An Archaeological Evaluation at Brassington Moor and Ryder Point, Derbyshire

General view of Trench 3, looking south. Scale 1x1m.

ARS Ltd Report 2012/104
December 2012

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Archaeological Research Services Ltd

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EXECUTIVE SUMMARY

In December 2012 Archaeological Research Services Ltd was commissioned by Arcus Renewable Energy Consulting Ltd on behalf of Longcliffe Quarries Ltd to undertake an archaeological evaluation at a proposed wind farm at Brassington Moor and Ryder Point, Derbyshire. Five trenches were placed at Brassington with a further eight at Ryder Point. The trenches were positioned based on a desk-based assessment and a subsequent geophysical survey carried out by Archaeological Research Services Ltd in September 2012. Trenches were located in areas highlighted by the results of the survey as containing magnetic anomalies, which may represent archaeological remains.

Following on-site consultation with the Derbyshire Development Control Archaeologist, Trenches 1 and 2 at Ryder Point were abandoned. As a contingency, Trench 9 was opened at a location intended to investigate a curvilinear anomaly identified in the geophysical survey in close proximity to Trench 3.

Topsoil samples were recovered from each trench at 5m intervals and sieved for the recovery of artefacts, in particular worked flint. Although many samples, particularly those from Ryder Point, produced numerous flint inclusions, no worked examples were recovered, nor were any other archaeological finds.

None of the evaluation trenches on either investigation site produced any evidence of archaeological significance. In all cases, the drift geology was encountered at a relatively shallow depth, within 1m of the ground surface.

1. Introduction

1.1. Location and scope of work

1.1.1. In December 2012 Archaeological Research Services Ltd (ARS Ltd) was commissioned by Arcus Renewable Energy Consulting Ltd on behalf of Longcliffe Quarries Ltd to undertake an archaeological evaluation at Brassington Moor and Ryder Point, Derbyshire (Fig. 1). The work was carried out in advance of two proposed wind turbine schemes and will form part of the Environmental Impact Assessments.

1.1.2 Brassington Moor

The development area at Brassington Moor occupies a hilly area of mixed use farmland south of the Grangemill Quarry, approximately 650m south-west of the village of Grangemill and 6.4 km south-west of Matlock (figure 1). The site is centred on NGR SK 23837 56589 and it is bordered by Grangemill Quarry to the north, the Longcliffe to Grangemill road to the west and further agricultural land to the south and east (Arcus Renewable Energy Consulting Ltd 2012). The site slopes steeply from east to west from a high point in the northeast corner of 315 AOD (Durkin 2012a).

1.1.3 Ryder Point

The development area at Ryder Point occupies a hilly area of mixed farmland situated to the east of the village of Longcliffe. The development area is situated approximately 1.6km south-east of the Brassington Moor development area and is approximately 6.2km south-west of Matlock (figure 1). The site is centred on NGR SK 25590 54910 and is surrounded by further agricultural land and bordered by Ryder Point Quarry to the east and the High Peak Trail to the south (Arcus Renewable Energy Consulting Ltd 2012). The site slopes steeply from west to east from a high point of 356 AOD (Durkin 2012b).

1.2 Geology and preservation

1.2.1 The geology of Brassington Moor comprises carboniferous limestone of the bee low limestone formation, whilst the geology of Ryder Point comprises carboniferous limestone with superficial deposits of clay, silt, sand and gravel (British Geological Survey 2012a). Observations made on site also indicate that some of the geology at Ryder Point represents the Brassington Formation.

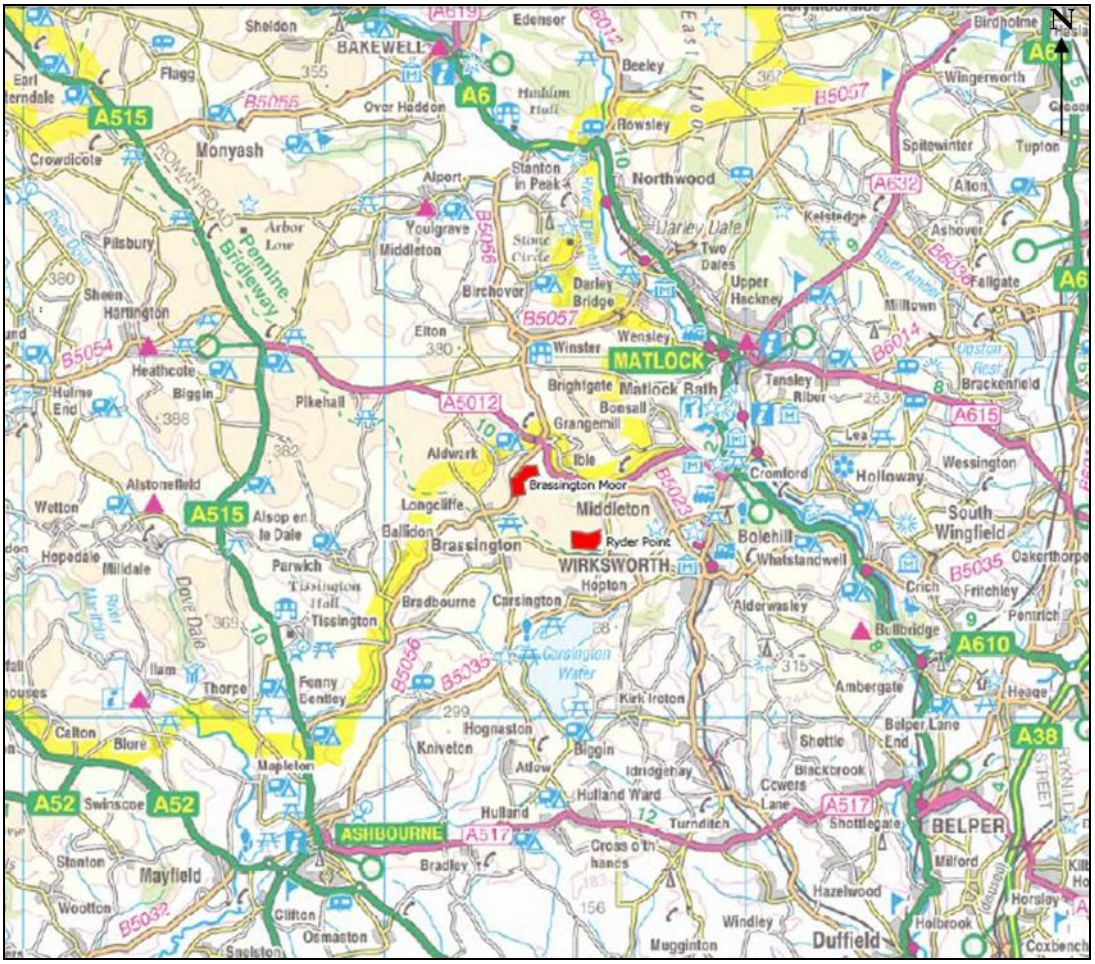

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Figure 1. Location of Brassington Moor and Ryder Point (highlighted in red). After Arcus Renewable Energy Consulting Ltd (2012: 14, fig. 1).

1.3 Background

1.3.1 Overview

1.3.1.1 The area within which these two developments are situated is typified by archaeological remains of a prehistoric date. There have been numerous finds of worked flint, daggers and arrowheads discovered by fieldwalking, and there are several cairns and barrows situated on the higher ground which surrounds these development sites (Arcus Renewable Energy Consulting Ltd 2012).

1.3.1.2 The area holds a high potential for archaeological remains relating to mining, particularly lead mining, with evidence for lead mining in the surrounding area dating back to the medieval period. There are numerous lead mining sites, a number of which are scheduled, situated throughout the surrounding area (Arcus Renewable Energy Consulting Ltd 2012).

1.3.1.3 A search of the Derbyshire Historic Environment Record (2012) within a 500 metre radius of Brassington Moor yielded 18 results, all of which relate to prehistoric remains, the vast majority being worked flint implements. The same search within a 500 metre radius of Ryder Point returned 24 results; with the exception of 7 entries relating

to the Cromford and High Peak Railway, all entries were again associated with prehistoric archaeology, with the vast majority of entries related to worked flint implements.

1.3.2 Previous Archaeological Investigations

1.3.2.1 **Brassington Moor**

1.3.2.1.1 A geophysical survey using a magnetometer was carried out in 2004 by GeoQuest, covering the northern fields of the development. The survey did not form a clearly interpretable plan but did define a number of features and locations worthy of further investigation (Arcus Renewable Energy Consulting Ltd 2012). As a result of this survey an archaeological evaluation was carried out in 2006 by Trent and Peak Archaeological Unit, targeting the geophysical anomalies. The evaluation comprised a total of 55 test pits and 16 evaluation trenches. The evaluation concluded that there were no prehistoric features although the site did appear to have a low level of prehistoric activity, with at least 16 pieces of struck flint and chert being recovered, although these were not dated. Besides a number of 19th century finds, there were no other features or artefacts recovered. Investigation of a possible cairn site, identified during the programme of geophysics, proved to be inconclusive (Arcus Renewable Energy Consulting Ltd 2012).

1.3.2.1.2 A further geophysical survey was carried out in September 2012 by ARS Ltd (Durkin 2012a). This investigation focused on the proposed development footprint which fell within previously un-investigated fields to the south. The survey covered an area of approximately 1.3 km^2 and used a Bartington Grad 601 dual sensor fluxgate gradiometer. The survey identified a number of magnetic anomalies of different classifications. These included:
a) Repeating positive anomalies, thought to relate to plough scaring or possibly earlier ridge and furrow;
b) Discrete positive anomalies, potentially associated with the underlying geology or with relatively modern quarrying or mining activity;
c) Tentative positive curved anomalies;
d) Possible negative anomalies;
e) Mixed and bipolar anomalies, thought to be associated with modern ground disturbance, buried ferrous objects or other modern objects or materials associated with farming.

1.3.2.2 **Ryder Point**

1.3.2.2.1 Wirksworth Archaeological Society (2012) completed a small archaeological excavation in 2011 to investigate the course of the Portway Roman Road. The Roman Road was picked up adjacent to the current quarry access track situated to the north of the site.

1.3.2.2.2 The only other archaeological investigation in relation to Ryder Point is the 2012 geophysical survey completed by ARS Ltd. This investigation focused on the proposed development footprint which fell upon previously unquarried land. The survey covered an area of approximately 1.9 km^2 and used a Bartington Grad 601 dual sensor fluxgate gradiometer. The survey identified a number of magnetic anomalies of different classifications. These included:

a) An anomaly in the centre of the survey area which forms a 'figure of eight';
b) Curved anomalies thought to be associated with the background geology of the site;
c) A number of discrete positive anomalies, again possibly associated with the underlying geology or relatively modern quarrying or mining;
d) Tentative evidence of negative anomalies possibly associated with the background geology.
e) A number of positive linear anomalies, potentially archaeological in nature;
f) Mixed and or bipolar anomalies indicating modern activity and ground disturbance, including a modern service ditch to the east and a potentially back filled mine shaft to the west of the site;
g) A number of potentially natural anomalies to the eastern end of the survey area.

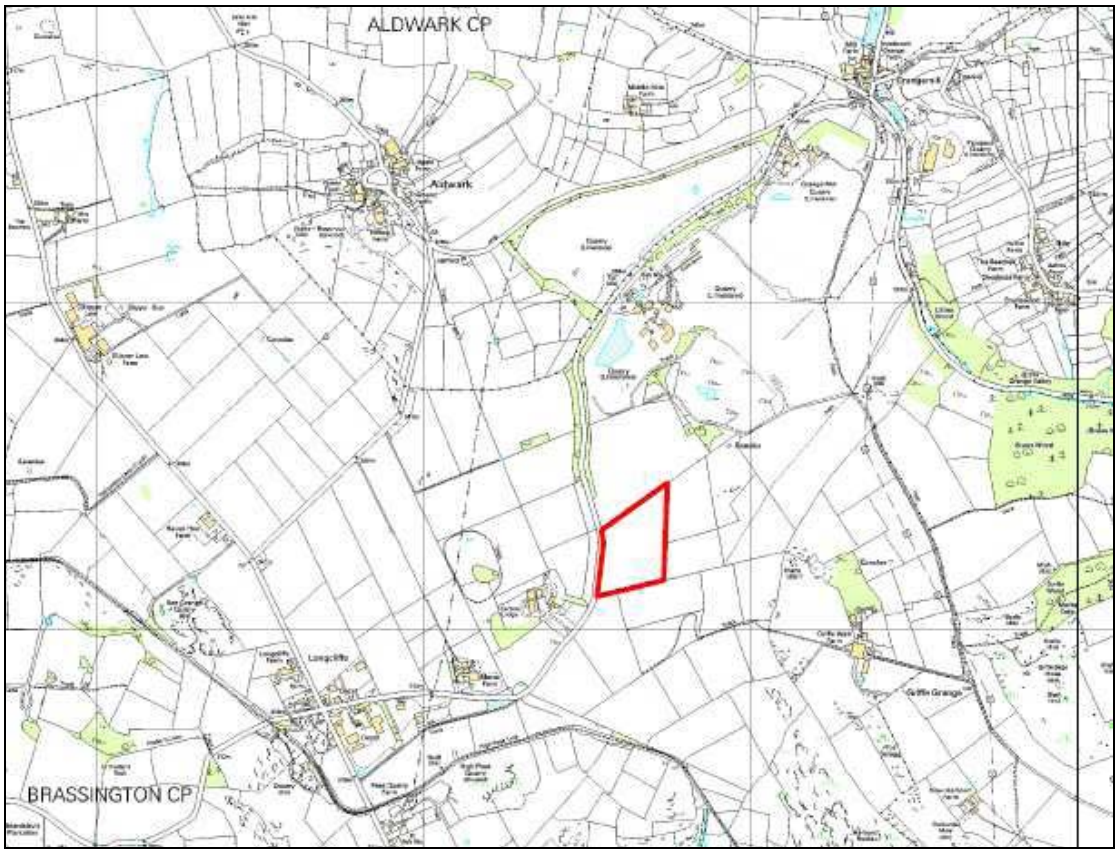

Figure 2. Location of the Brassington Moor investigation area (after Durkin 2012a: 6, fig. 1)

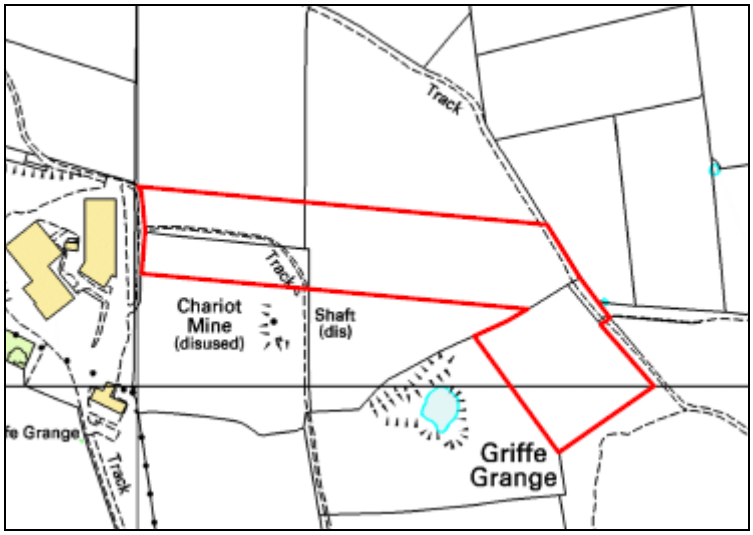

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Figure 3. Location of the Ryder Point investigation area (after Durkin 2012b: 6, fig. 1)

2. Methodology

2.1 The specification required that targeted evaluation trenching should be carried out in order to investigate several geophysical anomalies identified in the proposed development area.

2.2 The position of the evaluation trenches was determined by Arcus Renewable Energy Consulting Ltd. All trenches were 30m long by 2m wide. The co-ordinates of each trench were stored on a handheld GPS which was used on site to identify the individual position of each trench. Allowing for inaccuracies within the GPS, trenches were positioned to an accuracy of ± 0.10m of the original specified trench location.

2.3 All trenches were excavated by machine, using a back-acting toothless ditching bucket under continuous archaeological supervision. Topsoil was removed in level spits until the first potential archaeological horizon or natural deposits were exposed. Care was taken to achieve a clean and well-defined horizon with the machine in order to minimise the need for hand cleaning. The machine was then prevented from tracking over exposed areas.

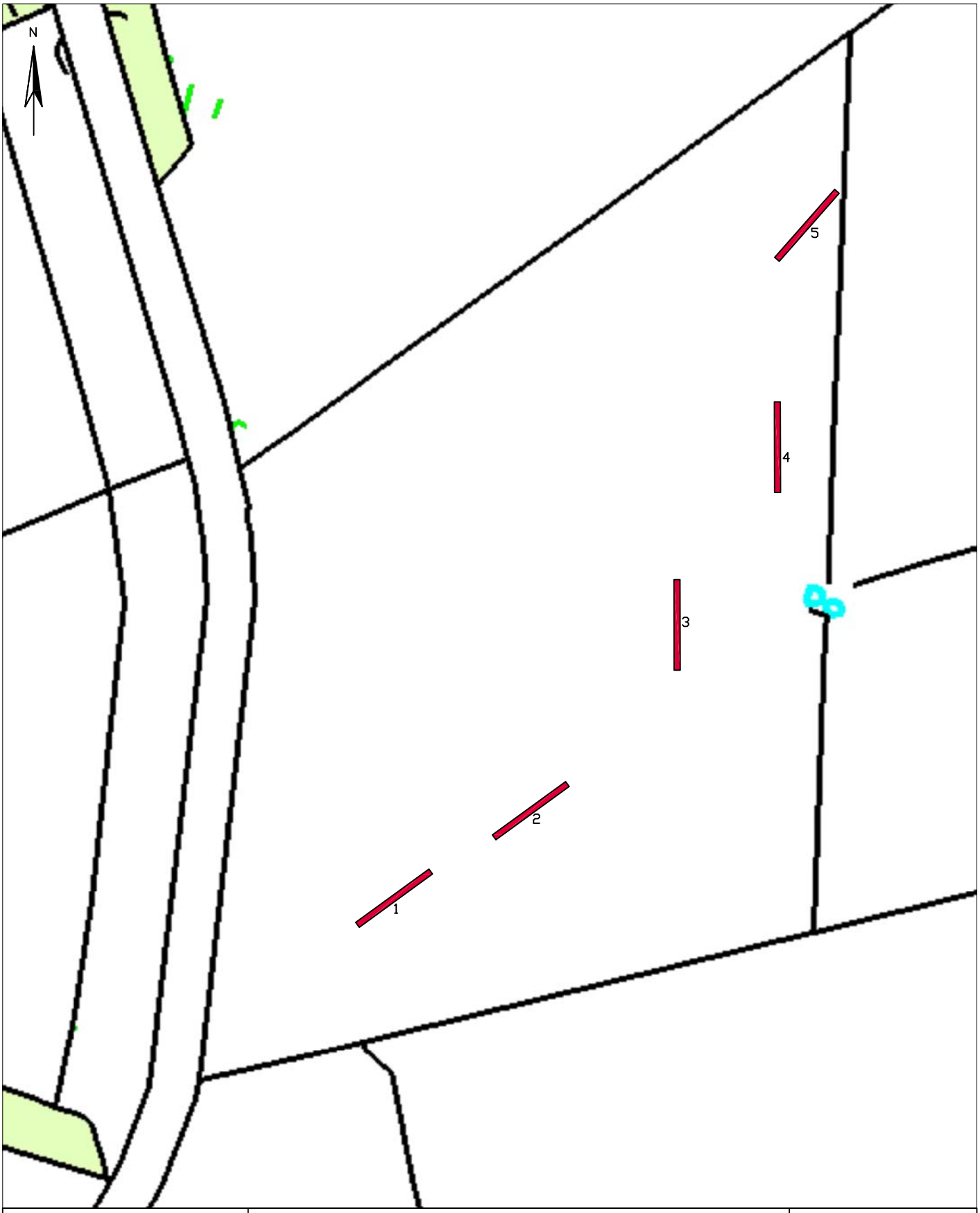
2.4 Proceeding the removal of grass/crops from the upper surface of the topsoil, soil samples from the topsoil were taken in 5m increments along each trench, beginning at 0.00m and ending at 30.00m, resulting in 7 samples from each trench. Following this, the samples were washed through a 5mm sieve for the recovery of artefacts.

2.5 Arisings from the trench were separated according to type (i.e. topsoil separated from subsoil) and stored adjacent to the trench, within a safe working distance.

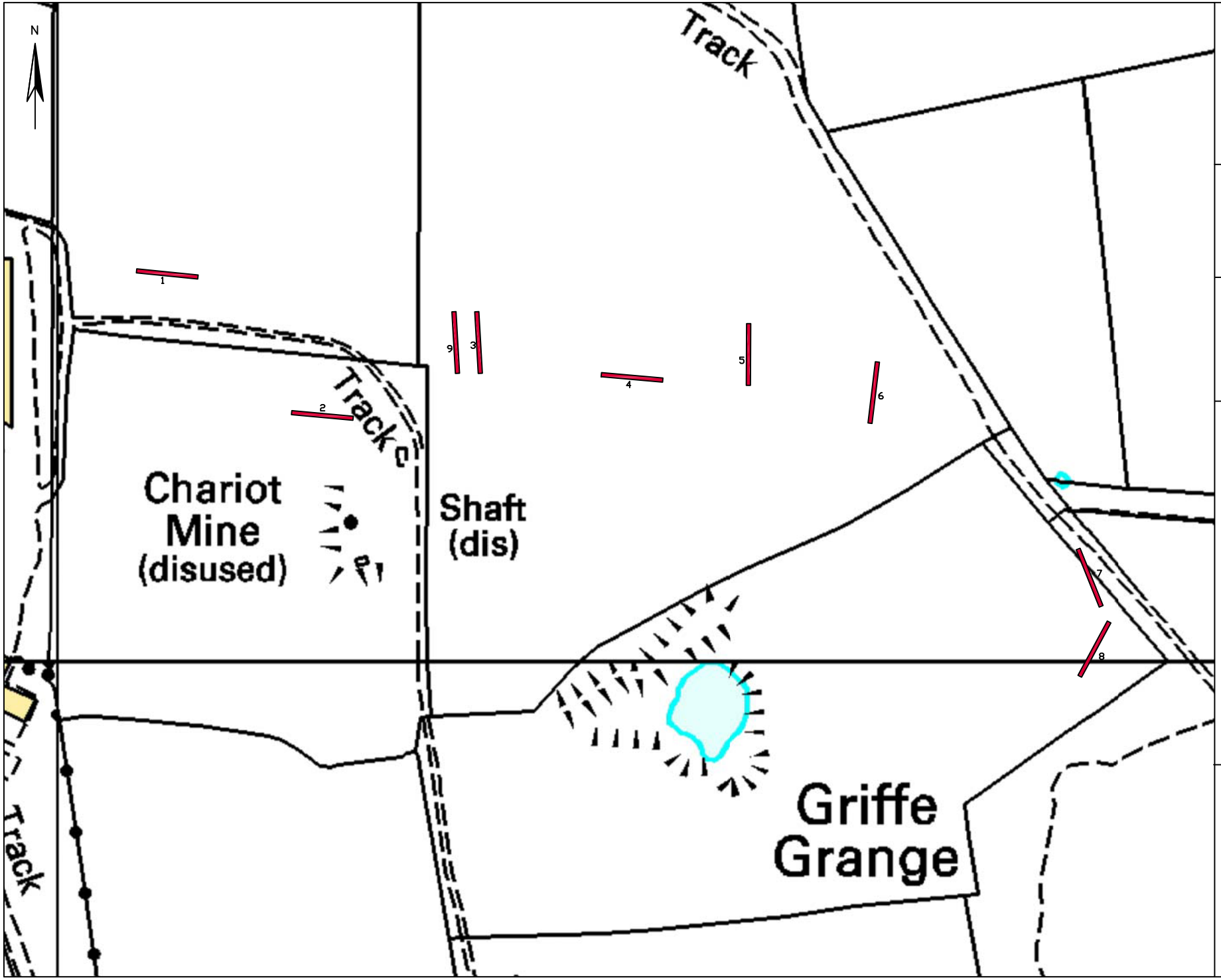
2.6 All trenches were left open for a minimum of one full day to allow any features to weather before final inspection and recording.

2.7 Backfilling was undertaken by machine after full recording of the trench had been undertaken. Deposits were returned to the trench strictly in the correct sequence and were not compacted.

2.8 A single context recording system was employed. Each layer encountered was given a unique context number and a full written description. Photographs were taken in black and white print, colour transparency and digital in order to record the ground work. As none of the trenches produced evidence of archaeology, a 2m representative blank section was drawn at a scale of 1:10, and a plan of each trench was drawn at a scale of 1:50.



