DATAMINE

STUDIO GEO

Release Notes

Studio Geo 1.0

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Overview

Studio Geo is a significant step forward in Geological Modelling, fusing the best of implicit and explicit modelling tools into user-driven, dynamic workflows. Designed by geologists for geologists, Studio Geo is built to tackle modern challenges in geological models for exploration, production and resource modelling.

Whether you're updating models with drilling or creating a new model from raw data to an estimated grade model, Studio Geo empowers you to interpret, iterate, and innovate – without leaving your geological context.

Studio Geo 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

This document includes cumulative releases notes for [[[Undefined variable General.VersionNumber]]].

Release notes for other versions of Studio Geo are available via the Support Portal https://www.dataminesoftware.com/support/.

For the complete Studio Geo documentation, see https://docs.dataminesoftware.com/StudioGEO.

Studio Geo 1.0 Release Notes

> **Note**: Studio Geo generates Datamine files in the latest DMX format. You can still save data in the legacy DM format by setting the ".dm" format when interactively saving files, but all files generated by other functions are in the latest format.

Model with Confidence

Designed specifically for resource modellers and geologists, Studio Geo brings clarity, speed, and control to every stage of your geological modelling workflow. Whether you're incorporating fresh drilling data, refining interpretations, or reprocessing historical campaigns, Studio Geo connects directly to your geological data and responds instantly to change.

Built on Datamine's trusted Studio platform, Studio Geo offers seamless access to robust tools for data capture, modelling, validation, and reporting. Studio Geo isn't just a toolkit – it's a dynamic, end-to-end modelling environment, engineered to keep pace with the real world of geology.

What Sets Studio Geo Apart?

A Fully Configurable Workflow, Built by Geologists

Studio Geo gives you the power to design your modelling process the way you work, combining implicit and explicit tools to integrate complex geological, structural, and domain knowledge into a single cohesive model. Whether you're building stratigraphy, fault blocks, or vein systems, your workflow adapts to the geology, not the other way around.

Dynamic Modelling That Keeps Pace with Your Data

No more starting from scratch. Studio Geo's *Dynamic Modelling* engine automatically detects changes to your data, such as new drillholes, updated interpretations, or altered boundaries, and intelligently updates only the affected parts of your model.

Geologist-Led, Interpretation-Driven

From early stage exploration to detailed production geology, Studio Geo helps you interpret confidently and iteratively. Group and assign lithologies, flag key zones, refine contacts, and adjust modelling behaviour using a suite of intuitive tools

designed to help you make informed, geologically sound decisions.

Customisable Workflows Powered by Studio Macros

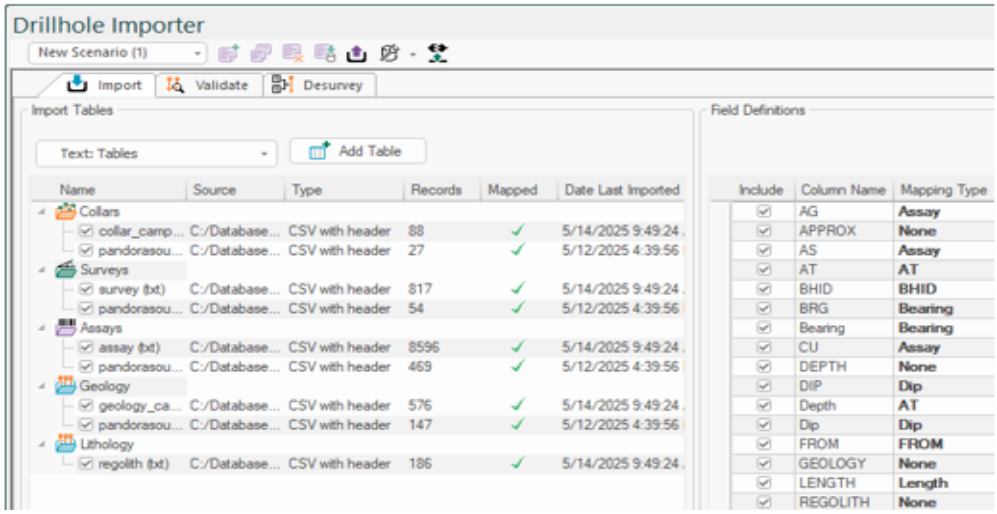
Build workflows that go beyond modelling. Integrate your own automation logic using Datamine's macro language giving you full control over how data is processed, incorporating complex tasks like compositing, declustering dynamic anisotropy, grade estimation (using COKRIG) and evaluation.

