

**HAILES ABBEY
GLOUCESTERSHIRE**

ARCHAEOLOGICAL WATCHING BRIEF

For

ENGLISH HERITAGE


CA PROJECT: 2994
CA REPORT: 10066

APRIL 2010

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CA REPORT: 10066

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date	26 April 2010
issue	01

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SUMMARY

Project Name: Hailes Abbey
Location: Hailes, Stanway, Gloucestershire
NGR: SP 0501 3009
Type: Watching Brief
Date: 1-5 February 2010
Location of Archive: To be deposited with Cheltenham Museum and Art Gallery
Site Code: HAY 10

An archaeological watching brief was undertaken by Cotswold Archaeology during groundworks associated with the location and assessment of an existing stone-built culvert within the grounds of Hailes Abbey, Stanway, Gloucestershire.

The existing medieval culvert was observed during groundworks together with medieval and recent levelling deposits. Modern exploratory trenches were also identified.

1. INTRODUCTION

- 1.1 In February 2010 Cotswold Archaeology (CA) carried out an archaeological watching brief for English Heritage at Hailes Abbey, Stanway, Gloucestershire (centred on NGR: SP 0501 3009; Fig. 1). The watching brief was undertaken during works to enable the location, assessment and repair of an existing stone-built culvert within the Abbey grounds. The objective of the watching brief was to record all archaeological remains exposed during the development.
- 1.2 The watching brief was carried out in accordance with the *Outline Brief for preparing a Proposal for the Archaeological Investigation of the Medieval Culvert* (English Heritage 2009a) and a subsequent Written Scheme of Investigation (WSI) prepared by CA (CA 2009). It also followed the *Standard and Guidance for an Archaeological Watching Brief* (IfA 2008), the *Statement of Standards and Practices Appropriate for Archaeological Fieldwork in Gloucestershire* (Gloucestershire County Council (GCC) 1995) and the *Management of Research Projects in the Historic Environment (MORPHE; English Heritage 2006)*. It was monitored by Ian Ashby, Project Manager, English Heritage including site visits on 1, 2 and 4 February 2010.

The site

- 1.3 The area of works lies within the grounds of Hailes Abbey, Hailes, Stanway, Gloucestershire (Fig. 2).
- 1.4 The site encloses an area of approximately 8ha, and comprises the Hailes Abbey ruins and surrounding fields used for grazing.
- 1.5 The underlying solid geology of the area is mapped as Lower Lias Clay with a scattering of Inferior Oolitic rock debris (BGS 1974). The natural substrate was observed during the watching brief.

Archaeological background

- 1.6 St Mary's, a Cistercian Abbey, was founded by Richard, Earl of Cornwall in 1245 and partly incorporated the remains of Hailes Castle, an earlier ringwork. It was partially adapted in 1277 after the abbey received a phial of the blood of Christ

which then made the abbey a place of pilgrimage. The abbey followed the usual Cistercian plan and was divided between an inner precinct containing cloistral buildings of which now only three bays survive to their full height, the rest reduced to foundation level, and an outer court. This contained a gatehouse chapel, four fishponds, a cross, two mills and further water management features. A barn on the west site of the monument in the grounds of Hailes House is thought to be contemporary with the abbey and is included in the scheduling. A small hatch in one wall is thought to have been used to give communion to lepers (English Heritage Record of Scheduled Monuments; SAM 28850).

- 1.7 The Abbey was drained in the medieval period by a culvert passing approximately south-east to north-west across the site below and between the claustral buildings. This culvert was rediscovered in 1907 and investigated in 1961 (English Heritage 2009b).

Methodology

- 1.8 The fieldwork followed the methodology set out within the WSI (CA 2009). An archaeologist was present during intrusive groundworks comprising the excavation of two trenches to enable the location and assessment of an existing stone-built culvert within the Abbey grounds. The culvert was further investigated by passing a drill through the vaulted roof to establish its thickness. The internal dimensions of the culvert were also recorded by Mr Ashby of English Heritage. These measurements have been used to prepare the projected sections in Fig. 4.
- 1.9 Where archaeological deposits were encountered written, graphic and photographic records were compiled in accordance with CA Technical Manual 1: *Fieldwork Recording Manual* (2007).
- 1.10 The archive and artefacts from the evaluation are currently held by CA at their offices in Kemble. On completion of the project the site archive will be deposited with Cheltenham Museum and Art Gallery. A summary of information from this project, set out within Appendix C, will be entered onto the OASIS online database of archaeological projects in Britain.

