

SHAP BECK QUARRY, SHAP, CUMBRIA

WATCHING BRIEF REPORT

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Quality Assurance

This report covers works as outlined in the brief for the above-named project as issued by the relevant authority, and as outlined in the agreed programme of works. Any deviation to the programme of works has been agreed by all parties. The works have been carried out according to the guidelines set out in the Institute for Archaeologists (IfA) Standards, Policy Statements and Codes of Conduct. The report has been prepared in keeping with the guidance set out by WA Archaeology Ltd on the preparation of reports.

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SUMMARY

Wardell Armstrong Archaeology Ltd were invited by Andrew Josephs Associates, on behalf of their clients, Hanson Aggregates, to maintain an archaeological watching brief at Shap Beck Quarry, Shap, Cumbria during groundworks associated with the extension to the northern part of the quarry. This report relates to the watching briefs, covering the first three phases of the extension, of the total c.9ha application extension area. Phase 4 is likely to occur in 2-3 years time and will be covered by a separate report.

The quarry extension is within an area of substantial archaeological interest (NAA 2002), with significant sub-surface archaeological remains having been thought to lie within the eastern side of the extension area. These comprised a series of boundary features, a possible enclosure, and round houses of possible prehistoric date, identified through geophysical survey (Roseveare 2012).

An archaeological watching brief during topsoil stripping over the first three phases of soil stripping of the northern extension area was requested in order to establish whether the potential for archaeological remains was realised, and to attempt a reconstruction of the history and use of the site. An archaeological excavation was anticipated in areas where significant archaeological features were expected.

Although several features were identified during these phases, all were of natural geological origin. No significant archaeological features or deposits were uncovered during these phases. The possible enclosure was actually a rectangular limestone pavement, which lay very close to the surface. This may challenge the future reliability of geophysical survey results on such locations.

ACKNOWLEDGEMENTS

Wardell Armstrong Archaeology Ltd. (WAA) would like to thank Andrew Josephs of Andrew Josephs Associates, for commissioning the project and for all their assistance throughout the project. WAA would also like to thank all those at Hanson Aggregates, especially Robin Gillespie, for all their assistance throughout the work.

WAA would also like to extend their thanks to A Wardle Ltd., the excavation contractors during these three phases.

These archaeological investigations were undertaken by Iain McIntyre, Ben Moore and Cat Peters, and the report was written by Iain McIntyre and Cat Peters. The illustrations were produced by Adrian Bailey. The report was edited by Martin Railton, Project Manager, WAA, who also managed the project.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Wardell Armstrong Archaeology Ltd were invited by Andrew Josephs Associates, on behalf of their clients, Hanson Aggregates, to maintain an archaeological watching brief at Shap Beck Quarry, Shap, Cumbria (NGR NY 54650 18825; **Figure 1**), during groundworks associated with the extension to the northern part of the quarry. This report relates to fieldwork resulting from Phases 1, 2 and 3 of the extension (**Figure 2**).
- 1.1.2 The quarry extension is within an area of substantial archaeological interest. Previous archaeological survey work identified 16 archaeological sites within the wider study area, including an earthwork bank within the site boundary (NAA 20002). Subsequent geophysical survey detected what was thought to be significant sub-surface archaeological remains on the eastern side of the extension area, potentially comprising a series of boundary features, an enclosure, and round houses of possible prehistoric date (Roseveare 2012). As a result, the Lake District National Park Authority (LDNPA) has requested an archaeological excavation be undertaken over the eastern part of the site, where the geophysical survey has identified significant archaeological remains, and an archaeological watching brief during topsoil stripping over the remaining c.6ha of land, in order to record the archaeological evidence contained within the site, and to attempt a reconstruction of the history and use of the site (Beavitt-Pike 2012). This is in line with government advice as set out in Section 12 of the National Planning Policy Framework (NPPF 2012) and Policy NE 16 of the Lake District National Park Local Plan.
- 1.1.3 All groundworks were under full archaeological supervision and all stages of the archaeological work were undertaken following approved statutory guidelines (IfA 2008), and were consistent with the specification provided by Holly Beavitt-Pike of the LDNPA (**Appendix 4**) and generally accepted best practice.
- 1.1.4 This report outlines the monitoring works undertaken on-site, the subsequent programme of post-fieldwork analysis, and the results of this scheme of archaeological works.

2 METHODOLOGY

2.1 WRITTEN SCHEMES OF INVESTIGATION

2.1.1 A project design was submitted by Wardell Armstrong Archaeology Ltd (WAA) in response to a request by Andrew Josephs Associates, for an archaeological watching brief of the study area. Following acceptance of the project design by Holly Beavitt-Pike of the Lake District National Park Authority (LDNPA; Beavitt-Pike 2012), WAA was commissioned by the client to undertake the work. The project design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute for Archaeologists (2008), and generally accepted best practice.

2.2 THE WATCHING BRIEF

2.2.1 The works involved a structured watching brief to observe, record and excavate any archaeological deposits from within the Phase 1, 2 and 3 areas of the development site. A watching brief is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons, on a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed (IfA 2008).

2.2.2 The aims and principal methodology of the watching brief can be summarised as follows:

- to determine the presence/absence, nature, extent and state of preservation of archaeological remains;
- to produce a photographic record of all contexts using colour digital and monochrome formats as applicable, each photograph including a graduated metric scale;
- to recover artefactual material, especially that useful for dating purposes;
- to sample any environmental deposits encountered according to the WAA standard sampling procedure and in consultation with appropriate specialists;
- to prepare a site archive in accordance with MoRPHE standards (English Heritage 2006);

2.3 THE ARCHIVE

2.3.1 A professional archive has been compiled in accordance with the specification, and in line with current UKIC (1990) and English Heritage

Guidelines (2006) and according to the Archaeological Archives Forum recommendations (Brown 2011). The archive will be deposited within Kendal Record Office, with copies of the report sent to the LDNPA Historic Environment Record at Kendal, Cumbria, available upon request. The archive can be accessed under the unique project identifier **WAA12, SQC-A, CP 10319**.

- 2.3.2 Wardell Armstrong Archaeology Ltd, and the LDNPA, support the **Online AccesS to the Index of Archaeological InvestigationS (OASIS)** project. This project aims to provide an on-line index and access to the extensive and expanding body of grey literature, created as a result of developer-funded archaeological work. As a result, details of the results of this project will be made available by Wardell Armstrong Archaeology Ltd, as a part of this national project under the identifier **wardella2-154201**.