Built on Datamine's Proven Studio Core

Under the hood, Studio Geo runs on the same powerful engine trusted across the Studio suite so you gain access to robust CAD tools, data validation, plotting and 3D visualisation, all in a familiar environment.

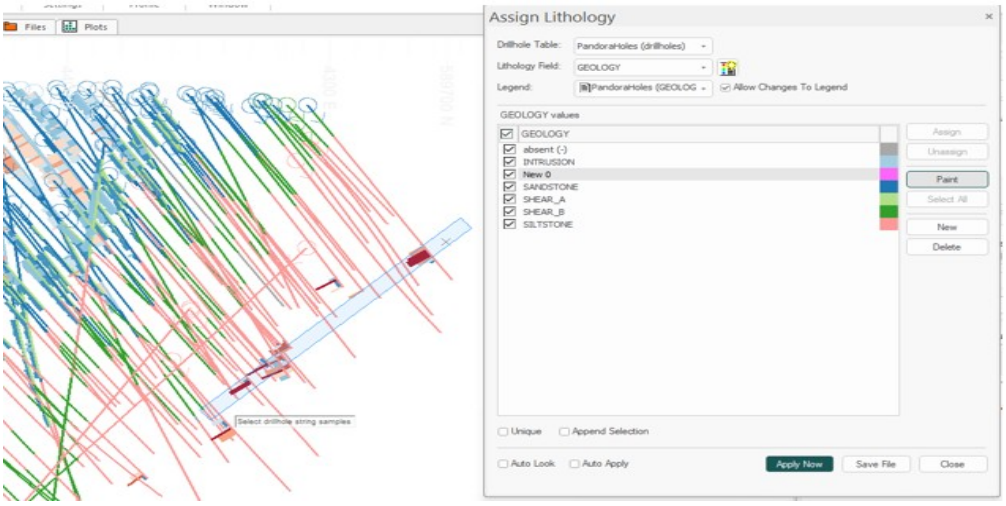
Key Studio Geo Features

Connect Directly to Live Geological Data



Studio Geo's **Drillhole Importer** makes it easy to import, validate, and desurvey drillholes from text files, databases (like acQuire and Fusion), or ODBC connections. Define once, refresh forever with *Scenarios*. Fix errors automatically or export validation reports for traceability.

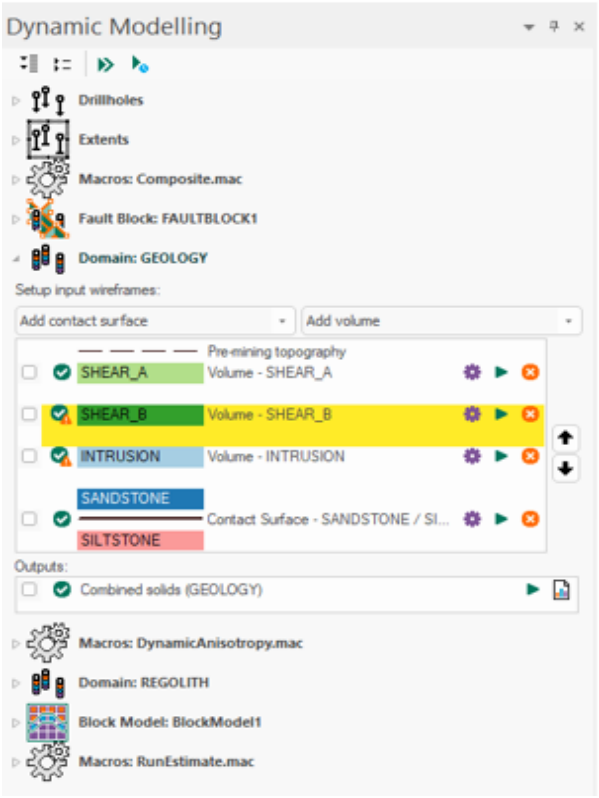
Interpret Geological Lithologies



Studio Geo's **Group and Assign Lithology** commands create simplified geological codes and paint geological interpretations while working with implicit modelling commands. Whether you're flagging ore zones, reducing code complexity, or recoding domains – Studio Geo makes it fast and flexible.

Dynamic Modelling

Model once, update often. **Dynamic modelling** integrates live geological data to create explicit and implicit surface models to generate a geological model and provide a robust, up-to-date block model of a deposit.



Dynamic Modelling is a highly configurable workflow including drillholes, extents, fault blocks, geological domains, block models and macro tasks. Automatic updates when new data arrives. Lock down tasks and track the status of the workflow.

