PROJECT MANAGEMENT

Project Management

International

Cone Penetration Testing (CPT)
with a 200kN Stand Alone Penetrometer

Client: For Info
Location: West Africa
Period: Dry season

Type and general description

PMI operates with a 200 kN Stand Alone Penetrometer Pusher:

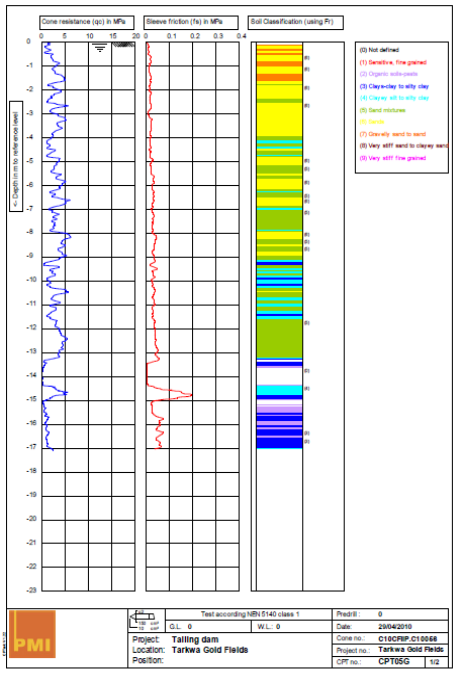
- A versatile twin ram unit with 1350 mm stroke
- 200 kN push force
- 260 kN pull force

The Penetrometer is hydraulically powered by a separate power pack:

- Driven by a Hatz Silentpack diesel engine
- Designed to be used in a wide range of applications
- The whole unit is installed on a solid steel skid

During a Cone Penetrometer Test (CPT), a Piezocone on the end of a series of rods is pushed into the ground at a constant rate of 2 cm/s. The 60° Piezocone with a cross-sectional area of 1000mm^2, equipped with a friction sleeve of the same diameter as the cone and a surface area of 1.5 x 10^4 takes continuous measurements of:

- Resistance to penetration of the cone tip (q_c)
- The frictional resistance (f_s)
- The pore water pressure (u_c), on a surface sleeve set immediately behind the cone end assembly



Characteristics

The characteristics of the CPT's and methods of interpretation of soil parameters:

- Soil classification and estimation of soil type
- Soil strength characteristics
- Soil deformability characteristics

Application

The data obtained from the CPT's may be used for the following main applications:

- To determine the soil profile and identify the soils present
- To interpolate ground conditions between control boreholes
- To evaluate the engineering parameters of the soils and to assess the bearing capacity and settlement of foundations
- To determine the bearing capacity and settlement of piled foundations

General output result

After the specific depth has been reached up to 50m or refusal, the software produces a graph indicating the cone resistance (q_c), the frictional resistance (f_s), pore water pressure (u_c) and the soil type. In addition a full Excel spreadsheet is provided of each test with the interpolated results and measurements taken at 1cm intervals.