

# Leadketty excavations 2015

---



## Data Structure Report

*Kenneth Brophy and Helen Green*

## Table of Contents

Summary	3
The Leadketty cropmark complex	3
LK15 background – cropmarks, geophysics	4
Research questions	6
Methodology	7
Description of excavation results	9
Timber circle	9
Features within the timber circle	12
Features to the W and S of the timber circle	14
Features to the E of the timber circle	16
Silt band (7070)	19
Subterranean structure [7056]	19
Discussion	21
Conclusion	24
Acknowledgements	25
References	25

*Cover images: (top) the LK15 trench from the west; (bottom) planning the features*

## **SUMMARY**

*Phase 2 of the SERF (Strathearn Environs and Royal Forteviot) commenced in 2012, with the focus of fieldwork shifting from the Forteviot area, to Dunning and environs. Since then, we have carried out fieldwork at a range of prehistoric sites and monuments, most of which have been cropmarks, which have offered valuable contextualization for our work 4km down the River Earn. Excavations at Leadketty, north of Dunning, have focused to date on the boundary and interior of a Late Neolithic palisaded enclosure (Brophy et al 2012) and a putative but undated causewayed enclosure (Brophy & Wright 2013), while work at nearby Wellhill has added depth to our understanding of Early Neolithic activity in this area (Wright 2014; 2015). This report presents the interim account of excavations in a small area of the interior of the Leadketty palisaded enclosure, south of where we had previously worked. Our excavations have uncovered various features and structures potentially of Neolithic date, as well as remnants of much later, post-medieval activity.*

### **The Leadketty cropmark complex**

The cropmarks at Leadketty were initially recorded in 1970 by CUCAP, and regular repeat flying since 1976 by RCAHMS has revealed a remarkable complex of cropmarks. In fact, over 30 aerial sorties have been flown over these fields, the most recent during our excavations in 2015 (see figure 19). These are largely focused on two large fields on a ridge, and south-facing slope, on a terrace on the south side of the Earn valley. The complex consists of a range of sites which are most likely to date to the Neolithic and Bronze Age, although some elements are probably later prehistoric, perhaps even medieval. The crop markings in this area have a patchy character, with variable soil depth and underlying palaeochannels creating areas of clarity, and voids in the cropmark, which are evident on all air photos taken here. Recently, RCAHMS completed a new transcription of these cropmarks which also reflects this (see figure 1, below).

The major focus of the southern half of the complex is a huge timber-defined palisaded enclosure, one of only four of its kind known in Scotland, and potentially the largest with a width east-west of c400m (Noble & Brophy 2011). The cropmarks were excavated in 2012 around the single entrance avenue on the north side, as part of the SERF Project (Brophy et al. 2012), and it was shown that this enclosure was defined by large postholes, with smaller postholes in between, suggesting some kind of fence or stockade. Grooved Ware sherds found in postholes and radiocarbon dates suggest that this enclosure was constructed in the period 2800-2500 cal BC.

This huge enclosure has a wide range of internal cropmarks, including mini-henges, pits and pit-structures and a range of less clear markings, while large expanses of the interior show no cropmarkings at all. Our excavations in 2012 suggested late Neolithic activity was taking place in the northern interior of the palisaded enclosure with a four-poster building and mini-henge investigated, the former producing a fine Grooved Ware assemblage. A series of

other, undated features were found pre-dating the building and mini-henge, including pits and slots, and it is likely similar features occur widely within the palisaded enclosure. Furthermore, SERF excavations at Wellhill – located 500m to the east - in 2014 and 2015 (Wright 2014; 2015) revealed a series of pits, ard-marks and a ceramics assemblage which are all likely to be Earlier Neolithic in date. Taken together it seems likely that Neolithic activity, pre-dating and contemporary with the palisaded enclosure, is commonplace at Leadketty-Wellhill.

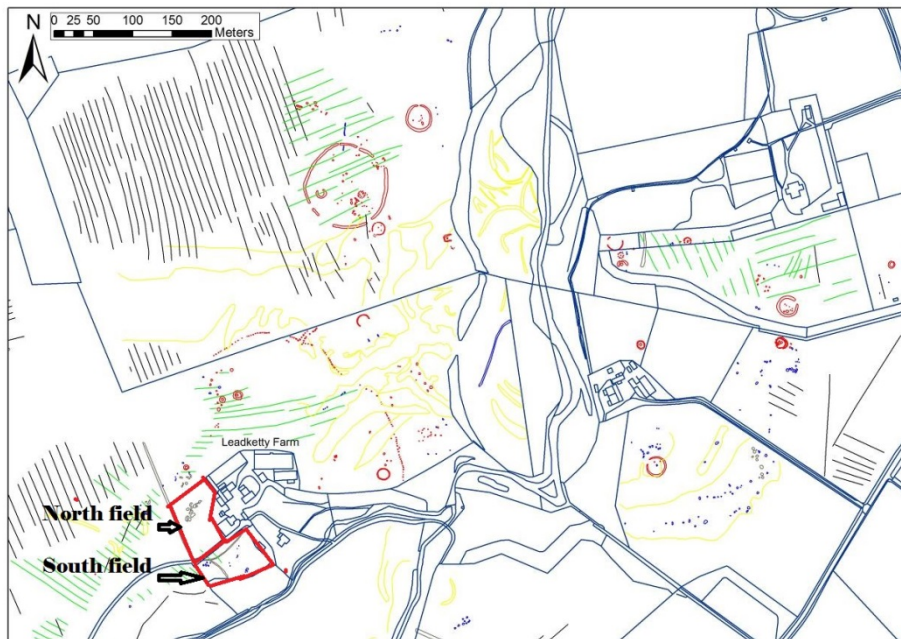


Figure 1: RCAHMS transcription of Leadketty, Baldinnies and Wellhill cropmarks, with LK15 excavations taking place in the 'South Field' area.