3 BACKGROUND

3.1 LOCATION

- 3.1.1 The extension area is centred at NY 5474 1890 (**Figure 1**), north of Shap Beck Quarry, and consists of single large parcel of open ground of c.9ha, orientated east-west. It is located c.3km to the north of Shap, in the Parish of Thrimby, Cumbria within the eastern edge of the Lake District National Park.
- 3.1.2 Characterised as the Orton Fells by the Countryside Commission, the area comprises rolling upland farmland with limestone outcrops, scars and pavements. The Orton Fells lie between the broad river valley landscape of the Eden Valley to the east, and the Cumbria High Fells to the west (Countryside Commission 1998). The A6 and M6 Motorway run to the east of the site, with the settlements of Bampton and Rosgill to the west and southwest.
- 3.1.3 The modern fields are derived from limited post-medieval enclosure of open land.
- 3.1.4 The sites high point sits in the far west at c.311m Above Ordnance Datum (AOD). From here it slopes down to the east. A minor cutting, the result of a past stream, is evident c.250m from the quarry edge running to the east, to c.290m AOD. The topography of the east end of the area shows the extent of this water action so to the northeast is a plateau at c.295m AOD, whose southern edge steeply drops to c.290m AOD and a further area of flat ground within the southeast of the site. The sites low point is found in the far northeast at c.282m AOD.
- 3.1.5 Phase 1 was located within the southwest part of the extension area. It covered the area from the southern boundary north down the slope to the base of the cutting and west to the area of flat ground to the southeast (**Figures 2 and 3; Plate 1**).
- 3.1.6 Phase 2 was located to the immediate north of the Phase 1 boundary and included a steep south-facing bank and plateaux to the north (**Figures 2 and 4**). Phase 3 was located to the east of Phases 1 and 2, and included a northern extension area to test for the archaeological potential outlined by an earlier geophysical survey (Roseveare 2012; **Figures 2 and 5**).

3.2 SOILS AND GEOLOGICAL CONTEXT

- 3.2.1 The Lake District is partially ringed by Carboniferous Period bedrock deposits, the result of deposition within a sea-based environment. To the north of the area is limestone of the Askham Limestone Member formed

approximately 327 to 334 million years ago. This overlies sandstone of the Wintertarn Sandstone Member (c.330 to 334 million years old), which in turn overlies further limestone of the South Knipe Scar Limestone Formation (part of the Great Scar Limestone Group) formed approximately 330 to 334 million years ago (BGS 2012).

- 3.2.2 These are seen outcropping in the surrounding area as low cliffs and pavements, with scattered swallow/sink holes, which is typical of areas of limestone geology. The existing quarry is situated to exploit a wide escarpment of Carboniferous Limestone, which runs north-westwards from Kirkby Stephen to Carlisle.
- 3.2.3 The area has been extensively glaciated and smoothed, leaving behind glacial erratics and Devensian Age (c.100,000-10,000 years ago) diamicton till sheets. The glacial erratics are known locally as 'thunder stones'.
- 3.2.4 Soils over the limestone are typically thin and calcareous, and in some areas have disappeared altogether. Around areas of outcropping limestone pavement glacial till creates wetter areas. Soils in the vicinity of the site are well drained silty soils, known as Malham 2 soils, with some very shallow loamy soils, known as Crwbin soils, in the immediate vicinity of Shap Quarry (SSEW 2012).

3.3 HISTORICAL CONTEXT

- 3.3.1 *Introduction:* The Shap Beck Quarry lies within an area of known historical and archaeological significance, particularly in terms of prehistoric and medieval activity. The following is a synthesis of information from NAA (2002) and Roseveare (2012).
- 3.3.2 *Prehistoric (Up to c.450BC):* Evidence from field walking suggests that activity in the Shap area began conclusively during the Mesolithic period, but possibly earlier. Lithic scatters from the area include flint leaf arrowheads, truncated serrated blades, scrapers, flint plano-convex knives and microliths (Cherry and Cherry 1987).
- 3.3.3 The area contains a number of important prehistoric monuments, suggesting that the Shap area was a focus of ceremonial activity in the Neolithic and Bronze Age Periods. In particular, the avenue of standing stones at Shap is believed to have represented one of the most impressive prehistoric monuments in the North West (Brennand 2006, 29). In addition, a significant number of Neolithic or Bronze Age ritual/funerary monuments exist on the exposed moorlands of the area, which have survived largely because of the limited and low-intensity subsequent land-use in the region. A number of

- stone circles survive near Shap, although a number are also known to have been destroyed, as well as large sections of the Shap Avenue.
- 3.3.4 Landscape survey of the area between Shap and Askham fells has identified a series of clearance cairns (usually attributed to the Bronze Age in Cumbria) indicating an intensity of land use in the Bronze Age period, as well as possible hut-circles and enclosures (Turner 1991).
- 3.3.5 *Late Iron Age and Roman (c.450BC - 410AD)*: Late prehistoric and/or Romano-British enclosures have been identified in the surrounding landscape, including a possible farmstead or enclosure immediately to the northeast of the area of the proposed quarry extension (NAA 2002, Site 5).
- 3.3.6 The 2012 geophysical survey of the proposed extension area identified probable prehistoric and/or Romano-British features on the east side of the site. These comprised a series of potential boundary features, an enclosure, and possible round houses (Roseveare 2012), suggesting that significant archaeological remains survive sub-surface.
- 3.3.7 *Early Medieval and Medieval (410AD - 1540AD)*: Medieval monasteries had a significant impact on the landscape in the North West and the Cistercian monastery at Shap was no exception (Brennand 2006, 129). Shap Beck Quarry lies close to the site of Shap Abbey, which in the medieval period would have exerted a significant influence over the area. Shap itself has medieval origins and a possible early medieval building has been excavated in the village (Brennand 2006, 79).
- 3.3.8 The archaeological assessment of the proposed quarry extension identified a medieval farmstead to the north of the site (NAA 2002, Site 1), and associated landscape features in the form of a boundary bank and ridge and furrow are known to extend into the proposed quarry extension area. Anomalies, probably relating to ridge and furrow cultivation, were also detected during the geophysical survey of the site.
- 3.3.9 *Post-medieval to Modern (1540-present)*: Post-medieval activity in the form of a quarry & trackway (NAA 2002, Site 16) was also recorded at the site during the assessment. The quarry and trackway will be removed during the proposed quarry extension, however these are not considered to be archaeologically significant. A limekiln & quarry (NMR 1134295; SMR 14016; NAA 2002, Site 2) were recorded close to the quarry extension, which will not be affected.

3.4 PREVIOUS WORK

- 3.4.1 The two previous investigations of the site, the archaeological assessment in 2000 (NA 2002) and the geophysical survey of 2012 (Roseveare 2012), have both been heavily referenced above.
- 3.4.2 Though the assessment considered the potential for remains within Phases 1 and 2 of the extension area to be low, it did identify 16 archaeological sites within the wider study area, including an earthwork bank (NAA 2002). Phase 3 included an area of high archaeological potential, as its northernmost area covered the proposed site of an enclosure and accompanying round houses (Roseveare 2012). A plan was in place for an archaeological team to undertake a full excavation of this area, once the strip of Phase 3 had uncovered such features.
- 3.4.3 The 2012 geophysical survey was seen to demonstrate the reliability of techniques in an upland limestone environment. The results seemed to identify features of archaeological interest, as clearly resolved against anomalies from natural sources, including potential former field boundaries and an enclosure that appeared to be prehistoric with internal structures (Roseveare 2012).

