GWPK09/010

GRIFFIN WIND FARM, PERTH & KINROSS

Report on archaeological fieldwork in the area of Turbines 26 to 30

for Griffin Wind Farm Ltd

04/00004/WIND

November 2011

HEADLAND
ARCHAEOLOGY (UK) Ltd

REGISTERED ORGANISATION IFA

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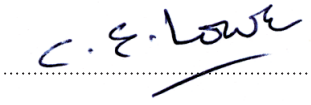

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GRIFFIN WIND FARM, PERTH & KINROSS

Report on archaeological fieldwork in the area of Turbines 26 to 30

Headland Archaeology Ltd was commissioned by Griffin Wind Farm Ltd to undertake a programme of works in accordance with the Archaeological Mitigation Plan. This report is concerned with the investigations undertaken in the area of Turbines 26 to 30. This involved the excavation of ten cairns and four linear banks in the area of Turbine 26; investigation of a possible ditched funerary cairn nearby; and a monitored strip of the line of the access road and the construction footprints of Turbines 27 to 30, together with their associated lay-down areas.

No features of archaeological interest were identified during the course of the monitored strip between Turbines 27–30, whilst the possible ditched funerary cairn was found to be a natural topographical feature. The excavation of the features at Turbine 26 confirmed that these were the result of land clearance associated with settlements located further downhill towards the Ballinloan Burn.

1. INTRODUCTION

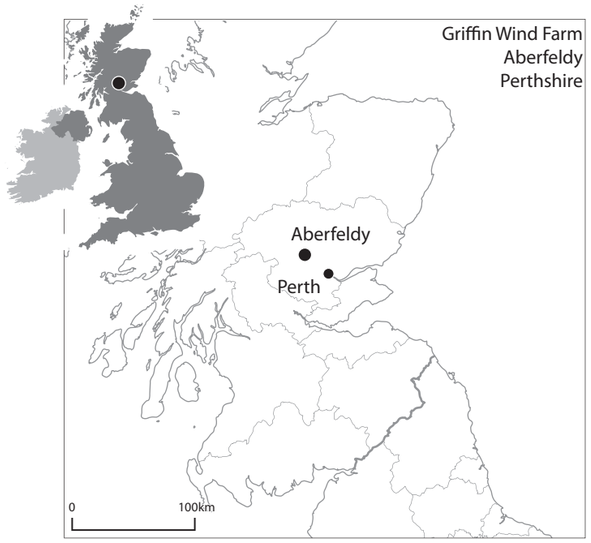
Headland Archaeology Ltd was commissioned by Griffin Wind Farm Ltd to carry out archaeological works in advance of the construction of the wind farm. This document reports on the archaeological work that took place in the area of Turbines 26–30, with the main focus on the construction footprint and lay-down area of Turbine 26 (Illus 1).

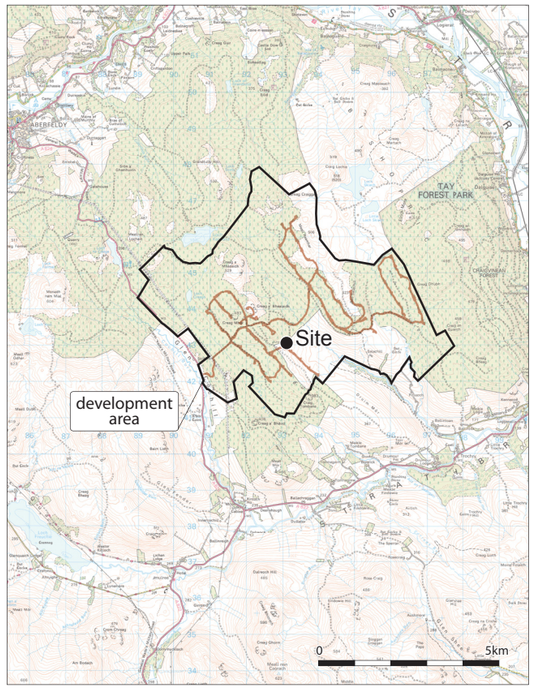
The archaeological fieldwork strategy was dictated by the archaeological potential of areas that would be affected by the construction work. Areas of high archaeological potential were carefully stripped by machine under supervision; identified upstanding features were de-turfed by hand. A monitored stripping of the topsoil was carried out in areas of lower potential, mainly the access road and the construction footprints and areas of hard-standing for Turbines 27–30.

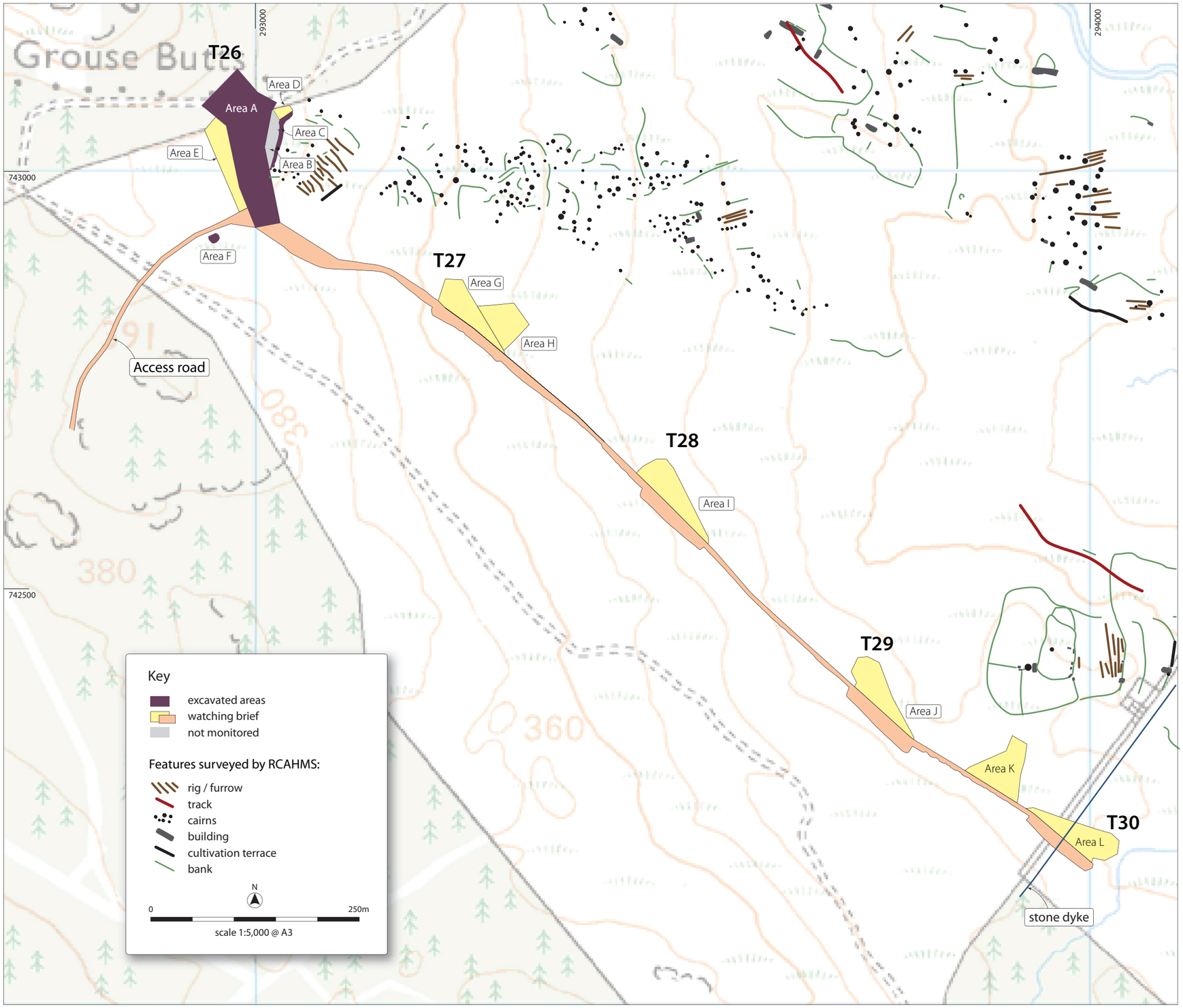
A number of field-clearance cairns were investigated in the high potential area at and adjacent to Turbine 26. These features were located at the western, upslope margin of an extensive area of cultivation and settlement remains which extends down to the Ballinloan Burn to the east. Following the completion of the initial excavation at Turbine 26 (Area A, Illus 2), a strip of land to the east (Area B) was accidentally removed without supervision and soil was dumped on top of several features to the east (Area C). To avoid further damage the upper part of the spoil heap was removed by machine under archaeological supervision; the basal element was removed by hand in accordance with a supplementary written scheme of investigation (Lowe 2011). A condition report was produced (Dalland 2011) and the three features identified there as having been damaged by the unmonitored extension of the turbine area were subsequently investigated. A further two expansions of the lay-down area at Turbine 26 were carried out as monitored strips as no upstanding features were visible in these areas (Area D and Area E).

During the fieldwork a small mound surrounded by a shallow ditch, interpreted as a possible ditched cairn, was noted some 45 m to the southwest of Area A (Area F, Illus 2). The feature was marked out on the ground for avoidance by the construction works but its immediate environs were accidentally intruded upon during the construction of the access track. The feature and an area around it was deturfed by hand to avoid potential further loss of archaeological information; once deturfed, however, it became clear that it was a natural feature.

The programme of works follows earlier phases of work, which included a desk based assessment, walk-over survey and evaluation, undertaken as part of the Archaeological Mitigation Plan. This work was undertaken in accordance with the terms of a Written Scheme of Investigation produced in 2010 (Scott 2010) and agreed with Perth and Kinross Heritage Trust (PKHT), as archaeological advisors to Perth & Kinross Council. The fieldwork was carried out between 13th December 2010 and 28th June 2011.







