

5 The Geophysical Survey

As a preliminary to the evaluation work at Castle Hill a geophysical survey was undertaken by Bath and Camerton Archaeological Society aided by members of the AFG on the 4th and 5th May 2010.

The northern part of the survey was an area containing trees, dense shrub and other vegetation; the southern area is mostly of open grass (lawns), which is interspersed with more mature trees and park furniture.

Five 20m square grids were laid out using tapes and triangulation. Four squares were positioned to cover the raised platform area, and one 20m square was placed over a curvilinear feature that was noted on the lower western side of the site.

Magnetometer and Resistance was used in all the 5 squares; the green line indicates where Radar was performed and red line shows where the Profiler was used.

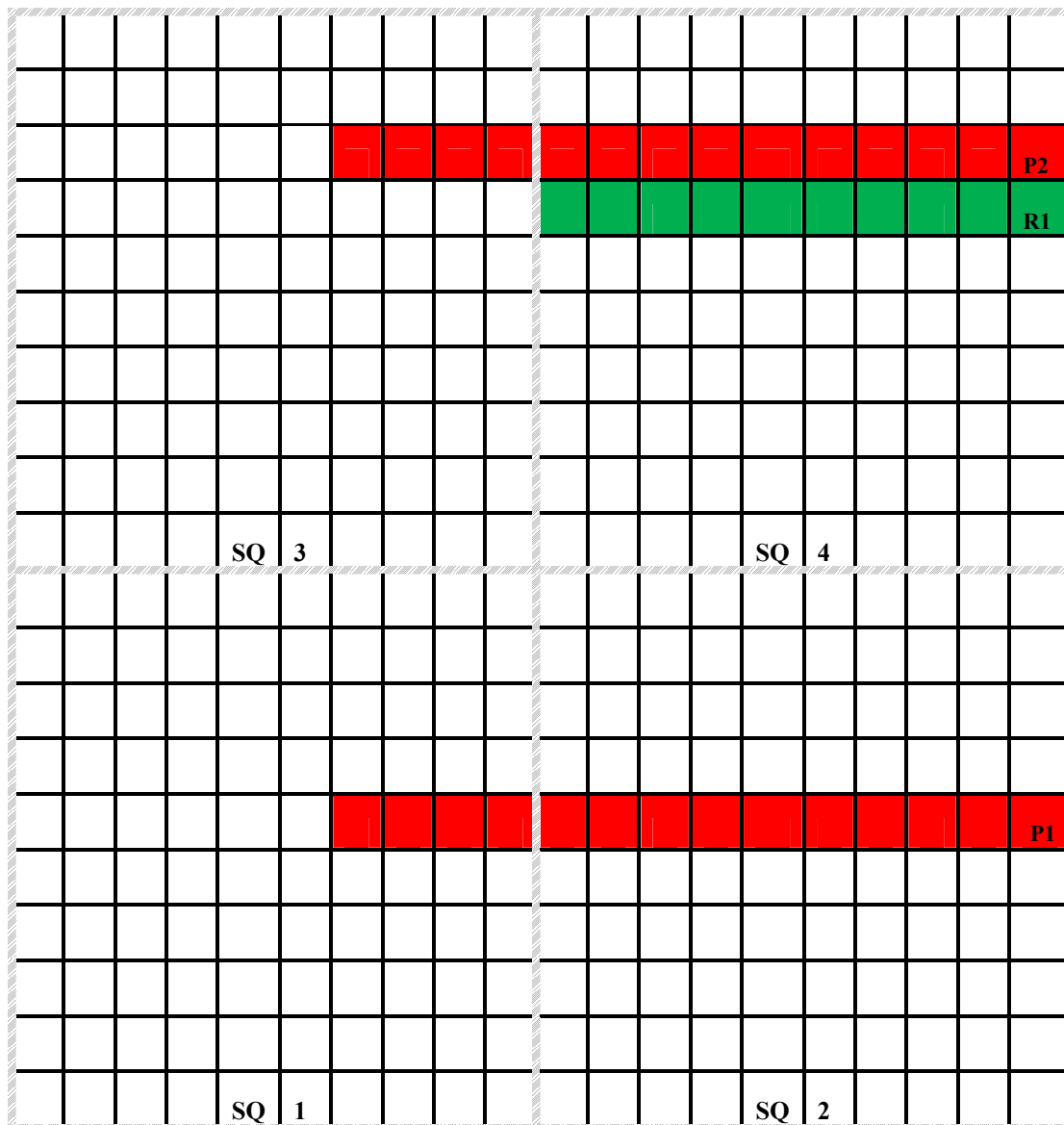


Fig. 5 Plan of geophysical survey area

Readings were taken every metre along zigzagged traverses spaced at 1m intervals. The surveying used four types of geophysical equipment, ranging from Resistance Geoscan RM15, Magnetometer Geoscan FM 256, Ground Penetrating Radar and a Resistance Pseudo section Profiling Profiler techniques.

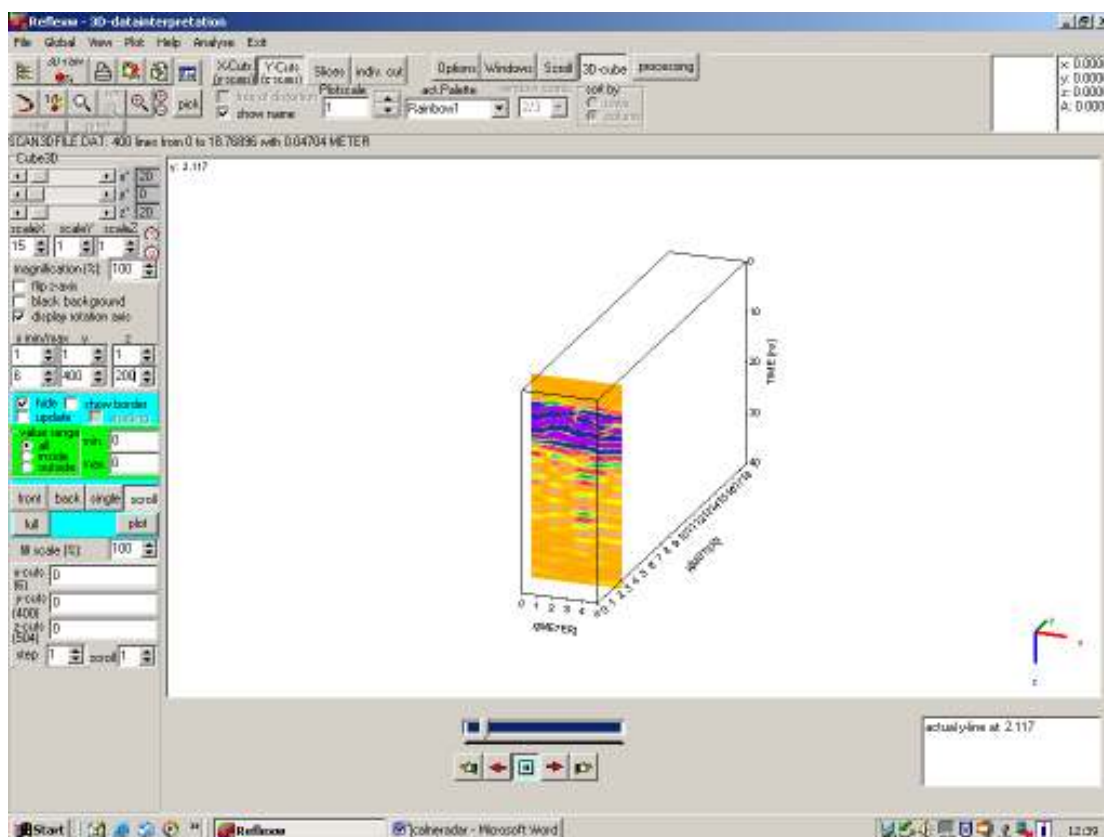
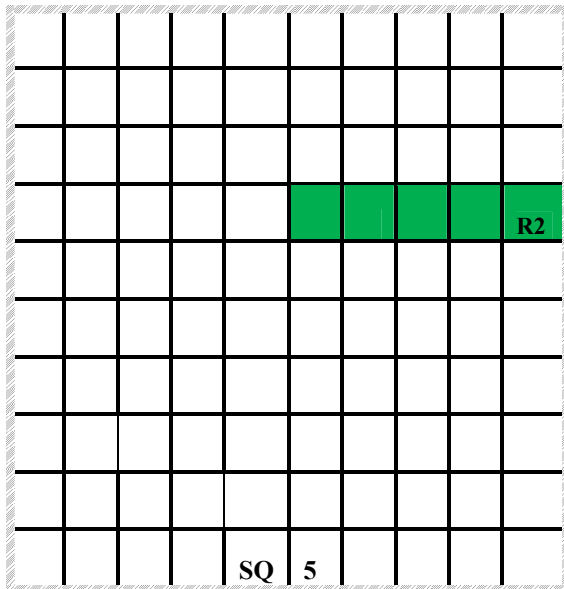


Fig. 6, Radar result shows a vertical slice through the ground. Note the wall going deep.