Archaeological Research Services Ltd Angel House Portland Square Bakewell Derbyshire DE45 1HB Site Code: Brassington Moor Drawing Ref: Date: 12/12/2012 Drawn:LS Scale: NTS	Brassington Moor Wind Turbines - Figure 4 Location of trenches	Copyright/Licencing: This drawing © A.R.S. Ltd Ordnance Survey © Crown Copyright 2011. All rights reserved. Licence number 100020449



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Ryder Point Wind Turbines-Figure 5 Trench Locations

3. Stratigraphic Report

3.1 Brassington Moor

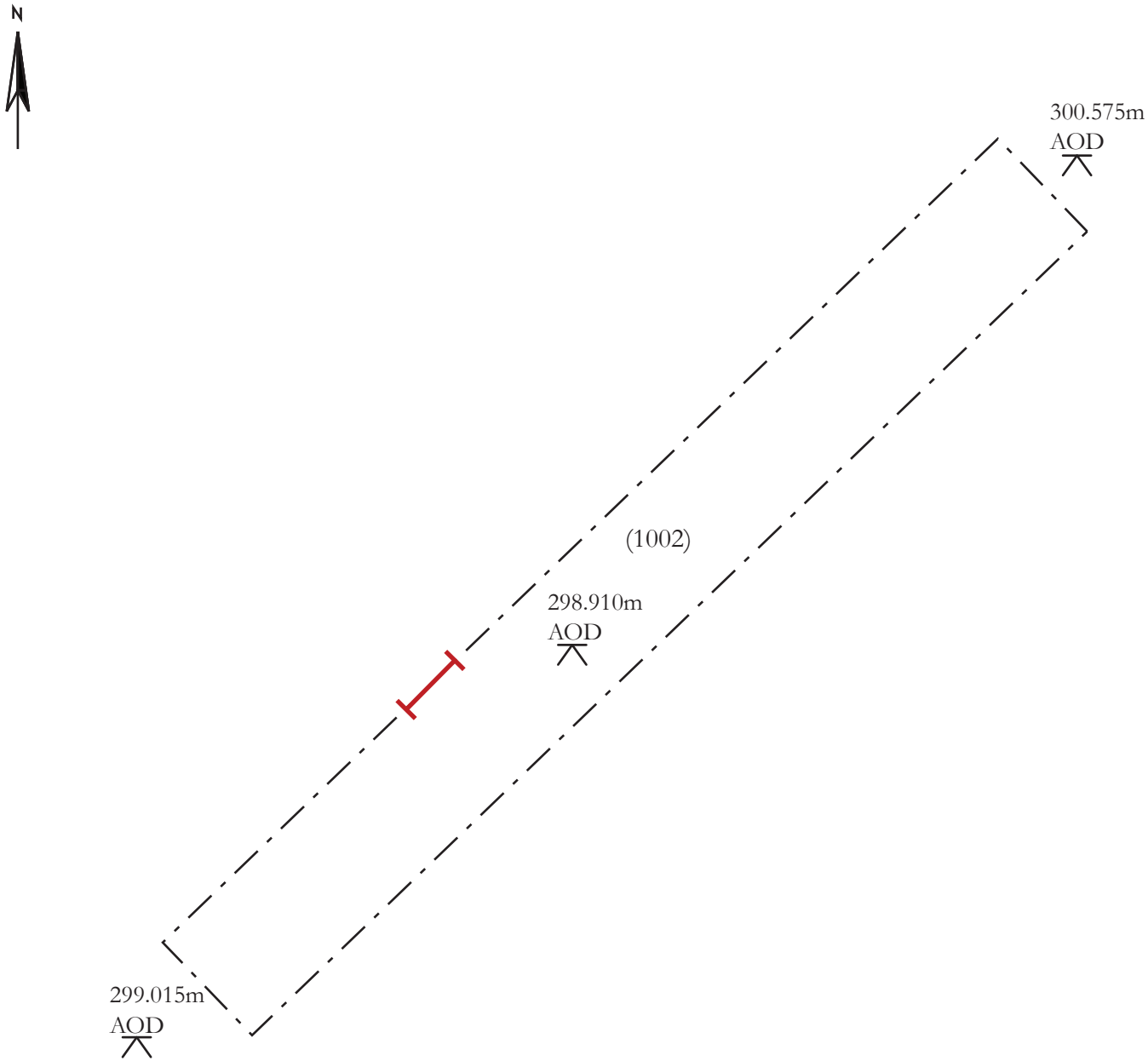
3.1.1 *Trench 1 (30m)*

Trench 1 was aligned approximately north-east to south-west and was positioned length ways along the proposed access track. The trench was located to enable the investigation of the archaeological potential of the access track, and also to investigate magnetic anomalies identified in the geophysical survey.

Trench 1 was machine-excavated to a maximum depth of 0.95m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (1000) comprising moist mid brown clayish silt with visible rootlets, evidence of recent worm action and occasional subangular flint and limestone pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.70m, and a minimum thickness of 0.20m, with an undulating lower boundary, likely a representation of ploughing activity. Possible furrows were also observed. The topsoil overlay mid orange brown silty clay subsoil (1001), which contained common subangular limestone pebbles. This deposit had a maximum thickness of 0.65m and a minimum thickness of 0.20m, and was similar to (1000), but contained notably more limestone inclusions. Deposit (1002), the natural drift geology, was yellow pure clay with irregular patches and bands of coarse sand, with frequent limestone inclusions of pebble, cobble and boulder size.

No archaeological remains were uncovered within the trench and no artefacts were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand, and in light of the absence of archaeology, this may explain the geophysical anomalies identified at this location.

Figure 6. Trench 1, looking south-west. Scale = 1x1m



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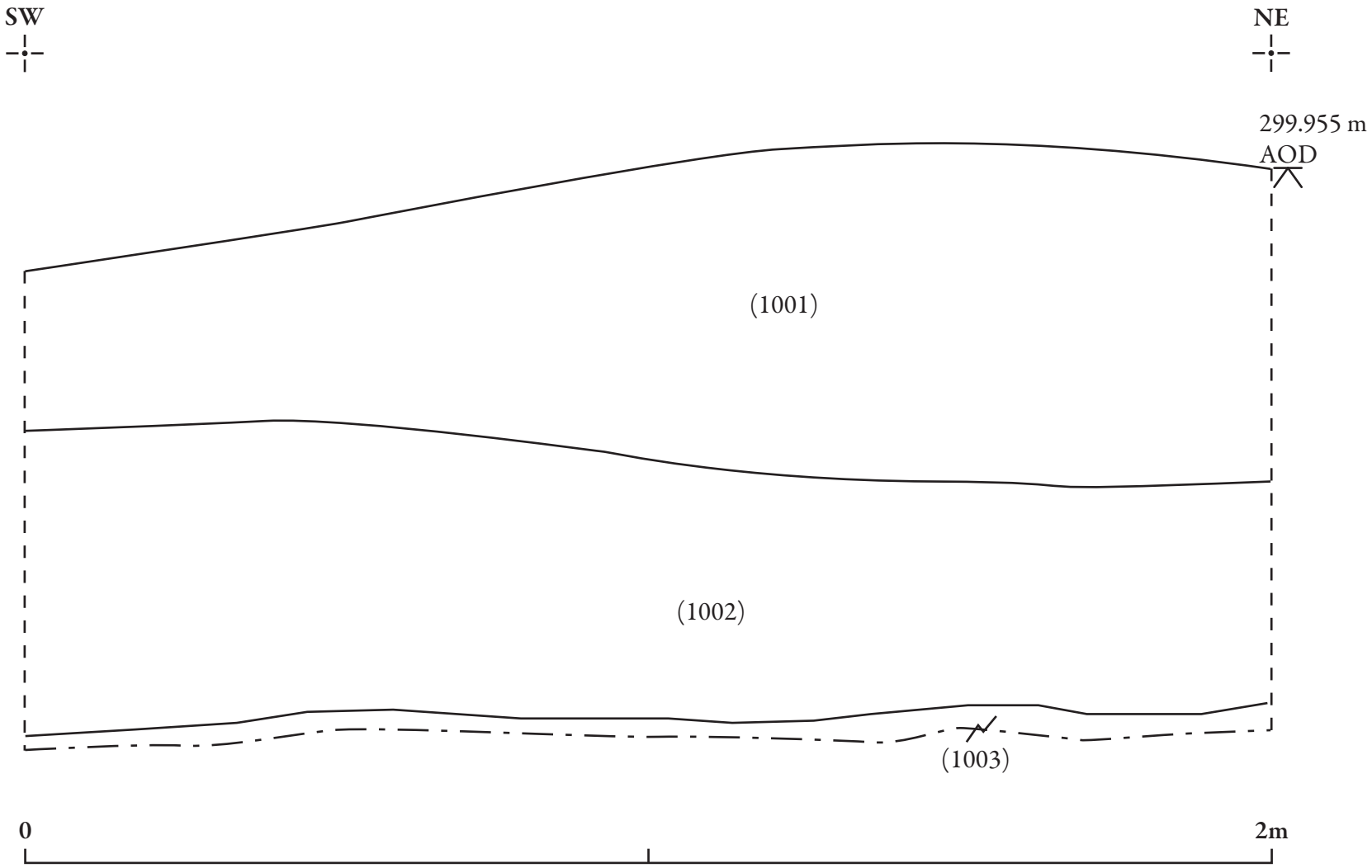
Brassington Moor
Figure 7
Trench 1
Plan

Key

2m section location



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Brassington Moor
Figure 8
Trench 1
2m Blank Section

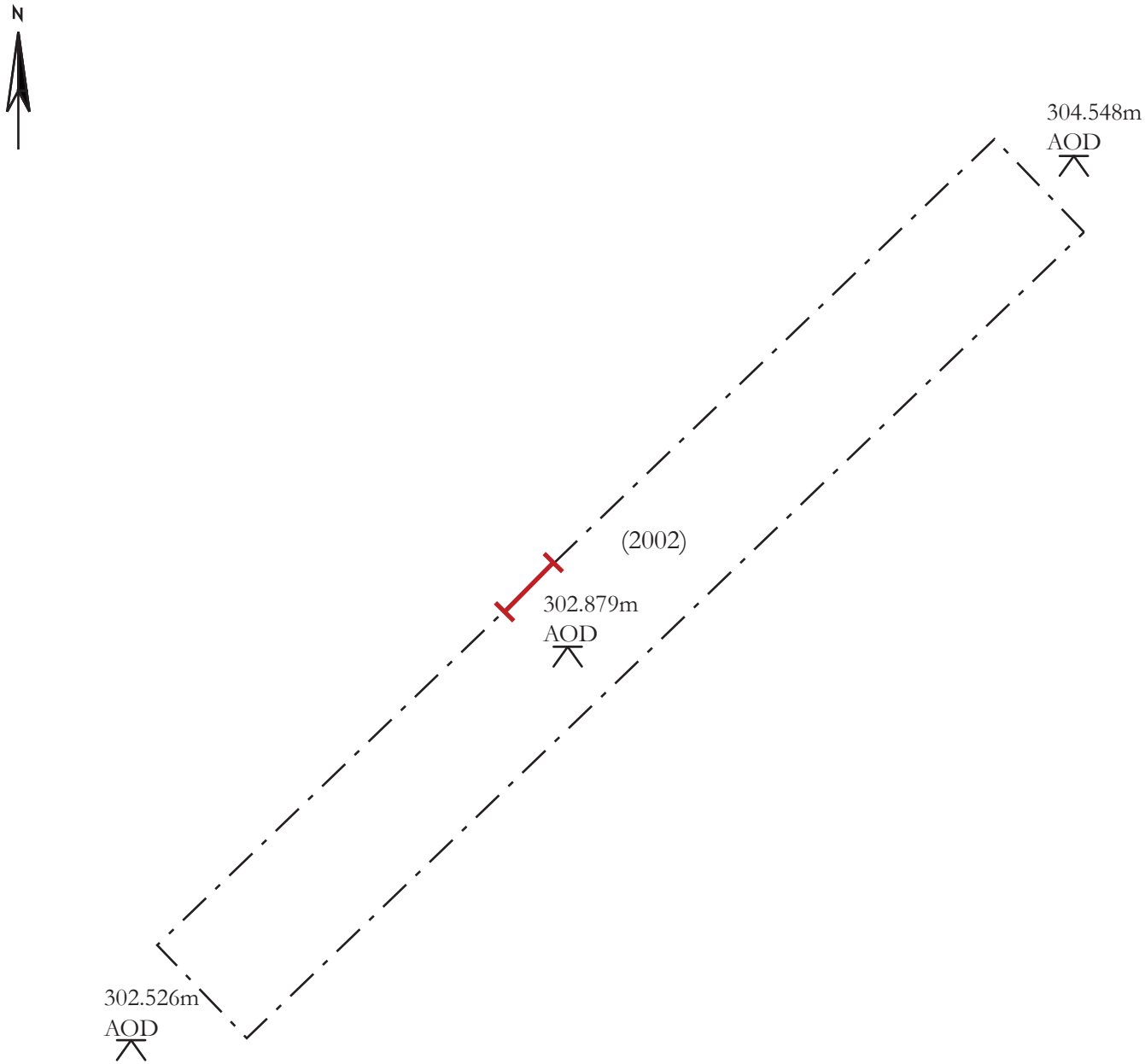
3.1.2 *Trench 2 (30m)*

Trench 2 was aligned approximately north-east to south-west and was positioned length ways along the proposed access track. This trench was located to enable the investigation of the archaeological potential of the access track, and also to investigate magnetic anomalies identified in the geophysical survey.

Trench 2 was machine-excavated to a maximum depth of 0.75m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (2000) comprising moist mid brown clayish silt with visible rootlets, evidence of recent worm intrusion and occasional subangular flint and limestone pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.39m, and a minimum thickness of 0.22m, with an undulating lower boundary, likely a representation of ploughing activity. This topsoil was noticeably shallower in depth than the nearby topsoil (1000) of trench 1 and overlay mid orange brown silty clay subsoil (2001), which contained common subangular limestone pebbles. This deposit had a maximum thickness of 0.37m and a minimum thickness of 0.32m, and was similar to (2000), but contained notably more limestone inclusions. Deposit (2002), the natural drift geology, was yellow brown pure clay with irregular patches and bands of coarse sand, with frequent limestone inclusions of pebble, cobble and boulder size.

No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand, and in light of the absence of archaeology, may explain the geophysical anomalies identified at this location.

Figure 9. Trench 2, looking south-west. Scale 1x1m.



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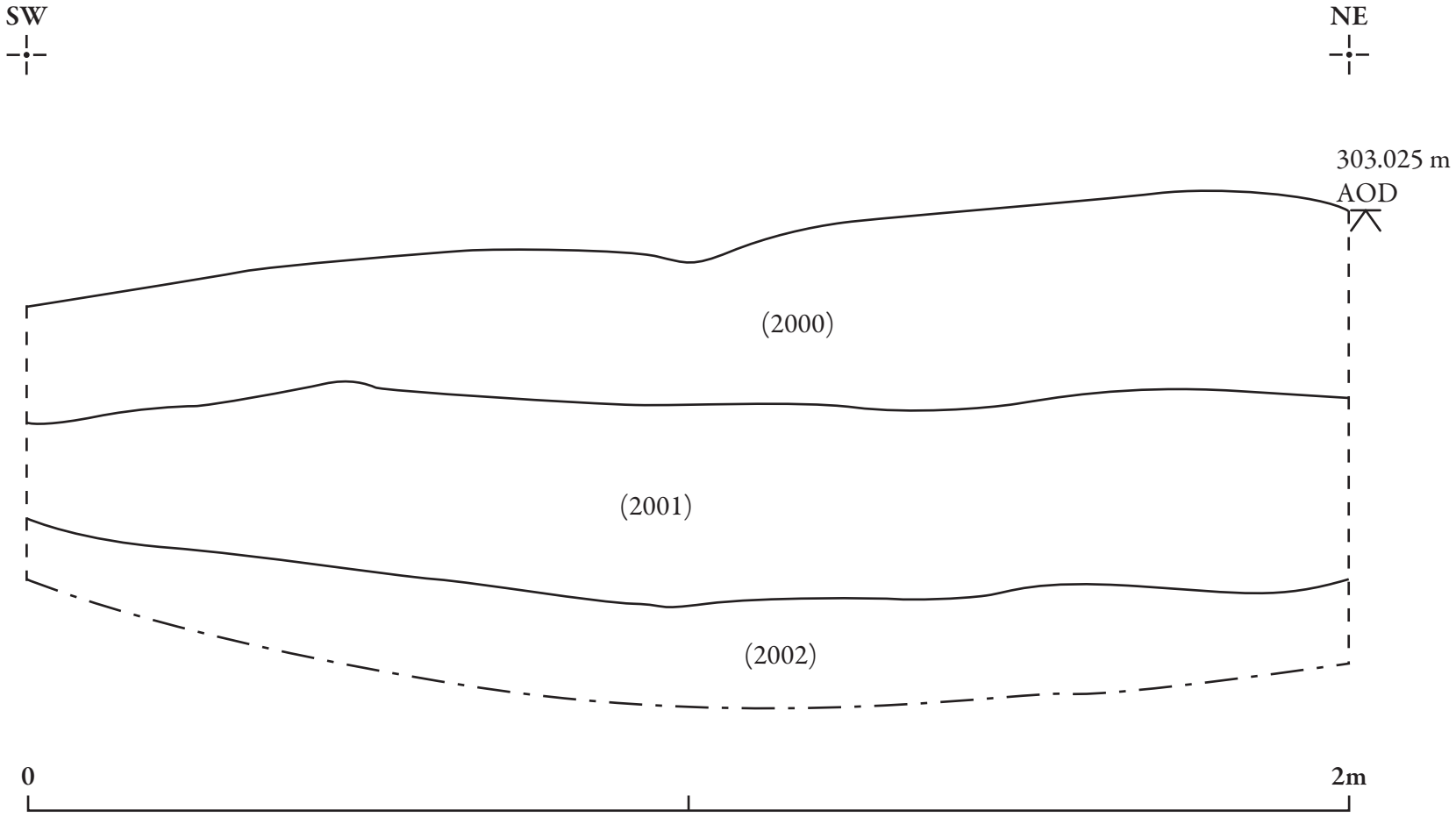
Brassington Moor
Figure 10
Trench 2
Plan

Key

2m section location



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Brassington Moor
Figure 11
Trench 2
2m Blank Section

3.1.3 *Trench 3 (30m)*

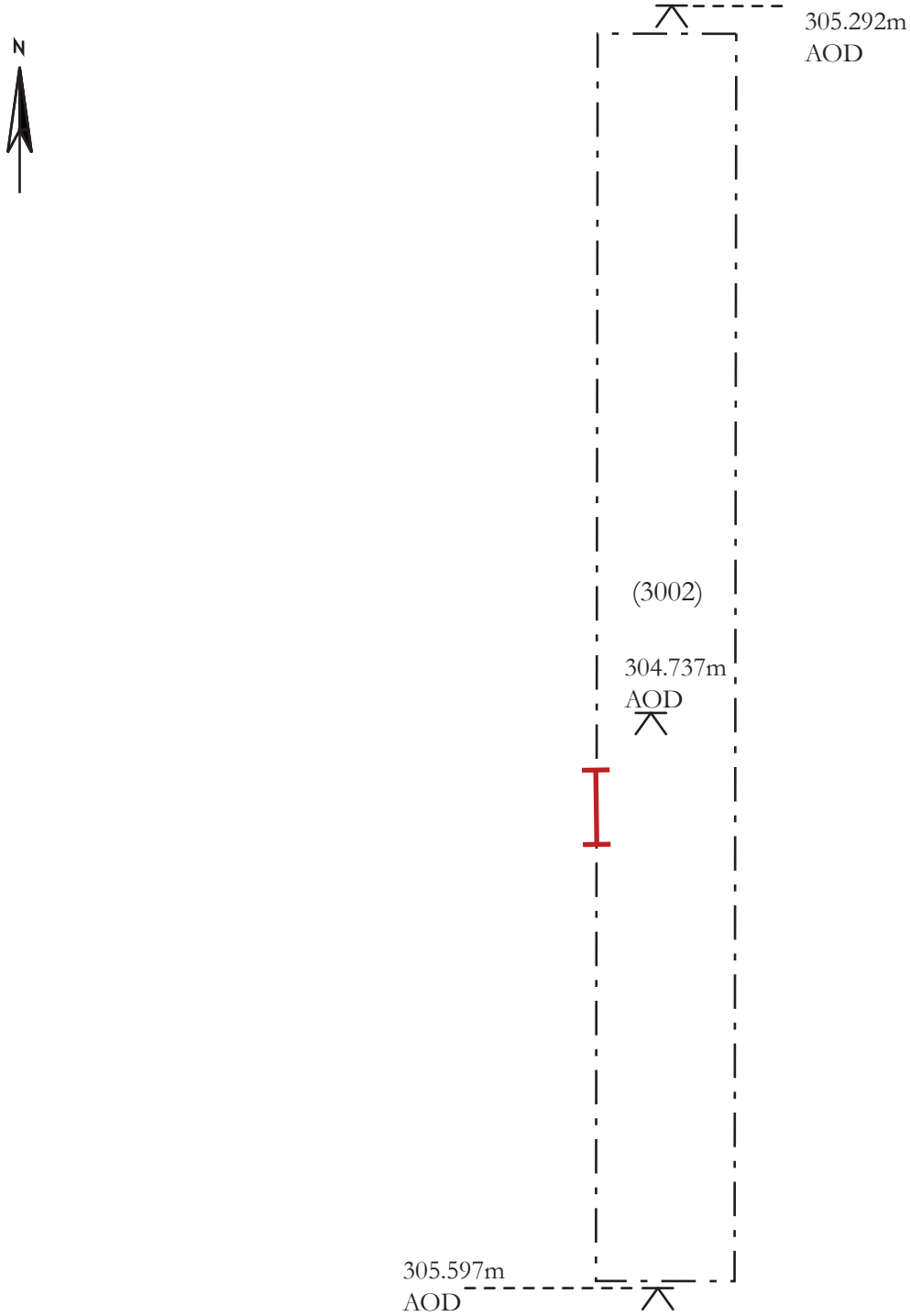
Trench 3 was aligned north to south at the location of a proposed turbine base. A singular magnetic anomaly was identified within this location.

Trench 3 was machine-excavated to a maximum depth of 1m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (3000) comprising moist mid brown clayish silt with visible rootlets, evidence of recent worm action and occasional subangular flint and limestone pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.62m, and a minimum thickness of 0.31m, with an undulating lower boundary, likely a representation of ploughing activity. The topsoil directly overlay mid orange brown silty clay subsoil (3001), which contained common subangular limestone pebbles. This deposit had a maximum thickness of 0.65m and a minimum thickness of 0.20m, and was similar to (3000) but with a slightly higher clay content and increased limestone inclusions. The natural drift geology (2002) comprised limestone pebbles, cobbles and boulders in a mid orange brown pure clay matrix with irregular patches and bands of coarse sand.
No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand, and in light of the absence of archaeology, may explain the geophysical anomalies identified at this location.

Excavations for the proposed turbine location at this trench location are anticipated to reach a depth between 2-4m. Although the archaeological evaluation trench did not reach such a depth, the drift geology was encountered before 1m below ground surface, hence any development excavations below this depth will only penetrate deeper into the geology, and pose no risk of encountering archaeological deposits.

Figure 12. Trench 3, looking south-east. Scale 1x1m.

