

Crownhill Down, Hemerdon, Sparkwell, Devon

SX5667059921

Results of an archaeological trench evaluation Scheduled Monument DV1027

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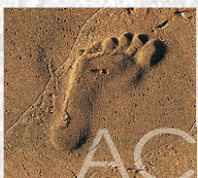
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archaeology

CROWNHILL DOWN, HEMERDON, SPARKWELL, DEVON (SX5667059921)

Results of an archaeological trench evaluation

Scheduled Monument DV1027

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Summary

An archaeological trench evaluation undertaken within Scheduled Monument DV1027, Crownhill Down, Hemerdon (NGR SX5667059921), was carried out by AC archaeology during May and June 2010. The total site area covers 4.5 hectares and is situated on the western slope of Crownhill Down. It is part of a much larger area which has existing planning permission for the extraction of tungsten, tin and china clay and the tipping of waste. Scheduled Monument DV1027 consists of what was thought to be a linear group of six round barrows or cairns visible as earthworks, with six more possible mounds present. An earthwork bank is also located within the scheduled area.

The evaluation comprised the machine and hand-excavation of 30 trenches, with these positioned to investigate some of the above features, although some were 'control' trenches, located where no remains were recorded. The work has established that at least five of the scheduled barrows/cairns are naturally-formed features, with only one man-made. In addition, six possible barrows recorded during more recent survey work have been also been confirmed as natural in origin. There are now only two probable prehistoric features within the scheduled area, which comprise one possible ring cairn and a bank. A radiocarbon date obtained from charcoal present in a buried soil layer beneath the ring structure dates this feature as very late Bronze Age at the earliest, which does not fit easily with other ring cairns in the South West, which are generally considered to be early to middle Bronze Age in date.

1. INTRODUCTION

- 1.1 An archaeological trench evaluation undertaken within Scheduled Monument DV1027, Crownhill Down, Hemerdon, was undertaken by AC archaeology during May and June 2010. The work was commissioned by Groundwork Archaeology Ltd on behalf of Wolf Minerals Ltd, and was carried out following consultation with English Heritage and Devon County Council Historic Environment Service. The location of the site is shown on Fig. 1.
- 1.2 The Hemerdon Mine has planning consent (ref. 9/42/49/0542/85/3, granted in 1986) for the extraction of tungsten, tin and china clay and the tipping of waste on Crownhill Down. Conditions attached to the planning permission require 'a work programme for comprehensive archaeological investigation and recording...before and during the course of development' (Section 1: condition 10(g) as well as the determination of 'methods to be adopted for the safeguarding of archaeological sites within the permission area, but not directly affected by the development' (Section 1: condition 10(h). It is the intention of Wolf Minerals Ltd to commence mining and waste dumping operations in a permitted area (the site) on and around Crownhill Down and Hemerdon Ball.
- 1.3 The scheduled monument covers an area of approximately 4.5 hectares and is situated on the western slope of Crownhill Down. It lies between c. 120m and 180m OD, with the underlying solid geology comprising Upper Devonian Slate.

2. ARCHAEOLOGICAL BACKGROUND

- 2.1 Scheduled Monument DV1027 consists of what was thought to be a linear group of six round barrows or cairns visible as earthworks between 6m and 11m in diameter and 0.2m-0.5m high, with six more possible mounds, lying on the west facing slope of the Down. These features are turf-covered and all have some stone visible, although there are no traces of kerbs. It is possible that some of the mounds are built around rock outcrops. An earthwork bank is also present in the scheduled area.

2.2 The proposed overall scheme area has been subject to various surveys and assessment since 1979 (see Bonnor 2010, section 5.1). These have included detailed earthwork surveys, transcriptions of aerial photographs, Lidar mapping and assessments and surveys of the post-medieval mining remains and buildings within the overall permission area.

3. AIMS

3.1 The aims and objectives for the work as set out below are taken from the initial Project Design (Bonnor 2010).

3.2 The main aim of the proposed scheme of trial trenching was to provide sufficient information to English Heritage in order that a decision on the granting of Scheduled Monument Consent can be made for the ultimate excavation of the monument currently required by the existing planning permission.

3.3 The following specific objectives were identified for the trial trenching work:

- Investigate the presence or absence, extent, condition, character, quality, date and provisional importance of any archaeological, ecofactual, environmental and organic remains within SAM DV1027, including those identified from previous stages of non-intrusive survey.
- Make an adequate drawn, written and photographic record of the remains investigated.
- To establish an adequate archive of the records and excavated material from the remains investigated.
- To assess the potential impacts of the proposed development upon any remains and determine any need for further evaluation and mitigation prior to construction.
- To prepare a report that addresses the above.

4. METHODOLOGY

4.1 The investigations were undertaken in accordance with a project design prepared by Groundwork Archaeology (Bonnor 2010) and subsequent method statement by AC archaeology (Valentin 2010). Both documents were approved by English Heritage prior to commencement on site and, on the basis of this documentation, Scheduled Monument Consent was granted, subject to conditions, in a letter of 5 May 2010.

4.2 The work comprised the machine and hand-excavation of 30 trenches (Fig. 2). For the machine-dug trenches all overburden deposits were removed using a 1.6m wide toothless bucket under the control and direction of the Site Archaeologist. Stripping ceased at the level at which natural subsoil or archaeological deposits were exposed.

4.3 All deposits revealed were recorded using the standard AC archaeology pro-forma recording system, comprising written, graphic and photographic records, and in accordance with AC archaeology's *General Site Recording Manual, Version 1*. Detailed sections or plans were produced at scales of 1:10, 1:20 or 1:50. All site levels relate to Ordnance Datum.

5. RESULTS

5.1 Introduction

A number of the trenches contained no evidence for archaeological features or deposits and are described in tabulated form in Appendix 1. Where archaeological remains were present in trenches these are described in more detail below. Relevant plans and sections are included as Figs 3 to 5 and photographs as Plates 1 to 12.