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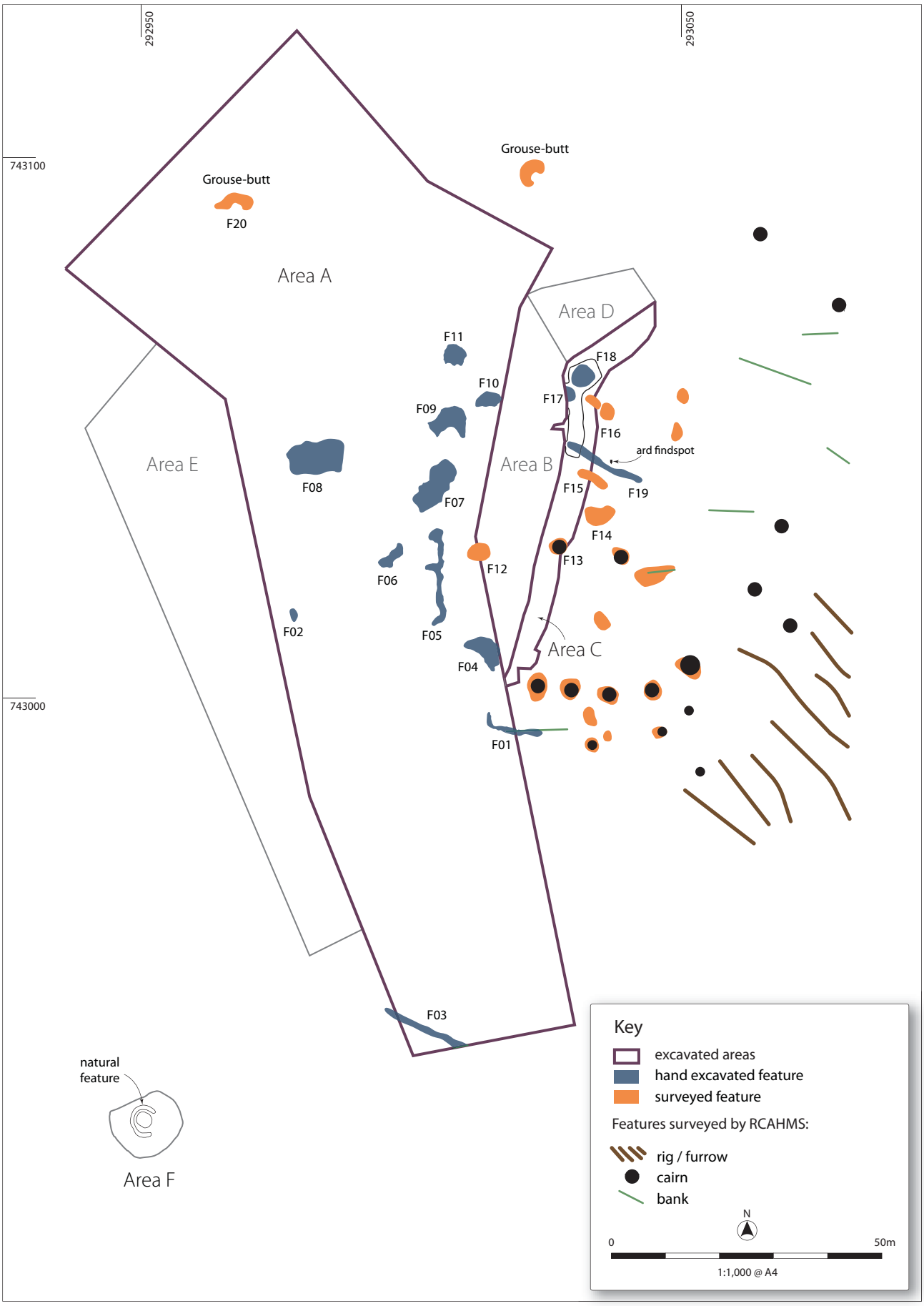
Illus 1
Location plan



Illus 2

Excavated features in Areas A, C & F

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2. ARCHAEOLOGICAL BACKGROUND

Turbines 26–30 lie on the upper slopes on the west side of the Ballinloan Burn next to extensive areas of archaeological remains. The remains include features that span a wide range of time, from prehistoric round-houses, early medieval or later Pitcarmick-type buildings and cultivation remains, to abandoned post-medieval townships and 19th century sheep folds and stone dykes.

It was only in the northwest part of the T26–T30 zone, in the vicinity of Turbine 26 itself, that the construction footprint of the wind farm extended into this area of known archaeological features (Illus 1). During the initial walkover survey, prior to the stripping of Area A, several previously unrecorded cairns and banks were recorded, extending the area of archaeological features. Most of these new features were located along the eastern side of Area A, in proximity to those previously identified. Several of the newly recorded features were fairly slight; nonetheless, it is clear that the distribution of features in the area extended further upslope than was previously recognized (Illus 2).

3. OBJECTIVES

The objectives of the archaeological investigation were:

- to establish the presence, extent, condition, character, quality and date of any archaeological features or deposits within the area to be affected by the development and to record them to a standard acceptable to the planning authority, in order to fully mitigate the impact of the development;
- to undertake an appropriate level of assessment and reporting to meet the requirements of the Planning Authority.

Illus 3

Machine stripping of Area A, from SE

Illus 4
Vertical photograph of cairn F02 with photo-crosses for rectification

4. METHODOLOGY

4.1 Excavation

Area A

A number of cairns and linear banks lay within the construction footprint of Turbine 26 and its surrounding area of hard-standing. These would be destroyed during the construction works and had therefore to be fully excavated and recorded. Initially, Area A was identified as the zone that would be directly affected by landscaping prior to the construction. Due to the proximity to the known sites immediately to the east, the entire area of some 8325m^2 was stripped of turf and topsoil, under archaeological supervision, using a 360° mechanical excavator equipped with a flat bladed ditching bucket (Illus 3). However, being in an upland environment meant that the topsoil was fairly shallow and most features were visible on the surface, often with a minimal turf cover. To avoid damage to these while stripping, the area was carefully surveyed prior to machining and the extent of potential structures recorded. To make a more reliable identification, some enigmatic features were evaluated through hand-dug evaluation trenches. The machine was then used to strip the areas between the structures in order to expose any negative features such as in-filled pits and gullies.

Turf, topsoil and overlying vegetation were removed by hand from the cairns and banks. Each feature was fully cleaned by hand to facilitate the recording of the structures in plan. The cairns were half-sectioned as

Illus 5
Detail of section across cairn F10, from W

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appropriate and slots were cut through stone banks. All stones were removed stratigraphically.

Having fully exposed and cleaned the features they were photographed and planned at a scale of 1:20. Cairn F02 was the only feature that was discovered during machine stripping. It comprised a small group of stones less than 3m across. Due to its limited size this cairn was recoded by vertical photography. The vertical photographs were taken using a digital camera that was mounted on an extendable pole and linked to a PC for optimal framing. Six photo-crosses were placed at regular intervals around the cairn within the photo-frame (Illus 4). The exact locations of the crosses were recorded to provide reference for later rectification, scaling and geo-referencing of the photo.

All archaeologically relevant deposits and structures were assigned context numbers and described on pro forma context sheets (Appendix 1). Most cairns were very low, mainly one to three courses high (Illus 5). The sections, therefore, did not provide any significant information about the formation of the cairns. Having drawn the section across cairn F07 at scale 1:10 it was decided that photographs and surveyed profiles across the cairns provided sufficient information about the cross section of these features.

A photographic record was taken using black and white prints and digital photographs (Appendix 1). Record shots of archaeological contexts had a metric scale visible. An overall site plan was recorded digitally using a PC running CAD software linked to a total station and anchored within the National Grid.

Following the removal of the cairns and banks the ground beneath was fully cleaned and investigated for further archaeological features. No cut features, such as pits or gullies, were recorded and no deposits suitable for environmental assessment were present.

Area C

Having fully excavated Area A, the site was handed over to the construction team. During their excavation work they accidentally cut into unexplored land to the east (Area B, Illus 2). At the same time turf and topsoil deposits were dumped along the eastern edge (Area C, Illus 2). The intention was that the spoil-heap would be leveled by heavy machinery during re-instatement at the end of the construction phase. However, as the spoil had been deposited across an area that contained numerous archaeological features, it was clear that this work could not be carried out without damaging the archaeology. To avoid further damage, an appropriate procedure was agreed with PKC's archaeological advisors, comprising archaeologically-monitored machine removal of the upper bulk of the spoil-heap, with the final 0.2m cleared by hand.

Illus 6

Clearance cairns F17 & F18, from SE

Illus 7
E-facing section across stone bank F19

After the removal it became clear that six features had been completely or partly buried beneath the spoil. Three of these, two cairns (Illus 6) and a stony bank, were selected for excavation as they had been damaged during the construction work.

The north end of Area C, taking in Cairns F17 and F18 to the north and the damaged west end of stone bank F19, to the south, was de-turfed by hand (Illus 2). Having fully exposed and cleaned the features they were then photographed and planned at scale 1:20. The two cairns were half-sectioned and a slot was cut across the bank to the south (Illus 7). The profiles of the cairns were recorded using the total station while the section through the bank was drawn at scale 1:10.

While cutting the slot across stone bank F19 a thin layer containing charcoal (context 230) was exposed beneath the stones. This layer was sampled in order to get a date from a horizon pre-dating the bank. The sample was assessed by environmental specialist, Sarah-Jane Haston and is catalogued in the sample register (Appendix 1).

In order to relate the features noted in and immediately to the east of Area C to the previous RCAHMS survey, features within a 30m wide strip to the east of Area B were surveyed using a differential GPS and plotted on a geo-referenced plan.

Area F

During the initial excavation at Turbine 26, a small mound, roughly 3m in diameter and surrounded on its upslope side by a shallow ditch, was noted some 45m to the southwest of Area A. The feature was interpreted as a possible ditched funerary cairn. The construction of the access road to Turbines 26–30 accidentally cut into its edge and, following consultation with PKC's archaeological advisors, a programme of works was instigated to clarify the nature and extent of the feature

After the removal of shrubs and heather, the surface of the feature was recorded through a detailed contour survey. The mound, including a 3m wide buffer zone around it, was then de-turfed by hand. Excavation of a slot across the centre of the mound, however, clarified that this was a natural feature; similarly, the external 'ditch', which was poorly defined and is clearly an erosion feature, formed by run-off from the slope above.

4.2 Watching briefs

Area D and Area E

To make room for the assembly of the hub and blades at Turbine 26, it became necessary to extend the lay-down area both to the east (Area D) and to the west (Area E). Survey of Areas D and E indicated that there were no upstanding features here; both areas were subsequently stripped under archaeological supervision using a 360° mechanical excavator equipped with a flat bladed ditching bucket.

Access road and Areas G to L

The access road, construction footprints and lay-down areas for Turbines 27 to 30 were situated further away from known archaeological sites in the area. The mitigation for this part of the development therefore comprised archaeological monitoring of all groundworks, using a 360° mechanical excavator equipped with a flat bladed ditching bucket.

5. RESULTS

5.1 Survey and excavations in Area A

A total of twelve features were recorded within the original construction footprint and laydown area for Turbine 26 (Area A, Illus 2). These comprised eight field clearance cairns, three stone banks or linear clearance cairns and one grouse-butt (F20). The grouse-butt was located towards the north end of Area A, whilst the stone bank F03 cut across the south-west corner of the area; the remaining 10 features were located in the middle third of the area and gravitating towards the east edge (Illus 2).

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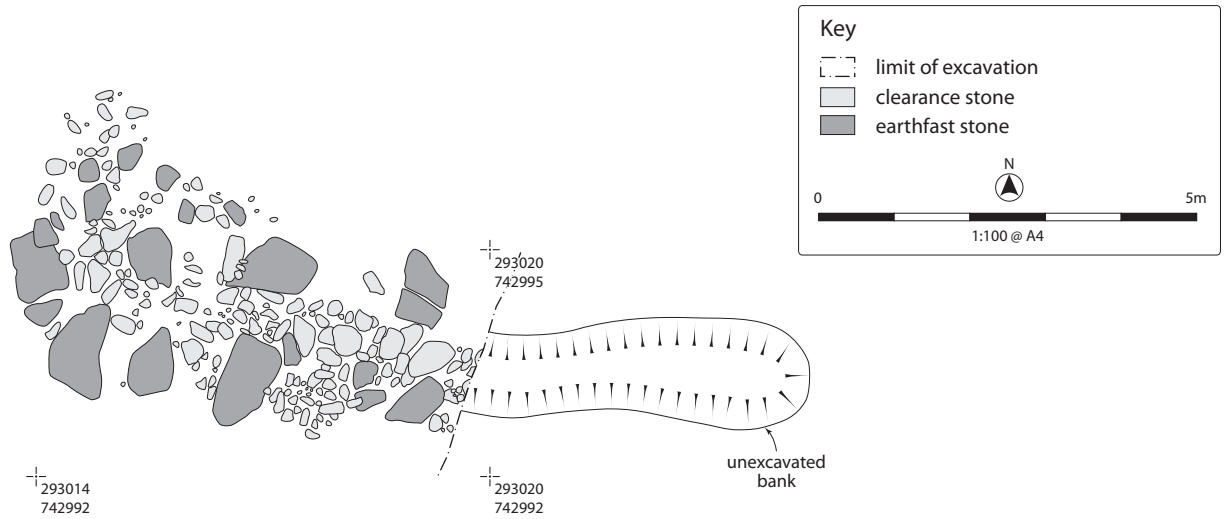
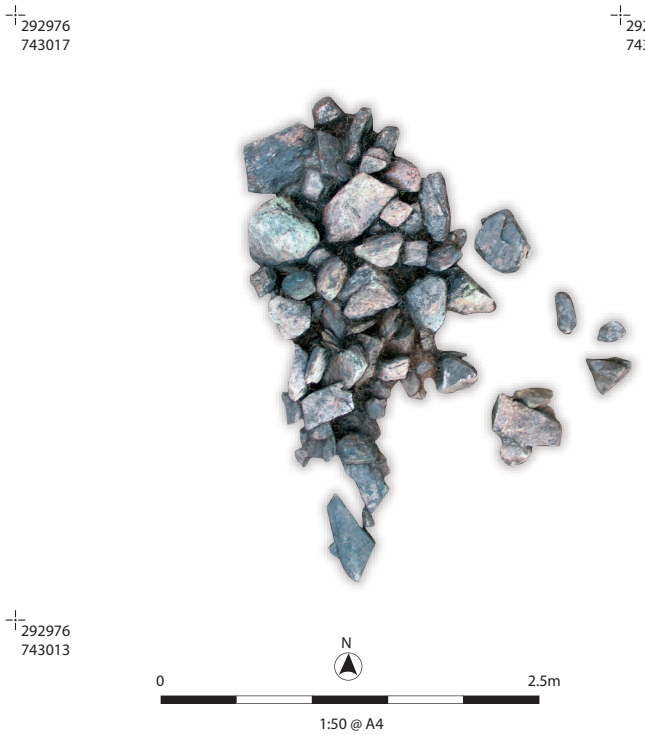