Figure 13. Trench 3 east facing section, showing topsoil (3000), subsoil (3001) and drift geology (3002). Scale 1x1m



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Brassington Moor
Figure 14
Trench 3
Plan

Key

2m section location

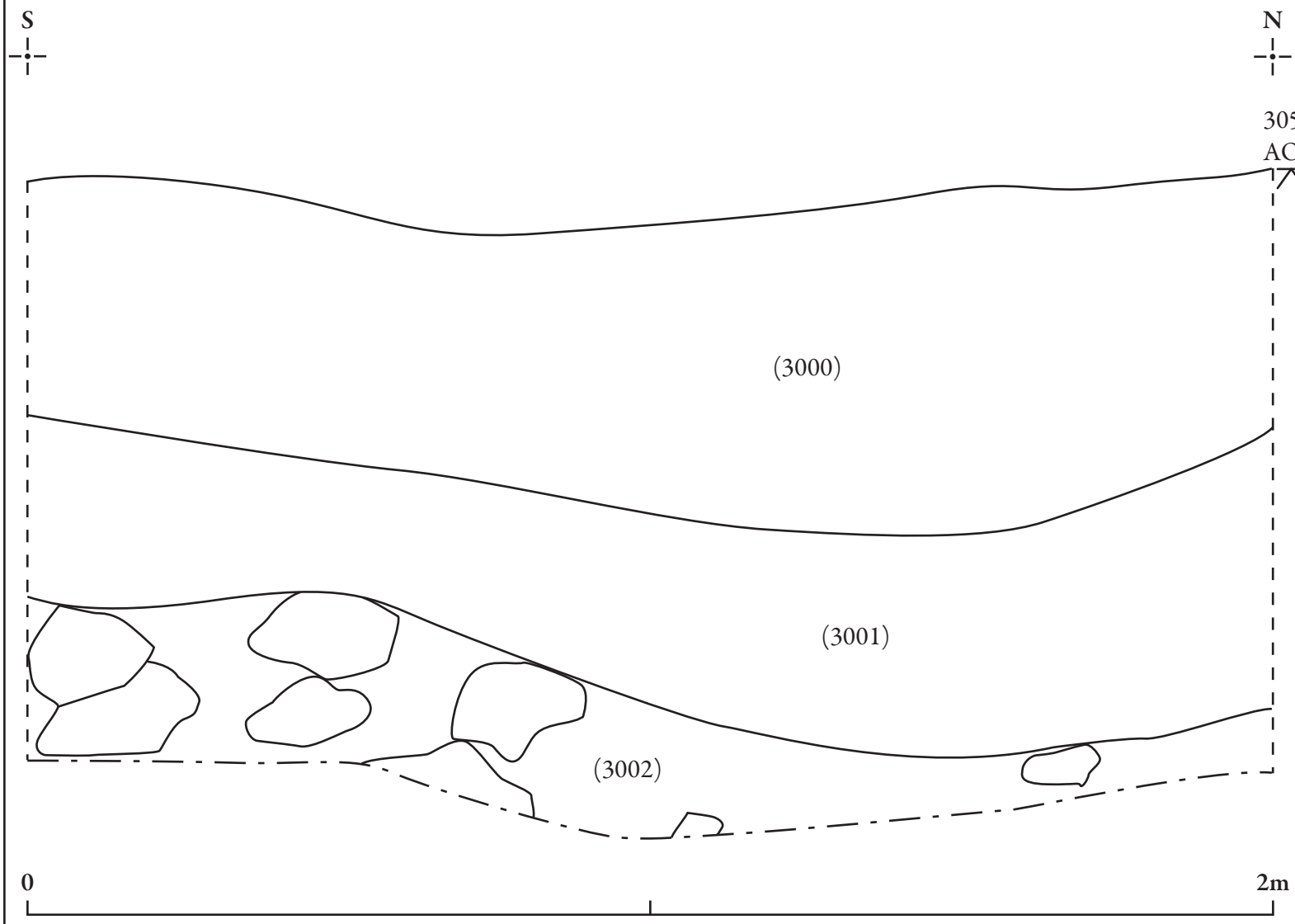

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Figure 15
Trench 3
2m Blank Section

3.1.4 *Trench 4 (30m)*

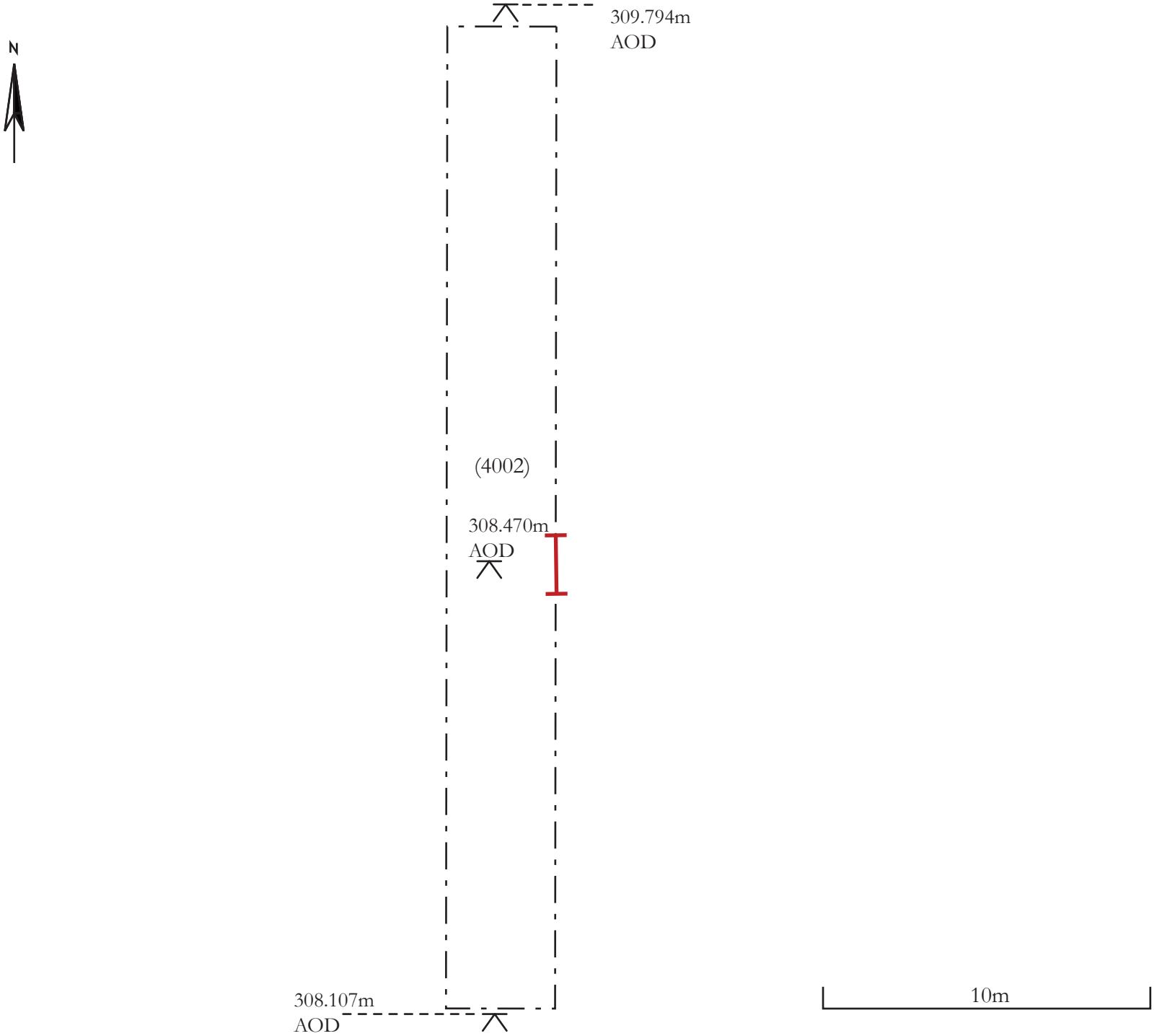
Trench 4 was aligned north south and was positioned length ways along the proposed access track. This trench was located so as to enable the investigation of the archaeological potential of the access track and to investigate magnetic anomalies identified through the geophysical survey.

Trench 4 was machine-excavated to a maximum depth of 0.70m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (4000) comprising moist mid brown clayish silt with visible rootlets, evidence of recent worm action and occasional subangular flint, chert and limestone pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.35m, and a minimum thickness of 0.17m, with an undulating lower boundary, likely a representation of ploughing activity. The topsoil directly overlay mid orange brown silty clay subsoil (4001), which contained common subangular limestone pebbles. This deposit had a maximum thickness of 0.65m and a minimum thickness of 0.20m, and was similar to (4000) but with a slightly higher clay content and increased limestone inclusions. The natural drift geology (4002) comprised limestone pebbles, cobbles and boulders in a mid orange brown pure clay matrix.

No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height in the drift geology and in light of the absence of archaeology, may explain the geophysical anomalies identified at this location.

Figure 16. Trench 4, looking south-west. Scale 1x1m

Figure 17. Trench 4 west facing section showing topsoil (4000), subsoil (4001) and drift geology (4002). Scale 1x1m



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Brassington Moor
Figure 18
Trench 4
Plan

Key

2m section location

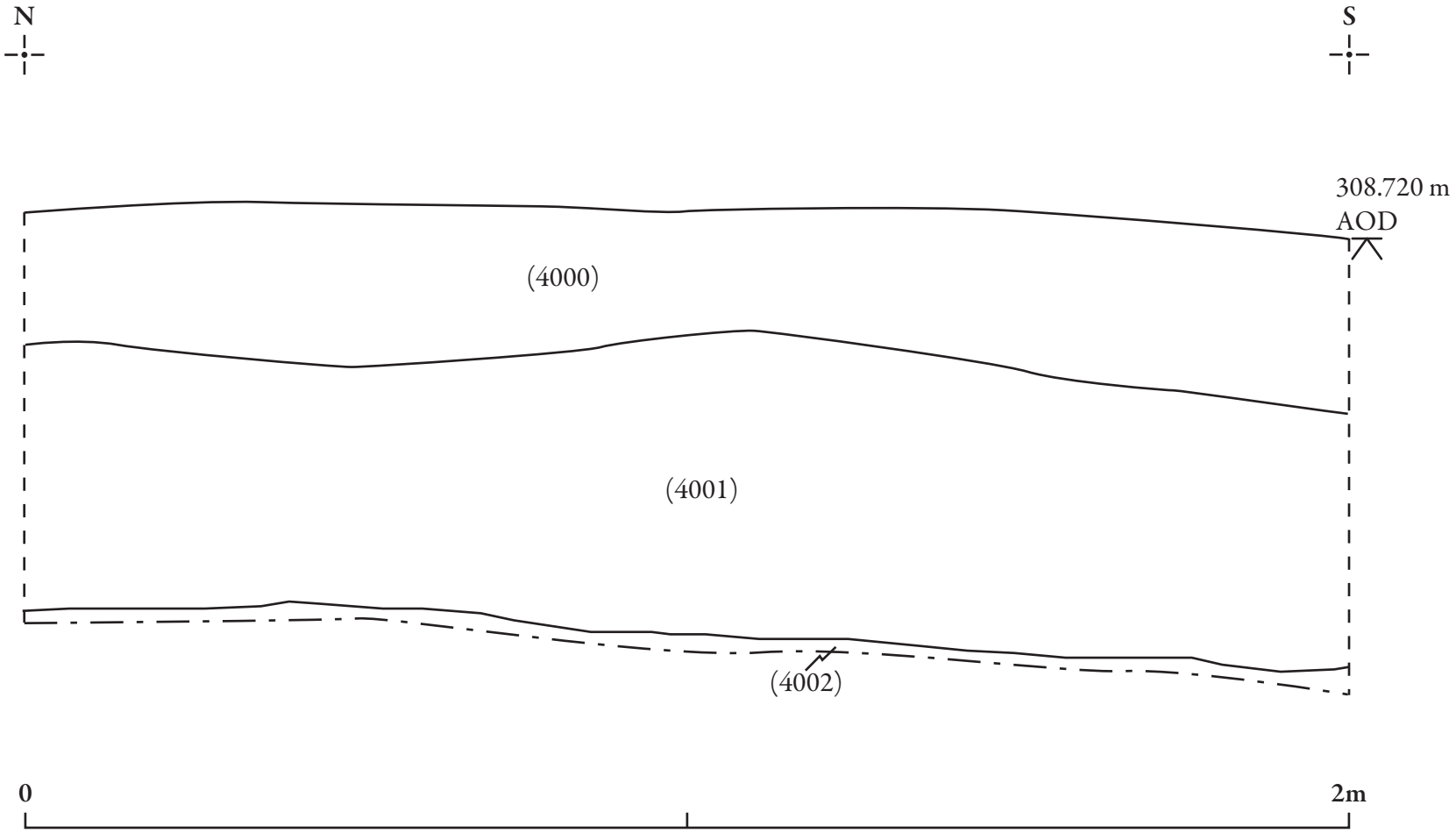

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Figure 19
Trench 4
2m Blank Section

3.1.5 *Trench 5 (30m)*

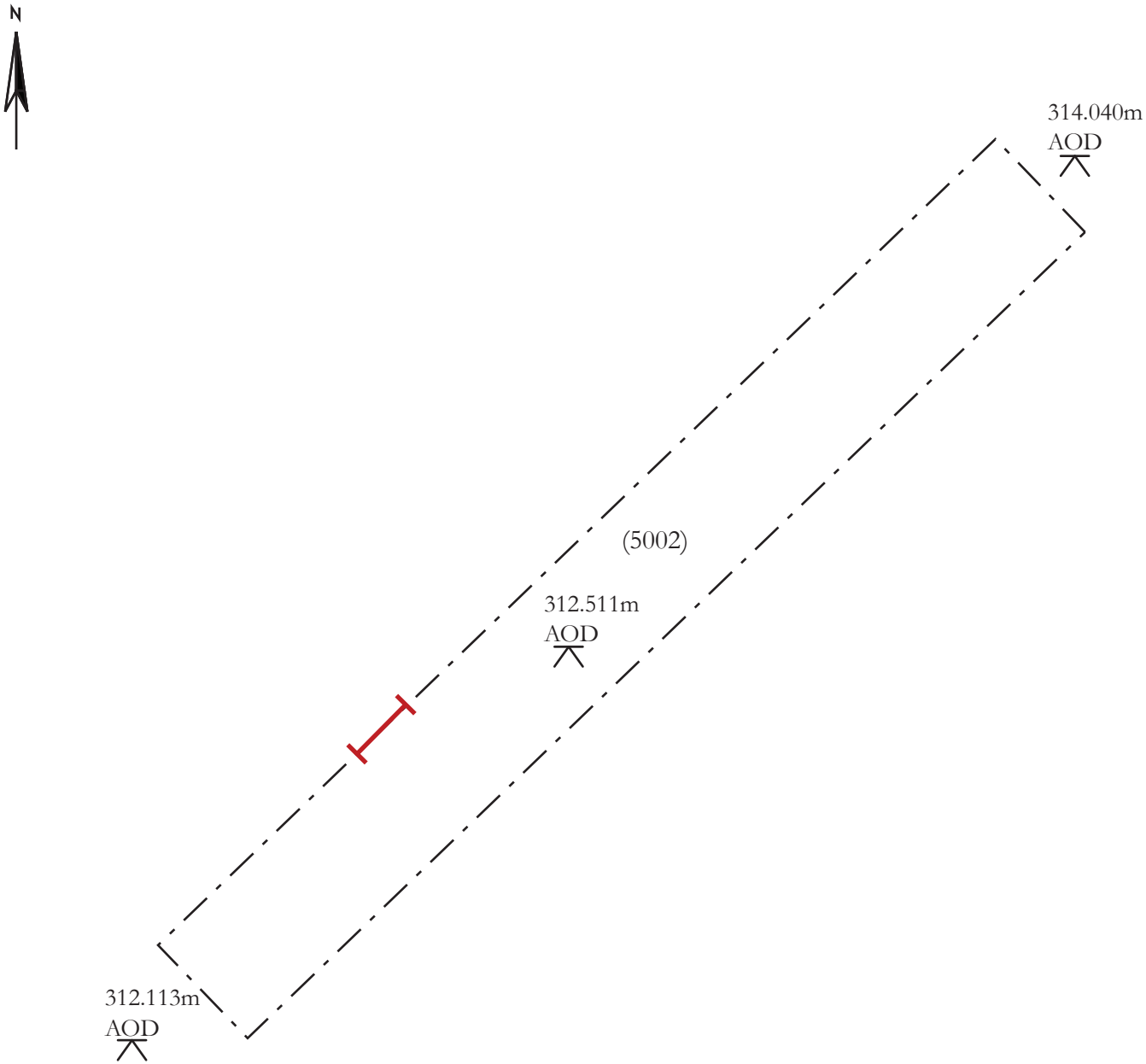
Trench 5 was aligned south-west to north-east and was positioned at a 45° angle to and intersects the proposed access track. The trench was located so as to enable the investigation of the archaeological potential of the access track and to investigate magnetic anomalies identified through the geophysical survey.

Trench 5 was machine-excavated to a maximum depth of 0.65m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (5000) comprising moist mid brown clayish silt with visible rootlets, evidence of recent worm action and occasional subangular flint and limestone pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.35m, and a minimum thickness of 0.06m, with an undulating lower boundary, likely a representation of ploughing activity. The topsoil directly overlay orange brown slightly sandy silt subsoil (5001), which contained common subangular limestone pebbles. This deposit had a maximum thickness of 0.62m and a minimum thickness of 0.39m. The natural drift geology (5002) comprised irregular limestone pebbles, cobbles and boulders in a soft and sticky mid orange brown pure clay matrix.

No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand, and in light of the absence of archaeology, may explain the geophysical anomalies identified at this location.

Figure 20. Trench 5, looking south-west. Scale 1x1m

Figure 21. Trench 5 south-east facing section showing topsoil (5000), subsoil (5001) and drift geology (5002). Scale 1x1m.



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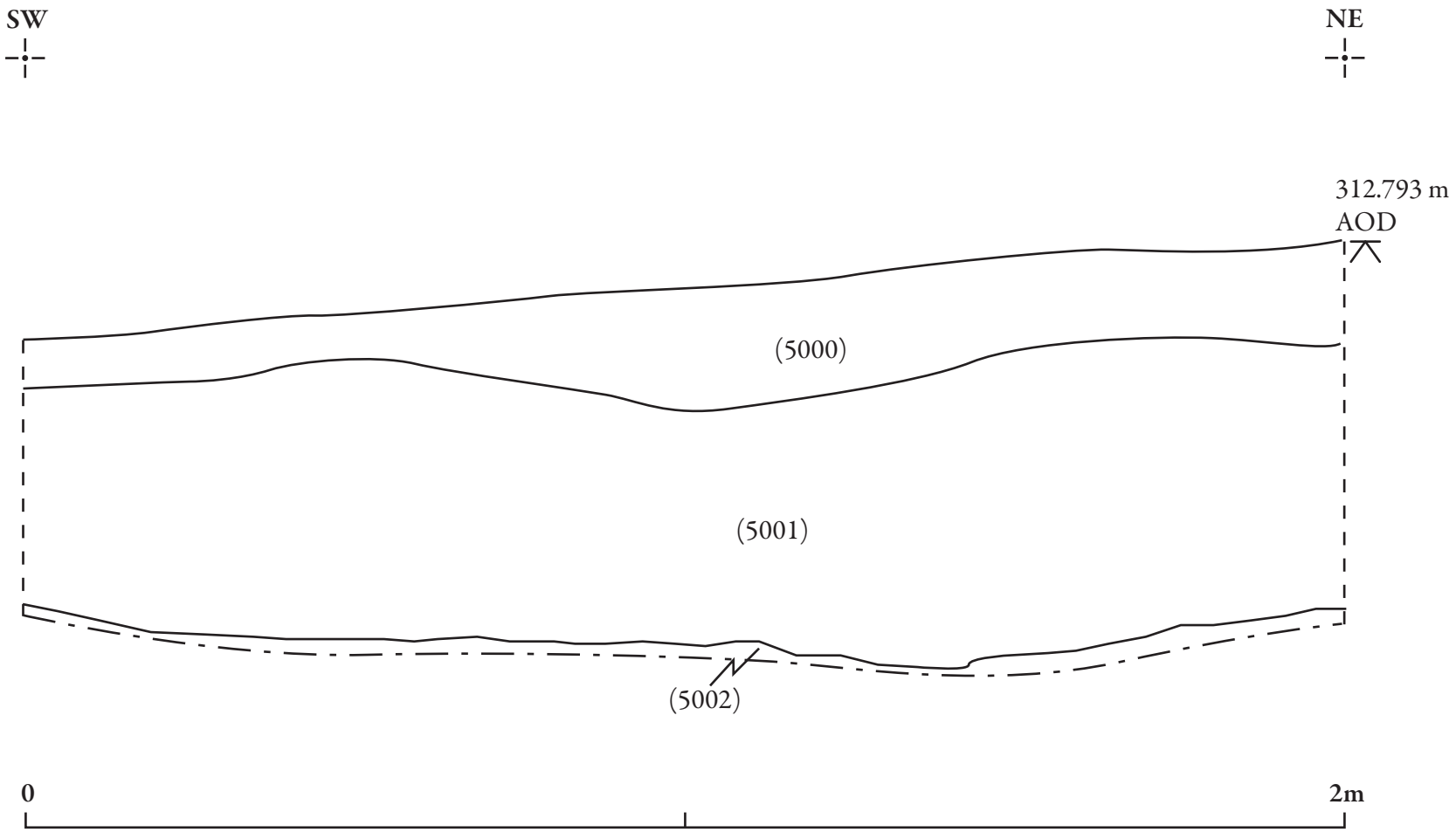
Brassington Moor
Figure 22
Trench 5
Plan

Key

2m section location



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Brassington Moor
Figure 23
Trench 5
2m Blank Section

3.2 Ryder Point

3.2.1 *Trench 1 and Trench 2*

Following on-site discussion with Steve Baker, Development Control Archaeologist for Derbyshire County Council, and Jennifer Barnes from Arcus Renewable Energy Consulting Ltd, it was concluded that the development was unlikely to directly impact the area of trenches 1 and 2, and as such these trenches were not opened. As a contingency, Trench 9 was opened adjacent to Trench 3, in order to investigate in further detail the 'figure of eight' anomaly identified in the geophysical survey.

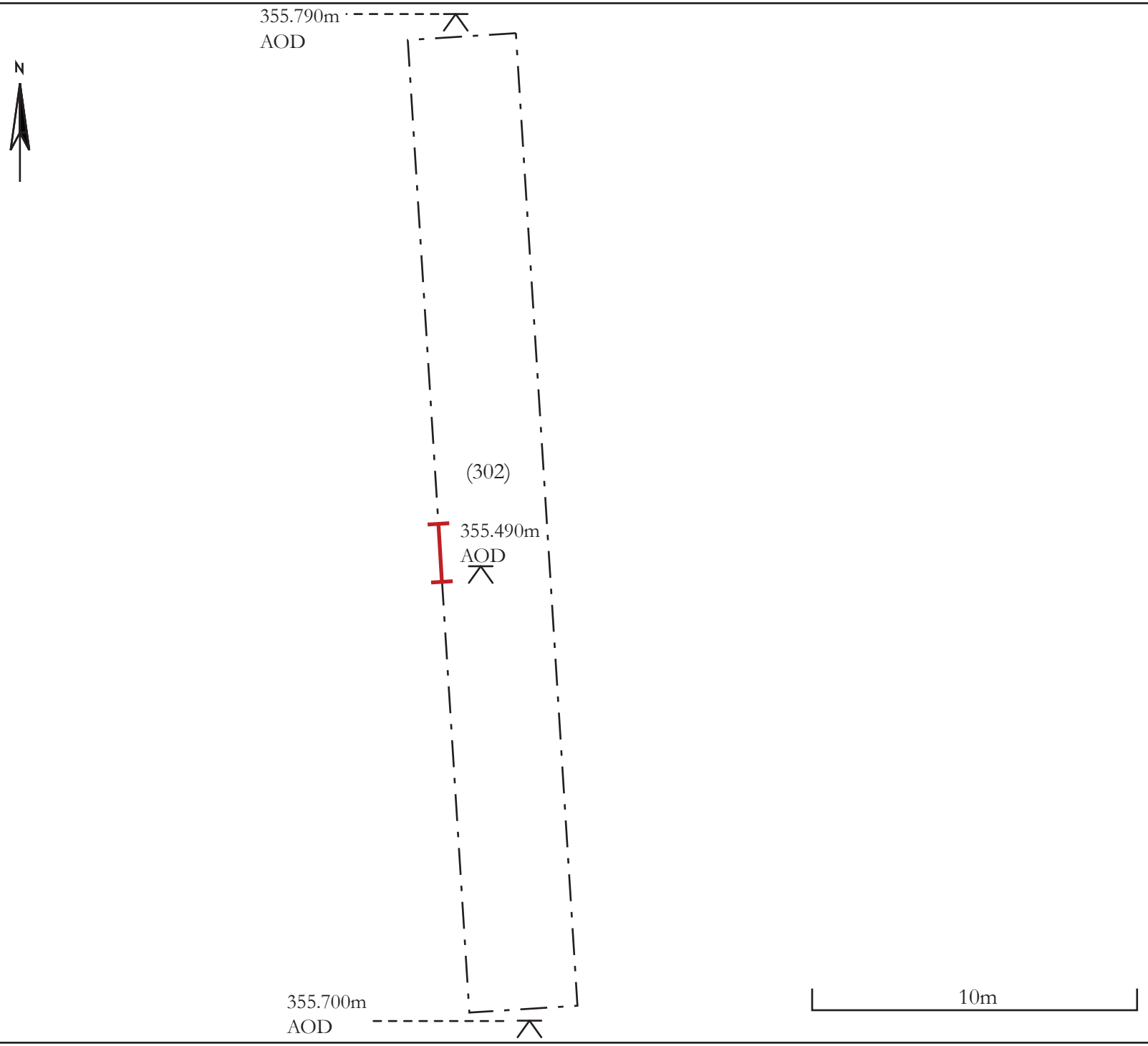
3.2.2 *Trench 3 (30m)*

Trench 3 was aligned north-west to south-east and across the proposed access track and was positioned to investigate a 'figure of eight' magnetic anomaly identified during the geophysical survey. Two discrete magnetic anomalies were also identified at this location and this trench was positioned so as to further investigate these.

Trench 3 was machine-excavated to a maximum depth of 0.45m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (300) comprising moist dark brown clayish silt with visible rootlets, evidence of recent worm action and occasional subangular flint, chert and limestone pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.33m, and a minimum thickness of 0.19m, with an undulating lower boundary, likely a representation of ploughing activity. The topsoil directly overlay moist light brown slightly silty clay subsoil (301), which contained occasional angular pebbles, mostly comprising limestone but some rare flint and chert pebbles. This deposit had a maximum depth of 0.27m and a minimum thickness of 0.08m. The upper boundary contact with (300) showed visible plough scars along the trench section. The natural drift geology (302) comprised a mixed deposit of pure orange brown clay with pockets of medium sand, irregular inclusions of limestone cobbles and boulders and randomly dispersed pockets and seams of ironstone.
No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand and ironstone, and in light of the absence of archaeology, may explain the geophysical anomalies identified at this location.

Figure 24. Trench 3, looking south. Scale 1x1m. Note the irregular patches of coarse pale yellow sand.

