TEARSALL QUARRY, WINSTER, DERBYSHIRE

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 Wardell Armstrong Archaeology on the preparation of reports.

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SUMMARY

Wardell Armstrong Archaeology were invited by British Fluorspar Ltd, to maintain an archaeological watching brief at Tearsall Quarry, Winster, Derbyshire during groundworks associated with the extension of the existing Tearsall Quarry workings on Bonsall Moor, for the extraction of fluorspar reserves. This report relates to the archaeological monitoring of the soil strip prior to this extension.

The quarry extension was within an area of archaeological interest, with the potential for sub-surface archaeological remains to survive, ranging in date from the Romano-British/Medieval period through to the late 19th and early 20th centuries. The most probable remains likely to be encountered were post-medieval deposits/remains associated with lead-mining. This had been highlighted by the presence of existing features of this type and period, subjected to investigation (TL Excavations Ltd 2007), and by an earthwork survey which recorded previously unknown features (Cope-Faulkner and Hall 2007).

Sixteen features were encountered during soil stripping within the area. Ten of these were features of archaeological interest relating to earlier mining activities in the area, four of which were previously unknown. This work has provided a rare opportunity to prove that as-yet unknown industrial remains of archaeological interest can survive sub-surface, leaving no trace at ground surface level.

ACKNOWLEDGEMENTS

Wardell Armstrong Archaeology (WAA) thank British Fluorspar Ltd, for commissioning the project, and especially thank John McGough and Paul Dempster, for all their assistance throughout the work, and James Lawrance for his help on site.

WAA also extend their thanks to Sarah Whiteley, Peak District National Park Authority Archaeologist, for invaluable input throughout the work.

The archaeological watching brief was maintained by Cat Peters, Frank Giecco, Adam Slater and Sue Thompson, and the report written by Sue Thompson and Cat Peters. The figures were produced by Adrian Bailey and Cat Peters. The report was edited by Frank Giecco, Technical Director, WAA, who also managed the project.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Wardell Armstrong Archaeology were invited by British Fluorspar Ltd, to maintain an archaeological watching brief at Tearsall Quarry, Winster, Derbyshire (NGR SK 263 601; Figure 1), during groundworks associated with the extension to the west of existing quarry workings, to exploit fluorspar reserves.

1.1.2 The proposed quarry extension lies within an area of substantial archaeological interest. Extant features, evidencing earlier mineral extraction, exist within the site boundary, including twelve shafts which were subjected to investigation (TL Excavations Ltd 2007). This study revealed that all twelve known shafts had been in-filled to some extent, but that those which were accessible provided no evidence of fire-setting, indicative of earlier workings, analogous with the adjacent Northern Dales Mine Scheduled Monument (Martin Bacon 2013). An earthwork survey undertaken in 2007 identified a further 43 possible archaeological features within the wider site boundary (Cope-Faulkner and Hall 2007) (Figure 2). As a result of these findings, and because of the proximity of the Scheduled Monument of Northern Dales Mines (SAM 30945), which contain important and rare evidence of 16th and 17th century lead extraction, the Peak District National Park Authority (PDNPA) requested an archaeological watching brief during topsoil stripping, in order to record the archaeological evidence contained within the site, and to attempt a reconstruction of the history and use of the site. This is in line with government advice as set out in Section 12 of the National Planning Policy Framework (NPPF 2012).

1.1.3 Soil stripping was undertaken under archaeological supervision and all stages of the archaeological work undertaken following the *Standards and Guidance for Archaeological Watching Briefs* (IfA 2008), and consistent with the method statement (Martin Bacon 2013).

2 METHODOLOGY

2.1 WRITTEN SCHEMES OF INVESTIGATION

2.1.1 A method statement was submitted by Wardell Armstrong Archaeology (WAA) in response to a request by British Fluorspar Ltd, for an archaeological watching brief on the site. Following acceptance of the statement by the Peak District National Park Authority (PDNPA), WAA was commissioned by the client to undertake the work. The method statement was adhered to in full, and the work was consistent with the *Standards and Guidance for Archaeological Watching Briefs* (IfA 2008).

2.2 THE WATCHING BRIEF

2.2.1 A watching brief was undertaken of soil stripping, to observe, record and excavate any archaeological deposits from within 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 a watching brief can be summarised as follows:

2.2.3 to determine the presence/absence, nature, extent and state of preservation of archaeological remains;

2.2.4 to produce a photographic record of all contexts using colour digital and monochrome formats as applicable, each photograph including a graduated metric scale;

2.2.5 to recover artefactual material, especially that useful for dating purposes;

2.2.6 to sample any environmental deposits encountered according to the WAA standard sampling procedure and in consultation with appropriate specialists;

2.2.7 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 method statement, with current IfA guidelines (IfA 2009) and according to the Archaeological Archives Forum recommendations (Brown 2011). The archive will be deposited with Buxton Museum and Art Gallery (accession no. DERBS:2013.7), accessed under the unique project identifier WAA13, TQW-A, CP 10484/13, with copies of the report sent to the PDNPA Archaeology Service, available upon request.

2.3.2 Wardell Armstrong Archaeology, and the PDNPA, support the **O**nline **A**cces**S** to the **I**ndex of Archaeological Investigation**S** (**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, as a part of this national project under the identifier **wardella2-152876**.

