

Uncontrolled fall of hydraulic hammer ram weight

A recent incident on a major Brisbane site has highlighted the need to make design modifications to some hydraulic impact pile driving hammers. Additionally, modifications to work practices aimed at preventing the potential for hammer ram weights to exit their casings or guide frames may also need implementation.

A failure to consider the ramifications of elevating the helmet end of the open ended hammer above horizontal by the crane operator and dogman combined with the method of slinging resulted in the ram weight falling approximately 7m in an uncontrolled manner.

As evidenced in the photograph a spreader bar was used to elevate the 'open' end attached to a block with a multiple part rope. The auxiliary (single line) was attached to a lug on the helmet. The hammer was in the process of being loaded onto a truck and elevated well into the air to avoid the hydraulic hoses fouling with surrounding equipment.

The hammer had been in service for approximately six years. The personnel using the hammer had significant industry experience and had been using the hammer for a few weeks.

Fortunately nobody was injured in this instance, although a much worse

outcome could easily have resulted in less fortunate circumstances.

Remedial measures may include designing, fabricating and fitting a mechanical locking device to prevent the ram weight from exiting the casing or guide frame or excessive uncontrolled movement.

Hydraulic and diesel hammers should be assessed for potential movement of the ram weight which may cause the weight to exit the casing, significantly alter the centre of gravity of the hammer or present a crush hazard. If a hazard exists, the ram weight should be restrained by a tensioned chain, locking pin or similar prior to handling (horizontally) or transported. A warning label could also be fitted to highlight this control measure. Care will need to be taken to ensure these locks are removed prior to hammer operation.

Experienced supervision is essential for high risk activities associated with driven piling activities.

