7.2. Liquefaction

The presence of very loose to loose Sand found in the uppermost 12mdepths would indicate that the project site is susceptible to liquefaction phenomenon. Liquefaction refers to the significant loss of strength and/or stiffness due to cyclic pore pressure generation which is generally exhibited by sands and non-plastic silts.

Liquefaction analysis was conducted using the empirical method of Seed and Idriss (1971), and assuming ground acceleration of 0.25g. Cyclic stress ratio (CSR) and cyclic resistance ratio (CRR) were computed followed by the factor of safety against liquefaction, by dividing CRR by CSR.

The results of the liquefaction study are graphically presented in the next page. It shows the liquefaction potential along the depth of the study (CRR and CSR), where the red shaded areas represent potential liquefiable zones. The factor of safety against liquefaction and the degree of settlement are also plotted with respect to the soil depth. The corresponding soil profile is then shown in the next page.

The settlement was estimated to be about 24cm based on the results of BH-1& BH-2 using the procedure developed by Ishihara and Yosemine (1990).

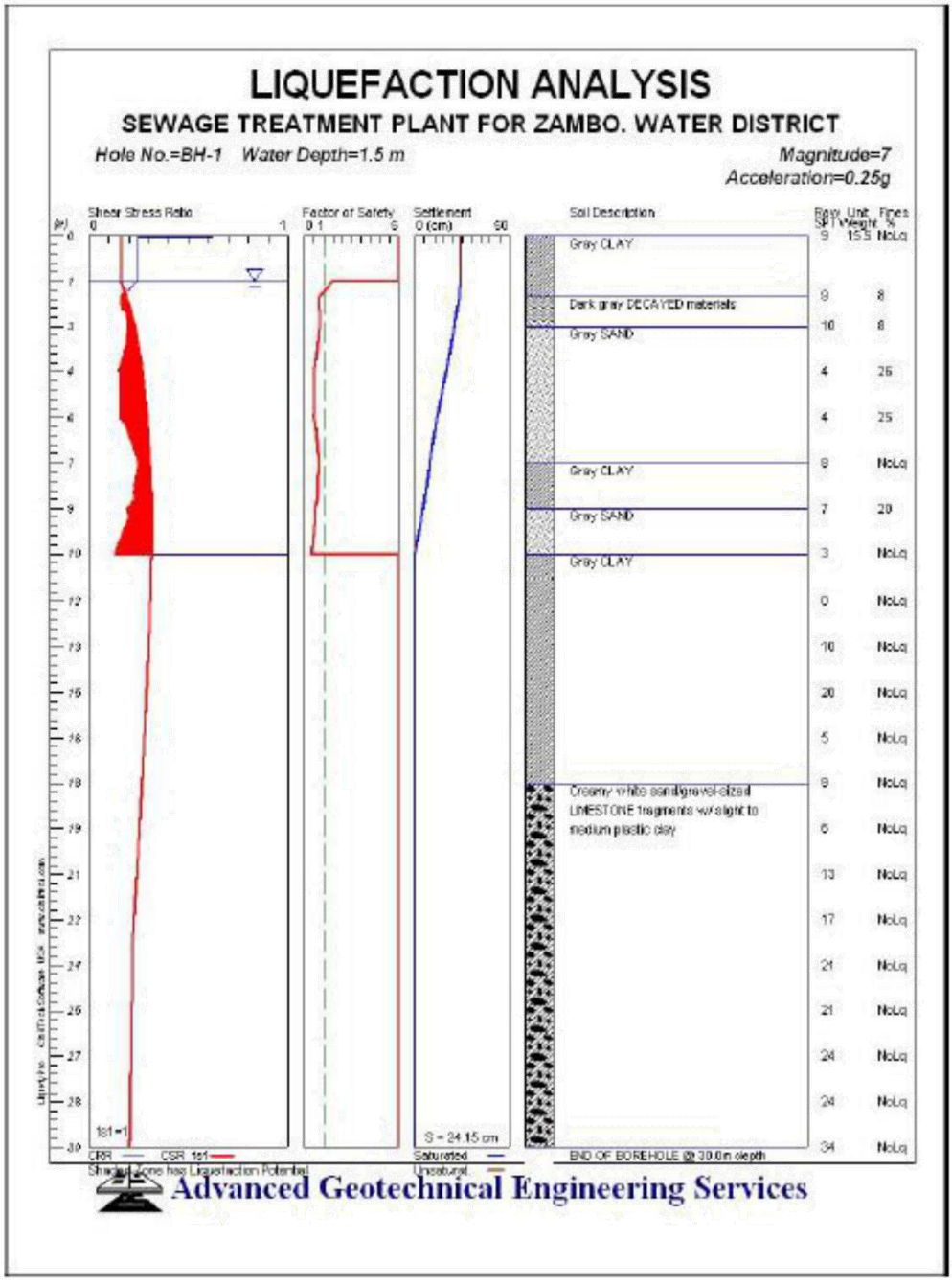

Figure 7-1. Liquefaction Analysis of BH-1

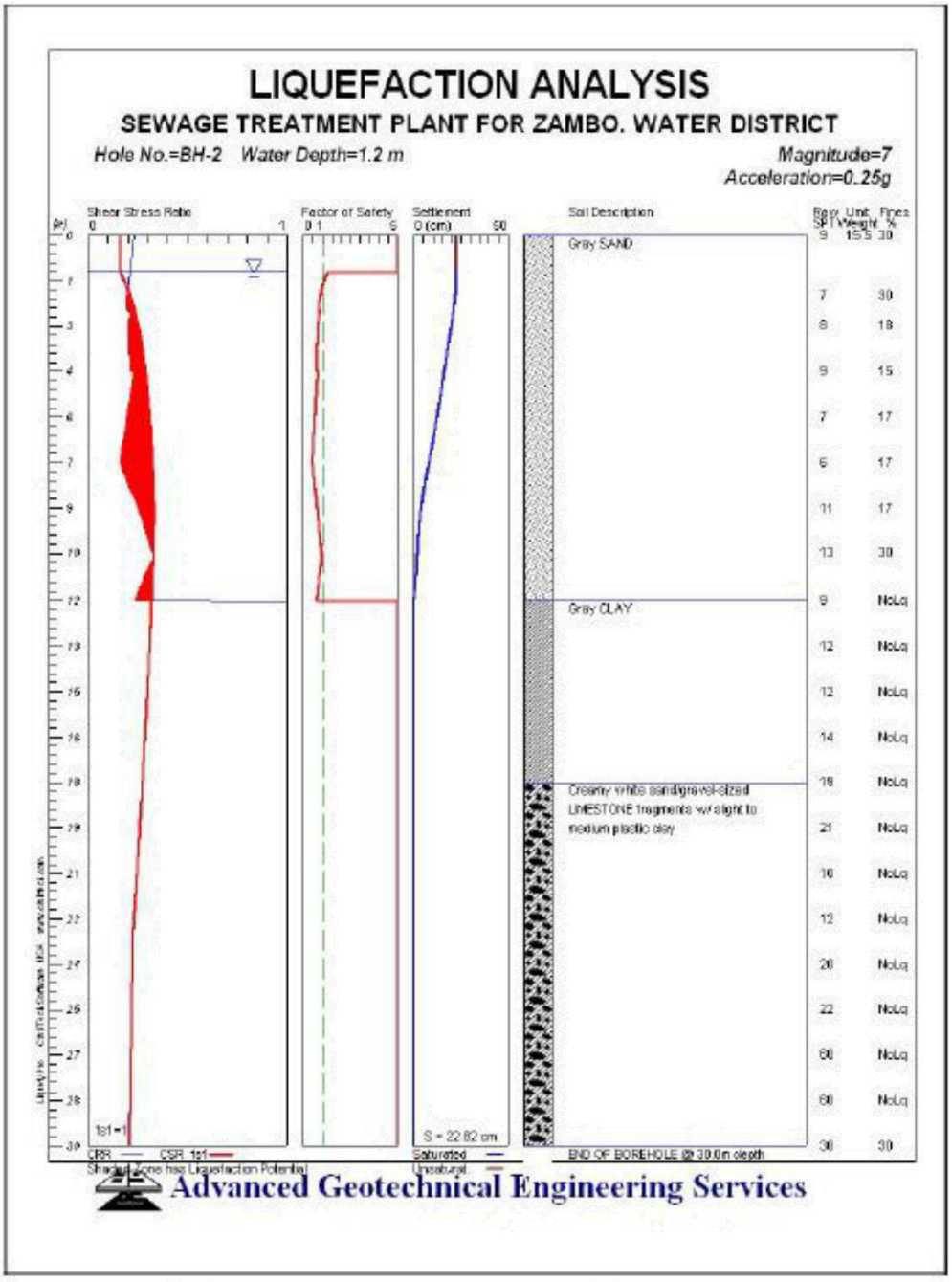

Figure 7-2. Liquefaction Analysis of BH-2