

HEALTH & SAFETY BULLETIN

What Happened

On 29th April Allied Exploration & Geotechnics Limited were engaged in ground investigation works at Dean Clough Lower Reservoir in Great Harwood. The investigation included hand excavation, mechanical excavation, cable percussion boring and rotary drilling/coring works. Scaffolding platforms were erected as part of the enabling works.

On the 30th April during the U100 Sliding hammer setup on the cable percussive rig an incorrect sample tube was left in the assembly. The Lead Driller attempted to remove the jammed sample tube from the U100 Sliding hammer by hanging it in the vertical position by the winch. He then used various techniques to free the sample tuck tube (a) by tapping with a hammer on the side of the casing, (b) Physically lifting the whole unit 200-300mm and then allowing it to drop, (c) pulling down on tube with a pair of pliers after applying WD40 and a combination of (a) and (c). At some point in this process the Guide Bolt has sheared at the same time the Lead Driller was pulling down with the pliers in his right hand and with his left hand around the sliding hammer. As the outer casing suddenly fell his left hand was caught between the falling outer casing and the edge/top of the casing protruding out of the ground. First aid was administered on site by a colleague, and then at Blackburn Royal Infirmary.

Causes

Inadequate maintenance

The Guide Bolt which sheared was not included in any planned maintenance. Investigations showed that whilst the U100 Sliding Hammer as a whole was inspected/Checked correctly by the Lead Drillers, the unit as a whole was never stripped down to its individual component parts to check that all parts were in good condition.

Had this been done on a regular basis (annually or even bi-annually) the guide bolt would have been identified as showing signs of wear and deterioration?



Lack of Supervision

All drilling rig operators are fully aware of the dangers of working on any tool suspended on the winch. The British Drilling Association Guidance for the Operation of Cable Percussion Rigs and Equipment, Section 7 clearly states that the sample should never be removed with the sampler suspended above the borehole. A lack of supervision at the exploratory hole also allowed for an incorrect sample tube to be inserted into the U100 Sliding Hammer housing.

Resultant Actions

1. All U100 Sliding Hammers withdrawn from service immediately and quarantined.
2. Immediate purchase of replacement U100 Sliding Hammers with different internal configuration which prevents the tool outer shell from separating from the central shaft even in the event of a bolt shearing.
3. Site Operations Management team to draw up a list of drilling tools and equipment not currently listed in the planned maintenance regime to ensure, where relevant component parts are identified for regular checking for wear and/or damage.
4. Site Operations Management team to also look at colour coding (or similar) to prevent incorrect sample tubes being inserted into incorrect tools
5. All Site Supervisors to receive in-house training on rig supervision.