



African regolith sampling using detectORE™

Executive Summary

Regolith sampling for gold is common in tropical environments throughout the world including West Africa. Augering and pitting of lateritic weathering products is common practice in West Africa but getting timely samples analysed in remote parts of the continent is more challenging. Laboratories may be located many hundreds of kilometres away or outside of the country. Using detectORE™, analyses can be completed by technicians on site anywhere with follow up sampling the next day.

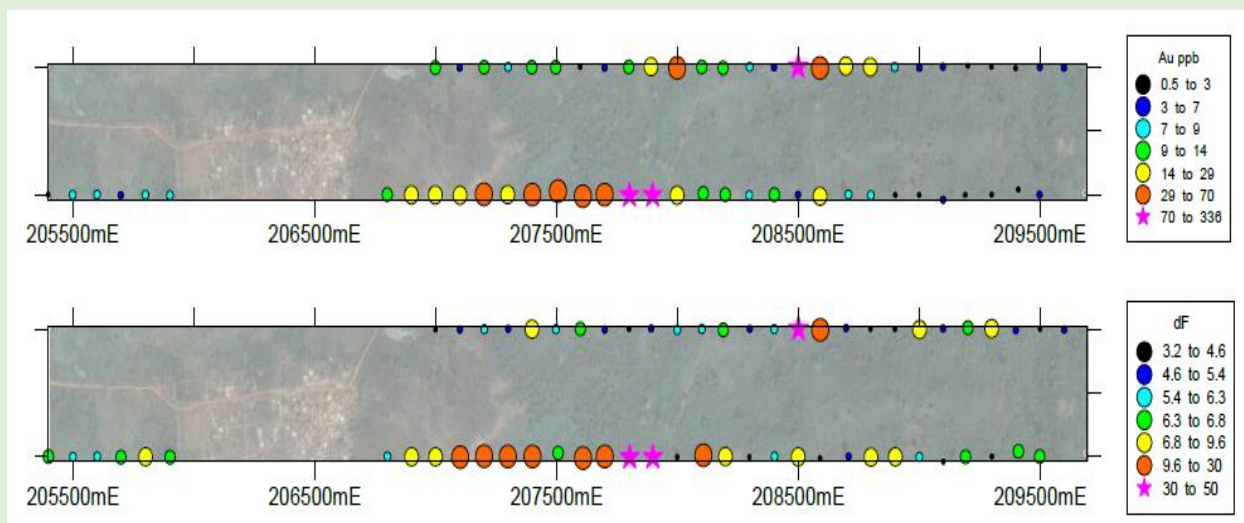
Problem

Across Africa various regolith materials may be sampled including saprolite, residual clays, ferruginous gravels and duricrust. Analysis of these materials starts by pulverising the sample followed by aqua regia or fire assay. To do this on-site a laboratory is required, but servicing these is problematic due to the need for skilled staff and expensive equipment located in camps and exploration areas. Samples are commonly collected, sorted, packed and transported away to be analysed often taking months and considerable resources to do so.

“Laboratories may be located many hundreds of kilometres away and across many jurisdictions”

Background

Samples were provided to us from West Africa to investigate the feasibility of analysing typical lateritic weathering products. Samples were augered and arrived in various forms including clays, pisoliths and duricrust. We first pulverized the samples and then put them through the detectORE process. The presence of coarse gold was indicated by the extreme variability in the gold content from replicate laboratory analysed samples. We used 250 g of regolith material and compared results with the laboratory analyses. The detectORE results were able to identify mineralised areas identical to the laboratory results.



Gold-in-regolith results using detectORE™ (dF) and aqua regia (Au ppb).

Conclusion

Transporting samples and waiting for results is an inefficient method of mineral exploration for gold. This initial case study demonstrates that detectORE™ can be used to analyse African regolith samples on site and thus save time and resources. Furthermore, infill follow up sampling would be able to better define and constrain drill targets reducing the footprint during initial drill testing.

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