DATAMINE

STUDIO OP

Release Notes

Studio OP 4.0

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Legal Disclaimer

The product described in this documentation may be connected to, and/or communicate information and data via, a network interface, which should be connected to a secure network. It is your sole responsibility to ensure a secure connection to the network and to establish and maintain appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of antivirus programs, etc.) to protect the product, the network, your systems, and the interface against any kind of security breach, unauthorised access, interference, intrusion, leakage, damage, or corruption or theft of data. We are not liable for damages or losses related to any such security breach, unauthorised access, interference, intrusion, leakage, damage, or corruption or theft of data.

Contents

Overview

Studio OP contains functionality for both medium- and short-term planning of open pit mines.

Studio OP has tools for the design of pits and generation of mining surfaces, and allows you to generate mining blocks from pit and phase shapes.

Studio OP is one of several products in the Studio product family, which includes:

- **Studio EM** for exploration data analysis and modeling.
- **Studio Geo** is for geological and structural modeling.
- **Studio Mapper** for geological face mapping and reporting.
- **Studio NPVS** for strategic open pit optimization, design and scheduling.
- **Studio NPVS+** for strategic open pit optimization, design and enhanced scheduling.
- **Studio OP** for open pit design and operational scheduling.
- **Studio PM** for very short term open pit operational planning.
- **Studio RM** for mine geology, reserve modeling and resource estimation.
- **Studio Survey** for open pit and underground mine surveying and reporting.
- **Studio UG** for underground mine design and scheduling.

Further Information

Release notes for other versions of Studio OP are available via the Datamine Customer Support website. For more details, see https://www.dataminesoftware.com/support/.

For the complete Studio OP documentation, see https://docs.dataminesoftware.com/StudioOP.

Studio OP 4.0 Release Notes

Scheduler Compatibility

Studio OP 4.0 requires **Datamine Task Scheduler 4.0** to export and synchronize schedule data. The latest version of DTS is available from the Datamine Support Website and the Datamine Customer Portal.

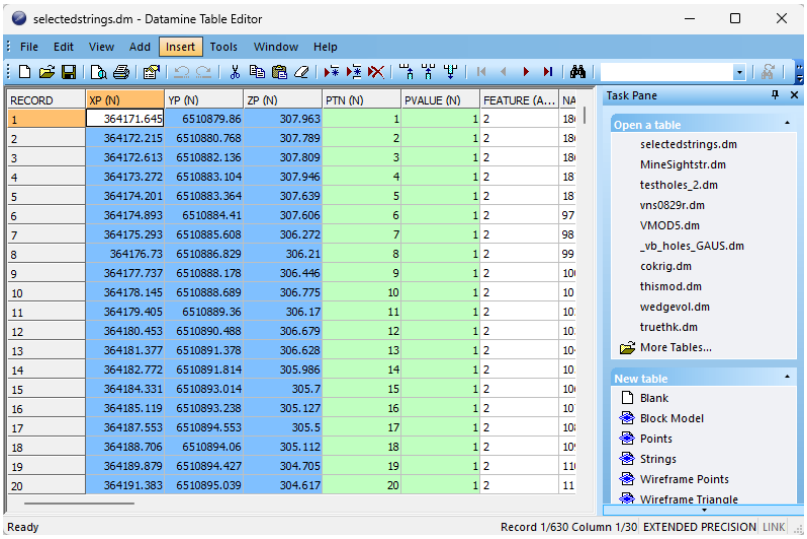
DTS is Datamine's platform for future scheduling functionality, replacing its predecessor, EPS. **DTS** represents the start of our ongoing campaign to provide best-in-field scheduling solution for mine planners.

DTS is available from the Datamine Support Website and the Datamine Customer Portal.

> **Note**: This version of your product cannot connect to the legacy Enhanced Production Scheduler (EPS) product.

Key Improvements

New Datamine File Format



The Datamine file format used natively by Studio products originated from Datamine's "Native File System" over thirty years ago. It has been maintained and supported by Datamine products since then. The mining industry has seen a significant increase in data volume and complexity during this time, which has started to strain the capabilities of the Datamine format.