5.2 Trench 2 (Plan Fig. 3a, section 3b; Plate 1)

This trench was positioned to investigate a broadly circular raised area with large protruding stone boulders, as well as the location of a potential northwest to southeast aligned bank. The trench was excavated onto natural subsoil (206), which was present at a depth of 0.23m below a dark grey clayey silt colluvial subsoil (201) and then a dark-brownish-grey sandy loam topsoil (200). The natural subsoil comprised a mid grey silty clay, with dense concentrations of large stones, boulders, gravels and pea grit located towards the northern and mid point of the trench. These concentrations corresponded with the location of the putative bank feature and what was thought to be a possible barrow.

The trench contained a single east to west linear feature (F205), which extended down the gradient and was visible on the surface as a shallow linear depression. The feature was 1.4m wide and 0.54m deep, with steep irregular sides and a concave base. It contained three irregularly lain fills. These comprised a basal fill consisting of multiple lenses of mid to dark grey silty sand (202) with abundant pea gravel inclusions, which was overlain by a mid yellowish-grey sandy loam (203) with abundant pea gravel inclusions, below an upper fill of fine grained dark grey silty-loam stabilisation layer (204). No finds were recovered.

5.3 Trench 4 (Plan Fig. 3c, section 3d)

This trench was positioned in an area of no surveyed or recorded features or anomalies. The trench was excavated onto a mixed stony clay natural subsoil (404), present at a depth of 0.24m and was directly below a blackish-brown sandy loam topsoil (400). Located towards the north end of the trench was an east to west aligned linear feature (F403). This was 1.02m wide and 0.34m deep, with moderately steep sloping sides and a concave base. It contained two fills that comprised a basal fill of dark brown sandy silt (402) with common gravel and pea grit inclusions, below an upper fill of dark grey sandy loam (401). No finds were recovered.

5.4 Trench 10 (Plan Fig. 4a, section 4b; Plate 3)

This trench was positioned across a section of a northwest to southeast aligned earthwork bank. It was excavated onto a mid to dark brown stony sandy clay natural subsoil (1007), present at a depth of 0.18m directly below a dark brownish-black silty clay topsoil (1000).

The bank was 1.5m wide and 0.32m high and sealed a layer of dark grey silty loam buried soil (1003). Layer 1003 was overlain by the bank core (1004), which measured 0.78m wide and 0.11m high and comprised mid to light brown clay loam with common pea grit and gravel inclusions. To the southwest of the bank was a shallow flanking ditch or scoop (F1002). This was 1.6m wide and 0.1m deep, with gradually sloping sides and a flat base. It contained a dark brown clayey loam fill (1001) and no finds were recovered.

To the northeast of the bank was a northwest to southeast aligned steep-sided and flat-based possible linear feature (F1006). This was 0.44m wide and 0.16m deep, and contained a dark greyish-brown silty loam fill (1005). No finds were recovered. The cut for this feature was visible in section at ground surface level.

5.5 Trench 11 (Plan Fig. 4c, section 4d & e)

Trench 11 was situated to test an irregular geophysical anomaly interpreted as a natural feature, as well as across a further linear feature. It was excavated onto a mixed clay and stone natural subsoil (1104), present at a depth of 0.22m directly below a dark brown silty loam topsoil (1100).

An irregular, approximately northeast to southwest aligned linear feature (F1103) was present towards the south end of the trench. This was 0.84m wide and 0.25m deep, with moderately steep-sloping sides and a flattish base. It contained two fills, which comprised a

basal deposit of dark brown silty clay with frequent gravel inclusions (1102), below a dark grey silty loam (1101). No finds were recovered.

5.6 Trench 13 (Plan Fig. 4f, sections 4g & h)

This trench was positioned over some irregular small discrete features, an extrapolated linear feature interpreted from the geophysical survey and a linear anomaly interpreted from Lidar.

A mixed clay and stone natural subsoil (1307) was encountered at a depth of 0.31m, below a mid greyish-brown sandy silty clay colluvial subsoil (1301) and then a dark grey/black silty loam topsoil (1300). A linear feature (F1306) was recorded towards the centre of the trench, which corresponded with the location of the anomaly interpreted from Lidar. This probable ditch was 0.92m wide and 0.23m deep, with steep sloping sides and a shallow concave base. The feature cut through colluvial subsoil layer 1301. The feature contained two fills, comprising a basal deposit of dark grey sandy silt with abundant pea grit and gravel inclusions (1305), below a dark grey silty clay upper fill (1304). No finds were recovered.

Cut through the base of the F1306 was an irregular sub-oval feature recorded as probable tree disturbance (1303). This was 0.6m long and 0.15m deep, with steep irregular sides and a diffuse base. It contained a mixed greyish-brown clay loam fill (1302) and no finds were recovered.

5.7 Trench 21 (Plan Fig. 5a, section 5b; Plate 5)

This trench was positioned over some irregular anomalies, the extrapolated line of a linear feature from the geophysical survey and immediately to the south of a possible barrow/cairn. It was excavated onto a weathered slate and clay natural subsoil (2104), present at a depth of 0.25m immediately below a dark blackish-brown silty loam topsoil (2100).

The trench contained a single linear feature (F2103), which corresponded with the location of the extrapolated linear anomaly. The irregular anomalies targeted towards the north end of the trench were exposed as densities of natural stone rubble and boulders.

Linear feature F2103 was 1.17m wide and 0.18m deep, with gradually sloping sides and a flattish base. It contained two fills, comprising a basal deposit of dark brown silty clay (2102) with common poorly sorted pea grit, gravel and medium stone inclusions, below a dark grey silty loam upper fill (2101). No finds were recovered.

5.8 Trench 23 (Plan Fig. 5c, section 5d-f; Plates 6 and 7)

This trench was positioned to investigate a linear feature recorded as a leat and a linear anomaly interpreted from the geophysical survey. The trench was excavated onto a mid yellowish-brown stony silty clay natural subsoil (2308) present at a depth of 0.25m, which was directly below a mid blackish-brown silty clay topsoil (2300). Two approximately northeast to southwest aligned linear features (F2303 and F2305) were recorded towards the north end of the trench.