### LK15 background

Cropmarks suggest that a range of possible features are evident in the southern area of the palisaded enclosure, on the edge of the escarpment down to the river, in an area that has not yet been excavated. These cropmarks are enigmatic in nature but show a good deal of potential for revealing evidence for activities within the palisaded enclosure away from the obvious monuments to the north. These cropmarks include a linear setting of amorphous blobs in the north field, which could be ditch segments, pits, or natural markings. In the south field, a possible four-poster setting of pits is evident (with a central feature), a linear marking which looks like some kind of drainage feature or pipe, and a possible alignment of pits. This area of 200m south of where we excavated in 2012 but crucially still within the palisaded enclosure area.



Figure 2: Extract from a RCAHMS air photo showing the location of the north and south fields, and the cropmarkings

Intriguingly, Kirsty Millican's PhD research (Millican 2009) identifies a putative timber hall in the south field, and although speculative, this is worth checking out as its location on the edge of the escarpment and within the palisaded enclosure would be significant (Early Neolithic) discovery.

121. Leadketty                      NO01NW 40                      NO 01961 15637  
 Perth and Kinross  
 Timber hall (possible)  
 Cropmark. 18m by 5m-6m. Possible timber hall with rounded terminals. Internal pits perhaps defining internal divisions. Some of the cropmarks may be associated with previous agricultural activity in this location.

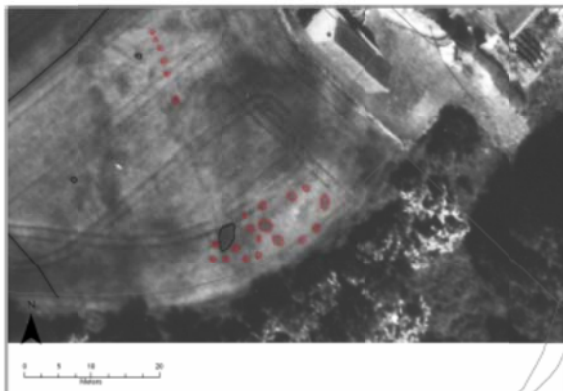


Figure 3: Extract from Millican's PhD gazetteer (Millican 2009): on the air photo, cropmarks have been highlighted with red outlines

The Ordnance Survey Name Book of 1859 notes that the escarpment edge next to, or just to the west of, these cropmarks, is where a series of cists were found in 1844 eroding from the natural slope. Nothing more is known of this discovery although OS fieldworkers noted on a visit in 1965 that at least one possible cist slab was found at the bottom of the slope. Therefore, there may well have been a Bronze Age cemetery in this location (see NMRS number NO01NW 11).



## Geophysical survey

In 2013, a geophysical survey was undertaken by Dr Richard Jones within the two fields adjacent to Leadketty steading. Results below have been superimposed on the cropmarks.



Figure 4: processed magnetometry results, superimposed on the cropmark evidence below resistivity results



Figure 5: processed resistivity results, superimposed on the cropmark evidence

Although inconclusive, the geophysics has picked up on some of the cropmark features, notably the pipeline or drain in the south field. Strong readings were picked up in the north and south of the cluster of blobs in the north field. The LK15 trench was in an area just outwith where geophysics had been undertaken.

## **LK15 specific research questions**

Aside from the overall SERF Project objectives to shed light on the prehistoric archaeology of the study area and make sense of the cropmark record, some specific research questions were addressed by the LK15 excavation:

- Is there a timber hall within the palisaded enclosure, and if so, how does it relate chronologically to the palisaded enclosure? Is it a roofed or unroofed structure, and what might its function be?
- What evidence is there for activity within the palisaded enclosure? What is the chronology of this activity? How does it relate to our other discoveries in 2012?
- Can we identify evidence for (a) settlement (b) farming (as found at Wellhill 2014 and maybe Leadketty 2013)?
- Can we identify evidence for mortuary activity – so far we have found no evidence for this in the Leadketty complex
- What is the nature of the cropmarks, and geophysical anomalies, in this area of the palisaded enclosure?
- Can we identify management benefits to the archaeological traces in these fields given they have rarely been under cereal crop cultivation?
- Should the scheduled area be extended to include these two fields? Currently they lie out with the scheduled area
- Can we identify any activity here associated with the adjacent river? Is there evidence for truncation of the escarpment?
- Do any remnants of the (Bronze Age) cist cemetery survive?

## **Methodology**

The excavation trench was opened by machine stripping under careful supervision on 11<sup>th</sup> June 2015. The trench was left to weather for a week or so, and was then excavated using hand tools between 21<sup>st</sup> June and 4<sup>th</sup> July 2015. The trench was located on the edge of a natural escarpment which rapidly drops down to a valley with a small stream, once a mill lade, and was an irregular rectangle in shape, measuring 25m east-west by 6m to 8m north-south. All features uncovered were planned to 1:20 scale, and select features were excavated either to half-section or fully, and spot / bulk samples were taken where deemed appropriate. Post-excavation work will be carried out in the archaeology lab at Glasgow University and the Dickson Lab, also Glasgow.



