

# Concrete Slab-on-ground Tank Re-levelled

## INDUSTRY

Industrial

## STRUCTURE

Tank farm

## PROBLEM

Earthquake remediation

## LOCATION

Christchurch, New Zealand

## DURATION / YEAR

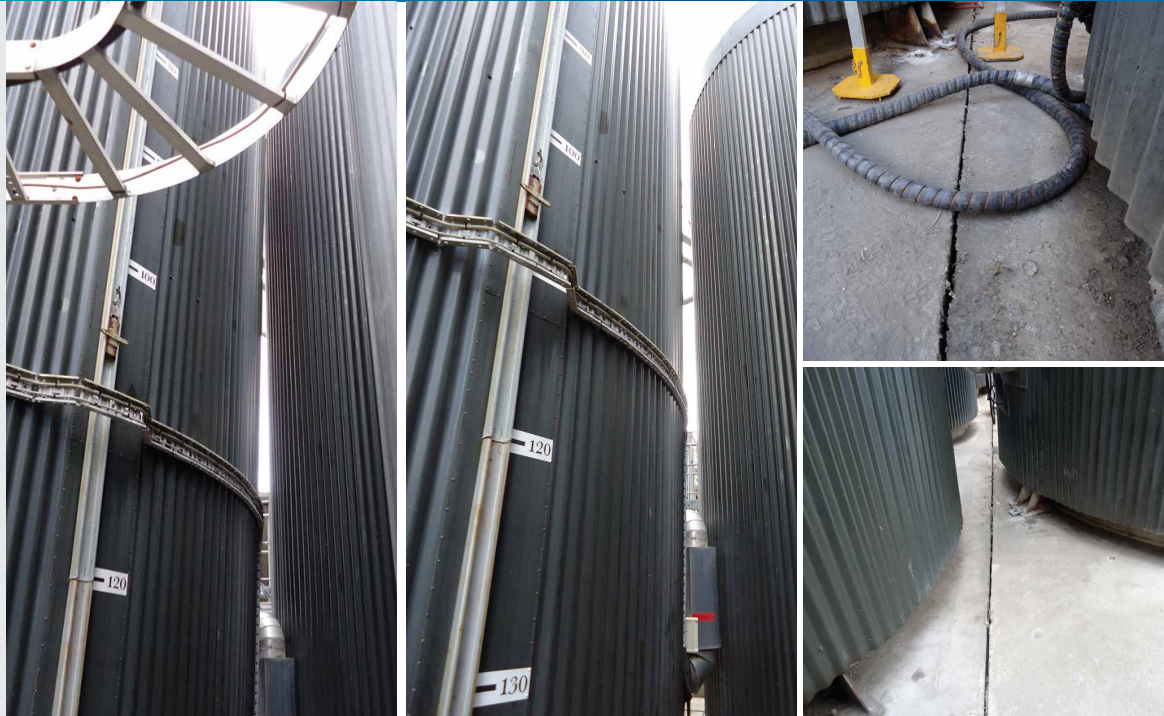
1 day / 2012

## TECHNOLOGY

Uretek Slab Lifting &  
Uretek Deep Injection

## BUSINESS UNIT

Mainmark New Zealand



## Summary

Uretek Deep-Injection foundation treatment was used to raise and re-level slab-on-ground bitumen tanks at a tank farm in Lyttleton, near Christchurch. This was required to rectify earthquake damage.

## Objectives

With a total floor area of approximately 64m<sup>2</sup> requiring correction, the tank feet settlement was up to 95mm and the slab settlement was also up to 95mm.

## Solution

The requirement was to Deep-Inject compaction grout directly beneath the concrete slab of the affected structure to improve the bearing capacity of any poorly compacted soils, minimise the potential for further settlement, and lift the structure back as close to level as practical.

Uretek Deep-Injection was applied at 12 locations at 1200mm to 1500mm centres, keeping well down under the external tank walls to minimise risk of further cracking. The correction required just one day.

The site work was completed promptly, and was efficient, working within the confined spaces between the bitumen tanks. Deep-Injection is not rigid and therefore did not transfer the load directly to a different stratum of soil and minimal extra weight was imposed on already stressed ground following correction.

The sunken concrete slabs and the tanks were raised and re-levelled by Uretek Slab-Lifting, with the Deep-Injection increasing the bearing capacity of the sub-grade soil.

The team worked closely with the client's engineers to document this work and complete the work according to the engineer's specifications.

Above, left: Tanks leaning together before re-levelling. Above, middle: The tanks precisely vertical after the re-levelling. Above right: The slabs before and after re-levelling.