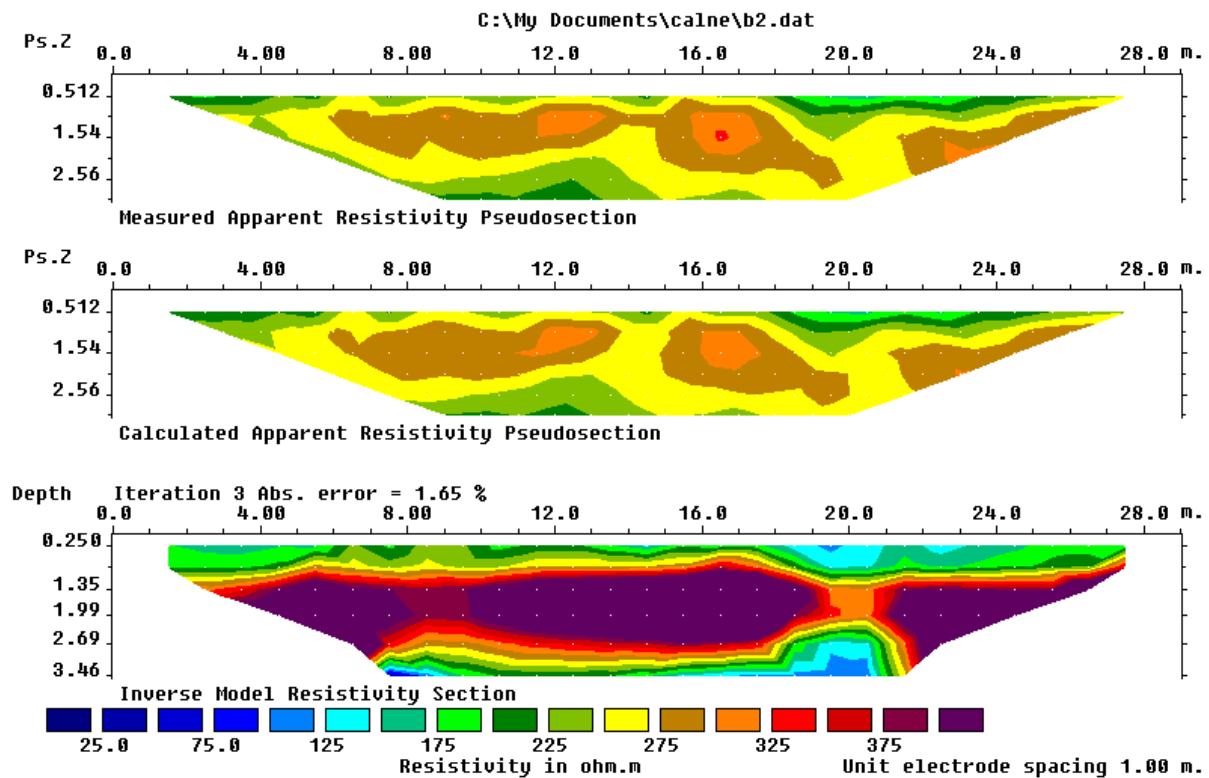


Fig. 7, Resistance Pseudo section Profiler (P2) showing sections through the circular anomalies.

5.1 Conclusion

The results of the geophysical survey have confirmed an extensive and complex series of anomalies that confirm the existence of walls and floors of buildings, with linear and circular stone features. These buildings might represent the remains of a castle with separate service buildings.

It was also apparent from the results that there are two separate curvilinear anomalies which apparently encircled the raised platform area of the site, with a possible entrance on the western side. Early indications for these two anomalies are highly suggestive of a curvilinear defences ditch, which appear to have been utilised in the landscaping process in the 17th or 18th centuries.

The layout compares with early mapping and aerial photography and evidence seen on the ground.

Further geophysical surveying is required in the grounds of Castle House and in the gardens of the properties to the north and east of the site; it would also be an advantage to survey the land around the Baptist Chapel and manse.

6 Excavation Methods and Techniques

Three trenches were excavated using a tracked earth remover equipped with a toothless ditching bucket (1m). They were machine dug down to the uppermost surviving levels of archaeological significance, or until natural deposits was reached. The trench locations are marked on Figure 8, and are identified by their trench numbers 1 to 8. For a general plan of all trenches see also Figure 8.

Where significant archaeological remains were identified machine excavation ceased and the features were excavated by hand. All discrete features were excavated to a degree sufficient to establish the extent, character and where possible to date the feature.

An appropriately qualified archaeologist monitored all intrusive groundworks.

A unique site code (CAL 170) was agreed prior to the commencement of the excavation.

All features and deposits were recorded using The Archaeological Field Group *pro forma* recording systems, with all features and deposits being assigned a unique number.

All archaeological features and deposits were planned at a scale of 1:20 with sections drawn at 1:10. The Ordnance Datum (OD) height of all principal features and levels was calculated, and all plans and sections were annotated with OD heights.

A full photographic record of the investigations and individual featured was maintained throughout the excavations using a digital camera.

The trench and spoil from the excavations and deposits were scanned by a metal detector and signals marked in order to facilitate further investigation of items of interest.

Finds were treated in accordance with the principles and practices set out by the Institute of Field Archaeologists' *Standards and guidance for Archaeological Excavation* (revised 2001).

All archives and all artefacts will be deposited at the Wiltshire Heritage Museum, under the accession code 2011.2. This was requested by the landowners Wiltshire Council.

At the completion of the work, all trenches will be reinstated using the excavated soil.

To achieve the research aims it was decided to lay out four trenches across the main areas (1, 2, 3, 5.) where the geophysical survey tentatively suggested walls and floors might be located.

Trench 4 was sited across the original medieval Chavey Well.

Trench 6 was placed over one of the surmised Iron Age defences ditch

Trench 7 was located over a second curvilinear feature of unknown date.

Trench 8 was positioned over a second round feature of unknown date or origin.

Position of the excavation trenches

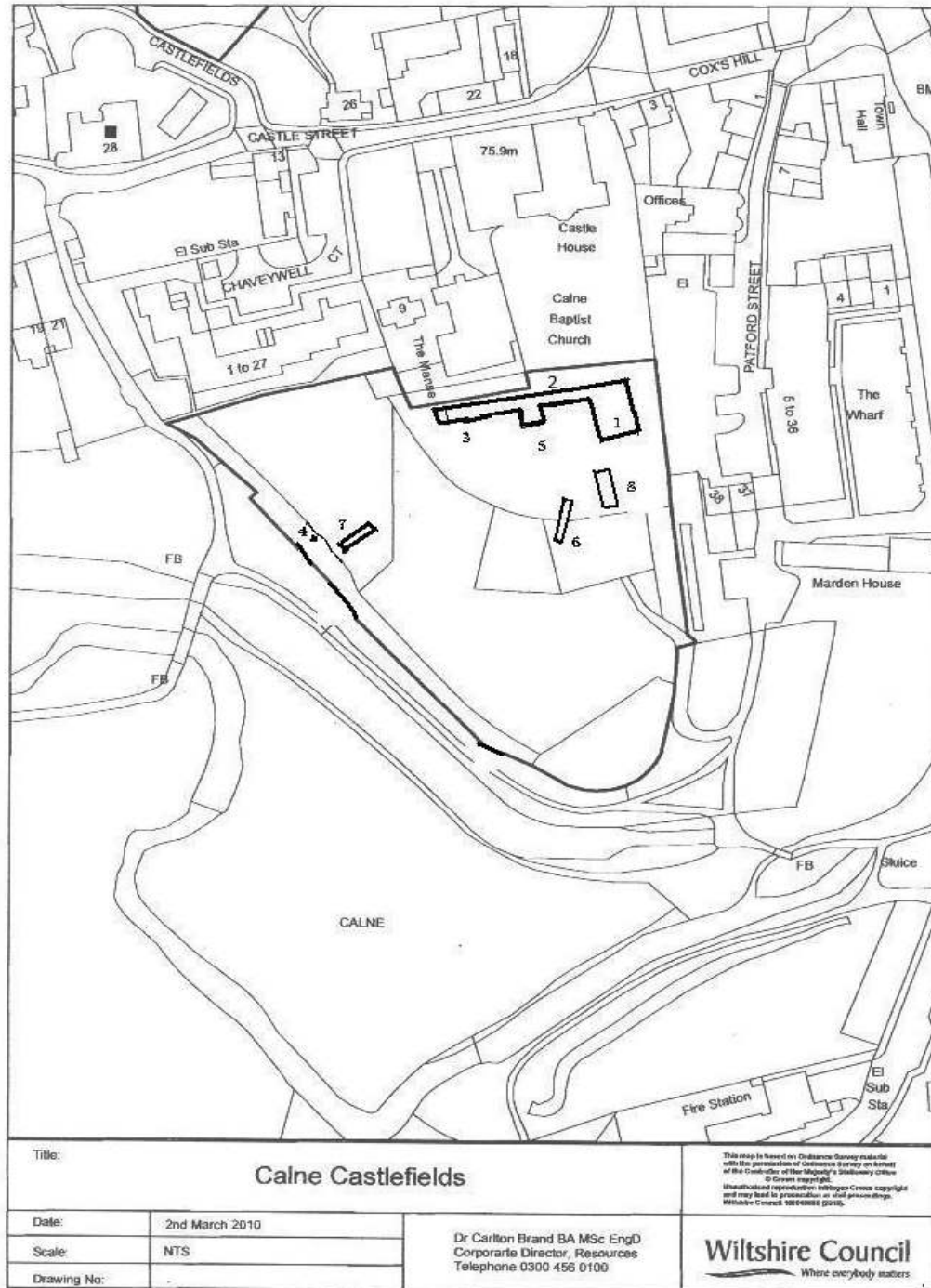
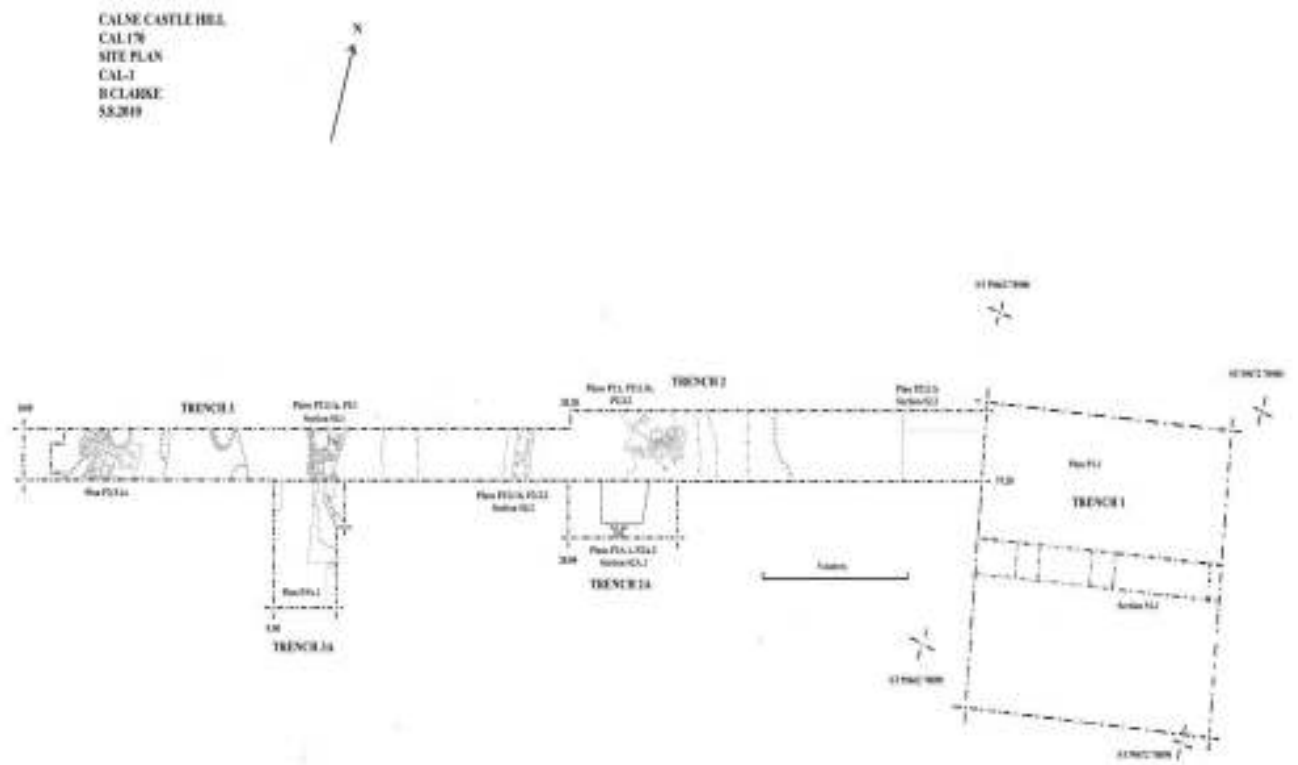


