

Investigation of plough-truncated features at South-west Fullarton Farm, Meigle, Perthshire

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SUMMARY

Excavations of cropmark features in the vicinity of the medieval site of Fullerton Castle revealed a series of shallow ditches, one of which contained a potsherd of Flavian origin in its primary filling. This and other finds suggest that this site has been utilized since at least the Roman period, through the improvements of the 18th century, to the present day.

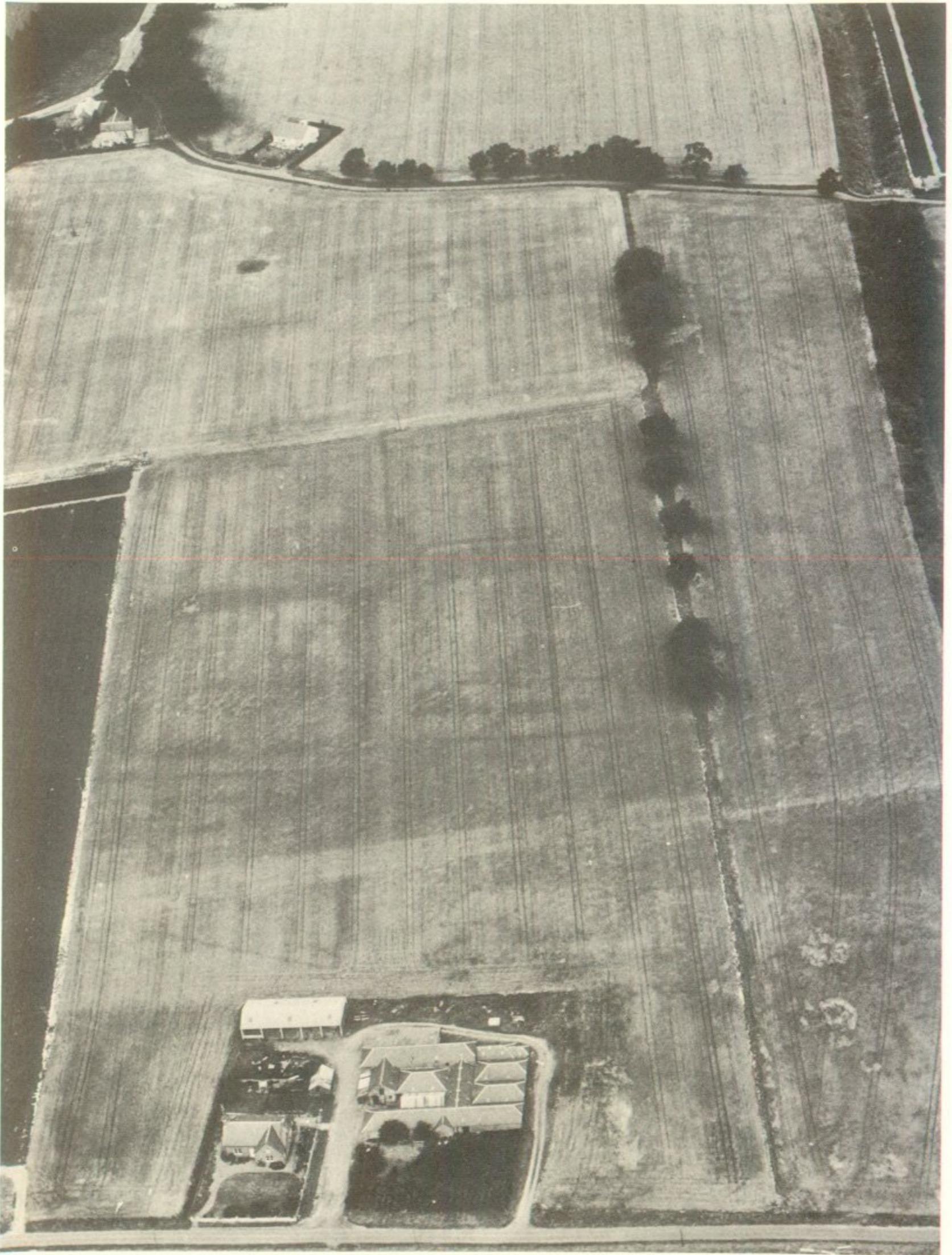
INTRODUCTION

This site on South-west Fullarton Farm about 1 km south-east of Meigle was first recorded during aerial survey by the Cambridge University Photographic Unit in June 1977. Photographs showed a series of cropmarks in a field to the west of the old railway line and north of the farm steadings (NGR NO 295 441). They consisted of two symmetrical rectangular shapes formed by a series of straight, dark and wide linear marks. Thinner and more clearly defined lines ran parallel to them to south and north. At the time of excavation the ground was under stubble and had recently been cultivated by a deep-set subsoiler. No features were visible on the ground with which the cropmarks might be associated except to the north where a large wet area was represented by the larger of two dark patches, and two small plateaux on the gently rising south-facing slope by rectangular areas of lighter colour on the photograph (illus 1). Prior to 1977 the first of two pipelines had been installed across the site.

