Caved Density                              | Keyword in profiles as needed     |
| Advanced AP in caving area                 | Now called Setup AP               |
| Setup AP                                   | Link to Grade AP GRADEn           |
| Setup AP                                   | Link to Economic AP ECON          |
| Setup AP                                   | Set Distance to neighbour dpts    |
| PCBC Schedule Optimization                 | Wet_Dry constraint added          |
| Draw Order Tool                            | Short Interval Control added      |
| CA3D                                       | Improvements to Isight interface  |
| Show Current Parameters button             | Shows this and general info       |