

# Transforming Geoscience through Integrated Workflows at Olympic Dam

*L Dowling<sup>1</sup>, JM Clark<sup>2</sup>, N Poznik<sup>3†</sup>*

1. Laura Dowling

Senior Geologist, BHP Olympic Dam, Roxby Downs SA 5725.

Email: [Laura.Dowling@bhp.com](mailto:Laura.Dowling@bhp.com)

2. Jesse Clark

AAusIMM

Senior Geologist, BHP Olympic Dam, Roxby Downs SA 5725.

Email: [Jesse.Clark@bhp.com](mailto:Jesse.Clark@bhp.com)

3. Nick Poznik

MAusIMM

Superintendent Mine Geology, BHP Olympic Dam, Roxby Downs SA 5725.

Email: [npoznik@gmail.com](mailto:npoznik@gmail.com)

<sup>†</sup>*Present address: Centre of Excellence in Ore Deposits, University of Tasmania, Private Bag 79, Hobart, Tasmania, Australia 7001*

## ABSTRACT:

Advancements in technology have allowed Mine Geologists to become highly multidisciplinary, but our fundamental role has not changed – to maximise the value of the resource. We must embrace automation and standardisation or risk diluting the effectiveness of Mine Geologists through repetitive, non-value adding tasks.

With rapid expansion underground into the Southern Mining Area, Olympic Dam's Mine Geology team required systems and processes which allowed a core focus on providing quality geological products and maximising value from data observations. This paper documents the innovative transformation of Olympic Dam's mine geology practices.

The key enabler was the Deswik™ software package, which is used across Mine Planning teams. Integrated workflows have enabled automation of repetitive tasks and reduced processing time required, increasing data quality, repeatability and transparency.

Underground geological mapping has been transformed from a paper-based system to an electronic workflow using Deswik.MDM™ and Process Maps, enabling extremely efficient data capture. Up-to-date reference data is used while mapping, including survey data, 3D wireframes and drillhole information. Collected data is immediately available to all stakeholders on return to surface, for interpretation and incorporation into geological models.

Our entire diamond drilling process from exploration targeting and detailed planning to scheduling is fully integrated through Deswik™ and available for 3D animation along with mine plans.

The changes have resulted in an estimated equivalent time saving of 4 FTEs, allowing prioritisation of high value-adding geological work including interpretation, analysis, modelling and strategic planning. The mine geology team is now working towards the first fully-integrated, live 3D geological model of Olympic Dam. Additionally, the work has enabled greater transparency, collaboration between planning teams and ability to communicate risk and opportunity.