Figure 6: LK15 trench during machine stripping

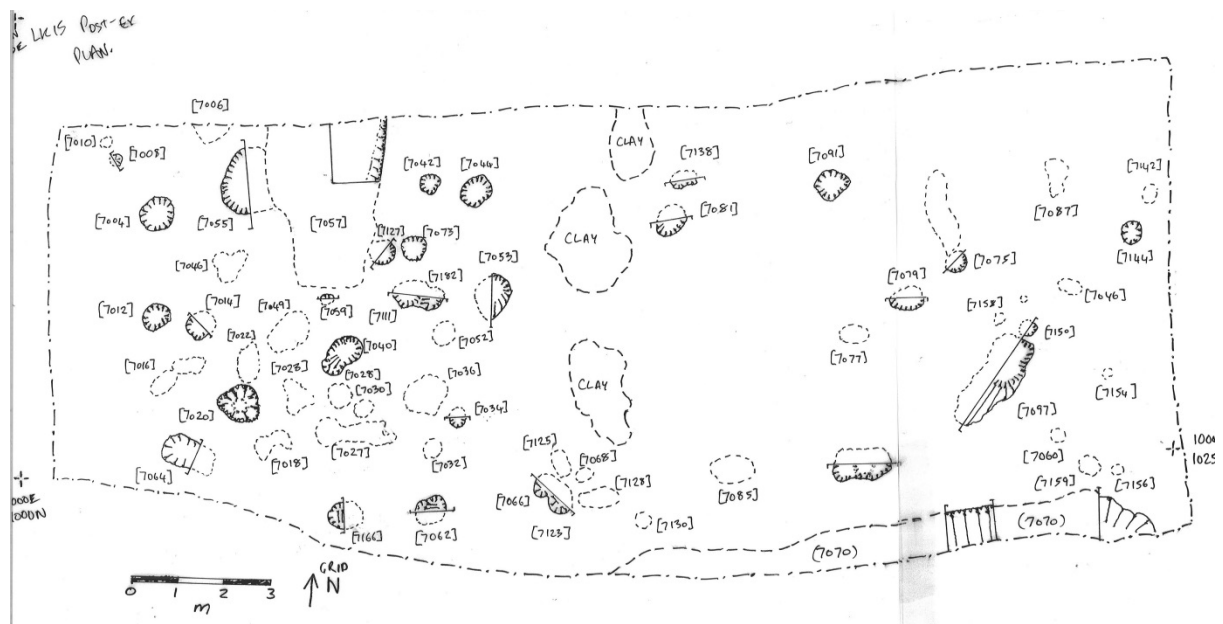


Figure 7: Post-excitation plan of the trench.



## Summary of excavation results

It was immediately apparent upon the opening of the trench that there were many potential cut features, and after cleaning these resolved themselves into several groups / types of features. These will be dealt with in turn. Given the nature of this site, with intercutting stratigraphy not always evident, and very few artefacts discovered, at this stage the chronology and relationships of many of these features remains open to interpretation and it is to be hoped that post-excavation work will to an extent rectify this situation. It is evident that there is no timber hall here, although the features that appeared to belong to such a structure as cropmarks were all identified within the trench.

### *The timber circle*

The most obvious and cohesive group of features was a circular setting of postholes towards the west end of the trench (which as cropmarks had appeared to be the curved western end of the putative timber hall). This structure consisted of at least eight cut features (clockwise from east): [7044], [7053], [7036], [7027], [7020], [7012], [7004] and [7006]. Five of these were excavated fully or to half section. If this were to be a complete circle, then two further postholes must lie beneath the edge of the where the trench was located. The circle has a diameter of 7.5m to 8m and the postholes that form its boundary were variable in size, postpipe form and fill history.



Figure 8: drone photo of the timber circle with postholes highlighted

Posthole [7044] was circular in plan, with a diameter of 0.66m; it was steep-sided with a u-shaped profile and maximum depth of 0.36m. Two fills were identified, with the possible post-pipe (7045) a dark brown silt loam concentrated on the western side of the feature, and a gravel 'packing' fill (7120) filling the rest of the hole. The postpipe here was some 0.46m across. A single sherd of prehistoric pottery (SF7005) was recovered from (7120).



Figure 9: Posthole [7044] to half section



Figure 10: Rebecca holding her discovery

Posthole [7053] was oval in plan, measuring 0.95m by 0.82m; it was steep-sided with a u-shaped profile and maximum depth of 0.43m. Three fills were identified. A central fill, which could be characterised as the post-pipe or void (7054) was a dark brown silt loam containing large chunks of charcoal and one single large stone towards the surface of the feature which measured 0.15m x 0.17m by 0.06m, likely a later inclusion. On either side of this fill were loose sandy gravels of similar character (7125, 7126). The post-pipe had a maximum diameter of 0.5m.

Posthole [7020] was circular in plan, with a diameter of 0.9m; it was steep-sided with a u-shaped profile and maximum depth of 0.51m. This feature was characterised by a very distinctive charcoal-rich circular post-pipe (7104) which lay against the southern side of the feature. This had diameter 0.4m and depth 0.4m, and consisted of 60% charcoal flecks, chunks and staining, some of which had stained the natural side of the feature, suggesting the post was burnt in situ down to its base. Also in this feature were two gravel fills - (7021) was an upper fill which included charcoal flecks, while (7115) appeared to be a clean coarse primary gravel fill. A concentration of partially fired clay, perhaps even daub (SF7002), was found in the upper zone of the postpipe; further analysis is required.



*Figure 11: Posthole [7020] and postpipe (7114) while being excavated in plan*

Feature [7012] was oval in plan, measuring 0.73m by 0.55m; it was steep-sided with a u-shaped profile, irregular rocky bottom and maximum depth of just 0.23m. Four fills were identified, including a series of gravel and possible packing stone fills: (7102) was a primary medium gravel and silt fill which covered the base of the cut, while gravel and stone fills (7101, 7103) filled the remainder of the feature. The upper fill [7013] consisted of a thin dark brown silt loam deposit maximum thickness of 0.13m towards the centre of the feature, possibly filling an existing post void. The depth of this feature and lack of convincing postpipe casts some doubt on this being having been a posthole.

Feature [7004] was circular in plan, with diameter of around 0.8m; it was steep-sided with a u-shaped profile and maximum depth of 0.47m. Two fills were identified. The lower fill (7114) was loose dark brown sand and fine gravel with infrequent charcoal flecks. Above this lay a dark black to brown silt loam (7005) with frequent small stone inclusions. These features lay one on top of the other, with a relatively indistinct and graded boundary; the lack of a postpipe casts some doubt on this being having been a posthole.

Postholes [7036], [7026] and [7006] were not excavated; the majority of the latter lay beyond the northern baulk of this trench. [7027] is notional and never clearly defined in plan. It is also possible that there was a gap on this side of the circle.



### *Features within the timber circle*

A wide range of features were identified within the area of the timber circle, although as noted above this does not mean that they were (a) contemporary with, or (b) had any relationship with that structure. Furthermore, this area was much disturbed by the insertion of some kind of post-medieval subterranean structure in this area (discussed below) [7057]. Within the timber circle 18 possible cut features were recorded in plan and eight of these were excavated fully, or more commonly, to half section. These included a very large posthole [7055] and a series of single and intercutting pits.

