

Formula to estimate S-wave velocity in sub layer in term of overburden pressure from geo-information database

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There are many reports relating the estimation on shear wave velocity in subsoil layer. In general equation of the equation contains some parameters of the age, soil facies, N-value of the standard penetration test, depth and so on, The rigidity of soils are essentially controlled by the density or void ratio, and confining pressure. Therefore, such equation requires the effective overburden pressure. However, there are scarcely the data of the density logs. Accordingly, we construct the formula to estimate the effective overburden pressure in sites from geo-information database. A new equation presented shows well corresponding with the observed distribution of the shear wave velocity and high correlation between them, compared with the conventional equations.