Feature F01, stone bank

Location: NN 93018 42994: 370.5m OD

Dimensions: 11m long by 1m wide. Up to 0.3m high.

Description: L-shaped stone bank aligned east to west. The western half of the feature lay within the site boundary and was fully exposed over a distance of 5.5m east to west. At the west end it turned and petered out some 2m to the north. The bank could be traced for a further 5m beyond the east site boundary. It comprised stones with sides 0.1–0.5m long filling in gaps between large earth-fast boulders. The bank corresponds to a linear feature previously surveyed by RCAHMS and recorded as part of NMRS NN 94SW 23 / PKC-HER MPK 7352.

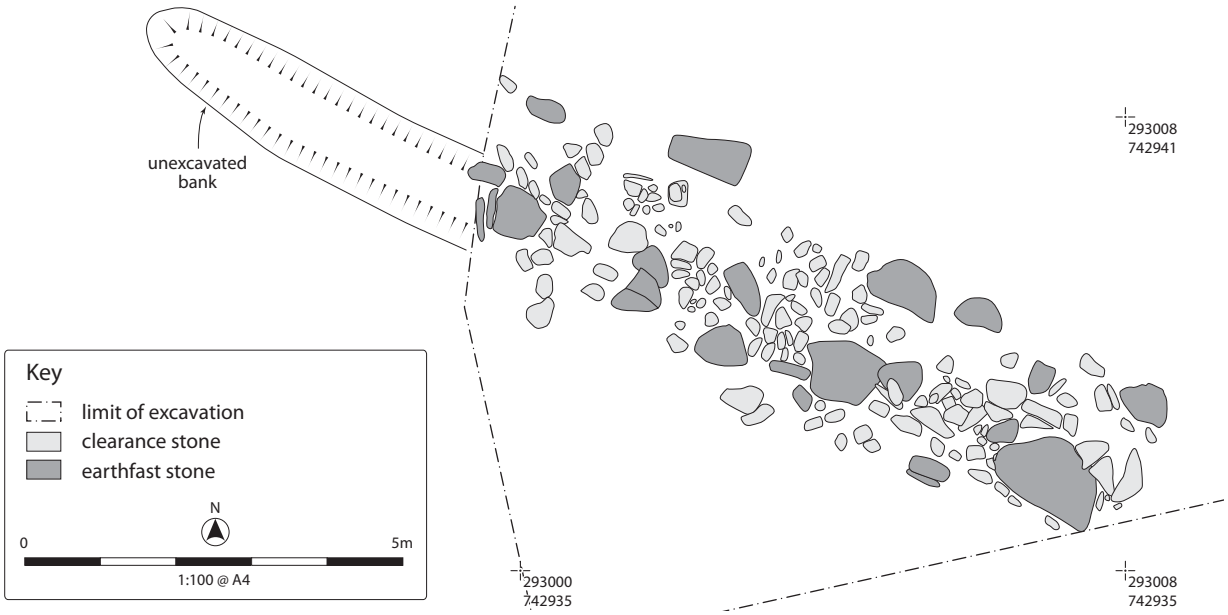


Feature F02, cairn

Location: NN 92978 43015: 375m OD

Dimensions: 2.2m by 1.4m. Up to 0.3m high.

Description: Small field clearance cairn comprising stones 0.1–0.5m across. The cairn was exposed while stripping topsoil by machine.



Feature F03, stone bank

Location: NN 93002 42939: 370m OD

Dimensions: 17m long and 1–1.5m wide. Up to 0.3m high.

Description: Stone bank aligned west-northwest to east-southeast, exposed over a distance of some 15m at the southwest corner of Area A. The bank comprised stones with sides 0.1–0.5m long in an ill-defined line filling in gaps between large earth-fast boulders. The bank could be traced for a further 2m to the west of the area investigated.

Feature F04, cairn

Location: NN 93014 43009: 372.5m OD

Dimensions: 7.5m long and 4m wide. Up to 0.3m high.

Description: Low crescent-shaped field clearance cairn. Comprised stones with sides 0.1–0.6m across piled up against and between large earth-fast stones.

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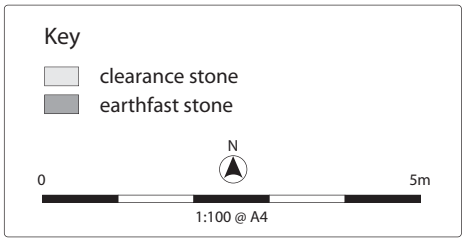

Feature F05, stone bank

Location: NN 93005 43020: 374m OD

Dimensions: 18m long and 0.7–1.4m wide. Up to 0.2m high.

Description: Stone bank aligned north to south, roughly 18m long overall. Spreads of additional field clearance stones give the impression of abutting stony banks to the west but the feature is poorly preserved.

Feature F06, cairn

Location: NN 92996 43026: 375m OD

Dimensions: 5.5m long and 2m wide. Up to 0.3m high.

Description: Small elongated field clearance cairn. Comprised stones with sides 0.2–0.5m long piled up against and between large earth-fast stones.

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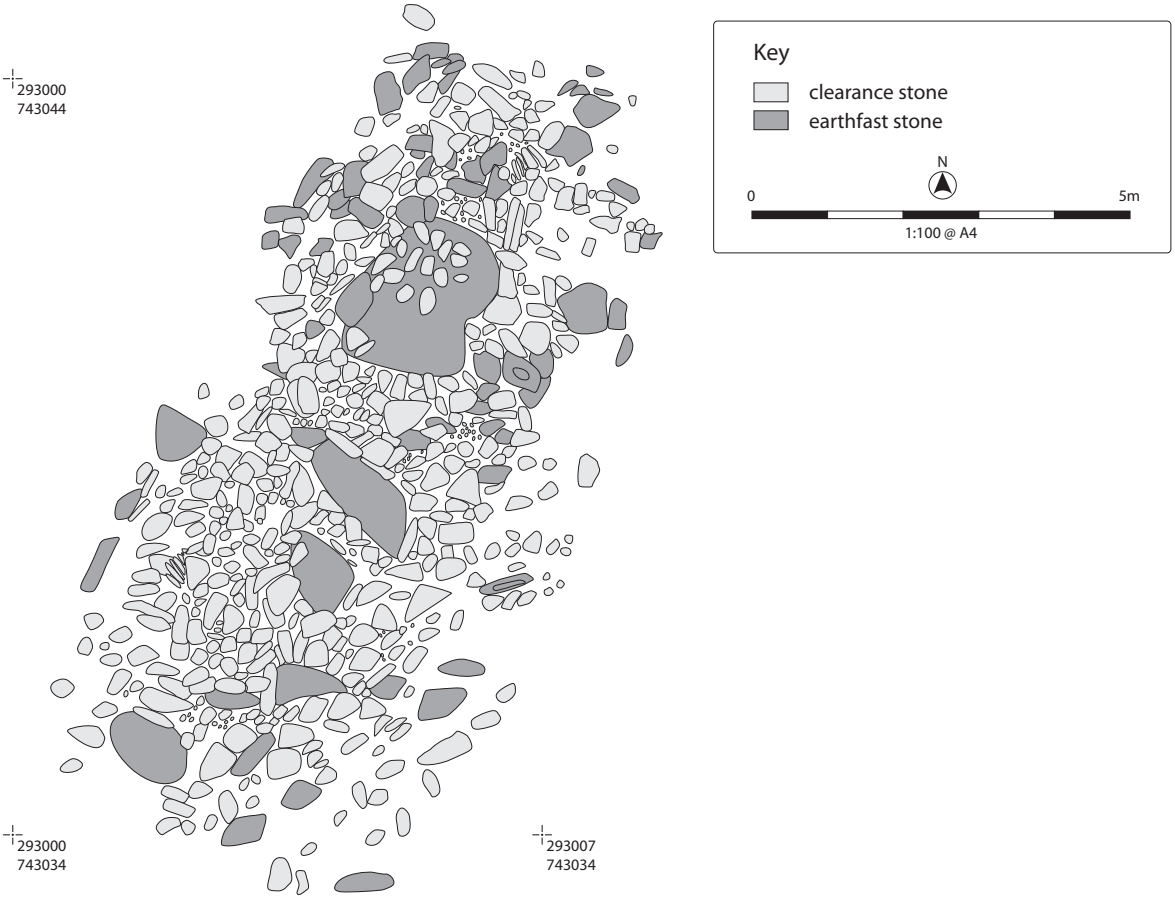

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Feature F07, cairn

Location: NN 93005 43039: 375.5m OD

Dimensions: 11m long and 5m wide. Up to 0.5m high.

Description: Two conjoined field clearance cairns forming a figure-of-eight feature. Comprised stones with sides 0.1–0.6m long, piled up against and between large earth-fast stones.

Feature F08, cairn

Location: NN 92982 43044: 378m OD

Dimensions: 11m long and 6m wide. Up to 0.2m high.

Description: Field clearance stones covering a wide area. The stones are not piled up in a heap but are spread out over a wide area amongst large earth-fast stones. The clearance stones measure 0.2–0.6m across.

