

Sandstraat Eksplorasie (Pty) Ltd  
Prospecting & Mining: farm Hospital 365, Prieska

Aide Memoir EMP Report:  
Application for Permit/License

# BULK SAMPLING AND ALLUVIAL MINING ON THE FARM HOSPITAL 365, PRIESKA

## REPORT ON GEOLOGICAL AND ARCHAEOLOGICAL OBSERVA- TIONS

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A day visit in March 2003 to the prospecting operation of Sandstraat Eksplorasie (Pty) Ltd on the farm Hospital 365, some 21 km northeast of Prieska, led to the following observations:

## GEOLOGY

The farm, which lies on the right bank of the Orange River, is mainly covered by low hills, on which are extensive gravel exposures that can be linked to three terraces which rise to elevations of ca. 80m above the river level. These are, on altitudinal grounds, firmly ascribable to the Older Gravels, which compare with well-known occurrences further upstream near Kimberley, such as Nooitgedacht (at 85 m), Holpan (at 60 m) and Harrisdale (at 35 m). Geological evidence, including the presence of fossil deposits probably date from Cretaceous – Miocene times (almost 65 – 18 million years ago <sup>1, 2</sup>). Borehole samples on the farm indicate that the gravel are up to ca. 10m thick, within which there is no clear trend with depth in the proportion of sand-fine grit relative to water-abraded pebble clasts. As with other Older Gravel occurrences, the clasts tend to be of moderate size (mainly smaller than 10 cm in diameter) and those seen were dominated by subangular-subrounded banded ironstone fragments derived from upstream (Langeberg) exposures. The upper reaches of the gravels were also noted to always show post-depositional calcification, with some later pitting of its surface by small (up to a metre deep) cavities as a result of biotic activity.

## ARCHAEOLOGY

On the modern hillside surface, immediately overlying the Older Gravels, there is a uniformly thin scatter of stone age artefacts, mainly based on banded ironstone, but including some made of a grey quartzite. No formal tools were found in the examined sample of ca. 50 specimens, but the broad typology of that material does suggest that most or all of it is ascribable to the Earlier Stone Age at before 0.5 million years ago. However, the probability that the artefacts accumulated on these hillsides over a long period and have been further mixed by erosion means that this material is not likely to be of archaeological significance.

## CONCLUSIONS

1. The farm is extensively covered by Older Gravels, the primary source of alluvial diamonds in the Vaal-Orange basin.
2. The surface soils contain a low density of stone age artefacts, but these are not of any particular importance.

## REFERENCES:

1. De Wit, M.C.J., Ward, J.D. and Jacob, J.R. 1997. Diamond-bearing deposits of the Vaal-Orange River System. Field Excursion Guidebook, 6<sup>th</sup> International Conference on Fluvial Sedimentology, 2, 1 – 61.A
2. Beaumont, P.B. 1999. Northern Cape. Field Excursion Guidebook, XV International Conference of the International Union of Quaternary Research, 1999, 1 – 41.