2. RESULTS (FIGS 3-6)

2.1 This section provides an overview of the watching brief results; detailed summaries of the recorded contexts are to be found in Appendix A. Details of the relative heights of the principal deposits and features expressed as metres Above Ordnance Datum (m AOD) appear in Appendix B.

2.2 During the watching brief a medieval culvert was identified within trenches 1 and 2. Within trench 2 a relieving arch contemporary with the culvert was also identified. Exploratory trenches excavated in 1961 were also identified. The natural geological substrate consisting of light brown and bluish grey clays was revealed in trenches 1 and 2. In addition levelling deposits pre-dating and post-dating the construction of the medieval culvert were identified.

Trench 1 (Figs 3, 4 and 5)

2.3 The natural geological substrate 104 consisting of bluish grey clay, was revealed at a depth of 1.4m below present ground level. This was overlain by a levelling deposit of orange brown clay 103 containing frequent limestone fragments which averaged 0.14m in thickness. Both the natural substrate 104 and levelling deposit 103 were truncated by the construction cut 106 for the vaulted medieval culvert 105. Orientated north-south, the visible outer surface of the culvert 105 consisted of irregular, unfaced and uncoursed limestone blocks measuring between 0.05m and 0.3m in diameter. A drill passed through the vault from above revealed the roof to be 0.45m thick. The culvert construction cut 106 was subsequently backfilled by orange brown silty clay 107 containing both unworked and worked limestone fragments up to 0.2m in diameter.

2.4 Two additional levelling deposits 101 and 102 overlay deposit 103, however their stratigraphic relationship with the culvert 105 was not ascertained due to truncation by exploratory trench 108 excavated in 1961. All the above deposits and features were sealed by modern topsoil horizon 100 consisting of brown silty clay.

Trench 2 (Figs 3, 4 and 6)

2.5 The natural geological substrate 205 consisting of bluish grey clay, was revealed at a depth of 2.0m below present ground level. This was sealed by brown clay natural substrate 205, the top of which lay at a depth of 0.66m below present ground level. The natural substrate 204 and 205 was truncated by the construction cut 208 for a

vaulted medieval culvert 209, a continuation of culvert 105 observed in trench 1. Orientated north-west/south-east, the upper portion of the outer surface of the culvert 209 consisting of the arch and upper walls were constructed of irregular unfaced and uncoursed limestone blocks measuring between 0.05m and 0.35m in diameter. The lower portion of the culvert wall consisted of uncoursed rectangular limestone blocks. A drill passed through the vault from above revealed the roof to be between 0.48m and 0.51m thick. Relieving arch 210 was observed at the south-eastern end of trench 2 over the vaulted roof of the culvert. It was constructed of lime mortared rectangular limestone blocks and provided strengthening of the culvert where it passed beneath a substantial wall to the south-east. The culvert construction cut 208 was subsequently backfilled by brown silty clay 211 containing limestone fragments up to 0.05m in diameter.

- 2.6 The fill of the culvert construction cut was overlain by brown clay levelling deposit with frequent limestone fragments 203, measuring 0.35m in thickness. This was subsequently sealed by a modern hardcore surface 202 and red clay surface 201. An exploratory trench 206 excavated in 1961 truncated the above deposits and features and was subsequently sealed by a modern topsoil horizon 200 consisting of brown silty clay.
- 2.7 Laboratory analysis of material recovered from the culvert jointing produced no conclusive evidence that a lime mortar was employed during the original construction of the culvert. The results indicate that a combination of local limestone aggregate and clay/silt (not bound by lime as a mortar) were employed in the construction process (R. Thompson pers. Comm.).

3. DISCUSSION

- 3.1 The watching brief identified the structurally intact medieval culvert within both trenches 1 and 2. The limits of the 1961 exploratory trenches were clearly defined both in section and plan. However, the positions of the access holes broken through the culvert during these earlier works were hard to define on the exterior due to their reuse of original blocking and a bonding material not dissimilar in appearance although a little harder than the original medieval material.