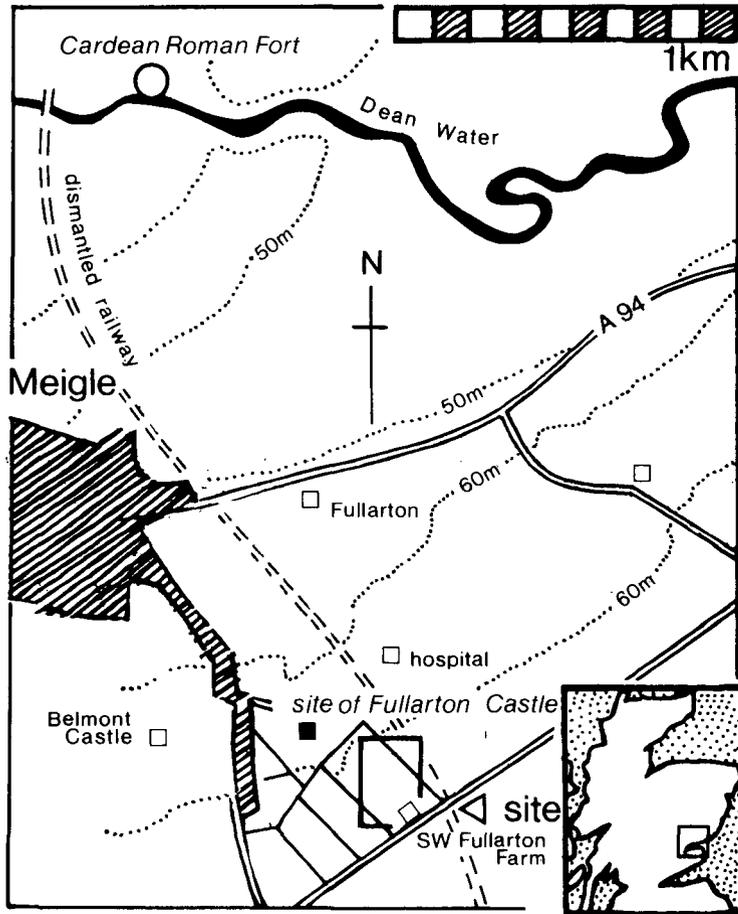
Early maps show neither field boundaries nor monuments which could be attributed to the cropmark features. The area is within 3 km of the first-century Roman camp at Cardean (NO 288 460) excavated by Dr Anne Robertson in 1968–1972 (Robertson 1975).

The site of Fullerton Castle (illus 2), supposedly erected in 1497, lies some 400 m to the north-west on top of the ridge (Mackay 1876). It is marked as a substantial building on the maps of James Knox (1850) and James Stobie (1783) although the OS 6" map of 1863 does not show it. Roy's survey of 1747 reveals Fullerton as the largest establishment of parks and enclosures between Glamis and Perth. Stone from the castle was later, presumably between 1850 and 1863, removed and used for the construction of the farmhouse and steading at Myreside (Mackay 1876, 54). The steading now called South-west Fullarton Farm was, prior to 1863, named Myreside (OS 1863). Ornamental architectural stones carved in a 16th-century style can be seen there at the present. There are otherwise no remains extant of the old structure of the castle. Fullerton (or Fullarton) Farm was formerly located where the hospital now is. The land improver and surveyor Peter May visited Belmont in 1762 and his correspondence showed that he advised on and supervised the improvement layout of the estate from about that time (Adams 1979, 159–60).