The position of ditch F2303 broadly corresponded with geophysical anomaly, but it was on a different alignment. The feature was 0.75m wide and 0.15m deep, with a shallow concave profile. It contained a basal fill of a light greyish silty sand with abundant pea grit and gravel inclusions (2304), below a dark grey silty loam upper fill (2309). Through the base of the ditch was an irregular, steep sided probable natural feature (2301), which contained frequent pea grit and gravels. A single prehistoric edge-damaged worked waste flake in a mottled grey cherty flint, was recovered from upper fill 2309.

Linear feature F2305 was located at the far north end of the trench and corresponded with the leat recorded by English Heritage. The feature, which was visible on the surface as a

linear depression, was 0.85m wide and 0.4m deep, with moderately steep sloping sides and a concave base. It contained two fills, comprising a basal deposit of light grey silty sand with abundant pea grit and gravel inclusions (2306), which was below a dark greyish-brown silty clay (2307). No finds were recovered.

5.9 Trench 30 (Plan Fig. 5g, section 5h; Plates 9 and 10)

This trench was positioned over the southeast section of an English Heritage recorded cairn structure measuring approximately 11m in diameter. The feature was clear on the surface as an elevated circular stony ring with a flat central depression. There was no internal mound.

Natural subsoil (3004), which comprised a mid grey silty clay, was exposed at a maximum depth of 0.36m below ground level. Overlying this, towards the centre of the trench, was a dark grey clayey silt buried soil layer (3003), which was up to 0.03m thick and was sealed by the cairn structure (3002).

The exposed section of the structure was 3.5m wide, 0.23m high and was constructed of well-sorted stone pieces in a dark greyish-brown loose silty loam matrix. The internal side of the structure had a fairly well defined and abrupt inner face. The inner facing to the structure was also visible throughout. The external side of the structure was more blurred with a gradual and poorly defined edge. Overlying only the outer edge of the structure and extending to the southeast, was an accumulation of dark grey clayey silt (3001), which contained moderately common medium stone inclusions. This was sealed by a dark brown sandy clay silt topsoil (3000). No finds were recovered.

6. BULK SOIL SAMPLES

by K Dean and MJ Allen

6.1 Bulk soil samples were collected from a series of features and deposits under the guidance of retained specialist Dr M J Allen and Vanessa Straker of English Heritage. Processing was by flotation and the residues were retained on 0.5mm mesh and residues fractionated into >5.6mm, >4mm and >0.5mm elements. The flots and residues have been sorted, with the results set out in Table 1 below. Two samples from key contexts were processed.

Table 1. Results from bulk soil samples

Sample	Context	Reason for sample	Sample volume	Processed volume	Charcoal	Seeds	Insects	Finds
1	1003	Preserved buried soil horizon beneath ?prehistoric bank	20 litres	10litres	5 (<0.5g)	3	2	0
2	3003	Preserved buried soil horizon beneath probable cairn	10 litres	10 litres	10 (<0.5g)	0	1	0

6.2 All samples contained frequent intrusive woody rootlets. Where palaeo-environmental remains are recorded, these are in very small numbers and the charcoal fragments are all very small in size (< 5mm).

6.3 Palaeo-environmental assessment

The quantity of charred remains is generally low, and charcoal is highly comminuted and no charred cereal remains were noted. A few weed seeds are present, although the majority of these are black but not charred.

The quantity of charred remains seems very low and incidental – as indeed they should from the features sampled. There is no clear dump or discrete deposits so all remains, including charcoal, are largely incidental to the events relating to the features. The palaeo-environmental remains here have little further potential.

7. RADIOCARBON DATING

by MJ Allen

7.1 Bronze Age buried soil under 'cairn' in Trench 30

The cairn structure in Trench 30 was sectioned, revealing a buried soil (context 3003) beneath boulders and large stones. Many of the boulders and large stones were heavily impacted upon, and pushed in to the buried soil, some by 20-40mm. A bulk sample (sample 2) from buried soil produced sparse charred remains but did include c. 10 fragments of charcoal <5mm (<0.5g), several of which were clearly recognised as small twiggy fragments (c. 4mm). These were too small for species identification, but a radiocarbon determination would provide a *terminus post quem* date for construction of the mound. The charcoal represents a burning/ activity episode/s prior to the construction of the mound. It does not clearly represent a single, nor even a defined, event.

Individual small short-lived (one to two year growth) twiggy elements (<0.1g) were submitted for AMS dating at the Scottish Universities Environmental Research Centre at the University of Glasgow. One single twiglet item was dated.

7.2 Method and calibration

The radiocarbon result is given in Table 2, and is quoted in accordance with the international standard known as the Trondheim convention (Stuiver & Kra 1986). They are conventional radiocarbon ages (Stuiver & Polach 1977). The calibrations of the results, relating the radiocarbon measurements directly to calendar dates, is given in Table 2 and in Fig. 6. This has been calculated using the calibration curve of Reimer *et al.* (2009) and the computer program OxCal v4.1.7 (Bronk Ramsey 1995; 1998; 2001; 2009). The calibrated date ranges cited in the text are those for 95% confidence. They are quoted in the form recommended by Mook (1986), with the end points rounded outwards to 10 years. The ranges have been calculated according to the maximum intercept method (Stuiver & Reimer 1986).

7.3 Result

The result of SUERC-31014 840-770 cal BC (Table 1), indicates a final Bronze Age/early Iron Age date for the activity associated with the burning event and the production of charred twig.

