

## Romans on the Don Classroom Exercise 4

### Geophysics and Farming Fields at Barnsdale Bar

At least nine surveys or excavations were carried out at Barnsdale Bar, located between Elmsall and Campsall, between 1989 and 2004. The archaeological research included geophysical surveys, air photography, and excavation.

Exercise 4 Picture 1 is a geophysical plan of part of the site. The dark lines on the plan mark where magnetic responses indicated some past disturbance to the soil. The pattern of long lines forming a rectangle in the centre of the picture with lines coming off it probably represented a set of Iron Age and Romano-British fields.

When archaeologists excavated here they opened some trenches over the lines identified on the geophysics they found a rectangular network of ditches that confirmed the presence of ancient rectangular fields. These were associated with pits, Iron Age and Romano-British pottery, iron nails, and charred wheat grains that were radiocarbon dated to the Roman period.

The archaeological evidence was for an agricultural site that comprised a series of fields. The locations of the Iron Age pottery shows that the earliest use of the site is during the late Iron Age and that more fields were created during the Roman period. This was probably in response to increased demands for produce in the Roman period. The Roman government comprised a large population who themselves were not growing their own food. These included soldiers and administrators. The Roman provincial government also benefited from increased tax revenue by encouraging exports of agricultural produce to other parts of the empire. The Romans introduced a number of new crops to Britain including many that we take for granted today – carrots, cabbage, peas, parsnips, celery and broad beans.

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### Exercise4a. Geophysics at Barnsdale Bar

Show the pupils the geophysical plan of Barnsdale Bar ([Exercise 4 Picture 1.jpg](#)).

**Ask the pupils what they can see in the picture?**

**Ask the pupils if they have heard of geophysics? Some pupils know about geophysics from Time Team on Channel 4.**

The picture shows the boundary ditches of a rectangular field with other field boundary ditches attached to it. The field would have been used to pasture animals and grow wheat in the Iron Age and Roman period.

[Exercise 4 Picture 2](#) shows a reconstruction of the fields and farm that might have been at Barnsdale Bar.

### Exercise4b. Farming Fields at Barnsdale Bar

Show the pupils the picture of the Romano-British farmer ploughing with oxen ([Exercise 4 Picture 3.jpg](#)).

**Ask the pupils what the picture represents? What is the man doing with the oxen? What is the tool that the oxen are pulling?**

The picture shows a farmer using an iron-tipped plough pulled by oxen.

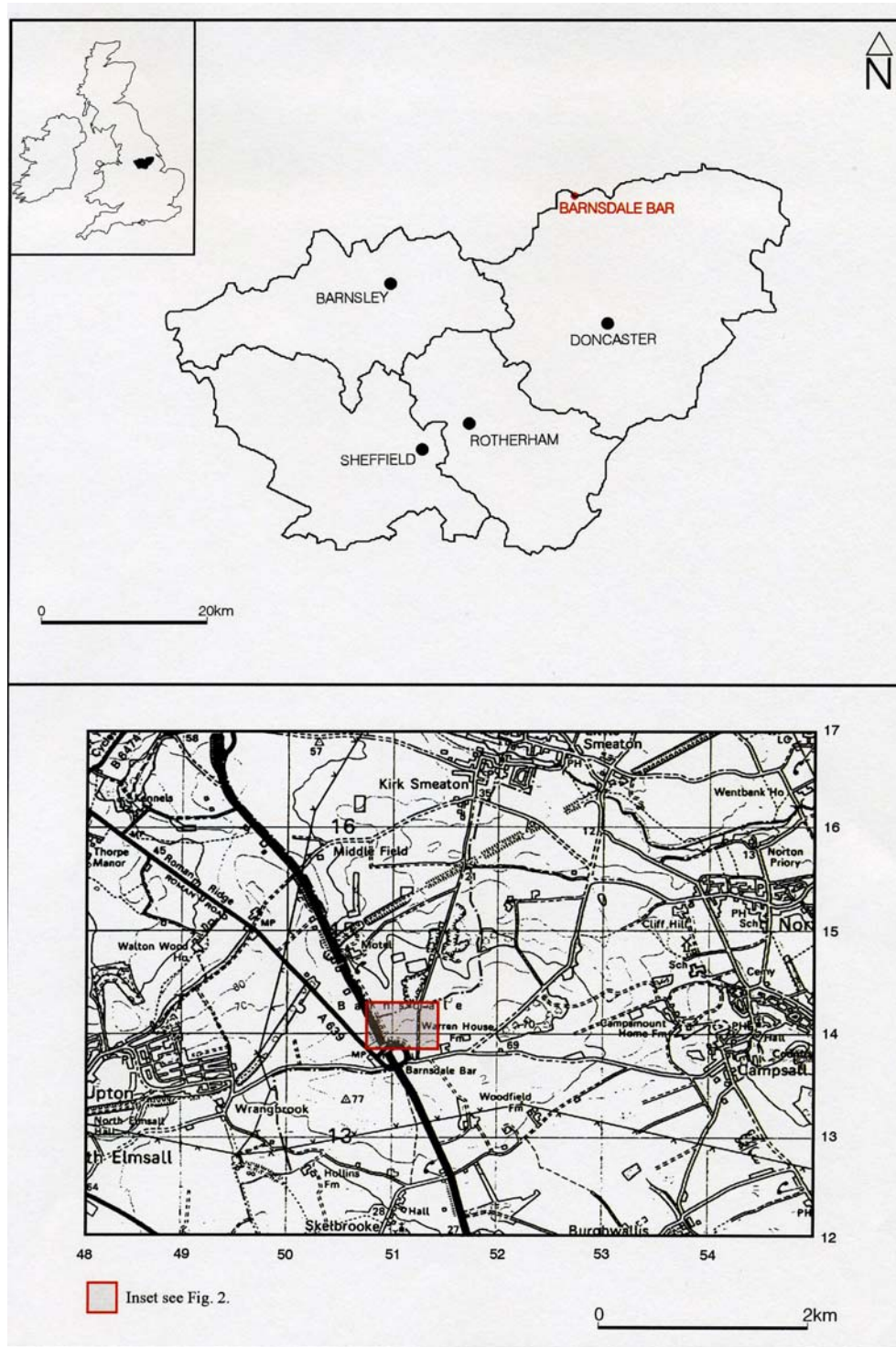
**Ask the pupils what a farmer would use today to plough fields? Which do they think is quicker? Are there any advantages to using oxen compared to a tractor?**

