

Studio EM 4.0 Beta

Release Notes



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Contents

Overview	4
Further Information	4
Studio EM 4.0 Release Notes	5
Important: Licensing Change	5
Key Improvements	5
New Datamine File Format	5
Plots Overhaul	6
Mineable Shape Optimizer	7
Assign Lithology Improvements	7
Filled Wireframe Intersections	7
Ribbon Updates	8
3D Window Improvements	9
Text Importer	9
New Processes & Commands	10
Datamine File Tags	10
All Improvements	11
Commands & Processes	11
User Experience	14
Utilities & Supporting Services	15
Documentation & eLearning	15
Scripting & Automation	16
Additional Defect Fixes	17

Overview



Studio EM supports all aspects of operations from exploration to mining. Featuring an extensive and powerful suite of tools, creation and critical review of your data has never been easier. If data governance, precision and reliability is important to you, Studio EM is an essential application.

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



Studio EM for exploration data analysis and modeling.



Studio Geo for 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 EM are available via the Datamine Customer Support website. For more details, see

<https://www.dataminesoftware.com/support/>.

For the complete Studio EM documentation, see

<https://docs.dataminesoftware.com/StudioEM>.

Studio EM 4.0 Release Notes

Important: Licensing Change

Studio EM 4.0 requires a new license key: Studio EM 4+

Studio EM cannot be licensed using previous Studio EM keys.

If you haven't received an updated key from Datamine, please contact your local Datamine office for assistance.

Key Improvements

New Datamine File Format

RECORD	XP (N)	YP (N)	ZP (N)	PTN (N)	PVALUE (N)	FEATURE (A...)	NA
1	364171.645	6510879.86	307.963	1	1.2		18
2	364172.215	6510880.768	307.789	2	1.2		18
3	364172.613	6510882.136	307.809	3	1.2		18
4	364173.272	6510883.104	307.946	4	1.2		18
5	364174.201	6510883.364	307.639	5	1.2		18
6	364174.893	6510884.41	307.606	6	1.2		97
7	364175.293	6510885.608	306.272	7	1.2		98
8	364176.73	6510886.829	306.21	8	1.2		99
9	364177.737	6510888.178	306.446	9	1.2		10
10	364178.145	6510888.689	306.775	10	1.2		10
11	364179.405	6510889.36	306.17	11	1.2		10
12	364180.453	6510890.488	306.679	12	1.2		10
13	364181.377	6510891.378	306.628	13	1.2		10
14	364182.772	6510891.814	305.986	14	1.2		10
15	364184.331	6510893.014	305.7	15	1.2		10
16	364185.119	6510893.238	305.127	16	1.2		10
17	364187.553	6510894.553	305.5	17	1.2		10
18	364188.706	6510894.06	305.112	18	1.2		10
19	364189.879	6510894.427	304.705	19	1.2		11
20	364191.383	6510895.039	304.617	20	1.2		11



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.

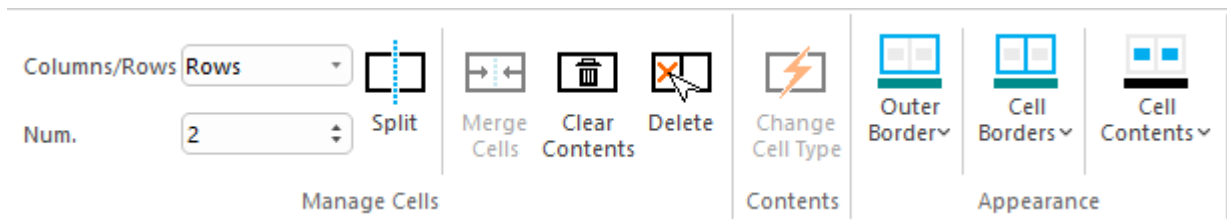
Files are smaller and now supports up to 2048 columns. Your application generates .dmx files by default (this can be changed on the **System Options** screen. Both legacy (.dm) and new .dmx format files can be read. Other improvements will follow, as our new format is highly extensible and provides many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

Plots Overhaul



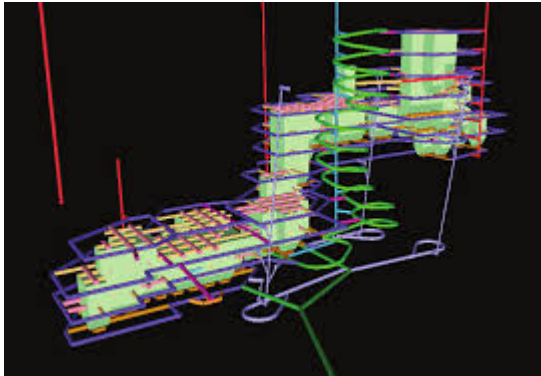
We've made major changes to the way plots are constructed with this update.