- 3.2 Both trenches 1 and 2 suggest the culvert was trench built, the internal portion of the culvert being built first of faced rectangular limestone blocks bonded with clay and silt mixed with a limestone aggregate. The outer part of the walls and vault not on display were then constructed of more irregular limestone blocks and rubble set in clay and silt with coarse aggregate using the vertical edge of the construction trench cut as the form. The remaining portion of the trench cut above the culvert roof was then backfilled with up cast natural clay from the construction cut and construction debris.
- 3.3 The levelling deposits identified during the watching brief although artefactually undated can be related stratigraphically to different periods of the site use. Deposit 103 pre-dates the insertion of the culvert and may represent earlier medieval construction or landscaping. Deposit 102 appears to be redeposited clay and probably represents the levelling out of material up cast from the culvert construction cut. Deposits 101 and 203 may be considered to be broadly contemporary as they had similar fill characteristics and probably represent medieval cultural activity within the abbey and grounds post-dating the culvert construction. Deposits 201 and 202 are the product of recent landscaping.

4. CA PROJECT TEAM

Fieldwork was undertaken by Ray Holt. The report was written by Ray Holt. The illustrations were prepared by Jon Bennett. The archive has been compiled by Ray Holt, and prepared for deposition by Jon Hart. The project was managed for CA by Richard Young.

5. REFERENCES

BGS (British Geological Survey) 1974 *Moreton-in-Marsh*, Sheet 217, 1:50,000

CA (Cotswold Archaeology) 2010 *Hailes Abbey, Gloucestershire: Written Scheme of Investigation for an Archaeological Watching Brief*

EH (English Heritage) 2009b *Hailes Abbey, Nr Winchcombe, Cheltenham, Gloucestershire: Hailes Abbey Culvert Evaluation Assessment Report and Updated Project Design*

APPENDIX A: CONTEXT DESCRIPTIONS

Trench 1

No.	Type	Description	Length (m)	Width (m)	Depth (m)	Spot-date
100	Layer	Topsoil			0.39	
101	Layer	Orange brown clay levelling deposit			0.6	
102	Layer	Blue grey clay levelling deposit			0.26	
103	Layer	Orange brown clay levelling deposit			0.14	
104	Layer	Natural substrate: compact blue grey clay			L.O.E	
105	Wall	Medieval culvert	>2.5	>1.55	>1.3	
106	Cut	Construction cut for culvert 105	>2.5	>1.55	>1.3	
107	Deposit	Fill of 106	>2.5	>0.55	>0.8	
108	Cut	Cut of 1960s exploratory trench	>2.5	2.1	1.2	
109	Deposit	Fill of 108	>2.5	2.1	1.2	

Trench 2

No.	Type	Description	Length (m)	Width (m)	Depth (m)	Spot-date
200	Layer	Topsoil			0.16	
201	Layer	Modern levelling/path deposit		>1.9	0.1	
202	Layer	Modern hardcore levelling/path deposit		1.7	0.18	
203	Layer	Redeposited natural/levelling deposit		>2.25	0.35	
204	Layer	Natural substrate: light brown clay			1.35	
205	Layer	Natural substrate: blue grey clay			>0.3	
206	Cut	Cut of 1960s exploratory trench	>2.6	>2.2	1.1	
207	Deposit	Fill of 206	>2.6	>2.2	1.1	
208	Cut	Construction cut for culvert 209	>3.7		>1.5	
209	Wall	Medieval culvert	>3.7		>1.15	
210	Wall	Relieving arch, above culvert 209		1.6	0.45	
211	Deposit	Fill of 208		1.55	1.1	

APPENDIX B: LEVELS OF PRINCIPAL DEPOSITS AND STRUCTURES

Levels are expressed as metres below current ground level and as metres Above Ordnance Datum (AOD), calculated using spot heights located adjacent to trench 1 (99.31m AOD) and trench 2 (101.01m AOD).