Our response to this challenge is a new file format that is more suitable for the current and future data requirements of the mining industry. This format has a new file extension; .dmx.

Files are smaller and now supports up to 2048 columns. Your application generates .dmx files by default (this can be changed on the **System Options** screen. Both legacy (.dm) and new .dmx format files can be read. Other improvements will follow, as our new format is highly extensible and provides many opportunities to make data handling easier and smarter in the future.

The new format integrates smoothly with modern Studio products and your existing workflows and customization scripts, and the Table Editor can be used to view both legacy and new formats. For bulk file conversion, there's even a useful DM to DMX file conversion utility in the **Data Converter** installation folder should you wish to batch convert input files.

You can recognize .dm and .dmx files in the **Project Files** control bar:

	.dmx file	A file in the proprietary .dmx Datamine binary file format.
	.dm file	A file in the legacy .dm Datamine binary file format.

Datamine Task Scheduler

Studio OP integrates with **Datamine Task Scheduler** (DTS). In addition to the new name, **DTS** also features fixes made in response to feedback from the final version of EPS. Users of EPS will already be familiar with DTS.

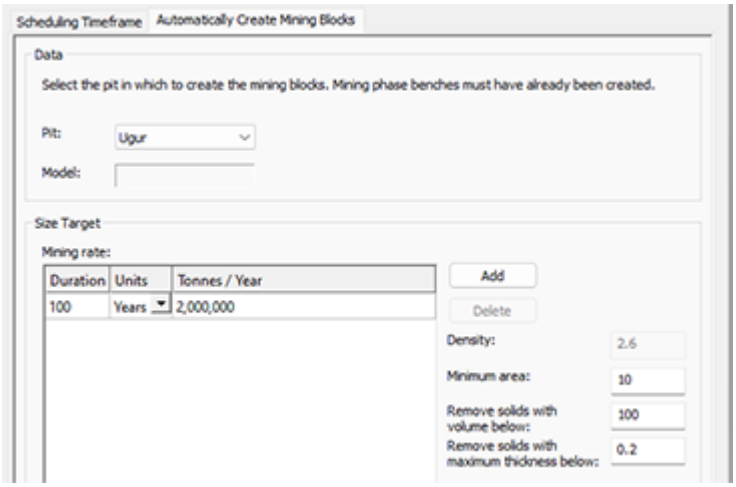
Continuing on from its predecessor, DTS starts at version "4.0" (the last EPS version was 3.1).

DTS is supported by an updated version of the previous Datamine data viewer, now called **DTS InTouch**.

> **Note**: DTS operates with a new license, available from your local Datamine office.

> **Note**: You cannot connect this or later versions of OP to the legacy EPS application, now discontinued.

Merged Auto Mining Block Task

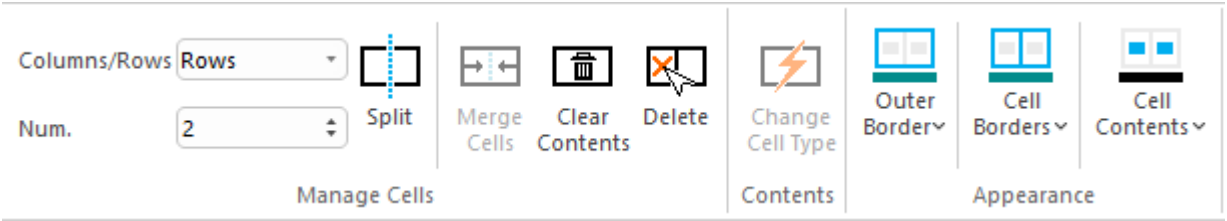


To make automated mining block generation quicker and easier, the **Timeframe** and **Auto Mining Blocks** tasks have been merged into a single multi-tab task, available on the Reserves ribbon.

Managed Task Framework Improvements

Many managed tasks of the Reserves Workflow have been migrated to a new, more capable, UI framework meaning they now show the expected visual themes, allow dynamic resizing and benefit from more efficient data management. Whilst minimal changes have been made to functionality, these changes allow tasks to be improved and extended more easily in the future.