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.

Mineable Shape Optimizer



Datamine's seminal stope shape optimization can now be launched from Studio EM.

Note: Mineable Shape Optimizer requires a separate, standalone license in addition to your main product license. Contact your local Datamine office for more information.

MSO computes the optimal size, shape and location of stopes for an underground mine using an input block model which contains grades or values. Produce optimal stope shapes, with careful selection of parameters, in a rapid and repeatable fashion. The procedure is not fully automatic and sensible selection of parameters and controls will assist to improve the quality of results for complex situations.

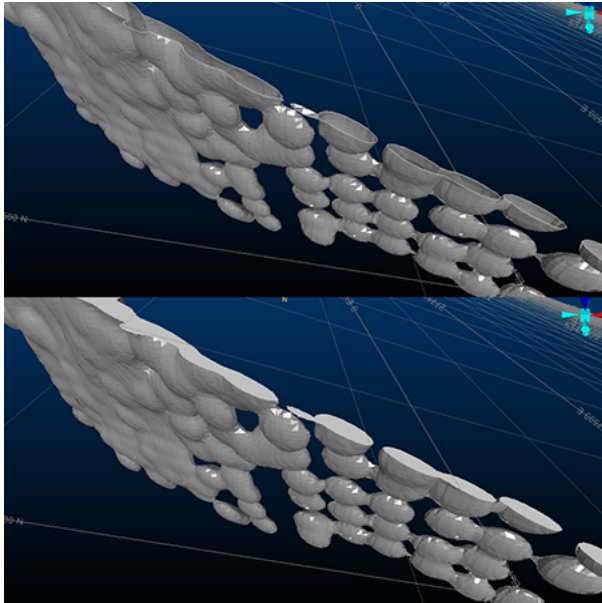
Assign Lithology Improvements

The **Assign Lithology** command's new **Paint** mode lets you iteratively apply drillhole attribute values using standard 3D data selection methods. This can make drillhole coding a lot quicker where you want to interactively assign new attribute values to multiple drillhole segments.

We've also added a shortcut to control whether selected 3D data is appended or alternated when the CTRL key is used, plus a new command **assign-lithology-assign** (quick keys "ala") which can be used to quickly apply the active lithology of the **Assign Lithology** screen to selected drillhole data.

Filled Wireframe Intersections

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

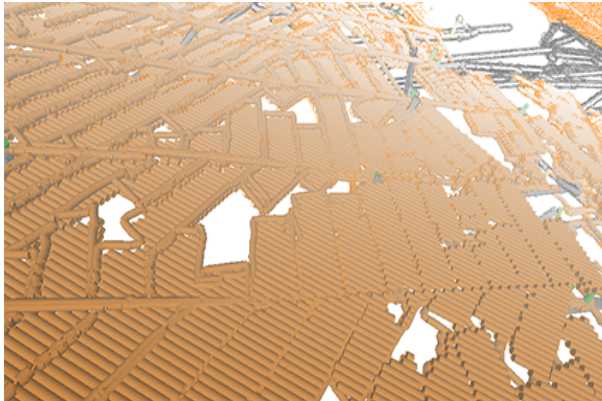
Now, you can display clipped wireframes with solid intersections, emulating a 'filled' volume. This can be really useful when visualizing volumes in cross section.

Ribbon Updates

Studio EM ribbons have been relabelled and reorganized to support increased functionality, and consistency with other Studio products.

- Your product now features a **Geology** ribbon containing tools for drillhole coding and compositing. It also features useful shortcuts to ellipsoid management and data contouring commands.
- String creation and editing commands are now found on the **Digitize** ribbon.
- Wireframe linking, isosurface (and isoshell), DTM and manual wireframe editing tools are now located on a new **Explicit** ribbon. The **Wireframe** ribbon remains dedicated to Boolean, planar and wireframe verification and cleaning tools.
- The **Model** ribbon now closely mimics that found in Studio RM, minus unfolding tools but including an Estimate command group.
- The **Sample Analysis** ribbon is now very similar to the one found in Studio RM.

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.

Text Importer

Data Definition Mapping: _vb_collars.txt

Data definition: Collars

Include	Column Name	Mapped Type	Output Name	Type	Length	Default	Implicit
<input checked="" type="checkbox"/>	BHID	✓ BHID	BHID	Alpha	8	0	N
<input checked="" type="checkbox"/>	XCOLLAR	✓ XCOLLAR	XCOLLAR	Numeric	0	0	N
<input checked="" type="checkbox"/>	YCOLLAR	✓ YCOLLAR	YCOLLAR	Numeric	0	0	N
<input checked="" type="checkbox"/>	ZCOLLAR	✓ ZCOLLAR	ZCOLLAR	Numeric	0	0	N
<input checked="" type="checkbox"/>	ENDDEPTH	None	ENDDEPTH	Numeric	4	-	N
<input checked="" type="checkbox"/>	REFSYS	None	REFSYS	Alpha	8	-	N
<input checked="" type="checkbox"/>	REFMETH	None	REFMETH	Alpha	4	-	N
<input checked="" type="checkbox"/>	ENDDATE	None	ENDDATE	Alpha	12	-	N

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.