Fig. 8 Map showing positions of the excavated trenches.

Fig. 8, Position of the excavation trenches



7 The Recorded Archaeology from the Trenches

7.1 Trench 1.

Trench 1 measured 10m x 9m, and was positioned running north south across the east end of the site, over an area of high resistance that was of potential archaeological origin. This strong geophysical rectilinear anomaly crossed the trench on a northwest to southeast alignment and was highly suggestive of the floor plan of a substantial building.

Archaeological deposits were noted at very shallow depth and in some places stones were exposed by the removal of the vegetation.

The upper deposit was composed of a layer of dark/brown homogeneous sandy soil (10), up to 0.32m thick. This soil was identical to what was later recovered from trench 2 (10).

A sondage measuring 1m wide was excavated across the middle of this trench on an east-west axis to ascertain what the floor was constructed of, and to clarify and interrupt several features that were noted cutting into these deposits.

This sondage was excavated down through four more deposits (20) (30) (40) and (50) till the level polished natural limestone bedrock surface was encountered. This surface was interpreted as the floor of a large hall or building, and showed signs that this area had been left by the builders to form the floor and for the foundation for the walls.

The builders had removed the bedrock on the eastern, western and southern sides on this surface, perhaps for construction stone for this building.

It was noted that deposits (20) (30) (40) and (50) were made up of a grey-brown sand/gritty deposit, interspersed by bands of fragmented limestone building stone, stone tiles, mortar, plaster, iron nails and other ceramic building debris. Most of the complete ashlar masonry had been robbed away.

Two very indistinct linear features were noted crossing this trench on a north-south alignment. These were mainly visible as dark fills in damp conditions and there is a high possibility that these are the remnants of garden features. Three small oval shallow pits or tree bowls were also noted; all these features were backfilled with domestic rubbish containing animal bones, and sherds of pottery dating from the Romano-British period through to the middle 17th century.

There was a mixture of artefacts from this trench, including oyster shell, bottle glass, ironwork, CBM and pottery dating from the Romano-British period through to the 17th century.

Plate 2, Illustration of Trench 1 being excavated, looking north.



Plate 3, Illustration of Trench 1, excavated sondage, looking west

7.2 Trench 2.

Trench 2 measured 15m x 2m and joined trench 1 at the eastern end and abutted onto trench 3 at the extreme western end. The overburden was identical to that found in trench 1, a dark/brown homogeneous sandy soil (10), up to 0.24m thick. Below was a grey/brown silty sandy soil with numerous small stones. Post medieval pottery, glass, clay pipe, metal objects and CBM were also recovered.

A stone lined culvert deliberately built into the east wall of the tower was found. The function of this Romano-British or early medieval feature is uncertain; several ideas have been considered and for various reasons dismissed. A similar feature was excavated in Bath (Davenport 1991) and was considered to be Roman in origin; its use was thought to be a water culvert, but the lack of any water retentive linings and the well-drained nature of the corallian stone geology of the Castle Hill site preclude the use as a drainage culvert.

This feature is now thought to be a ventilation channel between the vaults or undercroft under the tower to another cellar adjacent, but to the east of this location. To the east of the wall of the tower [30] was an area of fragmented stone. These stones probably represent the collapsed vaulting from a roof of a building, which had fallen into a cellar or undercroft.

Between the cellars or undercroft and towards the easterly end of the trench was an area of natural polished stone floor surface [110]; this was the westerly side of the floor of a large building which was located in trench 1 [60].

A possible trench or ditch [95] was located in the extreme eastern end of this trench. This feature contained two separate deposits; (100) was made up of demolition building material and domestic rubbish from the 16th and 17th centuries, which filled most of the trench.

There was also a small lens of ash and charcoal (150) on the top western side. This ditch would appear to be the extreme southern end of a robber's trench, which was similar to the trench found in 1976 when Castle house was being renovated

This trench produced artefacts from the Iron Age Romano-British, medieval and post-medieval period.