3 BACKGROUND

3.1 LOCATION

3.1.1 Tearsall Quarry is located on the north-facing slope of Bonsall Moor, overlooking the Derwent Valley, within the Peak District National Park (SK 263 601). The site is to the immediate west of the disused Tearsall limestone quarry workings and to the north of Tearsall Farm, 2km south-east of Winster and approximately 3.6km west of Matlock in Derbyshire (Figure 1).

3.1.2 The western extension area comprises four fields, until recently used for grazing, and defined by modern post and wire fencing and fragments of dry stone wall. Upland pasture and grassland surround the site.

3.1.3 The elevation of the site ranges from 320m AOD by 'Toothbrush Wood' to the south, falling northwards to 272m AOD on the lower northern boundary, with an average gradient of 1 in 7. The site entrance is at a height of 316m AOD.

3.2 GEOLOGICAL CONTEXT

3.2.1 This area of the Peak District National Park consists of superficial deposits of clay, silt, sand and gravel alluvium and a bedrock geology consisting of north-west to south-east aligned bands of Basaltic Lava, a lower Matlock Lava Member, and Eyam Limestone Formation. The western part of the area may expose dolomitic limestone from the Eyam Limestone Formation.

3.3 HISTORICAL CONTEXT

3.3.1 *Introduction:* the following is a summary of the environmental statement, forming part 3 of the planning application for the proposed extraction of fluorspar ore and associated vein minerals, which incorporates results from the Derbyshire SMR and cartographic analysis, including a 1km search area radius (Hodgkinson 2008).

3.3.2 There are no Scheduled Ancient Monuments or Listed Buildings within the site. However, within the immediate area there are two Scheduled Ancient Monuments, the North Dale Lead Mine to the north and north-east of the site, and the Mount Pleasant Lead Mine located to the north and north-west of the site. There is one Grade II Listed Building within the search area to the north of the site, Wensley Hall (SMR 12723). This is located in the village of Wensley, which, together with Wensley Dale, is included within the Wensley Conservation Area. The Lead Legacy report identifies the site as located within a High Priority Landscape; an area of historic lead mining remains that should be conserved.

3.3.3 There is some evidence for prehistoric settlement within the locality, including the possible Neolithic rock shelter at Bonsall Cave. Isolated finds of Neolithic and Bronze Age date and the presence of at least one Bronze Age barrow with burials, indicate prehistoric activity within the search area. No archaeological evidence for Iron Age activity is known from the site or the search area, but the presence of two

Iron Age burials at Winster, 2km west of the site boundary, suggests the potential for an associated Iron Age settlement in the region.

3.3.4 Romano-British settlement is represented within the search area in the form of a possible enclosure complex (SMR 12709), which lies to the west of the site, and in the form of scattered artefactual material. The enclosure is substantial and was possibly associated with lead mining.

3.3.5 No early medieval remains are recorded within the wider study area. Later medieval activity in the wider area is largely attested to by the remains of ridge and furrow and lynchets. Lead mining is likely to have been an important element of the economy and mines located at Northern Dale and Tearsall are documented as active from as early as the 1530s and 1540s.

3.3.6 Aerial photography has identified numerous archaeological features in the vicinity of the site. In particular, the possible Romano-British enclosure (SMR 12709), areas of medieval ridge and furrow and lynchets, and substantial evidence of past mining activities.

3.3.7 The earliest cartographic evidence accessed as part of the Environmental Statement was the 1840 Ordnance Survey map which shows numerous lead mines across Bonsall Moor, particularly on its northern edge where it dips down into Wensley Dale, including Tearsall Mines. The 1849 Tithe map is the earliest map to show the detailed layout of fields and the current field boundaries remain basically the same. 19th century Ordnance Survey mapping shows a large number of shafts related to lead mining within the site, but demonstrates no significant changes to the site or wider search area.

3.4 PREVIOUS WORK

3.4.1 Extant features, evidencing earlier mineral extraction, exist within the site boundary, including twelve shafts which were subjected to investigation (TL Excavations Ltd 2007). This revealed that all twelve had been in-filled to some extent, but that those which were accessible provided no evidence of fire-setting, indicative of earlier workings, analogous with the adjacent Northern Dales Mine Scheduled Ancient Monument (Martin Bacon 2013). Three of the shafts (4, 5 and 7) were found to lead to accessible workings, the most extensive being those in Shaft 5, located in the south-west corner of the northernmost field. It was concluded that if mineral extraction was to take place, it would provide the best opportunity to investigate the deeper workings, particularly in the areas of Shafts 5, 6, 7 and 11. Shafts 5, 6 and 7 were all located in the northernmost Field 1, and Shaft 11, in the north-western corner of Field 3.

3.4.2 An earthwork survey undertaken in 2007 identified a further 43 possible archaeological features within the wider site boundary (Cope-Faulkner and Hall 2007).

4 RESULTS AND DISCUSSION

4.1 INTRODUCTION

4.1.1 The watching brief monitoring was undertaken between the 7th May 2013 and 1st May 2014. The first phase of the monitoring occurred over eleven days between the 28th of May and the 29th of June 2013, followed by three days between 30th August and 2nd September 2013. The final phase of the watching brief occurred over twentyone days between 11th March and 1st May 2014.

4.1.2 The archaeological monitoring involved the supervised removal of all overburden layers down to either the superficial glacial tills or the limestone bedrock as part of the fluorspar extraction programme at Tearsall Quarry (Figure 2).

4.1.3 Features identified during the watching brief are summarised in Appendix 1. All figures can be found in Appendix 2 and colour plates are included in Appendix 3.

4.2 RESULTS

4.2.1 The watching brief monitored the topsoil strip prior to the quarry extension of existing workings at Tearsall Quarry.