4 RESULTS AND DISCUSSION

4.1 INTRODUCTION

- 4.1.1 Phase 1 of the watching brief monitoring was undertaken over five days between 15th and 23rd October 2012. Phase 2 was undertaken between 13th March and 26th March 2013. Phase 3 was undertaken between 17th June and 1st July 2013. The archaeological monitoring involved the supervised removal of all overburden layers down to either the superficial glacial tills or the bedrock limestone as part of Phases 1-3 of Shap Beck Quarry's northern extension (**Figure 2**). A further, final phase is expected in 2-3 years time.
- 4.1.2 All investigation results and records are summarised in **Appendix 1**. All figures can be found in **Appendix 2**. Plates can be viewed in **Appendix 3**. The Project Specification as supplied by the Lake District National Park Authority (Beavitt-Pike 2012) can be found in **Appendix 4**.

4.2 RESULTS: PHASE 1

- 4.2.1 The area was stripped by a 20-tonne 360-degree tracked mechanical excavator fitted with a 1.6m wide ditching bucket. The results are illustrated in **Figure 3**.
- 4.2.2 The topsoil (**1001/1007**) consisted of soft dark brown clay-silt and had a variable depth; over the limestone it barely existed being no more than 0.05m deep, whereas over the clays this rose to a depth of 0.20m. In the southeast of the site a small spread of modern brick rubble, 0.10m deep, was observed with the topsoil (**1007**). To the west of the site a thin subsoil of soft red-brown clay silt (**1002**) was present but thinned out after c.100m and was not observed again.
- 4.2.3 Along the central valley, that marked the northern extent of this phase of works, a deep layer of fine colluvial material (**1005**) of soft yellow-brown clay-silts with weakly bedded clasts of pebbles was observed (**Plate 2**). A sheet of coarse colluvial material (**1008**), of soft yellow-brown clay-silts with weakly bedded clasts of pebbles to boulders, was also observed within the centre of the area coming down the slope from the south, to interact with layer (**1005**).
- 4.2.4 To the west of the site a potential sinkhole (**1006**) was observed just on the northern boundary of the area (**Plates 2 and 3**). Two more potential sinkholes, (**1010**) and (**1011**), were observed to the east.
- 4.2.5 All this over lay glacial tills (**1003**) of soft brown-yellow clays (**Plate 4**) with c.25% mixed lithology, sub-rounded and rounded clasts of pebble to boulder size (4-256mm). Though the tills were evident over c.85% of the area the

limestone bedrock (**1004**) was also observed directly under the topsoil to the far east and west of the area (**Plate 5**).

4.2.6 No archaeological features or deposits were observed during this phase of work.

4.3 RESULTS: PHASE 2

4.3.1 The Phase 2 area was stripped by a 360-degree tracked mechanical excavator fitted with bladed ditching bucket. The results are illustrated in **Figure 4**.

4.3.2 The topsoil consisted of a soft grey-brown silt and was encountered across the Phase 2 area (**1001**). Across the northern part of the site, to the north of the roughly east-west running bank, this was very shallow, barely 0.05m in depth, but it was deeper in places to the south of the bank, and across the bank, where it reached a maximum of 0.4m. In the southern area, this overlay a subsoil of red-brown clay silt (**1002**). A fossilised tree root was encountered in this area (**Plate 6**). The bank itself consisted of large limestone boulders, intermixed with some orange-yellow sand (**1012**). To the north of the bank, stripping of the topsoil revealed a layer of loose angular limestone fragments ranging from between 0.05 and 0.2m in diameter, and where this was shallower, a limestone bedrock plateau or rock platform was exposed (**1004**). Two shallow circular depressions, probable sinkholes (**1013** and **1014**), were encountered in the north-western part of the Phase 2 area (**Plates 7 and 8**).

4.4 RESULTS: PHASE 3

4.4.1 The Phase 3 area was stripped by a 45-tonne 350-degree tracked mechanical excavator fitted with specialised bladed plates covering each tooth on an excavating bucket. The Phase 3 area included a northern angular area (**Figure 5**) where some of the features identified by the 2012 geophysical survey of the area were likely to occur (Roseveare 2012). This was to test the results of the survey, and work in this area was undertaken when two archaeologists were present, and with a back-up team ready to begin the full excavation once this area had been stripped. The area was stripped in such a way that no vehicular access was necessary across any of the stripped area in Phase 3, so that any features revealed would be protected, ready for full investigation. The results of Phase 3 are illustrated in **Figure 5**.

4.4.2 The topsoil consisted of a soft grey-brown silt which was encountered across the Phase 3 area (**1001**). Across the northern part of the site, at the top of the slope, this was very shallow, barely 0.05m in depth, but it was deeper in the south-eastern part of the site, above the clay till (**1015**), where it reached a maximum of 0.25m. At the top of the slope, this topsoil overlay directly, a

limestone pavement (1014), to the south of which a layer of loose angular limestone fragments ranging from between 0.05 and 0.2m in diameter were encountered, on the slope (1016). Towards the base of the slope, a yellow sand with large boulders was observed (1012). In the eastern part of the far southern area, the topsoil overlay a subsoil of red-brown clay silt up to 0.4m in depth at the eastern extent of the Phase 3 area where it overlay a red-brown clay till (1015). Some red and black clay areas were encountered within this area (1017). The far southern extent of the Phase 3 area comprised degraded fragmentary limestone, commonly referred to as walling stone.

- 4.4.3 Several anomalies were encountered during the stripping of the Phase 3 area. A roughly half-crescent semi-circular shaped anomaly consisting of a black and red clay fill and irregular base (1017) was encountered within the eastern part of the Phase 3 area (Figure 5; Plate 9). It measured 0.37m north-west to south-east and 0.25m north-east to south-west, with a maximum depth of 0.04m (Plate 10). Probable sinkhole (1018), observed at the far northern extent of the Phase 3 area, was a circular depression, 2.3m in diameter and a maximum of 0.25m in depth (Plate 11). A second irregular-shaped area of grey and black clay intermixed with stone (1017) of roughly 5m east to west and 5m north to south was also observed (Plate 12). A similar area of clay was observed later on during the soil strip, to the west (Figure 5).
- 4.4.4 Three features were encountered within the area of high archaeological potential, within the northern extent of the Phase 3 area, part of the area identified for full archaeological investigation. The easternmost, was a narrow curvilinear anomaly, 0.3m wide and running for a total length of c. 14m (1019), though it extended beyond the excavation area, to the west (Plate 13; Figure 5). A slot excavated through this feature showed it to be 0.17m deep and have irregular edges, consisting of a mid-brown stony fill. An irregular shaped linear feature (1020) was also encountered, running north-west to south-east (Figure 5) of up to 28m length (though the south-eastern extent was unclear) and 4.8m in width (Plate 14). Probable sinkhole (1021) was a roughly semi-circular depression encountered at the top of the slope (Figure 5) measuring 13m north-east to south-west and 6m north-west to south-east (Plate 15).