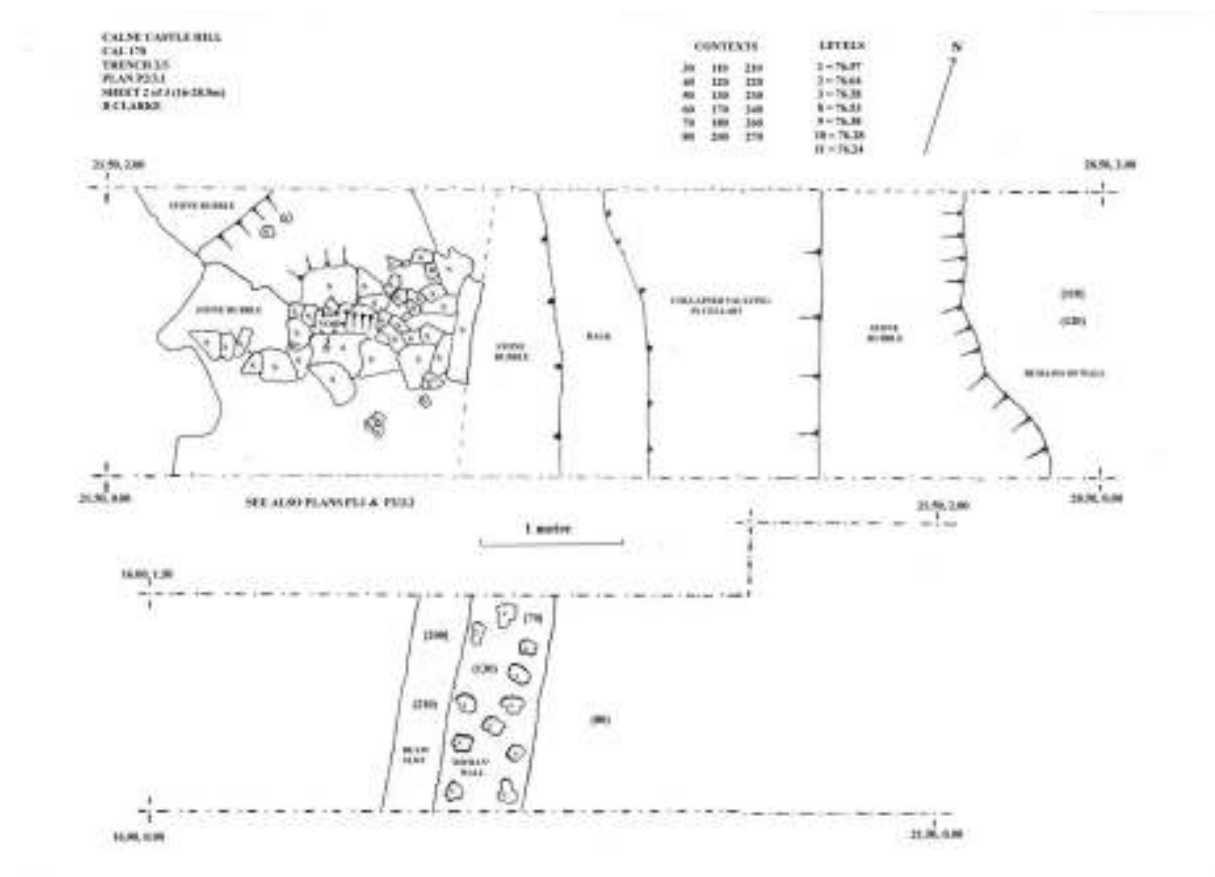


Fig. 9, Plan of Trench 2



Plate 4 Conduit or Ventilation slot Trench 2



Plate 5, Conduit or Ventilation slot Trench 2

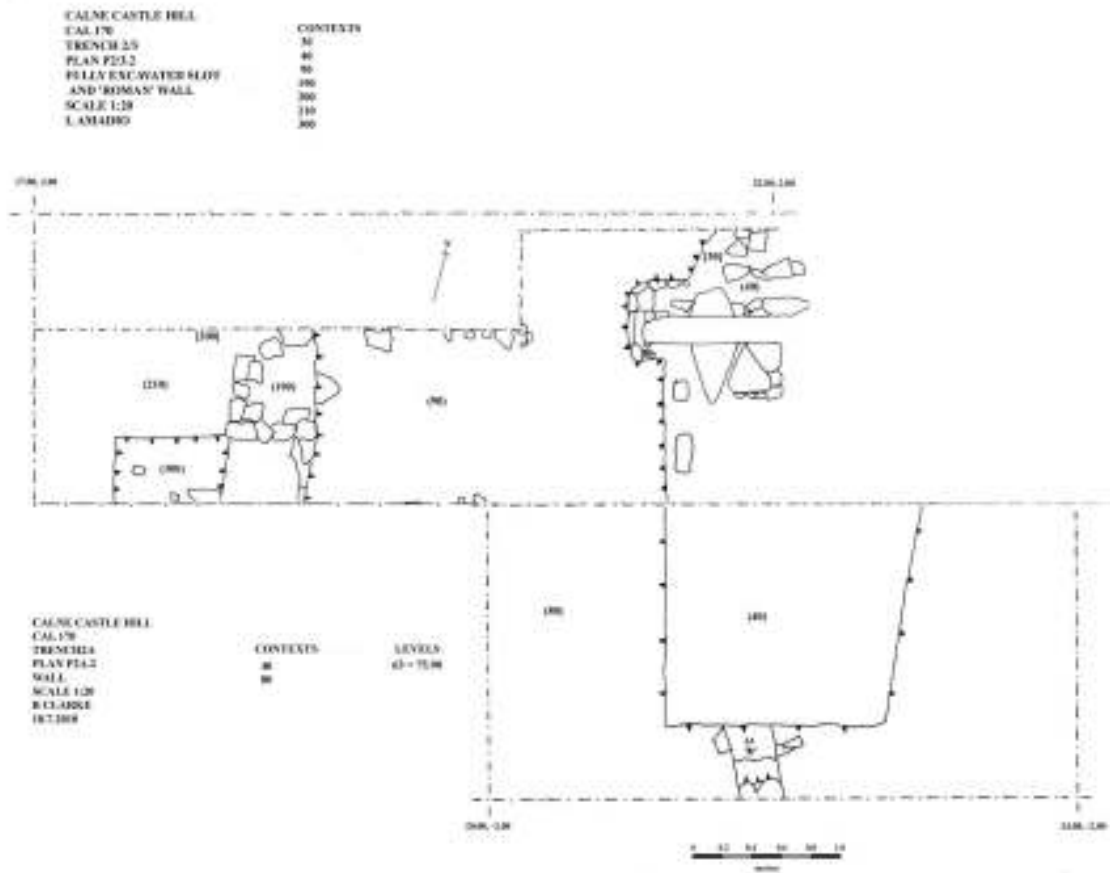


Fig. 10, Plan of Trench 2

Fig. 11 Section drawing of ditch, Trench 2

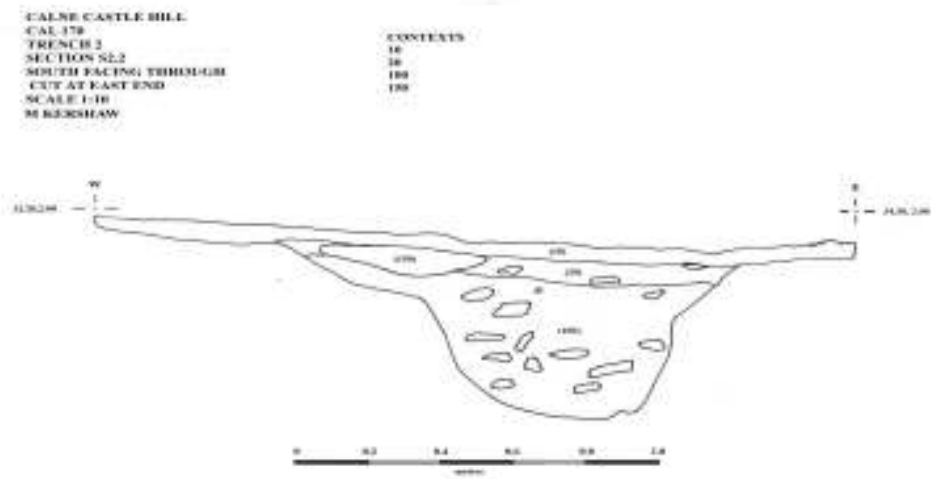




Plate 6, Tower wall and slot Trench 2



Plate 7, Tower walls Trench 2



Plate 8, Tower walls Trench 2

7.3 Trench 3.

Trench 3 measured 20 metres in length with a width of 1.5 metres. This trench joined trench 2 at the extreme eastern end, and trench 5 on the southern edge.

After removal of the existing turf line a very dark brown homogenous silty deposit (10) was exposed, which had a depth of between 10 to 35 cms and was apparent across the complete trench.

Directly below (10) was a thin deposit (20) of grey/brown sandy soil matrix (20) interspersed with fragments of crushed limestone, mortar and the occasional pieces of pottery.

At the western end of trench 3 a service trench was revealed with an iron pipe, which originally fed water to an outside building or tap in the park.

Between the water pipe and the baulk end of the trench on the west side was a polished compacted surface [170] constructed from tamped or pulverized limestone (180), which had been specifically laid down as a floor of a building. Along the eastern edge of this floor was a line of mortar where a wall was once located. This floor had been constructed directly upon the natural stone (240).

Trench 3 was lengthened by an extra 1 metre to see if any dating evidence for this floor could be found. Three pieces of early 14th century pottery were recovered from the floor surface but these sherds could well be residual.

To the east of the pipe service trench but only on the north side of the trench was a ridge or wall (220) of stiff grey/dark green clay, why or for what use remains unknown, but it overlaid the water pipe and therefore was considered to be modern. To the south of the clay ridge was an area of polished natural stone (230), which was interpreted as a path or floor.

The natural stone layer continued in an easterly direction. There were two pits cut into this surface [360] and [380] both containing medieval pottery sherds. The natural stone surface (240) continued until connecting with a western facing stonewall [30]. Most of the facing stone had been robbed away but the infill of the wall still remained (40).

This wall was the western side of a circular structure; these walls were also located in trench 2 and 5. The natural stone foundation for the wall was eight metres in width, on which the walls were constructed, on average measuring 5.5 metres wide. In this wall a well had been dug through the bedrock, presumably to supply fresh drinking water in time of unrest. This well was only partially excavated due to health and safety issues. Auguring failed to establish the true depth of this well, but did reach down 7.3 metres before a restriction was encountered. Most of the internal stone wall sections of the round feature (tower) had been removed or quarried away, possibly in medieval times, and greatly extended in the early post medieval period. The quarrying formed a vault or undercroft, possibly used for storage of food and other supplies.

Two separate walls [70] and [310] were located crossing the trench on a north to south axis; these walls were dated by the recovery of Romano-British pottery, roof and floor tiles, tesserae and small finds. Both these walls were constructed of random sizes of locally quarried stone, which survived up to four courses. In the medieval period two further stone walls [50] and [280] were constructed above and to the side of the Romano-British wall [310]. Running parallel to the west side of the Roman wall [70] was a 'beam slot' [200] or a former horizontal wooden foundation beam, marking the side of a former structure of probable Saxon or medieval date. The beam slot was 0.35m wide and 0.16m in depth, with steeply sloping sides and a flat base and was filled by one deposit (210).