Table 2. Radiocarbon result

Material	Context	Burial / location details	Lab No	Result BP	$\delta^{13}C$	Calibration Cal BC
Twiggy charcoal	3003	In buried soil beneath mound	SUERC-31014	2620±30	-28.0	840-770

This suggests that the activity and burning of fine twiggy wood at Hemerdon Down occurred in the final, Bronze Age/early Iron Age. The calibration (Fig. 6) shows this clearly pre-dates the mid 1st millennium radiocarbon plateau, and provides a steep unimodal probability distribution. The mound was constructed on the buried soil after that date. The lack of evidence of *in situ* burning and the pedological and biotic incorporation of the few fine charcoal fragments into the buried soil (3003) suggests that burning was not associated with the cairn construction, and indeed that construction did not occur immediately after that burning. As such the time period between the dated event and the construction of the cairn could vary between decades and millennia. It is clear that the cairn is very late Bronze Age/early Iron Age at the earliest, but could realistically be any date after that time.

8. DISCUSSION

- 8.1** The evaluation was initially aimed at clarifying the nature, date and importance of a number of features within the scheduled area, including two of the six principal barrow monuments described in the scheduling and a further six possible barrows and a linear bank. However, on the basis of the initial largely negative results, the work was extended to include the remainder of the scheduled features. The results of the work indicate that only one of the cairns in the scheduled area, is anthropogenically derived, with the remainder being natural in origin.
- 8.2** Scheduled monument DV1027 is situated on the western slopes of Crownhill Down in an area of complex geology. It contains extensive clutter fields composed of boulder-size blocks, with these thought to have been formed as a result of periglacial activity in the Pleistocene period (Ball and Goodier 1968), where successive episodes of freeze/thaw have naturally sorted the boulders into distinct microrelief comprising stripes, runs and other patterns. These features, although naturally formed, have the appearance of ancient and eroded man-made linear structures such as walls, field boundaries, stone rows and land divisions, while the same processes are also likely to have formed the discrete mounds of what were originally interpreted as cairns or barrows. Examination of these features, where exposed in archaeological trenches, by Dr Mike Allen and Richard Scrivener (Consultant Geologist) confirmed that the majority were natural phenomena, showing no clear construction techniques, no former land surfaces, and with the geotechnical investigations confirming that many surface exposures continued to great depth into brecciated Head deposits.
- 8.3** It would appear that previous surveys of the site have, therefore, misinterpreted these natural features and recorded them as barrows or cairns (or stone rows). It is now possible to say with some certainty, that the 'barrows/cairns' targeted by Trenches 2, 8, 9, 14, 15, 21, 24, 27, 28 and 29 are geological rather than archaeological features.
- 8.4** Nevertheless, one man-made feature was identified in Trench 30. The feature had an external diameter of 11m and its annular stone formation is comparable with the class of monument known as a ring cairn or stone ring, which is one of the most common types of monument on the periphery of Dartmoor (Turner 1990). Ring cairns have a fairly broad classification ranging from 2.7m to 41m in diameter, with some having single breaks in the circumference and there appears to be no consistency in the presence or absence of internal features. This particular example would appear to come under Turner's (1990) Ai classification, in that it appears to be a continuous ring with no internal mound or infilling. The absence of associated features, lack of entrance and its small internal diameter of 3m, indicates that this is not a roundhouse.
- 8.5** Although no finds were recovered, the charcoal twiglet from the buried soil layer beneath the ring structure has provided a radiocarbon date of 840 – 770 Cal BC, meaning that the structure is very late Bronze Age at the earliest and potentially much later. Ring cairns are normally associated with the early to middle Bronze Age, although as a class of monument they are poorly dated in Devon (Quinnell 1994, 58) However, a cemetery at Shaugh Moor, which contained two ring cairns, produced radiocarbon dates calibrated to 1776 – 1619 BC (Wainwright *et al* 1979), while a ring cairn at Shallowmead, Exmoor was dated to the middle/late Bronze Age at between, 1501 – 1187 BC (Quinnell 1997).
- 8.6** Pollen analysis of a thin buried soil beneath the ring structure has established that the feature in Trench 30 was probably constructed on land that had deteriorated and heathland established, following clearance for agriculture and establishment of grassland, which would be typical of the Bronze Age period on Dartmoor.

- 8.7** The bank investigated by Trench 10 was generally a low, narrow structure, enhanced by subsequent soil formation. There was a shallow 'scour' on the southwest side, which is likely to be where the material was excavated to form the bank. Again, no finds were recovered, but this feature also sealed a buried soil, which contained a well-preserved pollen sequence indicating a Bronze Age date of the former land surface below the bank. The function of this feature is not certain, but if it can now be assumed that this area is not a barrow/cairn cemetery, then it is possibly a boundary perhaps defining an area of upland marginal grazing land. None of the other linear features identified cut through this bank.
- 8.8** Other remains identified comprised linear features in a number of trenches, many of which had similar fill sequences, comprising a basal fill of swift water deposited pea grit and gravels, with a silty loam stabilisation upper fill, which had percolated throughout the basal fill. One linear feature possibly crossed through three trenches (4, 11 and 21). This is probably a water-scoured feature, which was visible on the surface as a snaking/meandering natural channel extending down the gradient. This could also be the case for linear features identified in Trench 13 (F1306) and Trench 23 (F2303), although in the latter a single piece of prehistoric worked flint was recovered from the upper fill.
- 8.9** Linear feature F2305 in Trench 2 may be the same as the ditch exposed in Trench 2 (F205). In the latter, the deposits were more heavily influenced by flowing water with irregular lain profiles. It is possible that this feature was also originally naturally formed, but was subsequently modified to aid drainage downslope.

9. CONCLUSIONS

- 9.1** The results from the evaluation clearly indicate that the identification of a Bronze Age barrow/cairn cemetery within the scheduled area is erroneous. Probable prehistoric features present now appear to comprise the possible ring cairn targeted by Trench 30 and the linear bank crossed by Trench 10. The radiocarbon date of the buried soil beneath the ring cairn structure indicates that this feature is very late Bronze Age at the earliest, which does not fit with the early/middle Bronze Age date of other examples in the South West. Further examination is likely to be needed to confirm the function of this feature. Many of the linear features within the scheduled area are likely to have been formed as a result of natural processes.