4.2.2 The watching brief monitored the stripping of the topsoil and subsoil within the development site, situated mainly within Fields 1 and 3, with a small area within the northern boundary of Field 2 (Figure 2). The soil stripping occurred under archaeological supervision, using a 16-tonne tracked mechanical excavator fitted with a ditching bucket, and was undertaken in 4-5m wide linear strips, the excavated soil deposited in bunds 3m wide and 2.5m tall surrounding the quarry site. Excess excavated soil was arranged in the southern part of Field 2, an area which was left unexcavated.

4.2.3 The topsoil consisted of a mid-dark brown silt which was an average of 0.15m in depth, overlying a mid orange-brown sandy clay subsoil, ranging from between 0.2m to over 3m in depth. Both topsoil and subsoil deposits were encountered across the site. In places, the soil strip revealed a thick degraded clay, and in others, the soil strip encountered a weathered fragmentary limestone sherd deposit with sandy patches, interspersed with boulders up to 0.8m in diameter, and overlying the limestone bedrock.

4.2.4 The depth of soil overlying bedrock deposits varied dramatically across the western part of Field 1, from 0.2m at the southern end, to over 3m towards the north. This was due to the presence of an east–west orientated mound of basaltic lava, overlying a deposit of green clay toadstone above the limestone bedrock (Plate 18). A total of sixteen man-made features were encountered during the watching brief.

4.2.5 The first 12 features were identified during initial topsoil stripping in Field 3. These included Feature 3, which was a linear compacted crushed grey stone deposit running on a north-west/ south-east alignment. It was 1.2m wide and 0.3m thick (Plate 5). It is clear that this deposit was the make-up layer forming the pre-existing bridleway dating to between 1844 and 1899 which extended across the site, and as

such, was of little archaeological significance. Features 4-8 were five small circular features which coincided with the locations of geological boreholes undertaken during initial analysis of the site as part of this scheme of works and, therefore, do not merit further discussion (Plate 1). Feature 9 was located in the north-eastern area of the site and was a roughly circular depression, measuring 1.7m east to west and 1.1m north to south and extended to a depth of 0.6m (Plate 6). Yellow and blue-grey clay were observed in the vicinity and British Fluorspar Ltd geologists advised that this was a sinkhole, formed from degrading dolomite clay, to create a natural geological void. There was no evidence for an archaeological origin. Feature 10 located on the eastern edge of Field 3, consisted of a deep void, between large boulders. The void measured 0.85m north-east to south-west and 0.2m north-west to south-east and extended to a depth of 2.7m. Geologists from British Fluorspar Ltd suggested it to be a natural gorge (sink hole) formed from water eroding the soft limestone.

4.2.6 The remaining features related to the mining heritage of the area. Feature 1 was a previously unknown roughly circular shaft lined with dressed limestone. It measured 0.8m north to south and 0.95m east to west and its top was encountered 0.6m below the present ground surface level. The shaft had been filled with large stones and boulders (Plate 2), and a dark black silty loam had formed around the surface. It was located beneath the field boundary dividing Fields 1 and 3 (Plate 3).

4.2.7 Feature 2 was an irregular shaped large stone edged pit or shaft, in-filled with large stone boulders and a dark black silty loam. It measured 1.7m north to south and 0.76m east to west and was encountered at 0.55m below the ground surface level (Plate 4).

4.2.8 Feature 11 had been previously recorded in the earthwork survey of 2007 (Cope-Faulkner and Hall 2007, Feature 142), and was stripped in very wet weather. At the centre of the mound area, a darker roughly circular feature was exposed (Plate 8). This was investigated by mechanical excavator, and at a depth of c.3m below ground surface level, beneath some boulders, a deep oval possible shaft opened up with narrow workings visible at the north and south edges. This measured approximately 1.7m north-south and 1.2m east-west (Plates 9 and 10). Unfortunately, it was unsafe to investigate fully, but no obvious evidence for any form of tooling could be seen in the sides of the bedrock cut shaft. The full depth could not be measured, but it was likely to exceed 5m; the base was not visible from the surface.

4.2.9 Feature 12 consisted of a circular shaft measuring roughly 1m in diameter. This shaft had been previously recorded as Shaft 12 (TL Excavations Ltd 2007), and Feature 141 (Cope-Faulkner and Hall 2007), and had been previously capped with concrete blocks (Plate 11). Some in-situ ginging survived, however this was unstable and the shaft badly collapsed. The survey carried out by TL Excavations Ltd identified a large block jammed in the entrance to the shaft but did not investigate further. The soil strip exposed a void of unknown depth (Plate 12).

4.2.10 Four archaeological features (Features 13 - 16) were observed during the watching brief in the western half of Field 1, all of which consisted of stone lined shafts

measuring roughly 1m in diameter. Of these, three had been previously recorded and one, (Feature 13), was a new discovery.

4.2.11 Feature 13 was a shaft lined with in-situ limestone ginging of drystone construction, located approximately 14m south of Feature 16. There were no surface features associated with this shaft and there had been no attempt to cap the shaft. It is possible that the shaft had been backfilled with rough limestone blocks and a dark silty loam had formed across the entrance to the shaft. The shaft measured c. 1m in diameter and was excavated to 1m below the ground surface, where the stone lining was seen to continue. The depth of the shaft was unknown (Plate 13).

