FUGRO LOADTEST
Osterberg Cell Technology in Qatar (since 2005)

DUBAI TOWER, WEST BAY, DOHA

This project was the first Osterberg Cell bi-directional load tests to be performed in Qatar. The Dubai Tower is expected to be an 88 storey commercial building when completed.

Osterberg Cell Pile Load Test Program Details: Four single level preliminary pile tests carried out on Ø1500 mm and Ø940 mm test piles to loads of up to 87 MN and 33 MN respectively. Two working pile tests were carried out on Ø1500 mm piles using the Osterberg Cell method and were post test grouted and included as part of the building foundation.

Consultant: Hyder Consulting Middle East
Developer: Sama Dubai (part of Dubai Holdings)

Artist rendering

AL BARJEEL TOWERS, WEST BAY, DOHA

Following on from the successful introduction of Osterberg Cell testing in Qatar, a preliminary pile testing program was developed for Al Barjeel Towers. The completed tower is a 60-storey residential building.

Osterberg Cell Pile Load Test Program Details: Five single level preliminary pile tests carried out on Ø750 mm and Ø1000 mm test piles to loads of up to 43 MN and 20 MN respectively. One Ø750 mm test was conducted as a push out test as an alternative to a tensile pull-out test with the O-cell placed at the toe of pile.

Consultant: Hyder Consulting Middle East
Developer: Al Fardan Real Estate Co. W.L.L.

CONVENTION CENTRE & TOWER, DOHA

A world class convention centre and business tower is currently under construction in Doha, adjacent to the City Centre shopping centre in West Bay. The low rise convention centre and tower, expected to be a 100-storey building is due for completion in 2012.

Osterberg Cell Pile Load Test Program Details: Two multi level and three single level preliminary pile tests carried out on Ø1500 mm and Ø1000 mm test piles to loads of up to 62 MN and 45 MN respectively. Two working pile tests were carried out on sacrificial Ø1500 mm piles using Osterberg Cell method with test loads of 54 MN and 62 MN.

Consultant: STS Consultants (now part of AECOM)
Developer: Qatari Diar Real Estate Investment Company

Artist rendering

www.fugro-loadtest.com

FUGRO LOADTEST
Osterberg Cell Technology in Qatar

WOQOD TOWER, WEST BAY, DOHA

This project is for a new corporate office for the National Fuel Company (WOQOD) of Qatar. The office building will have four basement levels of parking and 30 floors of office space.

Osterberg Cell Pile Load Test Program Details: One single level preliminary pile test carried out on a Ø1200 mm test pile to a load of 40 MN.

Consultant: Romatre Project Italian Consulting
Developer: Qatar Fuel Company

Artist rendering

BARWA FINANCIAL DISTRICT, DOHA – 2008

The Barwa Financial District is a project in the West Bay area of Doha to serve the financial sector. The Financial District will house facilities attracting regional and international banks seeking to benefit from specialized infrastructure. It has been planned to anticipate and cater to every need of those who will live and work in it, use it or visit it. A place of worship, ample parking and loading zones, green walkways, terraced restaurants, lounges and coffee shops.

Osterberg Cell Pile Load Test Program Details: Three single level preliminary pile load tests carried out on Ø1200 mm and Ø900 mm test piles to loads of up to 74 MN and 19 MN respectively. The Ø900 mm test pile was conducted as a push out test as an alternative to a tensile pull-out test with the O-cell placed at the tip of pile.

Consultant: KEO International Consultants
Developer: Qatari Diar Real Estate Investment Company

Artist rendering

QATALUM PROJECT, MESAIEED IND. CITY – 2008

The MIC has been under development since 1990 as an Industrial City to accommodate the oil, gas and heavy industries. Qatar Aluminium (Qatalum) is developing berth 8 as a jetty and seawater intake for the aluminium smelter.

Osterberg Cell Pile Load Test Program Details: Three single level preliminary pile load tests were carried out as push out tests as an alternative to tensile pull-out tests with the O-cell placed at the tip of pile on Ø1420 mm and Ø1320 mm steel cased test piles with bored cast in place concrete rock sockets to loads of up to 26 MN.

Consultant: COWI A.S.
Developer: Hydro Aluminium A.S.

Cage Installation in Progress

FUGRO LOADTEST
Osterberg Cell Technology in Qatar

NDIA METRO TERMINAL STATION, DOHA-2010

This new $7 billion metro line is designed to provide a rail link between the network in Doha city and the New Doha International Airport (NDIA) main terminal. The project included developing a 1.3 Km single track, twin bored tunnels and a 20 m deep cut-and-cover underground station. The station is expected to be completed in 2012.

Osterberg Cell Pile Load Test Program Details: Three single level working pile load tests were carried out on Ø1200 mm piles to loads of up to 14 MN. The O-cells were placed at the tip of the steel cased piles with a rock socket constructed below to provide reaction. Tensile pull-out tests were then simulated by performing an equivalent push-out test using the O-cell. Two conventional O-cell tests were also carried out in Ø1200 mm and Ø1800 mm test piles to loads of 10 MN and 15 MN, respectively.

Consultant: Mott McDonald
Commissioned by: State of Qatar

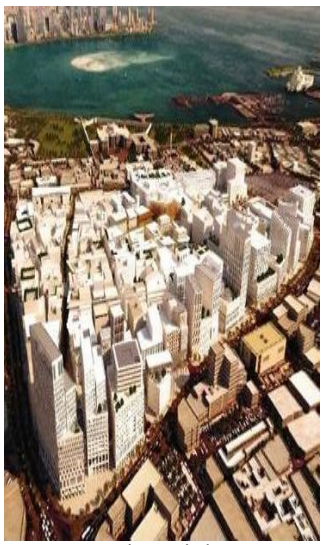
Artist rendering

HEART OF DOHA, DOHA-2010

The $5.5 billion development will cover 35 hectares and will boast 226 buildings in total, ranging 30 storeys including a national archive, theatre and museum, hotel and heritage quarter. It is adjacent to the Emiri Diwan, Qatar's seat of government and ruler's place.

Osterberg Cell Pile Load Test Program Details: Two single level working pile load tests were carried out on Ø1000mm test piles to loads of up to 6.5 MN and 7.7 MN.

Consultant: Langan International
Developer: Dohaland



Artist rendering

AL QUDS TOWER, DOHA QATAR

Al Quds Tower is a mixed-use skyscraper under construction at the corner of Ambassadors Street and Diplomatic Street in Doha, Qatar. The 495 meter tall tower will consist of 101 storeys with 5 basement levels. The foundations were constructed in 2009 and the tower is expected to be completed in 2014.

Osterberg Cell Pile Load Test Program Details: Three single level preliminary pile load tests were carried out on Ø1500 mm and ø1200 mm test piles to loads of up to 70 MN and 51 MN, respectively. Four single level working pile load tests were also carried out on Ø1500 mm and Ø1200 mm test piles to loads up to 35 MN and 20 MN. Preliminary test pile depths extended to nearly 50 meters. After optimizing the pile design, based on the results of the preliminary tests, the resulting working piles were constructed to approximately 32 m to 41 m.

Consultant: Hyder Consulting Middle East
Architect: Arab Engineering Bureau

Artist rendering

FUGRO LOADTEST
Osterberg Cell Technology in Qatar

LOCATION OF SOME OF THE OSTERBERG CELL LOAD TESTS IN DOHA, QATAR

www.fugro-loadtest.com