

SHEQ Alert

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Inaccurate Tracker Box on Directional Drilling Machine Resulted in Gas Strike

Background

Directional drilling (DD) operations were carried out in order to lay a new watermain. DD machine was owner operated and tracker box operator had in excess of 10 years' experience. A permit to break ground had been completed and communicated to all operatives involved. All were aware of existing utility services. Drilling operations was ongoing for the previous 5 weeks. A different tracker box arrived on site the morning of a gas strike as the other tracker box was sent for routine maintenance.

A gas service connection was along the path of the route of the new watermain. This service was located from a scar on the ground and was at a depth of 700mm. The DD operator was instructed by the foreman to drill underneath this gas service at 1300mm deep so that there would be plenty clearance between both, the gas service and new watermain.

Drilling operations were ongoing and as the DD operator was pulling back with the reamer attached, the DD operator felt a change, stopped works to investigate and could smell gas. All works stopped and area cordoned off. Gas Networks were notified.

Findings

After excavating down to expose the damaged service, the drilling head and reamer was shallower than expected. After further examination the tracker box was giving off a signal depth of 1200mm while in fact the depth was 900mm. The tracking box involved in the incident was removed from site, sent for repair and maintenance check.



Control Measures.

A checklist sheet is implemented and is to be completed for every drilling 'shot'. It is signed by both the drilling operator and tracker box operator. It checks the distance the tracker box is away from the head using a measuring tape. It is an on-site calibration for the tracker box. There is two checks involved in this:

1. The tracker box is placed 3meter away from drilling head and is measured using a measuring tape.
2. A second check is carried out where the drilling head is 0.3m into the face of the pit where it is measured again. If both these reading are the same on the tracker box and measuring tape, drilling operations continues. Both, the drilling operator and tracker box operator signs off on the checklist list.

SUMMARY - ALWAYS CALIBRATE TRACKER BOX BEFORE USE