4.2.12 The remaining features seen during the watching brief had all been previously recognised and recorded. Feature 14 had been recorded in the earthwork survey (Cope-Faulkner and Hall 2007, Feature 114), and by TL Excavations Ltd as Shaft 8. The shaft was defined by a small mound of stone chippings, and had been capped with concrete sleepers. The shaft was ginged to a depth of approximately 5m but this stone lining was unsupported above the level of the bedrock and therefore considered too dangerous to explore at depth (TL Excavations Ltd 2007). The internal diameter of the shaft at ground level measured 0.75m becoming wider lower down, and was at least 13m in depth (Plate 14).

4.2.13 Feature 15 was recorded in the earthwork survey (Cope-Faulkner and Hall 2007, Feature 115), and by TL Excavations Ltd as Shaft 7. This shaft, measuring 0.9m (Plate 15) was surrounded by a small mound to the south of the trackway (Feature 3), crossing Field 1, and had been capped by concrete sleepers. When these were removed, in-situ ginging was revealed. A wooden beam survived in-situ below the limestone ginging, at a depth of 1.8m below ground surface, on the northern side of the shaft (Plate 16). This shaft was dug through basalt lava deposits, through soft green clay toadstone and into the limestone.

4.2.14 Feature 16 had also been recorded by the earthwork survey (Cope-Faulkner and Hall 2007, Feature 113), and by TL Excavations Ltd as Shaft 4. Like Feature 15, the shaft was surrounded by a small mound and capped using concrete sleepers. This shaft had an internal diameter of 0.8m and had in-situ ginging to a depth of at least 1.8m (Plate 17).

4.2.15 An earthwork in the northernmost corner of the site, a possible buddle dam, was noted in the earthwork survey (Cope-Faulkner and Hall 2007, Feature 118), but was not encountered during the watching brief due to its location beneath the boundary soil bund. This feature had also been damaged by the relocation of the footpath across site to the west of the extension boundary.

4.2.16 Bad weather was a feature of late 2013 and 2014 throughout Britain, and Tearsall Quarry was no exception. The eastern portion of the development area was soil stripped in September 2013. No features were identified during the work, however, this was a period of very wet weather, and due to the conditions the machinery on site needed a large area to manoeuvre; in addition a bulldozer was employed on site to remove waterlogged deposits and allow site access to the dump trucks.

Slight features were therefore damaged or removed before the actual topsoil strip commenced.

4.2.17 This problem continued in the north-western portion of site, an area of high archaeological potential; where increasingly limited space and ground conditions led to many of the features recorded in the earthwork survey, other than the shafts, not being observed during the watching brief.

4.3 DISCUSSION

4.3.1 A total of 16 features were encountered during the watching brief monitoring of the soil stripping work. Seven of these were of no further archaeological interest, five being geological boreholes, created during earlier geological analysis of the site (Features 4, 5, 6, 7 and 8), and two, naturally occurring geological features (Features 9 and 10).

4.3.2 Feature 3 was the recently re-routed public bridleway which had previously run across the site. A track was marked in this position on the Ordnance Survey Map of 1899 (Cope-Faulkner and Hall 2007), though not on earlier mapping.

4.3.3 The remaining features were of archaeological interest. Feature 11 had been referred to as a '*hillock*' in the earthwork survey text (Cope-Faulkner and Hall 2007, 4; Feature 142), and a '*mound*' in the feature summary list (*ibid*, 9), and as possibly marking the position of a shaft. The monitored soil strip showed it to be a vertical oval shaft, excavated directly into the bedrock, and possibly excavated to exploit the same seam as Feature 1.

4.3.4 Feature 1 was a previously unrecorded mineshaft beneath a field boundary (Plate 3). The Environmental Statement, forming Part 3 of the Planning Application (Hodgkinson 2008), indicates that the present layout of fields and field boundaries was in place by the production of the Tithe Map of 1849, which is the "*earliest map to show detail of the layout of fields and woodland within the Parish of Wensley and Snitterton*" (*ibid*, 95). This shows that the workings had been out of use for some time before this, supporting evidence from other sites in the area that exploitation of lead in the Peak District was largely out of use by the late 18th and 19th centuries, earlier than that in the North Pennines, largely due to competition from there and abroad.

4.3.5 The origin of Feature 2 was less clear, though it may have been a stone-getting pit or exploratory shaft, explaining its unusual shape and limited depth.

4.3.6 Features 12, 13, 14, 15 and 16 were also stone lined (ginged) mineshafts. Of these, only Feature 13 was a new discovery. It was not within the remit of this stage of the project to access the shafts, which were unsafe, but they were archaeologically recorded in plan. No finds or dating evidence was recovered from any of these features.

4.3.7 A programme of archaeological mitigation was put in place, allowing the quarry face to be assessed by an archaeologist following each blast, should any further features be encountered during the quarrying operations. From previous fieldwork on the site it appears that the majority of the workings are limited in nature and

likely to represent prospection shafts (TL Excavations 2007). The lack of substantial mining waste or evidence of any dressing activity would point to this area of the Bonsall Moor ore field as being of little potential and the unsuccessful nature of these mining operations is indicated by the almost total absence from the mining histories of the area.

5 CONCLUSIONS

5.1 CONCLUSIONS

5.1.1 Wardell Armstrong Archaeology was invited by British Fluorspar Ltd, to maintain an archaeological watching brief at Tearsall Quarry, Winster, Derbyshire, during groundworks associated with the extraction of fluorspar at the western extension of the pre-existing Tearsall quarry, closed in 2003.

5.1.2 The site is within an area of substantial archaeological interest, with significant sub-surface archaeological remains surviving within the area, largely relating to post-medieval mineral exploitation.