	Trench 1	Trench 2
Current ground level	0.00m (99.46m)	0.00m (101.10m)
Top of medieval culvert	1.2m (98.26m)	0.9m (100.20m)
Top of natural substrate	1.4m (98.06m)	0.14m (99.70m)
Base of trench	2.46m (97.0m)	2.33m (98.77m)


Upper figures are depth below modern ground level; lower figures in parentheses are metres AOD.

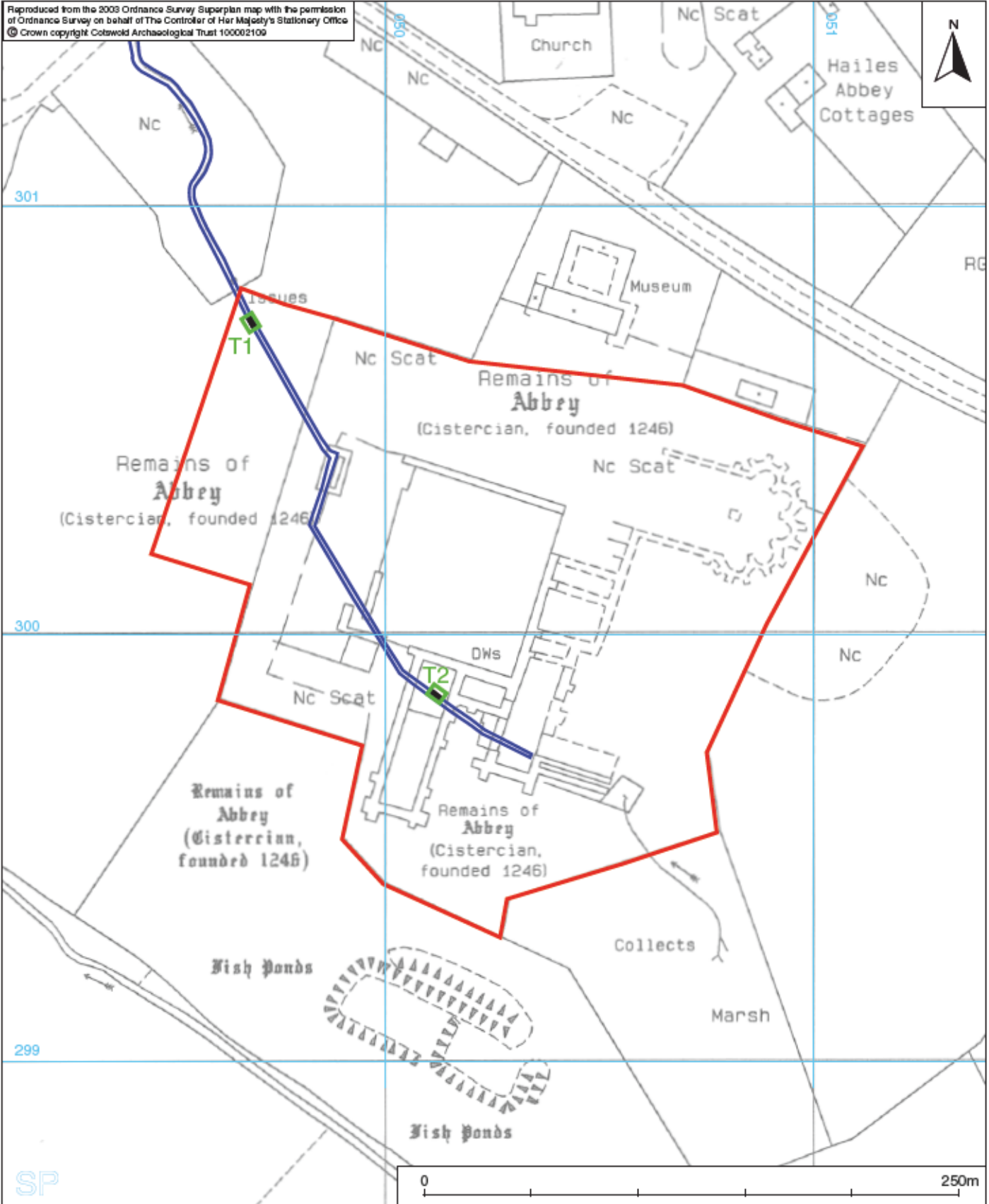
APPENDIX C: OASIS REPORT FORM

PROJECT DETAILS		
Project Name	Hailes Abbey, Gloucestershire	
Short description (250 words maximum)	<p>An archaeological watching brief was undertaken by Cotswold Archaeology during groundworks associated with the location and assessment of an existing stone-built culvert within the grounds of Hailes Abbey, Stanway, Gloucestershire.</p> <p>The existing medieval culvert was observed during groundworks together with medieval and recent levelling deposits. Modern exploratory trenches were also identified.</p>	
Project dates	1-5 February 2010	
Project type	Watching Brief	
Previous work (reference to organisation or SMR numbers etc)	Yes	
Future work	Unknown	
PROJECT LOCATION		
Site Location	Hailes Abbey, Stanway, Gloucestershire	
Study area (M ² /ha)	8ha	
Site co-ordinates (8 Fig Grid Reference)	SP 0501 3009	
PROJECT CREATORS		