Plots Overhaul



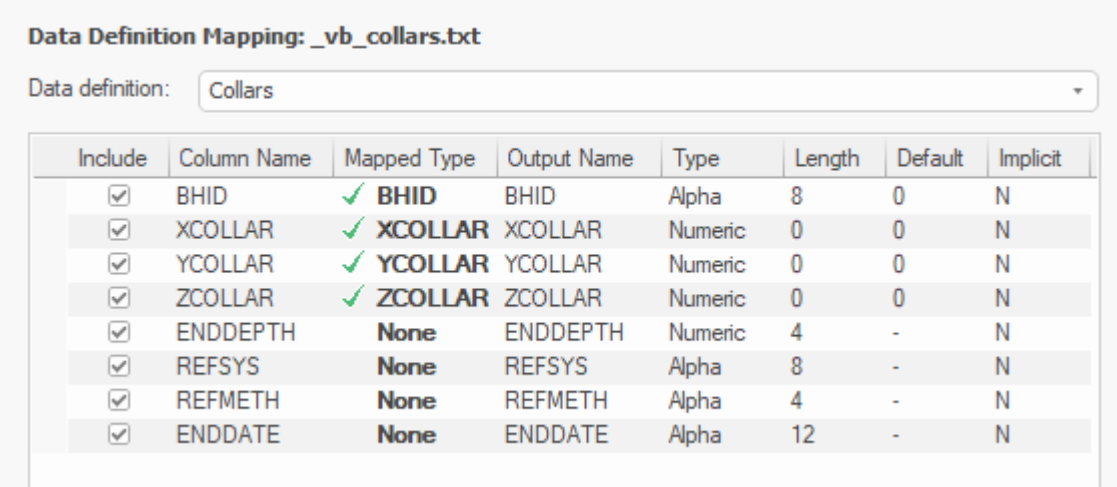
We've made major changes to the way plots are constructed with this update.

Plots are formed from a collection of plot items, ranging from 3D projections and associated sections, to clip art, text boxes and so on. You asked us to improve the usability of these tools so we've taken a step back and changed our approach to reporting. In a good way.

Plot items are now supported by their own ribbons, displayed whenever a particular plot item is selected, be that a projection, a north arrow, title box or whatever. With your help, we analysed the most commonly-used features and settings and have created a dedicated ribbon of tools for each plot item type. For example, managing the tabular contents of title box cells is now much easier thanks to handy cell managers.

The **Plots (Manage)** and **Plots (View)** ribbons have also been combined.

Text Importer



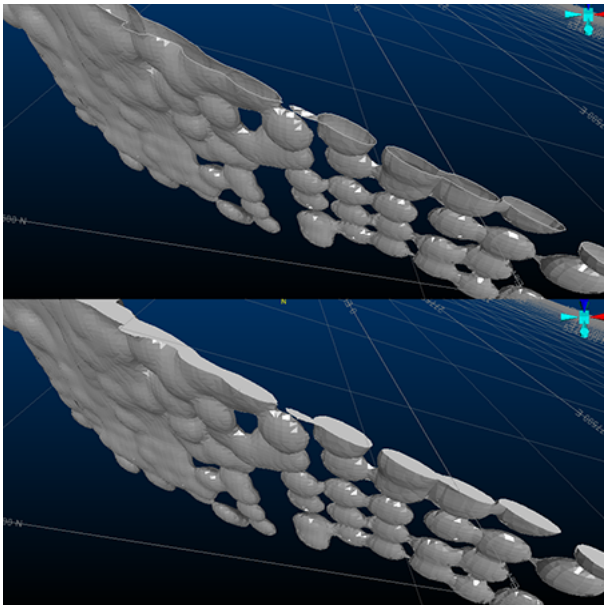
Import one or multiple text files using a new **Text Importer** screen.

Select as many files as you need to import and configure all importation options on a single screen, including automated and interactive field mapping for your selected data type and preview your file before you import.