Figure 25. Trench 3 east facing section showing topsoil (300), subsoil (301) and drift geology (302). Scale 1x1



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Ryder Point
Figure 26
Trench 3
Plan

Key

2m section location

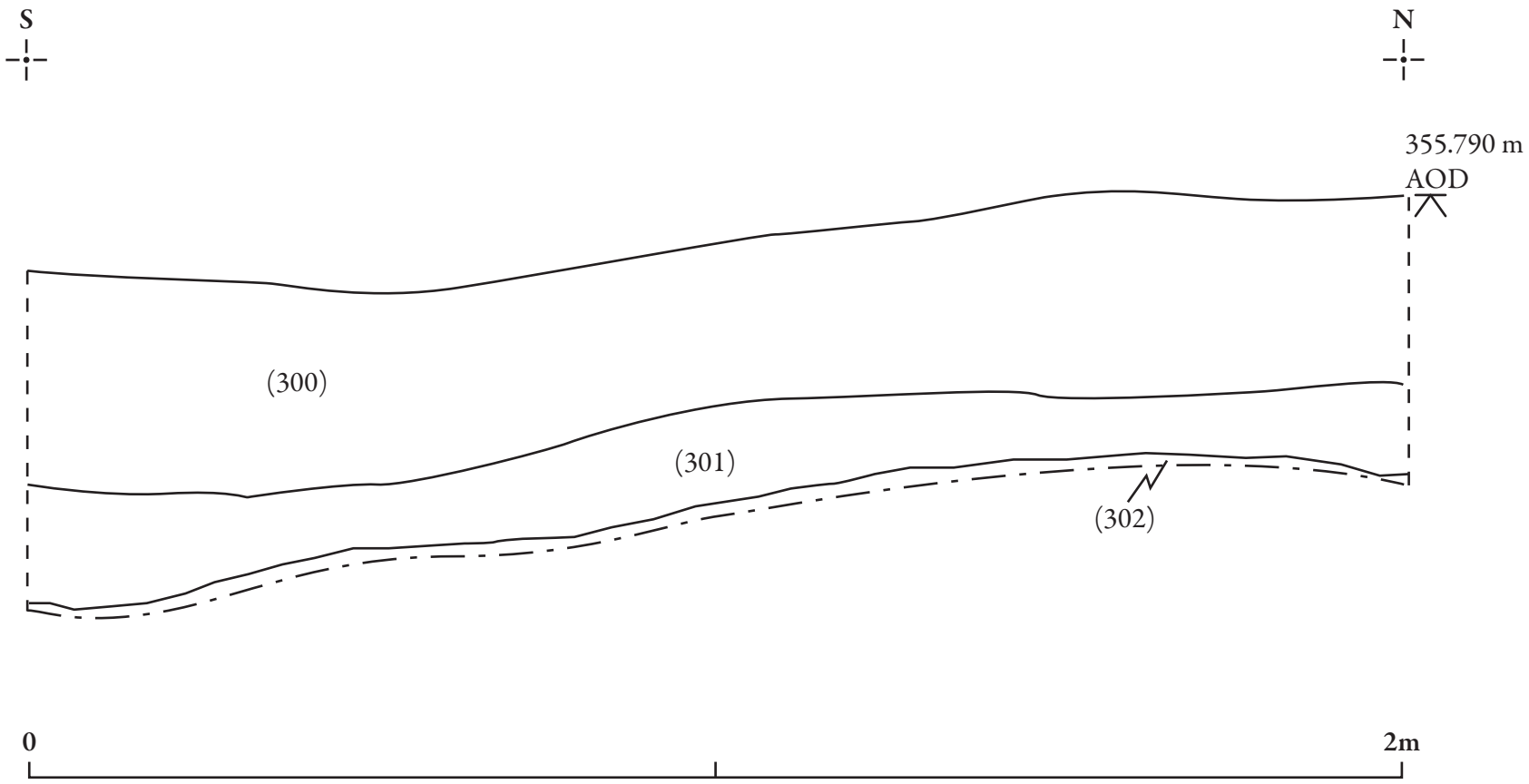

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Figure 27
Trench 3
2m Blank Section

3.2.3 *Trench 4 (30m)*

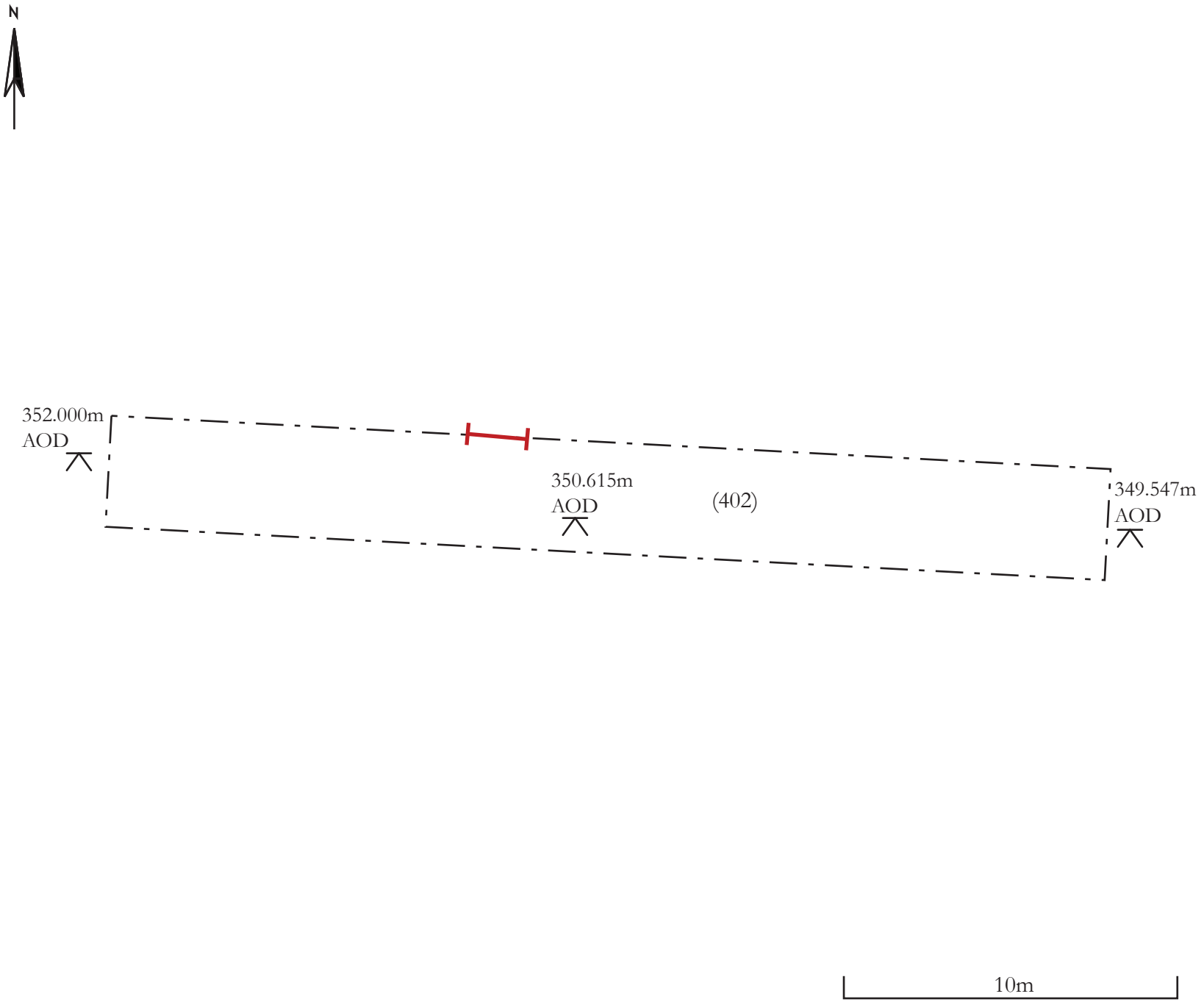
Trench 4 was aligned roughly east to west and was positioned to investigate an area of the access track which had returned no magnetic anomalies through the geophysical survey.

The trench was machine-excavated to a maximum depth of 0.50m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (400) comprising moist dark brown clayish silt with visible rootlets, evidence of recent worm action and occasional subangular flint, chert and limestone pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.33m, and a minimum thickness of 0.24m, with an undulating lower boundary, likely a representation of ploughing activity. The topsoil directly overlay moist brown orange silty clay subsoil (401), which contained occasional angular pebbles, mostly comprising limestone but some rare flint and chert pebbles. This deposit had a maximum depth of 0.25m and a minimum thickness of 0.07m and was very similar in appearance to the subsoil of trench 3 (301). The natural drift geology (402) comprised a mixed deposit of pure orange brown clay with pockets of medium sand, irregular inclusions of limestone cobbles and boulders and randomly dispersed pockets and seams of ironstone.

No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand and ironstone, and in light of the absence of archaeology, may explain the geophysical anomalies identified at this location.

Figure 28. Trench 4, looking east. Scale 1x1m

Figure 29. Trench 4, south-west facing section. Scale 1x1m



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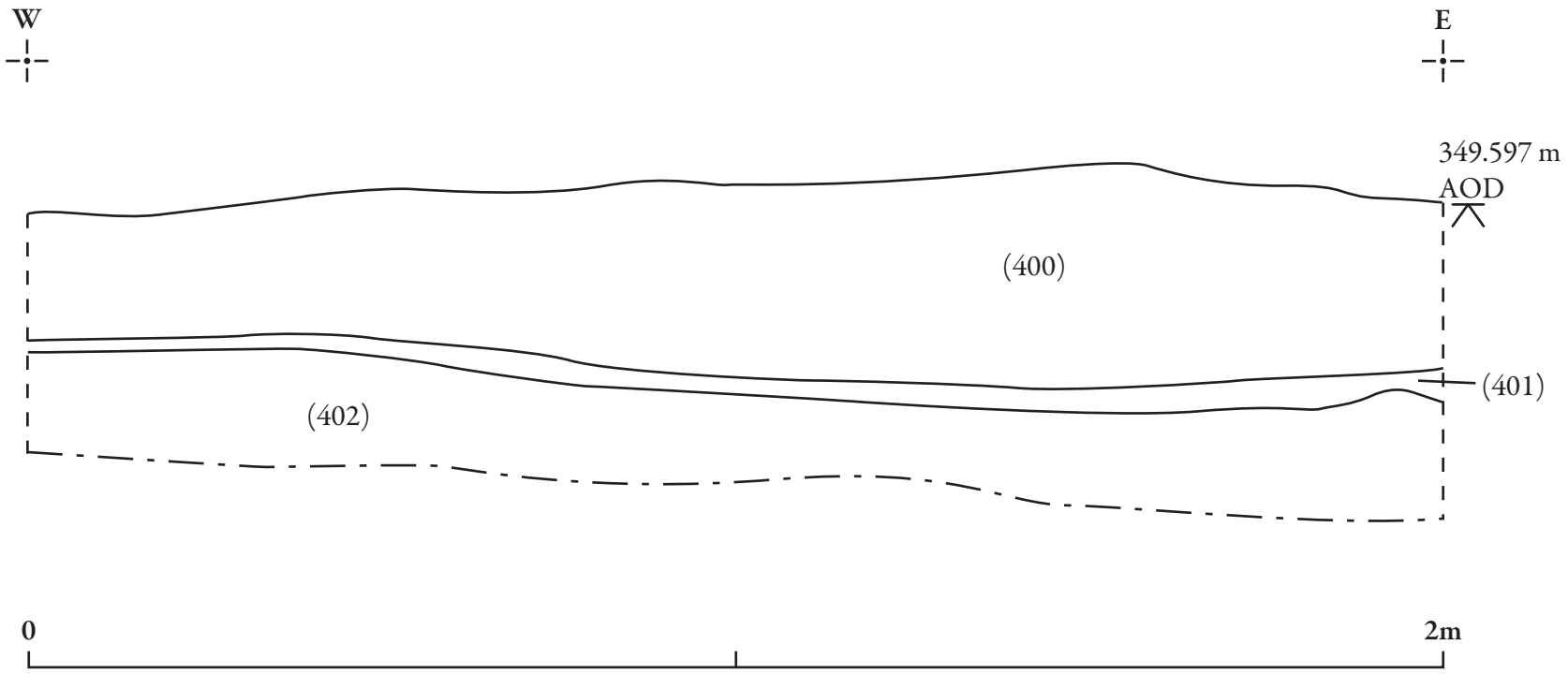
Ryder Point
Figure 30
Trench 4
Plan

Key

2m section location



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Ryder Point
Figure 31
Trench 4
2m Blank Section

3.2.4 *Trench 5 (30m)*

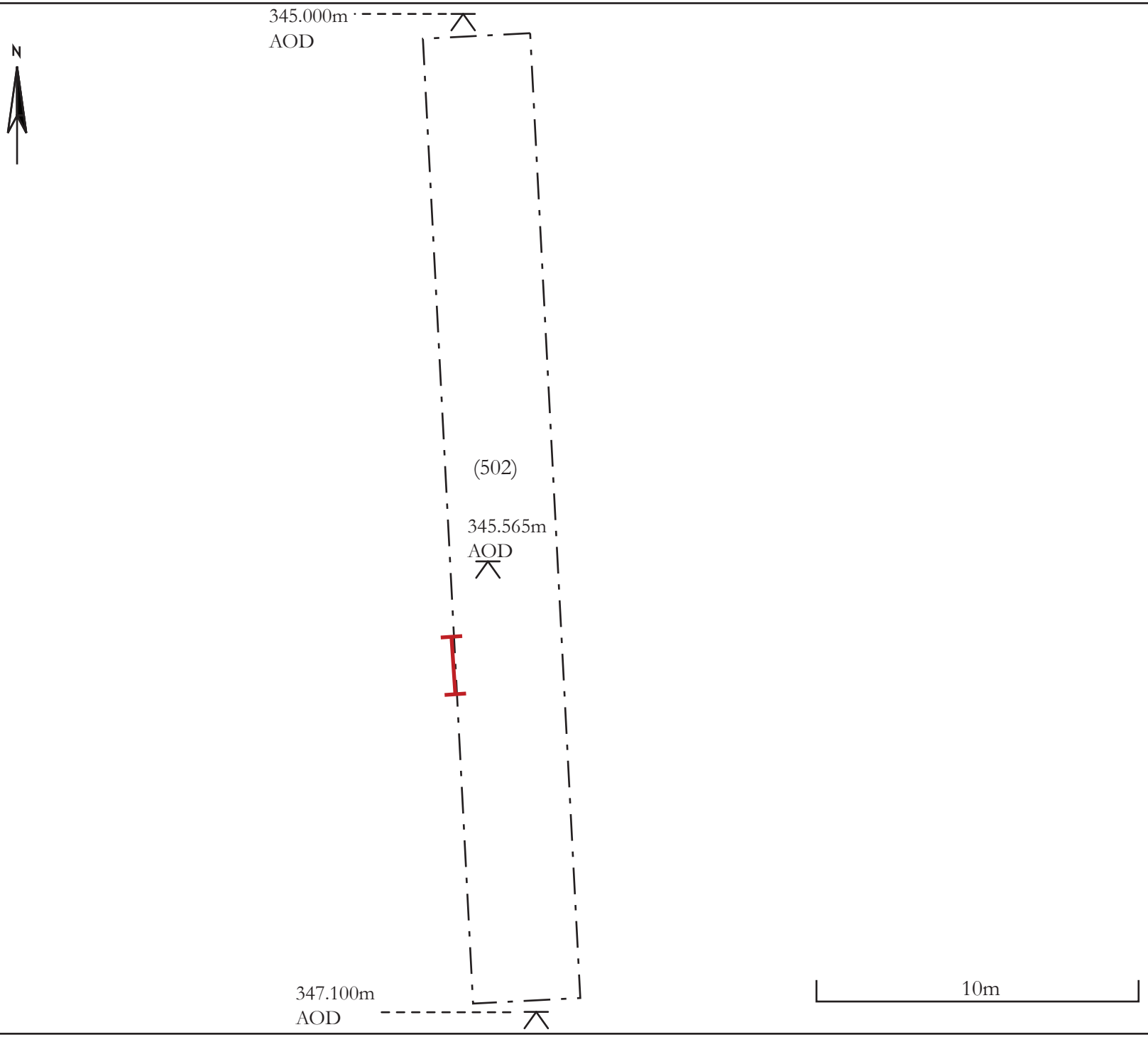
Trench 5 was aligned north to south and intersected the proposed access track at a right angle. It was located to investigate discrete magnetic anomalies and to test a set of linear anomalies interpreted as natural features within the geophysics report.

Trench 5 was machine-excavated to a maximum depth of 0.50m below existing ground level. The latest deposit to be encountered was a naturally formed topsoil (500) comprising a moist dark greyish brown clayish silt with visible rootlets, evidence of recent worm action and frequent subangular unworked flint and chert pebbles. This topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.38m, with an undulating lower boundary, likely a representation of ploughing activity. The topsoil directly overlay moist brown orange silty clay subsoil (501), which contained occasional angular pebbles, mostly comprising limestone but some rare flint and chert pebbles. This deposit had a maximum depth of 0.25m and was very similar in appearance to the subsoil of trench 6 (601). The natural drift geology (502) was noticeably similar to that in trench 4 (402), and comprised a mixed deposit of pure pale yellowish brown clay with pockets of medium sand, irregular inclusions of limestone cobbles and boulders and randomly dispersed pockets and seams of ironstone.

No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand and ironstone, and in light of the absence of archaeology, may explain the geophysical anomalies identified to be present at this location.

Figure 32. Trench 5, looking north-east. Scale 1x1m. Note the irregular patches of coarse pale yellow sand and darker linear ironstone seams.

Figure 33. Trench 5, south-east facing section. Scale 1x1m



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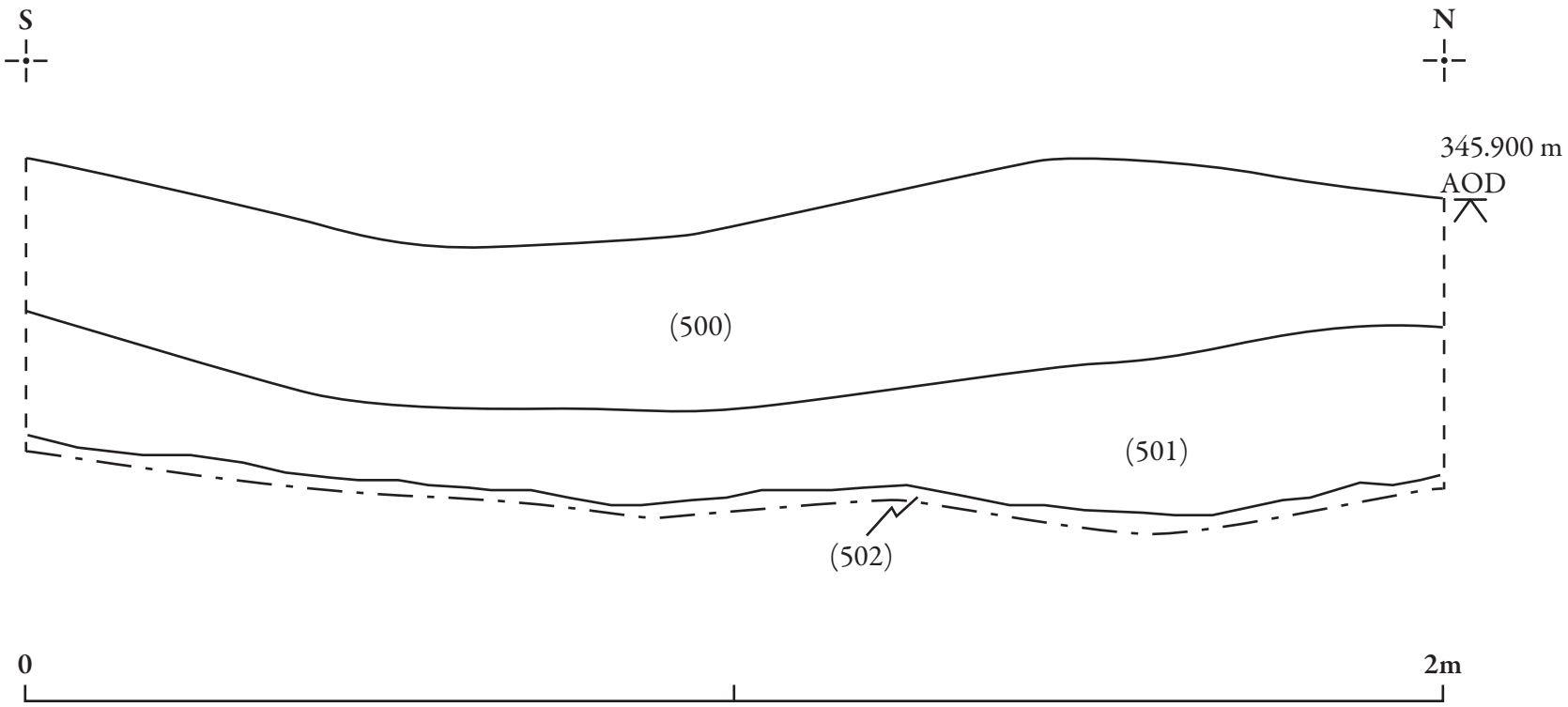
Ryder Point
Figure 34
Trench 5
Plan

Key

2m section location



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Ryder Point
Figure 35
Trench 5
2m Blank Section

3.2.5 *Trench 6 (30m)*

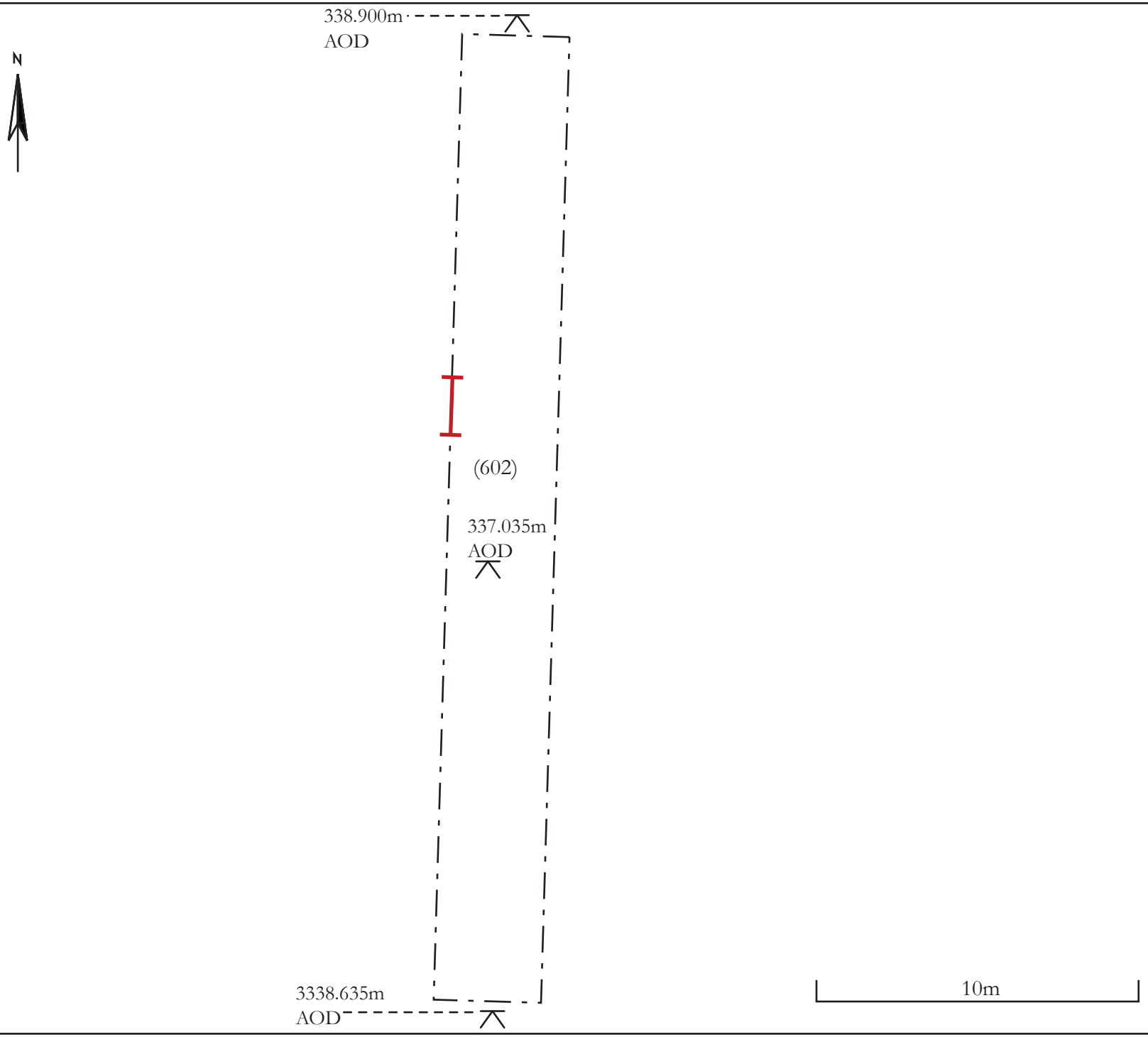
Trench 6 was aligned north to south and intersected the proposed access track at a right angle. It was located to investigate discrete magnetic anomalies and to test a set of linear anomalies interpreted as natural features within the geophysics report.

Trench 6 was machine-excavated to a maximum depth of 0.72m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (600) comprising moist dark greyish brown clayish silt with visible rootlets, evidence of recent worm action and frequent subangular unworked flint and chert pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.33m, with an undulating lower boundary, likely a representation of ploughing activity. The topsoil directly overlay moist mid orange brown clayish silt subsoil (601), which contained occasional angular stone pebbles. This deposit had a maximum depth of 0.20m and had visible plough furrows cutting into it in places, visible in the trench section. The natural drift geology (602) comprised a mixed deposit of pure pale yellowish brown clay with pockets of medium sand, irregular inclusions of limestone cobbles and boulders, flint and chert angular pebbles and cobbles and randomly dispersed pockets and seams of ironstone.

No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand and ironstone, and in light of the absence of archaeology, may explain the geophysical anomalies identified to be present at this location.

