

Shawell Quarry,
Cotesbach, Leicestershire
(SP 538 814)

Survey of Ridge and Furrow



June 2007

Souterrain Archaeological Services Ltd

for

Archaeologica Ltd

Souterrain

Archaeological Services Ltd



**SHAWELL QUARRY
COTESBACH, LEICESTERSHIRE
(SP 538 814)**

SURVEY OF RIDGE AND FURROW

Project: SOU07-63

June 2007

Produced for:

Archaeologica Ltd

(cover map: reproduced from the 1890 'Warwickshire: 023/NE', *Ordnance Survey 1:10,560*
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Plate 6. View of ridge and furrow and trackway (in foreground) facing NW

1. METHODOLOGY

- 1.1 The survey took place on the 8th and 9th of June, 2007 by Mercedes Planas and Martin Wilson of Souterrain Archaeological Services Ltd. The survey was done in Phase 9 of the extraction works (Fig.1) in an enclosed field northwest of Cotesbach Fields Farm, Leicestershire.
- 1.2 The survey was carried out using a Differential GPS Leica SR530 with Real Time Kinematic capabilities. A control point was set up on the site as a reference station for the GPS Rover Receiver while surveying. Data logged by the reference receiver was post-processed to obtain accurate Ordnance Survey coordinates.
- 1.3 Following a visual inspection of the Study Area, a methodology was devised to achieve a level of digital resolution appropriate to the aspect of the earthworks. The GPS survey was then carried out in three stages. The first stage comprised the collection of X, Y and Z point data at regularly-spaced intervals from the entire Study Area. After the setting out of baselines, the survey was carried out by walking traverse intervals (E-W) each of 5m separation, perpendicular to the ridge and furrows. Readings were logged every 2.5m. The second stage comprised a survey of the top, bottom and break of slope of each earthwork features in order to facilitate the drawing of hachure plans.
- 1.4 Visual inspection and discussion of characteristics preceded the survey of each earthwork component. A sketch plan of the earthworks was drawn on site and a comprehensive photographic record was made.
- 1.5 The survey observed the *Code of conduct* of the Institute of Field Archaeologists (Sept. 2002).

2. OBSERVATIONS

- 2.1 At least four phases of earthwork features were recorded within the enclosed field, comprising remnants of medieval furlong fields (ridge and furrow), drainage ditches and a raised grassed-covered track-way.

Remnant furlong fields

- 2.2 Ten selions (cultivation ridges) and their associated furrows, for drainage and access, were situated in the central part of the enclosed field. These were aligned north-south and extended for a distance of 130m (east) and 200m (west). The northern extent of each selion was curtailed by the boundary of the enclosure field, the southern extent cut by both the corridor of a 1960s pipeline and more recent quarrying beyond. The distance ridge to ridge was variable, between 6.5 and 8.5m. The straight alignment of the selions indicates that they belonged to some point in the mid-section of a furlong field, there being no indication of a wide inverted 'S' which is normally present at either end of the field which enabled ox teams to turn. Selions survived to height of 0.5m. The westernmost furrow marks the limit of the cultivated furlong field beyond which there were no features other than later field drainage.
- 2.3 A second remnant of furlong field was present in the east part of the enclosed field. This comprised seven selions aligned north-north-west/south-south-east. These were more or less regularly-spaced, a distance of c.5m ridge to ridge and surviving to a height of c.0.5m. The northern extent of each selion was curtailed by the boundary of the enclosure field, the southern extent had been cut by a ditched track-way (Fig. 3, Tr) and a drainage ditch, beyond which the ground had been disturbed by during construction of the 1960s pipeline.

- 2.4 The junction of the two furlong fields was obscured to some degree by large drainage ditches (and their upcast mounds) making it difficult to determine whether the two field remnants represent two distinct phases, but it was considered that the east remnant, being the narrower, was could be the earlier of the two.

Track-way

- 2.5 The raised track-way (Fig. 3, Tr) which enters the field from the south east is understood to have been a former bridleway and is visible on the Ordnance Survey 2nd edition map. The farmer informed the surveyors that the track had, for many years, been used to bring livestock to water at one of two large ponds formerly situated in the area of the quarry. The track had been constructed across both remnants of furlong fields, its flanking ditch cutting into the selions. It was slightly raised (c. 0.3m) in the east, yet merged with the ridges towards its western extent.