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ILLUS 1 Aerial photograph of South-west Fullarton Farm



ILLUS 2 South-west Fullarton Farm: Location map

SITE LOCATION (illus 2)

The site is situated in intensively cultivated arable land on the gentle south-facing slopes of a long flat-topped ridge (60 m OD) which runs from Langloglie steading south-westwards to Belmont Castle, parallel to the Dean Water on the north-west and with a flat and boggy shallow valley to the south before the ground rises to the slopes of the Sidlaw Hills. The slope of the south flank of the ridge continues from about 50 m north of the farm steading to the line of an old boundary (now gone) N of the field where the ground levels out at the top of the ridge. The cropmarks are located on this slope (illus 3).

SOILS

The soils are of the Forfar series, of the Forfar association. This series consists of water-sorted, poorly drained podsols in the upper sediments, where uncultivated, and derive from a till of red clay whose parent material is Upper Old Red Sandstone. The subsoil of the ridge is generally firm red boulder clay/loam which is not excessively heavy except after rain. At the foot of the slope (50 m from

the farm buildings) the clay is overlaid by sand which in the vicinity of the new barn is 1.50 m thick under the ploughsoil; much of this has derived from disturbance and washdown from the higher slopes.

Settlement and arable cultivation in the area have been continuous for a long time and so archaeological remains and artefacts are unlikely to have survived untouched or *in situ* in the top 60 cm of the soil; furthermore regular ploughing has probably cut down the levels. The recent subsoiling operation had disturbed and exposed clay drain tiles once buried to a depth of at least 50 cm. Large sandstone boulders had also been brought to the surface.

EXCAVATION

In advance of the installation of the second pipeline it was decided to make a short preliminary investigation into the nature of the cropmark features. Accordingly a small excavation was undertaken by the Central Excavation Unit of the Scottish Development Department in November 1982.

A long-arm Hymac with a 5 ft ditching bucket was used to strip topsoil from trenches laid over the projected position of each cropmark, which was exposed, sectioned and drawn; in addition two areas were opened to resolve relationships at the apparent junctions of features. Fourteen excavated sections were all that the weather would allow to be examined. A plan of the main excavated features with their numbers is shown on ill. 3 and table 1 sets out their dimensions and fill with their contexts and associations. For this purpose each ditch identified in section was given a separate number. Recuts (ie episodes of whole or partial removal of ditch sediments) were also included in the series.

In the short time allotted the excavation could only reveal a few of the plough-truncated features causing the cropmarks. These were all ditches less than 60 cm deep below the base of the A horizon except for the main gully and Ditches 1 (in section 30) and 15 which were 1 m and 90 cm deep respectively (see table 1).

Few relationships were established and these are summarized in table 2 which makes use of the admittedly rather loose medium of soil and fill characteristics to link other features which otherwise could not be related.

