Historic England

Remote Sensing

Stonehenge Southern WHS Survey
Diamonds Field, Druid's Lodge, Wiltshire
Report on Geophysical Surveys, October 2015

Neil Linford, Paul Linford and Andrew Payne

Discovery, Innovation and Science in the Historic Environment

Research Report Series no. 94-2015

Research Report Series 94-2015

STONEHENGE SOUTHERN WHS SURVEY, DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

REPORT ON GEOPHYSICAL SURVEYS, OCTOBER 2015

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NGR: SU 101 411

ISSN 2059-4453 (Online)

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SUMMARY

Caesium magnetometer and Ground Penetrating Radar (GPR) surveys were conducted on Wilsford Down over Diamonds Field, Druid's Lodge Estate, Wilsford cum Lake, Wiltshire, as part of the Stonehenge World Heritage Site (SWHS) Southern Landscape Project. Results from both techniques were partially affected by disturbance from the former military railway crossing the western extent of the survey, although the survey complemented records of known historic assets within the area, including previous limited fluxgate coverage. The vehicle towed caesium magnetometer survey (10.1ha) identified linear anomalies related to the wide spread pattern of field enclosures and land division in the area, together with a confirmation of the magnetic response of the known henge monument and the better location on the ground of a supposed Neolithic long-barrow. GPR survey (6.2ha) was focused on the henge and a possible round barrow, where the data supports a more complex reuse of the original monument.

CONTRIBUTORS

The geophysical fieldwork was conducted by Neil Linford, Paul Linford and Andrew Payne.

ACKNOWLEDGEMENTS

The authors are grateful to Mr John Elliot and Mr Mike Doggerel of the Druid's Lodge Estate, who kindly allowed access for the survey to take place.

ARCHIVE LOCATION

Fort Cumberland, Portsmouth.

DATE OF SURVEY

The fieldwork was conducted between 8th to 9th October 2015 and the report completed on 7th January 2016. The cover image shows a view of the site looking south from the A303.

CONTACT DETAILS

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INTRODUCTION

Caesium magnetometer and Ground Penetrating Radar (GPR) surveys were conducted on Wilsford Down over Diamonds Field, Druid's Lodge Estate, Wilsford cum Lake, Wiltshire, as part of the Stonehenge World Heritage Site (SWHS) Southern Landscape Project (RASMIS 7238, Historic England Action Plan 2.2.2. Discover our hidden heritage), which aims to provide advance intelligence of any potential nationally-important undesignated sites within the southern SWHS, following the Government announcement in December 2014 to prioritise a road improvement scheme for the A303 trunk road (Bowden 2015b). In addition, there are significant Heritage at Risk and Development Management drivers as our understanding of the resource within SWHS is less well developed than that to the north of the current A303, where landscape-scale research projects have taken place within the recent past (Bowden 2015a).

The current survey was conducted during a first tranche of fieldwork in autumn 2015 that included available sites selected from within the Priority 1 study area (Figure 1, Linford *et al.* 2015a, 2015c, 2015b). This report provides an initial summary of the geophysical survey results for circulation before compilation of a more synthetic overview report, drawing out and integrating key findings from the project as a whole.

The Diamonds Field site on the Druid's Lodge Estate, contains known heritage assets including fragments of field systems (AMIE UID 219581), a henge monument (AMIE UID 1059879, Winterbourne Stoke 74, RCHME (Royal Commission on Historical Monuments (England)) 1979 ; Geophysical Surveys of Bradford 1992b, 1992a, 1993), a round barrow or dew pond (AMIE UID 1059858), together with linear ditches and earth works (AMIE UID 962149, 219803 and 219799). The location of a supposed long barrow (AMIE UID 1119299, Winterbourne Stoke 71) may also be partially described within the survey area.

The site is situated on Upper Cretaceous Seaford Chalk geology over which shallow well drained calcareous soils of the Icknield Association have developed, with deeper flinty calcareous silty soils in small coombes and valleys (Geological Survey of England and Wales 1950 ; Soil Survey of England and Wales 1983). The site slopes gently from the A303 and was down to grass bordering an arable field immediately to the south. Weather conditions during the field work were sunny and dry.

METHOD

Magnetometer survey

The magnetometer data was collected along the instrument swaths shown on Figure 2 using an array of six high sensitivity Geometrics G862 caesium vapour magnetometer sensors mounted on a non-magnetic sledge. This sledge was towed behind a low impact, All Terrain Vehicle (ATV) which also provided the power supply and housed the data logging electronics. Five of the sensors were mounted in a linear array transverse to the direction of travel 0.5m apart and, vertically, ~0.2m above the ground surface. The sixth was fixed 1.0m directly above the central magnetometer in the array to act as a gradient sensor. The sensors were set to sample at a rate of 16Hz based on the typical average travel speed of the ATV (3.2m/s) giving a sampling density of ~0.2m by 0.5m along successive swaths. Each swath was separated from the last by approximately 2.5m, navigation and positional control being achieved using a Trimble R8 Global Navigation Satellite System (GNSS) receiver mounted on the sensor platform 1.75m in front of the central sensor and a second R8 base station receiver established using the Ordnance Survey VRS Now correction service. Sensor output and survey location was monitored during acquisition to ensure data quality and minimise the risk of gaps in the coverage due to the use of a grid-less system.

After data collection the corresponding readings from the gradient sensor were subtracted from the measurements made by the other five magnetometers to remove any transient magnetic field effects caused by the towing ATV. The median value of each instrument traverse was then adjusted to zero by subtracting a running median value calculated over a 60m 1D window. This operation corrects for slight biases added to the measurements owing to the diurnal variation of the Earth's magnetic field and any slight directional sensitivity of the sensors. A linear greyscale image of the combined magnetic data is shown superimposed over the base Ordnance Survey (OS) mapping on Figure 4 and minimally processed versions of the range truncated data ($\pm$100nT/m) are shown as a traceplot and a histogram equalised greyscale image on Figures 6 and 7 respectively.

Ground Penetrating Radar survey

A 3d-Radar MkIV GeoScope Continuous Wave Stepped-Frequency (CWSF) Ground Penetrating Radar (GPR) system was used to conduct the survey collecting data with a multi-element GX1820 vehicle towed, ground coupled antenna array (Linford *et al.* 2010). A roving Trimble R8 Global Navigation Satellite System (GNSS) receiver, together with a second R8 base station receiver established using the Ordnance Survey VRS Now correction service,

was mounted on the GPR antenna array to provide continuous positional control for the survey collected along the instrument swaths shown on Figure 3. Data were acquired at a 0.075m x 0.075m sample interval across a continuous wave stepped frequency range from 60MHz to 2.99GHz in 4MHz increments using a dwell time of 2ms. A single antenna element was monitored continuously to ensure data quality during acquisition together with automated processing software to produce real time amplitude time slice representations of the data as each successive instrument swath was recorded in the field (Linford 2013).

Post acquisition processing involved conversion of the raw data to time-domain profiles (through a time window of 0 to 70ns), adjustment of time-zero to coincide with the true ground surface, background and noise removal, and the application of a suitable gain function to enhance late arrivals. Representative profiles from the GPR survey are shown on Figure 8. To aid visualisation amplitude time slices were created from the entire data set by averaging data within successive 2.4ns (two-way travel time) windows (e.g. Linford 2004). An average sub-surface velocity of 0.0968m/ns was assumed following constant velocity tests on the data, and was used as the velocity field for the time to estimated depth conversion. Each of the resulting time slices, shown as individual greyscale images in Figures 9 and 10 therefore represents the variation of reflection strength through successive ~0.12m intervals from the ground surface. Further details of both the frequency and time domain algorithms developed for processing this data can be found in Sala and Linford (2012).

RESULTS

Magnetometer survey

A graphical summary of the significant magnetic anomalies, [**m26-48**] discussed in the following text, superimposed on the base OS map data, is provided in Figure 11.

In general, the magnetic response at the site is relatively good and similar to the results in the neighouring survey to the east of the Diamond plantation (Linford *et al.* 2015a). Some recent magnetic disturbance is evident along the course of the military tramway [**m26-29**], together with a small negative rectilinear anomaly [**m30**] that may be associated either with the tramline or, perhaps, an evaluation trench close to the A303.

The ploughed-out banks of the field systems identified from aerial photographic evidence (AMIE UID 219581), are partially replicated by a series of negative linear anomalies [**m31-38**]. A number of positive ditch-type responses [**m39-43**], with some suggestion of segmentation, appear to run parallel to the field

system and enhance the NMP evidence suggesting the field system respects a weaker linear anomaly [**m41**] to the north. Anomalies [**m42**] and [**m43**] head east and follow the wider extent of the field system mapped by both aerial photography and previous geophysical survey (Figure 13; Linford *et al*. 2015a, [m15] and [m16]).

A ploughed out section of the linear earthwork (AMIE UID 219803) is visible at [**m44**] and does not respect the alignment of other boundary ditches in the vicinity. The known henge monument (AMIE UID 1059879) is replicated by a positive circular anomaly [**m45**] with a possible entrance gap to the north-east, first recognised through a previous geophysical survey targeting this monument (Geophysical Surveys of Bradford 1992b), but apparently lacking any evidence for internal activity. Immediately to the north of [**m45**] an area of weakly magnetised response [**m46**] is found to contain some more localised, higher magnitude pit-type anomalies possibly indicative of a larger pit or infilled quarry depression.

