

# The Fourth Australasian Ground Control in Mining Conference 2018

Paper Number: 9

## Geotechnical Strata Characterisation using Geophysics and its application for Coal Mine Design

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### **ABSTRACT**

Recent developments in geophysical borehole log analysis using the Geophysical Strata Rating (GSR) are now routinely used in a number Australian coal mining operations. This allows development of 3D geotechnical strata characterisation models for a range of purposes. The availability of this data provides a means to identify relationships between ground conditions and ground behaviour. As a result, several new design methods have been developed to assist in the strata management process such as roof support, longwall shield design and shaft stability assessment. This paper outlines these methods and provides examples of their application.