4.5 DISCUSSION

- 4.5.1 The thin layer of brick (1009) seen within topsoil (1007) in the Phase 1 area is modern in form. It corresponds to a particular wet area of the site and is near the recently removed modern fence boundary and probably represents an attempt to stabilise the ground surface.

- 4.5.2 The colluvial layers are associated with water action and gravity (hill-wash) across the area and directed toward the low points of site; the valley base. Sinkholes are also a feature of limestone landscapes, and several of these were found during the watching brief monitoring. Areas of clay (1017) are also natural features, likely to be caused by the pooling of water in these areas. Another natural geological feature, recorded during Phase 2 of the watching brief, was a fossilised tree root.
- 4.5.3 The areas of clay (1017) encountered in the south-eastern part of the Phase 3 area relate nicely to Feature 11 of the geophysical survey results: “the whole of the lower south-eastern part of the site is strongly and variably magnetic and this is likely to be due to a number of factors including a greater depth of soil (e.g. colluviums from the slopes above) and the presence of fluvial structures relating to the now dry stream valley giving access to this area from the west” (Roseveare 2012, 5).
- 4.5.4 Of particular interest, encountered during Phase 3 of the watching brief, were the anomalies encountered in the northernmost area of the topsoil strip, within the area of high archaeological potential. Sub-circular feature (1021), could relate to Feature 15, observed from the geophysical data as “a possible ring-ditch between 10m and 12m diameter, within the enclosure defined by Feature 14 and therefore potentially a hut” (Roseveare 2012, 5). Unfortunately, it was irregular and an incomplete circle, there was no material evidence for occupation, and it was more likely to be the remains of a natural sinkhole. Colluvium layer (1020) was initially thought to possibly relate to Feature 14 of the geophysical survey, “a ditch fill, without visible entrance, enclosing a roughly rectangular area” (*ibid*) (see 4.5.5). Linear (1019) could relate to a geological feature located by the geophysical survey (Feature 11, Roseveare 2012) “an enigmatic structure” (*ibid*) “caused by the cracking and erosion of the limestone continuing underground as soil-filled erosion features” (*ibid*, 4). All appear to relate to naturally occurring geological features. No evidence for archaeological activity was encountered at all over the Phase 1, Phase 2 or Phase 3 areas.
- 4.5.5 Due to the unexpected results of the soil-strip in Phase 3, a final visit was made to accurately locate Feature 14 of the geophysical survey on the ground using GPS, which had been interpreted as a possible enclosure site. The geophysical anomaly was found to correspond to the edge of a solid rectangular area of limestone pavement, beyond which was more fractured bedrock. No archaeological features were present in this location.

CONCLUSIONS

4.6 CONCLUSIONS

- 4.6.1 Wardell Armstrong Archaeology Ltd were invited by Andrew Josephs Associates, on behalf of their clients, Hanson Aggregates, to maintain an archaeological watching brief at Shap Beck Quarry, Shap, Cumbria during groundworks associated with the extension to the northern part of the quarry. This report concludes the watching briefs covering Phases 1, 2 and 3 of the northern extension.
- 4.6.2 The quarry extension is within an area of substantial archaeological interest (NAA 2002), with what were believed to be significant sub-surface archaeological remains on the eastern side of the extension area. These comprised geophysical anomalies, interpreted as a series of potential boundary features, an enclosure, and round houses of possible prehistoric date (Roseveare 2012).
- 4.6.3 An archaeological watching brief during topsoil stripping was requested in order to establish whether archaeological features and deposits survived in the area, and to attempt a reconstruction of the history and use of the site, with the potential for full excavation within areas of high potential, identified during the geophysical survey (Roseveare 2012).
- 4.6.4 Although several features were identified during these phases, all were of natural geological origin; no significant archaeological features or deposits were uncovered during Phases 1, 2 and 3. The possible enclosure was actually a rectangular limestone pavement, which lay very close to the surface. This may challenge the future reliability of geophysical survey results on such locations.

5 REFERENCES

- Beavitt-Pike H 2012. Brief for an Archaeological Watching Brief at Shap Beck Quarry, *unpublished brief by LDNPA* (Appendix 4)
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APPENDIX 1: CONTEXT CONCORDANCE

Context No.	Feature	Type	Dimensions (LxWxD; m)	Description
1001	Topsoil	Layer	Depth 0.05-0.20	Soft dark brown clay-silt. Located west of gully. Above 1002, 1003, 1004, 1005
1002	Subsoil	Layer	Depth 0-0.20	Soft red-brown clay silt. Above 1003, 1005 . Below 1001
1003	Superficial Geology	Layer	-	Soft brown-yellow clays with c.25% mixed lithology sub-rounded and rounded clasts of pebble-boulder size (4-256mm). Above 1004 . Below 1001, 1002, 1005, 1007, 1009
1004	Bedrock Geology	Layer	-	Solid grey-white limestone. Below 1001, 1002, 1003, 1007
1005	Colluvium	Layer	Depth 0.80 max	Soft yellow-brown clay-silts with weakly bedded clasts of pebbles. Above 1003, 1006, 1008 . Below 1001, 1002
1006	Sinkhole	Erosion Interface	Dia. 2.00	Seen on surface, southern edge just clipped by Phase 1 area. Located along line of valley. Above 1003 . Below 1005
1007	Topsoil	Layer	Depth 0.10	Soft dark brown clay-silt. Located east of gully. Above 1003, 1004, 1005, 1008, 1009, 1010, 1011
1008	Colluvium	Layer	Depth 1.10 max	Soft yellow-brown clay-silts with weakly bedded clasts of pebbles-boulders. Above 1003 . Below 1005, 1007
1009	Rubble	Layer	5.00 x 4.00 x 0.10	Mixed topsoil and brick-rubble. Broken frogged bricks of modern date. Associated with particular wet area of site. Above 1003 . Below 1007
1010	Sinkhole	Erosion Interface	Dia. 1.50	Possible sinkhole along line of valley. Above 1003 . Below 1007
1011	Sinkhole	Erosion Interface	Dia. 1.00	Possible sinkhole. Above 1003 . Below 1007
1012	Superficial Geology	Layer	-	Yellow sand intermixed with large boulders
1013	Sinkhole	Erosion interface	Dia. 3-4	Possible sinkhole on Phase 2 area
1014	Sinkhole	Erosion interface	Dia. 5	Possible sinkhole in Phase 2 area
1015	Superficial Geology	Layer	-	Red brown clay till
1016	Superficial geology	Layer	-	Loose angular fragmentary degraded limestone

Context No.	Feature	Type	Dimensions (LxWxD; m)	Description
1017	Superficial geology	Layer	-	Areas of black and red clays
1018	Sinkhole	Erosion interface	Dia. 2.3	Probable sinkhole in Phase 3 area
1019	Colluvium	Layer	14 x 0.3 x 0.17	Mid-brown stony narrow linear in Phase 3 area
1020	Colluvium	Layer	28 x 4.8	Loose brown soil linear in Phase 3 area
1021	Sinkhole	Erosion interface	Dia. 13m	Roughly semi-circular shallow depression. Probable sinkhole in Phase 3 area