Drainage ditches

- 2.6 A series of wide drainage ditches, (Fig. 3, Dr) one of which was observed in the quarry drainage section, post-dated the furlong fields, although it was uncertain as to whether these were associated with the enclosed field.

3. DATA PROCESSING

- 3.1 Data logged by the GPS reference receiver during the survey was post-processed in Leica Geo Office Combined software to achieve sub-centimetric accuracy. GPS survey data from the rover receiver was also downloaded in Leica Geo Office.
- 3.2 Survey data was imported to Surfer 8.0 software. The Linear Interpolation method, providing exact interpolation, was selected to create the grid file from point files (XYZ). Contour maps and 3D surface models were generated from the grid files for each earthwork. Contour maps were then exported to AutoCAD for editing.

4. DATA PRESENTATION

- 4.1 The results of the survey are presented as hachure plan (Fig.3), ground contour plan (Fig.2) and Digital Terrain Models (Fig. 4) in PDF and TIFF formats.
- 4.2 The DGPS survey was carried out by Mercedes Planas MIFA who also prepared the digital output. The hachure plan was drawn by Martin Wilson MIFA.

5. PHOTOGRAPHS



Plate 1.
View of ridge and furrow
facing SE

Plate 2.
View of ridge and
furrow facing NE



Plate 3.
View of trackway
facing NW

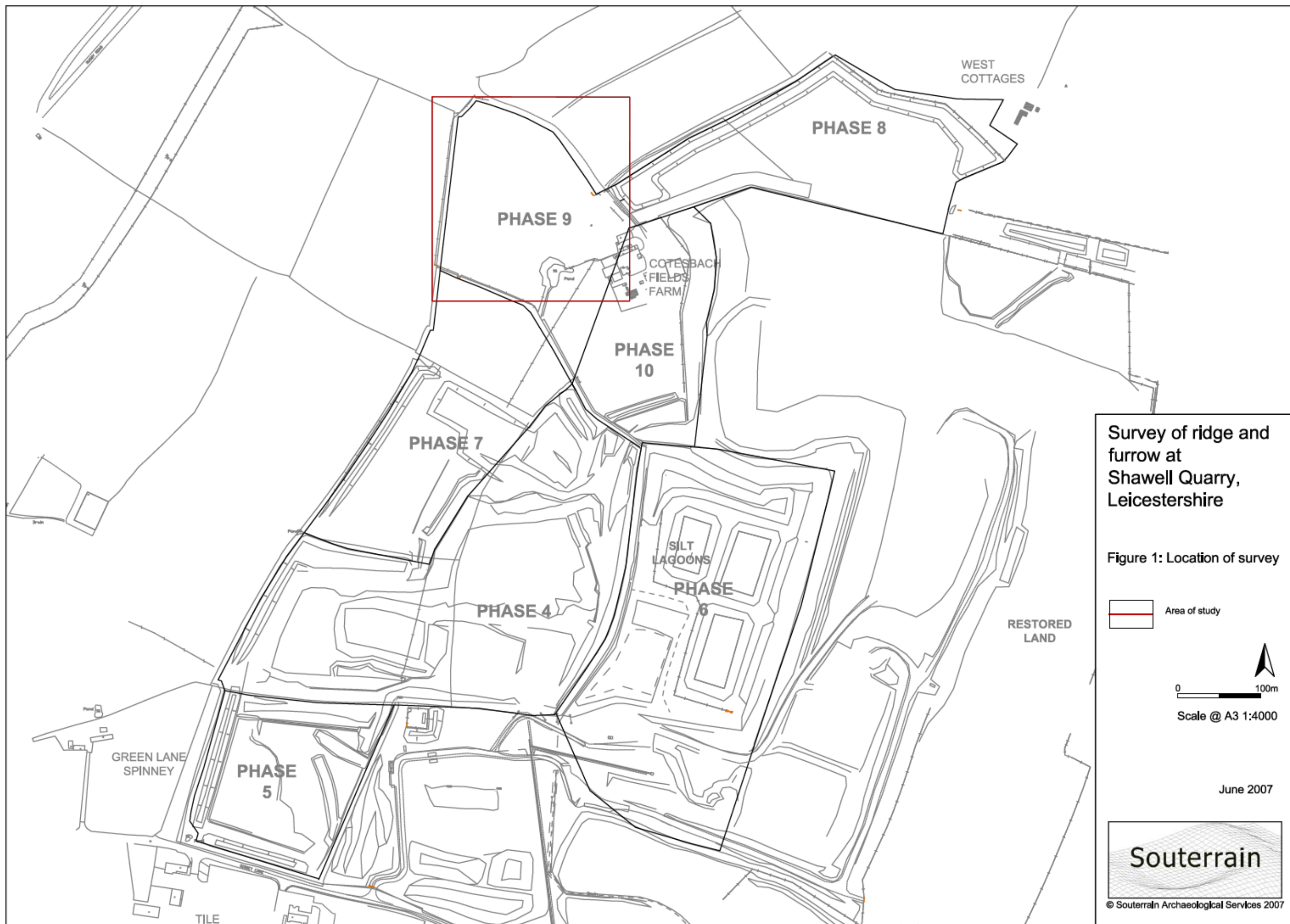


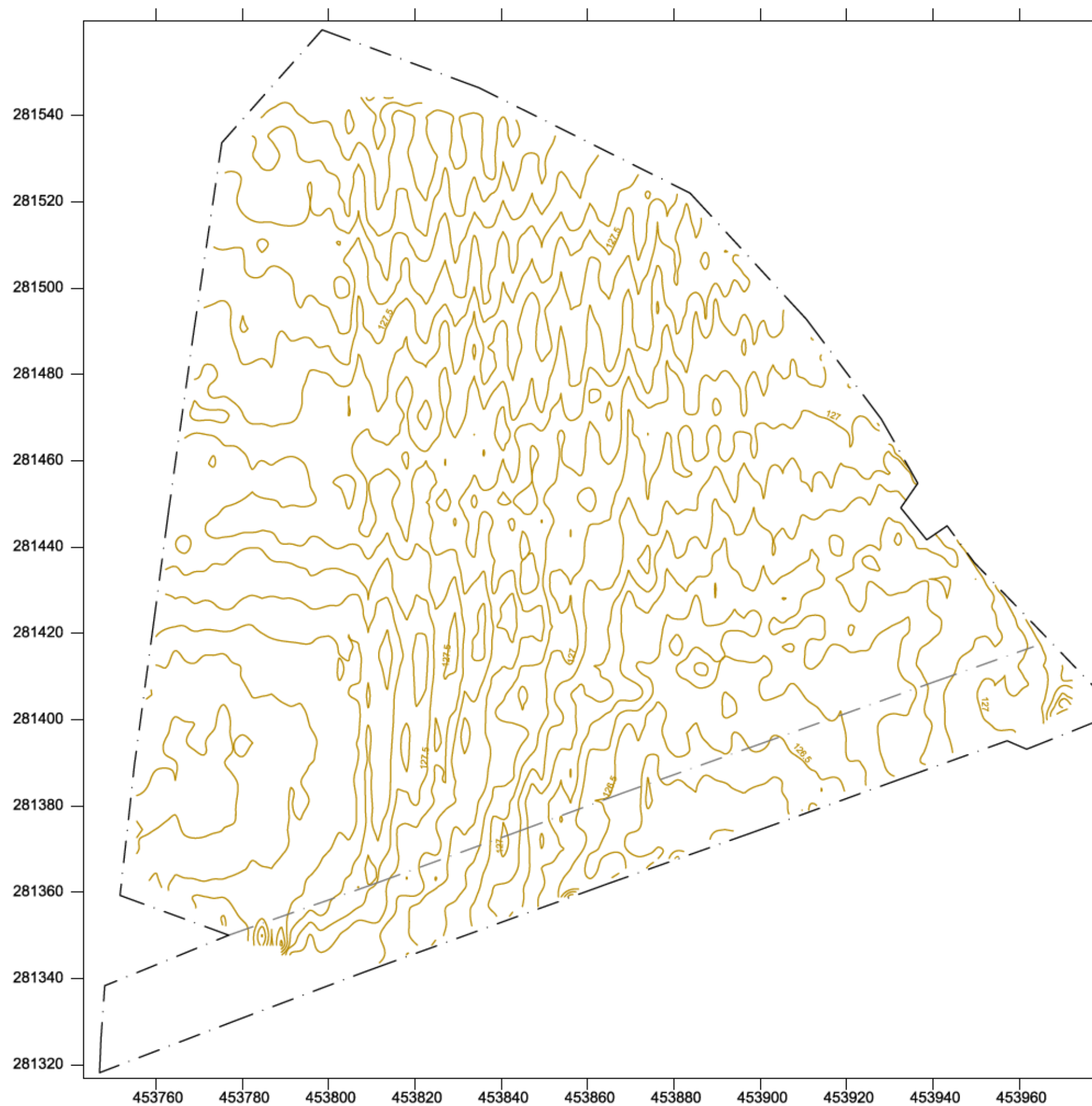
Plate 4.
View of ridge and
furrow facing N

Plate 5.
View of trackway
facing SW



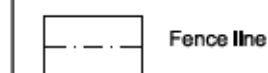
Plate 6.
View of ridge and furrow
and trackway (in
foreground) facing NW.