Posthole [7055] was one of the largest features excavated. In plan it was sub-circular in shape and measured at 1.42 m north-south, and a minimum of 1.28 east-west, with the eastern extent unknown due to truncation by the subterranean structure [7057]. This cut feature was steep sided with a flat bottom - which in places included exposed bedrock - and had maximum depth of 1.04m. A relatively homogenous set of fills were identified, with the majority of the feature filled with two similar mixed silt fills. The lower of these (7170) was a medium-brown to orange silt sand with infrequent charcoal inclusions and a surprising lack of gravel, suggesting the base of the feature was deliberately filled quite rapidly (or kept clean). A single heterogeneous upper fill was identified (7056), a dark brown silty sand with occasional pebble, charcoal chunk and possible cremated bone inclusions; the fill became lighter in colour with orange patches towards the base. There was no obvious postpipe, but an arc of large stones (7181) apparent on the surface of the feature and in section may well define parts of the edge of a very substantial postpipe; these could be packing stones set around a former post some 0.8m to 1m across. This seems to be reflected in terms of a more greyish look to (7056) in plan (see figure 12) but this was none of this was apparent in the section.



*Figure 12: Relationship in plan between [7057] and large posthole [7055]. Note also the arc of stones (7181) which appear to define a circular form in the surface of this posthole, perhaps packing / defining a postpipe, and the variation in fill (7056) on either side of this arc of stones.*



A cluster of features were identified in the eastern half of the timber circle – these consisted of pits [7127, 7073, 7111/7182, 7039 and 7040]. It is not clear how these features relate to one another other than having this close proximity as they have varying character.

Four of these features were located between 1m and 1.5m SW of timber circle posthole [7044]. Pit [7127] was circular in plan, measuring 0.6m in diameter, and was steep-sided with a rounded bottom and maximum depth 0.23m. This feature contained a single fill (7128), a medium brown loam silt with infrequent small pebble inclusions and two larger stones, up to 0.1m across, evident in section. Just 0.2m to the east, but not intercutting, was another pit [7073] of a very different character, being mostly filled with stones. This pit was circular in plan, measuring 0.6m in diameter, and was steep-sided with a flat bottom and maximum depth 0.39m. Aside from a matrix of dark brown silt loam (7074) which was evident throughout the feature, the remainder of this hole was packed with stones (7106, 7113), notable a very large block in the centre of the pit which measured 0.45m by 0.3m by c.0.3m, which appeared to have been placed in the feature on its end, and thus had to be supported in position by a series of flat stones jammed in between the stone, and side of the cut. This feature may well have been filled in one event.



Figure 13: Stone-filled pit [7073] with large stone evident in section and on surface

0.3m to the south was located a more complex cut feature [7111/7182]. This pair of intercutting pits was sub-rectangular in plan (although when fully dried out appeared almost as a number 8 in shape). In total it measured 1.1m east-west by 0.6m, with steep sides and an irregular bottom with two dips, the deepest of which was toward the west end. It is likely that this feature is actually two cuts: [7111] is the deeper and more westerly of the two, being bowl-shaped in section and up to 0.32m deep; [7182] has steep sides and an irregular bottom and was only 0.22m deep. The sequence of cuts here was very difficult to discern but it seems likely the smaller pit cut the larger. Both halves of this feature had their own fills. [7111] contained two fills, the earliest of these being (7183). This filled much of pit and was a firm medium to dark brown silt gravel. The upper fill (7112) was a mid-brown silt loam evident only in small pocket 0.4m in diameter and with thickness 0.23m. The

smaller, secondary pit also contained two fills: (7185) filled only the eastern edge of the cut and was a medium brown silt clay with infrequent small pebble inclusions. The main fill within this pit (7184) was also a medium brown silt clay which contained frequent stone and pebble inclusions, some between 0.1 and 0.2m across. Finally, a very small pit was recorded c1m WSW of [7127]. This pit [7039] was circular in plan, 0.22m across, and had a u-shaped profile and depth 0.09m. It contained a single fill (7060) loose dark brown to black silt clay with high charcoal content.

To the south of these features was a larger pit [7040], located c1m NNE of timber circle posthole [7020]. This was oval to sub-rectangular in plan, measuring 1.17m NE-SW by 0.67m, and had steep irregular sides, an irregular bottom and maximum depth 0.6m. The fills were very similar and edges of this cut difficult to define. It seems the cut was largely filled with a single primary deposit (7041) which was a light brown sandy and silt gravel with frequent pebble and larger stone inclusions. A discrete deposit of cremated bone [sample 7007] was found fairly centrally with this fill and the feature at depth 0.2m; it may have been placed deliberately there and was then covered with the flat stone. Two upper fills were identified (7038, 7039), both dark brown silt clay deposits in shallow hollows within the main fill; these may be a single final fill which has been disturbed by plough activity as they were indistinguishable from one another.

A small feature [7034] was identified more or less on the perimeter of the timber circle measuring, 2m south of posthole [7053]. It was circular in plan, 0.28m across, and with steep sides and a flat bottom, depth 0.11m. It contained a single fill (7035) which was a mid-brown silt gravel with possible flecks of charcoal.

A cut feature [7014] was identified in the south-western quadrant of the timber circle. It was located just 0.3m from timber circle posthole [7012], and they may have been related to one another.

Pit or posthole [7014] was circular in plan, measuring 0.65m in diameter, and was steep-sided with a rounded bottom and maximum depth 0.28m. It contained a single fill (7015) which was a dark to mid-brown silty gravel with frequent small pebble inclusions, a few large stones and very infrequent charcoal flecks. Within the southern area of the upper half of the fill, was a large squarish stone (7168) measuring 0.27 across and 0.07m thick; jammed against the side of the cut, this may have been a packing stone.

Finally, a pit or posthole [7042] was excavated in the north-eastern quadrant of the timber circle, immediately to the west of posthole [7044]. It appears to have had a similar spatial relationship to a post as between [7012] and [7014].

Pit or posthole [7042] was sub-circular in plan, measuring 0.42m north-south by 0.36m in plan, and was steep-sided with a flat bottom and maximum depth 0.39m. It contained two fills, with a primary fill (7169) consisting of loose medium brown gravel. Upper fill (7043) occupied the top and central areas of the fill, being a dark brown silt clay with infrequent charcoal staining and flecks; this could be interpreted as a postpipe.