Figure 36. Trench 6, looking south-west. Scale 1x1m Note the irregular patches of coarse pale yellow sand and darker patches and linears of ironstone.

Figure 37. Trench 6, south-east facing section. Scale 1x1m



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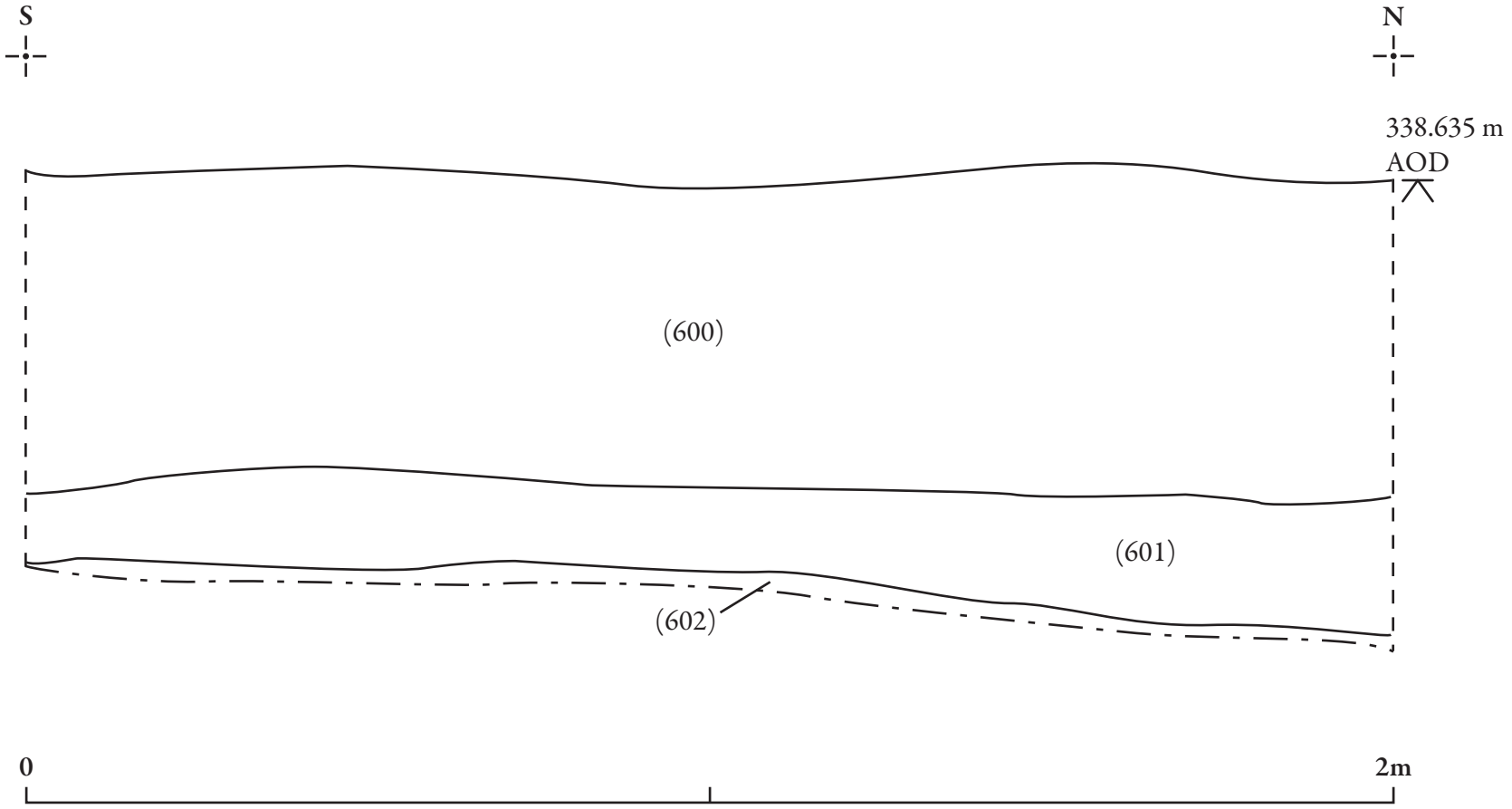
Ryder Point
Figure 38
Trench 6
Plan

Key

2m section location



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Ryder Point
Figure 39
Trench 6
2m Blank Section

3.2.6 *Trench 7 (30m)*

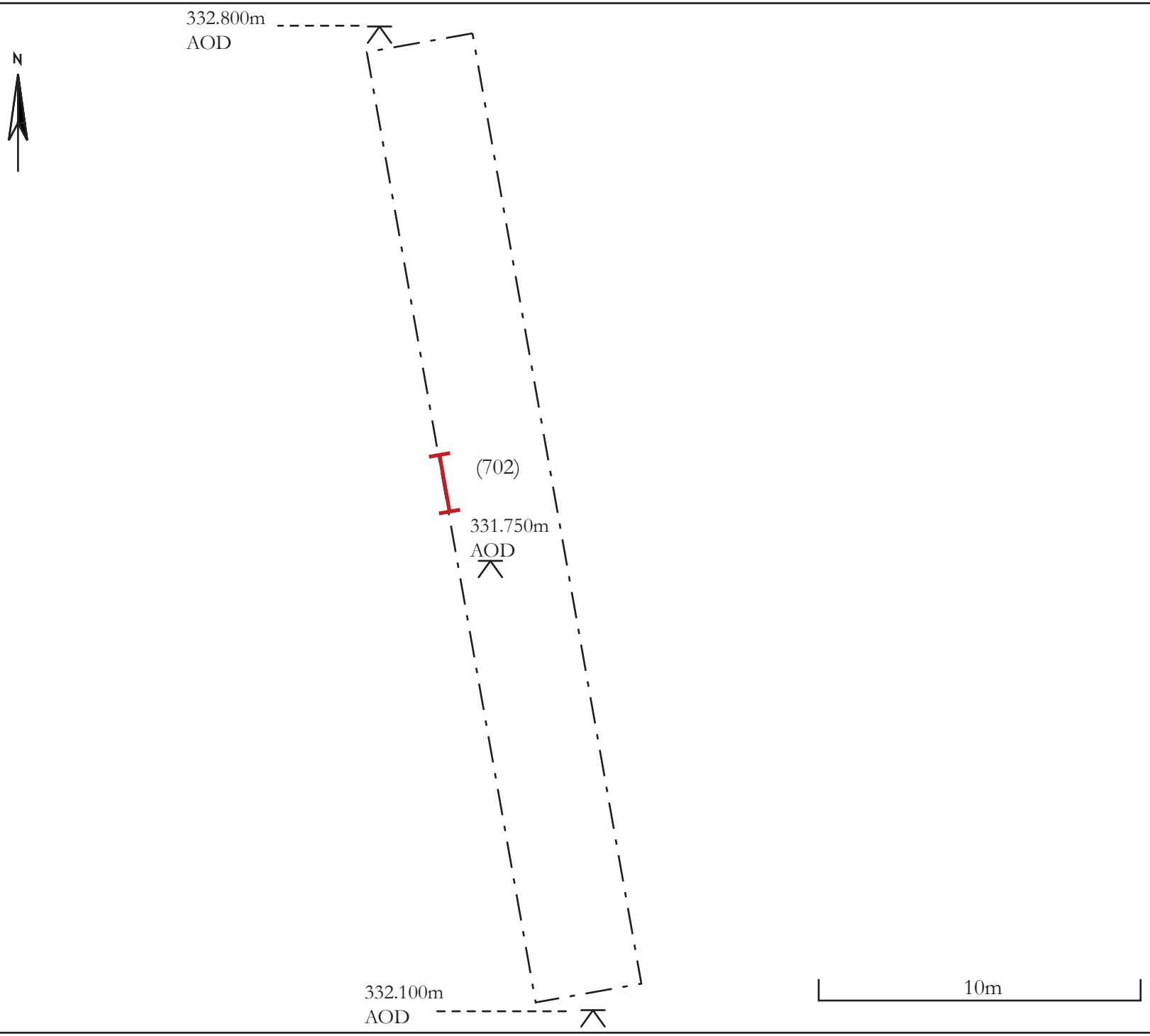
Trench 7 was aligned north-west to south-east and follows the course of the proposed access track. This trench was located so as to further investigate two discrete magnetic anomalies situated in close proximity to the proposed crane hard standing.

Trench 7 was machine-excavated to a maximum depth of 0.70m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (700) comprising moist dark brown silty clay with visible rootlets, evidence of recent worm action and frequent subangular unworked flint and chert pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.44m, with an undulating lower boundary, likely a representation of ploughing activity. The topsoil directly overlay moist orange brown clay silt subsoil (701), which contained occasional angular flint and chert pebbles and some modern root intrusion. This deposit had a maximum depth of 0.15m. The natural drift geology (702) comprised mixed deposits of pure red, orange and yellow clay with pockets of white, yellow and black medium sand, frequent irregular inclusions of limestone cobbles and boulders and flint and chert pebbles and cobbles. Such a mixed deposit is likely to represent the Brassington Formation (British Geological Society 2012b).

No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand and ironstone, and in light of the absence of archaeology, may explain the geophysical anomalies identified to be present at this location.

Figure 40. Trench 7, looking north-west. Note the irregular patches of pale coarse sand. Scale 1x1m

Figure 41. Trench 7, north-east facing section. Scale 1x1m



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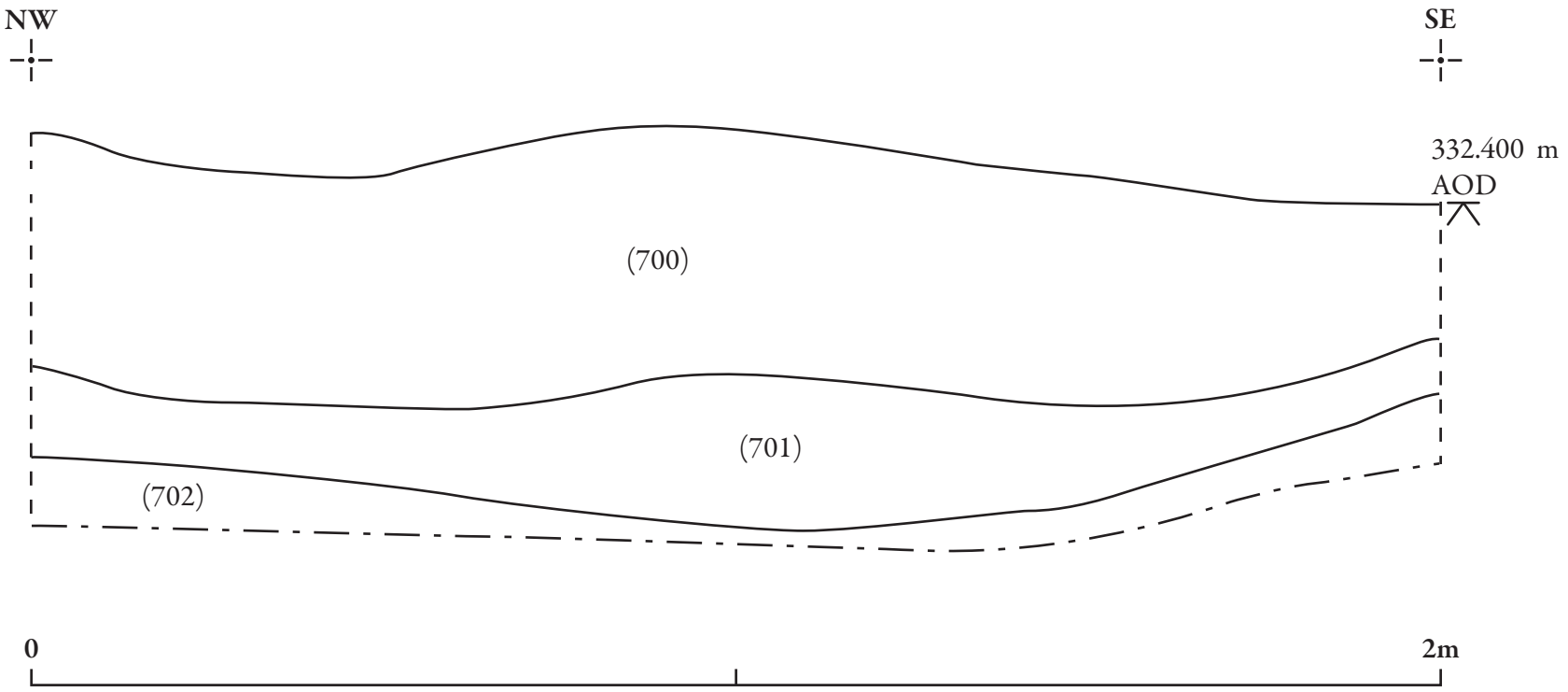
Ryder Point
Figure 42
Trench 7
Plan

Key

2m section location



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Ryder Point
Figure 43
Trench 7
2m Blank Section

3.2.7 *Trench 8 (30m)*

Trench 8 was aligned north-east to south-west at the proposed turbine location. The trench was intended to test an area reported as "blank" by the geophysics survey, and a singular discrete positive magnetic anomaly situated south-west of the turbine location.

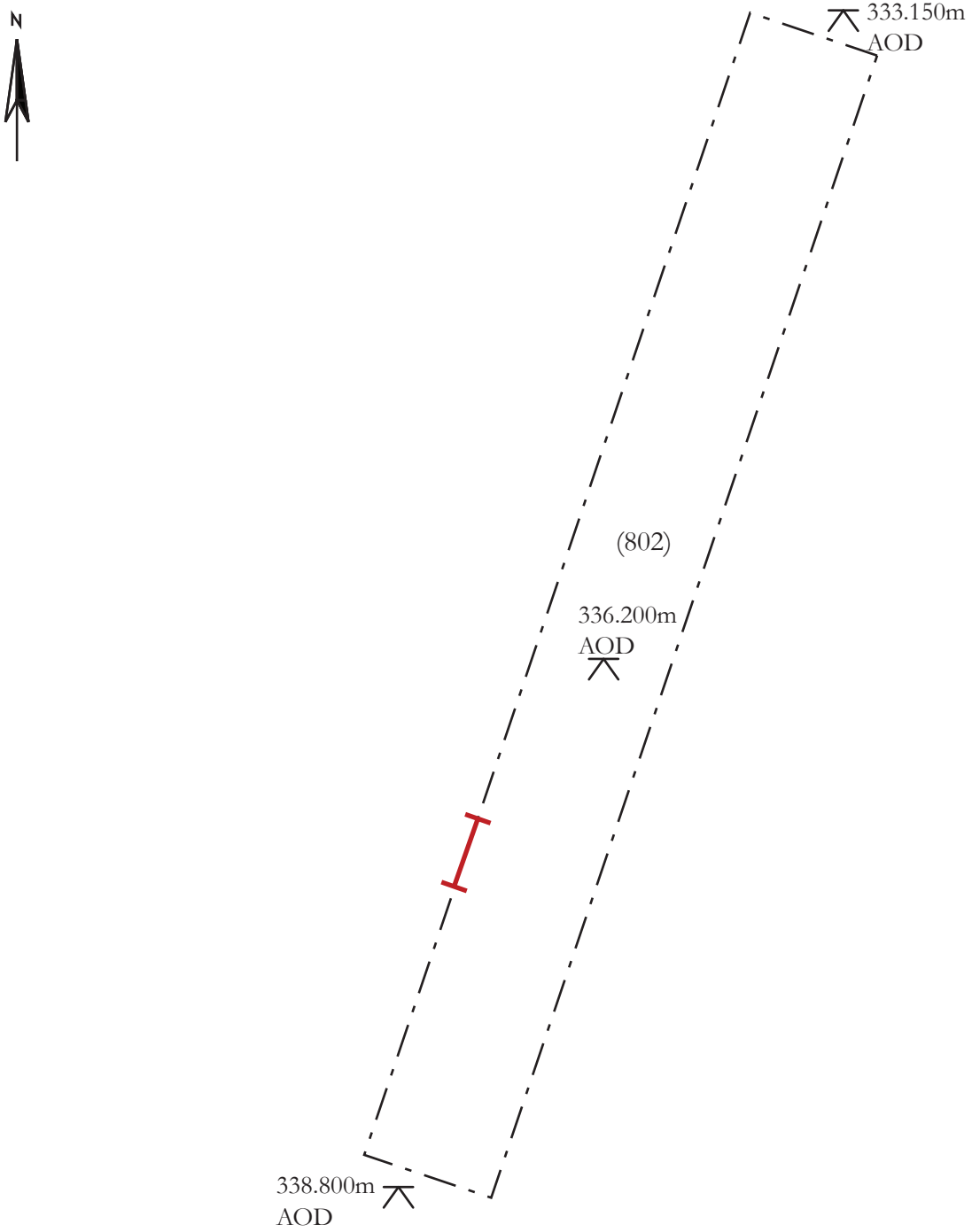
Trench 8 was machine-excavated to a maximum depth of 1.10m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (800) comprising moist dark greyish brown silty clay with visible rootlets, evidence of recent worm action and frequent subangular unworked flint and chert pebbles. The topsoil appeared to have been regularly ploughed, with a maximum thickness of 0.57m, a minimum thickness of 0.21m, and an undulating lower boundary visible in section, likely a representation of ploughing activity. The topsoil directly overlay moist mid orange brown clay silt subsoil (801), which contained occasional angular flint and chert pebbles. This deposit had a maximum depth of 0.40m. The natural drift geology (802) comprised a mixed deposit of pure red, orange and yellow clay with pockets of white, yellow and black medium sand, frequent irregular inclusions of limestone cobbles and boulders and flint and chert pebbles and cobbles. Such a mixed deposit is likely to represent the Brassington Formation (British Geological Society 2012b). A sondage was dug at the south-west end of the trench which confirmed the natural character of this deposit.

No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand and ironstone, and in light of the absence of archaeology, may explain the geophysical anomalies identified to be present at this location.

Excavations for the proposed turbine location at this trench location are anticipated to reach a depth between 2-4 m. Although the archaeological evaluation trench did not reach such a depth, the drift geology was encountered before 1m below ground surface, hence any development excavations below this depth will only penetrate deeper into the geology, and pose no risk of encountering any archaeological deposits.

Figure 44. Trench 8, looking south-west. Scale 1x1m

Figure 45. Trench 8 south-east facing section. Scale 1x1m



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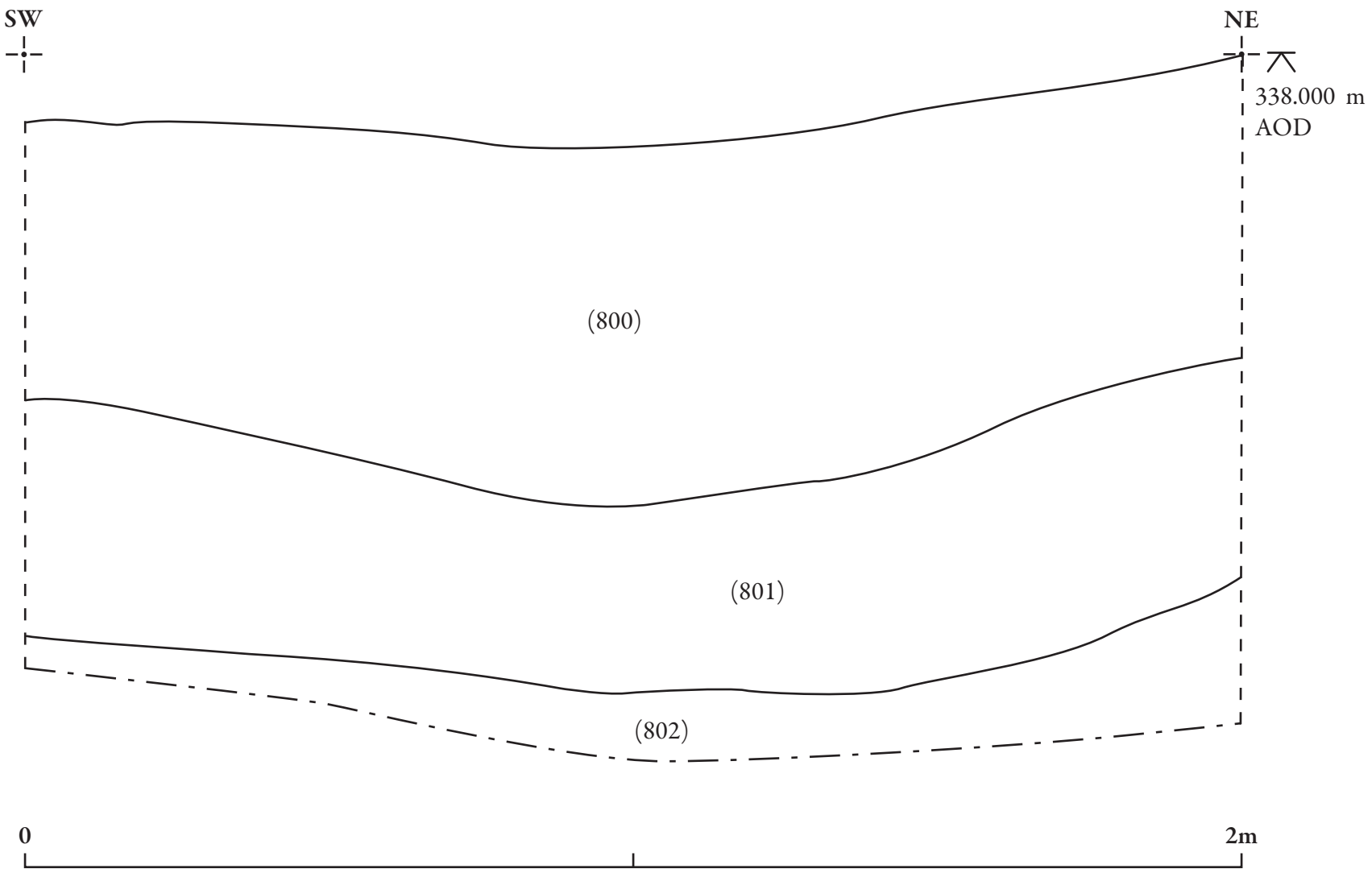
Ryder Point
Figure 46
Trench 8
Plan

Key

2m section location



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Ryder Point
Figure 47
Trench 8
2m Blank Section

3.2.8 *Trench 9 (30m)*

Trench 9 was opened as a contingency following discussion with Steve Baker, Development Control Archaeologist for Derbyshire County Council, and Jennifer Barnes from Arcus Renewable Energy Consulting Ltd. Trench 9 was opened to further investigate the 'figure of eight' anomaly picked up during the geophysics survey, which was not fully explained through the excavation of Trench 3.

Trench 9 was located directly 8m to the west of Trench 3, and ran parallel to it, directly through the centre of the interpreted 'figure of eight'. It was located at approximately SK 25196 55154.

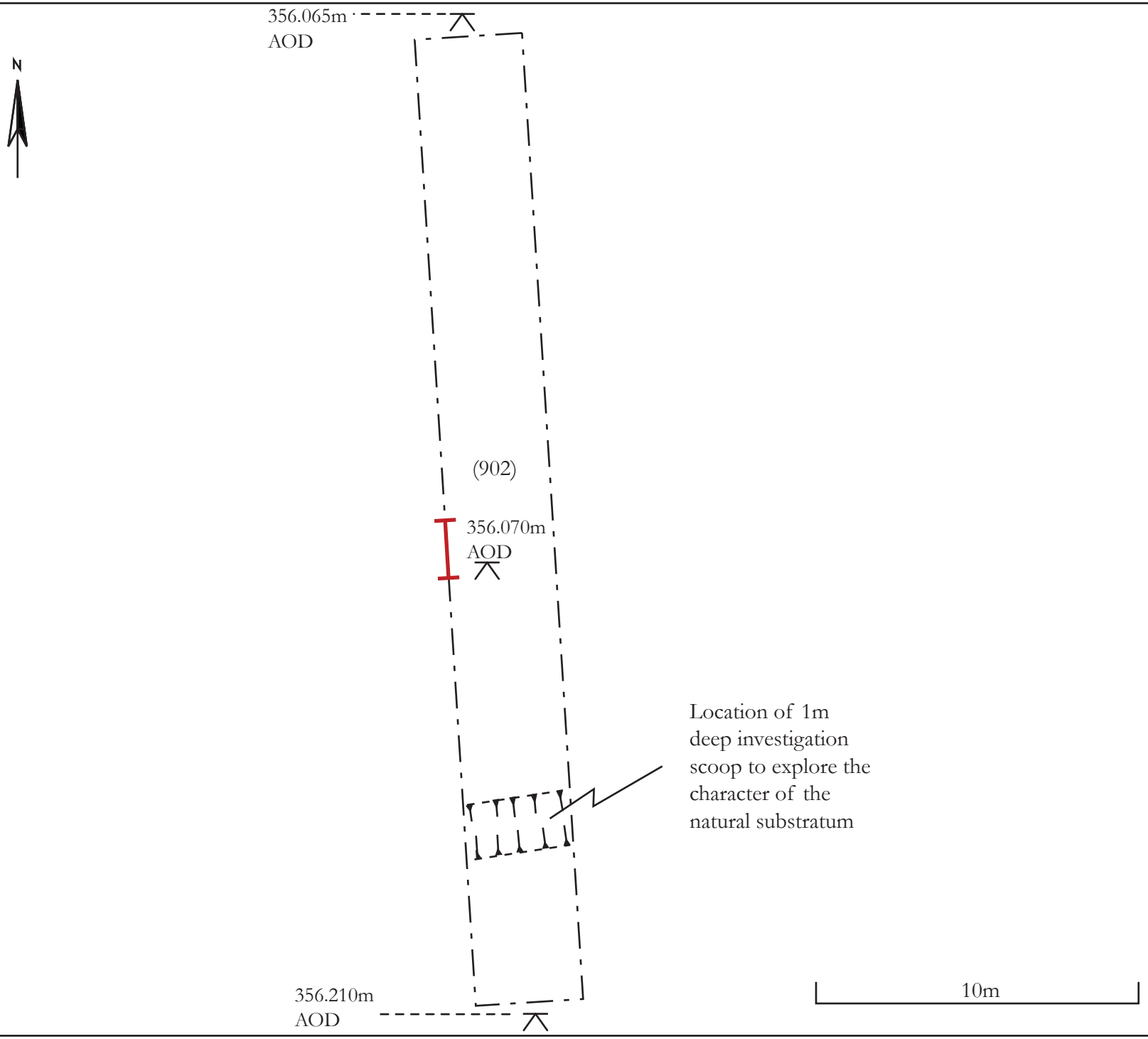
Trench 9 was machine-excavated to a maximum depth of 0.48m below existing ground level. The latest deposit to be encountered was naturally formed topsoil (900) comprising moist dark brown clay silt with visible rootlets, evidence of recent worm action and frequent subangular unworked flint and chert pebbles. This topsoil was very similar to the topsoil of trench 3 (300) and appeared to have been regularly ploughed, with a maximum thickness of 0.25m and an undulating lower boundary visible in section, likely a representation of ploughing activity. The topsoil directly overlay moist light brown silt clay subsoil (901), which contained occasional angular flint, chert and limestone pebbles. This deposit had a maximum thickness of 0.22m and was similar to the natural drift geology (902), but contained less frequent coarse inclusions. The natural drift geology (902) comprised moist light orange brown pure clay with pockets of fine sand, with frequent limestone cobbles and boulders, frequent flint and chert pebbles and cobbles and irregular patches and bands of ironstone.