MAIN GULLY

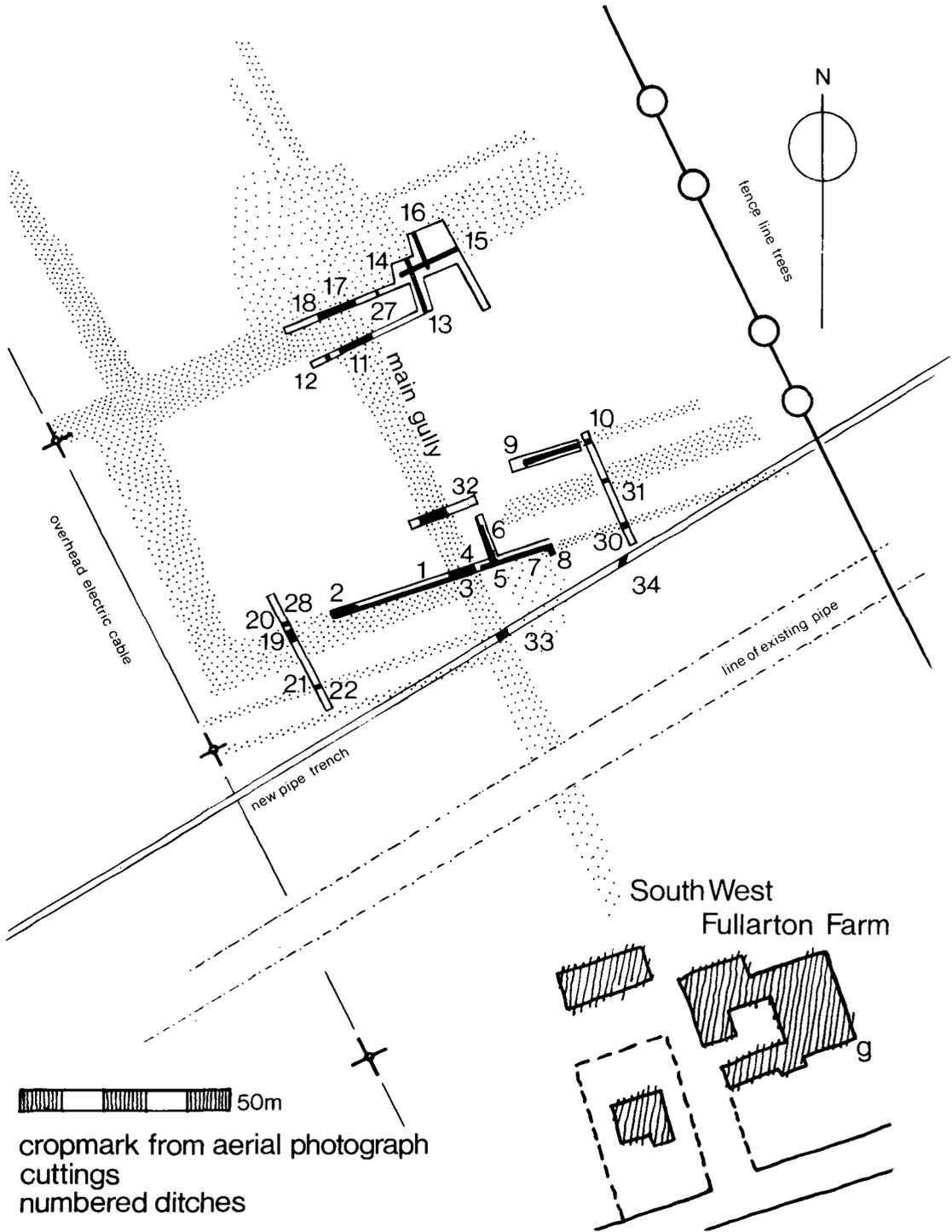
Four sections were cut across the main gully (3 etc) which runs N-S. The central section showed a deep and flat-bottomed ditch with five layers of different stages of filling and three recuts. At the northern end two cuttings were not fully emptied owing to flooding but showed a profile which was consistent with the central section. In its lower levels the northernmost cutting contained a stone-lined culvert sealed under a layer of compacted clay; this was not represented in the other two cuttings. The culvert had the same alignment as the central gully but contained a large quantity of water and so could not be fully excavated. The section of the main gully to the south was also not bottomed. Its top fill was overlaid obliquely by a ditch at the point of the intersection with Ditch 1. To the south the main gully continued on a slightly different alignment from the foot of the slope southwards but was less than half its size (33).

NORTH TRENCHES

At the north of the site an east-west ditch (Ditch 15) terminating 20 m E of the main gully was cut at right angles by Ditches 13 and 16, 2 m apart. Ditch 16 terminated in a round end 1 m beyond the south edge of Ditch 15, whereas Ditch 13 was continuous for the 15 m of the extent of the trench.

SOUTH TRENCHES

In the southern part of the site a series of six linear cropmarks lay approximately parallel to each other on an east-west alignment. The northernmost of these (10), when excavated, was found to have a shallow terminal 20 m E of the main gully. A wide cropmark next to it proved to be merely a shallow and narrow groove where exposed (31).



