

Vibro Compaction for Universal Terminal

Jurong Island, Singapore

Keller completed 200,000m² of ground improvement up to 35m deep, all within 6 months time.



The project

Jurong Island is a 3,200 hectare man-made island formed, joining several small islands through land reclamation. Hin Leong Trading, of Singapore, developed an oil storage terminal at Banyan Logis Park in Jurong Island. The Universal Terminal, one of the world's largest and Asia's biggest independent oil storage facility, consists of 73 tanks, ranging in diameter from 13.6 m up to 76.8 m and up to 22.3 m high. The 73 tanks are divided into 12 tank farms. It also includes valve manifolds, pump stations and other facilities.

The challenge

The area was made up of 20 m to 35 m of loose to medium dense reclaimed sand fill underlain by the stiff Jurong formation. Keller designed and built a system that ensured settlements were within allowable limits and adequate bearing capacity for stability.

The solution

Keller carried out Vibro compaction works using both single and twin Vibro compaction rigs. Approximately 200,000 square meters were treated including areas where tanks, manifolds and pump stations were constructed. The work was completed in 6 months.

Project facts

Owner(s)

Hin Leong Trading Pte Ltd Singapore

Keller business unit(s)

Keller ASEAN

Main contractor(s)

Rotary Engineering Limited

Solutions

Bearing capacity / settlement control

Markets

Industrial

Techniques

Vibro compaction

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