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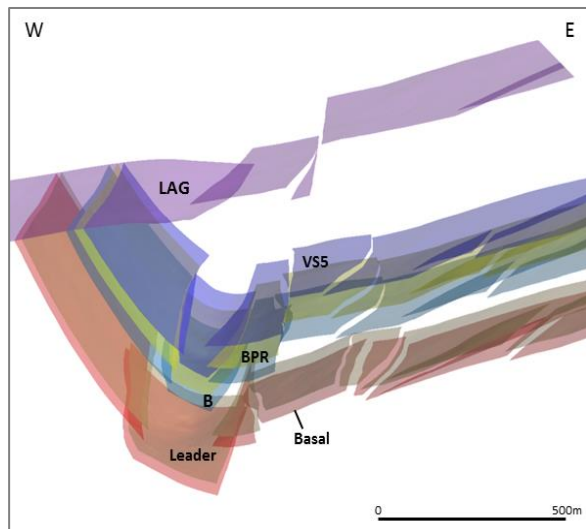
Brownfield Exploration as a Strategic Initiative to Extending the Life of Mine

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A prominent factor influencing gold exploration is the escalating unit discovery cost. As a result, lower risk Brownfield settings, where existing historical mining data and infrastructure are located in proximity to the potential target, are becoming increasingly attractive in the deep gold exploration environment [1] and particularly in extending life of mine. White Rivers Exploration (Pty) Ltd. (WRE) currently holds prospecting rights adjacent to Harmony Gold's (Harmony) structurally complex Target Mine in the Welkom Goldfield. In September 2014, WRE and Harmony entered into an Exploration Joint Venture (EJV), with the aim of assessing the resources within the EJV area and surrounding 1 km buffer zone.

Figure 1: Section of reef surfaces in Leapfrog.

Following the inception of the EJV, a vast quantity of historical hard copy data (accumulated over some 35 years) as well as some electronic data were provided by Harmony, including gold and uranium assay information for several historically mined reefs within and close to the EJV area. Once scrutinised for relevance, over 1 800 borehole logs, 300 km of geological development mapping and assay results of over 140 000 underground stope samples were manually captured. Rigorous quality control measures were applied. Subsequently, the databases were merged and analysed for consistency and comparability in preparation for geological modeling and resource estimation. The standardisation of stratigraphic nomenclature and coordinate systems, as well as resolving issues related to the use of a bullion correction factor, was particularly important.

The captured geological data were plotted in 3D space and a geological model created using Leapfrog software (Fig. 1). Individual reef surfaces, extracted from the model and unfolded prior to resource estimation, formed the framework for a JORC (2012) [2] code compliant gold and uranium resource. The resource estimates, ranging from Measured to Inferred, comprised two phases. The first considered 10 economic horizons, namely the Basal, Leader, B, BPR, A, VS5, ED, EC, EB and LAG reefs of the Central Rand Group. The second encompassed 10 EA reefs, hosted in the Van Den Heeverrust Member of the Eldorado Formation. All methodologies employed were stringently overseen and approved by external auditors and a resource of several million ounces was identified.

The calculated "discovery cost" of the EJV resource, if the data employed is valued at its real present day value, is lower than the global estimate of US\$9 [1] for Africa Brownfield projects. However, if it is

assumed that the cost of acquiring geological data had already been amortised, the “discovery cost” is an order of magnitude lower. Furthermore, the process was comparably rapid, taking about 1.5 years from inception to Mineral Resource declaration, compared to the average 3.7 years [1]. A further advantage of the resource is that it lies within easy reach of existing infrastructure and can be brought into production quickly and at relatively low cost.

References:

[1] Schodde R (2011) Recent trends in gold discovery, Minex Consulting Pty Ltd: 19pp

[2] The JORC Code (2012) Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia: 44pp