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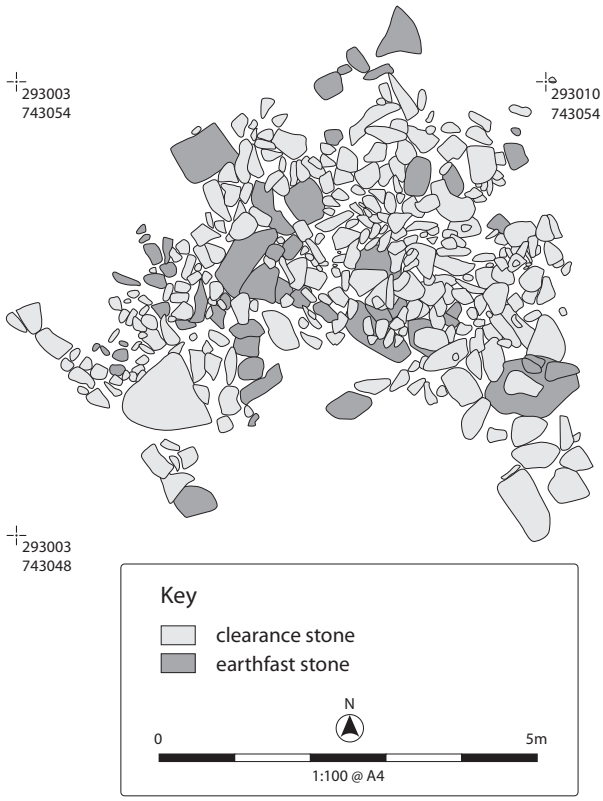
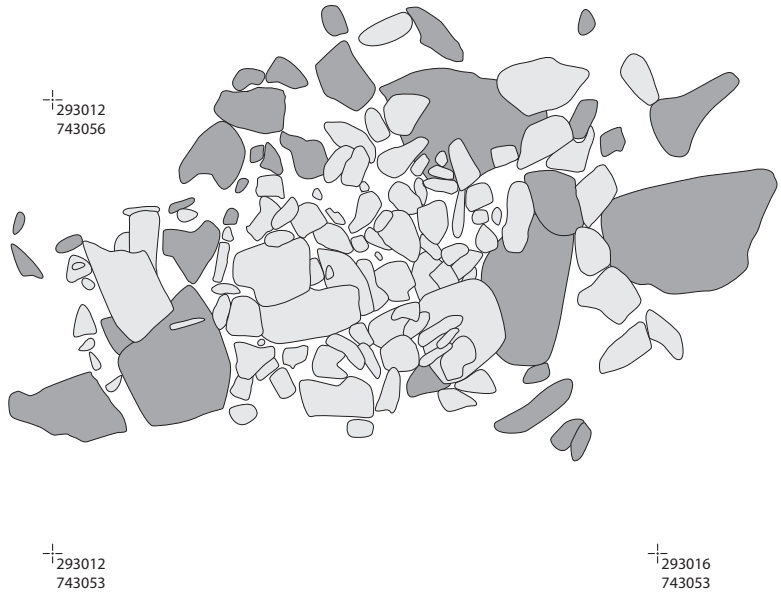


Feature F09, cairn

Location: NN 93007 43051: 376.5m OD

Dimensions: 7 x 6m across. Up to 0.4m high.

Description: Irregular L-shaped cairn. Comprised stones with sides 0.2–0.6m long, piled up to two layers deep and placed against and between large earth-fast stones.



Feature F10, cairn

Location: NN 93014 43055: 376m OD

Dimensions: 5 x 3m across. Up to 0.2m high.

Description: Oval field clearance cairn. Comprises stones 0.2–0.6m across, piled up to three layers deep and dumped against large earth-fast boulders.

Feature F11, cairn

Location: NN 93008 43063: 377.5m OD

Dimensions: 4m in diameter. Up to 0.4m high.

Description: Small sub-circular field clearance cairn that comprised stones with side 0.1–0.5m long, piled up against and between large earth-fast stones.

Feature F12, cairn

Location: NN 93013 43027: 374m OD

Dimensions: 4.5 x 3.5m. Up to 0.3m high.

Description: An oval field clearance cairn situated in the eastern edge of Area A. Not investigated as the feature was to have been preserved in situ; removed without record during unmonitored groundworks and removal of Area B.

Cairn F12 seen from S-E

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Grouse butt F20 at the N end of the area seen from S-W

Feature F20, grouse-butt

Location: NN 92967 43092: 385m OD

Dimensions: 7m long by 2m wide. Up to 1.1m high.

Description: Penultimate grouse-butt from the east end of a line of eight grouse-butts, aligned east to west, on the south-facing slopes of Creag a` Bhealaidh Beag. The butt was constructed by building a 1.6m long dry-stone wall at right angles up against the near-vertical southeast face of a large boulder measuring roughly 4 x 2m and 1.1m high. The wall is 0.5m wide and 1.1 m high with a turf and stone bank on the uphill side. The turf bank means that the shooting butt is hard to see from the uphill side. Game would have been driven down the hill into the line of waiting guns.

5.3 Survey and excavation in Area C

Area C corresponds to the footprint of the spoil-heap that was created when Area B (Illus 2) was removed and redeposited to the east. Located outwith the original area of investigation, none of the features in Areas B and C had been surveyed or recorded in any detail. The spoil-heap was removed by machine under archaeological supervision, with the final 0.2m cleared by hand.

After the removal of the spoil, it became clear that several features had been completely or partly buried. Seven features that had been affected by the dumping of the spoil-heap were recorded (F13–F19). Three of these, two cairns and one stony bank (F17–19), were selected for excavation as they had been damaged during the construction work.

F13, small clearance cairn seen from the south. Slight disturbance visible beyond scale

Feature F13, cairn

Location: NN 93027 43028: 373m OD

Dimensions: 3 x 2.8m diameter. Up to 0.15m high.

Description: Sub-circular field clearance cairn, not excavated. Some stones are visible through the turf measuring from 0.15m by 0.2m to 0.4m by 0.45m. There is slight damage on the southeastern side of the cairn where some stones have been displaced. The cairn has previously been surveyed as part of NMRS NN 94SW 23 / PKC-HER MPK 7352.

F14, clearance cairn seen from S-W. Scar caused by removed stone on the W side

Feature F14, cairn

Location: NN 93035 43033: 373m OD

Dimensions: 5.5 x 4m. Up to 0.25m high.

Description: Kidney-shaped field clearance cairn, not excavated. Some stones are visible through the turf, measuring from 0.2m by 0.2m to 0.3m by 0.7m. There is slight damage to the western side of the cairn where one large stone has been removed.

F15, small clearance cairn seen from S

Feature F15, cairn

Location: NN 93034 43040: 373m OD

Dimensions: 7 x 2.2m. Up to 0.15m high.

Description: Two merged field clearance cairns, not excavated. Some stones are visible through the turf measuring from 0.15m by 0.2m to 0.5m by 0.6m. One stone is missing from the northwest side of the cairn.

F16, small clearance cairn seen from N

Feature F16, cairn

Location: NN 93035 43054: 373.5m OD

Dimensions: 7 x 3m. Up to 0.3m high.

Description: Two merged field clearance cairns, not excavated. Some stones are visible through the turf measuring from 0.1m by 0.35m to 0.4m by 0.5m. The stones at the east end are deposited on and around a large boulder, roughly 1.5 x 1.2m. A few smaller stones are missing from the western end of the cairn.

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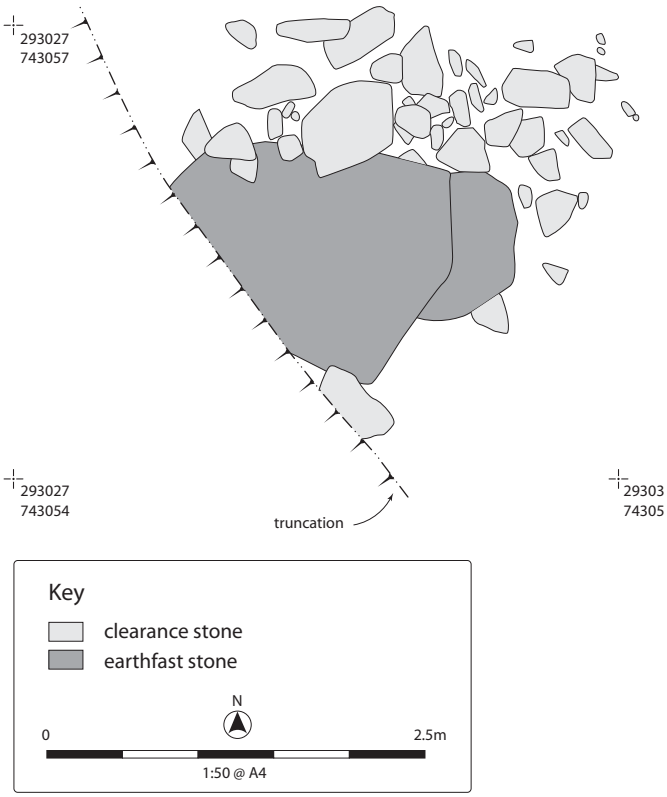
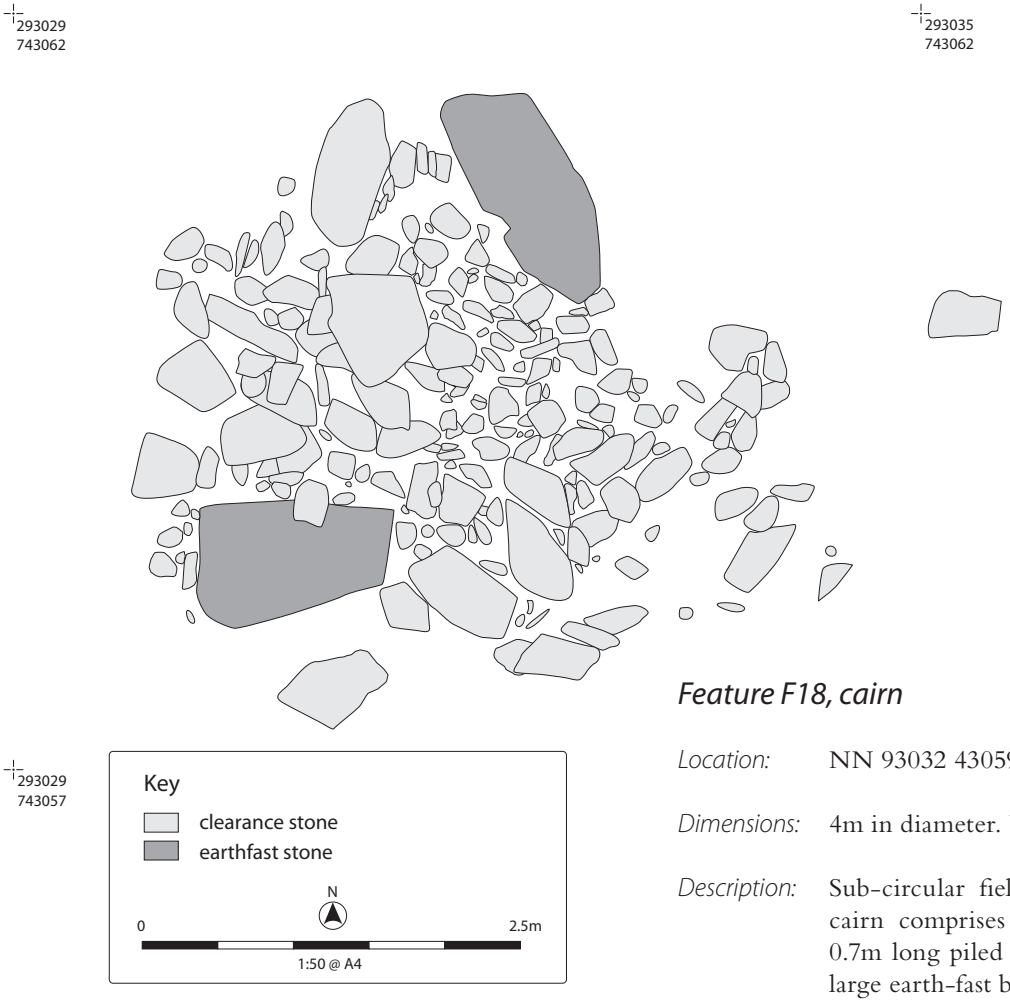


Feature F17, cairn

Location: NN 93029 43056: 374.5m OD

Dimensions: 3.5 x 3m. Up to 0.6m high.

Description: Field clearance cairn situated on the edge of Area B and exposed in the section formed by the enlargement of the turbine base and laydown area. Comprises field clearance stones piled up against the north side of a large earth-fast boulder. The west side of the cairn appears to have been truncated by the machine-excavation of Area B. The cairn is similar and probably contemporary with Cairn F18 to the northeast.