Once you're happy with your settings (which can be set for each individual file if required), store your configuration information in a handy scenario file which can be used to consistently import data in the future and to share with others in your organization.

Filled Wireframe Intersections (Preview)

We've added a new wireframe formatting option to the Wireframe 3D Properties screen: **Fill intersection**.

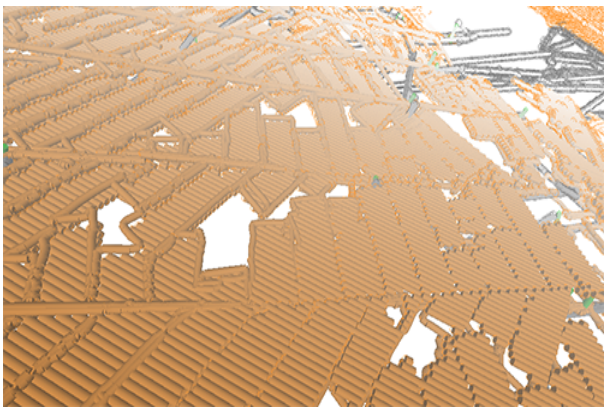


Wireframe data shown with standard clipping and filled intersection mode

Now, you can display clipped wireframes with solid intersections, emulating a 'filled' volume. This can be really useful when visualizing volumes in cross section.

> **Note**: This feature is still in development, but we thought we'd let you have a look at progress so far. There are some limitations, such as viewing intersections of multiple coincident intersection planes of different colours, but it should give you an idea of what we're aiming for.

3D Window Improvements



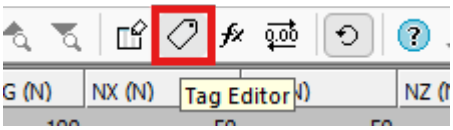
The display of large data so that it has a lower impact on system and application performance. This includes new, smart settings to control how and when 3D scene data is rendered, making sure the system only has to draw what it needs to. To

support these changes, new 3D options have been introduced to control **Environment Settings** (automated scene clipping) and a **Render on Demand** setting (on by default), added to the 3D system settings screen.

Datamine File Tags

With the introduction of the new DMX file format in this version (see above), a new facility arrives for all users; table tagging.

We intend to make use of this new feature in the future, but you can also add your own data tags and values to any .dmx file using the Table Editor, which includes a new **Tag Editor** function on its toolbar:



Add as many tags and associated values as you like. This could be useful, say, to embed the status of a model or other design files, or to provide some implicit spatial context to data (mine, area, level, for example) without requiring additional data attributes.

New Processes

- **INTEXT** – You asked for a file-based process to convert text files to Datamine files, so we created **INTEXT**. Either using the data definition specified in the incoming file, or by choosing the definition of another file, import text data using a range of options.
- **COMBTRI** – Append several wireframes to a single file.

Command & Process Improvements

- **COMBTRI** allows up to 20 wireframe files to be combined in a single operation.
- **extend-segment-virtual-intersect** can now be used on closed strings.

All Improvements

Commands & Processes

- **Case:** **Multiple Cases** Your product can now read and write the new Datamine binary format (.dmx) and will automatically convert non-default files in the project folder when a project is opened.
- **Case:** **Multiple Cases** Your product has been updated to connect to DTS and DTS InTouch. This version cannot connect to EPS.
- **Case:** **Multiple Cases** A new scenario-based **Text Importer** lets you import (single or batch) text files as a specified data type.
- **Case:** **Multiple Cases** Several improvements and fixes have been made to improve 3D window visualization.
- **Case:** **OP-3778** Studio OP now supports long field names by default.
- **Case:** **OP-3732** Studio OP has been updated to integrate with **Datamine Task Scheduler** (DTS). You cannot connect this version of OP to the legacy EPS application.
- **Case:** **OP-3499** The **Standard Targets** screen has been reorganized and now has options to more easily manage existing targets.
- **Case:** **OP-3134** The performance of loading data, auto scheduler scenarios, changing periods and applying setup changes (and other functions) has been improved.
- **Case:** **CORE-9284** If you create a project using a folder that contains files in a non-native format, they are automatically converted.
- **Case:** **CORE-9265** By popular request, the "red" quick key combination now launches reduce-points (not simplify-string) as in previous versions. Menu options have also been reinstated.
- **Case:** **CORE-9240** Plot item locations now remain static when adjust the Relative positioning option for locatable plot items.
- **Case:** **CORE-9239** You can now interactively pick the target position of a locatable plot item using a new Anchor ribbon button.
- **Case:** **CORE-9234** DMX data saved from a Studio application now embeds the creating product and version as metadata (tags).
- **Case:** **CORE-9112** Studio project startups now include a check for local project files in a non-default format, and converting them to the default format.