New Processes & Commands

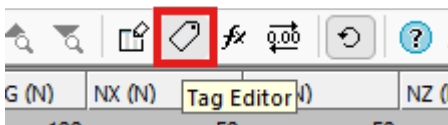
- **INTEXT** – You asked for a file-based process to convert text files to Datamine files, so we created **INTEXT**. Either using the data definition specified in the incoming file, or by choosing the definition of another file, import text data using a range of options.
- **COMBTRI** – Append several wireframes to a single file.
- **extend-segment-virtual-intersect** can now be used on closed strings.

It's all file based, so even large file conversions are completed quickly and without straining your system.

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.

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: STEX-246 Mineable Shape Optimizer** is now available in your product.
- **Case: STEX-208** The unsupported Design window has been removed from this product.
- **Case: STUDIO-7229** We've added a shortcut to the **Assign Lithology** screen to control whether selected 3D data is appended or alternated when the CTRL key is used.
- **Case: STUDIO-7228** The **Assign Lithology** command's new **Paint** mode lets you iteratively apply drillhole attribute values using standard 3D data selection methods.
- **Case: STUDIO-7227** A new command **assign-lithology-assign** (quick keys "ala") can be used to quickly apply the active lithology of the Assign Lithology screen to selected drillhole data.
- **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-8995** A new Paint Mode has been added to Assign Lithology.
- **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-8801** An intermittent issue affecting file lookups when running macros has been resolved.
- **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-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-6654** Group Lithology mappings are now saved while the project is open and also if the project is closed. These settings are reinstated with the next use of the command.
- **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.

User Experience

- **Case: STEX-254** The MSO functional ribbon has been added to Studio EM.
- **Case: STEX-253** Studio EM's accent colour has been updated to reflect its new product ethos.
- **Case: STEX-243** The Studio EM Start Page now reflects the latest branding and product domain.
- **Case: STEX-240** The Studio EM application light colour theme now reflects its new product domain.
- **Case: STEX-239** Studio EM application icons have been updated to reflect the new product colour scheme.
- **Case: STEX-214** Studio EM ribbons have been relabelled and reorganized to support increased functionality, and consistency with other Studio products.
- **Case: GEO-528** In the Drillhole Importer, all table columns are now immediately visible.
- **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-9030** The new-polygon command 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-8564** The obsolete command erase-wireframe-surface has been removed from the ribbon system.
- **Case: CORE-8499** The Group Lithology and Assign Lithology screens now inherit the current visual theme.
- **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.

Utilities & Supporting Services

- **Case: STEX-242** Studio EM 4.0 requires a new license key: Studio EM 4+
- **Case: STEX-214** Several ribbons have been updated, and new ribbons added, to support Studio EM's toolset.
- **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-8439** A standalone utility has been created to convert .dm to .dmx files.
- **Case: CORE-6986** .xyz files can now be imported when importing Text files to the project.

Documentation & eLearning

- **Case: STEX-244** The Studio EM Help topics have been updated to reflect new branding and product positioning.

Scripting & Automation

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

Additional Defect Fixes

- **Case: [STEX-232](#)** Cut and fill command help files have been removed from Studio EM.
- **Case: [GEO-426](#)** When re-running Drillhole Importer, previously generated legends can now either be recreated, or previous legends reinstated as default legends for the target field.
- **Case: [CORE-8996](#)** An erroneous "No field selected" message no longer appears on the Assign Lithology screen after lithology values have been picked.
- **Case: [CORE-8958](#)** An issue preventing GETSAMP from functioning correctly has been resolved.
- **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-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-8755](#)** You can now adjust Assign Lithology initial setups without having to select a Lithology field.
- **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-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-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 georeferencing 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-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-7713** An issue preventing the automatic generation of legends by data type has been resolved.
- **Case: CORE-7645 HOLES3D** now considers dip and bearing information from both a survey and collars file, prioritizing the survey file information. DIPMETH is applied to all data, regardless of source.
- **Case: CORE-7279 extend-segment-virtual-intersect** can now be used on closed strings.
- **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 enables efficient and sustainable mining through the application of world-leading technology and services.

Read the Docs

docs.dataminesoftware.com

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