ILLUS 3 South-west Fullarton Farm: Plan of cuttings and numbered ditches

TABLE 1.
Measurements, fills and relationships of excavated cropmark features

| Feature | Width | Depth below topsoil | Main fill layers | Relations | Orientation | Continuation | Length exposed |
|---|---------|---------------------|--|----------------------------------|-------------|--------------|----------------------|
| Main gully and alignments | | | | | | | |
| 3 | 2.80 m | | Black/brown sandy loam | Cuts 3A | N-S | Poss 24, 33 | 2.00 m |
| 3A | 5.20 m | | Yellow/brown sandy silt and stones | Cut by 4, 3 | N-S | 25 | 2.00 m |
| 11 | 6.30 m | 1.00 m+ | Layer A | | N-S | 17, 32 | 2.00 m |
| 17 | 17.00 m | 0.80 m+ | Layer A over B over redeposited clay, grey silt | Over 18 | N-S | 11, 32 | 2.00 m |
| 18 | 0.80 m | 1.40 m+ | Large stones 0.80-0.60 m | Under 17 | N-S | | 2.00 m |
| 23 | 3.00 m | 1.10 m | Dark grey brown fine sandy loam with charcoal clay inclusions and tile drain | Cuts 25, 24 | N-S | 3 | 2.00 m |
| 24 | | 1.10 m | Dark brown loam/silt with stones | Cuts 26 Cut by 23 Under 32 | N-S | | 2.00 m |
| 25 | 8.90 m | 1.35 m | Orange brown loam/silt and stones | Cut by 23, 24, 26 | N-S | 3A | 2.00 m |
| 26 | | | Dark brown loamy clay | Cut by 24 Over 25 | N-S | | 2.00 m |
| 32 | 5.50 m | 0.40 m | Layer A | Over 23, 24, 25, 26 | N-S | | 2.00 m |
| 33 | 2.60 m | 1.00 m | Layer A over dark clay and stones | | N-S | 3A | Pipe trench section |
| Southern Group: East-West Ditch | | | | | | | |
| 1 | 2.00 m+ | 0.70 m+ | Layer A over silt and pebbles | Over 2 Cut by 3A | | 19, 5, 7, 30 | 30.00 m |
| 2 | 0.80 m | 0.50 m | Redeposited clay over grey silt | Under 1 | | 28 | 8 m from termination |
| 5 | 1.50 m | 0.50 m | Redeposited clay over black silt | Cut by 4, 6 | | 19, 1, 7, 30 | 4 m total length |
| 7 | 0.06 m+ | 0.50 m | Layer A over B | Cut by 6, 8 | | 19, 1, 5, 30 | 14 m from 6 |
| 8 | 1.50 m | | Layer A | Over 7 (?) | N-S | | 1.00 m |
| 30 | 2.70 m | 1.00 m | Layer B over black silt | | | 19, 1, 5, 7 | 2.00 m |
| 28 | 0.80 m | 0.40 m | Compact redeposited clay | | | 2 | 2.00 m |
| 19 | 5.80 m | | Layer A not excavated | Over 20 | | 1, 5, 7, 30 | 2.00 m |
| North-South Ditches | | | | | | | |
| 4 | 0.80 m | 0.40 m | Black fill over orange brown sandy clay | Cuts 3A, 5 | NW-SE | | 1.50 m |
| 6 | 1.00 m | 0.60 m | Layer A | Cuts 7, 5 | N-S | | 11 m to terminal |
| 20 | 1.00 m+ | | Possible extension of 19, not excavated | Under 19 | N-S | | 1.00 m |
| Southern Group other East-West Ditches | | | | | | | |
| 21 | 2.00 m | 0.50 m+ | Layer A not excavated | Under 22 | E-W | | 3.00 m |
| 22 | 0.30 m | 0.30 m | Dark brown loam | Over 21 | E-W | | 3.00 m |
| 31 | 0.50 m | 0.20 m | Layer B | | E-W | | 3.00 m |
| 34 | 4.00 m | 0.40 m | Layer B | | NE-SW (?) | | Section only |
| 9 | 4.90 m | 0.60 m | Layer B | | E-W | 10 | 14.30 m |
| 10 | 2.00 m | | Layer B | | E-W | 9 | 2.00 m |
| Northern group under layer A | | | | | | | |
| 13 | 1.20 m | 0.60 m | Layer B | Over 14, 15 | N-S | | 15.00 m |
| 14 | 1.20 m | 0.90 m | Red, brown and black silty layers | Under 13 | E-W | 15 | 1.20 m to terminal |
| 15 | 1.00 m | 0.75 m | Red, brown and black silty layers | Under 13, 16 | E-W | 14 | 12.00 m |
| 16 | 0.60 m | 0.40 m | Layer B | Over 15 | N-S | | 4.50 m to terminal |
| Others | | | | | | | |
| 12 | 1.20 m | 0.40 m | Layer A | | N-S | | 3.00 m |
| 27 | 0.30 m | 0.20 m | Layer A | | N-S | | 3.00 m |