Name of organisation	Cotswold Archaeology	
Project Brief originator	English Heritage	
Project Design (WSI) originator	Cotswold Archaeology	
Project Manager	Richard Young	
Project Supervisor	Ray Holt	
PROJECT ARCHIVES		
	Intended final location of archive (museum/Accession no.)	Content
Physical	n/a	None
Paper	Cheltenham Museum and Art Gallery	Context sheets, matrices, trench recording forms, plan and section drawings, black and white photographs, photographic registers, sample sheets and register
Digital	Cheltenham Museum and Art Gallery	Digital photos
BIBLIOGRAPHY		
CA (Cotswold Archaeology) 2010 <i>Hailes Abbey, Gloucestershire: Archaeological Watching Brief</i> . CA typescript report 10066		

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 COTSWOLD ARCHAEOLOGY			
PROJECT TITLE Hailes Abbey, Gloucestershire			
FIGURE TITLE Site location plan			
DRAWN BY	SCALE	PROJECT NO.	FIGURE NO.
JB	1:25,000@A4	2994	1



- site
- evaluation trench showing archaeological feature
- projected route of culvert



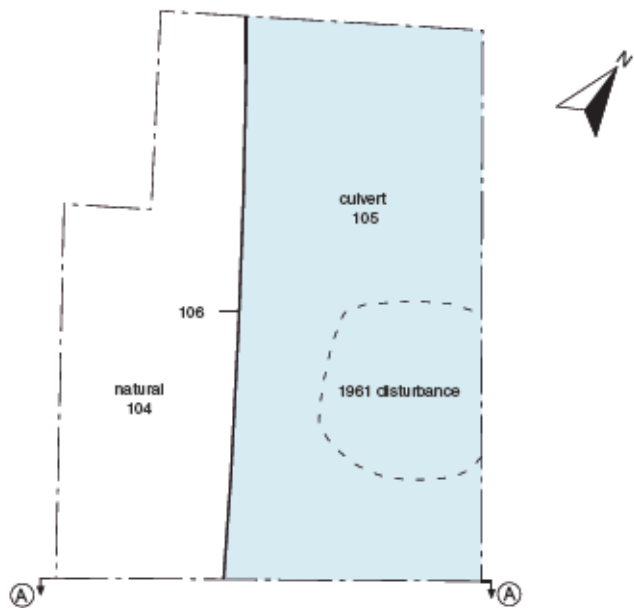
COTSWOLD ARCHAEOLOGY

PROJECT TITLE
 Hailes Abbey, Gloucestershire

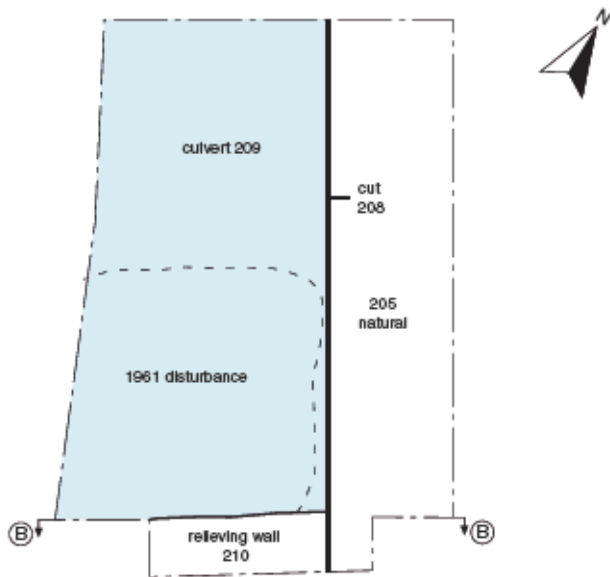
FIGURE TITLE
The site, showing location of groundworks