5.1.3 An archaeological watching brief during topsoil stripping was required in order to establish whether archaeological features and deposits survived in the area, sub-surface, and to record any such features encountered, in order to attempt a reconstruction of the history and use of the site.

5.1.4 No dating evidence was found during the watching brief monitoring, however, the features encountered were consistent with 18th and 19th lead mining activity, and have added to the knowledge of this site that earlier surveys provided.

5.1.5 This most recent phase of work has provided a rare opportunity to prove that as-yet unknown industrial remains of archaeological interest can survive sub-surface, leaving no trace at ground surface level.

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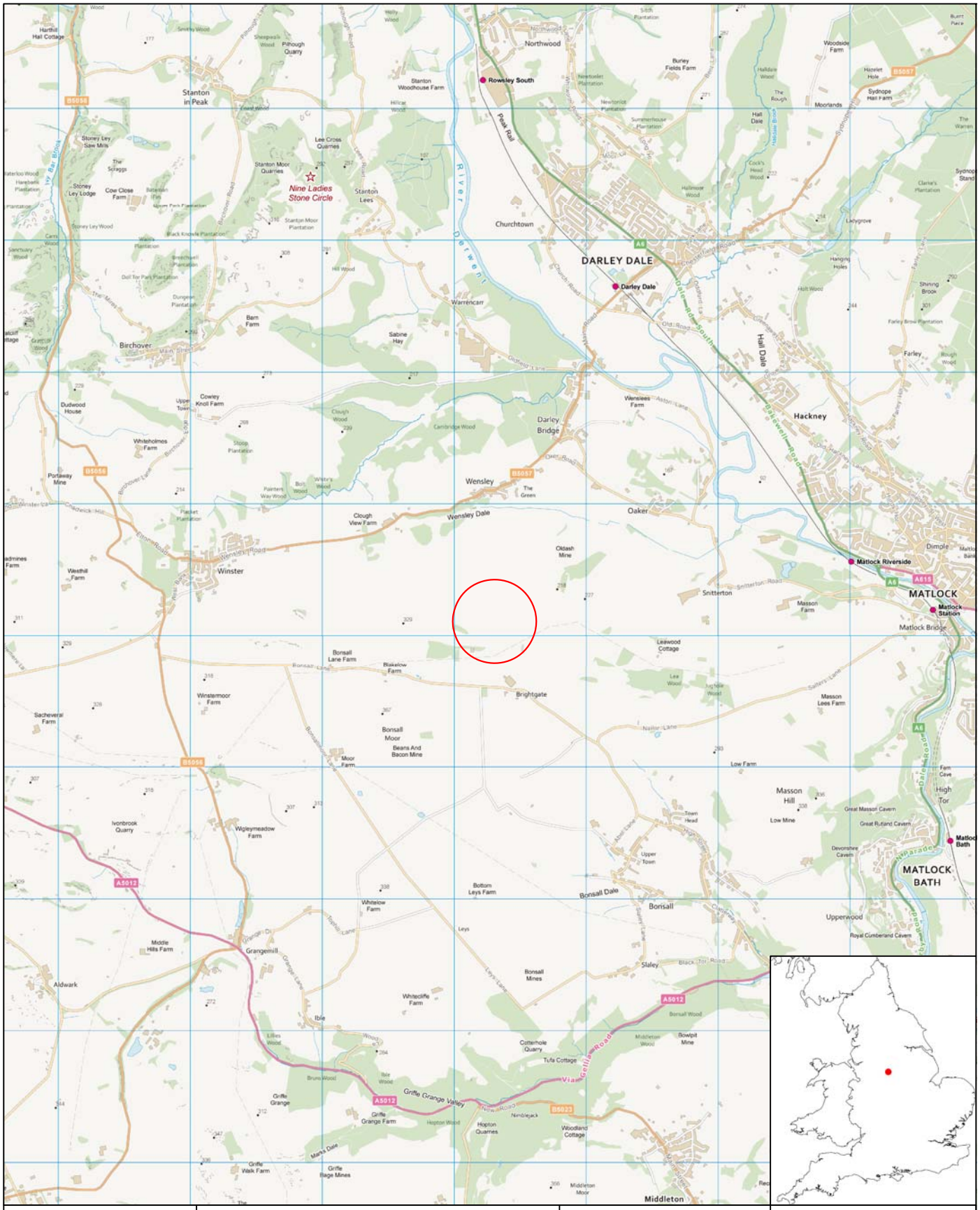
APPENDIX 1: LIST OF FEATURES