Directly underneath [70] and [200] was a redeposit layer (300) of a mixture of a very dark grey/brown soil with fragments of small to medium stones with lenses of ash or charcoal. The depth and width of this context was not achieved due to health and safety concerns. To the east of the wall [70] was a hard compact surface of gravel and sand (80) interpreted as a floor.



Plate 10, West end of Trench 3

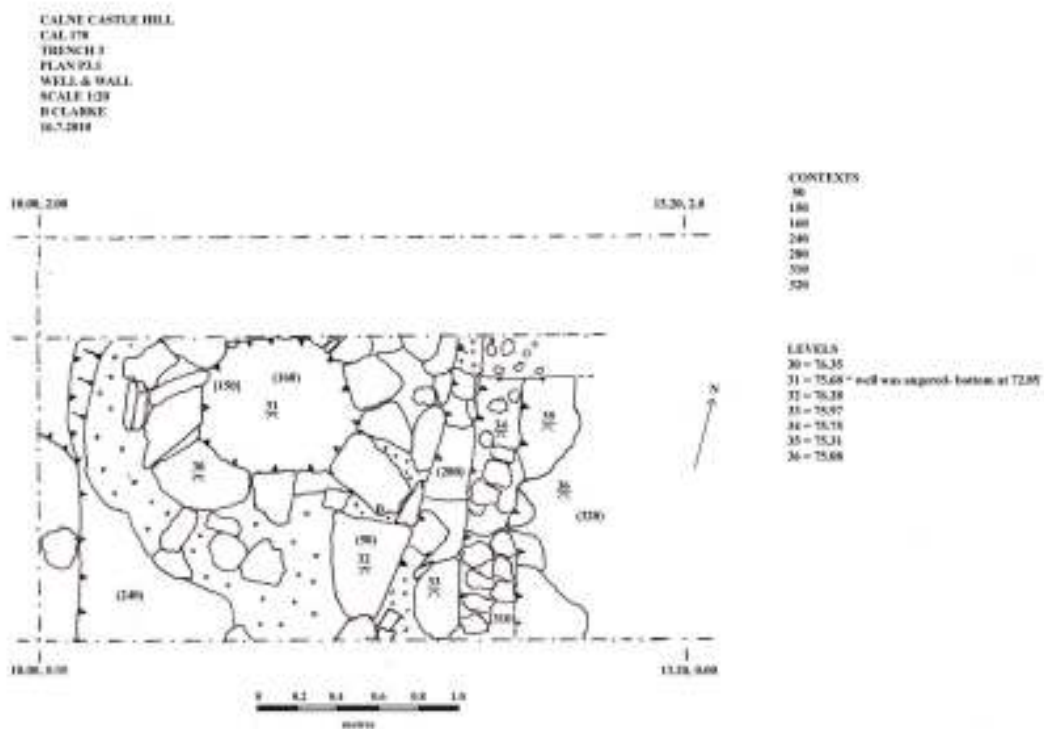


Fig 13, Plan of walls and well, Trench 3



Plate 11, Tower walls and Well, Trench 3



Plate 12, Tower walls and Well, Trench 3

CALNE CASTLE HILL

CAL 170

TRENCH 3

SECTION S3.1

EAST FACING 'ROMAN' WALL

SCALE 1:10

M SMITH

17.7.2010

CONTEXTS

60

280

290

LEVELS

43 = 76.43

44 = 76.28

45 = 75.08

47 = 75.08

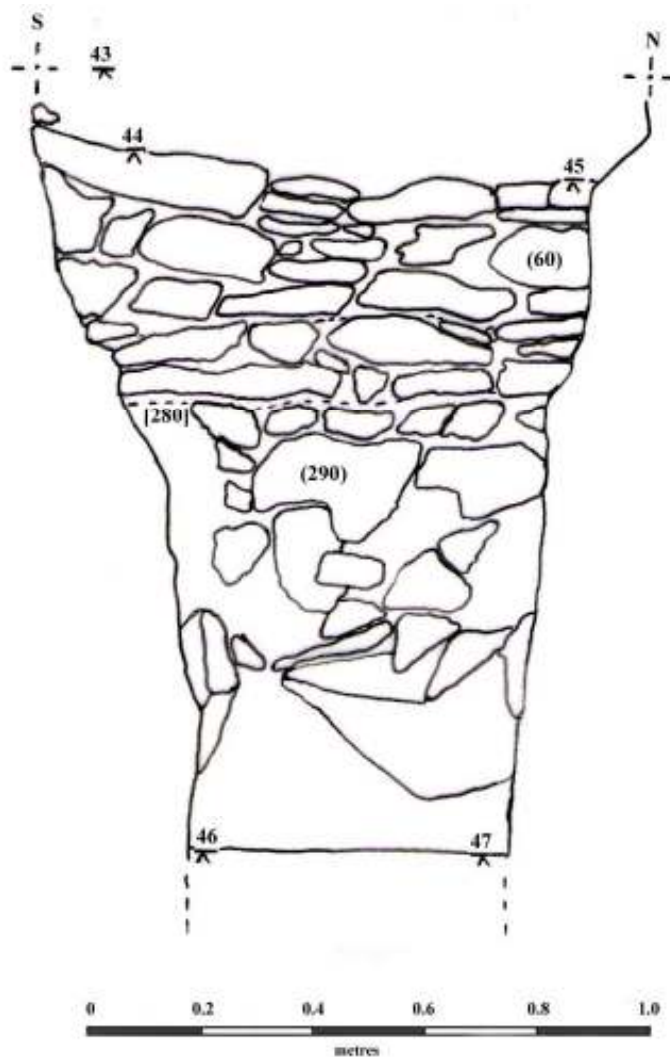


Fig. 14, Section drawing of Romano-British wall. Trench 3



Plate 13, Romano-British wall

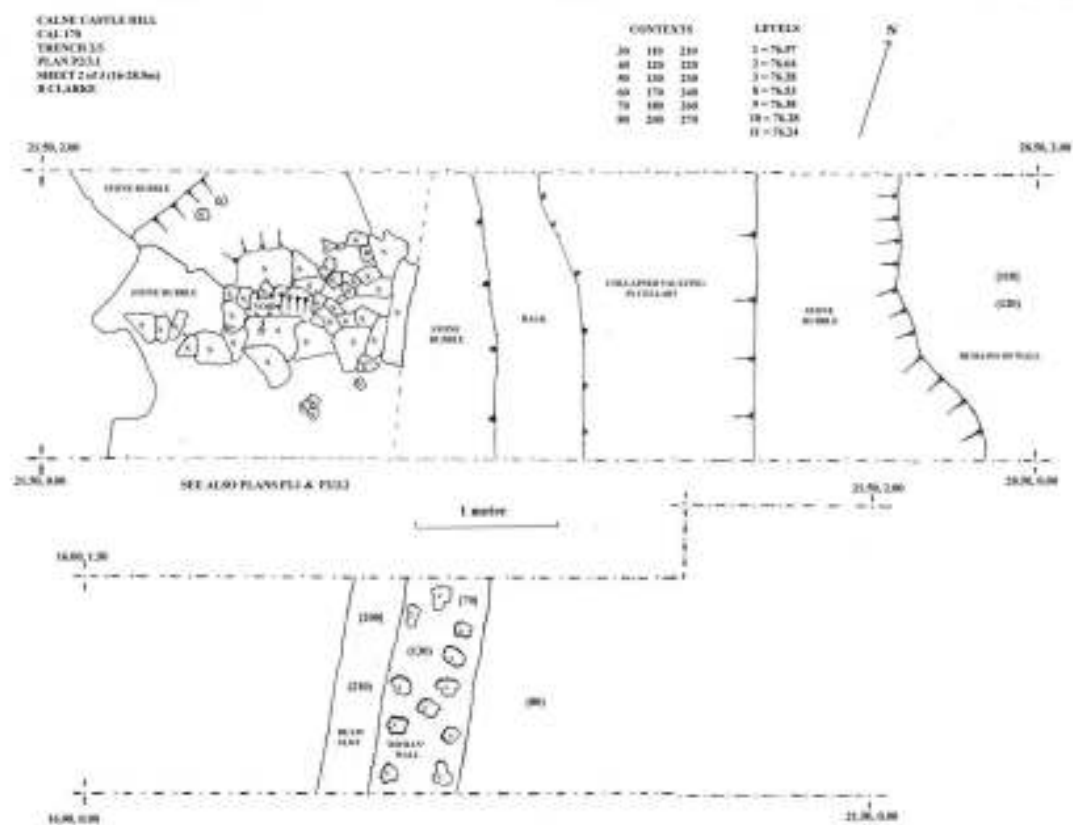


Fig. 15, Plan of Trench 3



Plate 14, Romano-British Wall and Beam slot

7.4 Trench 4.

Trench 4 was situated on the western side of the site, outside, but below the retaining wall, which surrounds part of the plateau.