10. ARCHIVE AND OASIS

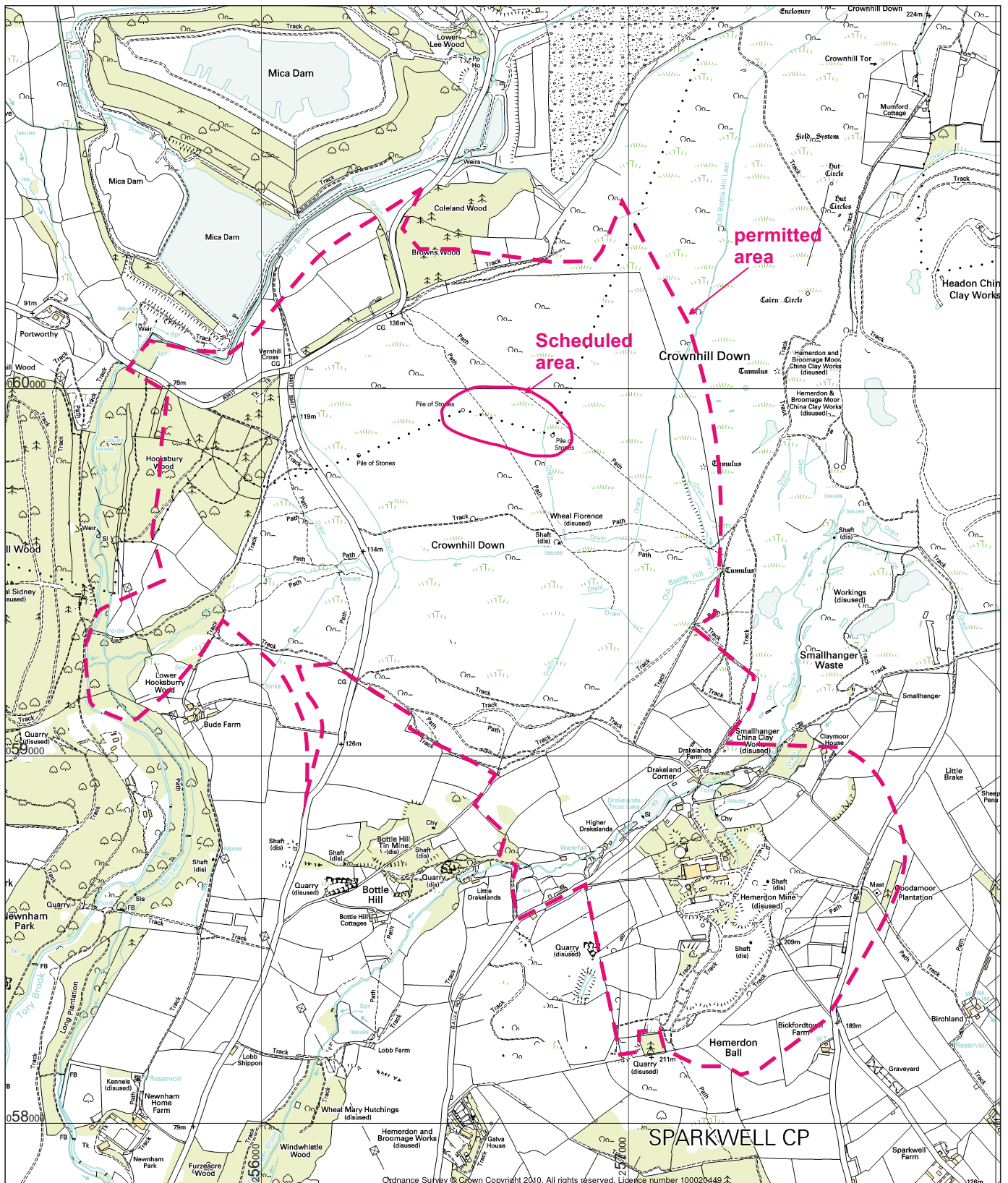
- 10.1** The paper and digital archive and finds are currently held at the offices of AC archaeology Ltd, at 4 Halthaies Workshops, near Exeter, Devon, EX5 4LQ. They will be deposited at Plymouth City Museum and Art Gallery, Plymouth under the accession code AR.2010.8, along with any archive generated by subsequent work on the site. The OASIS (Online AccesS to the Index of Archaeological InvestigationS) number for this project is 80750.

11. ACKNOWLEDGEMENTS

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12. SOURCES CONSULTED

- Ball, D.F. and Goodier, R., 1968, 'Large stone-stripes in the Rhinog Mountains, North Wales', in *Geografiska Annala, Series A, Physical Geography*, Vol. 50, No. 1, 54-59
- Bonnor, J., 2010, *Hemerdon Project SAM DV1027: Project Design for Archaeological Trial Trenching*. Groundwork Archaeology Ltd document, ref. HEMDV1027TTRPD
- Bronk Ramsey, C., 1995, 'Radiocarbon calibration and analysis of stratigraphy: the OxCal program', in *Radiocarbon* 37, 425–30
- Bronk Ramsey, C., 1998, 'Probability and dating', in *Radiocarbon* 40, 461–74
- Bronk Ramsey, C., 2001, 'Development of the Radiocarbon Program OxCal', in *Radiocarbon* 43, 355–363
- Bronk Ramsey, C., 2009, 'Bayesian analysis of radiocarbon dates', in *Radiocarbon* 51, 337–360
- Grinsell, L. V., 1978, 'Dartmoor Barrows', in *Proceedings of the Devon Archaeology Society* 36, 85-180
- Mook, W.G., 1986, 'Business meeting: recommendations/resolutions adopted by the Twelfth International Radiocarbon Conference' in *Radiocarbon* 28, 799
- Quinnell, H., 1994, 'New Perspectives on Upland Monuments – Dartmoor in Earlier Prehistory', in *The Archaeology of Dartmoor: Perspectives from the 1990s*, 49-62
- Quinnell, H., 1997, 'Excavations of an Exmoor Barrow and Ring Cairn', in *Proceedings of the Devon Archaeology Society* 55, 1-38
- Stuiver, M. & Kra, R.S. 1986. Editorial comment, *Radiocarbon* 28(2B), ii
- Stuiver, M. & Polach, H.A., 1977, 'Reporting of ¹⁴C data', in *Radiocarbon* 19, 355–63
- Stuiver, M. & Reimer, P.J., 1986, 'A computer program for radiocarbon age calculation' in *Radiocarbon*, 28, 1022–30
- Turner, J. R., 1990, 'Ring Cairns, Stone Circles and Related Monuments on Dartmoor', in *Proceedings of the Devon Archaeology Society* 48, 27-86
- Valentin, J., 2010, *Crownhill Down, Hemerdon, Sparkwell, Devon: Method Statement for an archaeological trial trench evaluation. Scheduled Monument DV1027*. Unpublished AC archaeology document, ref. ACD157/1/0
- Wainwright, G.J., Fleming, A. and Smith, K., 1979, 'The Shaugh Moor Project: First Report', in *Proceedings of the Prehistoric Society* 45, 1-34