APPENDIX 2: FIGURES

APPENDIX 3: PLATES



Plate 1: Phase 1 area prior to strip, facing west



Plate 2: Deep colluvial layer (1005) at the base of the cutting with sinkhole (1006) to the left, facing east, scale 2m



Plate 3: Sinkhole (1006) prior to strip, facing east, scale 2m



Plate 4: Glacial tills (1003) of clays, pebbles and boulder, facing east, scale 2m



Plate 5: Bedrock limestone (1004), facing north-west, scale 2m



Plate 6: Fossilised tree route, scale 0.5m



Plate 7: Probable sinkhole, (1014), facing west, scale 1m



Plate 8: Probable sinkhole (1014) after stripping, facing north, scales 1m and 2m



Plate 9: Small area of clay (1017) facing south-west, scale 0.5m



Plate 10: Small area of clay (1017) facing SE, scale 0.5m



Plate 11: Probable sinkhole (1018) facing north, scales 1m and 2m



Plate 12: Large area of clay (1017) facing west, scales 1m and 2m



Plate 13: Narrow linear (1019) facing south, scales 1m and 2m

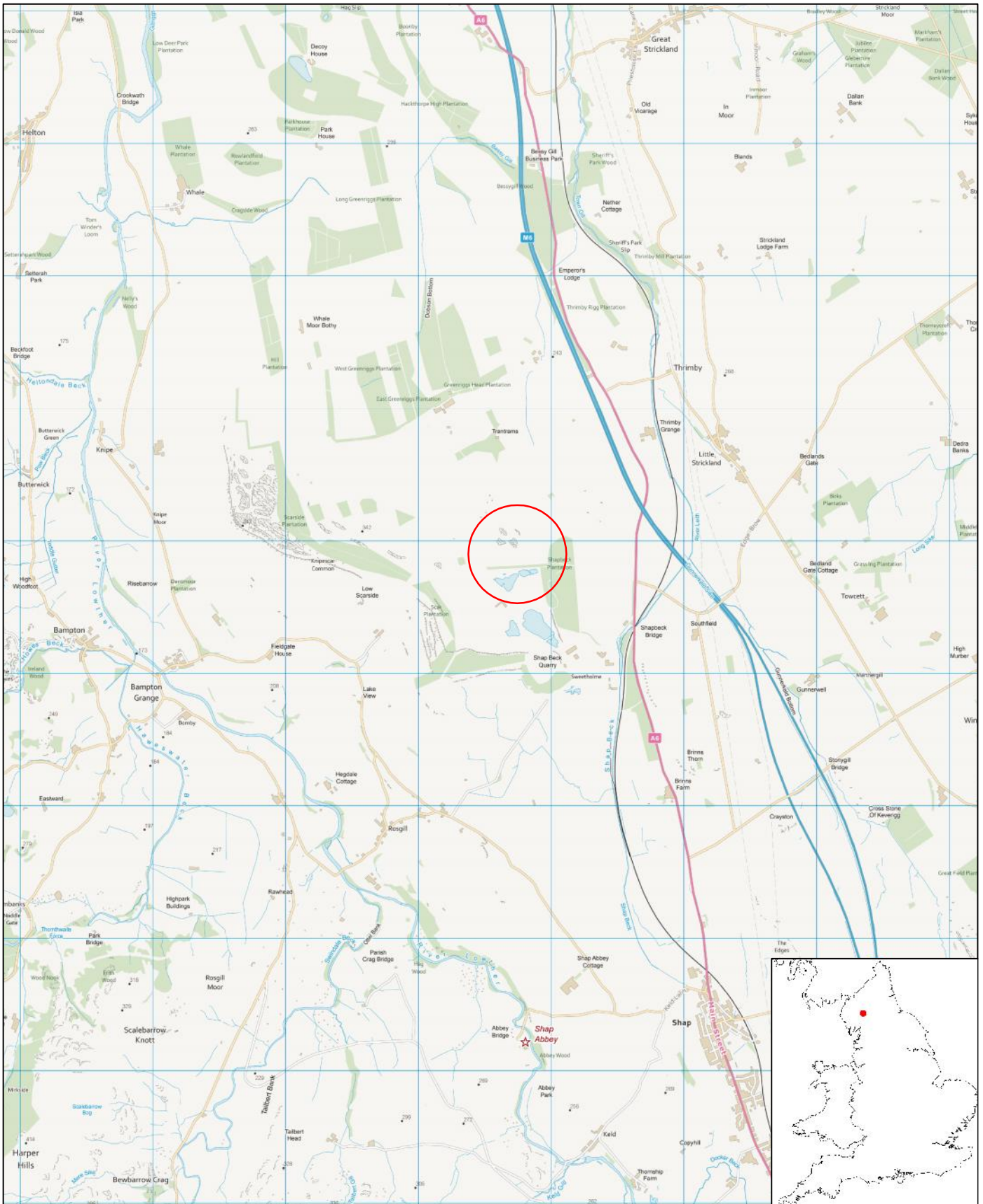



Plate 14: Colluvial layer (1020) facing west-north-west



Plate 15: Probable sinkhole (1021) facing east



APPENDIX 4: PROJECT SPECIFICATION

WA Archaeology Ltd
2012

PROJECT: Shap Beck Quarry, Shap, Cumbria
SCALE: 1:40,000 at A4
REPORT No: CP10319
CLIENT: Andrew Josephs Associates & Hanson Aggregates
DRAWN BY: AB
DATE: November 2012
FIGURE: 1

KEY:

 **Site location**


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Figure 1: Site location.