A circular area of reduced magnetic response [**m47**] with a diameter of ~20m containing a strongly magnetic, possibly ferrous, horse-shoe shaped anomaly, correlates with a surface depression designated as either a bowl barrow or dew pond (AMIE UID 10161 and 1059858). Whilst the magnetic data provides no clear evidence for the presence of a surviving ditch, the internal ferrous response suggests the monument may well have been subject to more recent disturbance or alteration.

To the south of the survey area fragments of a ditch-type response [**m48**] may correspond with the supposed location of a scheduled long barrow (AMIE UID 1119299, Winterbourne Stoke 71), but as this is only partially described within the survey area it is difficult to interpret more fully.

Ground Penetrating Radar survey

A graphical summary of the significant GPR anomalies, [**gpr25-40**] discussed in the following text, superimposed on the base OS map data, is provided in Figure 12.

Significant reflections have been recorded throughout the 70ns two-way travel time window, although later reflections beyond ~40ns become more highly attenuated. The local geomorphology, presumably gently dipping bands of weathering, marl or flint bedding within the chalk appear as series of high amplitude, amorphous reflectors [**gpr25**] that migrate laterally throughout the amplitude time slices. Variations in the micro-topography of the site appear as a predominantly N-S orientated plough pattern and a combination of sheep-runs [**gpr26**], seperable from a more extensive network of animal burrows [**gpr27**] between 2 .4 and 9.6ns (0.11 to 0.44m), the latter particularly concentrated to

the east of the survey area. The remains of the former railway [**gpr28**] are also evident from 7.2ns (0.33m) onwards and may also account for two area of high amplitude response [**gpr29**] and [**gpr30**] along the route.

A very weak response to the field system [**gpr31**] is found between 4.8 and 12.0ns (0.22 to 0.55m) as a series of diffuse linear reflectors (cf [**m31-38**]) and, in part, this near-surface expression appears to correlate with some better defined linear anomalies [**gpr32**] between 12 and 19.2ns (0.55 to 0.88m). A further ditch-type response [**gpr33**] corroborates [**m42**] sharing the alignment of the field system to the east of the survey area, where it again appears to suggest a course that would continue across the field boundary demarked by the linear earthwork to conjoin with similar anomalies recorded in the field to the east.

An incomplete response to the henge monument [**gpr34**] occurs between 7.2 and 42.8ns (0.33 to 1.87m). It is difficult to explain the partial correlation between [**gpr34**] and the complete magnetic anomaly [**m45**] with a clearly defined break in the ring ditch to the NE, although the GPR anomaly is quite complex with an initial layer of high amplitude refelectance giving way to a lower amplitude, ditch-type response from approximately 24ns (1.1m) onwards. There is no evidence for any significant internal anomalies within [**gpr34**], but the presence of the railway [**gpr28**] cutting through the ring ditch to the west and animal burrows further obscures the weakly defined GPR response over this monument.

The round barrow or dew pond appears as a high amplitude circular anomaly [**gpr35**] with a diameter of ~18m from 7.2ns (0.33m) onwards, that surrounds a visible depression in the field. Anomaly [**gpr35**] becomes more complex with depth and has apparent gaps in the response on a slightly offset NS alignment. Between approximately 12.0 and 19.2ns (0.55 to 0.88m) a series of discrete reflectors [**gpr36**] form a partial ring around [**gpr35**], which correlates with circular boundary of similar diameter (25m) shown on the historic mapping (OS Historic County Mapping Series: Wiltshire 1891 - 1921 Epoch 2). There is also some evidence for deeper, pit-type anomalies within the centre of [**gpr35**].

GPR time slices from between approximately 12 and 24ns (0.55 to 1.1m) contain a number of discrete, pit-type, high amplitude reflectors distributed across the survey area. Some of these, for example [**gpr37**], have a diameter of approximately 2m and are of annular form perhaps suggesting a combination of both tree-throws together with pits and natural solution hollows in the chalk, as has often been found in the wider WHS landscape (cf Linford and Martin 2009). A small number of slightly larger diameter pit-type anomalies [**gpr38**] extend into the deeper timeslices, but these could possibly represent a response to the underlying geomorphology. The deeper time slices also suggest a more curious curvilinear anomaly [**gpr39**], from between 28.8 and 50ns (1.32 to 2.2m)

which does not, immediately, appear similar to the dipping geomorphological responses [**gpr25**] that occur through the same depth range. Whilst a more significant anthropogenic origin cannot be entirely discounted it seems more likely, due to the depth of [**gpr39**], that this is a response to the underlying geology. Some additional high amplitude anomalies, such as [**gpr40**], are also present but are more difficult to fully interpret as they are only partially described within the survey area and may, again, be a geomorphological response.

CONCLUSIONS

The magnetic and GPR surveys have provided useful complementary data sets to enhance the known evidence from aerial photography and previous, more limited, geophysical survey at the site. Compared with the aerial photography the field system depicted in the magnetic results appears to be either truncated by ploughing to the north of the field or, perhaps, reflects a phase of activity that respects a significant linear boundary at this point. The GPR response to the field system is more intermittent and apparently quite shallow, although together all of the sources suggest a more complex relationship with the wider landscape chronology defined by the recognised linear earthworks in the vicinity.

Both the known henge monument and the round barrow (or dew pond) have been replicated in the geophysical survey, with the magnetic data corroborating the original fluxgate results confirming the presence of a possible entrance gap in the ring ditch. The response over the round barrow is more complex with the GPR detecting a recent historic circular fence line together with a ditch and bank with opposed gaps surrounding a slight topographic depression. The apparent presence of a central deposit of ferrous material suggests the surviving topography of the original monument may well have been reused more recently, perhaps as a dew pond to water grazing animals. Finally, one part of the pair of ditches from the supposed Winterbourrne Stoke 71 Neolithic long barrow are partially described within the magnetic survey data, suggesting the majority of the monument originally identified through aerial photography lies within the arable field to the south beyond the area available for survey.

LIST OF ENCLOSED FIGURES

Figure 13 Graphical summary of National Mapping Programme aerial photographic evidence (1:5000).

REFERENCES

Bowden, M 2015a Stonehenge World Heritage Site: landscape survey south of the A303 – 'Stonehenge southern WHS survey'. Historic England, R G, Project Design Version 0.3.

Bowden, M 2015b Stonehenge World Heritage Site: landscape survey south of the A303 (RaSMIS 7238). Historic England, upublished project design.

Geological Survey of England and Wales 1950 Salisbury, England and Wales Sheet 282, Drift edition. Chessington, Surrey.

Geophysical Surveys of Bradford 1992a *'Report on geophysical survey: A303 Amesbury to Berwick Down Survey II.'*Report No. **92/82**.

Geophysical Surveys of Bradford 1992b *'Report on geophysical survey: A303 Amesbury to Berwick Down.'*Report No. **92/03**.

Geophysical Surveys of Bradford 1993 *'Report on geophysical survey: A303 Amesbury to Berwick Down Survey III'*Report No. **93/128**.

Linford, N 2004 'From Hypocaust to Hyperbola: Ground Penetrating Radar surveys over mainly Roman remains in the U.K.'. *Archaeological Prospection*, **11** (4), 237-246.

Linford, N 2013. *Rapid processing of GPR time slices for data visualisation during field acquisition*. In Neubauer, W, Trinks, I, Salisbury, R and Einwogerer, C (Editors), Archaeological Prospection, Proceedings of the 10th International Conference, May 29th - June 2nd 2013 2013 (Vienna: Austrian Academy of Sciences Press). 176-78.

Linford, N, Linford, P, Martin, L and Payne, A 2010 'Stepped-frequency GPR survey with a multi-element array antenna: Results from field application on archaeological sites'. *Archaeological Prospection*, **17** (3), 187-198.

Linford, N, Linford, P and Payne, A 2015a *'Southern WHS Survey, Diamonds Field, Boreland Farm, Wiltshire, Report On Geophysical Surveys, August 2015'*. Historic England Research Reports Series **93/2015**.

Linford, N, Linford, P and Payne, A 2015b *'Southern WHS Survey, Normanton Down, Wiltshire, Report On Geophysical Surveys, August 2015'*. Historic England Research Reports Series **96/2015**.

Linford, N, Linford, P and Payne, A 2015c *'Southern WHS Survey, West Amesbury Farm, Wiltshire, Report On Geophysical Surveys, August 2015'*. Historic England Research Reports Series **95/2015**.

Linford, N and Martin, L 2009 *'Airman's Corner, Winterbourne Stoke, Wiltshire. Report on Geophysical Survey, February - March 2009'*. English Heritage Research Department Reports **23/2009**.

RCHME (Royal Commission on Historical Monuments (England)) 1979 *Stonehenge and its Environs*, Edinburgh, Edinburgh University Press.