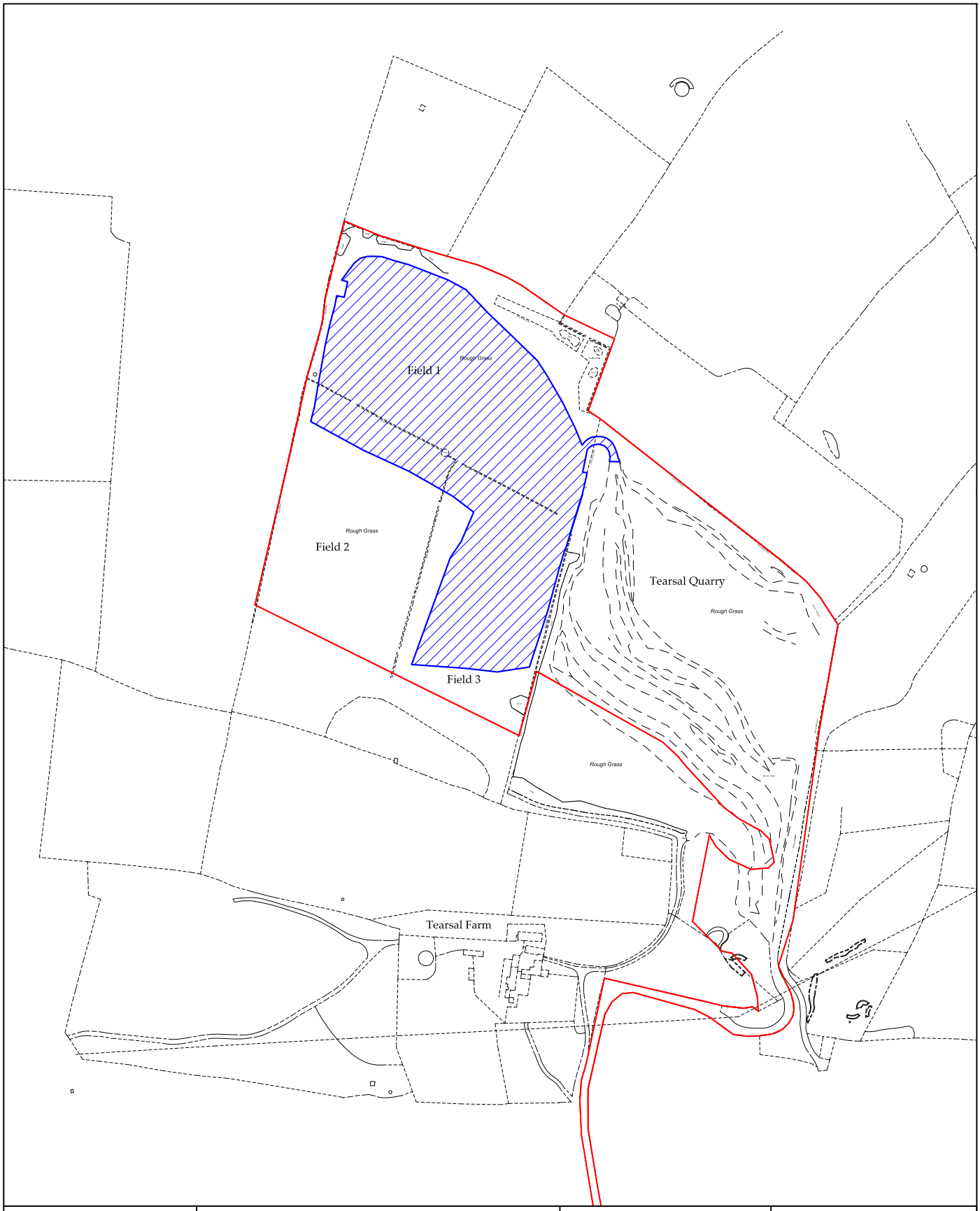
Feature Number	Summary	Type	Dimensions	Description
1	Mineshaft	Structure	Roughly circular: 0.95m east-west; 0.8m north-south	A vertical probable climbing mineshaft of dressed stone, boulder in-filled
2	Stone-getting Pit or Exploratory Shaft	Structure	1.7m north-south and 0.76m east-west	Irregular-shaped stone edged feature with boulder in-fill and a black silty deposit
3	Bridleway	Track	9m; 1.2m; 0.3m	Linear compacted crushed grey stone deposit
4	Circular Hole	Geological Borehole	0.11m diameter; at least 5m deep	Deep circular hole angled at 27.5 degrees to north-west
5	Circular Hole	Geological Borehole	0.11m diameter; at least 5m deep	Deep vertical circular hole, 180 degree angle
6	Circular Hole	Geological Borehole	0.11m diameter; at least 5m deep	Deep vertical circular hole, 180 degree angle
7	Circular Hole	Geological Borehole	0.11m diameter; at least 5m deep	Deep circular hole angled at 27.5 degrees to north-west
8	Circular Hole	Geological Borehole	0.11m diameter; at least 5m deep	Deep vertical circular hole, 180 degree angle
9	Circular Depression	Probable Sinkhole	1.7m; 1.1m; 0.6m deep	Roughly circular depression with clay at base.
10	Chasm/ void	Geological Feature	0.85m; 0.2m; 2.7m deep	Rectangular deep chasm, geological origin
11	Mineshaft	Structure	1.7m; 1.2m; unknown depth	Oval vertical stone feature cut directly into bedrock. Feature 142 from Earthwork Survey (Cope-Faulkner and Hall 2007)
12	Mineshaft	Structure	Roughly circular: c.1m diam	A vertical climbing mineshaft of dressed stone. Feature 141 from Earthwork Survey (Cope-Faulkner and Hall 2007)
13	Mineshaft	Structure	Roughly circular: c.1m diam	A vertical probable climbing mineshaft of dressed stone
14	Mineshaft	Structure	Roughly circular: 0.75m diam	A vertical climbing mineshaft of dressed stone. Feature 114 from Earthwork Survey (Cope-Faulkner and Hall 2007)
15	Mineshaft	Structure	Roughly circular: 0.9m diam	A vertical climbing mineshaft of dressed stone. Feature 115 from Earthwork Survey (Cope-Faulkner and Hall 2007)
16	Mineshaft	Structure	Roughly circular: 0.8m diam	A vertical climbing mineshaft of dressed stone. Feature 113 from Earthwork Survey (Cope-Faulkner and Hall 2007)