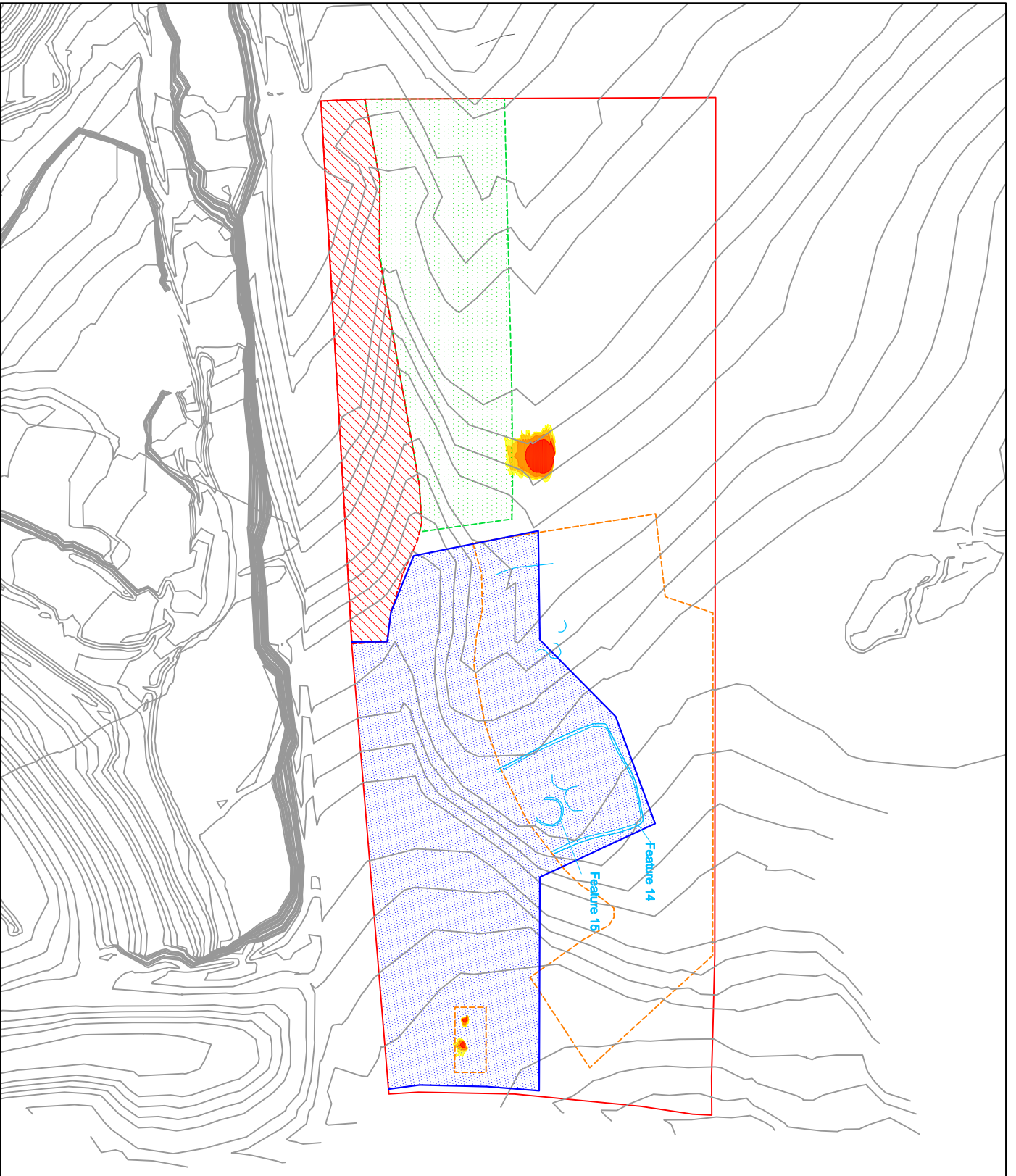


Figure 2: Location of watching brief areas.



VA Archaeology Ltd
2012








Shap Beck Quarry,
Shap, Cumbria

CLIENT:
Andrew Josephs Associates &
Hanson Aggregates

SCALE:
1:2,500 at A4

DRAWN BY:
AB

DATE:
November 2012

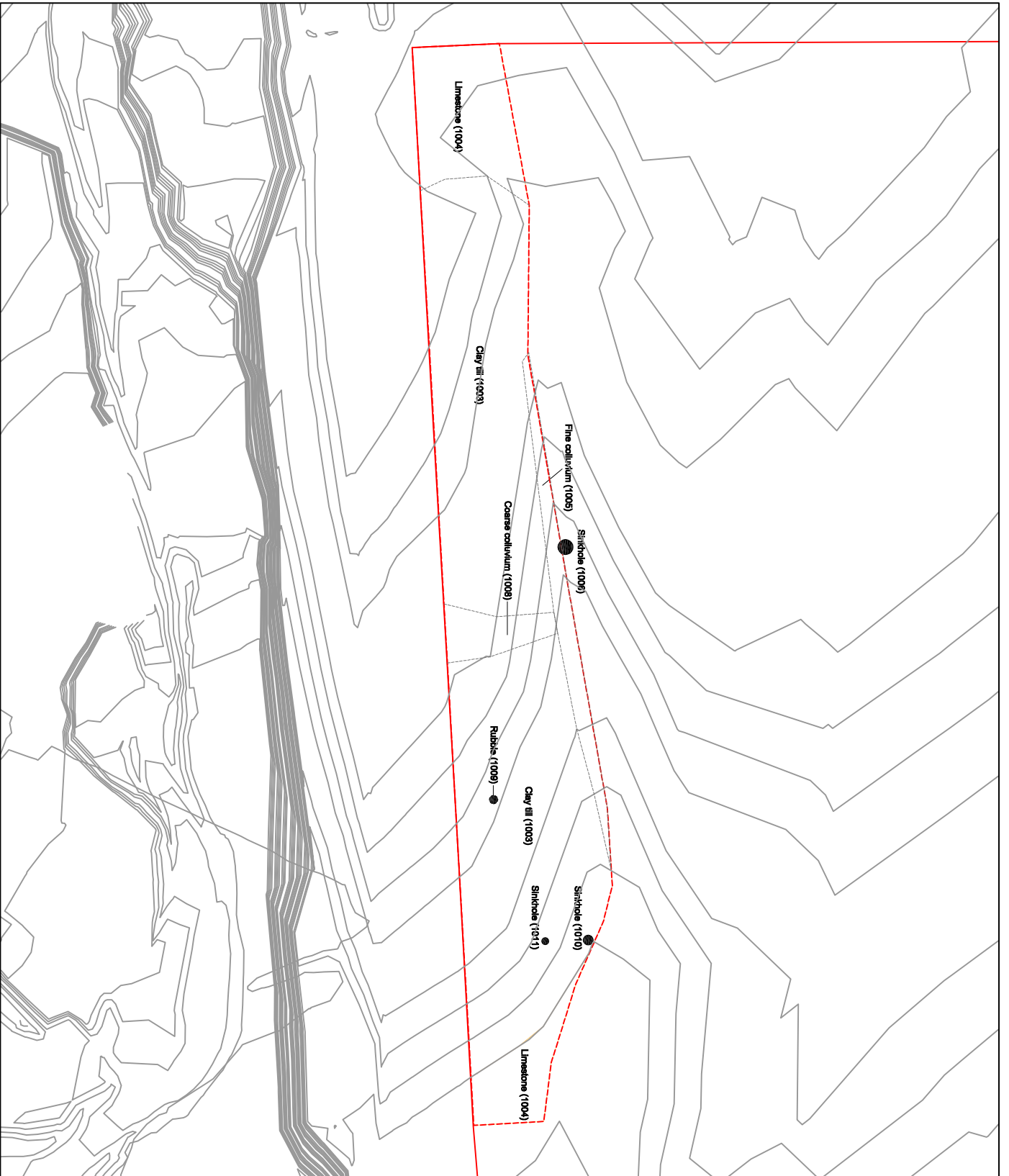
- KEY:
-  Site boundary
 -  Archaeological excavation phase
 -  Phase 1 Watching Brief
 -  Phase 2 Watching Brief
 -  Phase 3 Watching Brief
 -  Dipolar anomalies
 -  Geophysical anomalies/possible archaeology