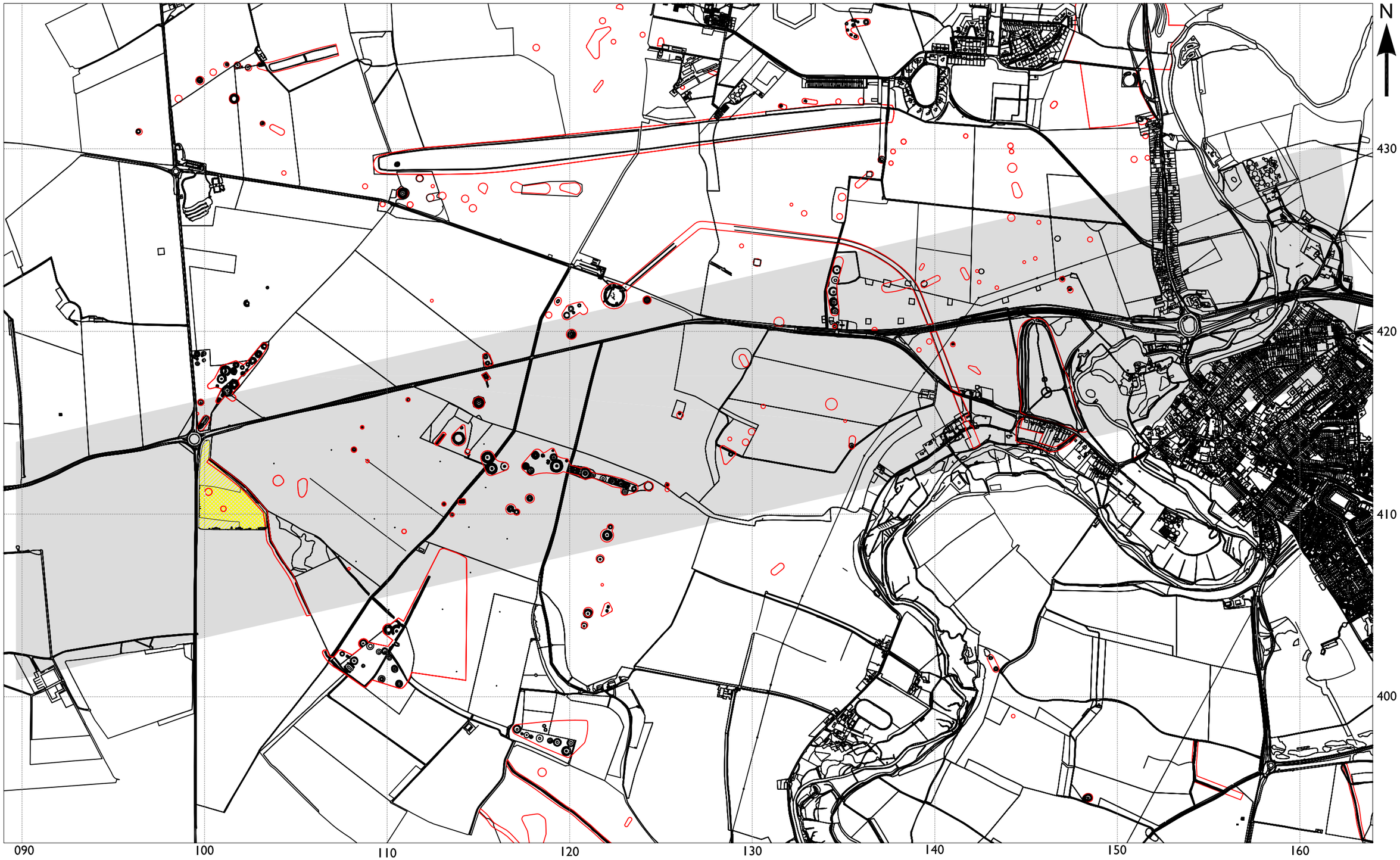
Sala, J and Linford, N 2012 ' Processing stepped frequency continuous wave GPR systems to obtain maximum value from archaeological data sets '. *Near Surface Geophysics*, **10** (1), 3-10.

Soil Survey of England and Wales 1983 Soils of England and Wales: Sheet 6 - South East England Harpenden: Lawes Agricultural Trust.

Figure 1

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Location of geophysical survey within Priority 1 project area, October 2015



0 1500m
1:20000

Scheduled areas

Stonehenge Southern World Heritage Site Survey: Priority 1 project area

Caesium magnetometer survey area

GPR survey area

Historic England

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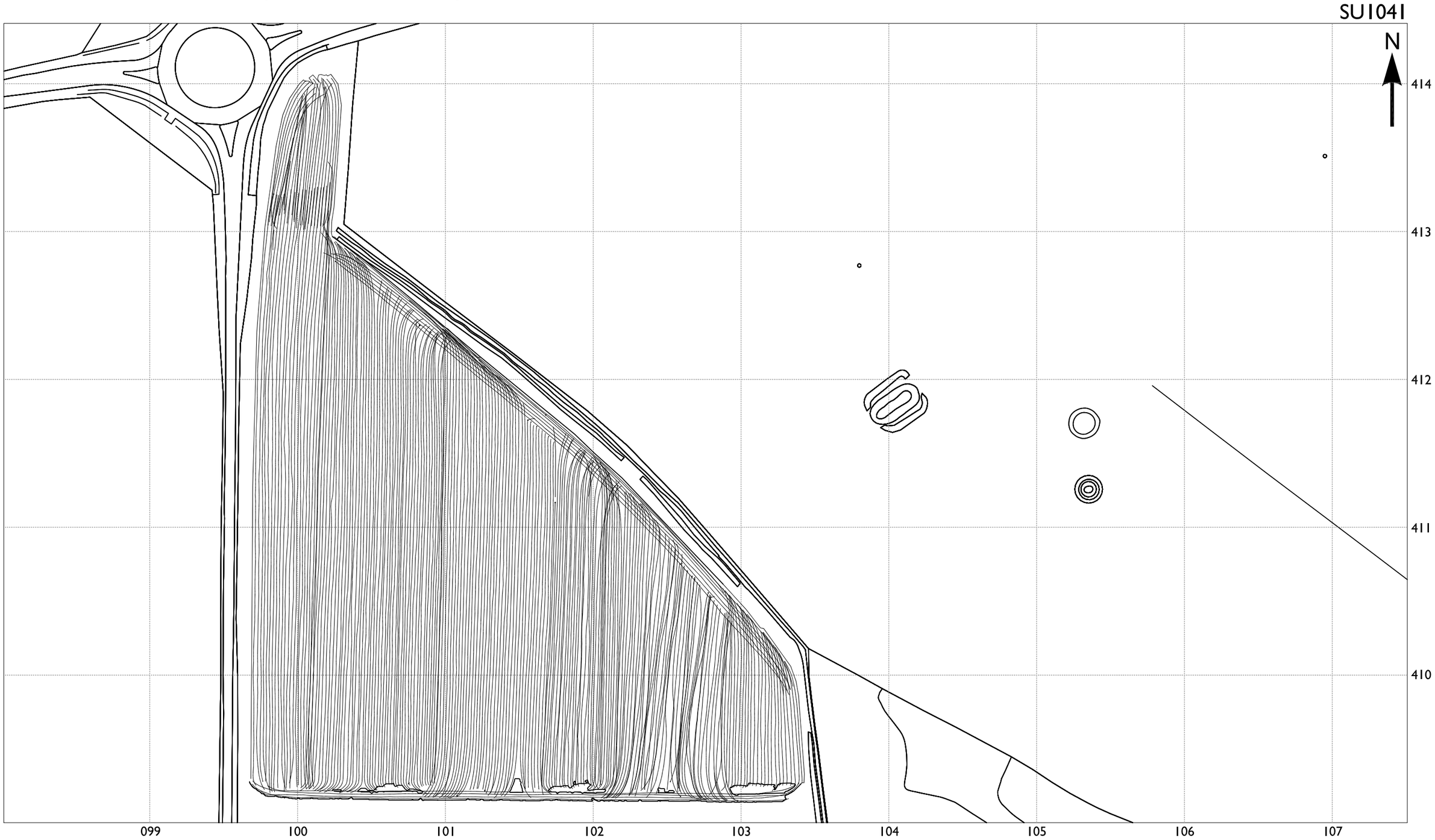
Figure 2

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Location of caesium magnetometer survey swaths, October 2015