- **Case: CORE-9021** Your product's Mesh wireframing library has been updated to version 2.0.1.53.
- **Case: CORE-9006** You can now use the "uc" quick key combination to apply clipping in Plots sheets.
- **Case: CORE-8938** A warning is now displayed when running HOLES3D when the BHID value in the Collar and Survey files doesn't match.
- **Case: CORE-8929** Loaded data objects that have metadata tags display those tags in the Properties control bar.
- **Case: CORE-8918** Supporting plugins for PTCLD2WF and the Point Reconstruction Wizard have been updated.
- **Case: CORE-8876** You can now choose to manually or automatically adjust 3D window clipping planes using the Environment Settings screen.
- **Case: CORE-8860** The "red" quick key combination now runs the **simplify-string** command, not the legacy reduce-points command. Ribbon access has also been updated.
- **Case: CORE-8702** **query-angle** now outputs angle information in degrees, minutes and seconds.
- **Case: CORE-8697** **intersect-drillholes-wireframes** now outputs the intersection angle between drillhole and wireframe.
- **Cases: CORE-8490, CORE-8452, CORE-8357** Front & back 3D window clipping distances now computed automatically based on object's bounding box.
- **Case: CORE-8465** Context-sensitive Section and View ribbons now support projection editing and creation in the Plots window.
- **Case: CORE-8460**The **Plots (Manage)** and **Plots (View)** ribbons have been combined.
- **Case: CORE-8424** Quick filtering wireframes and block models is now much quicker.
- **Case: CORE-8310** By default, data is now rendered in the 3D view only when required. This makes application usage with large data much quicker with more responsive controls.
- **Case: CORE-8216**An Anchor ribbon has been introduced to support locatable plot items.
- **Case: CORE-8206** Reloading and refreshing large data objects is now quicker.
- **Case: CORE-8093** Improvements have been made to the way strings and points are rendered in the 3D window, to improve performance.

- **Case: CORE-8047** Changes to the Plots ribbons will now be automatically shared with all Studio products, making forward development quicker and easier.
- **Case: CORE-8012** A new context-sensitive Text Cell ribbon has been created to modify the contents of text cells in title boxes.
- **Case: CORE-7966** You can now overwrite an existing legend instead of having to specify an unused/unique legend name.
- **Case: CORE-7946** Legend box plot item formatting can now be performed using a new Legend Box context-sensitive ribbon.
- **Case: CORE-7732** A new **Text Importer** screen lets you import multiple ASCII text files with per-file configurations and share your importation settings as a scenario.
- **Case: CORE-7694** Symbol plot item formatting can now be performed using a new Symbol context-sensitive ribbon.
- **Case: CORE-7693** Text Box formatting can now be performed using a new Text Box context-sensitive ribbon.
- **Case: CORE-7692** Title box formatting can now be performed using a new Title Box context-sensitive ribbon.
- **Case: CORE-7691** Scale bar formatting can now be performed using a new Scale Bar context-sensitive ribbon.
- **Case: CORE-7690** North arrow formatting can now be performed using a new North Arrow context-sensitive ribbon.
- **Case: CORE-7279 extend-segment-virtual-intersect** can now be used on closed strings.
- **Case: CORE-7161** The Create Model Prototype screen now has additional support for both new and copied rotated model prototypes.
- **Case: CORE-7051 COMPDH** now lets you save residual composites to a new &RESIDUAL output file option.
- **Case: CORE-6906** When creating a ramp string, if the Distance set is less than the minimum segment length, a partial segment is added.
- **Case: CORE-2410** A new process - **INTEXT** - converts text files to Datamine files using an existing data definition and other parameters.
- **Case: CORE-231**We've added a new wireframe visualization option; **Fill intersection**.
- **Case: CORE-68** A new command - **clip-strings-to-wireframe** - lets you trim string data in relation to a wireframe surface or volume.