DRAWN BY	SCALE	PROJECT NO.	FIGURE NO.
JB	1:1250@A4	2994	2

Trench 1



Trench 2



 Culvert



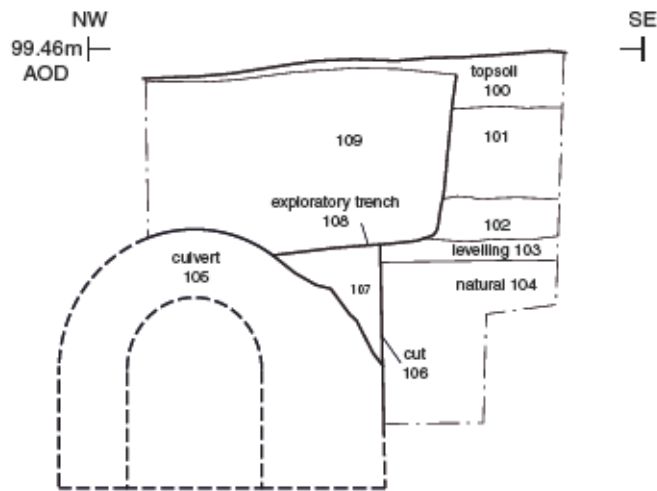
PROJECT TITLE
Hailes Abbey, Gloucestershire

FIGURE TITLE
**Trench plans, showing
archaeological features**

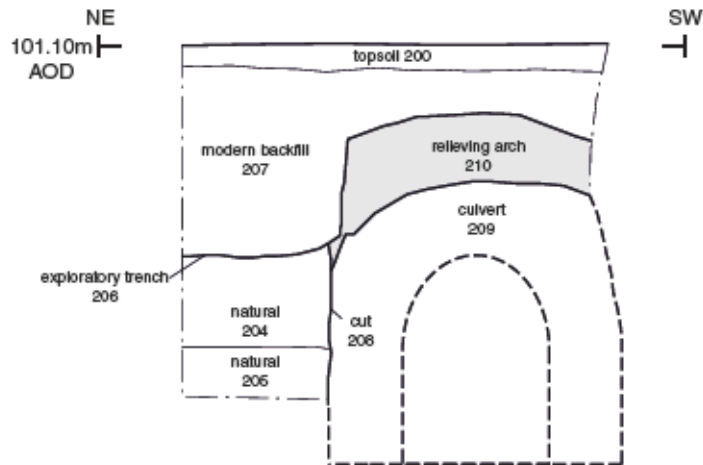
DRAWN BY	SCALE	PROJECT NO.	FIGURE NO.
JB	1:50@A4	2994	3



Section AA; trench 1, north-west facing section of culvert 105



Section BB; trench 2, north-west facing section of culvert 209



COTSWOLD ARCHAEOLOGY

PROJECT TITLE

Hailes Abbey, Gloucestershire

FIGURE TITLE

Sections

DRAWN BY

JB

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1:50@A4

PROJECT NO.

2994

FIGURE NO.

4



5



COTSWOLD ARCHAEOLOGY

PROJECT TITLE

Hailes Abbey, Gloucestershire

FIGURE TITLE

**Photograph of culvert 105
section AA**

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JB

SCALE

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PROJECT NO.


2994

FIGURE NO.

5



6

		 COTSWOLD ARCHAEOLOGY	
		<i>PROJECT TITLE</i> Hailes Abbey, Gloucestershire	
		<i>FIGURE TITLE</i> Photograph of culvert 207 and retaining arch 210, section BB	
<i>DRAWN BY</i>	<i>SCALE</i>	<i>PROJECT NO.</i>	<i>FIGURE NO.</i>
JB	n/a	2994	6