No other features within the timber circle were excavated. However a range were identified with a concentration on the southern side of the circle, with features [7028, 7030, 7018 and

7023] within 0.5m of notational posthole [7027]. [7028 and 7030] both were circular in plan and measured 0.3m to 0.5m across, and sat in the same relationship with the posthole here as with [7044-7042] and [7012-7014]. A similar pairing is also apparent between post [7053] and unexcavated circular feature [7052] and perhaps also between [7020] and amorphous feature [7022]. Possible intercutting features that were not excavated within the circle were given the general numbers [7016] and [7046]. See the site plan (figure 7) for the location of all of these features.

### *Features to the west and south of the timber circle*

A series of features were investigated on the western and southern edge of this structure, in narrow strips of exposed trench.

Cut [7008] was located c1.5m to the NW of timber circle posthole [7004]. It was [7014] was circular in plan, measuring 0.33m in diameter, and was little more than a shallow hollow or scoop with bowl-like profile and maximum depth 0.1m. A single fill was identified (7009) which was a loose dark brown gravel loam containing very infrequent charcoal flecks. An even smaller circular feature [7010] identified 0.25m to the NW was unexcavated.

An irregular line of features ran immediately to the south of the timber circle. From west to east these were [7064, 7166, 7062, 7066 and 7123]. There is no clear sense this line of features are connected and this arrangement may relate to proximity to the scarp edge; their arrangement runs parallel to this feature and this may therefore have been a focus for activity over an extended period of time rather than in one distinct event.

Cut [7064] was located 1.7m to the SW of timber circle posthole [7020]. This feature was rectangular in plan, measuring 1.5m NW-SE by 0.8m; it had steep sides and an irregular bottom, but with a maximum depth of only 0.15m. A single fill (7065) was evident, a light brown sandy gravel with frequent small pebble inclusions. This may have been a more substantial feature that has been plough truncated although could also be remnant of modern activity e.g. animal burial.

Located 2m to the east were two further cut features. Pit [7166] was oval in plan, with diameter 0.8m east-west by 0.65m; it had steep to vertical sides, and an irregular sloping bottom, steeper on the south side where it reached 0.15m. The single fill (7167) was an extremely compact orange to light brown gravel that was very difficult to excavate by hand. Located 1.5m to the east was another pit [7062]. This one was circular in plan, 0.8m in diameter, and had steep to vertical sides and an irregular sloping bottom, steeper on the west side where it reached 0.25m. This feature had a single fill (7063), a compact dark brown silt gravel with a few large rounded stones and frequent small pebble inclusions.

A cluster of features on this same east-west line was identified 2m to the east, to the SE of the timber circle. This consisted to several features, some intercutting [7066, 7123, 7125, 7128 and 7068] although only the former two were excavated.

Pits [7066, 7123] cut one another although it was very difficult to establish which came first. Cut [7066] was sub-circular in plan, 0.54m across, with shallow sides, rounded bottom and maximum depth 0.21m. It contained a single fill (7067), a dark brown to black silt loam with infrequent pebble inclusions and very infrequent charcoal flecks. Pit [7123] either cuts, or is cut by, [7066]. It was sub-circular in plan, 0.56m across, with shallow sides, rounded bottom and maximum depth 0.15m. It contained a single fill (7124), a dark brown to black silt loam with infrequent pebble inclusions and frequent small pieces of charcoal.

### *Features to the east of the timber circle*

Across the remainder of the trench, a wide range of features were found, mostly pits but with some possible postholes. A range of these were excavated fully or to half section. These are discussed in no particular order.

A substantial linear pit [7097] was identified towards the eastern end of the trench, which contained substantial burnt deposits. The pit was an elongated oval in plan, and measured 2.42m NE-SW by 0.54m. The base had a gentle sloping profile, shallow at the SW end dipping down to a maximum depth of 0.42m, before steeply returning to the surface on the NE side. Two fills were identified. The primary fill (7192) occupied all of the base except the SW 'tail' of the feature, and had maximum thickness 0.17m; it consisted of a mixed silt loams ranging in colour from orange to light brown to black, and contained a good deal of charcoal staining, flecks and lumps, and probably burnt soils. This appears to have been deposited here, with burning not happening *in situ*. The upper fill (7098) extended across the entire pit, and was a dark brown silt clay with infrequent charcoal flecks and small pebbles; this appears to be a wash natural fill covering a series of burnt deposits. Located 0.15m from the NE end of this pit was a small cut feature [7150]. This was oval-shaped in plan, measuring 0.34m NW-SE by 0.24m, and had a u-shaped profile with depth 0.2m. The single fill (7151) was a dark brown silt gravel with a single large flat round stone (0.16m across and 0.02m thick) towards the centre of the feature. These very diverse cuts lay on the same alignment and may well have been related although they did not intercut.



Figure 14: Elongated pit [7097] in section



Three features were investigated nearby, two of which were c 2m north of [7097]. One of these was a small pit [7075]. It was circular in plan, 0.36m across, with a u-shaped profile and maximum depth 0.27m. There were two fills. The primary fill (7193), which extended across most of the feature, was a loose dark brown silty gravel with frequent charcoal inclusions. Upper fill (7076) was little more than a scrape of mid-brown silt gravel 0.05m thick on the top of the feature. In plan this appeared to be the southern end of a north-south aligned linear feature [7197] some 2m long and 0.4m across; however, it resolved itself into a distinct feature. [7197] was not excavated. Just 0.6m to the WSW was another small pit feature [7079] which was a pit with circular shape, 0.69m across. It had a bowl-shaped profile and had maximum depth of 0.3m. There were two fills. The lower fill (7186) had thickness 0.12m; it was a dark brown silt loam with charcoal flecks and lumps throughout. The upper fill (7080) was also a dark brown silt loam but with infrequent charcoal flecks. A third feature was located 3m NE of [7097]. Cut [7144] was a shallow oval feature measuring 0.62m north-south by 0.35m, but little more than 0.14m deep with steep sides and a flat bottom. The single fill (7145) was dark brown to black silt loam with charcoal flecks and – possibly – tiny fragments of cremated bone (sample 7024).

