Geochemistry

Exploration geochemistry is the study of the spatial distribution of elements and minerals in rocks, soils and river sediments. Economic mineral deposits can be found, particularly in terrains with little rock outcrop, through the identification and mapping of anomalous geochemical patterns in the overlaying soils, rocks and sediments.

Geochemical surveys often permit a relatively quick and cheap way of determining whether an area has an elevated concentration of certain elements and minerals. This can be useful in eliminating non-prospective areas of an exploration licence or can aid in identifying areas of interest for more in-depth sampling and investigation.



SRK ES offers;

Experience in conducting both wide-spaced regional sampling campaigns and high density sampling grids over smaller priority areas to identify geochemical anomalies and define drill targets. SRK ES has recently completed such programmes for copper-gold mineralisation in Mauritania, rare earth elements in southern Greenland, iron ore in West Africa and gold in Sierra Leone, Liberia and Russia.

Knowledge of the numerous processes that influence the transport and deposition of different elements. Certain elements are far more mobile than others and so disperse much further from their hard rock source. Understanding the processes of weathering, alteration, erosion and redistribution allows SRK ES geologists to predict where and how far away from the concentrated source mineralisation a geochemical anomaly may extend.

Expertise in selection of the most appropriate sampling methods, sample preparation and geochemical assay techniques. Identification of indicator minerals in geochemical surveys, those minerals which are not of primary economic interest, but are associated with the objective deposit-type, can often be as useful as concentrations of the economic elements themselves.

Innovation in the use of handheld x-ray fluorescence (XRF) analysers in rapid reconnaissance sampling campaigns and reduction of sample quantities sent for more costly laboratory analysis. These instruments are an additional tool for exploration projects and SRK ES is able to advise on the limitations and, most importantly, quality control procedures that must be utilised for the completion of representative sample analysis in the field.

Geology-led interpretation of assay results using contouring and gridding in designated software programmes, alongside a detailed understanding of the relationships between elemental concentrations in different sampled materials allows SRK ES to identify real anomalies amongst background values and vector in on the most prospective mineralised bodies.

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

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