This position was chosen because, in the course of field work, it was observed that there was a curved archway built into the late 17th or early 18th century retaining wall. But it should be noted that the spring now emerges 3 metres to the east of its original position, perhaps the result of movement or slippage of the ground or the collapse of the tunnel caused by roots of trees.

A small trench measuring 1.50 x 0.75 with an average depth of 0.50m was opened along the front of the wall containing the arch to establish what remains of the original Chavey well.

This well constructed stone arch measured externally 1.10 metres wide and with an internally measurement of 0.57 metres, the height of the arch being 0.42 metres. The water now flows out of a metal pipe, which has been cemented into the lower half of the bricked in arch and then into a square stone trough. The water then leaves the trough through another metal pipe and discharges into the canal.

Originally there was an oval lead or iron bath into which the water was collected; this receptacle is now missing probably being removed at the time of the Second World War.

The source of this spring is in the grounds of St. Mary's school, and from there it runs in a southerly direction under Curzon street, Quarr Barton, Marden Court, Castle Street and then under the Baptist chapel to exit at Chavey Well.

A small number of finds were recovered from this trench, consisting of pottery, roof tile, nails, animal bones and shell; all post medieval in date.



Plate 15, The Original Chavey well, Trench 4.



Plate 16, The Original Chavey well, Trench 4.



Plate 17, Chavey well, new exit as today Trench 4.

7.5 Trench 5.

Trench 5 measured 6 metres in length with a width of 3 metres, and connected with trench 3 at the extreme northern edge.

After removal of the existing turf and scrub a very dark brown homogenous silty deposit (10) was exposed, which contained a large amount of roots and fragments of stone. This context varied in depth, between 10 to 15 cms. Post-medieval pottery and other artefacts were recovered from this context.

Directly below (10) was a thin layer between 3 to 4 cms deep of a greyish-black sandy-silt soil (20) interspersed with fragments of crushed limestone and the occasional piece of post medieval pottery. This deposit was recorded throughout the trench and was interpreted as the original 17th century cultivation layer.

In the south and south-west corner of the trench and directly overlying the natural bedrock (70) was a layer of compact greyish-brown clayey-silt (30), up to 0.40 m thick, which contained moderate amounts of worked and fragmented limestone, mortar, sand, gravel, ash and charcoal and the occasional piece of medieval green glazed roof tile and pottery.

The bedrock (70) used as the foundation for the round or trapezoid tower, showed areas where mortar was still attached to the rock surface, but most of the stone blocks had been removed or robbed away, but there were occasional stones still attached. On the south vertical edge of the natural rock, there were still some large limestone blocks (50) up to eight layers in depth; some mortared together, these stones possibly represent the remains of the internal walls of the cellar or undercroft. (See plates 18 and 19).

Between the limestone blocks (50) and the northern edge of the trench, and directly below (20) was a thick deposit of stone and CBM rubble in a mid grey sandy matrix. This was interpreted as demolition or construction material (40) used to backfill and level the area in the late 17th century. The full depth of this feature was uncertain as it continued beyond the limits set for the excavations, but auguring achieved a depth of 3.7 metres before the floor or obstruction was encountered.

In the northwest corner of the trench and cut into context (40) was a deposit in the form of a dump of burnt material, containing mostly ash, charcoal and stone. This feature measured 1.25 m x 2.10 m.

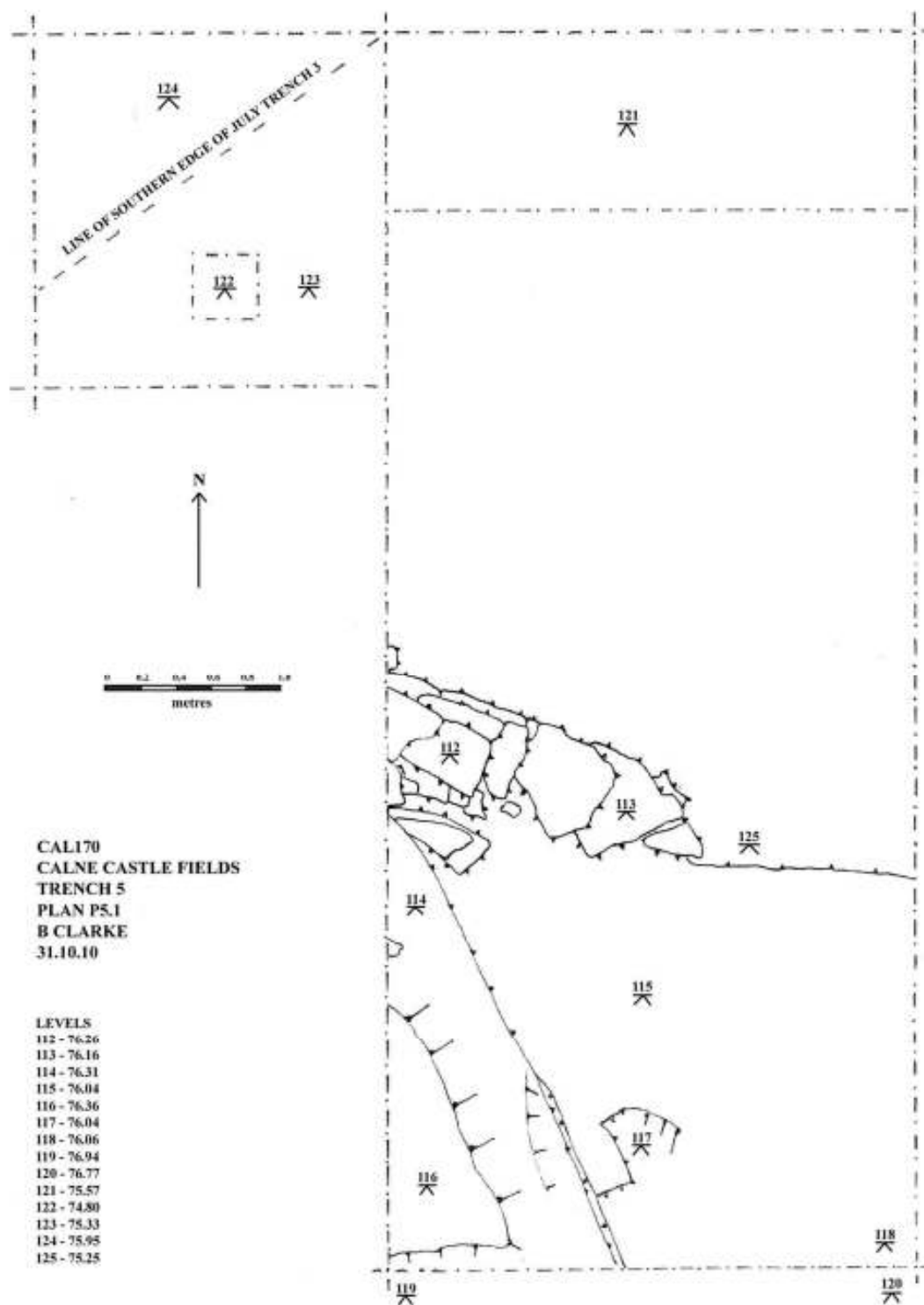


Fig. 16, Plan of Trench 5



Plate 18, Tower wall Trench 5



Plate 19, Tower wall Trench 5

7.6 Trench 6.

Trench 6 measuring 6m x 1m was positioned north south across the southern arc of a curvilinear geophysical anomaly that was highly suggestive of a defence or enclosure ditch.

The topsoil consisted of a very brown loamy soil (10) with an average depth of 10 cms, containing fragmented stone, CBM, pottery, glass and metal work all of post medieval date.

Below this layer was a very compacted gravelly deposit (40) which was interpreted as a surface of a carriage or track-way [30], and was similar or the same as the carriage way discovered in trench 7 [16].

The carriage way was constructed using gravel and sand and was 2.40 metres wide and on average 7 cms deep. This surface was interpreted as a 17th or early 18th century carriage or track-way.

Underneath this carriage way was the compact stone and gravels metalling (70) for the road. After the removal of the metalling and the road surface, a section of the enclosure ditch [50] running northwest-southeast was revealed. This curvilinear feature was 4.60 metres wide, but the depth of this ditch was not obtained due to large solution holes/voids and the general instability of the rock face. The ditch fill consisted of small to medium pieces of fragmented limestone, and mortar in a mid grey sandy matrix (20), several of the ashlar stone blocks still had lime mortar attached, suggesting use in a former building.

This defence or enclosure ditch had been cut through the rock and had almost vertical sides, which showed considerable signs of weathering.

There was no clear indication of an internal or external defensive bank to the northwest of the trench; however, a short length of the north bank on the east side is still visible. No evidence of a palisade was discovered.

The date for the construction of this enclosure or defensive ditch is currently unknown. Pottery recovered from context (20) dates from the Romano-British through to the post medieval period. But the general consensus is that this feature is a dry moat possibly excavated in the early medieval period and used throughout this period. There is evidence to suggest final and rapid back filling in the 17th century probably when the existing Castle House was constructed and the area landscaped.

