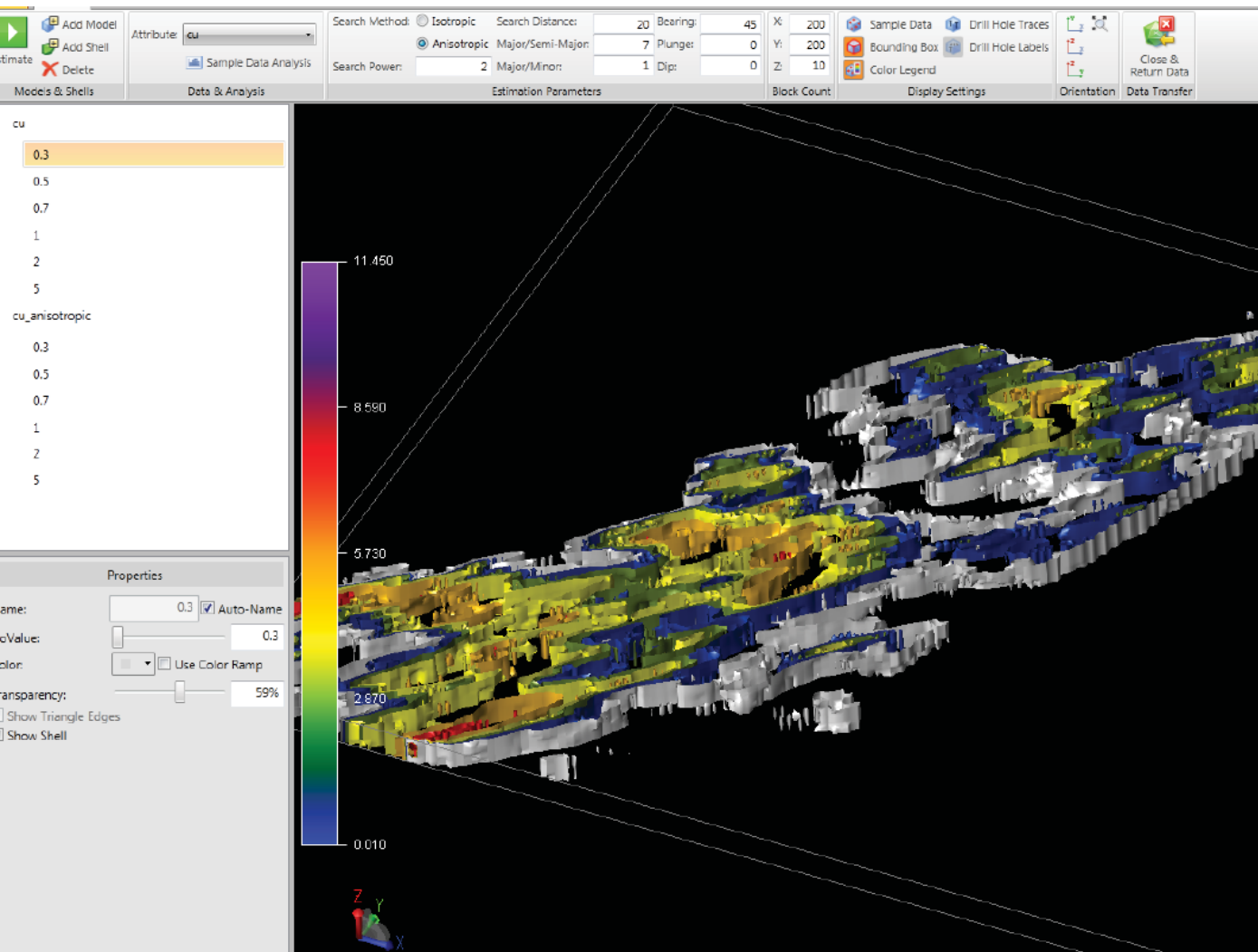


GRADE CONTROL SERVICES FOR GEOVIA SURPAC™



**GEOVIA'S
SERVICES ARE
AVAILABLE FOR
GEOLOGY,
ENGINEERING
AND OPERATIONS
PROJECTS**

GEOVIA provides comprehensive software products that span the mining value chain, along with mining expertise and services that improve productivity by streamlining workflows and establishing consistent best practices at our clients' sites. One of the most common requests we receive is for assistance with grade control, and we have found that helping to ensure the processes that define grade control are efficient and repeatable, is critical to driving profitability in our clients' operations.

