GEOSENSE

Asset Monitoring

Bishopsgate Tower, London, UK

PROJECT SUMMARY

PROJECT: Bishopsgate Tower (The Pinnacle)

DATE: 2009

CLIENT: Arab Investments

CONTRACTOR: Brookfield

SPECIALIST SUB-CONTRACTOR: SITE ENGINEERING SURVEYS LTD

CONSULTANT: Arup Geotechnics

OVERVIEW

The Pinnacle, also known as The Bishopsgate Tower, is a 288m, 63-storey skyscraper under construction in the City of London.

When completed (pencilled in for 2013), the building will reach 288m, making it the tallest in the Square Mile and second only to the Shard in stature.
Standing on the deepest piles in the whole of London that are 65.5 metres deep, the building will be clad in ventilated glazing that works like a snakeskin with every single piece of identical size reducing build cost.

Demolition of the site began in mid-2007 and was completed the following year. Geosense instrumentation was used in the monitoring of existing basement walls during demolition of the internal basement slabs (3 levels). The existing basement walls were to be retained for the new structure, however not enough information was available on their present condition, therefore extensive monitoring of the walls was proposed.

MONITORING

Due to the nature of the demolition, conventional monitoring methods was not possible, therefore a tiltmeter system was proposed and implemented. The tiltmeters showed good resolution with stable readings.

To adequately protect the system during demolition, the tiltmeters were installed into the walls through cored holes. Wiring was protected through conduit and steel covers.

PRODUCTS USED

MEMS Bussed Tilt Meters
Measure tilt in either one or two axial planes perpendicular to the surface of the base plate. The unit is intended to be permanently installed to provide long term observation with maximum resolution and sensitivity, and is conveniently designed for manual monitoring or remote data acquisition.

GeoLogger
Built around the Campbell Scientific CR800 and CR1000 control modules and offers reliable remote monitoring under demanding geotechnical conditions.

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