No archaeological remains were uncovered within the trench and no archaeological finds were recovered from the topsoil sampling. The limestone inclusions varied in both density and height, as did the patches of sand and ironstone, and in light of the absence of archaeology, may explain the geophysical anomalies identified at this location.

Figure 48. Trench 9, looking north-west. Scale 1x1m

Figure 49. Trench 9 south-east facing section. Scale 1x1m

Figure 50. Trench 9, south-east facing section. 1m deep investigation scoop to explore the character of the drift geology. Note the dark patches of ironstone to the bottom right of the scale, and in the centre foreground. Scale 1x1m.



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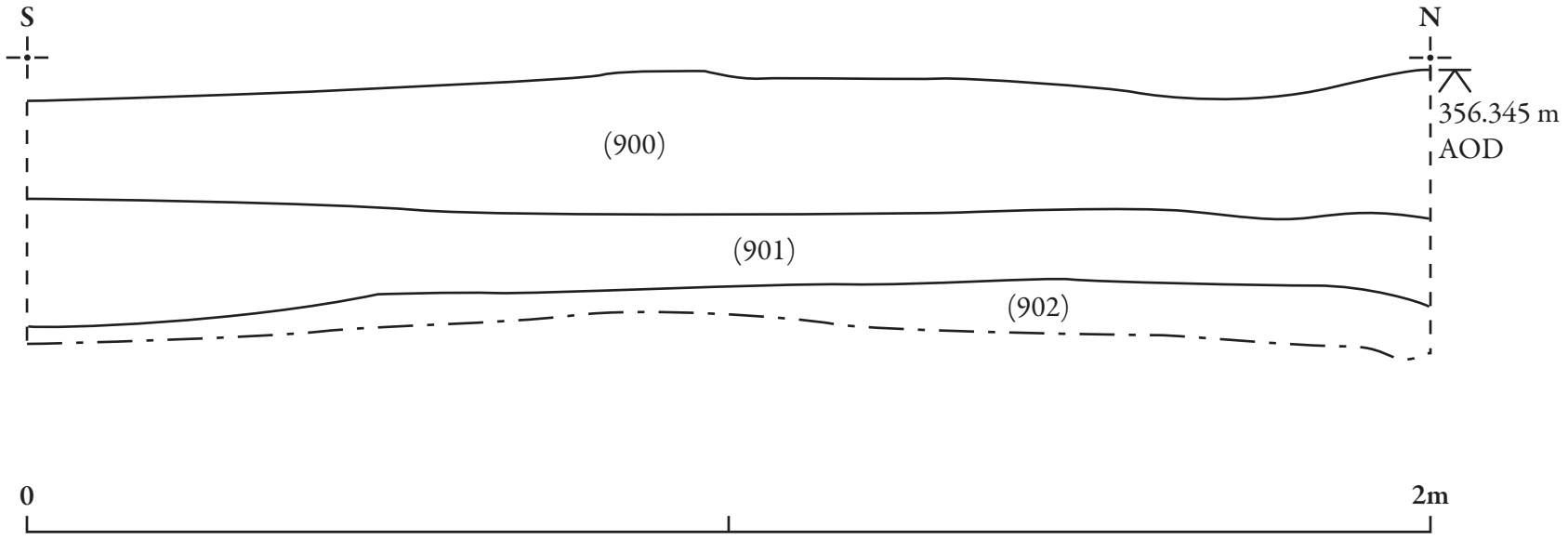
Ryder Point
Figure 51
Trench 9
Plan

Key

2m section location



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Ryder Point
Figure 52
Trench 9
2m Blank Section

4. Results and Discussion

4.1 Topsoil Sampling

4.1.1 Brassington Moor

Trench	Context	Finds	Average weight of residue	Material of Residue
1	1000	No finds	815g	Unworked flint, chert and limestone
2	2000	No finds	1273g	Unworked flint, chert and limestone
3	3000	No finds	378g	Unworked flint, chert and limestone
4	4000	No finds	520g	Unworked flint, chert and limestone
5	5000	No finds	1888g	Unworked flint, chert and limestone

4.1.2 Ryder Point

Trench	Context	Finds	Average weight of residue	Material of Residue
3	300	No finds	1335g	Unworked flint, chert and limestone
4	400	No finds	3379g	Unworked flint, chert and limestone
5	500	No finds	2317g	Unworked flint, chert and limestone
6	600	No finds	2306g	Unworked flint, chert and limestone
7	700	No finds	1537g	Unworked flint, chert and limestone
8	800	No finds	1104g	Unworked flint, chert and limestone
9	900	No finds	1841g	Unworked flint, chert and limestone

4.2 Brassington Moor

4.2.1 Whilst the deposits in all 5 trenches were extremely similar and are likely to represent the same formation and depositional processes, there were some subtle differences. The topsoil depth varied throughout the site, with the topsoil (1000) depth at the base of the slope (trench 1) much thicker than (5000) at the top of the slope (trench 5). It is likely that natural processes such as hill wash has caused the topsoil to be thicker at the bottom of the slope than at the top, and that sustained ploughing activity has also affected the depth of topsoil and caused such an undulating and uneven lover boundary as was observed. The geophysical report (Durkin 2012a) concluded that some of the anomalies identified may represent ridge and furrow and certainly the character of the

boundary between the topsoil and subsoil in all trenches suggests that this may be the case, although no extant ridge and furrow was identified during the evaluation.

4.2.2 The geophysical report (Durkin 2012a) concluded that the survey presented no evidence of definite archaeology and suggested that many of the anomalies identified were likely to be a result of the underlying geology of the area. The natural drift geology varied slightly across the site, although was always made up of the same components of material but in differing quantities. In trench 1 (1002) and trench 2 (2002), the drift geology contained more sand and fine particles with fewer big boulders, compared to the drift geology in trenches 3 (3002), 4 (4002), and 5 (5002) further up the slope which displayed more limestone boulders and less frequency of sand. The geology in all trenches occurred at varying depths, with randomly occurring clusters of material such as limestone boulders or patches of dense sand. The varying height of such materials and the varying density of it may explain some of the anomalies that were identified as a result of the geophysical survey.

4.3 **Ryder Point**

4.3.1 As at Brassington Moor, the deposits in all 7 trenches were extremely similar and are likely to represent the same formation and depositional processes. The geology at the south-eastern end of the site in trenches 7 (702) and 8 (802) was noticeably different to trenches 3 (302), 4 (402), 5 (502), 6 (602), and 9 (902) further north-west, with the brightly coloured red, orange and yellow mixed clay silt and sand deposits in trench 7 and 8 likely to represent the Brassington Formation (Pound *et al* 2012, British Geological Survey 2012b). The topsoil occurred at various depths and thicknesses and displayed a very undulating lower boundary, likely to be a result of sustained ploughing activity in the area.

4.3.2 The geophysical report (Durkin 2012b) concluded that the survey presented no evidence of definite archaeology and suggested that many of the anomalies identified were likely to be a result of the underlying geology of the area. As at Brassington, the level of the drift geology varied and randomly dispersed pockets of denser and higher material occurred throughout every trench, which may explain the geophysical anomalies. The geology at Ryder Point also contained random linear seams and irregular patches of ironstone, observed in many of the trenches, which will produce a higher magnetic reading and may explain some of the anomalies that were identified as a result of the geophysical survey.

5. Statement of Potential

5.1 The twelve evaluation trenches over the two sites revealed no archaeological features, hence there is low potential for revealing any archaeological features during further work in the area. The investigation areas, particularly Ryder Point, have been subject to intense mining activity from the medieval period, and although no evidence of such activity was revealed during the evaluation, it should be considered that any archaeological remains in the area may already have been destroyed.

5.2 In addition, the natural substrate is relatively close to the modern ground surface and was always encountered before a depth of 1m; the regular and intensive ploughing that the investigation areas have sustained over a long period of time may also have destroyed any archaeology in the area.

6. Publicity, Confidentiality and Copyright

6.1. Any publicity will be handled by the client.
6.2. ARS Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

7. Archiving and Publication

7.1 A digital and paper archive will be prepared consisting of all written, drawn and photographic records, all site matrices, a site summary and a single copy of the final report. The archive will be prepared in accordance with Appendices 3 and 6 in English Heritage's Guidelines on the Management of Archaeological Projects and according to the Museums in Derbyshire guidelines. The archive will be deposited with Buxton Museum and the Development Control Archaeologist will be notified in writing upon the final deposition of the project archives. The following Museums in Derbyshire accession numbers will be used:
Brassington Moor - DERSB: 2012.16
Ryder Point - DERSB: 2012.17

8. Statement of Indemnity

8.1 All statements and opinions contained within this report arising from the works undertaken are offered in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

9. Acknowledgements

9.1. ARS Ltd would like to thank all those involved in this project, in particular the landowners of each field where work was undertaken, Nigel Weedon of Longcliffe Quarries Ltd and Jennifer Barnes of Arcus Renewable Energy Consulting Ltd.

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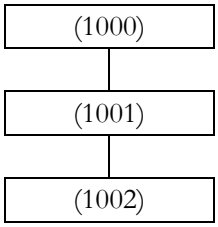
APPENDIX I. Harris Matrices
Brassington Moor

Trench 1



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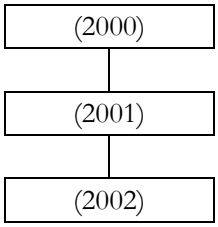

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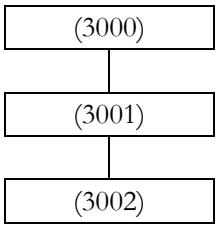

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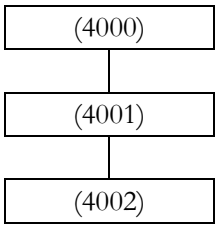
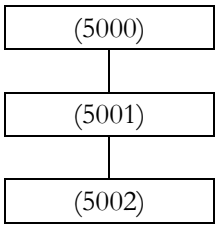
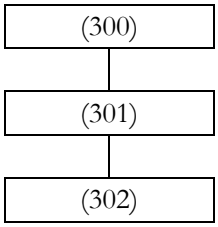


Trench 5

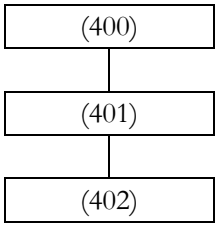


Ryder Point

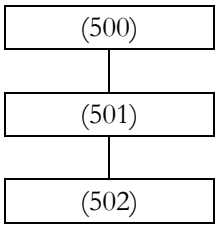
Trench 3



Trench 4



Trench 5



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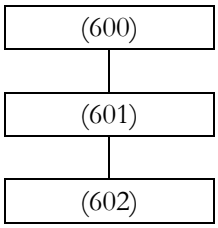
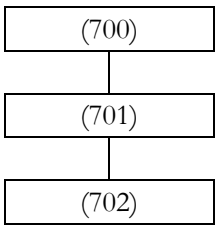
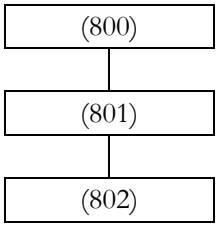


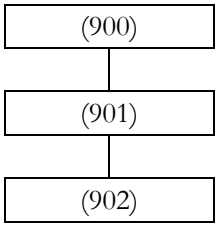
Trench 7



Trench 8



Trench 9



APPENDIX II: Registers

Evaluation Trench Register

Brassington Moor

Trench Number	Associated Contexts	Types of Feature	Types of Finds
1	1000, 1001, 1002	None	None
2	2000, 2001, 2002	None	None
3	3000, 3001, 3002	None	None
4	4000, 4001, 4002	None	None
5	5000, 5001, 5002	None	None

Ryder Point

Trench Number	Associated Contexts	Types of Feature	Types of Finds
3	300, 301, 302	None	None
4	400, 401, 402	None	None
5	500, 501, 502	None	None
6	600, 601, 602	None	None
7	700, 701, 702	None	None
8	800, 801, 802	None	None
9	900, 901, 902	None	None

Context Registers

Brassington Moor

Context No.	Trench	Description
1000	1	Topsoil
1001	1	Subsoil
1002	1	Natural Substrate
2000	2	Topsoil
2001	2	Subsoil
2002	2	Natural Substrate
3000	3	Topsoil
3001	3	Subsoil
3002	3	Natural Substrate
4000	4	Topsoil
4001	4	Subsoil
4002	4	Natural Substrate
5000	5	Topsoil
5001	5	Subsoil
5002	5	Natural Substrate

Ryder Point

Context No.	Trench	Description
300	3	Topsoil
301	3	Subsoil
302	3	Natural Substrate

400	4	Topsoil
401	4	Subsoil
402	4	Natural Substrate
500	5	Topsoil
501	5	Subsoil
502	5	Natural Substrate
600	6	Topsoil
601	6	Subsoil
602	6	Natural Substrate
700	7	Topsoil
701	7	Subsoil
702	7	Natural Substrate
800	8	Topsoil
801	8	Subsoil
802	8	Natural Substrate
900	9	Topsoil
901	9	Subsoil
902	9	Natural Substrate

Sample Registers

Brassington Moor

Sample Number	Context Number	Description
1000	1000	Trench 1 0.00m
1001	1000	Trench 1 5.00m
1002	1000	Trench 1 10.00m
1003	1000	Trench 1 15.00m
1004	1000	Trench 1 20.00m
1005	1000	Trench 1 25.00m
1006	1000	Trench 1 30.00m
1007	2000	Trench 2 0.00m
1008	2000	Trench 2 5.00m
1009	2000	Trench 2 10.00m
1010	2000	Trench 2 15.00m
1011	2000	Trench 2 20.00m
1012	2000	Trench 2 25.00m
1013	2000	Trench 2 30.00m
1014	3000	Trench 3 0.00m
1015	3000	Trench 3 5.00m
1016	3000	Trench 3 10.00m
1017	3000	Trench 3 15.00m
1018	3000	Trench 3 20.00m
1019	3000	Trench 3 25.00m
1020	3000	Trench 3 30.00m
1021	4000	Trench 4 0.00m
1022	4000	Trench 4 5.00m
1023	4000	Trench 4 10.00m
1024	4000	Trench 4 15.00m
1025	4000	Trench 4 20.00m
1026	4000	Trench 4 25.00m
1027	4000	Trench 4 30.00m
1028	5000	Trench 5 0.00m

1029	5000	Trench 5 5.00m
1030	5000	Trench 5 10.00m
1031	5000	Trench 5 15.00m
1032	5000	Trench 5 20.00m
1033	5000	Trench 5 25.00m
1034	5000	Trench 5 30.00m

Ryder Point

Sample Number	Context Number	Description
114	300	Trench 3 0.00m
115	300	Trench 3 5.00m
116	300	Trench 3 10.00m
117	300	Trench 3 15.00m
118	300	Trench 3 20.00m
119	300	Trench 3 25.00m
120	300	Trench 3 30.00
121	400	Trench 4 0.00m
122	400	Trench 4 5.00m
123	400	Trench 4 10.00m
124	400	Trench 4 15.00m
125	400	Trench 4 20.00m
126	400	Trench 4 25.00m
127	400	Trench 4 30.00
128	500	Trench 5 0.00m
129	500	Trench 5 5.00m
130	500	Trench 5 10.00m
131	500	Trench 5 15.00m
132	500	Trench 5 20.00m
133	500	Trench 5 25.00m
134	500	Trench 5 30.00
135	600	Trench 6 0.00m
136	600	Trench 6 5.00m
137	600	Trench 6 10.00m
138	600	Trench 6 15.00m
139	600	Trench 6 20.00m
140	600	Trench 6 25.00m
141	600	Trench 6 30.00
142	700	Trench 7 0.00m
143	700	Trench 7 5.00m
144	700	Trench 7 10.00m
145	700	Trench 7 15.00m
146	700	Trench 7 20.00m
147	700	Trench 7 25.00m
148	700	Trench 7 30.00
149	800	Trench 8 0.00m
150	800	Trench 8 5.00m
151	800	Trench 8 10.00m
152	800	Trench 8 15.00m
153	800	Trench 8 20.00m
154	800	Trench 8 25.00m
155	800	Trench 8 30.00
156	900	Trench 9 0.00m

157	900	Trench 9 5.00m
158	900	Trench 9 10.00m
159	900	Trench 9 15.00m
160	900	Trench 9 20.00m
161	900	Trench 9 25.00m
162	900	Trench 9 30.00

APPENDIX III: Interpretations of Geophysical Survey

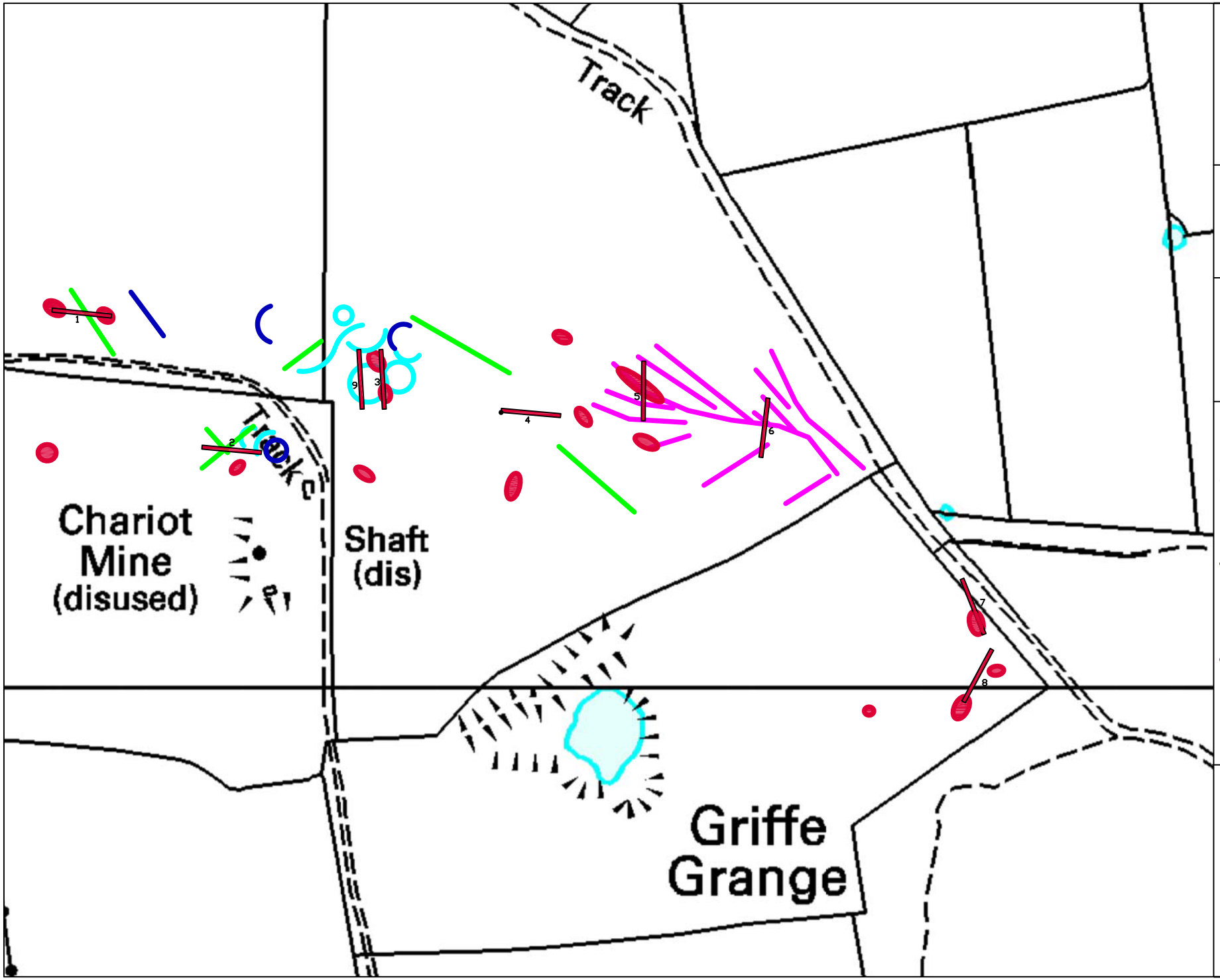
Archaeological Research Services Ltd
Angel House
Portland Square
Bakewell
Derbyshire
DE45 1HB

Site Code: Brassington Moor
Drawing Ref:
Date: December 2012
Drawn:LS
Scale: NTS

Brassington Moor Wind Turbines - Figure 53
Trench Location based on Geophysical Survey Results

Key

- Positive Repeating Parallel Anomaly
- Possible Positive Curved Anomaly
- Possible Positive Linear Anomaly
- Possible Negative Anomaly



Archaeological Research Services Ltd
Angel House
Portland Square
Bakewell
Derbyshire
DE45 1HB

Site Code: Ryder Point
Drawing Ref:
Date:October 2012
Drawn: RD

Ryder Point Wind Turbines-Figure 54 Trench Location based on Geophyscial Survey Results

Key:

- Mixed Anomaly
- Possible Positive Curved Anomaly
- Possible Negative Anomaly
- Possible Positive Linear Anomaly
- Possible Natural Anomaly

APPENDIX IV: OASIS Record

OASIS DATA COLLECTION FORM: England

Printable version

OASIS ID: archaeol5-139049

Project details

Project name	An Archaeological Evaluation of Brassington Moor and Ryder Point
Short description of the project	In December 2012 Archaeological Research Services Ltd were commissioned to undertake an evaluation at Ryder Point and Brassington, Derbyshire. Eight trenches were initially placed at Ryder Point, with a further five at Brassington. The trenches were placed in significant locations highlighted by a previous geophysics survey undertaken by the company. None of the evaluation trenches on either site produced any evidence of archaeological significance. In all cases, the natural limestone formations were encountered at a relatively shallow depth, within 1m of the ground surface
Project dates	Start: 03-12-2012 End: 10-12-2012
Previous/future work	Yes / Not known
Type of project	Field evaluation

Project location

Country	England
Site location	DERBYSHIRE DERBYSHIRE DALES MATLOCK TOWN Ryder Point and Brassington
Study area	3.50 Kilometres

Project creators

Name of Organisation	Archaeological Research Services Ltd
Project brief originator	Arcus Renewable Energy Consulting Ltd
Project design originator	Arcus Renewable Energy Consulting Ltd
Project director/manager	Mike Wood
Project supervisor	Laura Strafford
Type of sponsor/funding body	Developer

Project archives

Physical Archive recipient	Buxton Museum and Art Gallery
Physical Archive ID	DERSB: 2012.16 and DERSB: 2012.17

Digital Archive recipient	Buxton Museum and Art Gallery
Digital Archive ID	DERSB: 2012.16 and DERSB: 2012.17
Digital Contents	"none"
Digital Media available	"GIS","Geophysics","Images raster / digital photography","Images vector","Survey","Text"
Paper Archive recipient	Buxton Museum and Art Gallery
Paper Archive ID	DERSB: 2012.16 and DERSB: 2012.17
Paper Media available	"Context sheet","Correspondence","Drawing","Map","Matrices","Photograph","Plan","Report","Section","Survey"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Evaluation at Brassington Moor and Ryder Point, Derbyshire
Author(s)/Editor(s)	Laura Strafford
Other bibliographic details	ARS Ltd Report 2012/104
Date	2012
Issuer or publisher	Archaeological Research Services Ltd
Place of issue or publication	Bakewell

Entered by	Laura Strafford (laura@archaeologicalresearchservices.com)
Entered on	13 December 2012

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APPENDIX VI: Specification

WRITTEN SCHEME OF INVESTIGATION FOR A PROGRAMME OF ARCHAEOLOGICAL EVALUATION AT THE RYDER POINT AND BRASSINGTON MOOR WIND TURBINE SITES

LONGCLIFFE QUARRIES LTD

Prepared By:

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3 Swinegate
York
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November 2012

TABLE OF CONTENTS

1 INTRODUCTION

Arcus Renewable Energy Consulting Ltd. ("Arcus"), on behalf of Longcliffe Quarries Ltd ("the Developer"), have prepared a Written Scheme of Archaeological Investigation ("WSI") for a programme of archaeological field evaluation to include a programme of trial trenching at the proposed site of the Ryder Point and Brassington Moor Wind Turbines ("the Developments"), near Grangemill and Longcliffe, Derbyshire. It is anticipated that the work will be undertaken by ARS (Archaeological Research Services Ltd) in November 2012.

