Diamonds

Diamonds are a very rare commodity found in both primary hard rock kimberlite pipes in Archaean cratonic settings or in more recent secondary placer deposits. Kimberlites are challenging to evaluate due to the low grade and variable distribution ('nugget effect') of diamonds within the volcanic pipe. The concentration of diamonds in placer deposits by alluvial action often proves a higher grade target, though generally containing a lower volume and quantity of stones.

Around 80% of diamonds mined annually are used for industrial purposes, such as for increasing the hardness of cutting, grinding and polishing materials. Only 20% are of sufficient size and quality to be cut and polished for jewellery.



SRK ES offers;

Experience of all types of diamond exploration, most notably having managed the large diameter resource drilling, bulk sampling and chain-of-custody for the Grib kimberlite in the Arkhangelsk region of Russia. SRK ES has also in recent years assessed and evaluated a number of potential alluvial diamond deposits in Guinea, Sierra Leone, Angola and the DRC.

Knowledge of the unique approaches and procedures required for exploration and valuation methods specific to diamond deposits; given the complex characteristics of the deposits and stones themselves, through in-house staff, the wider SRK Group and trusted expert associates.

Expertise in the locating of kimberlites hidden beneath recent sedimentary cover using geophysical methods such as magnetic, electromagnetic, gravity and radiometric surveys. SRK ES can recommend, design and implement sampling campaigns designed to identify indicator mineral dispersion patterns that can be used to vector in on primary diamond sources.

Innovation through the use of ground penetrating radar (GPR) to evaluate palaeoterraces and thicknesses of sediments in alluvial deposits and the use of petrographic and mineralogical studies to complete facies analysis within kimberlite pipes.

Kimberlite exploration is restricted by the fact that only approximately 20% of kimberlites are diamondiferous and less than 2% form economic deposits. Conventional geological mapping, geophysical surveying and core drilling can identify kimberlites and palaeochannels, but to evaluate both types of deposit, bulk sampling through pitting, large diameter drilling or even trial mining, is vital to determine the quantity, size, quality and distribution of diamonds.

SRK ES can play a key role in the early stages of target generation, exploration and initial drilling of such deposits, before passing their evaluation on to the SRK Group's resource and mining teams.

To find out more about our technical services or discuss your project specific needs, please contact us;

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