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PROJECT

Crownhill Down, Hemerdon - Scheduled area

TITLE

Fig 1: Site location



- Trench
- Earthwork Survey
 - ⊗ Barrow/cairn (EH)
 - ⊙ Poss barrow (GAL)
 - Bank (EH)
 - Leat (EH)
 - Stone Line (EH)
 - Surveyed feature (CA)
- Geophysical Survey
 - Cultivation?
 - Natural?
 - ⊗ archaeological?
 - Ferrous?
 - Area of SAM

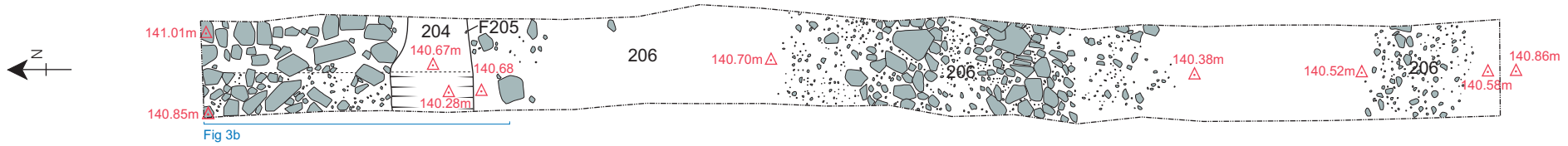
PROJECT
Crownhill Down, Hemerdon - Scheduled area

TITLE
**Fig. 2:
 Trench locations**

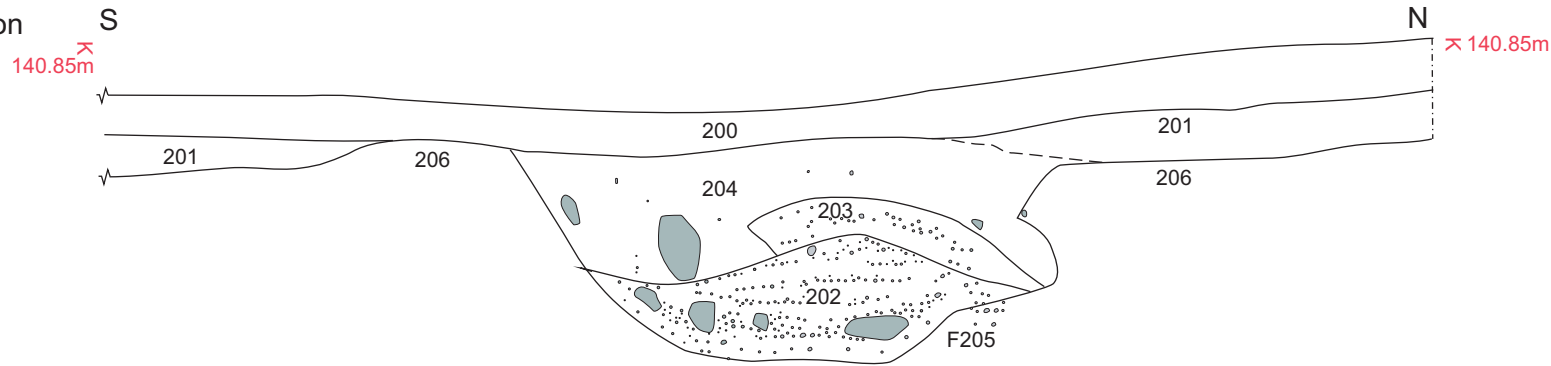
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Trench 2
a) Plan



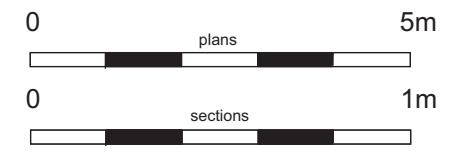
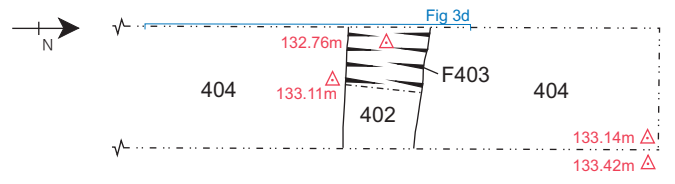
b) Section