1.1 Site Location and Descriptions

Brassington Moor

The Development at Brassington Moor occupies a hilly area of mixed use farmland south of the Grangemill Quarry, approximately 650 m south-west of the village of Grangemill and 6.4 km south-west of Matlock (Figure 1). The site is centred on NGR SK 23837 56589, and it is bordered by Grangemill Quarry to the north, the Longcliffe to Grangemill road to the west and further agricultural land to the south and east (Figure 2). The geology of the site comprises carboniferous limestone of the bee low limestone formation.

Ryder Point

The Development at Ryder Point occupies a hilly area of mixed farmland situated to the east of the village of Longcliffe. The development is situated approximately 1.6 km south-east of the Brassington Moor Development and is approximately 6.2 km south-west of Matlock (Figure 1). The site is centred on NGR SK 25590 54910 and is surrounded by further agricultural land and Bordered by Ryder Point Quarry to the east and the High Peak Trail to the south (Figure 5). The geology of the site comprises carboniferous limestone with superficial deposits of clay, silt, sand and gravel.

1.2 Planning Background

The Developments involve the erection of two wind turbines at both the Brassington Moor and Ryder Point sites. To facilitate the Developments, the construction of access roads, upgrades to existing access tracks, and crane pads will be required. It is anticipated that the application for planning permission and an Environmental Statement (ES) for Ryder Point will be submitted in 2012 and in 2013 for Brassington Moor.

Consultation and desk-based assessments used to inform the preparation of the Environmental Impact Assessment concluded that both Development sites have high potential for archaeological remains in areas which have not been previously disturbed by quarrying. In order to inform further assessment of archaeological potential, a geophysical survey was carried out at both locations in September 2012.

In both cases, it was concluded that there was a significant magnetic response over each of the survey areas; however, in both cases it was unknown whether this ground disturbance was natural in origin or a result of agriculture, quarrying or mining. In both cases, it was concluded that further intrusive investigation would be worthwhile. For further details of each report see section 1.3.2.1 and 1.3.2.2.

1.3 Archaeological and Historical Background

1.3.1 Overview

The area within which these two Developments are situated is typified by archaeological remains of a prehistoric date. There have been numerous finds of worked flint, daggers and arrowheads discovered by fieldwalking, and there are numerous cairns and barrows situated on the higher ground which surrounds these Development sites. In addition, evaluations of the northern fields of the Brassington Moor Development in 2004-2006 identified unstratified prehistoric remains; however, no dateable prehistoric features were encountered.

The area also holds a high potential for archaeological remains relating to mining particularly lead mining, with evidence for lead mining in the surrounding area dating back to the medieval period. There are numerous lead mining sites, a number of which are scheduled, situated throughout the surrounding area.

1.3.2 Previous Archaeological Investigations

1.3.2.1 Brassington Moor

The following programmes of archaeological investigation have been conducted in the northern fields of the Brassington Moor Development:

- GeoQuest 2004

This geophysical survey consisted of a magnetometer survey covering the northern fields of the Development. The survey did not form a clearly interpretable plan but did define a number of features and locations worthy of further investigation.

- Longcliffe Quarry, Aldwark, Derbyshire: Archaeological Evaluation – Completed in 2006 by Trent and Peak Archaeological Unit

This investigation followed the programme of Geophysics undertaken in 2004. It targeted geophysical anomalies and consisted of a total of 55 test pits and 16 evaluation trenches. The evaluation concluded that there were no prehistoric features although the site did appear to have a low level of pre-historic activity with at least 16 pieces of struck flint and chert being recovered, although these were not dated. Besides a number of 19th century finds there were no other features or artefacts recovered. Investigation of a possible cairn site, identified during the programme of geophysics, proved to be inconclusive.

- Brassington Moor Wind Turbines: A Geophysical Survey – Competed in 2012 by Archaeological Research Services Ltd (ARS) on behalf of Arcus.

This investigation focused on the proposed Development footprint which fell within previously un-investigated fields to the south. The survey covered an area of approximately 1.3 km^2 and used a Bartington Grad 601 dual sensor fluxgate gradiometer.

The survey identified a number of magnetic anomalies of different classifications. These included:

a) Repeating positive anomalies, thought to relate to plough scaring or possibly earlier ridge and furrow;
b) Discrete positive anomalies, potentially associated with the underlying geology or with relatively modern quarrying or mining activity;
c) Tentative positive curved anomalies;
d) Possible negative anomalies; and
e) Mixed and bipolar anomalies, thought to be associated with modern ground disturbance, buried ferrous objects or other modern objects or materials associated with farming.

Anomalies c and d were thought to be worthy of further investigation, to establish their presence, date and nature.

1.3.2.2 Ryder Point

An investigation undertaken in November 2011 and published in July 2012, situated to the north of the site looked at the course of the Portway Roman Road. The Roman Road was picked up adjacent to the current quarry access track situated to the north of the site. It is possible that the course of the Roman Road may be encountered within the trial trenching investigation, although its location was not confirmed through the Geophysical survey investigation.

No previous archaeological investigations (With the exception of a desk-based assessment) had been conducted in regards to the Ryder Point Development footprint prior to the commissioning of the 2012 Geophysics programme

The results of the geophysical survey are summarised below:

- Ryder Point Wind Turbines: A Geophysical Survey – competed in 2012 by Archaeological Research Services Ltd (ARS) on behalf of Arcus.

This investigation focussed on the proposed Development footprint which fell upon previously unquarried land. The survey covered an area of approximately 1.9 km^2 and used a Bartington Grad 601 dual sensor fluxgate gradiometer.

The survey identified a number of magnetic anomalies of different classifications. These include:

a) An anomaly in the centre of the survey area which forms a "figure of eight" , this feature is thought to have the potential to be archaeological in nature;

b) Curved anomalies situated in close proximity to anomaly a. These were thought to be associated with the background geology of the site;

c) A number of discrete positive anomalies, again possibly associated with the underlying geology or relatively modern quarrying or mining;

d) Tentative evidence of negative anomalies possibly associated with the background geology.

e) A number of positive linear anomalies, potentially archaeological in nature;

f) Mixed and or bipolar anomalies indicating modern activity and ground disturbance, including a modern service ditch to the east and a potentially back filled mine shaft to the west of the site; and

g) Finally a number of potentially natural anomalies to the eastern end of the survey area.

It was concluded that anomalies **a** and **e** were thought to be worthy of further investigation, to establish their nature and date. It is also considered that the remaining anomalies should be tested, with the exception of site **f** which is to be avoided.

1.4 Aims and Objectives of the Project

The aim of this project is to enable a full assessment of the archaeological potential of the Developments. The programme of trial trenching will investigate and test the results of the geophysics undertaken by ARS in 2012 and will preserve by record any archaeological features which are encountered. The trial trenching should gather sufficient information to establish the presence/absence, nature, date, depth, quality of survival and importance of any archaeological deposits to enable an assessment of the significance of the archaeology of the site.

2 METHODOLOGY

It is proposed to meet the above aims and objectives by the following methodology. The proposed programme of archaeological evaluation will consist of;

- A scheme of targeted trial trenching on the areas of the proposed turbine towers, crane pads and access road.
- A programme of topsoil/plough soil sampling.

All work will be carried out in compliance with the relevant codes of conduct of the Institute for Archaeology (IfA).

The archaeological contractor must be able to prove that they have appropriate and current insurance to undertake excavations.

All staff must be suitably qualified and experienced for their project roles, with practical experience of excavating prehistoric and medieval sites. Curriculum vitas will be supplied to Derbyshire Development Control Archaeologist for approval, if requested.

2.1 Trial trenching

An intrusive evaluation will be carried out to validate the results of the geophysical survey and to test presumed archaeological features identified by the geophysics as well as apparently "blank" areas. In addition, key areas such as turbine bases will be investigated. Trial trench locations will also take into account the micrositing area, as well as the initially proposed footprint (i.e. the whole area subject to geophysical survey will be evaluated). A trial trench location proposal for each site is detailed in Table 1.1 and 1.2 below.

2.1.1 Brassington Moor

As magnetic anomalies were identified across the site it is proposed that the site access track is investigated by a series of trial trenches; these will be located so as to investigate blank areas and magnetic anomalies identified by the geophysical survey. A trial trench will also be situated so as to investigate the proposed turbine location (see Figures 2-4).

Table 1.1: Brassington Moor Trial Trench Locations

Trial Trench Number	**Location Reasoning**	**Reasoning As the site shows**
1, 2, 4 & 5	Trial Trenches 1, 2, 4 & 5 are situated at NGR SK 23594 56162, SK 23640 53191, SK23721 56312 & 23731, 56385. They will be aligned along length ways along the access track except in the case of Trench 5 which is aligned at a 45^{o} angle to and intersects the access track.	These trenches are located so as to enable the investigation of the archaeological potential of the access track, They are positioned where possible to also investigate magnetic anomalies identified through the geophysical survey.
3	Trail Trench 3 is situated at NGR SK 23722 56326 (the proposed turbine location). It is aligned north to south.	Excavations for the proposed turbine locations are anticipated to reach a depth between 2-4 m. A singular magnetic anomaly was identified within the location of the proposed turbine base, which this trial trench will investigate. The trial trench will enable any encountered archaeological remains to be preserved by record and ensure that the potential for the turbine base to affect further unknown archaeology is fully understood.

2.1.2 Ryder Point

As magnetic anomalies were identified across the site it is proposed that the site access track is investigated by a series of trial trenches, these will be located so as to investigate blank areas and magnetic anomalies identified by the geophysical survey. A trial trench will also be situated so as to investigate the proposed turbine location (see Figures 5-7).

Table 1.2: Ryder Point Trial Trench Locations

Trial Trench Number	**Location Reasoning**	**Reasoning As the site shows**
1	Trench 1 is situated at NGR 25052 55188 and runs from east to west parallel to the access track.	This trench is located so as to enable the investigation of two discrete anomalies and a linear anomaly identified by the geophysical survey.
2	Trench 2 is situated at NGR 25128 55119 and runs from east to west parallel to the access track.	This trench is located so as to enable the investigation of a collection of curvilinear, linear and discrete anomalies identified by the geophysical survey south of the access track.
3	Trial trench 3 is situated at NGR SK 25204 55155. Aligned north north-west to south south-east.	This trench is positioned so as to investigate the "figure of eight" magnetic anomaly identified during the geophysical survey. Two discrete magnetic anomalies are also situated at this location and the trial trench would be positioned so as to further investigate these.
4	Trail trench 4 is located on the access track at NGR SK 25279 55138.	This trench is positioned so as to test an area of the access track which returned no magnetic anomalies through the geophysical survey
5 & 6	Trial trenches 5 and 6 are situated at NGR SK 25335 22149 and SK 25396 55131, they are aligned north to south and intersect the proposed access track at a right angle.	These trenches are located so as to enable the investigation of discrete magnetic anomalies and to test a set of linear anomalies interpreted as natural features within the geophysics report.

Trial Trench Number	Location Reasoning	Reasoning As the site shows
7	Trial trench 7 is situated at NGR SK 25501 55041, is aligned north-west to south-east and follows the course of the proposed access track.	This trench is located so as to further investigate two discrete magnetic anomalies situated in close proximity to the proposed crane hardstanding.
8	Trail Trench 8 is situated at NGR SK 25503 55005 (the proposed turbine location). It is aligned north-east to south-west.	Excavations for the proposed turbine locations are anticipated to reach a depth between 2-4 m. This trial trench is intended to test an area reported as "blank" by the geophysical survey area and a singular discrete positive magnetic anomaly situated south-west of the turbine location. The trial trench will also ensure that the potential for the turbine base to affect unknown archaeology is fully understood.

2.1.3 General Guidelines

A contingency will be made to allow the excavation of additional trenches, or the widening or extending of proposed trenches in the field to permit any archaeological remains to be adequately characterised in terms extent.

Once trenches have been opened, adequate time will be allowed for weathering to occur (suggested allowance 3 days). This will allow "hidden" archaeological features to become apparent.

All features exposed should be fully mapped and a full site plan prepared before decisions regarding the appropriate level of excavation are made. The aim of the trial trenching is to record any archaeological features present and to undertake targeted intrusive excavation to enable the date, character, form and stratigraphic relationships of archaeological features to be understood. This process should be in line with the guidance and standards set out by the Derbyshire Archaeology Service. All sample percentages are to be discussed and agreed with the Development Control Archaeologist. As an initial guideline this process will typically require the following level of sampling.

- 100% of postholes, stakeholes or small discrete features;
- 50% of larger discrete features,
- 20% of linear/curvilinear features where potentially associated with settlement; and
- 10 % of linear features considered to be agricultural or single fill in nature.

All archaeological features and deposits must be excavated by hand.

A programme of topsoil/plough soil sampling will also be undertaken for the recovery of lithics. Thirty litre samples of topsoil will be taken at 5 m intervals along the length of each trench. The samples will then be washed through a 5 mm sieve and the finds retained for assessment and analysis. Ideally soil sampling will take place on site but should conditions require (i.e, where the soil is too wet or clayey to sieve) then samples will be taken back to be dried and sieved in the lab.

In the event of human burials being discovered, they should be left *in-situ*, covered and protected and the coroners' office informed. If removal is essential, work must comply with relevant Home Office/Ministry of Justice Regulations.

Appropriate procedures under the relevant legislation must be followed in the event of the discovery of artefacts covered by the provisions of the Treasure Act 1996.

Provision will be made for appropriate support from a palaeo-environmental specialist should deposits for potential for the survival of this material be encountered. In addition allowance should be made for the recovery of samples from appropriate deposits (and including artefacts and ecofacts if relevant) to allow the use of scientific dating (or other analytical) techniques. The advice of English Heritage Regional Scientific Advisor should be sought as required.

During and after the excavation, all recovered artefacts and environmental samples must be stored in the appropriate material and storage conditions to ensure minimal deterioration and loss of information (this should include controlled storage, correct packaging, regular monitoring of conditions, immediate selection for conservation of vulnerable material).

A contingency will be made to allow for conservation advice/work and X-radiography of metal finds in line with EH Guidelines (EH 2006. *Guidelines on the X-radiography of archaeological metalwork*) where justified by the aims of the project.

All staff must familiarise themselves with the archaeological background of the site, and the results of any previous work in the area, prior to the start of work on site. All staff must be aware of the work required under the specification and must understand the projects aims and methodologies.

2.1.4 Contingency

2.2 Recording

Recording should follow those standards as set out by the Institute for Archaeologists (IfA) in their Standards and Guidance for Field Evaluation and Excavation.

As a minimum;

- Single-context recording as developed by the Museum of London Archaeology Service (MoLAS) should be followed;
- A Harris-Winchester or similar matrix should be used for complex stratigraphical problems;
- A suitable photographic record should be produced;
- Where possible digital data recording details digitally in three dimensions and this should be deposited alongside the report in the HER.
- The site should be accurately tied into the National Grid and located on a 1:2500 or 1:1250 map of the area.
- A full and proper record (written, graphic and photographic as appropriate) should be made for all work, using pro-forma record sheets and text descriptions appropriate to the work.
- Accurate scale plans and section drawings should be drawn at 1:50, 1:20 and 1:10 scales as appropriate.
- All archaeological deposits and features must be recorded with an **above ordnance datum (AOD)** level.
- A photographic record of all contexts should be taken in colour transparency and black and white print and should include a clearly visible, graduated metric scale. A register of all photographs should be kept.
- An interpretive stratigraphic record will be made of all 'blank' trenches, including a drawn 2 m sample section and photography.

2.3 Timetable

- The Derbyshire Archaeology Service should be given **at least** 10 working days notice prior to the commencement of work on site.
- Trial Trenching is to be completed prior to determination of the planning application.
- The archaeological consultant or contractor must submit a copy of the report to their client and Derbyshire Archaeology Service within one month of completion of the work.

2.4 Staff

All staff must be suitably qualified and experienced for their project roles, with practical experience of excavating prehistoric and medieval sites. Curriculum vitas will be supplied to Derbyshire Archaeology Service for approval.

2.5 Health and Safety

The contractor shall provide details or their Safety policy and a site specific risk assessment. The health and safety plan shall include all site activities, and detail any required Personal Protective Equipment (PPE). The risk assessment should make specific reference to the potential to encounter features related to historic mining, and in particular reference historic mine shafts.

2.6 Environmental Protection

The archaeological contractor will comply with any requirements of the employer or Principal Contractor to protect the environment. This will include provision for removal of refuse, the provision of bunds or other containment around fuel tank (if any), drip trays under plant and the availability of pollution clean-up kits in the event of a spillage. The archaeological contractor will demonstrate how they will achieve de-watering (if required) in such a way as to prevent silting of drainage ditches *etc*. The contractor will comply with any requirements in

relation to the handling and stock piling of soils stripped during the course of the Trial Trenching investigation.

3 POST-FIELDWORK METHODOLOGY

Finds recovery and conservation will follow the guidelines laid out by the IfA

All finds (artefacts and ecofacts) visible during excavation **must** be collected and processed, unless variations in this principle are agreed with the Local Authority. Finds **must** be appropriately packaged and store under optimum conditions, as detailed in the RESCUE/UKIC publication First Aid for Finds.

A rapid scan of all excavated material should be undertaken by conservators and find researchers in collaboration. Material considered vulnerable will be selected for stabilisation after specialist recording. Where intervention is necessary, consideration must be given to possible investigative procedures (e.g. glass composition studies, residues in or on pottery and mineral-preserved organic material). Once assessed all material will be packed and stored in optimum conditions. Waterlogged organic materials should be dealt with in line with English Heritage guidelines for the care of waterlogged archaeological leather and on the recording, sampling, conservation and curation of waterlogged wood. Deposits must be sampled for retrieval and assessment of the preservation conditions and potential for analysis of all biological remains.

Opportunity should be afforded for an environmental specialist to visit the site during the evaluation and to discuss the palaeo-environmental sampling strategy. Processing of all samples collected for biological assessment, or sub-samples of them, must be completed. Bulk and site-riddled samples from dry deposits should have been processed during the excavation, where possible. Unprocessed sub samples must be stored in conditions specified by the appropriate specialists.

Assessments for any technological residues should be undertaken. Samples for dating must be submitted to laboratories promptly, so as to ensure that results are available to aid development of specifications for subsequent mitigation strategies.

Allowance should be made for preliminary conservation, stabilisation and if appropriate x-radiography of all objects and an assessment of long-term conservation and storage needs.

The sampling strategy should include a reasoned justification for the selection of deposits for sampling and should be developed in collaboration with a recognised bio-archaeologist. Guidance on sampling can be obtained from English Heritage (2002).

All finds processing, conservation work and storage of finds must be carried out in compliance with the IfA Guidelines for Finds Work, and those set by UKIC (United Kingdom Institute for Conservation).

Any recording, marking and storage materials should be of archive quality and recording systems must be compatible with the recipient museum.

Appropriate procedures under the relevant legislation must be followed in the event of the discovery of artefacts covered by the provisions of the Treasure Act 1996.

A list of specialists and their role in the project should be submitted to Derbyshire Archaeology Service prior to work commencing. If the specialists to be used are not IfA registered and are not locally recognised, a CV or other form of reference will be provided.

4 MONITORING

Access will be permitted to English Heritage and Derbyshire County Council to monitor any fieldwork, as well as the progress of any agreed post-fieldwork analysis and reporting programmes (at the Archaeological Contractor's premises or that of their specialist sub-contractors as appropriate).

No trenches will be backfilled, until they have been seen and approved by the Development Control Archaeologist.

5 OTHER FACTORS (CONTINGENCY)

In the event of the discovery of archaeological remains which are of a greater number or extent than anticipated, work will cease and the Derbyshire Development Control Archaeologist and a representative of the developer will be notified. An assessment will be made of the importance of the remains and any provision for their recording or preservation *in-situ* as appropriate.

6 REPORTING

Where justified by the complexity of the material, provision should be made for a two stage (assessment/final) report phase. It may be appropriate where further work is required under planning condition to roll over some of the evaluation analysis/reporting to the later phase of work, where the timescale is deemed acceptable.

The final report should consist of the following sections:

- Cover page;
- List of contents, figures, tables etc.
- Non-technical summary;
- Introduction;
- Planning Background;
- Archaeological and historical background;
- Methodology;
- Results;
- Discussion;
- Conclusion; OASIS cover sheet;
- Figures including
  - An 'as dug' trench plan shown in relation to OS background mapping;
  - Plans;
  - Sections and photography for **all** trenches with archaeological features; and
  - Representative photos and sample sections of 'blank' trenches.
- Finally an archive statement including the proposed deposition date will also be required.

These sections should meet the guidelines and requirements as specified by the IfA.

The report must include all the information necessary to make decisions about the future direction of the project in line with Section 6 and Appendix 4 in English Heritage's Guidelines on the Management of Archaeological Projects. The report should be submitted to Derbyshire County Council Environmental Services for comment and approval prior to any further analysis or publication work commencing.

7 ARCHIVE PREPARATION AND DEPOSITION

Adequate provision for post-excavation work must be made. This will be dependent upon the nature and size of the archive as generated by the fieldwork.

The site archive, the finds and the research archive must be deposited in the appropriate local museum (Buxton Museum). The archive must be submitted in line with Appendices 3 and 6 in English Heritage's Guidelines on the Management of Archaeological Projects and according to the Museums in Derbyshire guidelines.

The Development Control Archaeologist should be notified in writing upon the final deposition of the project archives.

It is essential that the integrity of the site archive is maintained and the contractors adhere to the following principles:

- All archaeological projects must result in a stable, ordered, accessible archive;
- All aspects of the archaeological process affect the quality of the resulting archive;

- Standards for the creation, management and preparation of the archive must be understood and agreed at the beginning of any project;
- Ensuring the security and stability of the archive is a continuous process and a universal responsibility;
- A project has not been completed until the archive has been transferred successfully and is fully accessible for consultation. The Development Control Archaeologist will not recommend the discharge of any planning condition until they have approved the report and the archive has been deposited;
- Regular contact with the museum regarding all stages is recommended; and
- The following Museums in Derbyshire accession numbers should be used:
    - Brassington Moor DERSB: 2012.16
    - Ryder Point - DERSB: 2012.17

The archive will consist of all written records and materials recovered, drawn and photographic records, including a single copy of the final report. It will be quantified, ordered, indexed and internally consistent. It should also contain all site matrices, a site summary and brief written observations on the artefactual and environmental data.

8 PUBLICATION AND DISSEMINATION

An appropriate level of publication and dissemination will be arranged in line as recommended by the Derbyshire Archaeology Service.

Copies of all reports, interim and final will be lodged with the County HER.

Derbyshire Archaeology Service and Historic Environment Record (HER) support the Online Access to Index of Archaeological Investigations (OASIS) Project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large scale developer funded fieldwork. The archaeological consultant or contractor must therefore complete the online OASIS for at http://ads.ahds.ac.uk/project/oasis/. If the contractors are unfamiliar with OASIS, they are advised to contact Derbyshire Historic Environment record prior to completing the form. Once a report has become a public document by submission to or incorporation into the HER, Derbyshire HER will validate the OASIS form thus placing the information into the public domain on the OASIS website.

9 INSURANCE STATEMENT

The archaeological contractor must ensure and demonstrate that they are covered by adequate insurance policies, public liability and employer's liability some relevant form of civil liability indemnity or professional indemnity.

10 COPYRIGHT

The copyright of any written, graphic or photographic records and reports rests with the originating body. Agreements on copyright will be agrees with the commissioning body at the outset of the project.