APPENDIX 2: FIGURES



wardell armstrong archaeology Wardell Armstrong Archaeology 2014	PROJECT: Tearsall Quarry, Winster, Derbyshire SCALE: 1:40,000 at A4 REPORT No: CP10484 CLIENT: British Fluorspar Ltd DRAWN BY: AB DATE: May 2014 FIGURE: 1	KEY: Site location

Figure 1: Site location.



wardell armstrong archaeology

Wardell Armstrong Archaeology 2014

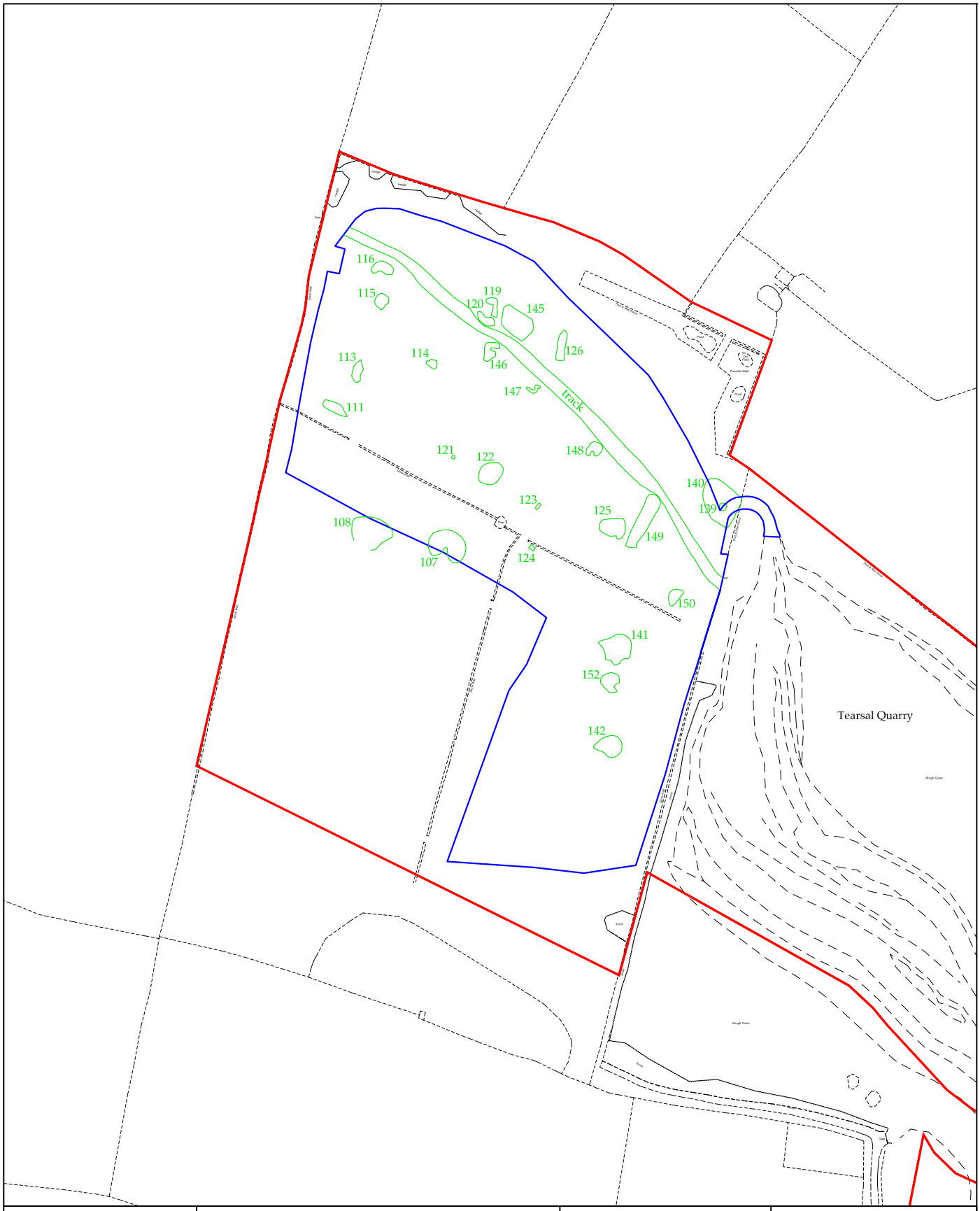
PROJECT:	Tearsall Quarry, Winster, Derbyshire
SCALE:	1:4,000 at A4
REPORT No:	CP10484
CLIENT:	British Fluorspar Ltd
DRAWN BY:	CP
DATE:	May 2014
FIGURE:	2

KEY:

Site boundary

Area of archaeological monitoring

Figure 2: Location of area subjected to archaeological monitoring.



wardell armstrong archaeology

Wardell Armstrong Archaeology 2014

PROJECT:	Tearsall Quarry, Winster, Derbyshire
SCALE:	1:2,500 at A4
REPORT No:	CP10484
CLIENT:	British Fluorspar Ltd
DRAWN BY:	AB/CP
DATE:	May 2014
FIGURE:	3