0 150m

1:2500

Caesium magnetometer survey swaths

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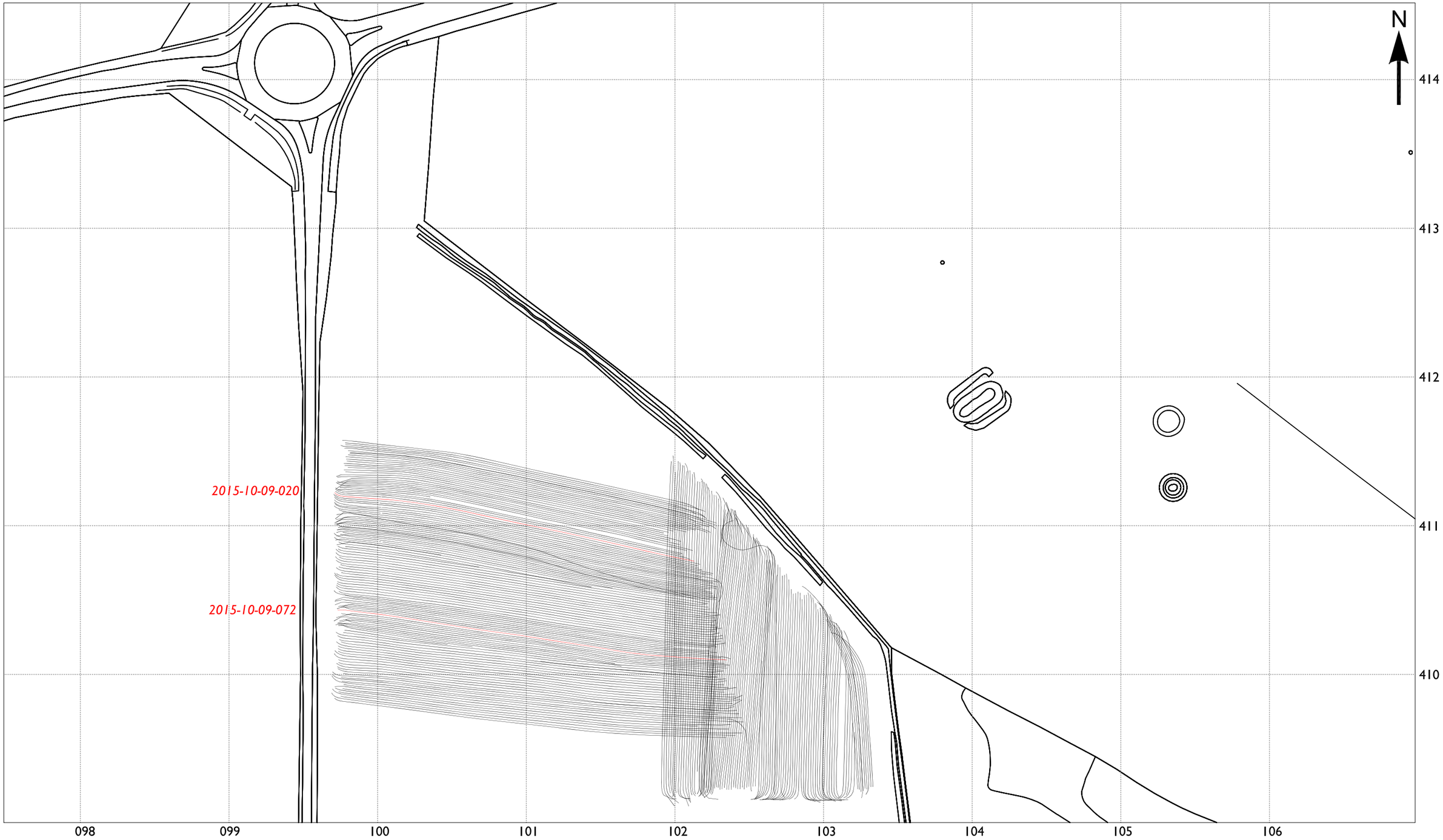
Figure 3

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Location of GPR survey swaths, October 2015



0 150m

1:2500

2015-10-09-020 Location of selected GPR profile shown on Figure 10

Ground Penetrating Radar survey swaths

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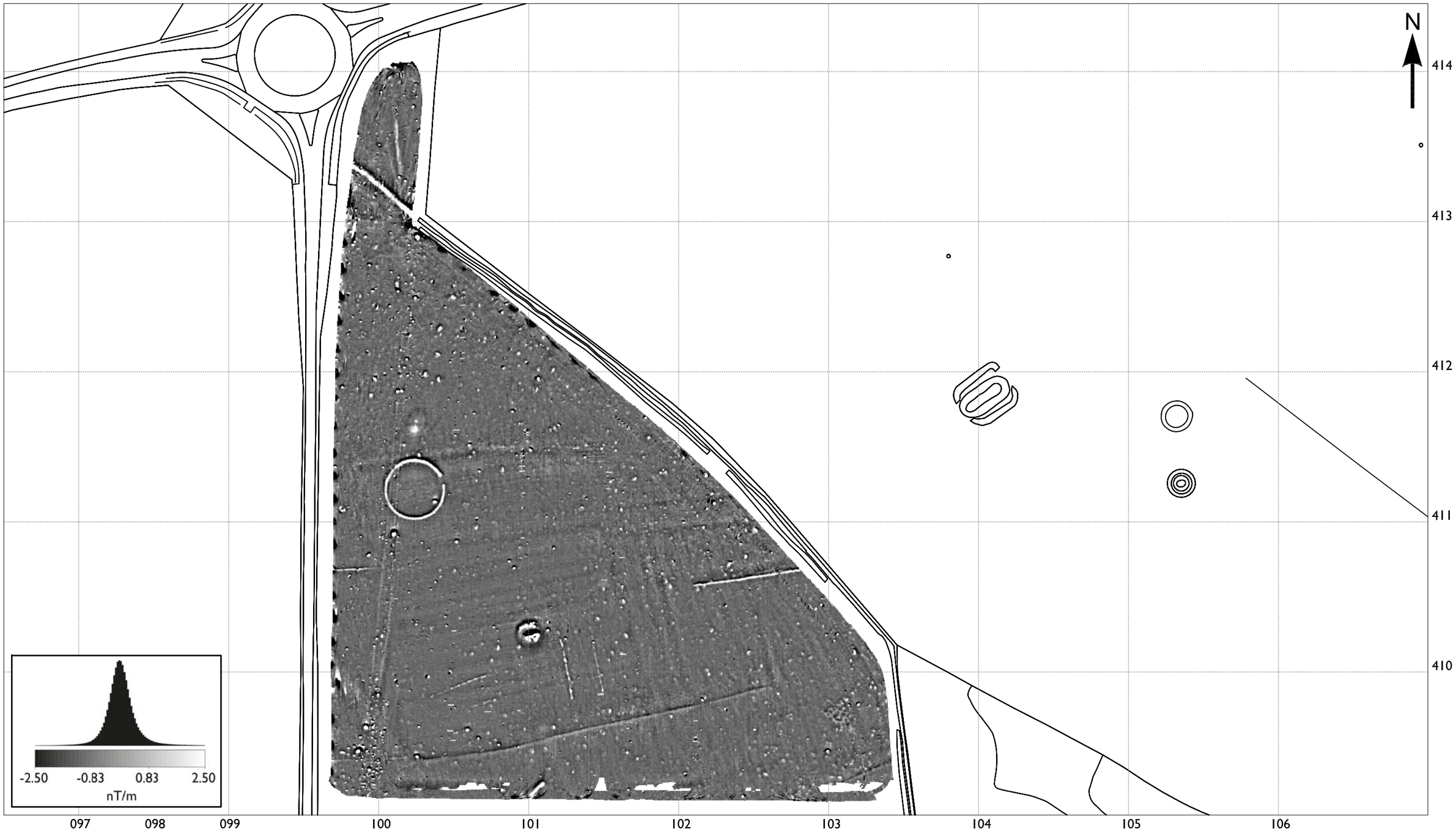
Figure 4

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Location of caesium magnetometer survey, October 2015



0 150m

1:2500

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Figure 5

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

GPR amplitude time slice between 14.4 - 16.8ns (0.66 to 0.77m), October 2015

0 150m

1:2500

2015-10-09-020 Location of selected GPR profile shown on Figure 8

Low *High*
relative reflector strength

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Figure 6

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Traceplot of minimally processed caesium magnetometer data, October 2015

