



Monitoring Reclamation Ground Treatment Works, Abu Dhabi, U.A.E.

Project nature: Monitoring of Settlement & Pore Water Pressure.
Project: Al Raha Beach Development, Khor Al Raha and Al Bandar Seawall, Abu Dhabi, U.A.E.
Client: Soletanche Bachy – APCC Joint Venture (Contractor)
Fugro company: Fugro Middle East (United Arab Emirates)
Period: April to November 2007
Project value: € 230,000



The Al Raha Beach development is a new waterfront city designed for more 120,000 residents. Located on the beach side of the main highway leading into Abu Dhabi from Dubai, it comprises 11 separate precincts spread over 500 hectares.



Vibrating Wire Piezometer (© Slope Indicator)

Ground improvement and protection of Precinct-A was awarded to Soletanche Bachy and local Joint Venture partners, which completed 20.2 kilometers of quay walls and 20 million cubic meters of ground treatment works within a 13-month schedule.

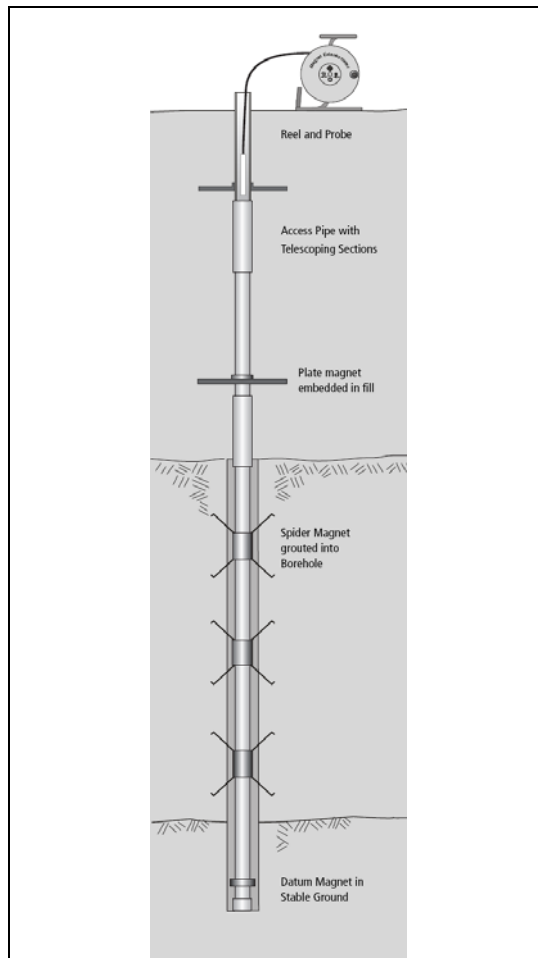
Following an initial site investigation, Fugro Middle East was sub contracted by the Joint Venture for installation and monitoring of instruments to measure settlement and changes in pore water pressure during ground treatment works.

Fugro's role was to drill and install the following scope of instrumentation;

- 285 No. Vibrating Wire Piezometers
- 92 No. Magnetic Extensometers

Fugro conducted all drilling works and installation of instruments. Monitoring was performed manually over a period of several months.

The ground conditions were assessed from borehole and CPT data, and generally consisted of 10 to 12m of fine sand fill reclamation overlying weak carbonate rock with a thin layer of clay lying approx 2 to 3m above rock head. The datum of the magnet extensometer was installed into the rock with spider magnets in the clay layer, 1m above the clay layer, and mid depth between ground level and the second spider. Three VW-piezometers were installed in a separate borehole at targeted levels both in the clay layer and overlying sand.



Schematic of Magnetic Extensometer Installation (© Slope Indicator)

