

YARD UPGRADE WORKS AT BIEN DONG 1

VUNG TAU CITY, VIETNAM



Key achievements

- Keller carried out Vibro replacement works without disturbance to the on-going operations in the yard.
- Our proposed ground improvement solution was more environmentally friendly compared to the initial plan of removal and replacing of soft soil reinforced within geo-cell.

The project

Bieng Dong 1 project involved the construction of one of the largest oil rigs in Vietnam. The foundation geotechnical requirements within the yard included a bearing capacity of up to 500kPa (heavy service crane) and limiting settlements during operation.

The challenge

The soil on site comprises of about 1m of well compacted sandy gravel, followed by up to 1.5 m of medium dense silty sand and another 10 m of soft marine clay. This is underlain by firm to stiff sandy clay. The site presented a number of challenges including space constraints and operating nearby to structures.

The solution

Keller designed and built a ground improvement solution using both the wet top feed and dry bottom feed Vibro Replacement technique. The dry bottom method uses Keller's specialized equipment that requires lesser operating space and no environmental impact.

A total area of 28,000 m² was successfully completed in 7 months.

Stone columns method to avoid huge quantity of spoil to be disposed outside if we do soil replacement

Mr. Pham Xuan Thinh, Deputy Manager, Construction Dept,
PTSC MC

Application

Ground improvement

Technique

Vibro Replacement

Market

Infrastructure –Port & Harbour

Client

Bien Dong OPC.Vietnam

Main contractor

PTSC Mechanical & Construction

Contract Value

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Keller business unit (s)

Keller ASEAN