ESTABLISHING MORE EFFECTIVE GRADE CONTROL: A FRAMEWORK FOR AUTOMATION AND BEST PRACTICE

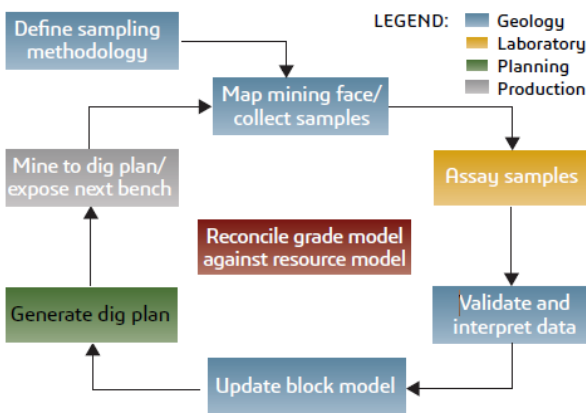
Our mining professionals have worked with Surpac clients all over the world to help them mine to plan more effectively and to drive productivity, by ensuring they have the flexibility required to get the most out of their operations. With a better grade control framework, you will have a much clearer day-to-day understanding of grade variations and improved decision support to give you more mining options.

BENEFITS OF BETTER GRADE CONTROL

- Minimized dilution and maximized ore extraction
- Improved reconciliation between predicted and actual production
- Establishment of consistency of procedures and continuity of knowledge
- Increased collaboration between geology, planning and production
- Automation results in significant time savings

HOW WE CAN HELP YOU IMPROVE GRADE CONTROL

New and improved grade control procedures can be implemented at any stage in the lifecycle of a mine. We can help you replace a homegrown system, set up a new area of the operation, or assist when you are about to start mining. Whatever your needs, we have the expertise and experience necessary to ensure you are applying best practice grade control methodology appropriate to your circumstances.



An example open pit grade control procedure. A similar procedure, with adjustments, would apply to underground mining.

Working with your team, we can ensure that there are no gaps in understanding the flow of data and information, right

from drilling of a hole through to production of a dig plan and daily report.

We can assist with:

- Standardizing and streamlining your grade control data and workflows and reporting
- Documenting procedures, responsibilities, data locations and naming conventions
- Automating your grade control workflows, including updating old Surpac macros
- Training your staff on grade control procedures

When we complete our work with you, we will leave behind a well-planned framework that works from day one, in which all your grade control procedures (including data and workflows, whether they are governed by software or manual procedures) are documented. Furthermore, the new and updated automation workflows that drive much of the overall process will be version-controlled, documented and put through user acceptance testing. We will educate your team and provide you with comprehensive, custom documentation complete with screen shots, meaning that the process will be transparent and readily understood by your staff even if they are new to the operation.

GET THE BENEFITS OF SURPAC DYNAMIC SHELLS MODULE FOR GRADE CONTROL

Dynamic Shells can be used as part of any grade control workflow as it allows the geologist to create 3D grade contours within any domain for any cut-off and for any element. In addition, it can return solid or surface models to Surpac for use as 3D constraints in the block modeling system. The advantage of using Dynamic Shells is that experimental models can be created very quickly without requiring time-consuming manual techniques. Deleterious element grade shells can be superimposed over the commodity grade shells with ease, further permitting the optimization of the grade control process.

NEED HELP WITH SPECIFIC TASKS RELATED TO GRADE CONTROL?

When you don't have the in-house expertise or time, GEOVIA experts can provide project assistance in areas including:

- Data interpretation
- Resource and block modeling, including validation and updating
- Plotting
- Definition and updating of dig plans and other plotting requirements.

FOR MORE INFORMATION, CONTACT US TODAY AT GEOVIA.SERVICES@3DS.COM

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