Fig. 17, Plan of Trench 6

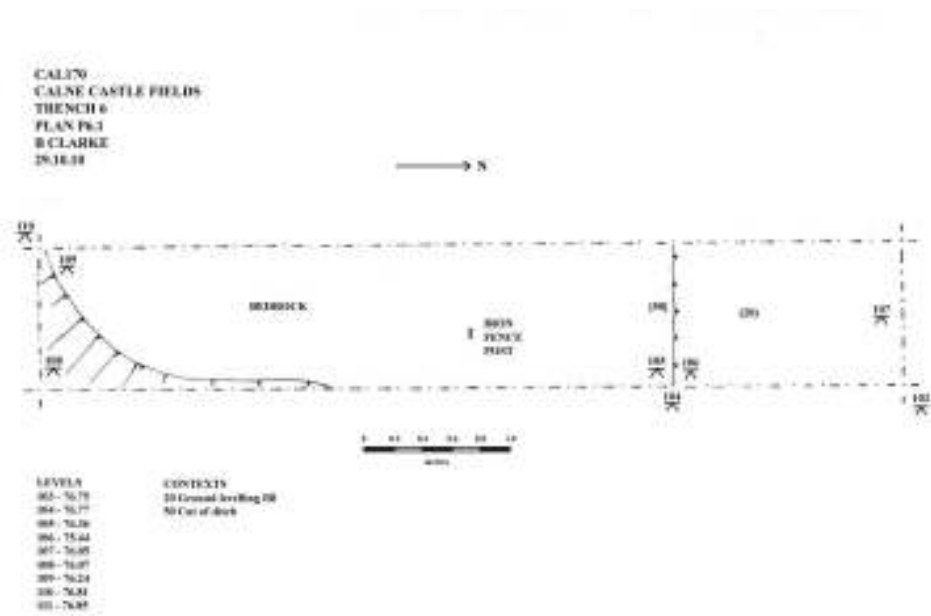


Plate 20, Trench 6 facing south

CA.178
CALNE CASTLE FIELDS
TRENCH 6
SECTION No.1
B.C. ADKE
20.05.00

LEVELS
100 - 76.75
104 - 76.77
105 - 76.30
106 - 76.49
107 - 76.66
108 - 76.67
109 - 76.24
110 - 76.81
111 - 76.80

CONTEXTS
10 Topsoil
19 Gravel levelling fill
30 Cut of road
40 Gravel road surface
60 Cut of ditch
70 Road metalling

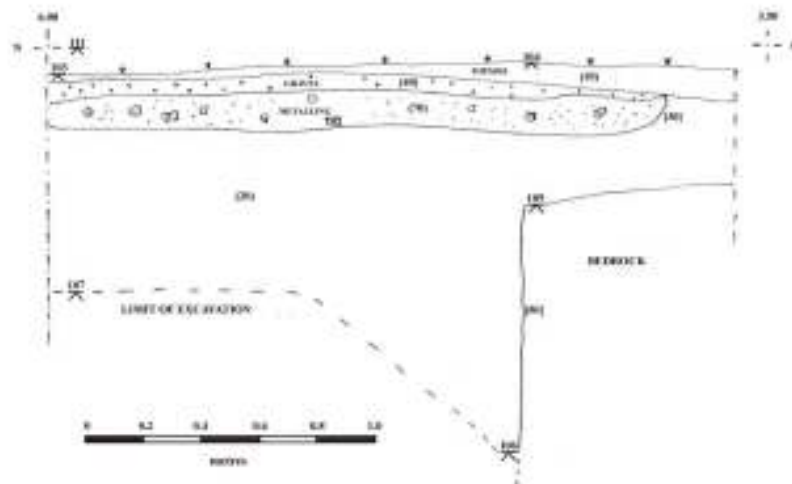


Fig. 18, Section of Trench 6, Showing Track-way and Ditch.



Plate 21, Trench 6 facing east



Plate 22, Trench 6 facing west showing ditch cut and track way



Plate 23, Trench 6 facing south showing ditch cut into solid rock.

7.7 Trench 7

Trench 7 measured 8m x 2m and was positioned running east – west across the western arc of the lower curvilinear enclosure ditch. This site was chosen after studying the geophysical survey and a site inspection.

This anomaly is still visible as a bank and a ditch on the western and northern areas of the site. On the southern and eastern sides the ditch has been completely destroyed partly by extensive levelling and landscaping of the site.

On the north west of the site, this ditch has been truncated by another ditch in (Tr 6) [50], thus suggesting an earlier construction for this feature, which is thought to be Iron Age in construction

After removal of the turf, the top-soil (10) a mid-brown silty loam was revealed. It covered the complete trench and contained small fragmented stones, CBM, charcoal/coal, glass, bone, pottery, flint and metal objects of varying dates and also a conglomeration of roots.

Due to the compaction of the deposits and time constraint, it was decided to open up a sondage 0.80 metres wide along the complete southern side of the trench.

Observed below the topsoil (10) a ditch was revealed. The surface of the feature appeared to be a very compact gravel and sand layer [16], measuring 2 metres wide and on average a depth of 6cms. This surface was interpreted as a 17th or early 18th century carriage or track-way, and was similar in construction to the Track-way in Trench 6 [30].

Directly below the track-way were layers of made up ground, predominantly demolition material that included cut stone, CBM and pottery interspersed within a grey sandy deposit, which included mortar.

The depth of the ditch was not ascertained because of health and safety considerations as the deposits were very unstable and the depth of the excavation had reached the 1.2 metre limit. Stepping or shoring of the trench was not an option in the time available.

There was clear evidence of an internal bank, recognised from the stratigraphy and from observation on the ground; this was most recognisable on the north- western side. It was noted that the natural stone had been removed to form this ditch; on the western facing edge of the ditch the surface of the stone showed considerable weathering with fragmentation of the stone.

No evidence of a palisade was discovered, but shallow depressions cut into the stone were noted, which might be the remains of post or socket holes. These holes were filled by grey/brown dark silty clay.

The geophysics result appears to show that there is a 2.2m wide gateway or entrance to the enclosure on the western side, where the modern tarmac path is now located. It will take considerably more time and effort to establish if this is indeed the enclosure gateway.

Fig. 19, Section of Ditch, Trench 7

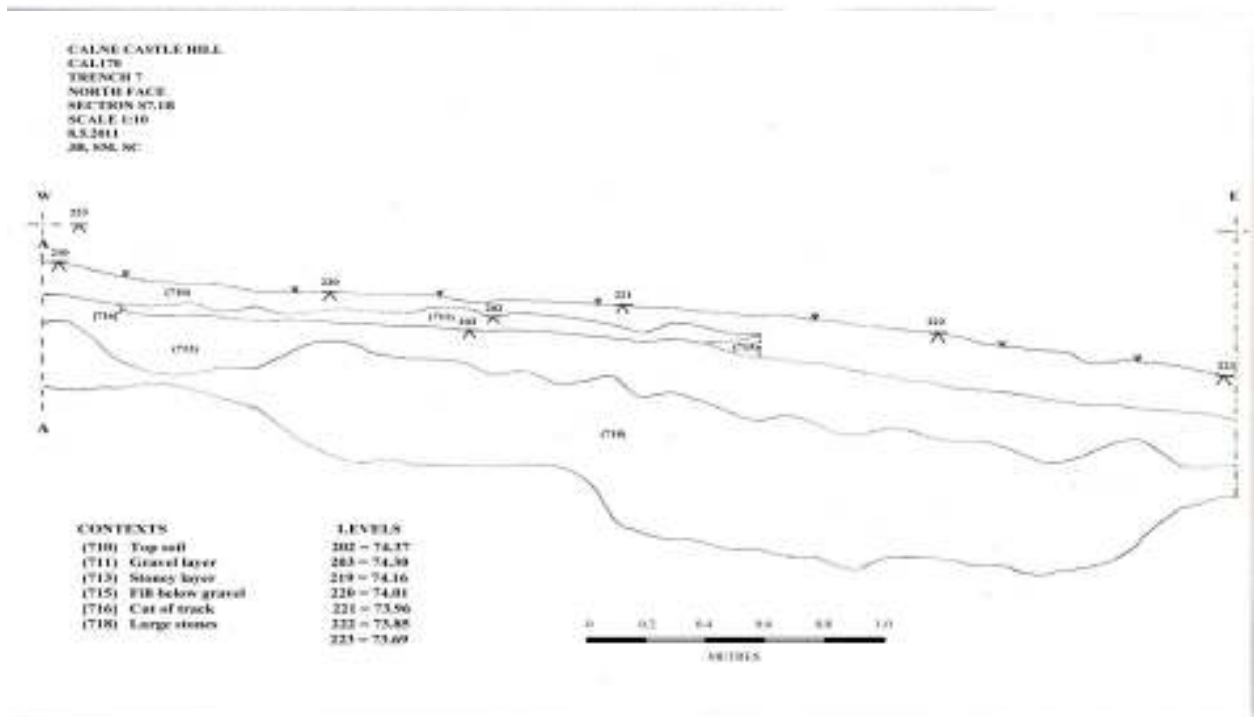
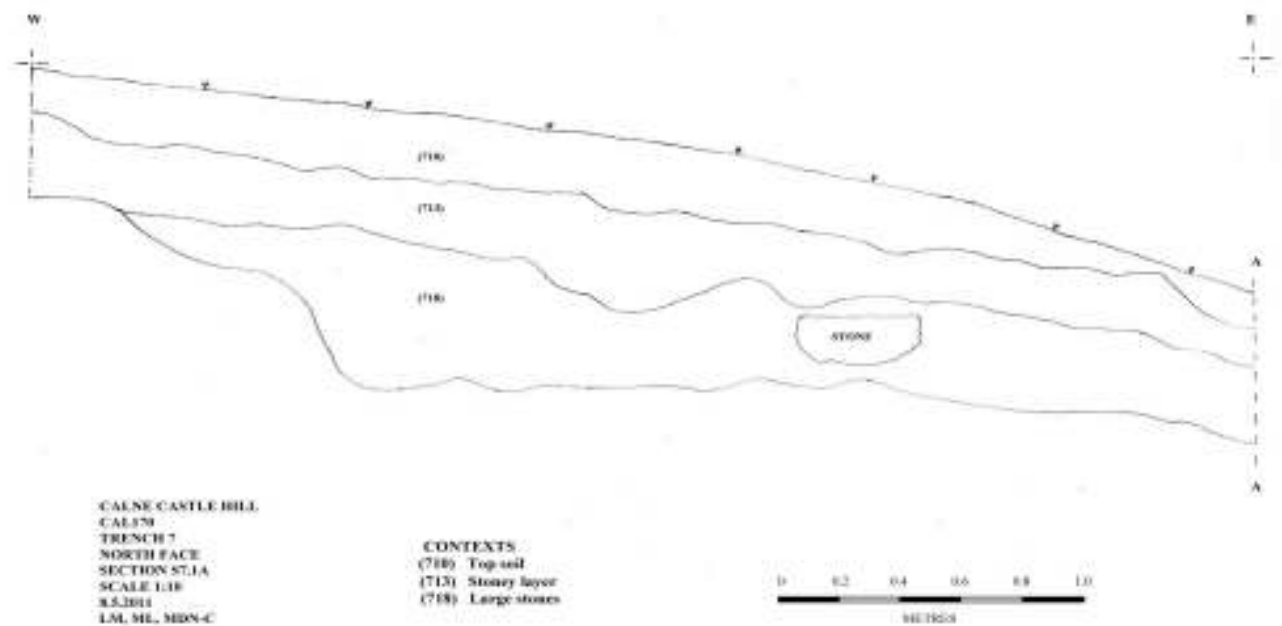


