Customer success is multi-layered

Early access to new fault modelling tools and a supportive relationship with Maptek™ provided PSM consultants with an edge for a complex geotechnical design project.

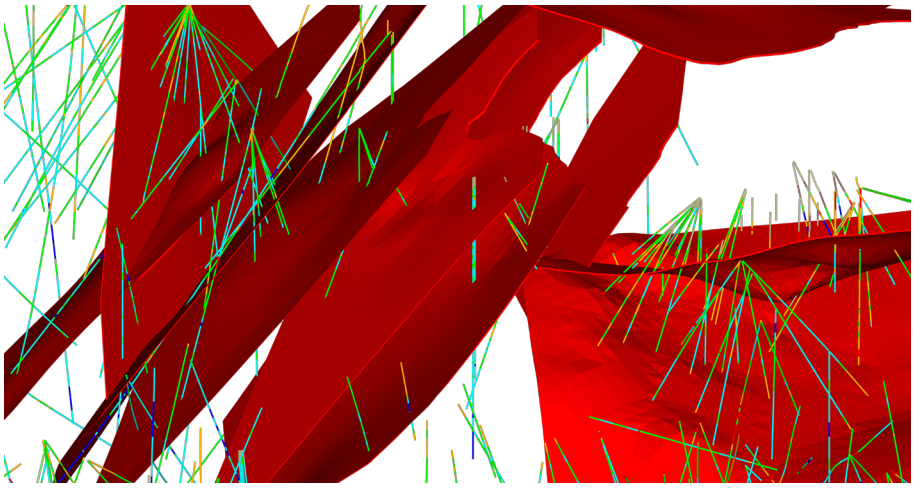
PSM is a consulting company offering specialist geotechnical and water services for mining and civil industries globally. The team recently worked on a structural modelling project for the Ok Tedi mine in Papua New Guinea, where extreme climate and complex geology contribute to a challenging environment.

Located in a remote area of PNG, above 2000 m on Mount Fubilan, in a region of high rainfall and frequent earthquakes, Ok Tedi is probably the wettest mine in the world, receiving 8 to 10 metres rainfall on average per year.

The complex geology and pit walls approaching 800 m high mean that pit slope design and geotechnical engineering are very challenging. As part of their design and operational support to Ok Tedi, PSM continually develops the various geotechnical model components including the geology, structures, hydrogeology and rock mass models – and are currently delivering an update to the overall structural model.

PSM has enjoyed a long relationship with Maptek™, and contacting Maptek for help near the beginning was integral to the success of the recent geotechnical design project.

Wide-angle overview of the Ok Tedi mine looking west



Generic screenshot of draft East Wall structures

Brendon Jones, Associate Engineering Geologist joined the consultancy four years ago and was impressed when Henry Dillon, the newly appointed Maptek Global Customer Success Manager Geosciences, presented the latest Maptek modelling tools to the PSM team earlier in 2023. With ideas on how to proceed with the Ok Tedi model, Jones contacted Dillon for guidance as the natural first step.

'It's a good relationship, and you can always rely on the support that Maptek provides, even for the smallest of questions. When we knew that we had this deliverable to produce, our first port of call was to consult with Dillon on the best way to tackle it,' Jones said.

> Maptek quickly ascertained that the in-development vein modelling tools would potentially provide the most efficient workflow and better outcomes for fault zones included in the PSM structural model.

Dillon provided a beta version of Vulcan GeologyCore with the specialist modelling tools to handle narrow veins and faulted structures. PSM instantly recognised that the Maptek approach would work.

'Early access to the modelling tools was key for us to get a take on the project, and the software workflow showed us the best way to achieve that,' Jones said.

'An indication that we were going in the right direction was when we were able to successfully integrate a specific set of mapping data.'

Value drivers for PSM included utilising all data types, ease of use and faster modelling turnaround time. Vulcan GeologyCore accepts all types of drilling and project data and models can be easily generated in a repeatable way. Visualisation is another significant advantage.

‘The workflow was efficient, reducing technical processing effort in the modelling, allowing more time to develop an understanding and interpretation of the structural geology on the ground,' Jones said.

‘Gathering all of the data at the start of a project is essential to the model development process. This translates to a comprehensive collection of information, which is subsequently collated, presented and interpreted to refine the final model.’

‘Being able to model the data, produce images, plans and sections from that, initially for peer review, and then to present to our clients in an easily communicable way, is crucial.'

Based on the reachout within PSM, Jones can see how the workflow could have a broader impact on their business, with other smaller mining projects or civil tunnelling works also requiring modelling of structures and faults.

In terms of speed to create value from the data, Jones believes that the workflow helped them deliver on time, despite the project being affected by changing priorities to accommodate mine deadlines.

‘It definitely helped us get the work done smarter and quicker and reinforced that we can rely on our relationship with Maptek.'

'In the consultancy market where time is money, the Maptek solution allowed us to be more focused and efficient.'

‘If we’re undertaking a study for a client and our team is unsure of the best tool or workflow straightaway, we know that we can go to the Maptek customer success team to help identify the tools and develop the most efficient workflow for the study.'

Ease of use of the solution is also important, especially if a project has to be handed over to someone else.

‘The software skills are easily transferable. Someone who's worked with Maptek software wouldn't have an issue switching between projects.'

'The only thing they'd have to get up to speed with is the technical aspects of the sites. There’s plenty of support available for the software through videos, webinars and the Maptek customer support team to help,’ Jones added.

Dillon agreed that the willingness of PSM to reach out quickly evolved into an ideal opportunity to demonstrate an alternative way to model complex geology.

'PSM has a culture of information sharing – perhaps around a problem they’ve had difficulty solving previously or a new one – and of seeking help. For Maptek it validated our aim to ensure customers derive value from our software,’ Dillon said.

> Jones emphasised that the relationships make the entire process enjoyable as well as worthwhile in terms of making their job easier.

‘It's great to be working with people who share the same values and want to achieve the same outcomes from their specialty,’ said Jones.

‘If you've got a problem and are unsure where to start, contact the Maptek customer success team!’

Dillon agrees, with Maptek taking pride in a culture of Walking in Customers' Shoes and working collectively to be Smarter Together.

Maptek encourages customers to follow the lead of PSM and get in touch at the start of a project to discuss the best approach for success.

Thanks to Brendon Jones
Associate Engineering Geologist, PSM

New modelling tools

Fault modelling tools coming in Vulcan GeologyCore 2023.3 provide new automation regimes for geologists and engineers.

The Fault Manager provides a structured and automated framework for building an entire fault model, and defining how all the different units interact with each other to form the final fault surfaces and fault block solids.

CAD and structural data can be used to rapidly create implicit fault surfaces.

These surfaces can then be truncated against others in a fault network by applying network relationship rules.

This enables complex faulting scenarios to be modelled in an intuitive, repeatable and auditable way.

The final fault block solids can then be used as inputs to a geology model in the Modelling Manager to enable veins and intrusives to be modelled independently within each fault block.