

GEMS 6.8.4**New Features****Caving**

- **Create a floating colour profile legend**

You can create a floating colour profile legend on the *Colour* dialog box by right-clicking the colour profile on the **Profiles** tree and then selecting **Legend**.

- **PCSLC Tunnel Workspaces contains a Sector field**

The tunnel workspace now contains a **Sector** field by default. The field must contain up to 21 characters.

Enhancements**GEMS**

- **Auto-populate triangulation names**

When importing and creating triangulations, the names of the triangulations are populated with previously entered values in the current GEMS session.

- **Support for SQL Server 2019**

You can now create new projects or connect to existing projects using an SQL Server 2019 database.

- **Retain solid and surface names of GEOVIA SDM files**

When importing and exporting GEOVIA SDM files, the names of solids and surfaces are retained.

CavingMaintenance

- **Create a PCSLC ring solid for tunnels**

You can use the **PCSLC > General Utilities > Solid Utilities > Create Tunnel Rings Solid** function to extend a solid created in both directions based on a dump angle. The value of the angle must be between 0 and 90 degrees. By default, the PCSLC tunnels have the dump field with a value of 0. If the dump field is absent or its value is 0, no extension is given. The messages for incorrect settings have now been improved.

- **Import Micromine string files**

You can now select the **Micromine string (*.str)** option when importing Micromine string files. An attribute from the **.str** file is imported if its name matches a field name in the Polyline workspace header table. A warning message displays any attribute data that are not imported.

- **Export files with Polyline data to Micromine string files**

You can now export files with Polyline data to Micromine string (.str) files. Attributes in the polyline data from the header table are added to the file, attached to each point of the segment. You can access the functions using:

- **File > Export > Selected Lines > GEOVIA SDM**
- **File > Export > All Lines > GEOVIA SDM**

- **Import Micromine triangulation geometry**

You can now select the **Micromine tridb (*.tridb)** option when importing Micromine triangulation geometry (solids and surfaces).

- **Export Micromine triangulation geometry**

You can now select the **Micromine *.tridb** option when exporting the Triangulation geometry to GEOVIA SDM.

Miscellaneous

- **Updates to TTL, TM3D, Production Scheduler, TRIM, VOLS and other minor items**

Improvements have been made to TTL, TM3D, Production Scheduler, TRIM, VOLS, SIC module and other minor items.

CBU

- **Improvements in Caving**

PCSLC SIC tool

- Numerous changes to the SIC tool during a client site visit.
- To Prevent SIC Save dialog: New Detailed Tons Functions: (dtf_close and dtf_save).
- The Detailed Tons information window now has detailed information about the latest activity.
- Bucket sheet plot, User info window, Sample request, and CSV report.
- Sampling request tool: Provides a list of draw points where samples are required based on tons since last sample.
- Multi-period summary csv file (similar to Tableau style report). Some functionalities may be added in later releases.
- Multi-item bucket plot (to get 3 or more items per draw point).
- Extra option to make user Info Windows (for custom summaries).
- Add date to header table for BSIC workspace.
- Add BUCKETS field to BSIC workspace to be populated by the Generate button.
- Add option (System tools test 1) to import workspace data from Excel (to header table).

PCSLC TTL Tool

- Better tonnage targeting and face shape behaviour.
- SIMPLE method added (with PAST and TTL).

PCSLC TM3D tool

- Improved messaging and more input error checks.
- TM3D. Some new keywords. For example, STEP_AUTO and related.

PCSLC VOLS tool

- The VOLS tool can now calculate tons and grades for explicitly linked solids. Uses 3D integration.

FFSLC

- Prototype for new mixing method called PMIX (Power mixing-using Power's mixing curves from 2004).

PCBC Production Scheduler

- Production Scheduler update:
 - Keywords (PAUSE_DISTANCE, DATE_START, BELL_SWELL) added to Scheduler.
 - Add some fields (Azim, Dip, Cone) to Odp_stats excel report.
 - Tidy up New and Active status count for PAST method.
 - Add Date_start and Date_prod to ps_info sheet if using PAUSE_DISTANCE.
 - Pause refinements for pre-active draw points.

Excel operations

- Added Excel Variant methodology to BHOD draw points report so that this report is generated faster for large PCBC projects.