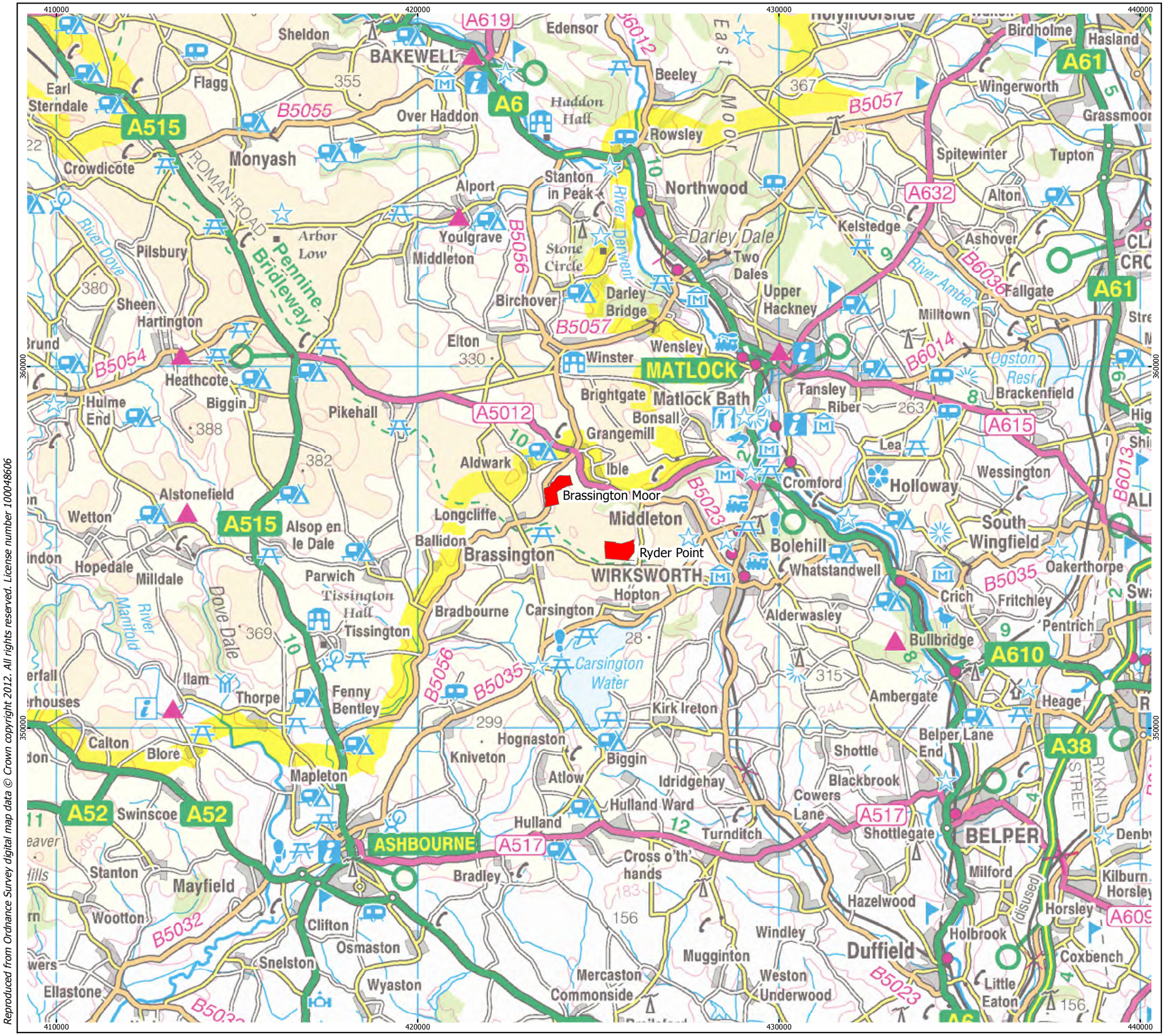
The circumstance under which the report of records can be used by other parties should be identified at the commencement of the project, as should the proposals for distribution of the report. All aspects of publicity must be agreed at the outset of the project between the commissioning body and the archaeological organisation of individual undertaking the project.

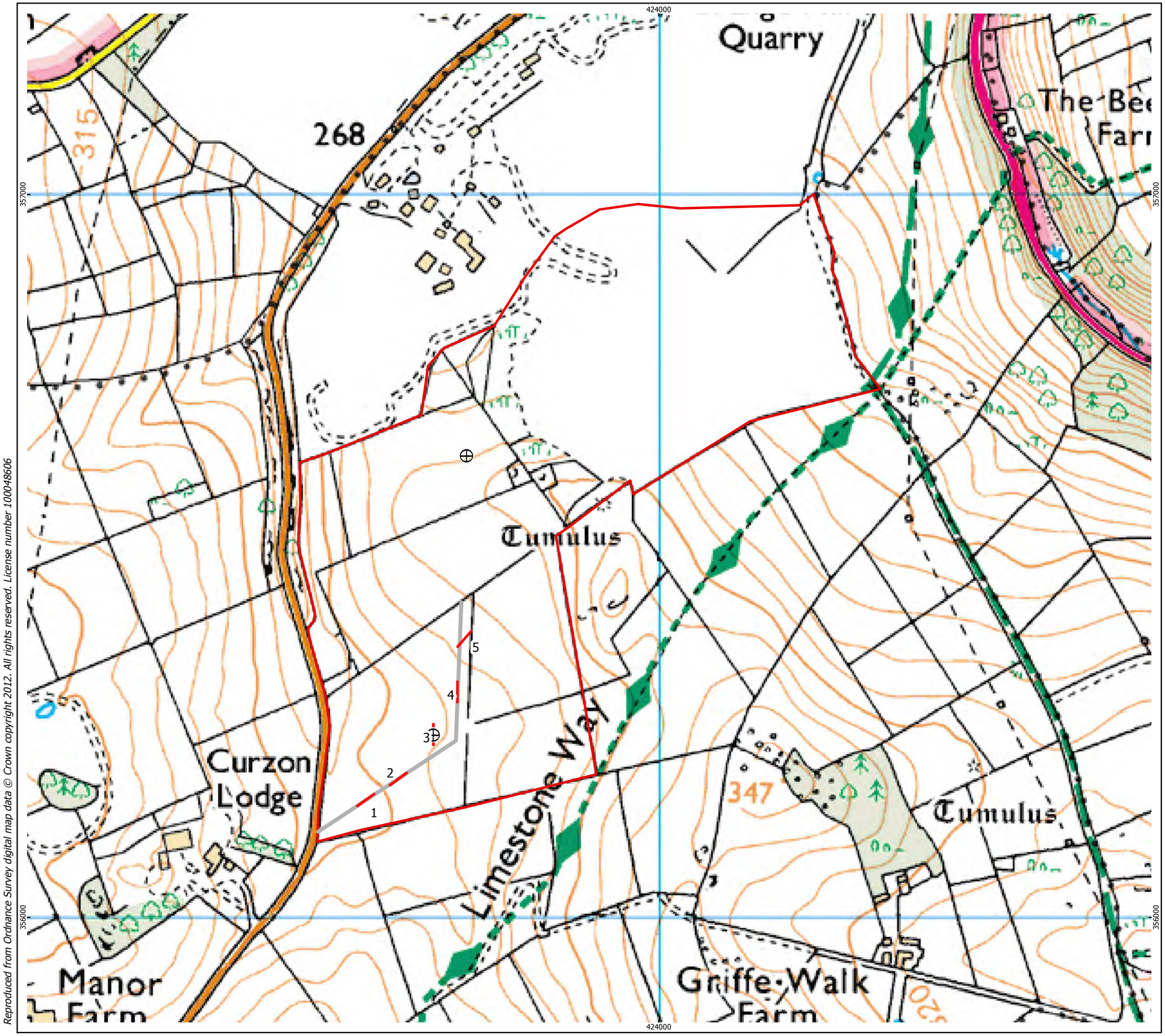
11 FURTHER GUIDANCE

Any further guidance or queries should be directed to:

The Cultural Heritage and Archaeology Team
Arcus Renewable Energy Consulting
2F Swinegate Court East,

3 Swinegate,
York
YO1 8AJ
Tel: 01904 715 470
Mark@arcusrenewables.co.uk
JenniferB@arcusrenewables.co.uk





Longcliffe
CALCIUM CARBONATES

arcus

- Indicative Turbine Location
- Trial Trench Location
- Indicative Access Track
- Site Boundary

1:5,000 Scale @ A3

0 125 250 m

N

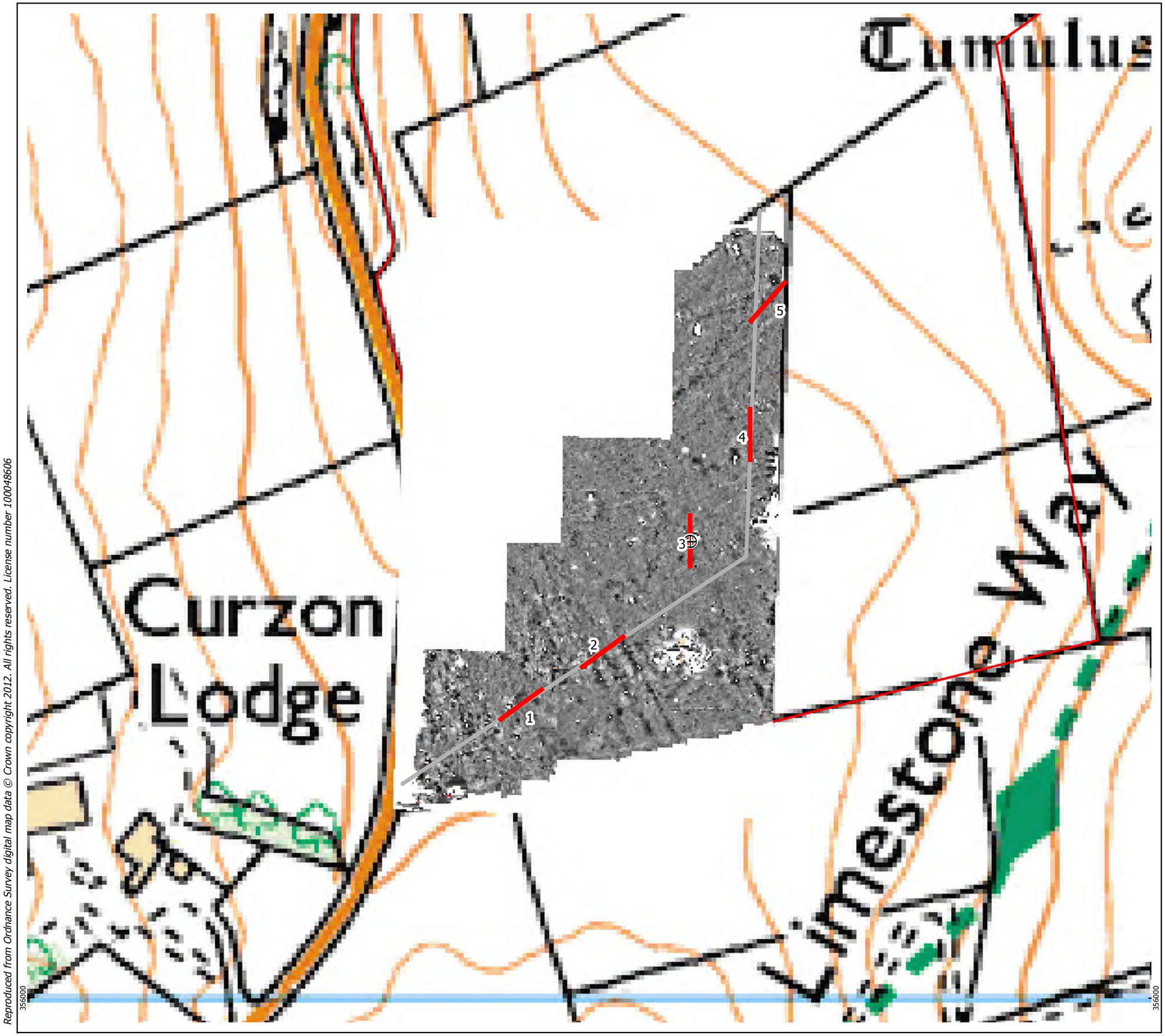
Produced: JB
Reviewed: CRD
Approved: MT

Ref: 473&614/CH/005 | Revision: A

Date: 21/11/2012

Brassington Moor
Trial Trench
Locations
Figure 2

Ryder Point and Brassington Moor Wind Turbines Archaeological WSI



Longcliffe CALCIUM CARBONATES

arcus

- Indicative Turbine Location
- Trial Trench Location
- Indicative Access Track
- Site Boundary

1:2,000 Scale @ A3

0 50 100 m

N

Produced: JB
Reviewed: CRD
Approved: MT

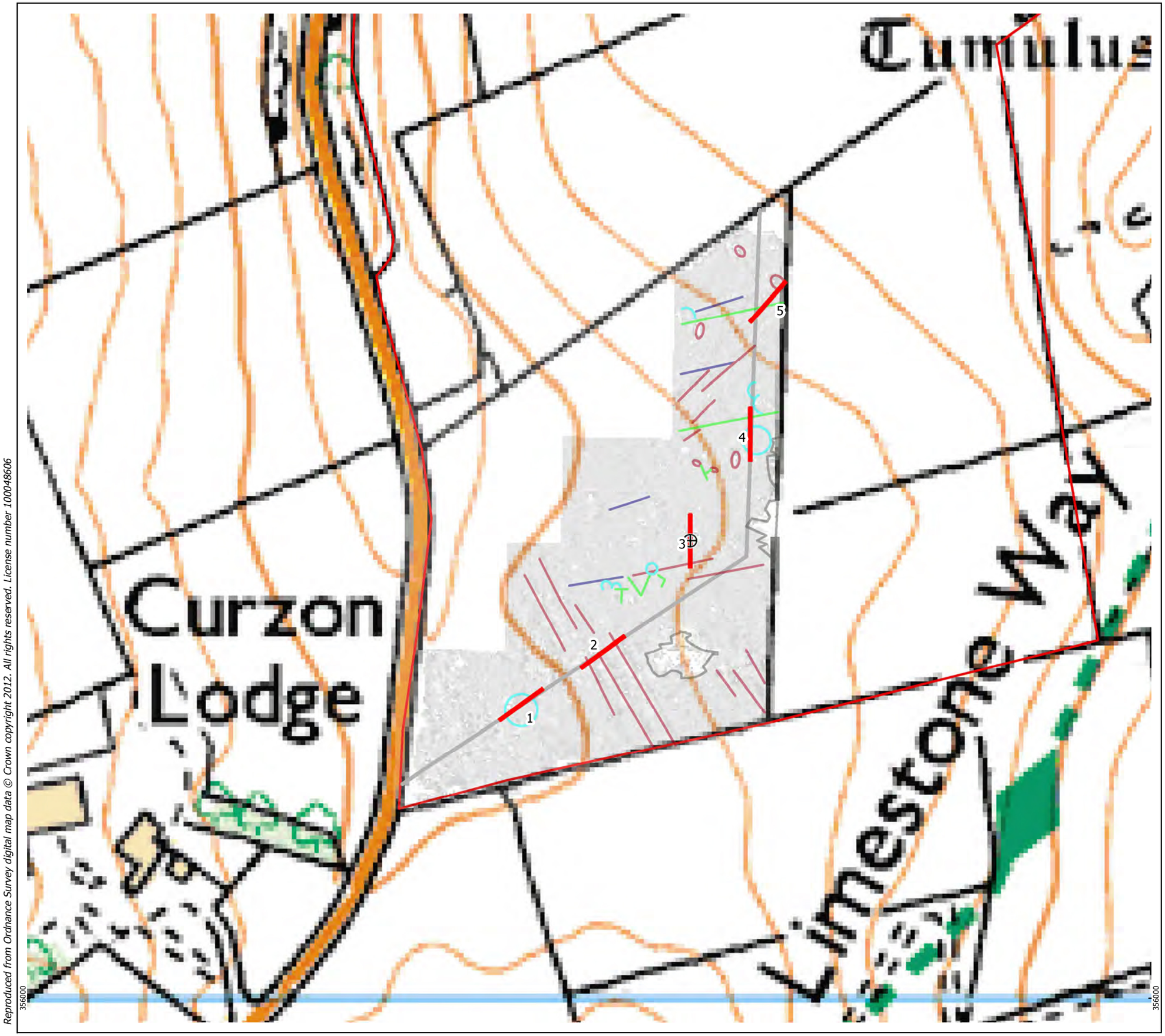
Ref: 473&614/CH/006 | Revision: A

Date: 21/11/2012

Brassington Moor Trial Trench Locations

Figure 3

Ryder Point and Brassington Moor Wind Turbines Archaeological WSI



Longcliffe CALCIUM CARBONATES

arcus

- Indicative Turbine Location
- Trial Trench Location
- Repeating Positive Anomaly
- Positive Curved Anomaly
- Positive Linear Anomaly
- Negative Linear Anomaly
- Positive Discrete Anomaly
- Mixed Anomaly
- Indicative Access Track
- Site Boundary

1:2,000 Scale @ A3

0 50 100 m

N

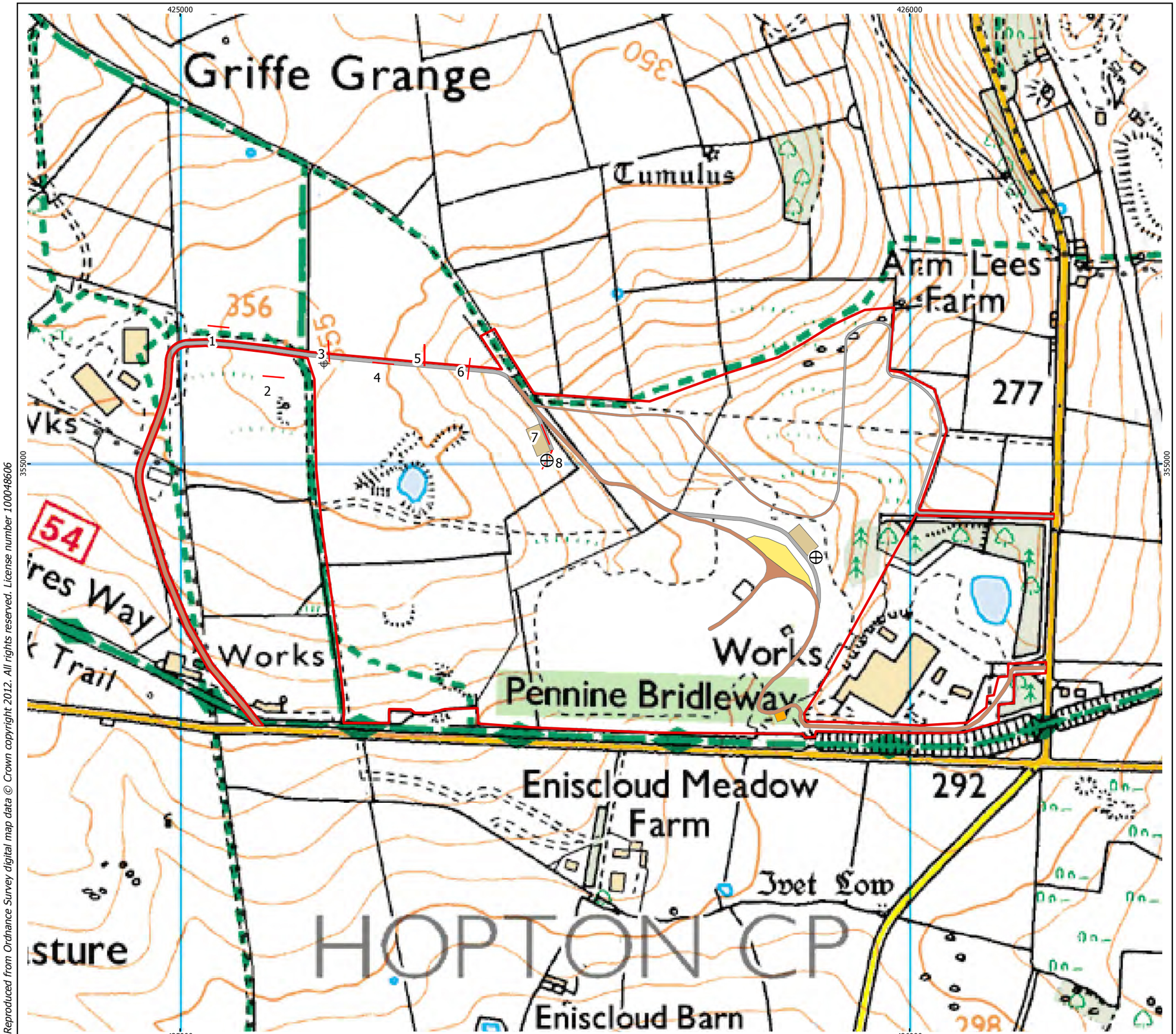
Produced: JB
Reviewed: CRD
Approved: MT

Ref: 473&614/CH/007 | Revision: A

Date: 21/11/2012

Brassington Moor
Trial Trench
Locations
Figure 4

Ryder Point and Brassington Moor Wind Turbines Archaeological WSI



Longcliffe CALCIUM CARBONATES

arcus

- Turbine Location
- Meteorological Mast
- Trial Trench Location
- Site Boundary
- New Access Track
- Construction Compound
- Crane Hardstanding
- Existing Access Track
- Substation

1:5,000 Scale @ A3

0 125 250 m

N

Produced: JB
Reviewed: CRD
Approved: MT

Ref: 473&614/CH/008 | Revision: A

Date: 21/11/2012

Ryder Point
Trial Trench
Locations
Figure 5

Ryder Point and Brassington Moor Wind Turbines Archaeological WSI

Longcliffe
CALCIUM CARBONATES

arcus

- Trial Trench Location
- Turbine Location
- Meteorological Mast
- New Access Track
- Construction Compound
- Crane Hardstanding
- Existing Access Track
- Site Boundary
- Substation

1:2,000 Scale @ A3

0 50 100 m

N

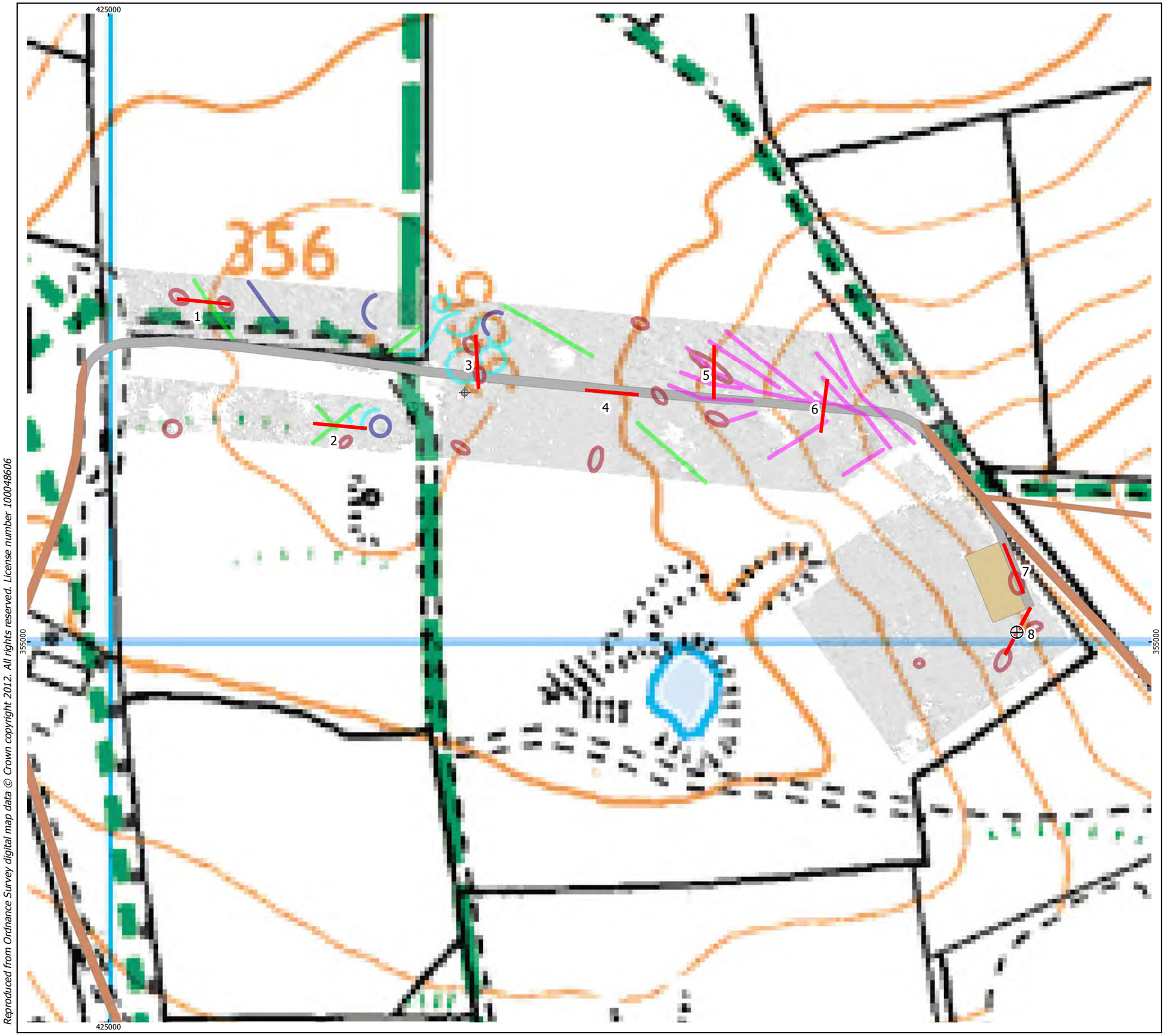
Produced: JB
Reviewed: CRD
Approved: MT

Ref: 473&614/CH/009 | Revision: A

Date: 19/11/2012

Ryder Point
Trial Trench
Locations
Figure 6

Ryder Point and Brassington Moor Wind Turbines Archaeological WSI



Longcliffe CALCIUM CARBONATES

arcus

- Turbine Location
- Meteorological Mast
- Trial Trench Location
- New Access Track
- Construction Compound
- Crane Hardstanding
- Existing Access Track
- Substation
- Positive Curved Anomaly
- Negative Anomaly
- Positive Linear Anomaly
- Natural Anomaly
- Mixed Anomaly
- Positive Discrete Anomaly

1:2,000 Scale @ A3

0 50 100 m

N

Produced: JB
Reviewed: CRD
Approved: MT

Ref: 473&614/CH/010 | Revision: A

Date: 19/11/2012

Ryder Point Trial Trench Locations
Figure 7

Ryder Point and Brassington Moor Wind Turbines Archaeological WSI