Fig. 20, Section of Ditch, Trench 7



Plate 24, Showing ditch depression running north, Trench 7



Plate 25, Showing ditch depression running north to south. Facing north Trench 7



Plate 26 Showing ditch and track-way, facing west, Trench 7



Plate 27, Showing track-way surface, facing south, Trench 7



Plate 28, Showing ditch under excavation, facing south, Trench 7



Plate 29, Showing cut of ditch, facing east, Trench 7

7.8 Trench 8

Trench 8 measured 5m in length and x 2m in width. This trench was located across an area inside the higher defence or enclosure ditch (Tr.6 [50]) and was aligned north-south. This position was selected because the geophysics showed a dark circular anomaly measuring roughly 18 metres in diameter and in this circular feature, the resistance survey had identified the probable remains of walls.

Directly overlying the circular anomaly and walls were three deposits (810), (811) and (814). Deposit (810) topsoil was a firm dark brown silty loam with occasional small stones. This layer had an average depth of 15 cms and artefacts recovered from this context were all post medieval in date.

(811) was a subsoil of friable light brown grey silty sand soil up to 6 cms in depth and contained fragments of slate, glass, bone, flint, pottery, clay pipe and iron nails. Items recovered from the context ranged in date from the Romano-British to the post medieval period.

Fill (814) was only found in the northern end of the trench. It ran from wall [812] to the extreme north end of the trench. This dark soil was interpreted as ditch fill of the northern quadrant of a circular anomaly identified by geophysics

This deposit was firm dark brown clayish silt, 1.93 m wide and up to 0.52 metres in depth with a flat bottom and sloping sides. No evidence of an internal or external bank could be recognised from the stratigraphy.

Romano-British pottery, tile and oyster shell, Saxon and medieval pottery and small quantities of disarticulated animal bone and burnt flint were recovered from this ditch.

Dating of this circular feature is problematic; it has the appearance of a ditch associated with a round barrow, but the lack of corresponding datable artefacts makes this idea questionable; it may be Romano-British in origin and reused in the early medieval period.

Running across the trench in an east to west direction were the foundation remains of a crude constructed rubble wall of broken courses of roughly finished local limestone [813] measuring 1.40 metres wide and 0.37 metres in depth. The facing stones had been removed or robbed away. What building this wall represents is unknown.

Wall [813] butted up to a separate but different wall [817] which ran in a north to south axis. This wall was located on the extreme westerly edge of trench 8. After a formal meeting and agreement with the landowners it was agreed to widen the trench an extra 1 metre in a westerly direction. This allowed more of wall [817] to be exposed and hopefully establish what direction this wall took and its significance to walls already located in previous excavations. Wall [817] was constructed with irregular blocks with their faces dressed on the east side; all were bonded with a lime mortar. This wall measured 2.15 metres in width and continued in a westerly direction but its extent is not known. These walls appeared to have been constructed directly onto the natural bedrock [819]. A separate wall [821] was noted built above wall [817]. It ran in the same direction but was considered to have been built at a later time. Pottery recovered from, and around, these walls, suggests a construction date from the 12th or early 13th century.

CAL170 CALNE CASTLE HILL
TRENCH 8
PLAN P8.1
B CLARKE
9.5.2011

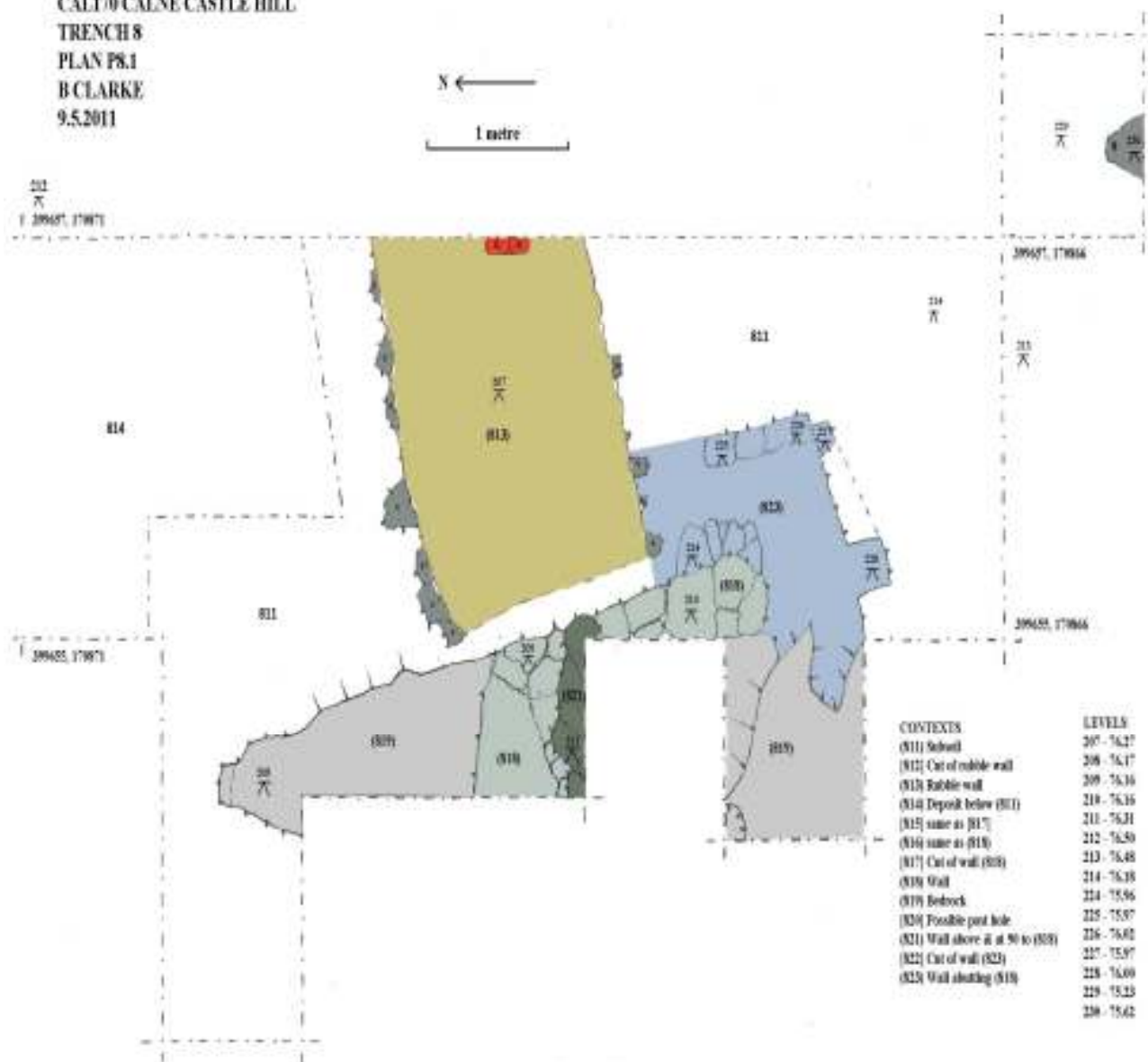


Fig. 21, Plan of Trench 8



Plate 30, Showing Trench 8, facing north



Plate 31, Showing both walls, facing north, Trench 8



Plate 32, Showing remains of a rubble wall, facing north, Trench 8