Other

- Slusher module: refinements to Dosage report and option to work with inclined draw cones.
- Import block model tool.
 - Improved to be more robust and tolerant of poor inputs (such as alpha characters).
 - Trim option for large block models pre-filters blocks outside block framework. Works better with very large input files exceeding 20GB.
 - Can handle 150 fields (compared to 80 previously).
- Caving area. Checks that economic profile revenue values are not set for grade elements beyond 100.
- Build slice file. Better treatment of Rock code for cases where multiple Tin surfaces are required.
- New keyword SLICEFILE added to SETUP AP. The slice file can now be matched with each Caving area and the slice file is automatically assigned when the caving area is opened. Prevents confusing messages to open a slice file.
- Refined BHOD so that number of times you enter the Advanced profile is reduced and improved.
- Removed obsolete HOD Bucket Data and Tons Bucket Data sections of the Draw Point Data dialog. (H1, H2, HW, T1, T2, TW).
- New automation option SCREEN_CAPTURE for creating a plot of the graphics view.
- Saving bucket: improved error messages where possible. (Debug.log file contains additional detail on low level errors.)
- Tunnel to Excel Transfer Tool menu moved to PCSLC > General Utilities > Earlier Versions
- New Test function to output PCSLC Rings as points in an SDM file:
 - Add ExtractPercent*Tons to Ring insitu summaries.
 - New button on colour profile dialog for floating legend.
 - Array of points in solids. USE_SOLIDS keyword.

Issues Fixed

GEMS

- **Solids with invalid triangulation names were incorrectly exported**

You can now export triangulations with valid **NAME1**, **NAME2**, and **NAME3** values to a **.dxf** or **.dwg** file (valid names cannot include special characters). To do this, use the **File > Export > Selected Solids/Surfaces > DXF/DWG** function. The correct number of successful and failed exports is now displayed in a message. If a triangulation does not exist, an output file is not generated.

- **Decimal values could not be entered on the Extend By Segment dialog**

You can now enter decimal values on the *Extend By Segment* dialog and an error message is no longer displayed.

- **The Alternate Polyline Colours by Plane function displayed polylines in grey**

In the graphic window, the **Alternate Polyline Colours by Plane** function now correctly displays polylines in alternating red and green.

- **Changes were not retained on the Linked-File Options dialog**

On the *Linked-File Options* dialog, when you modify options (using **Options > Set Options > Programs > Linked files > Modify**), the changes are retained even when you restart GEMS.

Caving

- **A new bucket with string or memo field could not be registered**

You can now correctly register a new bucket when using a string or memo field.

Miscellaneous

- **Custom ring shapes with filled ends were incorrectly displayed**

Custom ring shapes with filled ends are now correctly displayed.

● Improvements in Caving

CA3D

- Fix for CA3D Server to respond with display data, report data, and residual model data.
- Fix for CA3D Server not starting and preventing any CA3D run from working.

PCSLC TTL Tool

- TTL fix PAST method where Base distances are not computed correctly leading to some rings never opening.

PCSLC TM3D tool

- Fix for TM3D so that External tons from AP can be included even if the Excel External tons is not being used.

PCBC Production Scheduler

- Production Scheduler bug fixes:
 - Internal code cleaned to remove older legacy code.

Excel operations

- Prevent Excel exceptions to cause GEMS to exit unexpectedly:
 - Instead of exiting unexpectedly, the excel function displays an error message.
 - You can use the error message to retry the excel operation or continue with the operation failed.
 - Further error messages can be canceled by selecting a check box on the message.
 - Fix to prevent error messages when an excel file is created.
 - Improved names for types in error messages.
- Excel fix for retrieving numeric data as text.
 - Specifically, reading a string field also accepts a numeric value.
 - Conversion of types is performed where available.
- Excel error messages are saved in the Debug.log file.

Other

- Fix for problem with edit draw cone graphically (cone vs type issue).
- Fix for spin control in Edit Draw Point dialog (and other spin controls and progress bars).
- Short interval control information window fix: If the check box is unavailable, the information window is not displayed.
- Create new bucket: fix for registered field name control to populate and limit to selecting from field list.
- Fix for Information Windows causing GEMS to exit unexpectedly.
- Fix for bucket field names: the field names are now case insensitive.
- Fix for Tunnel to Excel Transfer Tool (related to low level excel function for retrieving full row or column).
- New Test function to output PCSLC Rings as points in an SDM file:
 - Fix memory crash in Tons from HOD tool.
 - Fix ID module so that inclined cones are used correctly.
 - Fix to tunnel extensions when creating tunnel ring solids.
- Other minor bug fixes and text corrections.