Ditch 1, which was located along the foot of the slope of the site, was exposed and followed to the west for some 50 m. At 20 m W of the edge of the main gully it was overlaid by a narrow V-shaped ditch (2) with an abrupt terminal, and this ran off to the W on a slightly different alignment. Ditch 1 appeared to have been cut by the later phase of the main gully. On the east side the ditch (see 5) had been backfilled for a distance of 4 m to where it was cut by a north-south ditch (6) which came to a gradual termination 11 m N of the intersection. Subsequently Ditch 4 had been dug over the backfilled sector and the top filling of Ditch 1 at an oblique angle. Ditch 1 was joined by Ditch 8 at 30 m to the E but the relationship was not ascertained. The southernmost of these six ditches (21) was overlaid to the W by a narrow groove or recut (22) along its centre line. The continuation of this feature eastwards was seen in the new pipeline trench where it cut the main gully at 33.

The features exposed exhibited terminals and intersections but no corners or changes of direction and were laid out either up and down the slope or at right angles to it. The general alignment was also at right angles to, or parallel with the main gully. The latter, emanating from the dark zone on the aerial photograph, was parallel to the present field system. The ditches at right angles to the main gully did not drain into it (except perhaps Ditch 1), but terminated some distance before they reached it. There appears to be a continuous gap along the east side of the main gully. Ditches 34 and 4 appear to have been dug at slight angles to the general layout.

SOIL DESCRIPTIONS AND DITCH FILLS

In the main the fill material of the features listed in table 1 could be divided and described as follows.

Layer A

A red/brown stone-free clay/sand/loam of fine tilth which filled the tops of depressions in the C horizon in which most of the features were located. It formed the entire fill of Ditches 1, 6, 12, 21, 27, and one of the fill layers of the main gully.

Layer B

This material was somewhat similar to layer A but contained a high percentage of irregular angular stones, fragments of green bottle-glass and a few discrete patches of charcoal. It constituted the primary fill in the Ditches 8, 10, 13, 16, 31, 34 as well as completing the fill of all other features in which it occurred. These were in general lying under layer A which filled the depressions in which they were placed.

Table 2 shows the stratigraphic positions and grouping of the ditches and their contents relating to this generalization.

The 4 m length of Ditch 1 (5) adjacent to the east side of the main gully had been back-filled with freshly dug lumps of clay subsoil over a thick primary deposit of dark grey silt, as was also the secondary fill of Ditch 2. A layer of similar clay sealed the top of the stone culvert in the northernmost cutting across the main gully.

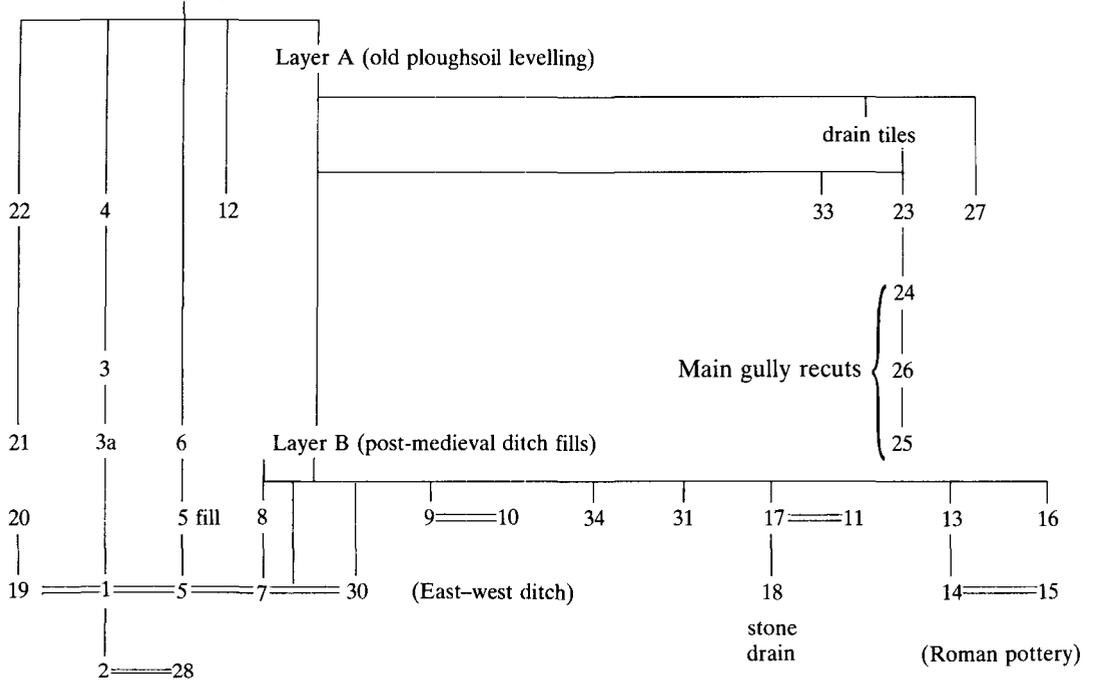
Ditches 13, 33, 34, and the latest recut of the main gully had had clay drain tiles cut into them and layer A had subsequently filled the depressions over them.