A series of other small features were identified to the north of elongate pit [7097] but were not excavated: these are [7158, 7046, 7087 and 7142]. These were of similar character to the range of other features explored in this area of the trench. A further small cluster of features, again probably small pits or scoops, were located between 1.5 and 2.5m to the SE of [7097]. These are [7060, 7159, 7154 and 7156]. All were less than 0.4m across in plan.

A more substantial feature was found 1m to the SW of pit [7097]. This lay on the same rough east-west alignment of features noted above, running parallel to the escarpment edge. This pit [7089] was 6m to the east of the pit cluster [7066-7123], and half-way between these lay yet another possible pit [7089] which we did not excavate. (In plan this feature looked identical to another on this line [7064] but upon excavation they were substantially different.) It is possible this feature is a large posthole, and may have been re-cut.

Cut [7089] was sub-rectangular in plan, measuring 1.25m east-west by 0.82m. It was steep-sided and had a stepped bottom, with a deep depression in the centre (perhaps related to another cut or the base of a posthole?). Maximum depth here was 0.65m here, and 0.45m on either side of this. There were a number of fills. The central area of the feature including the deeper section consisted of a single fill (7194) which was a dark brown silt clay with sandy patches. On either side of this was a fine orange-brown silt gravel with frequent very small pebble inclusions – this was assigned the same number as both deposits were indistinguishable. On the western edge of the cut, two further fills were identified. The lower of these covered the base of the western sector of the feature and had depth 0.1m (7195); this was essentially a silt sand deposit and was either a primary fill or slight overcut into the natural. A dark brown silt gravel (7196) against the western side of the feature is either part of the packing for a post; it is unclear if this accumulated over time or not. It is possible that this is a posthole, with the postpipe being (7194) and thus having diameter up to 0.8m across; on the other hand, this could be two pits, one cutting the other. The former seems more likely.

Three features [7081, 7138 and 7091] in close proximity were excavated in the centre-north area of the trench, about 3.5m east of the timber circle.

Possible posthole [7081] was circular in plan, 0.8m in diameter, and had steep-sides, and irregular base and maximum depth 0.4m. The centre of the feature was filled with a medium brown silt clay with infrequent small stone inclusions; this fill (7082) was evident for the complete depth of the feature and was 0.2 to 0.4m across. This may have been a postpipe. On either side of this were 'packing' fills (7190, 7191), or material that accumulated around the post; both were light brown gravel silts. Just 0.75m to the north was a smaller pit [7138]. This was kidney-shaped in plan and measured 0.64m east-west by 0.4m. It had a bowl-shaped profile and depth 0.18m. This pit contained a single fill (7139) which was a mid-brown silt gravel with frequent small pebble inclusions. Another pit was investigated 2m to the east. This cut [7091] was circular in plan with diameter 0.75m; it was u-shaped in profile and had maximum depth 0.35m. A large flat stone [7187] had been placed on the base of this feature; it measured 0.36m by 0.5m and was 0.14m thick. Overlying this was a single fill (7092) dark brown silt gravel with infrequent pebble inclusions.



*Figure 14: Silt band (7070) viewed from the west: note the close proximity of this feature to the edge of the escarpment.*

### *Silt band feature [7070]*

During cleaning of the trench it was identified that a strip of silt was evident along the southern edge of the trench, with maximum visible width 2m. This stretched for a distance of some 13m and had an irregular edge. Two small sondages were put through this feature, one at the eastern extent, to determine if this was a natural feature, a product of overburden and plough activity so close to the field edge, or a ditch. The feature was shown to consist of a single deposit, a dark to black brown silt clay (7070) which had infrequent small pebble inclusions. This silt was shown to overlie a dip in the natural down towards the escarpment edge, with the deposit having maximum visible thickness 0.26m. The profile of the slope was shallow. It was concluded that this band of silt was a product of a combination of sloping natural and being at the edge of the plough zone; this was neither ditch, nor or antiquity.

Three large clay spreads were identified in a rough north-south line in the middle of the trench (see site plan Figure 7). Inspection showed these to be natural compact grey to pink to beige clay, and it is likely that this was a band of clay within the natural that has been broken up by ploughing.

### *Subterranean structure [7057]*

A large sub-rectangular silt spread (7058) was identified in the north-western quadrant of the trench upon cleaning (see Figure 12, above); this was left for the first half of the excavation to see if the edges would become any clearer, and it during this time large stones, roofing slates and mortar spreads were identified during secondary cleaning and planning. The structure was found to be within the timber circle and almost certainly to cut large posthole [7055] but the material on the surface suggested that this was a far more modern feature. This proved to be the case upon excavation, and it seems likely that this is the sunken floor or foundations of a small agricultural building of unknown – but modern - date.

Large cut feature [7057] was sub-rectangular in plan. It measured a maximum of 2.15m east-west, and a minimum of 3.4m north-south, with the northern extent concealed beneath the baulk. Pre-excitation, it was clear that this feature, on the surface, was defined on its eastern edge by a rough line of stones, and it was narrower towards the southern end (no more than 1.5m across). A sondage measuring 1.25m north-south by 1m east-west was investigated with the northern section being the baulk. If this is taken to be representative, the overall cut has steep to vertical sides, tending towards a gently sloping interface with the slightly irregular, but mostly flat, bottom. The cut had maximum

depth 0.5m. The cut appeared to widen towards the north, perhaps even splay out – and here fills were disturbed. It is possible this was an entrance area.

