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Modern uranium open pit grade control

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The Langer Heinrich mine resource definition work was based around radiometric logging of drill holes and this has been carried through to mining grade control. The resource model is an MIK estimation with a variance adjustment based on expected mining parameters. Due to the large block size of 50mx50m, infill to 12.5mx12.5m to allow for detailed mine planning is undertaken. This intermediate stage is designed to provide accurate information for mine planning and scheduling for a forward 12 month period and significantly reduces the risks associated with mining a highly variable and nuggety deposit.
The blast hole logging process is a one man operation using logging equipment installed on a small four wheel drive vehicle. This allows easy access to close spaced blast holes without the risk of damaging hole collars. The data is downloaded at the end of each shift and is processed to an equivalent uranium grade value using software developed on site. The resulting uranium values are then used to define grade control blocks via conditional simulation software. All material of ore grade is hauled to the ROM pad via a radiometric discriminator system to add a final level of selectivity to the mining process.

Country or International Organization

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