The main gully had a layer of black humic topsoil laid over its primary fill before it was recut, silted up, and was recut again and filled prior to the drain tiles being inserted. Its continuation N on the same alignment (11, 17) contained layer B in the secondary fill layers. The wide depression identified on the photograph by the dark zone in which were Ditches 13, 15, 16, 27, and the north extension of the main gully (11, 17), were found to have been levelled naturally with a thick covering of layer A.

FINDS

A considerable spread of fragments of mossy green bottle-glass was present in layer B which filled most of the ditches (table 1). There was little else. Bottle glass of this type came into common use c 1650 (Hurst Vose 1980, 130).

TABLE 2
Stratigraphic relationships of ditches
Modern Ploughsoil



- Ditch 10
find no 9 piece of strap handle and sherd of stoneware, probably 17th century. (layer B)
- Ditch 13
find no 5 glass fragments. layer 2 (=layer B)
find no 7 glass fragments: fine pottery sherd with blue rectifier in white glaze, 18th century; residual medieval sherd (pink fabric). layer 2 (=layer B)
- Ditch 15
find no 2 unglazed fragment of shoulder and neck of jar in a grey fabric with external ribbing on the neck. Probably Flavian (*cf* Jones & Webster 1968, 227, no 142. This vessel formed part of a group 'clearly Flavian/Trajanic in date and perhaps entirely Flavian'). The first-century fort at Cardean would be the nearest and most obvious source of the sherd (Wilson 1971). (layer 5)
find no 4 fragment of mossy green glass with white stain. (layer 3)
- Ditch 16
find no 10 glass fragments. (layer B)
- Ditch 17
find no 1 glass fragments. (Main Gully) (layer B)
- Ditch 23
find no 8 probably 17th-century potsherd. (Main Gully) (layer 4)
- Ditch 30
find no 11 glass fragments. (continuation of ditch 1) (layer B)
- W trench
find no 6 brown flint microlith and flint chip. (top of B horizon)
- Topsoil
find no 3 17th-century straphandle, glass fragments etc.

Other finds made during field walking produced medieval, late medieval, 17th-century domestic ware and many green bottle fragments consistent with the stratified assemblage.

INTERPRETATION

Although the word 'ditch' has been used throughout the report this does not imply a particular function and is used only descriptively.

The unabraded condition of the Roman sherd in the bottom of Ditch 15 supports the *prima facie* assumption that it is in its primary position and is evidence that the ditch was open during a time of Roman presence. One very much abraded sherd of medieval pottery from Ditch 13 was not necessarily in its primary position but it at least gives the odour of a settlement period earlier than the 17th century.

Layer B is dated by the high percentage of glass in its composition and accordingly it seems unlikely that this was deposited at a date earlier than the second half of the 17th century. The pottery evidence also indicates a 17th-century date range. It follows that the ditches containing this material were probably to some extent open at the same time. The east-west Ditch 15 to the north was closed before this.

In general the later features including the main gully had lain open as ineffective drains for a period before the clay tiles were inserted in those which ran downhill.

Layer A represents the ploughsoil from a period of continuous agricultural activity which effected a general levelling of the dips and hollows of the site before the deeper ploughing of more recent times brought up stones and mixed subsoil, the constituents of the modern topsoil. The lighter parchmarks on the photographs show where topsoil had been denuded from the higher levels. The early ploughing had to some extent truncated the tops of the ditches which lay under layer A. Modern ploughing had reduced the tops of all features in the south half of the site where layer A was no longer represented in the profile *except* within the cut of a ditch.

