

# GeoArch

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Evaluation of residues from M1  
Northern Motorway (J2009):  
Donore 2 (01E0399)

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# Evaluation of residues from M1 Northern Motorway (J2009): Donore 2 (01E0399)

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## Abstract

*This site yielded two small fragments of pyrotechnological residue. Both fragments were dark glassy clinker, the slag-residue formed from melted coal-ash. They both contained shale clasts, representing impurities (coal dirt) present in the coal. Although clinker may be generated in many coal-fuelled metallurgical processes, they may also be formed in other high temperature uses of coal, and in agricultural settings commonly represent residues from the fireboxes of old agricultural steam engines ('traction engines'). They are likely to be post-medieval and probably post mid-19<sup>th</sup> century.*

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Coal is found close to the east coast on sites of later medieval age onwards, particularly as fuel for blacksmithing. Coal use spreads more widely in the 19<sup>th</sup> century after the development of mass transport, particularly the canal system.

Although clinkers are common as later post-medieval blacksmithing waste, it is more common to see them as the waste from non-metallurgical processes, particularly steam engines. In agricultural settings, the use of such steam engines ('traction engines') was widespread, particularly in the early part of the 20<sup>th</sup> century.

## Background

This report is an evaluation of archaeometallurgical residues from Donore 2 (01E0399) on the M1 Northern Motorway development excavated by E. Stafford on behalf of Irish Archaeological Consultancy Ltd.

## Evaluation of potential

These materials have no significant potential for further investigation. They are not high priority for retention.

## Methods

All materials were examined visually and using a low-powered binocular microscope where necessary. As an evaluation, the materials were not subjected to any high-magnification optical inspection not to any other form of instrumental analysis. The identifications of materials in this report are therefore necessarily limited and must be regarded as provisional.

It should be noted that after washing the overall weights of the material submitted in many cases differs significantly from those originally recorded.

## Description

The catalogue for this site is presented in Appendix 1 of this report.

Both fragments recovered from this site are of dark, vesicular, glassy, shale-bearing clinkers. They represent the fused inorganic residue from the burning of an impure coal.

## Appendix 1. Summary catalogue of material

Site: Donore 2 (01E0399)

<i>context</i>	<i>sample no</i>	<i>weight (g)</i>	<i>quantity</i>	<i>description</i>
3	20	19	1	Glassy vesicular clinker with large shale fragments
5	22	24	1	Dense glassy clinker with shale fragments and concretionary overgrowth
<i>total</i>		43		

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