CROSS Safety Report Management System

CROSS Safety Report

Piling platform failure

Report ID: 271

Published: 1 January 2012

Region: CROSS-UK

This report is over 2 years old

Overview

While back screwing an auger, the ground began to fail under the foot of the rig causing it to sink forwards and collapse.

Key Learning Outcomes

For construction professionals:

- Piling platforms should be designed within the specifications recommended by the Federation of Piling Specialists (FPS)
- Ground conditions should be checked by a qualified and competent engineer prior to installation to ensure that an adequate foundation is provided for the platform
- The platform should be maintained and remediated to platform design level where necessary for the life span of the piling activities
- Ensure that the design is signed off by the independent checker after maintenance of the platform and a certificate issued to the piling team prior to the installing and operating the rig on the new platform

Full Report

A piling contractor was installing 600mm diameter continuous flight auger (CFA) piles to depths of around 26m. Whilst drilling one of the piles, there was a concrete blockage, so the auger was back screwed out of the bore to enable the extension pole to be removed. As the auger was back screwed, the ground began to fail under the foot of the rig causing it to sink forwards towards the sheet piled wall, says a reporter.

The operator tried to recover the rig by tracking back and then drilling into the ground, but this was unsuccessful. The piling platform failed under the front right hand side track and the mast folded over the sheet piled wall, coming to rest on a large spoil heap.

Fortunately, there were no injuries but this incident had serious potential for harm and financial loss.

What happened?

- The piling platform was a maximum depth of approximately 300mm instead of a minimum required depth of 600mm in the area the rig sank
- Crushed material used to construct the piling platform was not tested by a UKAS laboratory to certify that it met the specification of the piling platform design
- The platform material contained a high fine content along with crushed brick and timber
- The rig back screwed out of the pile when it was evident that there was a concrete blockage
- This was the third pile over the duration of the contract where a blockage occurred and back screwing was required

Lessons to be learned to prevent such incidents:

- Ensure that all piling platforms are designed within the specifications recommended by the Federation of Piling Specialists (FPS)
- Ensure ground conditions are checked by a qualified and competent engineer prior to installation to ensure that an adequate foundation is provided for the platform
- The platform should be maintained and remediated to platform design level where necessary for the life span of the piling activities
- Ensure that the design is signed off by the independent checker after maintenance

of the platform and a certificate issued to the piling team prior to the installing and operating the rig on the new platform

Expert Panel Comments

There are no Expert Panel comments on this report. The Expert Panels are only asked to comment on selected reports. These are normally reports where there is an opportunity for them to help you understand what can be learned from the report.

Categories this page belongs to

Follow the links below to see more content on the same category

Safety area

Structural safety

Project or lifecycle stage

Construction

Construction

Construction: quality management
Construction: quality assurance
Construction: quality control
Construction: independent inspections

Elements & systems

Foundations
Piled foundations

Temporary works

Temporary works
Temporary works: geotechnical

Content type

CROSS Safety Report