Not only were the oxen cheaper – no need to buy a tractor and no petrol to pay for – but the oxen also produced free fertiliser. The manure of oxen, cows and other farm animals was gathered and used as an organic fertiliser to grow better crops.

**Why were more fields created after the Romans had arrived?**

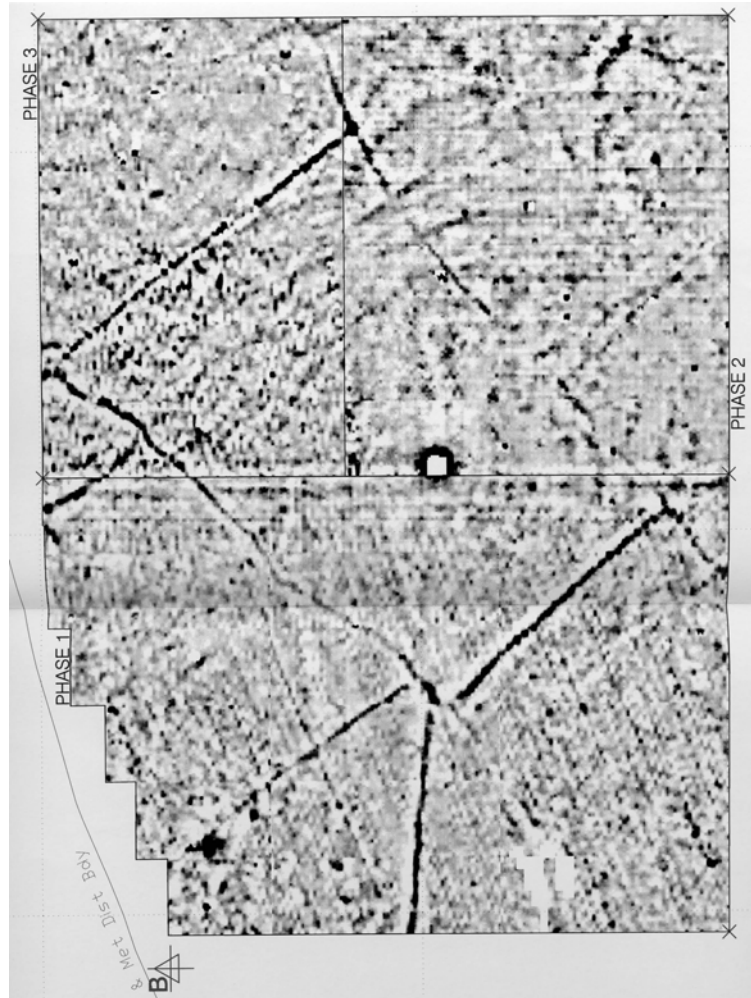
The arrival of the Romans would have meant that there were more people needing to be fed. Most of the Romans would not have been food producers so the existing farmers would have had to clear more ground for fields.

## Romans on the Don Classroom Exercise 4



Location of Barnsdale Bar

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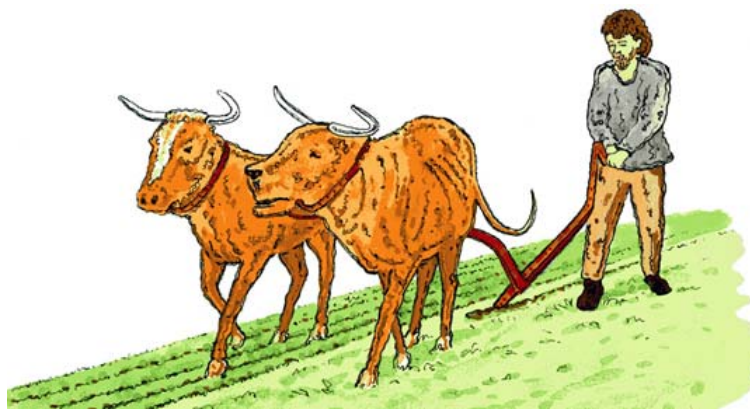


Exercise 4 Picture 1. Geophysical plan for Barnsdale Bar. The heavy black lines are locations where magnetic response showed probable ditches. The pattern of the ditches forms a rectangular field with other ditches coming off being boundaries from other fields. The white square with the dark circle around it in the centre of the picture is actually a modern building





Exercise 4 Picture 2. How the fields at Barnsdale Bar would have looked



Exercise 4 Picture 3. A Romano-British farmer ploughing a field using an iron-tipped wooden plough pulled by oxen.