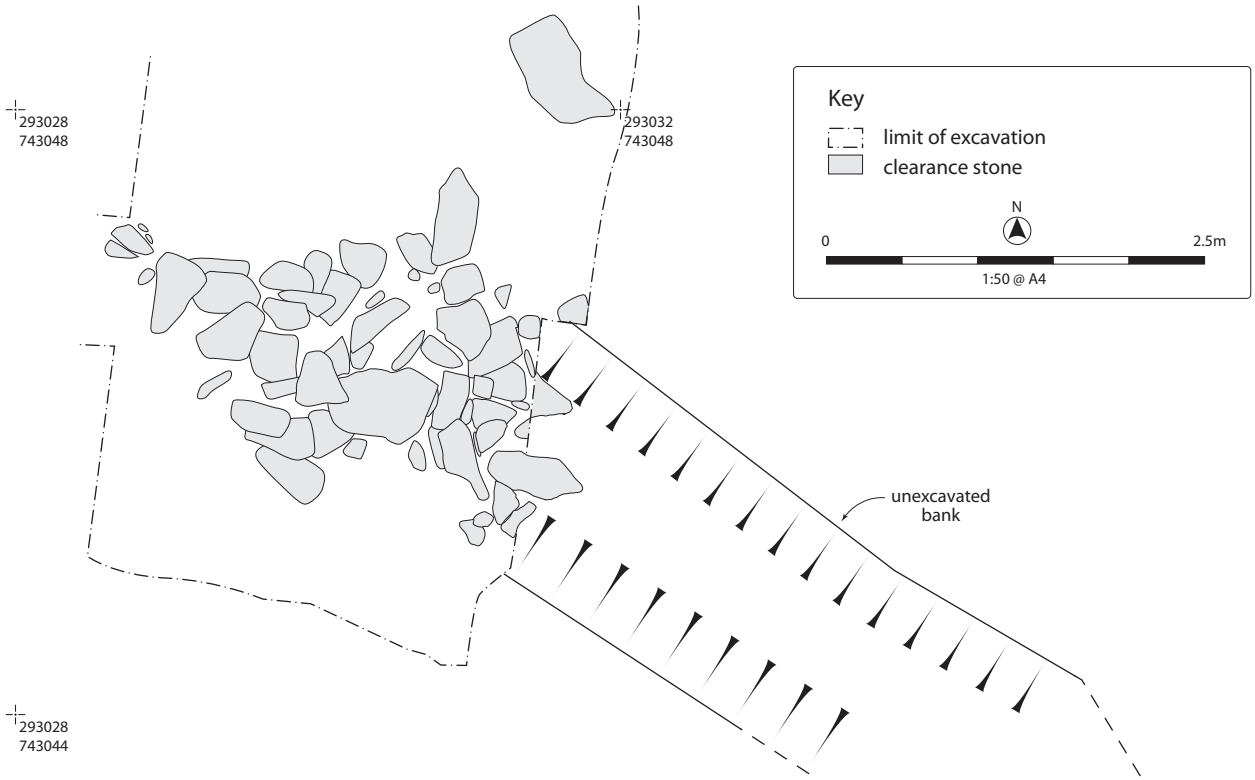


Feature F18, cairn

Location: NN 93032 43059: 374.5m OD

Dimensions: 4m in diameter. Up to 0.4m high

Description: Sub-circular field clearance cairn. The cairn comprises stones with sides 0.2–0.7m long piled up against and amongst large earth-fast boulders.



Feature F19, stone bank

Location: NN 93035 43043: 373m OD

Dimensions: 16m long by 1–1.5m wide. Up to 0.2m high.

Description: Low stone bank aligned north-west to south-east. The bank is very low but is well defined by a band of stones. A 3m long segment of the bank, corresponding to the surviving west end of the feature – where it appears to have been truncated by the excavation of Area B to the west – was excavated. The bank was built from stone slabs with sides 0.2 – 0.7m long and piled up to three layers deep.

A slot was excavated across the bank, exposing a thin silty layer containing charcoal (context 230) beneath the stones. The layer was sampled and has produced sufficient charcoal for a radiocarbon date of the horizon. Amongst the residue from the sample were two small ferrous lumps that turned out to be natural concretions.

During the fieldwork in Area C a stone artefact was retrieved from the area adjacent to the dumped spoil heaps. The object has been assessed by finds specialist Julie Franklin and is catalogued in Appendix 3. The find will be subject to standard Treasure Trove procedures.

5.4 Survey and excavations in Area F

Area F was sub-circular, some 13m in diameter and centered on a low mound bounded to the north, west and south by a shallow ditch 1.2m wide. The shape indicated that this could be a small funerary cairn with an external penannular ditch.

However, after the removal of the turf and peat covering the site it became clear that the feature was natural. To confirm this assumption a triangular slot was cut into the central mound. This clearly demonstrated that the mound was formed through natural processes.

5.5 Watching briefs of Areas D and E

Areas D and E were located to the east and west of Area A (Illus 2). The areas were surveyed in detail prior to monitored machine-stripping but no features were recorded. The areas were covered in a turf and topsoil up to 0.25m deep overlying till comprising orange brown sand and silts containing frequent stones. No features of archaeological interest were recorded in these two areas.

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Illus 8

Cairn F11 half-sectioned, from SE

5.6 Watching briefs of Access Road and Areas G to L (Turbines 27–30)

Only natural deposits were encountered during the monitoring of construction works along the length of the access road and adjoining areas (Illus 1). The soil profile was typically a thin humic topsoil supporting heather, overlying dark reddish brown clays and sand with glacial erratics. Peat depth varied. Although typically 0.2–0.3m deep, depths of up to 1.3m were also recorded in places. The peat was also found to be relatively dry despite the wet weather conditions. No features of archaeological interest were recorded in this area.

6. ENVIRONMENTAL RESULTS

Sarah-Jane Haston

6.1 Introduction

A sample was recovered from a charcoal-rich soil (context 230) that was sealed by stone bank F19. The aim of the assessment was to determine if there was sufficient material for radiocarbon-dating.

6.2 Method

The sample was processed in laboratory conditions using a standard floatation method (*cf.* Kenward *et al*, 1980). All plant macrofossil samples were analysed using a stereo-microscope at magnifications of x10 and up to x100 where necessary to aid identification.

6.3 Results

The results of the sample processing are provided in Tables 1 (Retent finds) and 2 (Floatation finds). Suitable material for AMS dating is also identified within each table. The sample contained abundant amounts of charcoal fragments and modern root/stems (Tables 1 and 2). The smaller sizes of the fragments suggest that they may have been become incorporated in the sampled deposits by mechanisms such as wind-blow and surface run-off. The larger sized fragments (1–3cm) are suggestive of in-situ burning or deliberately dumped fire debris. Charcoal fragments were observed by eye to be of non-oak species.

6.4 Conclusions

The sample contained fragments of charcoal of a suitable size and condition for Accelerated Mass Spectrometry

(AMS) dating. The preservation and abundance of charcoal fragments means there is plentiful material to obtain radiocarbon dating evidence for this feature. Identification of the species of wood represented will be required prior to submission of material for radiocarbon-dating. This will also provide information on fuel sources used.

7. FINDS ASSESSMENT

Julie Franklin

Only one artefact was recovered during the excavation. A possible stone ard share was collected from the environs of Turbine 26 (SF23, unstratified). It is of schist-type stone, long, tapering to a blunt tip. It shows no trace of tool marks, but some possible wear towards the tip, which is relatively smooth and rounded. The ard was a primitive form of plough, used in the prehistoric period, though their use may have continued later in marginal areas.

Two lumps of ferrous material were retrieved from the sample taken from the charcoal-rich soil (context 230), sealed below stone bank F19. These are natural ferrous concretions, unrelated to human activity and therefore of little use in terms of dating.

8. DISCUSSION

All features recoded during the fieldwork were linear and rounded stone structures representing field clearance that took place during agricultural activity in the area. The subsoil comprises till that contains numerous stones ranging from fist-size stones up to glacial erratics in the form of stone blocks up to 2m across. In order to facilitate tilling of this land stones generally less than 0.8m across were removed during cultivation and put into heaps.

The distribution and form of the field clearance cairns appear not to have been disturbed by later activity in the area. The cairns could have been a tempting source of building material for any construction projects, but with the exception of two grouse-butts 30m and 40m to the north, there are no later stone buildings or dykes in the vicinity of Area A. It is therefore likely that the way the features appeared when uncovered is not much different from how they were left when the site was abandoned.

The cairns have some common characteristics. They are all fairly irregular with no well-defined edge and most cairns are centered on one or more larger earth-fast boulders that could not be moved easily. The cairns are also small, generally less than 5m in diameter and not heaped up very high, rarely more than three courses and 0.3m high (Illus 8). This dense concentration of small field clearance cairns appears to leave small and very fragmented cultivation plots.

Four stone banks were recorded within the excavated areas. Given the lack of evidence of robbing, it appears that the banks were originally built as a low row or band of stones, 1–2 courses high (Illus 9). These features are therefore likely to be linear clearance cairns, rather than stone barriers forming part of dykes or enclosures.

The line of field clearance cairns F05, F07, F09, F10 and F16–18 appear to roughly mark the western limits of a cultivated area that extends more or less continuously for some 700m down slope to the east (Illus 1). There are two small cairns F02 and F06, and an extensive area of clearance stones (F08) outside this line. These might represent abandoned attempts to extend the cultivation area further uphill to the west.

Despite a detailed excavation of 14 features very few finds were recovered. The only identifiable find was a stone ard point, found next to the spoil heap from Area B. It was found loose on the ground, on top of this year's vegetation, indicating that it had probably derived from the spoil heap from Area B. The nature of this find together with the general lack of finds from this area supports the interpretation of the area being used for agriculture.

One would envisage that field clearance cairns would be built up over time. Initially the lager stones would be removed from the field, and as successive cultivation takes place the occasional stone would be dislodged from the subsoil and added to the pile, together with smaller stones picked up during tilling. Such a process would lead to sorting of the stones by size, with larger primary cleared stones at the base and smaller secondary cleared stones on top. This differentiation was seen in the cairns excavated at Turbine 38 (Scott 2011) some 1.5km to the north-east on the other side of the Ballinloan Burn but was not evident in the cairns in Area A and Area C.

In general there was a marked difference in the layout and nature of the cairns at Turbine 26 and Turbine 38 (Illus 10). The cairns at Turbine 38 were generally larger and not spread out over a wide area. The linear clearance cairns there were also far more substantial than those recorded at Turbine 26. The outline of the cairns at Turbine 38 was also much better defined; indeed, some had a line of kerb-stones defining their edge. The clearance pattern at Turbine 38 leads to the creation of larger areas for cultivation, free from obstacles in the form of cairns and banks.