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REPORT No:
CP10319

FIGURE:
2



WA Archaeology Ltd
2012

Shap Beck Quarry,
Shap, Cumbria

CLIENT:
Andrew Josephs Associates &
Hanson Aggregates

SCALE:
1:1,250 at A4

DRAWN BY:
AB

DATE:
November 2012

KEY:
 Site boundary
 Phase 1 Watching Brief

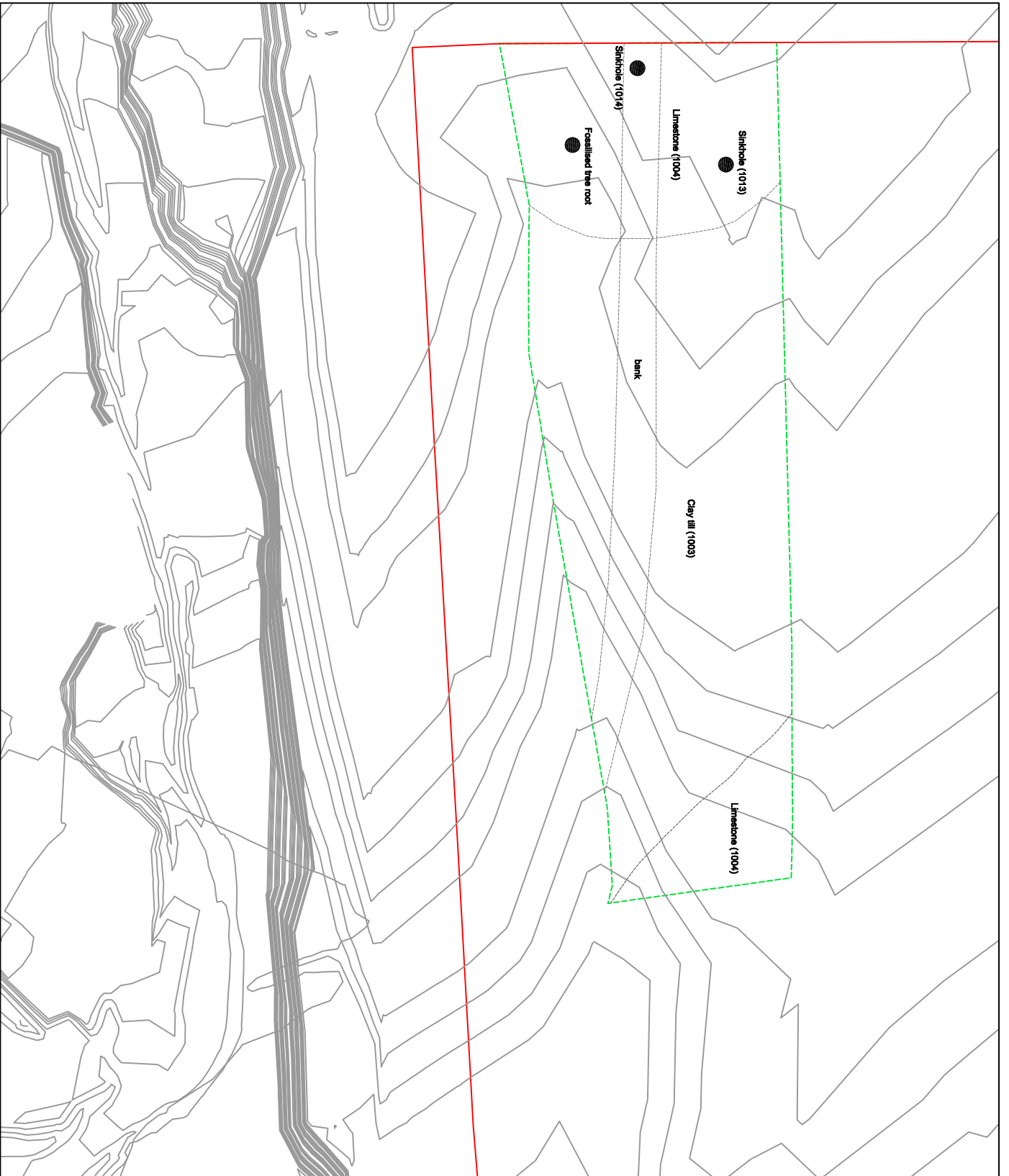


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REPORT No:
CP10319

FIGURE:
3

Figure 3: Results of Phase 1 Watching Brief.



WA Archaeology Ltd
2012


Shap Beck Quarry,
Shap, Cumbria

CLIENT:
Andrew Josephs Associates &
Hanson Aggregates

SCALE: 1:1,250 at A4

DRAWN BY: AB

DATE: November 2012

- KEY:
-  Site boundary
 -  Phase 2 Watching Brief



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REPORT No:
CP10319

FIGURE:
4

Figure 4: Results of Phase 2 Watching Brief.

Lake District
National Park



**BRIEF FOR AN ARCHAEOLOGICAL WATCHING
BRIEF**

**AT
SHAP BECK QUARRY**

AUGUST 2012

Holly Beavitt – Pike
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Brief for a Programme of Archaeological Work

Location: Shap Beck Quarry, Cumbria

Proposed: Northern extension to Shap Beck Quarry

Summary

An application has been approved by the Lake District National Park Authority for an extension to the northern part of Shap Beck Quarry (Reference No: 7/1997/3046). The site of the proposed extension is situated within an area of substantial archaeological interest.

A walkover survey was commissioned in 2000, which identified 16 archaeological sites within the study area. More recently a geophysical survey was carried out to determine the potential for any subsurface archaeological remains within the proposed extension (appendix 1). The development will directly affect these archaeological remains and a full-scale archaeological excavation is required to investigate their destruction. This work is to be carried out under a separate written scheme of investigation.

A watching brief is also required in the other areas of the extension where due to the topography and geology the geophysical survey was unable to identify evidence for archaeological remains. However, given the proximity of the archaeological features identified through geophysics. There is reason to believe that additional subsurface archaeological remains may exist here.

It is therefore a condition of the planning permission that before the development commences, the applicant should secure the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the National Park Authority. This recommendation is in line with government advice as set out in the National Planning Policy Framework (NPPF) Para. 128 and Policy NE 16 of the Lake District National Park Local Plan.

This brief sets out the requirements for that programme of archaeological work.

Detailed proposals and tenders are invited from appropriately resourced, qualified and experienced archaeological contractors to undertake the archaeological project outlined by this Brief and to produce a report on that work. The work should be under the direct management of either an Associate or Member of the Institute of Archaeologists, or equivalent. No fieldwork may commence until approval of a specification has been issued by the Lake District National Park Authority.

1. Location

- 1.1 The site is centred around national grid reference NY 5474 1890, in the parish of Thrimby on the eastern edge of the Lake District National Park. The total area of the current proposal affects just over 9 hectares, which is presently used as grazing land. The required area for the watching brief is c.6 hectares.
- 1.2 The geology of the site is carboniferous limestone (British Geological Survey Solid and Drift Geology Sheet).