> **Note**: **ESTIMA** and **ANISOANG** processes are no longer available in this product.

User Experience

- **Case: OP-3764** The MineScape block model importer utility has been added to the Data ribbon.
- **Case: OP-3740** Mineable Reserves Optimizer has been removed from the Reserves ribbon.
- **Case: OP-3688**When creating surface roads, references to ‘Batter’ have been replaced with “Bench” and references to "Batter Angle" with "Face Angle".
- **Case: OP-3638** The Block Definition Method task now uses visual themes with better support for resizing.
- **Case: OP-3589** The Surface Topo. task now uses visual themes with better support for resizing.
- **Case: OP-3585** The Manage Phases task now uses visual themes with better support for resizing.
- **Case: OP-3581** The Timeframe and Auto Mining Blocks tasks have been merged into a single multi-tab task.
- **Case: OP-3578**The Spatial Dependencies managed reserves task has been refactored to use a more scalable framework.
- **Case: OP-3581** The Auto Mining Blocks task now uses visual themes with better support for resizing.
- **Case: OP-3562** The Manage Pits task now uses visual themes with better support for resizing.
- **Case: CORE-9108** The Quick Filters screen now inherits the selected look and feel option.
- **Case: CORE-9086** The INTEXT text import process has been added to the Data ribbon
- **Case: CORE-9085** Combine Wireframes (COMBTRI process) has been added to the Wireframe ribbon.
- **Case: CORE-9084** Clip String to Wireframe has been added to the Digitize ribbon.
- **Case: CORE-8973** The Project Files control bar now differentiates .dm and .dmx formats by distinct icons.

- **Case:** CORE-8937 The Project Files and Project Data control bars now display up to 30 macros in a .mac file.
- **Case:** CORE-8935 A new splash screen has been implemented.
- **Case:** CORE-8906 Large Data Mode has been relabeled "Keep data in front of the camera" to make it clearer what it does.
- **Case:** CORE-8851 The Table Editor now supports visual themes.
- **Case:** CORE-8765 The **Georeference Objects** screen now inherits current look and feel settings.
- **Case:** CORE-8742 Images and colour scheme have been updated for the New Project Wizard.
- **Case:** CORE-8488 Icons for the visualization window tabs and control bars have been updated.
- **Case:** CORE-5599 Managed task windows, such as implicit modelling and lithology assignment tasks, now persist their docked UI status between project sessions.

Auto Scheduler

- **Case:**SUMSCH-1119 Auto Scheduler can now process files in the new .dmx format.

Utilities & Supporting Services

- **Case:** CORE-8915 ALS Coreviewer options have been removed from this product. Datamine no longer resells ALS Coreviewer.
- **Case:** CORE-8759 End User License Agreement references have been replaced with Terms and Conditions.
- **Case:** CORE-8747 You can now associate meta data with .dmx files using the Table Editor. This facility is not available for legacy .dm files.
- **Case:** CORE-8585 You can now import up to 256 fields via the Surpac driver, and you are alerted if this limit is exceeded
- **Case:** CORE-8564 The obsolete command erase-wireframe-surface has been removed from the ribbon system.
- **Case:** CORE-8439 A standalone utility has been created to convert .dm to .dmx files.

- **Case:** CORE-8329 A new method more accurately calculates the volume of Prismatic models, as imported by the MineScape Importer utility (minescape-to-blockmodel command).
- **Case:** CORE-6986 .xyz files can now be imported when importing Text files to the project.