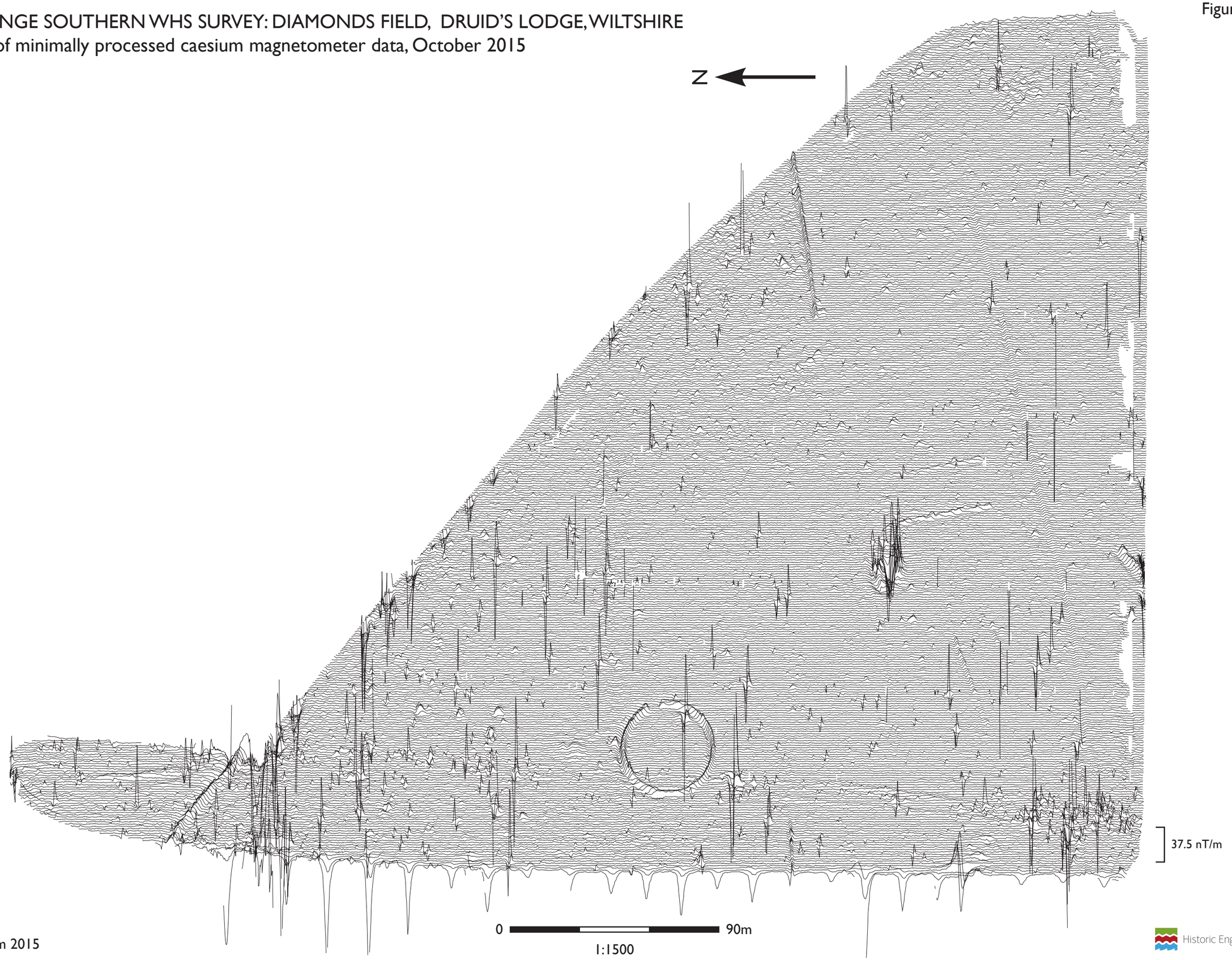

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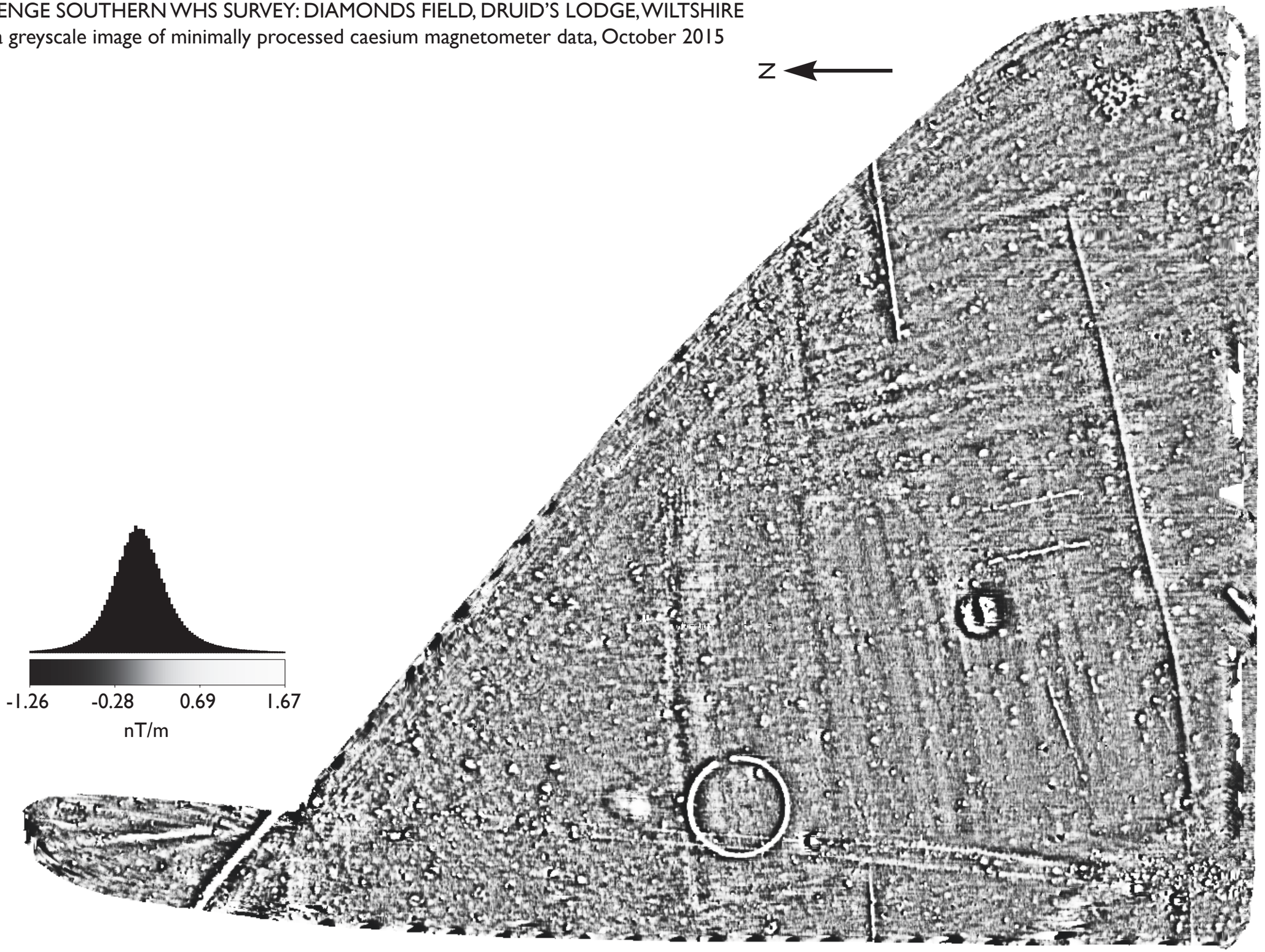
Figure 7

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Equal area greyscale image of minimally processed caesium magnetometer data, October 2015



0 90m

1:1500

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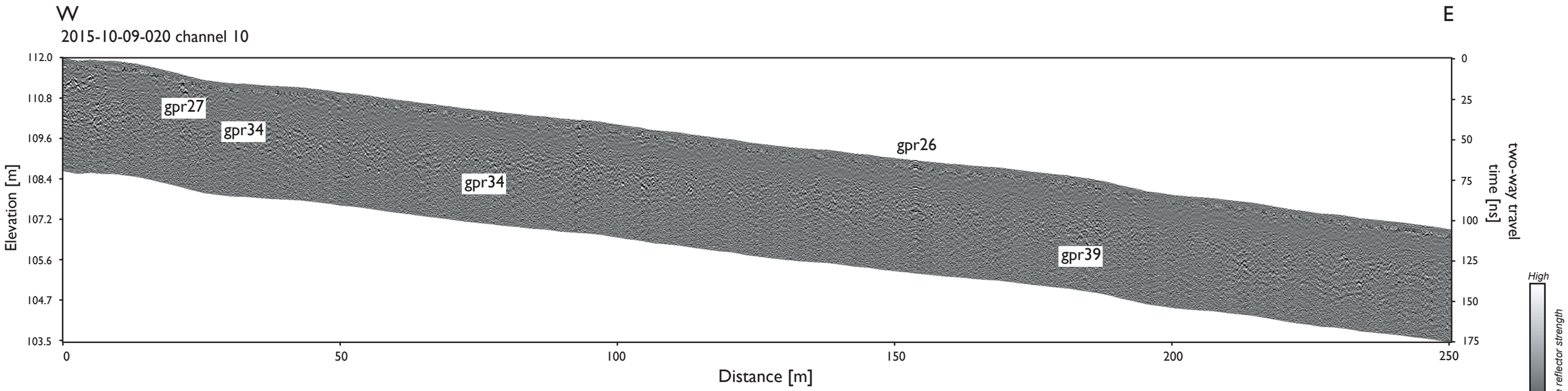
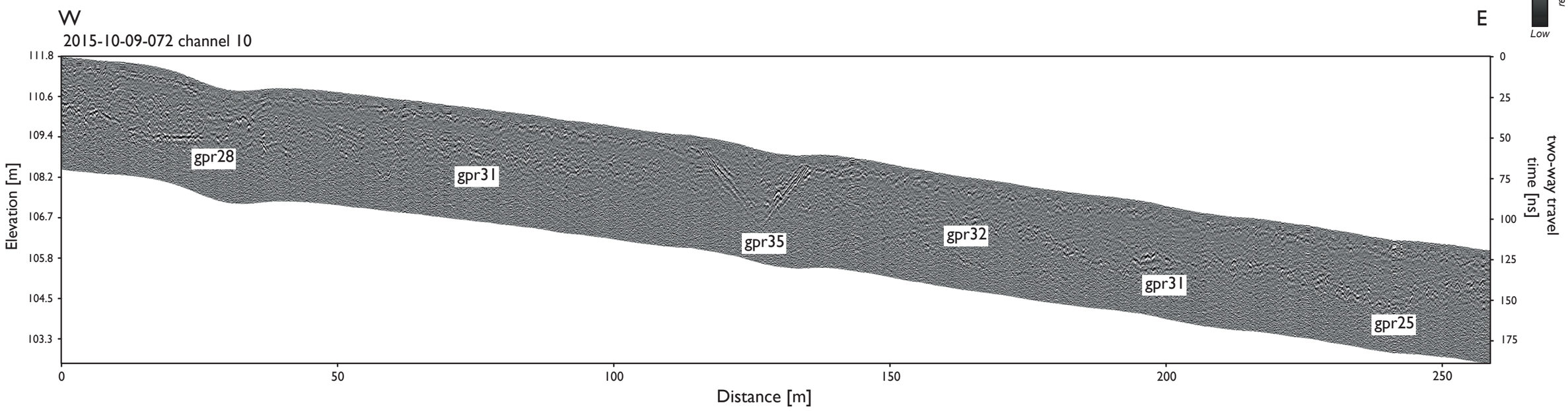
STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Figure 8