**Survey of ridge and
furrow at
Shawell Quarry,
Leicestershire
Phase 9**

Figure 2: Ground contours



Fence line



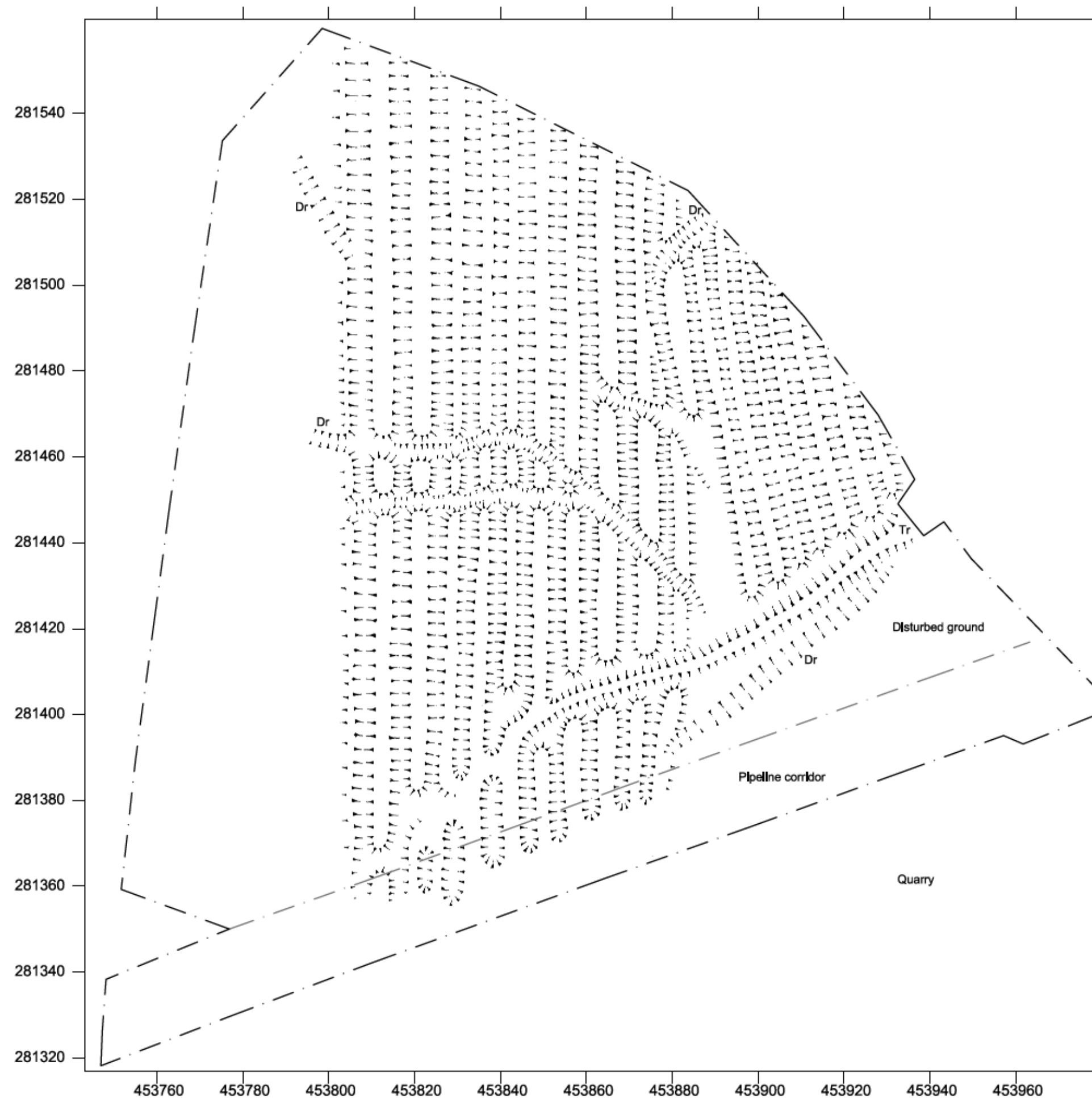
Scale @ A3 1:1000

Intervals of 0.20m

Surveyed by : M. Planas
Height: OD
June 2007






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Survey of ridge and furrow at Shawell Quarry, Leicestershire