Documentation & eLearning

- **Case:** CORE-9348 EXTRA help files, including the examples topic, have been updated for clarity and consistent terminology.

Scripting & Automation

- **Case:** Multiple Scripted access to Datamine files has been extended to manage both legacy and new DMX file processes.

Defect Fixes

- **Case:** OP-3773 Auto-Dump design Lift Overrides are now changing lifts with boundary strings as expected.
- **Case:** OP-3738 The Excel export function in the Reconciliation tool now works as expected.
- **Case:** OP-3735 3D window symbols used to identify dump and stockpile sequencing landmarks now appear correctly.
- **Case:** OP-3734 Truncated screen text on the Evaluate Mining Block screen has been corrected.
- **Case:** OP-3365 An issue causing the Edit Schedule screen to report an incorrect non-loading activity rate value has been resolved.
- **Case:** OP-3210 Auto Scheduler now correctly honours the Dump Volume while running with Dump Modelling option.
- **Case:** OP-3177 Scheduler settings browsers now open the expected folder location by default.
- **Case:** SUMSCH-1123 An issue causing the scheduler not to return a partial solution where expected has been resolved.
- **Case:** CORE-9000 Enabling and disabling values in Assign and Group Lithology tasks now shows and hides drillhole intervals as expected.
- **Case:** CORE-8947 1-letter macro file names now appear in the Project Files control bar as expected.
- **Case:** CORE-8947 SELWF now produces expected results when there are spaces in the field name values of ZONE.
- **Case:** CORE-8867 An issue preventing the successful installation of License Services on some Windows Server platforms has been resolved.
- **Case:** CORE-8848 The double-sided 3D wireframe rendering setting is now correctly saved to the project.
- **Case:** CORE-8823 .var files now reference the correct stack version.
- **Case:** CORE-8820 A regression of field addition in EXTRA when parsing numbers with scientific notation has been resolved.
- **Case:** CORE-8811 An issue caused by swapping Snap Mode settings has been resolved.
- **Case:** CORE-8801 An intermittent issue affecting file lookups when running macros has been resolved.
- **Case:** CORE-8784 Wireframes generated by SWATHPLT now include consistently oriented triangles.

- **Case: CORE-8783** Making a plot item locatable no longer unexpectedly changes that plot item's position.
- **Case: CORE-8757** An issue causing **PPQQPLOT** to fail with a large input file has been resolved.
- **Case: CORE-8754** An issue causing system shutdown after reordering georefencing table values (**georeference-objects**), has been resolved.
- **Case: CORE-8675** An issue causing **converge-segments** to display unexpected results after undoing the operation has been resolved.
- **Case: CORE-8670** The BOOLEAN process no longer fails when the two inputs (in the same run) have a column with the same name but a different data type.
- **Case: CORE-8610** 3D object bounding boxes, used for 3D view configuration are now set correctly for all string object entities.
- **Case: CORE-8583** An issue causing an orthographic 3D view corruption where the front clipping plane distance is very large, has been resolved.
- **Case: CORE-8530** An issue causing system instability, when clipping in the Plots window using a quick key, has been resolved.
- **Case: CORE-8523** An issue attempting to print screen contents when Info Mode is active has been resolved.
- **Case: CORE-8479** In Plots, setting a primary clipping width to a value larger than the extent of the section no longer causes the midpoint to be moved outside of the section extents.
- **Case: CORE-8475** An issue causing unexpected behaviour when snapping at high zoom levels has been resolved.
- **Case: CORE-8087** An issue that could cause a progressive memory leak when reloading a data object has been resolved.
- **Case: CORE-7713** An issue preventing the automatic generation of legends by data type has been resolved.
- **Case: CORE-6591** A repetitive warning message in Table Editor relating to undo operation performance can now be disabled as expected.
- **Case: CORE-6002** An issue preventing the update of associated screens after renaming 3D overlays has been resolved.
- **Case: CORE-3477** You can now generate a 2 point vertical plane by selecting 2 vertically-aligned points.

DATAMINE

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Datamine enables efficient and sustainable mining through the application of world-leading technology and services.

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