All ditches except two are aligned roughly on two perpendicular axes. In some cases the line of a ditch respected the line of an earlier one into which it was cut and this would imply that it might be additional to or an alteration of a system already in existence.

The artificial filling of the 4 m length of Ditch 1 would have been required for the making of a gateway on the east side of the main gully and it follows that the uninterrupted strip of land on the east side of the gully may have been used as a road, or may represent the position of a bank made from the upcast from the gully. The presence of clay subsoil in the small Ditch 2 suggests that it also had been deliberately filled. This had taken place prior to the construction of the west sector of Ditch 1.

On the OS map of 1863 the main gully is marked along the west side of a boundary line. At a point corresponding to its intersection with Ditch 1 the gully is shown as changing sides of the boundary. This may imply early boundary responsibilities of neighbouring owners as well as the junction of a field dyke at right angles which has been lost before the map was made. Evidence of a gateway through a field dyke of which Ditch 1 was the relic here would not be out of place. Ditch 1 is not acknowledged by the map for the survey of the railway in 1903.

The existing lime trees in the east boundary appear to survive from the time of the 1863 map. The line of trees terminates at the foot of the slope and also coincides with the southernmost limit of the cropmarks. It may indicate the remains of a planting scheme related to the grounds of the castle. The features causing the cropmarks on this, the south slope of the ridge, consequently may be the remains of obliterated gardens or terraces appurtenant to the castle, and which it overlooked. Whether the high concentration of broken wine bottles is

significant in this respect can only be the subject of surmise. Roy's map of 1747 shows the position of the castle approximately, as well as an enclosure layout on the same alignment as the present and it emphasizes the lines of hedgerow trees.

The field boundaries are today substantially the same as those indicated on the 1863 map, and suggest a basic, post-improvement layout which owes nothing to an earlier system.

CONCLUSION

There is evidence of settlement on this site dating from antiquity but no more than that which would be found in any other area of long occupation. The Roman potsherd and the possible medieval sherd reflect eras of occupation for which there are no specifically identifiable features. Ditch 15 was at least possibly open in its lower levels in Flavian times. Other ditches were also in part open at the same time and for a considerable period.

The stratigraphical position (see table 2) of Ditch 1 compared to Ditch 15 allows it also to be a candidate for grouping as Roman. The two ditches are 70 m apart and approximately parallel and, excluding the main gully, the deepest of all the other features.

Without further investigation there is not enough evidence to suppose that Ditch 15 or any other of the features excavated were part of a larger system or structure from the Roman period. Even without the pottery the rectangularity of some of the cropmarks could perhaps suggest that they should be considered as evidence of more extensive Roman activity, especially in view of the proximity of the fort at Cardean and other Roman establishments. The dimensions of Ditch 15 and others have some similarity to those of Roman architectural foundation slots such as those of the Cardean barracks block (Robertson 1975, 86).

The filling of the ditches containing Layer B is chronologically associated with the later stages of Fullerton Castle which appears to have been in use prior to the changes of the Improvement period.

It is difficult to avoid the conclusion that the cropmark site does not exist as an integral archaeological feature and was caused by the agglomeration of the relics of various activities over an era stretching from at least the Roman period to the present day, where in recent times land improvement, agricultural advance and progressive estate management, the construction of the railway, the removal of hedges and deep ploughing constitute the major events which have moulded the present-day landscape and confused and erased the record.

ACKNOWLEDGEMENTS

Appreciation should be expressed to the staff of the Central Excavation Unit and to the various volunteer workers who persevered with the excavation in exceptionally wet conditions. Acknowledgements and thanks are due also to G Haggarty for his examination and notes on the pottery and finds, and to Dr Breeze of the Inspectorate of Ancient Monuments, firstly, for taking the time to consider and comment on the Roman potsherd and, secondly for reading and correcting the draft of this report. Finally, I am most grateful to Lord Elphinstone for permission to excavate on the Fullarton estate and for His Lordship's enthusiastic interest and assistance and that of his factor Donald Clark.

The aerial photograph is reproduced by kind permission of the Cambridge University Aerial Photography Unit.

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This paper is published with the aid of a grant from Historic Buildings and Monuments (SDD)