Automatic Block Modelling

Block modelling in Studio Geo is fully integrated with your geological workflow. Automatically generate a prototype model that honours the extents of your data and aligns with existing models. Use the Block Model task to construct detailed models, with easy to specify sub-celling. Multiple domains and fault blocks are effortlessly merged into a single, coherent block model—ready for estimation or further processing via macros tasks.

Customize with Macro Tasks

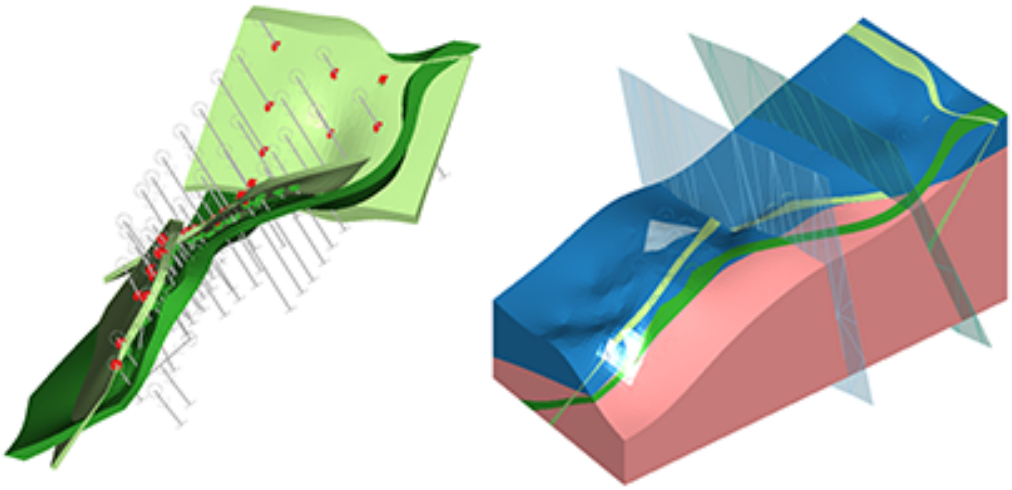
Studio Geo leverages Datamine's powerful macro language to give you full control over your modelling process. Customise workflows to suit your specific operational needs—directly within the Dynamic Modelling environment. Macros can access and manipulate the same data used by your models, enabling advanced tasks such as transforming drillholes with TRANSCO, compositing data using COMPDH, assigning densities with EXTRA, estimating grades via COKRIG, and evaluating domains using TONGRAD. With full integration, your modelling workflow becomes not only dynamic—but deeply flexible.

Core Strength

Studio Geo is built of the trusted Studio Core Platform and provides a wide range of data, editing, automation and visualization tools to put you directly in touch with your data. In Studio Geo, the user interface and its tools have been customized specifically to meet the needs of resource modelling Geologists.