These marked differences in layout and design of the field clearances between the two areas cannot be caused by environmental factors. The underlying geological deposits are very similar in the two areas with similar stoniness. Both areas are located at the upper limits of cultivated areas centered on the Ballinloan Burn. The field clearances at Turbine 38 lay between 375 and 388m OD, while features excavated at Turbine 26 were between

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Illus 9

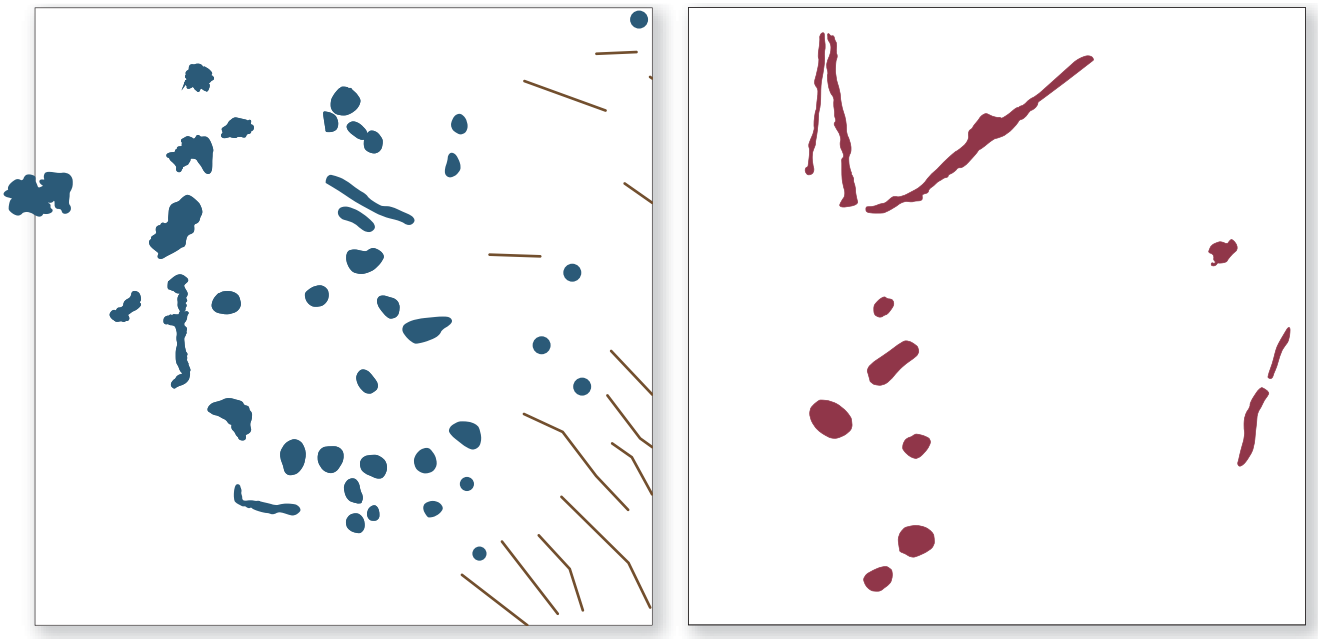
Stone bank F01, from W

370 and 380m OD. The marginal difference in height is likely to be canceled out by the fact that the higher area to the north-east lies on a south-west facing slope. It is therefore likely that the dissimilarity reflects difference in the duration or methods of cultivation.

The rough nature and lack of differentiation of stone size within the field clearance cairns at Turbine 26 seem to suggest that this area was not under cultivation for a long period. Little care was taken to reduce the extent of the cairns by piling the stones higher than a couple of courses which is likely to have happened if the area was repeatedly tilled for generations. The most widespread and least confined cairn was F08 located on the very outskirts of the cultivation area (Illus 11). This cairn appears to be more like a stone spread rather than a cairn, mainly only one course high. This re-enforces the impression of a tentative approach to cultivation in this marginal area.

The high density of small cairns results in very fragmented cultivation areas. This would indicate that the area in-between the clearances was tilled by spade cultivation. However, the stone point indicates that at least parts of the area were tilled using an ard.

Cultivation remains in the form of field clearance cairns represent a tradition that has been practised for thousands of years. It is therefore difficult to estimate a date for the field clearances recorded in Areas A and C. It is likely that the agricultural activity was carried out by people living in buildings recorded next to the Ballinloan Burn to the east, but this is a multi-period landscape with remains that span the period from prehistory to modern times. However, if the stone ard point is contemporary with the cultivation it would indicate that the cultivation is prehistoric rather than medieval or later. A more precise date may be achieved from dating the deposit taken from below stone bank F19. The charcoal could derive from burning of vegetation prior to cultivation that has been preserved locally under the stone bank.



Turbine 26 area

Turbine 38 area

Illus 10

Comparison of the stone clearance patterns at Turbine 26 & 38

Illus 11
Cairn F8 seen from SW

9. REFERENCES

Dalland, M, 2011, *Griffin Wind Farm, Perth & Kinross. Report on features buried beneath spoil along the east side of Turbine 26* ,Headland Archaeology Ltd, Unpublished Report.

Kenward, H K, Hall, A R & Jones, A K G, 1980, 'A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits', *Science and Archaeology,* 22, 3–15.

Lowe, C E, 2011, *Griffin Wind Farm, Perth & Kinross. Supplementary statement to Written Scheme of Investigation for mitigation work following spoil removal and re-survey in vicinity of Turbine 26,* Headland Archaeology Ltd., WSI, June 2011.

Scott, L, 2010, *Written Scheme of Investigation for a strip-map-and-record investigation of ground at Turbine 26 and vicinity,* WSI, December 2010.

Scott, L, 2011, *Griffin Wind Farm, Perth & Kinross. Report on archaeological fieldwork in the area of Turbine 38,* Headland Archaeology Ltd, Unpublished Report.

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APENDICES

Appendix 1 – Site register

Context register

Context no.	Area	Description
001	A	Peaty dark brown topsoil. Varies in depth between 0.1 and 0.2m.
002	A	Subsoil. Light reddish brown boulder clay
003	A	Cairn F02. Small field clearance cairn 1.4m by 2.2 m, 0.3m high. Comprised stones between 0.1m to 0.5m across.
001	A	Peaty dark brown topsoil. Varies in depth between 0.1 and 0.2m.
002	A	Subsoil. Light reddish brown boulder clay
003	A	Cairn F02. Small field clearance cairn 1.4m by 2.2 m, 0.3m high. Comprised stones between 0.1m to 0.5m across.
004	A	Stone bank F03. The bank is aligned WNW to ESE and was exposed over a distance of some 10m. The bank was up to 1.5m wide and less than 0.3m high and comprised stones between 0.1m to 0.5m in an ill-defined line filling in gaps between large earthfast boulders.
005	A	Cairn F10. Field clearance cairn 3.5m by 4.5m by 0.2m high. Comprises stones 0.2m to 0.6m across piled up against large earthfast boulders. The stone pile was up to three 'courses' high.
006	A	Cairn F08. Field clearance stones covering an area of some 6m by 10m. The stones are not piled up in a heap but are spread out over a wide area amongst large earhtfast stones. The clearance stones measure from 0.2m to 0.6m across.
007	A	Cairn F06. Small field clearance cairn 2m by 5.5m, 0.3m high. Comprised stones between 0.2m to 0.5m across piled up against and between large earthfast stones.
008	A	Cairn F11. Small sub-circular field clearance cairn 4m in diameter and up to 0.4m high. Comprised stones between 0.1m to 0.5m across piled up against and between large earthfast stones.
009	A	Cairn F04. Low crescent shaped field clearance cairn 4m by 7m by 0.3m high. Comprised stones between 0.1m to 0.6m across piled up against and between large earthfast stones.
010	A	Cairn F07. Two conjoined field clearance cairns forming a figure of eight feature 5m by 11m and up to 0.5m high. Comprised stones between 0.1m to 0.6m across piled up against and between large earthfast stones.
011	A	Stone bank F01. L-shaped bank aligned WNW to ESE. The west half of the feature lay within the site boundary and was fully exposed over a distance of 5.5 m east to west. At the west end it turned north and petered out some 2m to the north. The bank could be traced for a further 5m beyond the east site boundary. It was up to 1m wide but less than 0.3m high and comprised stones between 0.1m to 0.5m across filling in gaps between large earthfast boulders.
012	A	A grouse butt measuring 7m long by 2m wide is situated towards the north end of Area A. The butt was constructed by building a 1.6m long dry-stone wall at right angle up against the near vertical southeast face of a large boulder measuring some 4m by 2m by 1.1m high. The wall is 0.5m wide and 1.1 m high with a turf and stone bank on the uphill side.
013	A	Stone bank / linear clearance F05. The feature is aligned north to south and is some 18m long overall. It appears to consist of two segments: an 11,5m long C-shaped section to the south defined by two parts extending some 2m to the west at either end, and to the north by an L-shaped segment that turns 2m towards the west at the north end. The feature was up to 1m wide and less that 0.2m high.
014	A	Grouse butt F20. L-shaped in plan created by building a dry-stone wall up against and at right angle at the near vertical face of a large earthfast boulder. The boulder is over 4m long, the near vertical face is 1.3m high and extends 1.7m towards the SW from its junction with the dry-stone wall. The stone wall extends 1.6m out from the rock-face and is 8 to 9 courses high. A turf bank is built up against the N side of the feature. The structure is part of a line of grouse butts that runs east to west to the north of Turbine 26.
015	A	Cairn F09. Irregular L-shaped cairn, 6m by 6.5m by 0.4m high. Comprised stones between 0.2m to 0.6m across, piled up to 2 courses high and placed against and between large earthfast stones.
226	B	Stone bank F19. Low stone bank aligned north-west to south-east. It extends some 16m east from the excavation edge for Turbine 26. The bank is very low, up to 0.2 m high but is well define by a band of stones 1m to 1.5 m wide. At the west end a 3m long segment of the bank was excavated. The bank was made from stone slabs 0.2m to 0.7m across piled up to 3 courses high. The bank appears to stop just short of the excavation edge for Turbine 26, and is therefore not likely to have been damaged by the construction work.
227	B	Cairn F18. Subcircular cairn some 4m in diameter and 0.4m high. The cairn comprises stones 0.2m to 0.7m across piled up against and amongst large earthfast boulders

Context no.	Area	Description
228	B	Cairn F17. Field clearance cairn situated on the edge of the construction cut for Turbine 26. Comprises field clearance stones piled up against the N side of a large earthfast boulder. The west side appears to be truncated by the construction cut. The remains measures some 3m by 3.5m by 0.6m high. The cairn is similar and probably contemporary with Cairn F18 to the NE.
229	B	Silty dark to mid brown soil - matrix between the stones C226 of Stone bank F19.
230	B	Layer of fine orange brown to grey brown sand that contains a layer of charcoal up to 2cm thick. Sealed by the stone bank (C226/C229) and overlies the subsoil (C002).
231	B	Animal burrow located beneath Stone bank F19. Runs E-W and is 1.2m long, 0.2m wide and up to 0.1m deep. The burrow is filled with loose grey brown sandy silt.

