

ACCIDENT ALERT

Piling Rig Injury — Track Machine (Caterpillar type — articulated steel-band tracks)

The Situation

On a construction site a piling company was setting up a Soiltec R12C piling rig to bore foundation piles. The machine moves on two articulated steel-band tracks.

The location on the site where the pile was to be bored was on a medium incline requiring the rear of the machine to be sitting on a timber raft to level the tracks.

When aligning the rig the screwing action drove the track chain out of alignment on the track rollers just when there was a full load on the drive sprocket.

The Injury

A fragment of steel broke off a sprocket tooth and flew out from the inside of the track striking a worker 8-9 metres from the machine. The fragment of steel embedded in the worker's leg and surgery was required to remove it.

Inspection

An inspection of the machine revealed almost all of the teeth on the walking drive sprocket were chipped on the inside indicating possible misalignment of the sprocket to the chain drive. There also appeared to be hydraulic fluid present around the inside of the hub and the inside of the sprocket indicating a slight leak.

This incident was considered rare given the many thousands of hours machines of this type operate. It was not considered in the employer's hazard identification programme.

Improvement Required

The improvement required was to install a steel shroud over the lower drive sprocket area where the drive train engages the tooth on the sprocket on both tracks inside and outside to prevent metal fragments if broken off from flying out.

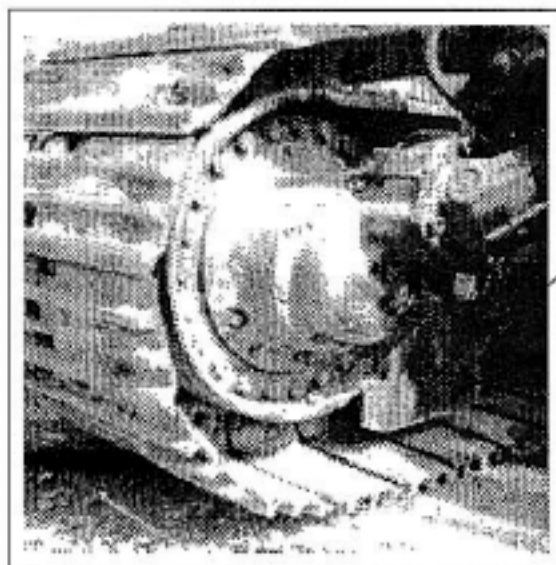
Regular cleaning of the tracks and rollers to prevent build up of earth materials causing the tracks to run off alignment, and regular inspection of drive sprockets during maintenance servicing with possible x-raying to identify metal fatigue and micro cracks was also required.

Implications

The accident caused serious injury to an employee of the piling company and indicates a potential for more serious consequences.

Should a worker or passer-by be at head height to the tracks, a piece of flying metal could easily cause fatal injuries.

There are hundreds of track machines nationally which have the potential for similar accidents and owners and persons who control these machines ought to be made aware of the hazard and methods required to control the hazard.



Shroud installed after accident