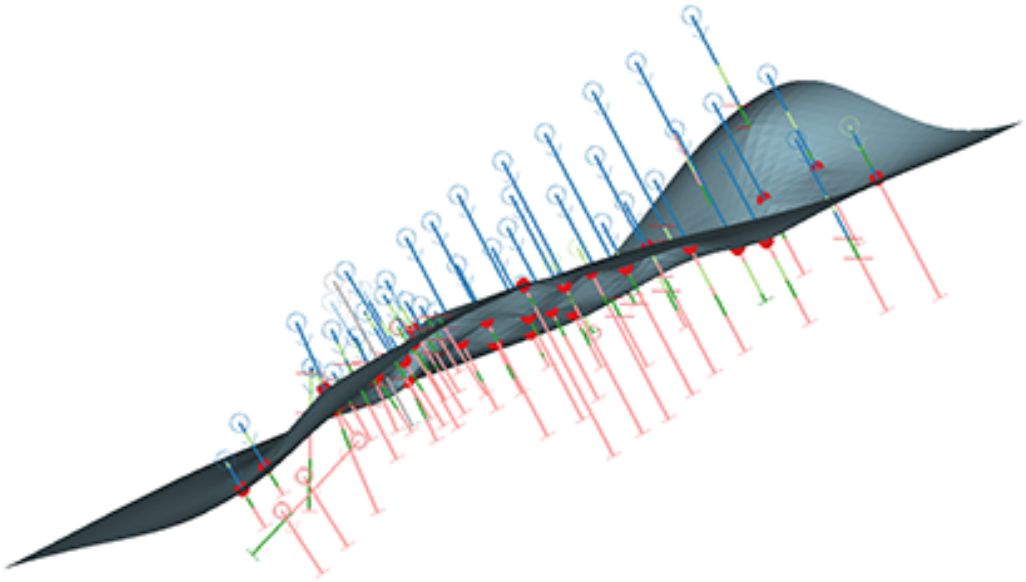
Implicit Modelling Tools for Geologists

Model Vein Surfaces



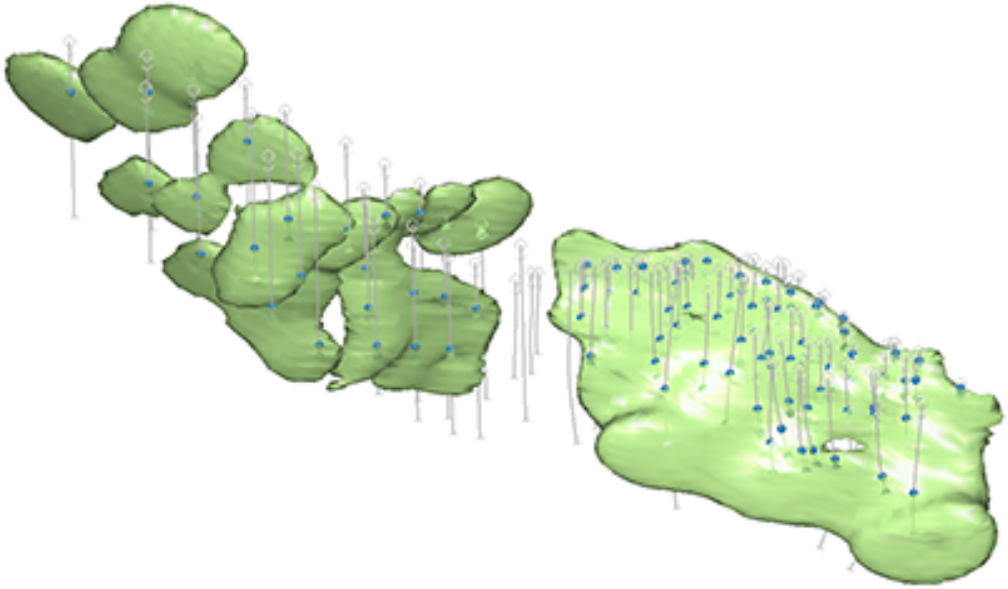
Define HW and FW using drillholes, mapping inputs or additional points. Control boundary, enforce best fit orientation, and model bifurcating veins. Specify age relationships within a Dynamic Modelling domain task. Choose which vein is offset by faults.

Model Contact Surfaces



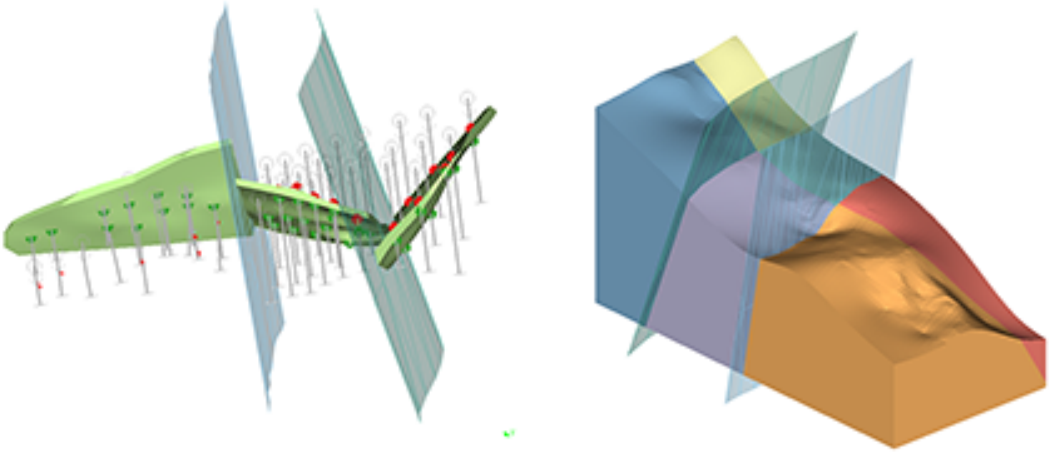
Rapidly model the lithological contact between rock types, ideal for stratigraphic modelling or modelling weathering horizons. Construct multiple surfaces within a Dynamic modelling domain task.