Topographically corrected GPR profiles, October 2015





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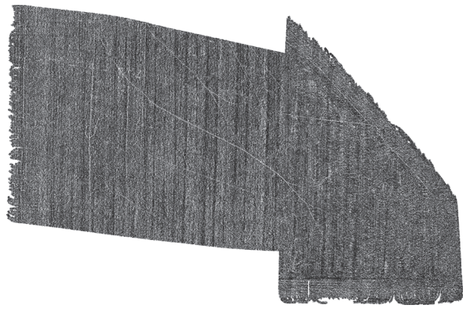
STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

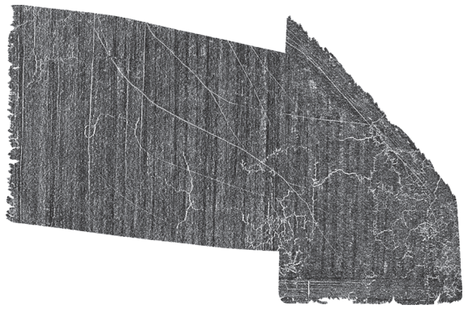
GPR amplitude time slices between 0.0 and 38.0ns (0.0 - 1.65m), October 2015

Figure 9

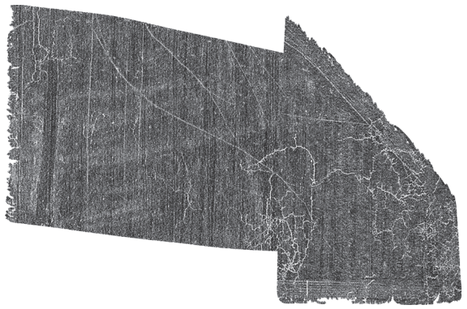
0 - 2.4ns (0.0 - 0.11m)



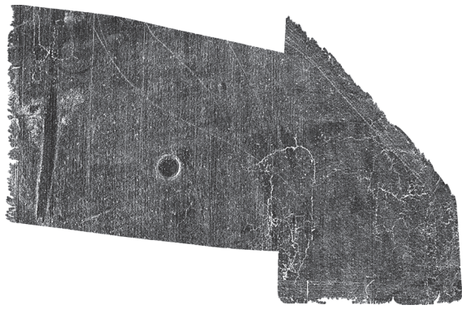
2.4 - 4.8ns (0.11 - 0.22m)



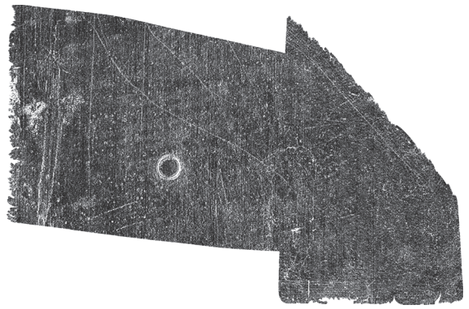
4.8 - 7.2ns (0.22 - 0.33m)



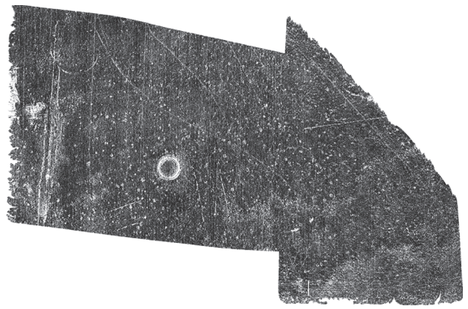
7.2 - 9.6ns (0.33 - 0.44m)



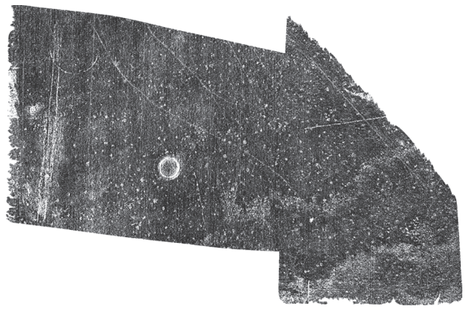
9.6 - 12.0ns (0.44 - 0.55m)



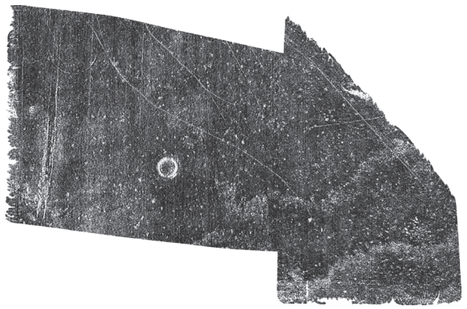
12.0 - 14.4ns (0.55 - 0.66m)



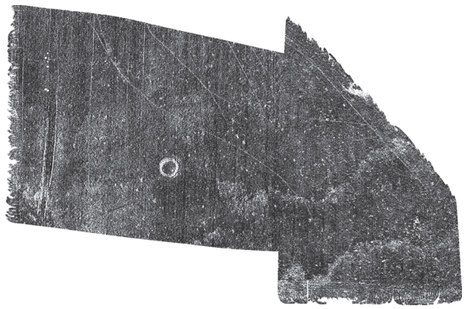
14.4 - 16.8ns (0.66 - 0.77m)



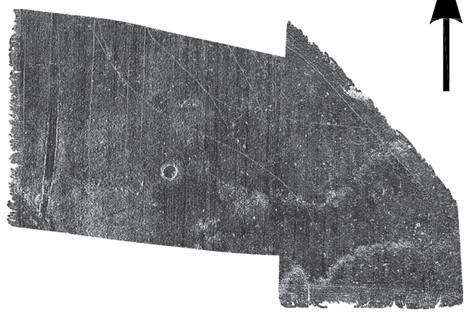
16.8 - 19.2ns (0.77 - 0.88m)



19.2 - 21.6ns (0.88 - 0.99m)

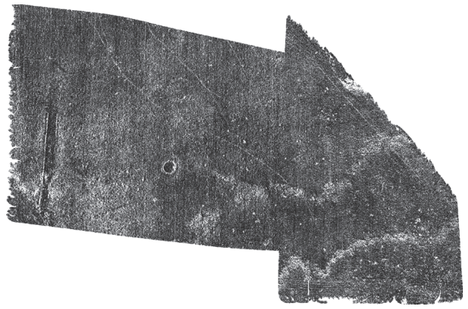


21.6 - 24.0ns (0.99 - 1.1m)

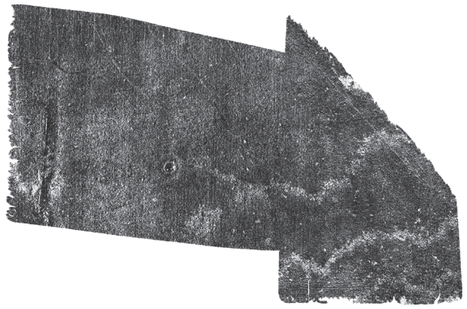


N

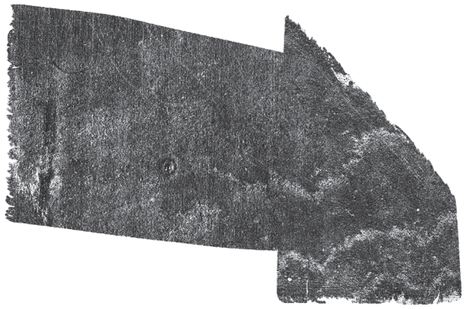
24.0 - 26.4ns (1.1 - 1.21m)



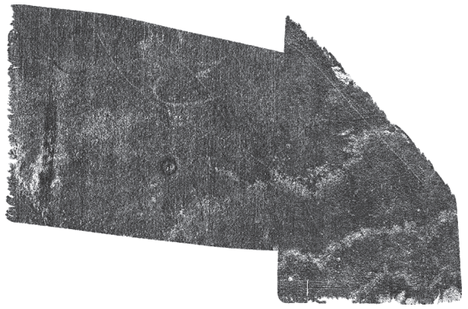
26.4 - 28.8ns (1.21 - 1.32m)



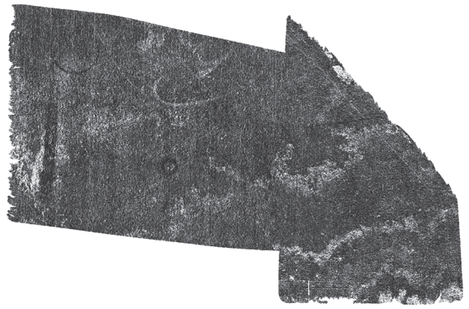
28.8 - 33.2ns (1.32 - 1.43m)



33.2 - 35.6ns (1.43 - 1.54m)



35.6 - 38.0ns (1.54 - 1.65m)