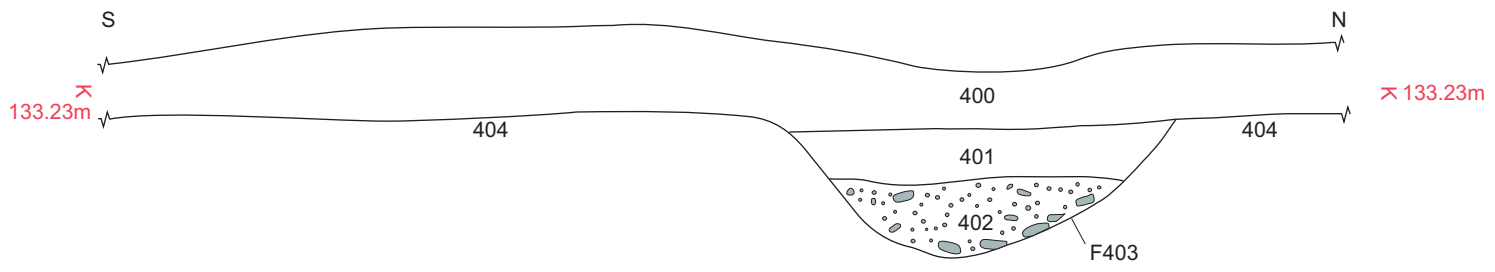
Key

Stone

Trench 4
c) Plan



d) Section, F403

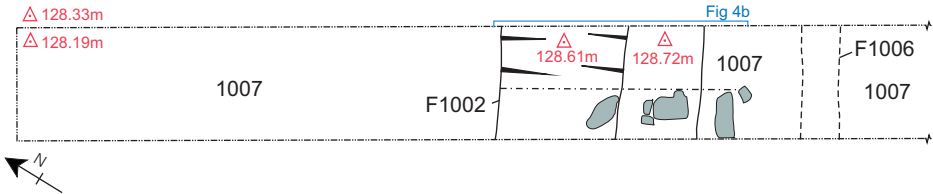


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Crownhill Down, Hemerdon -
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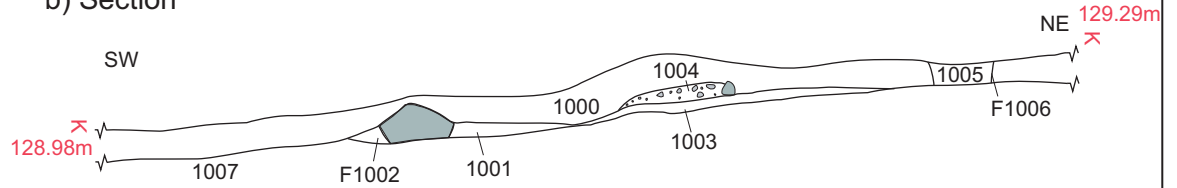
TITLE
Fig. 3:
Plans and sections,
Trenches 2 and 4



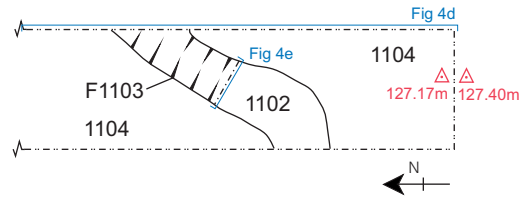
Trench 10
a) Plan



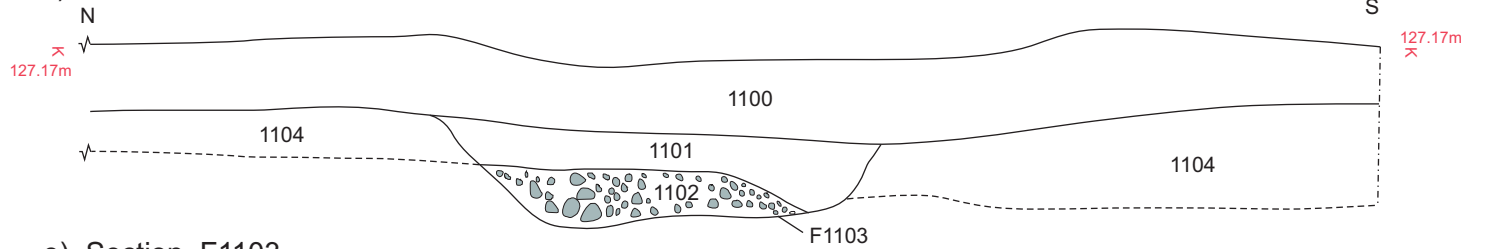
b) Section



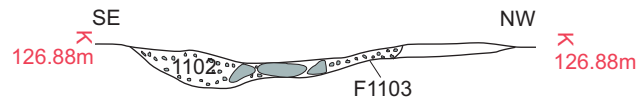
Trench 11
c) Plan



d) Section, F1103



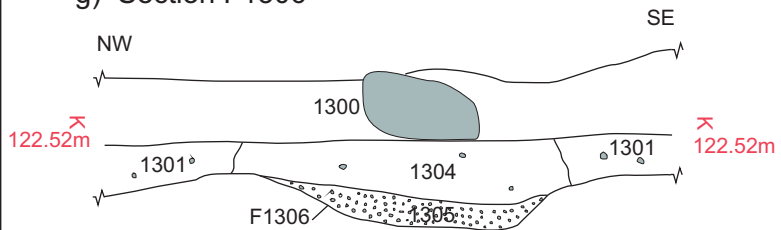
e) Section, F1103



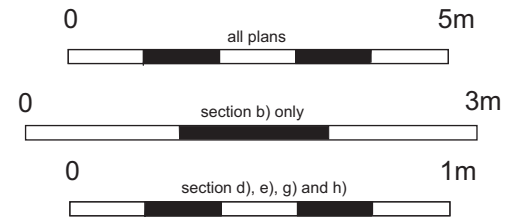
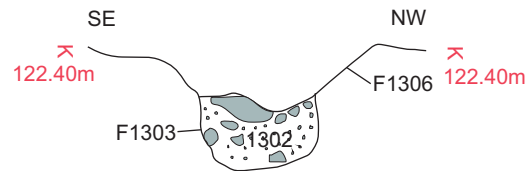
Trench 13
f) Plan



g) Section F1306



h) Section, F1303 and F1306



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Crownhill Down, Hemerdon -
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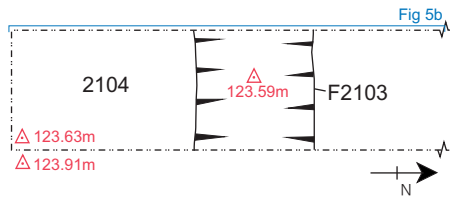
TITLE