A rough wall was apparent hard up against the east side of this large cut (structure 7116). This consisted of three courses of rather decayed flat and rough oblong sandstone blocks, which (complete examples only) measured 0.2 to 0.3m in length, 0.1m in width and less than 0.05m thickness. The third course on top was only in fragmentary form, and was plough-damaged; these were the stones evident upon initial cleaning of the trench. This wall – or foundation – was visible for the complete length of the excavated section but its complete extent is unknown. Did it continue around the entirety of the large cut? This crude wall was bonded together by lime mortar (7117), which was crumbling and had also become dispersed throughout the fill of the subterranean cut. The remainder of the subterranean cut was filled with rather jumbled silts (7058) which had clearly accrued during the collapse of the structure and natural backfilling processes; these silt deposits were dark brown to orange to grey in colour, and contained infrequent charcoal flecks, broken roofing tiles, fragments stones from the wall, pebbles and spreads and lumps of lime mortar, including one large concentration towards the base and centre of the cut (7118). The rubble and slates within this deposit with badly eroded and distributed in a random pattern indicative of collapse – some roofing tiles for instance were on end rather than lying flat. This small building likely fell apart at the end of its life.





Figure 15: Subterranean cut [7057] sondage after excavation but before removal of the wall (7116). Note roofing slates jutting from the north-facing section.



Figure 16: The assemblage of roofing slates from (7058)

### Discussion

This modest trench, in the end, was found to include a wide range of archaeological features dating from prehistory, and the modern period. The prehistoric traces are not quite in line with the timber hall that it was speculated might have been in this location, but the western end of the hall in Millican’s transcription turned out to be one half of a timber circle. Cropmark interpretation is not an exact science, and it was rewarding to see these cropmarks, usually captured in the corner of images when the photographer was focusing elsewhere, reveal such a convincing structure.

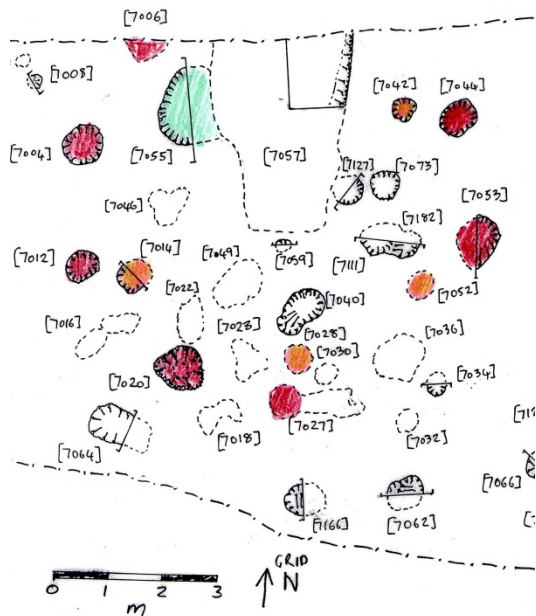


Figure 17: The timber circle. Red = TC postholes, orange = possible inner ring of posts, green = internal post

The **timber circle** fits at the lower scale of the diameter range for such structures. Millican's (2007) comprehensive analysis of these sites suggests the 45 to 50 probable or possible Neolithic examples in Scotland fall within the range of between 2.5m and 47m across. It seems likely, especially given the sherd of possibly Neolithic pottery recorded from one posthole, that this was Later Neolithic rather than a later prehistoric roundhouse. Therefore the most likely scenario is that this ring of postholes was a free-standing circle of timbers. However, there are unusual elements to bear in mind. Firstly, the postholes were widely varied and appear to have been able to support posts of different diameter and height; this may have been an irregular monument. Secondly, one post [7020] appears to have been burnt *in situ*, unusual for a timber circle.

There may well be a different interpretation that is worth exploring. It seems possible that there was a ring of internal posts (Figure 17), with possible post-pairs evident between, for instance, [7012-7014] and [7044-7042]. Could this have been a roof support, and was this in fact a **small timber building**? The floor surface would have long been ploughed away so we would not expect to find a hearth; and the possible gap on the south side may have been an entrance zone with [7027] potentially being an unusual linear feature rather than a posthole. Such a building would be in line with small circular structures of the Later Neolithic in lowland Scotland such as Overhailes in East Lothian and Beckton Farm, Dumfries and Galloway (cf. Brophy 2015). The former was described by its excavators as little more than a 'rudimentary structure' associated with pits, deposition and a yard (MacGregor and Stuart 2008, 70ff. and see Figure 18, below). The latter is especially interesting as here a series of small circular to oval structures were found in association with four-poster buildings (Pollard 1997; Noble et al. 2012); such a building has also been found at Leadketty, 200m to the north (Brophy et al. 2012) and another may lie in the same field (see cropmarks, Figure 2).



*Figure 18: Overhailes Late Neolithic round building / house (from MacGregor and Stuart 2008).*

Situated within this timber structure was a **single large posthole** [7055] and nothing else on this scale was found within the trench. It was not centrally located within the timber circle and may not have been contemporary with it. This posthole did not have a clear postpipe but could well have supported a post of up to 1m in diameter, and at least 4.5m in length. A similar, slightly larger posthole was identified 150m to the north within the Leadketty enclosure – and within a mini-henge – in 2012 (Brophy et al. 2012). This feature, [2007], was a huge 2.45m across and 1.48m deep, with postpipe some 0.6m to 0.9m, and could have held an oak post 7 – 8m in height. In both cases we may be looking at single massive (oak) timbers, perhaps acting as ‘totem poles’, and these could date from anywhere in the Neolithic to into the Bronze Age.

A **series of other pits, postholes and stone-filled features** were found within and outwith the timber circle. Some of these were inter-cutting; almost none contained any material culture although charcoal was recovered from some. It may well be that these features represent low-level activity in this area, although we should not presume these are contemporary with the timber circle or even the palisaded enclosure. Indeed they may well represent extended periods of activity, either continuous or periodic, pre- and or post-dating both timber structures. This is indicative of prehistoric settlement activity (Brophy & Noble 2012) and is similar in character to pits, scoops, postholes and so on found at Leadjetty a few hundred metres to the north (Brophy & Wright 2014) and it is worth noting the concentration of Early Neolithic pits and farming evidence found at Wellhill 500m to the east (Wright 2014, 2015). In other words what was found at Leadketty may well be another indication of Neolithic settlement activity in this area, although dating and function is far from secure in this post pre-excitation stage.