2. Archaeological Background

2.1 The site of the proposed development lies in an area of archaeological potential and was subject to an archaeological survey by Lancaster University in 1984 (Turner 1991). A walkover survey and assessment was carried out by Northern Archaeological Associates in 2000. More recently the area was subjected to geophysical survey by ArchaeoPhysica Ltd which identified evidence for archaeological remains within the survey area.

Further details of these reports and additional sites can be obtained from the Lake District National Park Authority, Murley Moss, Oxenholme Road, Kendal, LA9 7RL. Tel. 01539 792687 /Fax. 01539 740822/Email holly.beavitt-pike@lakedistrict.gov.uk

3. Requirement for archaeological work

3.1 The proposed development would severely damage or destroy any archaeological remains which may be present on the site. It is a condition of the planning permission that the applicant should secure the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Lake District National Park Authority.

3.2 The objective of the work should be to obtain an adequate record of any archaeological deposits or finds which will be disturbed or exposed by work associated with the development.

4. Techniques

Land use at the time fieldwork is carried out will influence the methods used. The techniques chosen should be selected to cause the minimum amount of destruction and should comply with all relevant health and safety regulations.

The site has been subjected to numerous surveys including a full walkover and desktop survey (2000) and a geophysical survey (2012). On the basis of the geophysical survey, the following work is required:

Stage one:

4.1 A watching brief to be carried out during the initial soil strip in the areas identified on the attached plan (appendix 1). This is to be carried out to record any surviving subsurface archaeological remains within this area that have not been identified from the geophysical survey.

4.2 All topsoil stripping, service trenches and trench cutting must be carried out under archaeological supervision. Any archaeological features encountered must be cleaned by hand and a stratigraphic record made. Finds and environmental samples should be retrieved as appropriate. A reasonable period of uninterrupted access should be allowed to the archaeologist for all necessary archaeological recording.

4.3 The position of all trenches and observations should be recorded on a site plan, at an appropriate scale. All significant deposits should be fully recorded on appropriate context sheets, photographs, scale plans and sections. A general photographic record should also be maintained.

4.4 The artefact content of the topsoil should be assessed. Techniques might include measured surface artefact collection, a series of topsoil test pits, or sampling of the topsoil from trial trenching.

Stage two:

4.5 Full scale excavation of the archaeological features identified through the geophysical survey. This work will be the subject of a separate brief.

5. Proposal

A **detailed** evaluation proposal, including the following, should be prepared by potential contractors in accordance with the recommendations of MoRPHE (<http://www.english-heritage.org.uk/professional/training-and-skills/training-schemes/short-courses/project-management-using-morphe>) and submitted to the National Park Archaeology and Heritage Assistant:

5.1 A description of the proposed methods of observation and recording system to be used.

5.2 A description of the finds and environmental sampling strategies to be used.

5.3 A description of the post excavation and reporting work that will be undertaken.

5.4 A projected timetable for all work on site, including machine hire time and staff structure and numbers of people to be employed on site per day.

5.5 A projected timetable for all post excavation work, including staff numbers and specialist sub-contractors (through to final publication of results).

5.6 The names of the project director, supervisors, specialists and any sub-contractors to be employed on the project (including details of qualifications and experience of the key project personnel).

5.6 A separate itemised estimate of costs (core/project staff, specialist fees, travel/subsistence, site works, equipment/materials, archive preparation and copying, report preparation, finds storage fees, overheads, contingency, specified other costs).

5.7 Any significant variations to the proposal must be agreed by the National Park

Archaeology and Heritage Assistant in advance.

6. Site Monitoring

6.1 The National Park Archaeology and Heritage Assistant will be responsible for monitoring the work. A minimum of one week's notice of the commencement of fieldwork must be given by the archaeological contractor to the Lake District National Park Authority so that arrangements for monitoring can be made.

7. Reporting Requirements

7.1 The work should result in a report including as a minimum:

- a location plan at an appropriate scale, related to the national grid;
- a concise, non-technical summary of the results;
- a description of the methodology employed;
- a summary of the historical and archaeological background;
- plan(s) and section(s) at an appropriate scale showing location and position of trenches dug, features and finds located;
- section drawings should include heights OD;
- plan(s) should include OD spot heights for all principal strata and features;
- a list of and date for any significant finds recovered;
- photographs where appropriate;
- a description of archaeological features and deposits identified;
- a description of any environmental or other specialist work undertaken and the results obtained;
- an interpretation of the results and of their potential archaeological significance;
- a full bibliography of sources consulted and a list of any further sources identified but not consulted;
- an index to the project archive;
- A copy of the brief and agreed project design and an indication of any variations.

7.2 The objective account of the archaeological evidence recovered should be clearly distinguished from the interpretation of those features. The methodology used should be critically reviewed.

7.3 2 copies of the evaluation report should be deposited with the Lake District National Park Authority, on the understanding that it will be made available as a public document after an appropriate period (not exceeding 6 months from the completion of fieldwork). A copy may be forwarded to the National Monuments Record.

7.4 The results of the work should be published in an appropriate journal or other publication and should include an account of any structures located and full details of significant finds, illustrated as appropriate. Details of the place and date of publication must be notified to the Lake District National Park Authority. **Developers and archaeological contractors should be aware that fulfilment of this part of the brief is mandatory and that the Lake District National Park Authority will not issue approval for a specification that does not include details for its implementation.**

7.5 The Lake District Historic Environment Record (LDHER) supports the Online Access to Index of Archaeological Investigations (OASIS) project. The overall aim of the OASIS

project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The archaeological contractor must therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>. Contractors are advised to contact the LDHER prior to completing the form. Once a report has become a public document by submission to or incorporation into the HER, the LDHER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the archaeological officer at the LDHER.

8. Deposition of Archive and Finds

8.1 The archaeological archive arising from the watching brief should be deposited in an appropriate local institution, in a format to be agreed with that institution. The National Park Authority must be notified of the arrangements made. Any finds of archaeological interest should be appropriately conserved and deposited in an appropriate institution. Any finds which cannot be so deposited should be fully analysed and published.

9. Further Requirements

9.1 The Code of Conduct of the Institute of Field Archaeologists must be followed.

9.2 It is the archaeological contractor's responsibility to establish safe working practices in terms of current health and safety legislation, to ensure site access and to obtain notification of hazards (eg. services, contaminated ground).

9.3 The involvement of the Lake District National Park Authority should be acknowledged in any report or publication generated by this project.

10. References

Turner, V.E. 1991: 'Results of survey work between Shap and Askham Fells' *Transactions of the Cumberland and Westmorland Antiquities and Archaeological Society* **91**, 1-11.

Northern Archaeological Associates. 2000 'Shap Quarry Cumbria Archaeological Assesment'

ArchaeoPhyisca Ltd. 2012 'Shap Quarry, Cumbria Geophysical Survey Report Ltd'