Fig. 4:
Plans and sections,
Trenches 10, 11 and 13

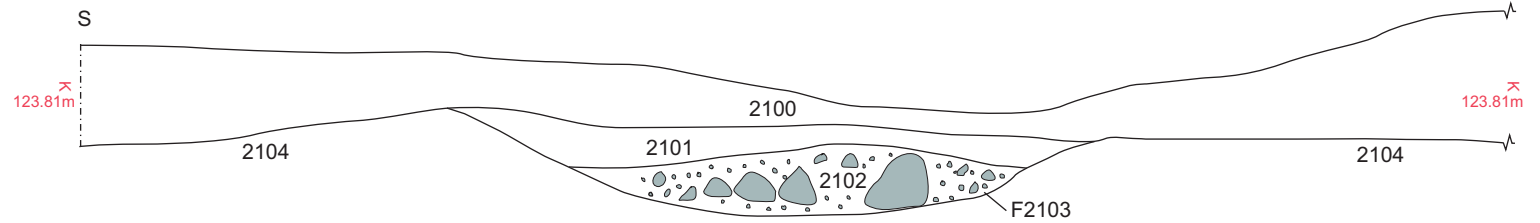


Trench 21

a) Plan

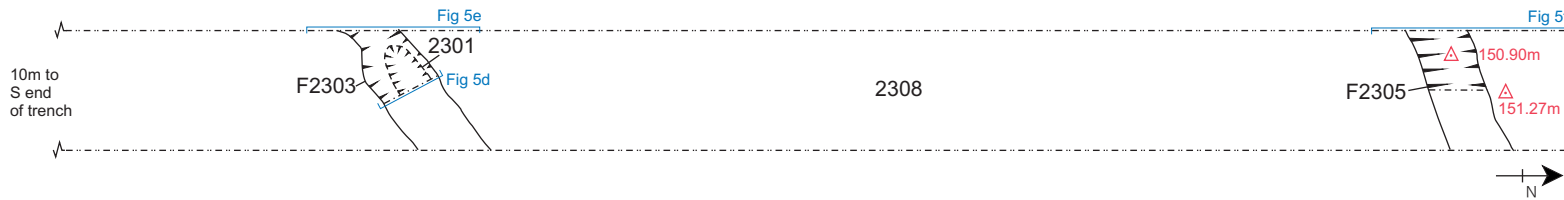


b) Section, F2103

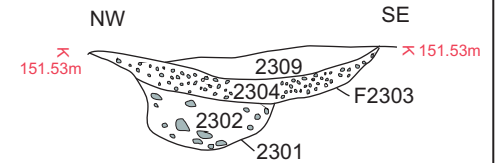


Trench 23

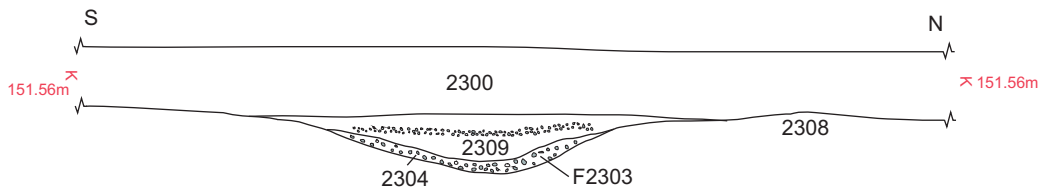
c) Plan



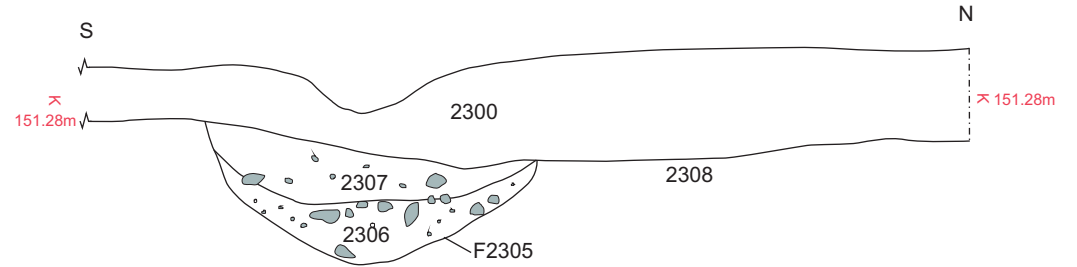
d) Section, F2301 and F2303



e) Section, F2303

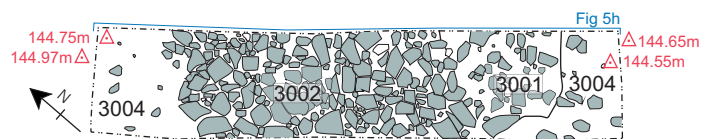


f) Section, F2305

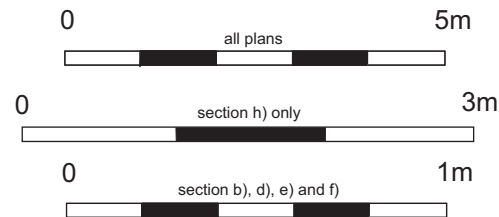
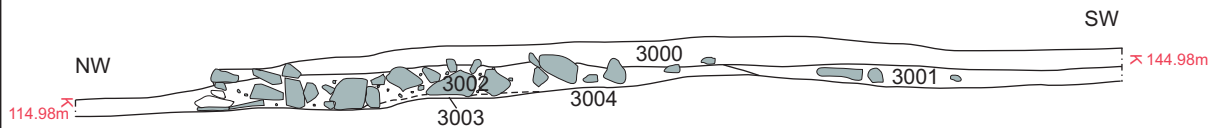


Trench 30

g) Plan



h) Section



PROJECT

Crownhill Down, Hemerdon -
Scheduled area

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Fig. 5:
Plans and sections,
Trenches 21, 23 and 30