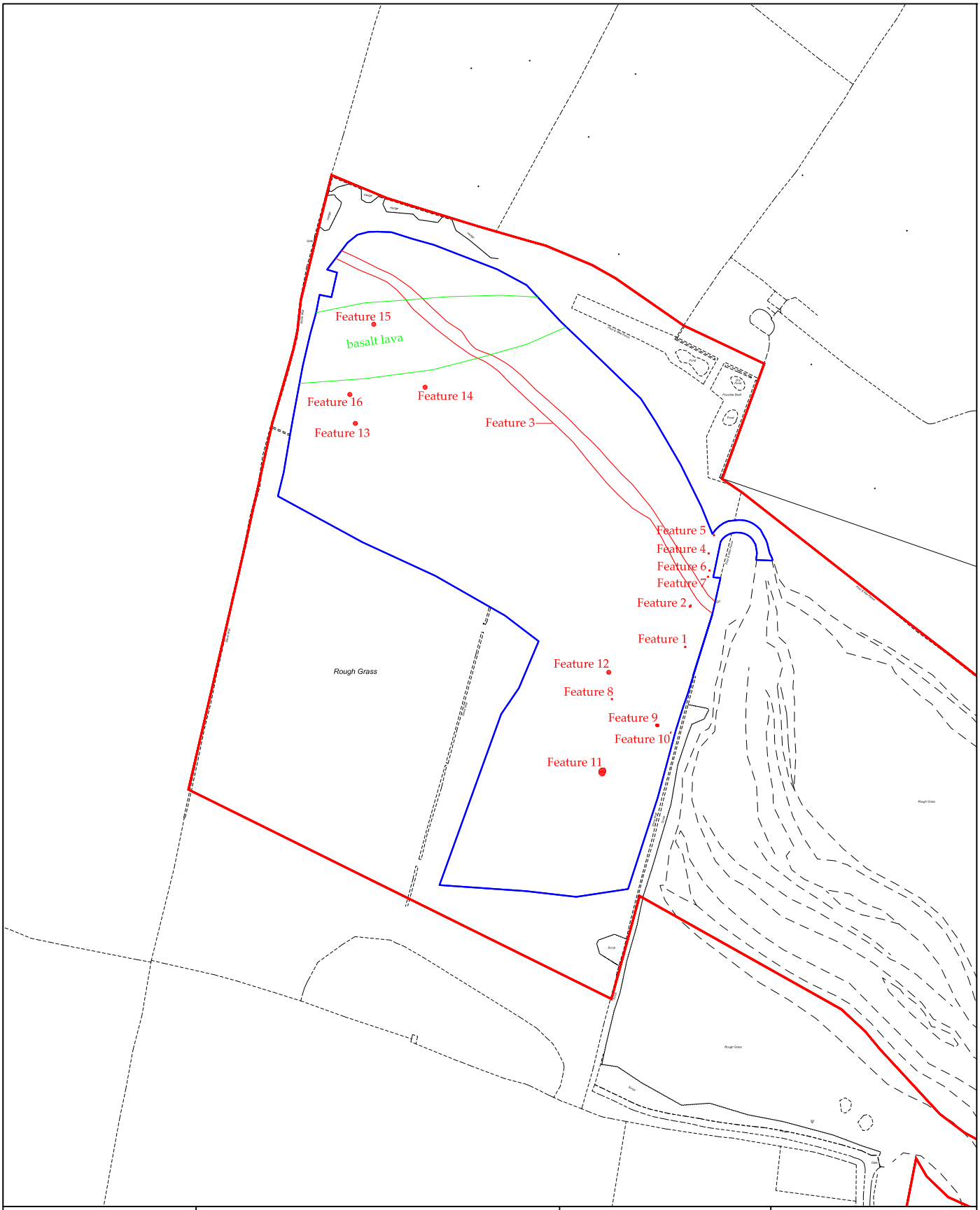
KEY:

Site boundary

Area subjected to archaeological monitoring

152 Known archaeological features

Figure 3: Results of previous archaeological survey within monitored area *(after Cope-Faulkner and Hall 2007).*



wardell armstrong archaeology

Wardell Armstrong Archaeology 2014

PROJECT:	Tearsall Quarry, Winster, Derbyshire
SCALE:	1:2,500 at A4
REPORT No:	CP10484
CLIENT:	British Fluorspar Ltd
DRAWN BY:	AB/CP
DATE:	May 2014
FIGURE:	4

KEY:

- Site boundary
- Area of archaeological monitoring
- Features

Figure 4: Results of archaeological monitoring.

APPENDIX 3: PLATES

Plate 1: Example of one of five geological boreholes encountered: Feature 4, facing north (0.5m scale)

Plate 2: Feature 1, facing south-southeast (scale 0.5m)

Plate 3: Feature 1, with field boundary in background, facing west-northwest (1m scale)

Plate 4: Feature 2, facing west-northwest (1m scale)

Plate 5: Feature 3, facing south-west (1m scale)

Plate 6: Feature 9, facing south-southwest (2m scales)

Plate 7: Feature 10, facing north-northwest (2m scale)

Plate 8: Feature 11 prior to stripping, facing south-east (2m scale)

Plate 9: Feature 11, facing north

Plate 10: Feature 11, facing south

Plate 11: Feature 12 during soil strip, facing north (1m scale)

Plate 12: Feature 12 (Shaft 12), showing in-situ ginging and void, facing north (1m scale)

Plate 13: Feature 13 during soil strip, facing west (1m scale)

Plate 14: Feature 14 (Shaft 8) south east facing section, (2m scale)

Plate 15: Feature 15 (Shaft 7), facing south west (1m scale)

Plate 16: Feature 15 (Shaft 7) showing wooden beam supporting ginging, facing north

Plate 17: Feature 16 (Shaft 4), facing south east (1m scale)

Plate 18: Basaltic lava mound, facing north