Drawing register

Drawing no.	Plan	Section	Description
01	v	–	Plan of Stone bank F03. Scale 1:20. Two sheets
02	v	–	Plan of Cairn F08. Scale 1:20. Three sheets
03	v	–	Plan of Cairn F10. Scale 1:20.
04	v	–	Plan of Cairn F11. Scale 1:20.
05	v	–	Plan of Stone bank F05. Scale 1:20. Three sheets
06	v	–	Plan of Cairn F04. Scale 1:20.
07	v	–	Plan of Cairn F07. Scale 1:20. Two sheets
08	v	–	Plan of Stone bank F01. Scale 1:20.
09	v	–	Plan of Cairn F06. Scale 1:20.
10	v	–	Plan of Cairn F09. Scale 1:20. Two sheets
11	–	v	W facing section across Cairn F07. Scale 1:10
12	v	–	Plan of Stone bank F19. Scale 1:20.
13	v	–	Plan of Cairn F18. Scale 1:20.
14	v	–	Plan of Cairn F17. Scale 1:20.
15	–	v	W facing section across Stone bank F19. Scale 1:10

Photo register

Photo no.	Colour slide	Mono print	Facing	Digital file name	Description
1	1	1	E	GWPK09-Job10-001	T26- Working shot-slot across cairn F04
2	1	1	W	GWPK09-Job10-002	T26- Working shot-slot across cairn F04
3	1	1	S	GWPK09-Job10-003	T26- Working shot-slot across linear F01
4	1	1	N	GWPK09-Job10-004	T26- Working shot-slot across linear F01
5	–	–	W	GWPK09-Job10-005	Working shot at T26
6	–	–	NW	GWPK09-Job10-006	Working shot at T26
7	–	–	S	GWPK09-Job10-007	Working shot at T26 - stripping of area
8	–	–	W	GWPK09-Job10-008	Pre-excavation shot of cairn F02

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Photo no.	Colour slide	Mono print	Facing	Digital file name	Description
9	–	–	SE	GWPK09-Job10-009	Pre-excavation shot of linear F03
10	–	–	NW	GWPK09-Job10-010	Natural boulders at SW end of site
11	–	–	NE	GWPK09-Job10-011	Natural boulders at SW end of site
12	–	–	NW	GWPK09-Job10-012	Working shot at T26 - stripping of area
13	1	1	NE	GWPK09-Job10-013	Grouse butt F20 at the N end of the area
14	1	1	NW	GWPK09-Job10-014	Grouse butt F20 at the N end of the area
15	1	1	S	GWPK09-Job10-015	General site shot
16	1	1	N	GWPK09-Job10-016	Grouse butt F20 at the N end of the area
17	1	1	S	GWPK09-Job10-017	General site shot
18	1	1	N	GWPK09-Job10-018	General site shot
19	1	2	NE	GWPK09-Job10-019	Grouse butt F20 at the N end of the area
20	1	1	S	GWPK09-Job10-020	General site shot
21	1	1	N	GWPK09-Job10-021	N end of the stripped area with goruse butt F20 in background
22	1	1	NW	GWPK09-Job10-022	Pre-ex shot of cairn F11
23	1	1	S	GWPK09-Job10-023	General shot of stripped area
24	1	1	NW	GWPK09-Job10-024	Pre-ex shot of cairn F08
25	1	2	NE	GWPK09-Job10-025	General shot of stripped area
26	–	1	NE	GWPK09-Job10-026	Stone bank F01, working shot
27	–	1	E	GWPK09-Job10-027	Stone bank F01, working shot
28	–	1	SE	GWPK09-Job10-028	Cairn F07, working shot
29	–	1	NE	GWPK09-Job10-029	Cairn F08, working shot
30	–	1	E	GWPK09-Job10-030a-b	Stone bank F01, exposed
31	–	1	W	GWPK09-Job10-031a-c	Stone bank F01, exposed
32	–	1	W	GWPK09-Job10-032	Stone bank F01 with cairns F02 and F07 in the background
33	–	2	N	GWPK09-Job10-033a-b	Cairn F02 fully exposed
34	–	2	E	GWPK09-Job10-034a-b	Cairn F02 fully exposed
35	–	1	NE	GWPK09-Job10-035	Stone bank F03, post excavation shot
36	–	1	SW	GWPK09-Job10-036	Stone bank F03, post excavation shot
37	–	1	N	GWPK09-Job10-037	Working shot. Bank F01, with cairns F04 and F07 in background
38	–	1	NE	GWPK09-Job10-038	Cairn F10, pre-excavation shot
39	–	1	N	GWPK09-Job10-039	De-turfing cairn F11
40	–	1	W	GWPK09-Job10-040	Cairn F09, working shot
41	–	1	N		Cairn F09, working shot
42	–	1	N	GWPK09-Job10-042	Cairn F04, post excavation shot
43	–	1	E	GWPK09-Job10-043	Cairn F04, post excavation shot
44	–	1	SE	GWPK09-Job10-044	Cairn F04, post excavation shot
45	–	1	NE	GWPK09-Job10-045	Cairn F07, post excavation shot
46	–	1	NW	GWPK09-Job10-046	Cairn F07, post excavation shot
47	–	1	SW	GWPK09-Job10-047	Cairn F07, post excavation shot
48	–	1	SE	GWPK09-Job10-048	Cairn F07, post excavation shot
49	–	1	SE	GWPK09-Job10-049	Cairn F08, post excavation shot
50	–	1	NE	GWPK09-Job10-050	Cairn F08, post excavation shot
51	–	1	W	GWPK09-Job10-051	Cairn F08, post excavation shot
52	–	1	SW	GWPK09-Job10-052	Cairn F08, post excavation shot
53	–	1	N	GWPK09-Job10-053	Cairn F08, post excavation shot

Photo no.	Colour slide	Mono print	Facing	Digital file name	Description
54	–	1	S	GWPK09-Job10-054	Cairn F06, pre excavation shot
55	–	–	NW	GWPK09-Job10-055	Site covered in snow
56	–	–	S	GWPK09-Job10-056	Bank F05, working shot
57	–	–	NE	GWPK09-Job10-057	Cairn F07 covered in snow
58	–	–	SE	GWPK09-Job10-058	Cairn F11, working shot
59	–	–	N	GWPK09-Job10-059	Cairn F10, fully exposed
60	–	–	W	GWPK09-Job10-060a-b	Cairn F10, fully exposed
61	–	–	S	GWPK09-Job10-061	Cairn F10, fully exposed
62	–	–	E	GWPK09-Job10-062	Cairn F10, fully exposed
63	–	–	SE	GWPK09-Job10-063	Cairn F11, fully exposed
64	–	–	E	GWPK09-Job10-064	Cairn F11, fully exposed
65	–	–	NW	GWPK09-Job10-065	Cairn F11, fully exposed
66	–	–	SW	GWPK09-Job10-066	Cairn F11, fully exposed
67	–	–	SE	GWPK09-Job10-067	Cairn F11, fully exposed
68	–	–	N	GWPK09-Job10-068	Stone bank F03, post excavation shot
69	–	–	NW	GWPK09-Job10-069	Stone bank F03, post excavation shot
70	–	–	E	GWPK09-Job10-070	Stone bank F03, post excavation shot
71	–	–	S	GWPK09-Job10-071a-b	Stone bank F05, post excavation shot
72	–	–	SE	GWPK09-Job10-072	N end of stone bank F05, post excavation shot
73	–	–	W	GWPK09-Job10-073	Detail of middle part of stone bank F05, post excavation shot
74	–	–	N	GWPK09-Job10-074a-b	Stone bank F05, post excavation shot
75	–	–	NW	GWPK09-Job10-075	Detail of S part of stone bank F05, post excavation shot
76	–	–	W	GWPK09-Job10-076	Cairn F07, detail
77	–	–	NE	GWPK09-Job10-077	Cairn F07, detail
78	–	–	S	GWPK09-Job10-078	Working shot
79	–	–	NW	GWPK09-Job10-079	Cairn F08, fully exposed
80	–	–	S	GWPK09-Job10-080	Cairn F09, fully exposed
81	–	–	E	GWPK09-Job10-081	Cairn F09, detail
82	–	–	SW	GWPK09-Job10-082	Cairn F09, detail
83	–	–1	NW	GWPK09-Job10-083	Cairn F09, fully exposed
84	–	1	N	GWPK09-Job10-084	Cairn F09, fully exposed
85	–	1	E	GWPK09-Job10-085	Cairn F09, fully exposed
86	–	1	S	GWPK09-Job10-086	General site shot
87	–	1	NE	GWPK09-Job10-087	Working shot, James uncovering Cairn F11
88	–	1	NW	GWPK09-Job10-088	Cairn F11 half-sectioned
89	–	1	W	GWPK09-Job10-089	Cairn F06, fully exposed
90	–	1	E	GWPK09-Job10-090	Cairn F06, fully exposed
91	–	1	NE	GWPK09-Job10-091	Cairn F06, detail E end
92	–	1	W	GWPK09-Job10-092	Cairn F06, detail W end
93	–	1	E	GWPK09-Job10-093	Cairn F06, detail middle
94	–	1	S	GWPK09-Job10-094	Cairn F06, detail W end
95	–	1	E	GWPK09-Job10-095	Cairn F10 half-sectioned
96	–	1	E	GWPK09-Job10-096	Cairn F10 detail of section
97	–	1	N	GWPK09-Job10-097	Cairn F02 half-sectioned
98	–	1	N	GWPK09-Job10-098	Cairn F02 detail of section
99	–	–	NE	GWPK09-Job10-099	Grouse butt F20 at the N end of the area
100	–	1	NW	GWPK09-Job10-100	Grouse butt F20 at the N end of the area

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Photo no.	Colour slide	Mono print	Facing	Digital file name	Description
101	–	1	W	GWPK09-Job10-101	Stone bank F01, exposed
102	–	1	E	GWPK09-Job10-102	Stone bank F01, exposed
103	–	1	SE	GWPK09-Job10-103	Cairn F07 half-sectioned, N half
104	–	1	SE	GWPK09-Job10-104	Cairn F07 half-sectioned, S half
105	–	1	SW	GWPK09-Job10-105	Cairn F09 half-sectioned
106	–	1	SE	GWPK09-Job10-106	General post-ex site shot
107	–	1	SW	GWPK09-Job10-107	General post-ex site shot
108	–	1	SW	GWPK09-Job10-108	General post-ex site shot
109	–	1	W	GWPK09-Job10-109	NE-facing section across Cairn F08, N end
110	–	1	W	GWPK09-Job10-110	NE-facing section across Cairn F08, middle
111	–	1	W	GWPK09-Job10-111	NE-facing section across Cairn F08, S end
112	–	1	NE	GWPK09-Job10-112	Cairn F06 half-sectioned
113	–	1	E	GWPK09-Job10-113	Cairn F04 half-sectioned
114	–	1	N	GWPK09-Job10-114	T26 area from the S
115	–	1	N	GWPK09-Job10-115	Cairn to the N of stone bank F01 and SE of cairn F04
116	–	1	S	GWPK09-Job10-116	Cairn to the N of stone bank F01 and SE of cairn F04
117	–	1	S	GWPK09-Job10-117	Cairn immediately to the E of cairn on photo 115-16.
118	–	1	E	GWPK09-Job10-118	Cairn immediately to the E of cairn on photo 115-16.
119	–	1	NW	GWPK09-Job10-119	Cairn F12
120	–	1	E	GWPK09-Job10-120	Cairn F12
121	–	1	N	GWPK09-Job10-121	T26 area from the S
122	–	1	SE	GWPK09-Job10-122	View towards the locations of Turbines 27-30
123	–	–	N	GWPK09-Job10-123	F13. Small clearance cairn. Slight disturbance visible beyond scale
124	–	–	E	GWPK09-Job10-124	F13. Small clearance cairn
125	–	–	NE	GWPK09-Job10-125	F14. Clearance cairn. Scar caused by removed stone on W side
126	–	–	N	GWPK09-Job10-126	F14. Clearance cairn.
127	–	–	NE	GWPK09-Job10-127	F15. Two merged clearance cairns
128	–	–	N	GWPK09-Job10-128	F15. West cairn
129	–	–	NE	GWPK09-Job10-129	F15. East cairn
130	–	–	NE	GWPK09-Job10-130	F19. Low stone bank. Northwest segment
131	–	–	NE	GWPK09-Job10-131	F19. Low stone bank. Middle segment
132	–	–	NE	GWPK09-Job10-132	F19. Low stone bank. Southeast segment
133	–	–	SE	GWPK09-Job10-133	F19. Low stone bank.
134	–	–	NE	GWPK09-Job10-134	F16. Two merged clearance cairns
135	–	–	SE	GWPK09-Job10-135	F16. Two merged clearance cairns
136	–	–	NW	GWPK09-Job10-136	F17 and F18. Two clearance cairns. F17 to the left.
137	–	–	W	GWPK09-Job10-137	F17. Clearance cairn
138	–	–	NW	GWPK09-Job10-138	F18. Clearance cairn
139	–	–	SW	GWPK09-Job10-139	F18. Clearance cairn
140	–	–	N	GWPK09-Job10-140	F17. Clearance cairn truncated on the west side.
141	–	–	S	GWPK09-Job10-141	F16. West part of two merged cairns
142	–	–	W	GWPK09-Job10-142	F16. East part of two merged cairns
143	–	1	E	GWPK09-Job10-143	Erection of turbine at T26
144	–	1	SW	GWPK09-Job10-144	W segment of stone bank F19 uncovered