Phase 9

Figure 3: Hachure plan

-  Fence line
-  Tr Trackway
-  Dr Drainage ditch

0 40m

Scale @ A3 1:1000

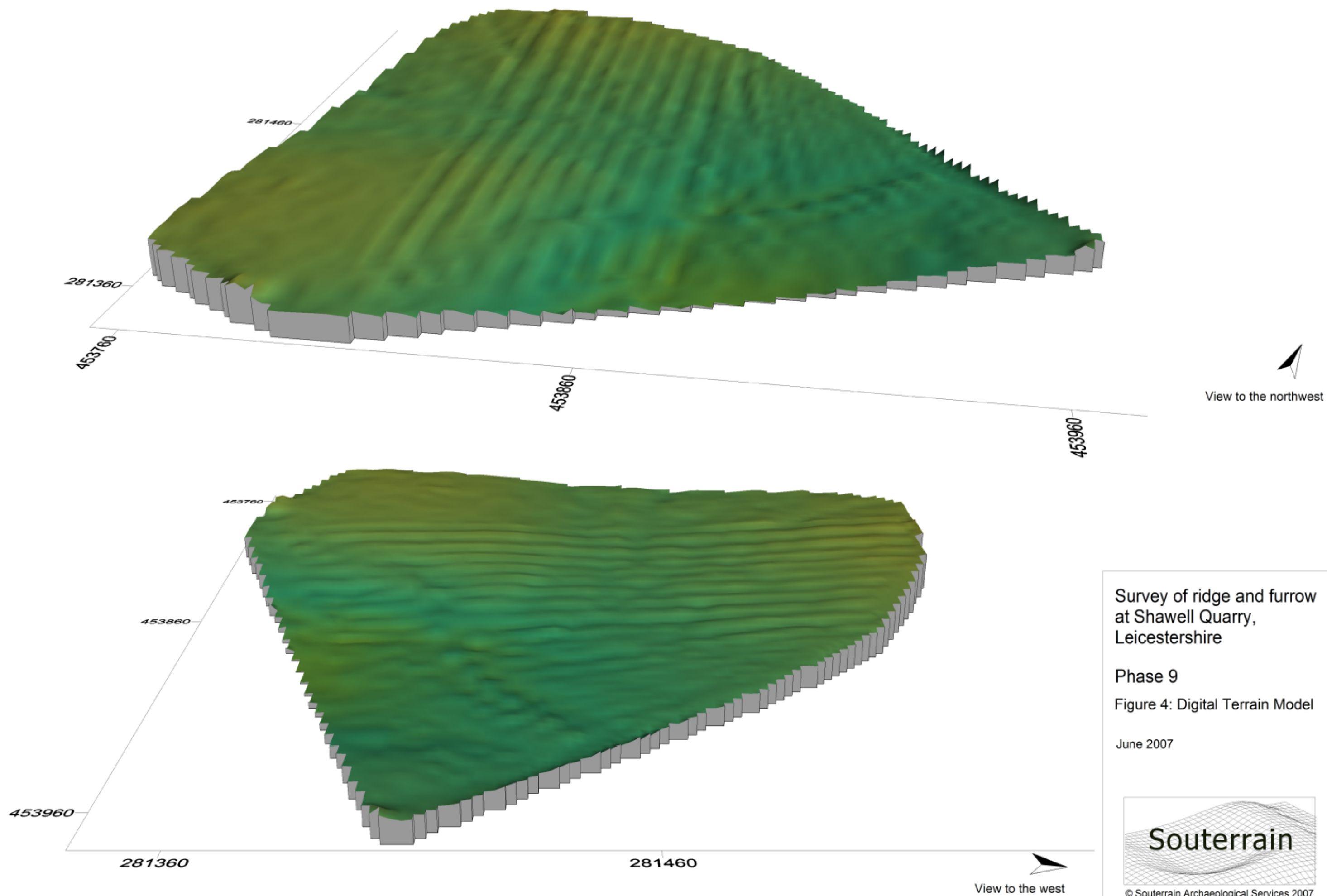
Surveyed by: M. Planas

Drawn by: M. Wilson

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Survey of ridge and furrow
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Phase 9

Figure 4: Digital Terrain Model

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