Three final things stand out that are worth noting. Firstly, an apparently placed **cremation deposit** was found beneath a flat stone within pit, or pits, [7040], inside the timber circle. This is not inconsistent with any of the observations made above, but is a rare instance of deposition of any kind here. It is also the first clear evidence we have from our Leadketty excavations for any kind of mortuary practice (although we have yet to determine if this was human or animal bone). However, in this respect, it is worth remembering the cist cemetery found within a few metres of this location in 1844, and a ploughed out round barrow lies about 250m to the NW. None of these may be contemporary with one another, but this does suggest a turn to burial activity in the Early Bronze Age. (NB the cremation could of course date to the Late Neolithic.)

Secondly, the **large elongate pit** [7097] contained substantial burnt deposits including burnt soils, suggests burning was taking place in the vicinity. The lack of cremated bone means this

was probably not the remnants of a funerary pyre however and could be ‘hearth scrapings’ or more likely derive from one large fire event nearby.

Thirdly, there is a linear arrangement of features running east-west near the escarpment edge [7166, 7062, 7066-7123, 7085, 7089]. These features do not hang together well as a group, being of different character and form – some pits, at least one a posthole – and so this arrangement is perhaps more likely related to topography than a formal boundary. Alongside runs the silt-loam accumulation (7070).

The presence of a subterranean cut [7057] within the centre of the timber circle, and cutting posthole [7055] appears to be a coincidence and this is likely a **post-medieval building** of some kind with lime-mortar stone walls and a slate roof. It may have had a sunken floor. No building has stood here in living memory although this field was once used for chicken sheds, and a modern chicken shed of similar size stands in the field to the north. Nothing is evident on 1<sup>st</sup> edition maps here that might shed light on this building and it may well be it pre-dates the 1860s.



Figure 19: LK15 trench viewed from the air © RCAHMS print 1482578

## Conclusion

The LK15 excavations added to our understanding of the use of the interior of the Leadketty palisaded enclosure. Although as yet we lack chronology and there is little stratigraphy on site, it seems likely that we have evidence here for a Late Neolithic timber circle (or timber building), a large single post, and a cluster of postholes, pits, scoops, some of which had burnt material deposited within them. This speaks of low-level activity over time rather than intensive short-lived actions, and may be indicative of settlement in the vicinity or other processes such as burning and farming. It adds to the sense of Leadketty as being a large stockade enclosure where everyday activities took place. However, we know from the 2012



season where investigations also took place within the Leadketty enclosure that small ritual foci were also evident – a huge post, a mini-henge – and we have hints of this in the southern zone of the enclosure too, in the form of a single post, perhaps a timber circle of ceremonial function, and evidence for a placed cremation deposit. It seems all aspects of life were contained within the Leadketty enclosure - and this was probably a busy place rather than an empty austere place of death and ritual as such enclosures often seem to have been.

### **Acknowledgements**

Helen and I would like to thank Iain Phillip for allowing us to excavate at Leadketty in 2015, and undertake the geophysical survey in 2013. All of the work at LK15 was undertaken by a small, but dedicated and very hard working team – many thanks to Alison Douglas, Jo Edwards, Emily Gibson, Rebecca Millar, Joe Morrison, Arizona Mosby and Lauren Welsh. Drone photos were taken by Tessa Poller, who also provided endless support for us before, during and after the dig; thanks also to our SERF colleagues Ewan Campbell, Steve Driscoll and Dene Wright for site visits and advise. We would also like to thank Kirsty Millican for drawing our attention to the site in the first place, and providing a transcription of the cropmarks here, and acknowledge (but not thank) Dave Cowley for the chilli meringues that he invented and baked in honour of our site.

### **References**

NB All SERF reports can be downloaded online from the project website:

[www.gla.ac.uk/schools/humanities/research/archaeologyresearch/projects/serf/](http://www.gla.ac.uk/schools/humanities/research/archaeologyresearch/projects/serf/)

Brophy, K. (2015), Houses, halls and occupation in Britain and Ireland. In C Fowler, J Harding & D Hoffman (eds) *The Oxford Handbook of Neolithic Europe*. Oxford: Oxford University Press, 327-344.

Brophy, K., Gould, A., Noble, G., Wright, D. and Younger, R. (2012), *Leadketty Excavations 2012*, Unpublished interim report, SERF Project.

Brophy, K. and Noble, G. (2012), 'Within and beyond pits: deposition in lowland Neolithic Scotland', in H. Anderson-Whymark and J. Thomas (eds), 63-76

Brophy, K. and Wright, D. (2013), *Leadketty Excavations 2013*, Unpublished interim report, SERF Project.

MacGregor, G. and Stuart, E. (2008), 'Everything in its place: excavations at Eweford West, Overhailes, Pencraig Wood and Eweford Cottages (3300-1700 BC)', in O. Lelong and G.

MacGregor (eds), *The lands of ancient Lothian. Interpreting the archaeology of the A1*, Edinburgh: Society of Antiquaries of Scotland, 69-98

Millican, K. (2009), *Contextualising the cropmark record: the timber monuments of the Neolithic of Scotland*, Unpublished PhD: University of Glasgow

Millican, K. (2007), Turning in circles: a new assessment of the Neolithic timber circles of Scotland, *Proceedings of the Society of Antiquaries of Scotland* 137, 5-34.

Noble, G & Brophy, K. (2011), Big enclosures: the later Neolithic palisaded enclosures of Scotland in their Northwestern European context. *European Journal of Archaeology* 14.1-2, 60–87.

Noble, G., Greig, M. and Millican, K. (2012), 'Excavations at a multi-period site at Greenbogs, Aberdeenshire, Scotland and the four-post timber architecture tradition of the late Neolithic of Britain and Ireland', *Proceedings of the Prehistoric Society*, 78, 135-72.

Pollard, T. (1997), 'Excavations of a Neolithic settlement and ritual complex at Beckton Farm, Lockerbie, Dumfries and Galloway', *Proceedings of the Society of Antiquaries of Scotland*, 127(1), 69-121.

Wright, D. (2014), *Wellhill 2014*. Unpublished interim report, SERF Project.

Wright, D. (2015), *Wellhill 2015*. Unpublished interim report, SERF Project.