Low *High*

relative reflector strength

0 180m

1:5000

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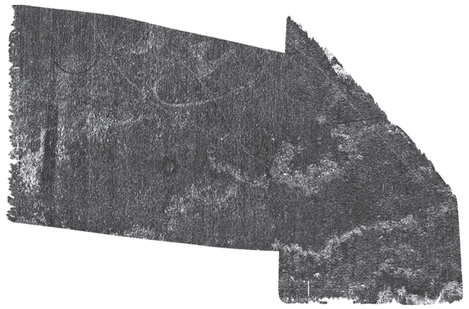
Historic England

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

GPR amplitude time slices between 38.0 and 66.8ns (1.65 - 2.97m), October 2015

Figure 10

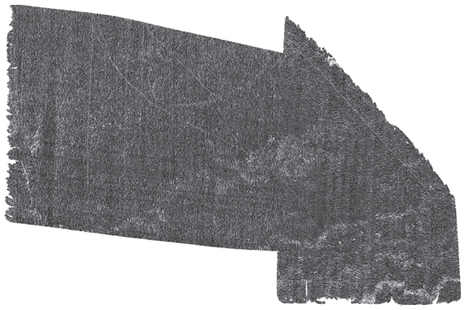
38.0 - 40.4ns (1.65 - 1.76m)



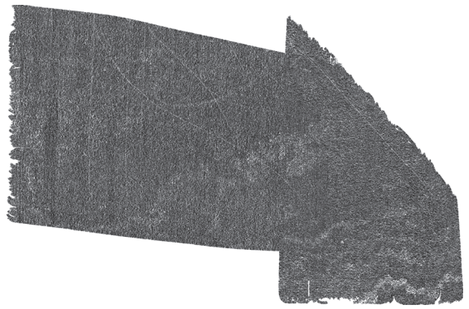
40.4 - 42.8ns (1.76 - 1.87m)

42.8 - 45.2ns (1.87 - 1.98m)

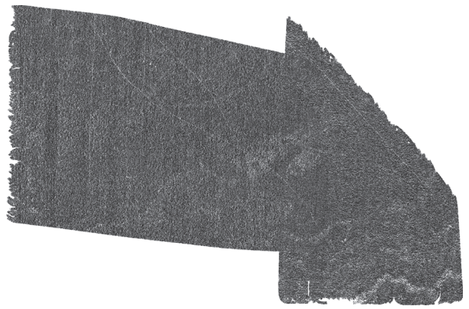
45.2 - 47.6ns (1.98 - 2.09m)



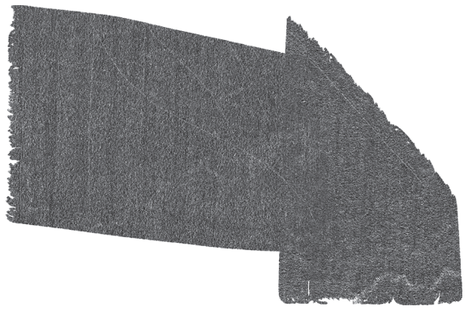
47.6 - 50.0ns (2.09 - 2.20m)



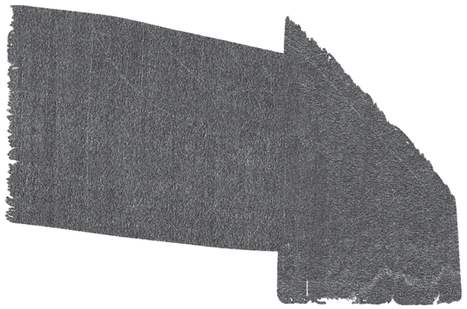
50.0 - 52.4ns (2.20 - 2.31m)



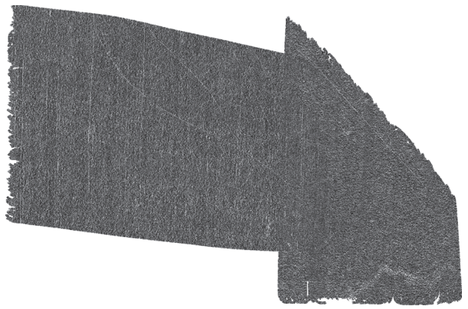
52.4 - 54.8ns (2.31 - 2.42m)



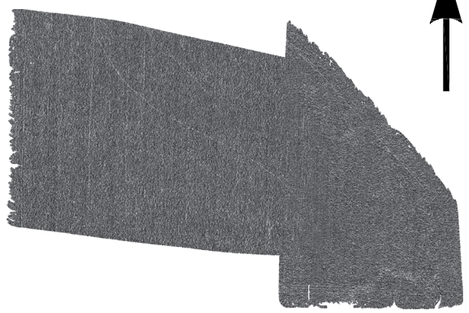
54.8 - 57.2ns (2.42 - 2.53m)



57.2 - 59.6ns (2.53 - 2.64m)

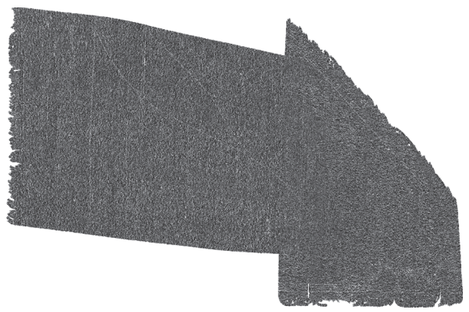


59.6 - 62.0ns (2.64 - 2.75m)

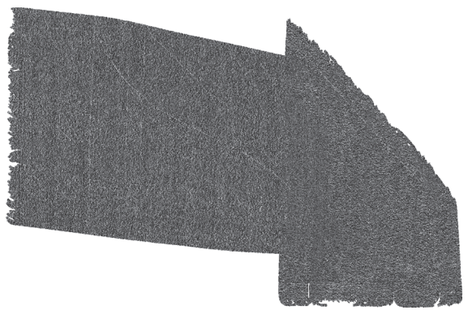


N

62.0 - 64.4ns (2.75 - 2.86m)



64.4 - 66.8ns (2.86 - 2.97m)



Low *High*

relative reflector strength

0 180m

1:5000

Geophysics Team 2015

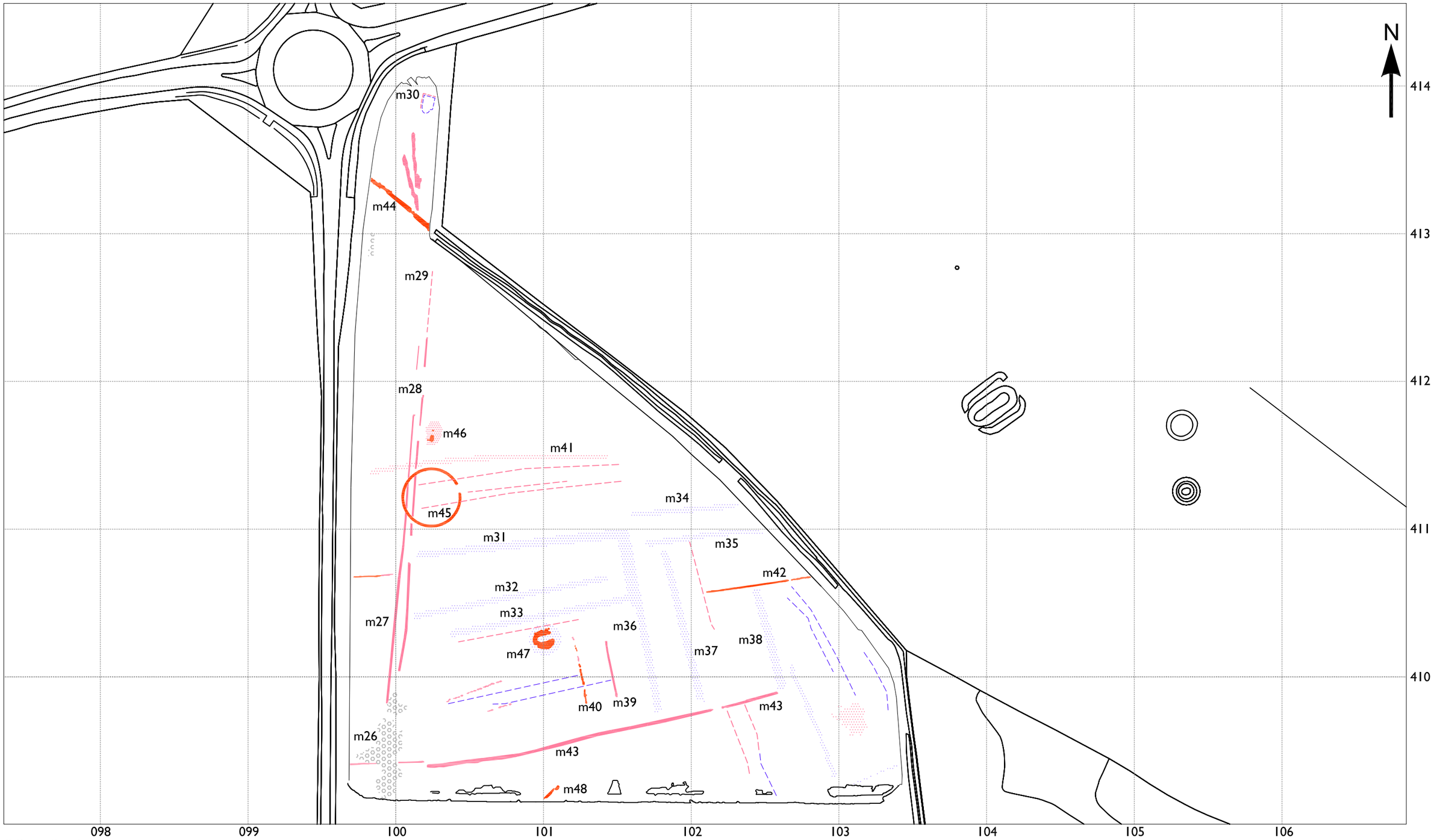
Historic England

Figure 11

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Graphical summary of significant magnetic anomalies, October 2015