Model Categorical Structures & Grade Shells



Ideal for overturned and irregular units like intrusions or grade shells. Uses machine learning and Gaussian processing algorithms to build surfaces based on sample data, guided by spatially positioned ellipsoids to guide the surface generation.

Model Faults & Discontinuities



The **Model Faults** tool utilizes fault traces with varying dip and dip-direction controls to automatically construct fault sets, with complex cross cutting relationships.

Dynamic Modelling Fault Block task automatically constructs fault blocks from fault surfaces. Incorporate Faults into Vein and Contact Surface tools to offset Veins and Contact Surfaces.

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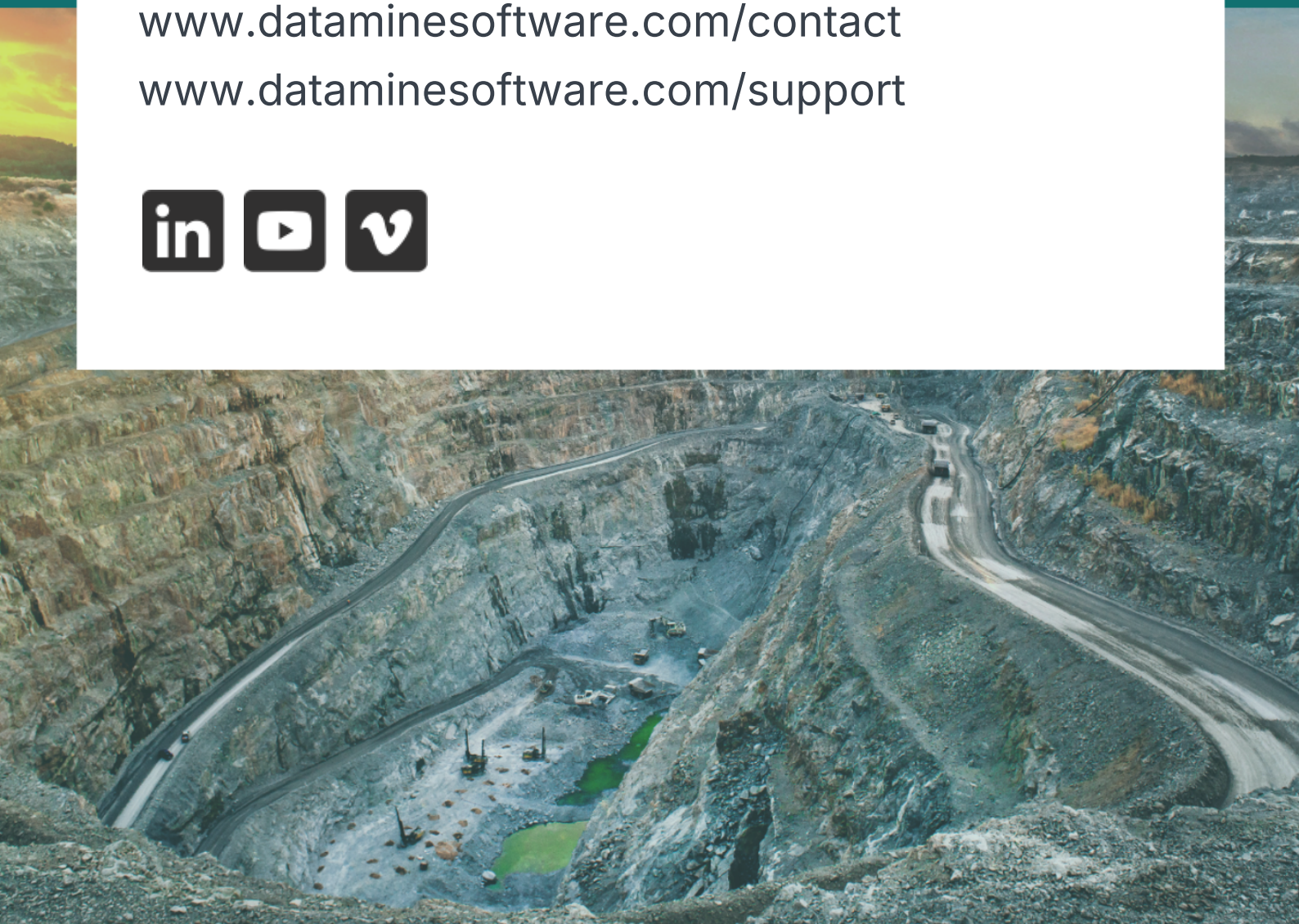
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