Photo no.	Colour slide	Mono print	Facing	Digital file name	Description
145	–	1	NW	GWPK09-Job10-145	W segment of stone bank F19 uncovered
146	–	1	NE	GWPK09-Job10-146	W segment of stone bank F19 uncovered
147	–	1	SE	GWPK09-Job10-147	W segment of stone bank F19 uncovered
148	–	1	NE	GWPK09-Job10-148	General shot of stripped area
149	–	1	W	GWPK09-Job10-149	Cairn F18 uncovered
150	–	1	SE	GWPK09-Job10-150	Cairn F18 uncovered
151	–	1	NW	GWPK09-Job10-151	Cairn F18 uncovered
152	–	1	SW	GWPK09-Job10-152	Cairn F18 uncovered
153	–	1	NW	GWPK09-Job10-153	Cairn F17 uncovered
154	–	1	SW	GWPK09-Job10-154	Cairn F17 uncovered
155	–	1	NW	GWPK09-Job10-155	Cairn F18 uncovered after removal of redeposited stone
156	–	1	NW	GWPK09-Job10-156	Section through Cairn F18
157	–	1	NW	GWPK09-Job10-157	Section through Cairn F17
158	–	1	NW	GWPK09-Job10-158	E-facing section across stone bank F19
159	–	1	SE	GWPK09-Job10-159	W-facing section across stone bank F19
160	–	1	SW	GWPK09-Job10-160	Slot across stone bank F19
161	–	1	NW	GWPK09-Job10-161	Animal burrow at base of slot across stone bank F19
162	–	1	SE	GWPK09-Job10-162	Crossection of burrow at base of slot across stone bank F19
163	–	1	SW	GWPK09-Job10-163	Exposed segment of stone bank F19 with slot
164	–	1	NW	GWPK09-Job10-164	E-facing section across stone bank F19, after widening the slot
165	–	1	SE	GWPK09-Job10-165	Animal burrow at base of widened slot across stone bank F19
166	–	1	S	GWPK09-Job10-166	Working shot
167	–	1	S	GWPK09-Job10-167	Working shot
168	–	1	SE	GWPK09-Job10-168	Post-excavation shot showing fenced off area
169	–	1	SW	GWPK09-Job10-169	Cairn F18, post-excavation shot
170	–	1	N	GWPK09-Job10-170	Post-excavation shot showing fenced off area
171	–	1	N	GWPK09-Job10-171	Cordoned off area around mound
172	–	1	N	GWPK09-Job10-172	Mound pre-excavation
173	–	1	W	GWPK09-Job10-173	Mound pre-excavation
174	–	1	S	GWPK09-Job10-174	Mound pre-excavation
175	–	1	E	GWPK09-Job10-175	Mound pre-excavation
176	–	1	NE	GWPK09-Job10-176	Mound pre-excavation
177	–	1	N	GWPK09-Job10-177	Mound pre-excavation
178	–	1	E	GWPK09-Job10-178	Mound pre-excavation
179	–	2	NE	GWPK09-Job10-179a-b	Mound after de-turfing and clean up
180	–	2	E	GWPK09-Job10-180a-b	Mound after de-turfing and clean up
181	–	2	W	GWPK09-Job10-181a-b	Mound after de-turfing and clean up
182	–	1	N	GWPK09-Job10-182	S-facing profile of slot cut into mound
183	–	1	E	GWPK09-Job10-183	W-facing profile of slot cut into mound
184	–	1	NE	GWPK09-Job10-184	General view of slot cut into mound
185	–	1	E	GWPK09-Job10-185	General view of slot cut into mound
186	–	–	E	GWPK09-Job10-186a-d	Stone bank F01, oblique pole photo
187	–	–	–	GWPK09-Job10-187a-b	Stone bank F01, vertical pole photo

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Photo no.	Colour slide	Mono print	Facing	Digital file name	Description
188	–	–	–	GWPK09-Job10-188a-c	Cairn F02, vertical pole photo
189	–	–	E	GWPK09-010-189	Stone bank F01. Stitched oblique pole photo
190	–	1	SE	GWPK09-010-190	Stripped access road next to WTB26
191	–	2	SW	GWPK09-010-191	Stripped access road between WTB12 and WTB26, just W of WTB26
192	–	1	S	GWPK09-010-192	Stripped access road next to WTB26
193	–	1	NW	GWPK09-010-193	Stripped access road to the SE of WTB26
194	–	1	W	GWPK09-010-194	Stripped access road to the SE of WTB26
195	–	1	SE	GWPK09-010-195	Stripped access road to the SE of WTB26
196	–	1	NW	GWPK09-010-196	Stripped access road between WTB26 and WTB27
197	–	1	N	GWPK09-010-197	Area of WTB29 after stripping
198	–	1	NW	GWPK09-010-198	Stripped access road to the N of WTB29
199	–	–	NW	GWPK09-010-199	Stripped access road to the N of WTB29
200	–	1	E	GWPK09-010-200	Area of WTB30 after stripping
201	–	1	NW	GWPK09-010-201	Area of WTB28 after stripping
202	–	1	NW	GWPK09-010-202	Area of WTB27 after stripping and partly infilled with hardcore
203	–	–	S	GWPK09-010-203	Extension of stripped area to the E of WTB27
204	–	–	SW	GWPK09-010-204	Extension of stripped area to the E of WTB27
205	–	–	NE	GWPK09-010-205	Extension of stripped area to the E of WTB27
206	–	–	N	GWPK09-010-206	Extension of stripped area to the E of WTB27
207	–	–	SE	GWPK09-010-207	Extension of stripped area to the E of WTB27
208	–	–	N	GWPK09-010-208	Extension of stripped area to the W at WTB26, pre-excavation
209	–	–	N	GWPK09-010-209	Large boulders in extension area to the W at WTB26, pre-excavation
210	–	–	N	GWPK09-010-210	Extension of stripped area to the W at WTB26, post-excavation
211	–	–	NW	GWPK09-010-211	Extension of stripped area to the NW of WTB30
212	–	–	NW	GWPK09-010-212	Extension of stripped area to the NW of WTB30
213	–	–	SE	GWPK09-010-213	Extension of stripped area to the NW of WTB30
214	–	–	E	GWPK09-010-214	Extension of stripped area to the NW of WTB30
215	–	–	E	GWPK09-010-215	Extension of stripped area to the NW of WTB30
216	–	–	E	GWPK09-010-216	Extension of stripped area to the NW of WTB30
217	–	–	NE	GWPK09-010-217	Extension of stripped area towards the NE at WTB26, post-excavation
218	–	–	N	GWPK09-010-218	Extension of stripped area towards the NE at WTB26, post-excavation
219	–	–	SW	GWPK09-010-219	Extension of stripped area towards the NE at WTB26, post-excavation
220	–	–	S	GWPK09-010-220	Extension of stripped area towards the NE at WTB26, post-excavation
221	–	–	SW	GWPK09-010-221	Extension of stripped area towards the NE at WTB26, post-excavation
222	–	–	E	GWPK09-010-222	Further extension of stripped area to the NW of WTB30

Photo no.	Colour slide	Mono print	Facing	Digital file name	Description
223	–	–	N	GWPK09-010-223	Further extension of stripped area to the NW of WTB30
224	–	–	N	GWPK09-010-224	Further extension of stripped area to the NW of WTB30
225	–	–	S	GWPK09-010-225	Further extension of stripped area to the NW of WTB30, peat deposit
226	–	–	NE	GWPK09-010-226	Further extension of stripped area to the NW of WTB30
227	–	–	E	GWPK09-010-227	Further extension of stripped area to the NW of WTB30
228	–	–	W	GWPK09-010-228	Further extension of stripped area to the NW of WTB30
229	–	–	S	GWPK09-010-229	Further extension of stripped area to the NW of WTB30
230	–	–	SE	GWPK09-010-230	Further extension of stripped area to the NW of WTB30
231	–	–	SW	GWPK09-010-231	Further extension of stripped area to the NW of WTB30
232	–	–	SE	GWPK09-010-232	Further extension of stripped area to the NW of WTB30
233	–	–	S	GWPK09-010-233	Further extension of stripped area to the NW of WTB30

Sample register

Sample no.	Context no.	Description
001	230	Layer of fine orange brown to grey brown sand that contains a layer of charcoal up to 2cm thick.

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Appendix 2 – Environmental tables

Retent sample results

Context no.	Sample no.	Sample Vol (l)	Metal	Charcoal		Material available for AMS Dating	Comments
			Fe object	Qty	Max Size (cm)		
230	11	10	+	+++	2.5	Charcoal +	–

Key + = rare, ++ = occasional, +++ = common, ++++ = abundant

NB charcoal over 1cm is suitable for identification and AMS dating

Flotation sample results

Context no.	Sample no.	Total flot Vol (ml)	Plant remains	Charcoal Qty	Charcoal Max size (cm)	Material available for AMS	Comments
230	11	100	–	++++	3	Charcoal ++++	Charcoal is non-oak

Appendix 3 – Finds catalogue

Feature	Context	SF	Sample	Qty	Material	Object	Description
Turbine 26	U/S	23	–	1	Stone	Ard Point	Large piece of schist type stone, tapering to rounded point at one end. No signs of tool marks, possible wear towards tip. L.395, W105 T60
Stone Dyke	230	–	11	2	Iron	Lumps	Natural ferrous concretions

Appendix 4 – Discovery and Excavation in Scotland Entry

LOCAL AUTHORITY:	Perth & Kinross
PROJECT TITLE/SITE NAME:	Griffin Wind Farm, Perth & Kinross
PROJECT CODE:	GWPK09/010
PARISH:	Little Dunkeld
NAME OF CONTRIBUTOR(S):	Magnar Dalland
NAME OF ORGANISATION:	Headland Archaeology (UK) Ltd
TYPE(S) OF PROJECT:	Archaeological excavation
NMRS NO(S):	NN94SW 23
SITE/MONUMENT TYPE(S):	–
SIGNIFICANT FINDS:	–
NGR:	NN 9343
START DATE (this season)	December 2010
END DATE (this season)	June 2011
PREVIOUS WORK (incl. DES ref.)	–
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A series of archaeological investigations were carried out in advance of the construction of Turbines 26 to 30 and 38 at Griffin Wind Farm, Perth & Kinross. The investigations undertaken in the area of Turbines 26 to 30 involved the excavation of ten cairns and four linear banks near Turbine 26 and a monitored strip of the line of the access road and the footprints of Turbines 27 to 30 with associated lay-down areas. In addition a small enigmatic mound believed to be a ditched funerary cairn was investigated. The mound turned out to be a natural feature and the monitored strip did not expose any archaeological features. The excavation of the features at Turbine 26 confirmed that these were all the result of land clearance associated with settlements located further downhill towards the Ballinloan Burn.
PROPOSED FUTURE WORK:	Post-excavation analysis
ARCHIVE LOCATION (intended/deposited)	RCAHMS
SPONSOR OR FUNDING BODY:	Griffin Wind Farm Ltd
CAPTION(S) FOR ILLUSTRS:	–
ADDRESS OF MAIN CONTRIBUTOR:	Headland Archaeology (UK) Ltd, 13 Jane St, Edinburgh. EH6 5HE
EMAIL ADDRESS:	magnar.dalland@headlandarchaeology.com

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