SU1041



0 150m

1:2500

positive magnetic

negative magnetic

raised magnetic

magnetic noise

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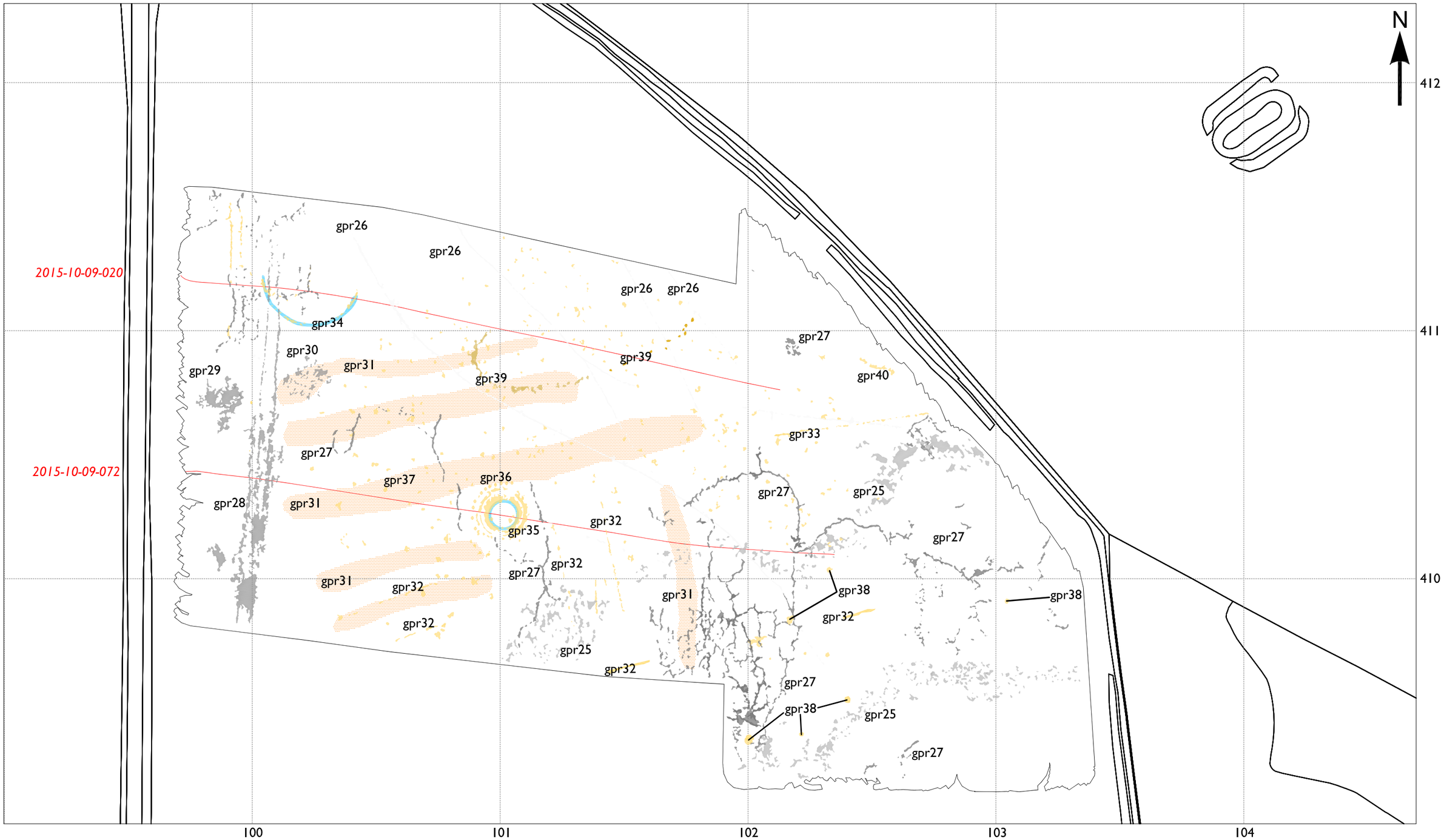
Figure 12

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Graphical summary of significant GPR anomalies, October 2015



0 90m

1:1500

low amplitude reflectors

high amplitude reflectors

anomalies of known or recent origin

2015-10-09-020 Location of selected GPR profile shown on Figure 3

Geophysics Team 2015

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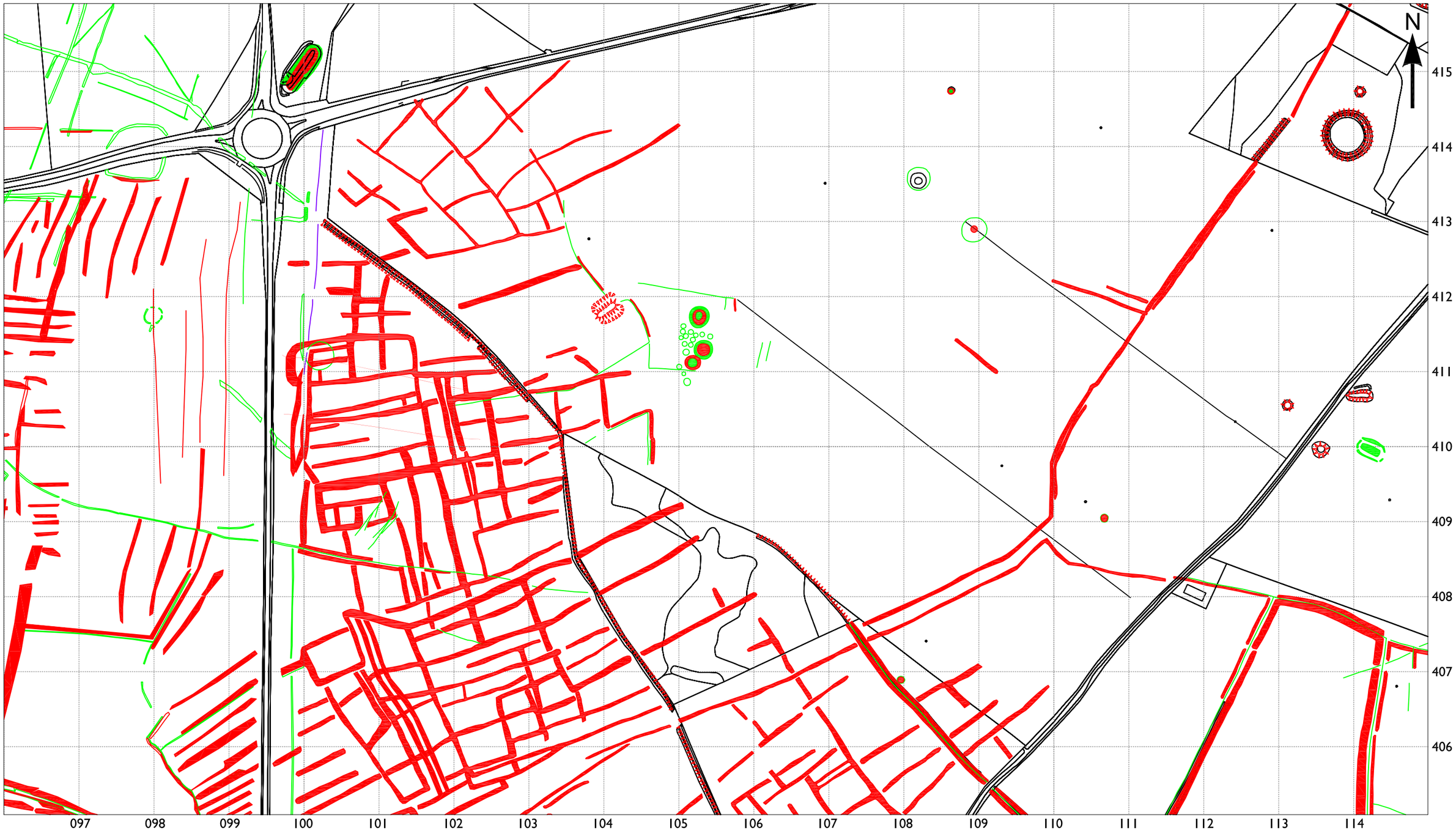
Figure 13

STONEHENGE SOUTHERN WHS SURVEY: DIAMONDS FIELD, DRUID'S LODGE, WILTSHIRE

Graphical summary of the NMP aerial survey evidence



0 300m

1:5000

NMP mapping

tramway
bank
scarp
ditch

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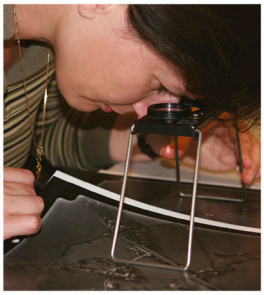


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ISSN 2046-9799 (Print)
ISSN 2046-9802 (Online)