



## SITE REPORT



**TERRA-MIX**

CONSTRUCTED: DECEMBER 2007  
PROJECT: NEW CONSTRUCTION HALL 13  
OWNER: NUCLEAR ENGINEERING SEIBERSDORF GMBH.  
GEOTECHNICS: GEOTECHNIK ADAM ZT GMBH.  
AREA: 920 m<sup>2</sup>

## Job Definition:

The nuclear Engineering Seibersdorf GmbH collects all in Austria accumulating radio-active waste materials (i.e. of medical origin) which are re-conditioned and temporarily stored until final deposition.

In accordance with a new EU requirement it was found necessary to provide additional storage space.

An account of the low density of the lower quaternary gravel deposit it was found necessary to improve the bearing capacity of the soil below the underside of the foundation. The following alternative methods of soil improvement were proposed:

- Excavate the whole quaternary gravel and build up the excavation in dense layers of soil to the underside of the foundation
- Vibro compaction without or with stone columns
- Impact compaction

## Solution:

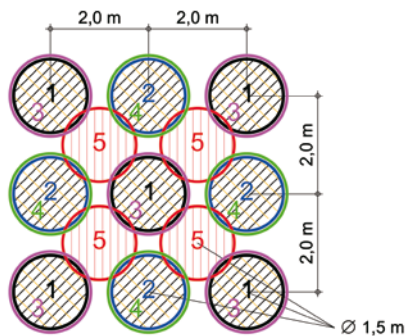
For economic reasons and technical equivalence it was decided to use the low-resource system of Rapid Impact Compaction by **TERRA-MIX**. After constructing a trial area for the purpose of calibration the exact layout and number of compaction passes was established jointly with the geotechnical engineer (**GEO-TECHNIK ADAM ZT GmbH**).

### Working steps:

- ①②... 1. Transition filling in
- ③④... 2. Transition filling in
- ⑤... Finish filling in
- Drum compaction

### Compaction parameter

- Height of drop: 1,0 m  
 Stop codes:  
 1.) Crater depth = < 80cm  
 2.) Number of impacts (blows) = < 50  
 3.) depth/impact = < 10cm



## Vibrations:

Special attention was given to the vibrations occurring during the rapid impact compaction as there was only a distance of 6m to the storage hall nr.12 alongside the working area which contained the drums filled with radio-active waste. Therefore vibrating velocity measurements were made during the entire compaction work and hall nr.12 was carefully observed during the work.



## Results:

The Rapid Impact Compaction achieved a uniformity of the soil parameters and an anticipation of the settlements. The vibrations could be kept below the limit values and there was no danger to the storage hall nr. 12.



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WE COMPACT SOILS .....

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