

# **Report on the metalworking remains at the Curragh Racecourse, Co. Kildare (17E0059)**

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## **Introduction**

During excavations ahead of construction at the Curragh Racecourse, Co. Kildare in 2017, an area with features dated to the Iron Age was exposed. The material related to metalworking consists of slag fragments likely resulting from the smelting of iron ore in a slag-pit furnace. It is possible that the packing material was grass or straw as opposed to the usual fragments of wood used for this purpose. No furnace remains were uncovered and the activity is suspected to have taken place nearby.

## **Description of the remains**

In Trench 4, two broadly parallel and slightly curved linear features together with two large pits were exposed (Clutterbuck et al. 2017).

Fill C403 within linear feature C406 yielded four fragments of mid-grey, rather dense slag (Fig. 1). The outer surfaces of three of the fragments are pinkish grey likely due to the influence of heat. The slag has frequent rounded cavities, some of which contained highly carbonized charcoal particles. A fragment of willow from parallel linear C407 returned a radiocarbon date of 160BC to AD30 (2 Sigma).

From fill C409 within nearby large (c. 2m diameter) pit C408, two fragments of clay-like material were recovered (Fig. 2). This material consists of small particles of greenish grey shale-like stone embedded in an orange brown clayey matrix. Multiple cavities within this clay matrix are lined with a thin film of smooth brown mud. The larger piece has a smoothed curved edge with traces of smoothing on both the upper and lower surface. The smaller piece shows smoothing on two adjoining sides.

## **Interpretation**

The predominant furnace type in Iron Age Ireland is the slag-pit furnace: a clay shaft constructed above a pit which was filled with organic material before firing (Rondelez 2018). After firing, the bloom would form at the base of the clay shaft while the slag descends into the pit replacing the organic material. When the organic material consists of wood, which is normally the case, the slag shows imprints of these fragments. In some cases, however, the packing material consisted of grass- or straw-like material which would leave very little traces in the slag. At one of the very few sites in Ireland where grass or straw packing has been positively identified, Camlin 3, Co. Tipperary, the imprints of the organic material were only visible on the upper part of the slag (Young 2011). The iron smelting at Camlin 3 was Early Medieval in date while straw or grass-packing in slag-pit furnaces in southern Scandinavia is known from the Iron Age until the Early Medieval period (Mikkelsen 2003). The slag from the Curragh Racecourse site is interpreted as the waste of a slag-pit furnace possibly pre-packed with grass- or straw like material. No features were found which would be compatible with a furnace pit.

The clay-like material appears to be a possibly disc-shaped object with a sloping edge. It is unclear if the orange brown colour of the clay matrix is the result of heat-treatment but the mud-lined hollows suggest the material consists of compacted wet clay. The smoothed edges indicate the object was man-made.

## **Conclusions**

Slag from a linear feature of likely Iron Age date is interpreted as the waste of a slag-pit furnace, although the pit of this furnace was possibly packed with a grass-like material as opposed to the usual timber fragments. The slag was deposited in a linear feature but produced elsewhere. An unfired possibly disc-shaped clay artifact from a nearby pit is not related to metalworking activities nor are the features excavated.

## Bibliography

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Figures



*Fig. 1. Slag fragments (Fill C403 of linear feature C406)*



*Fig. 2. Clay fragments (Fill 409 of pit C408)*