



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA

Property in Care (PIC) ID:	PIC168
Designations:	Scheduled Monument (SM90008)
Taken into State care:	1960 (Guardianship)
Last Reviewed:	2019

STATEMENT OF SIGNIFICANCE

ANTONINE WALL - BARRHILL (BAR HILL)



We continually revise our Statements of Significance, so they may vary in length, format and level of detail. While every effort is made to keep them up to date, they should not be considered a definitive or final assessment of our properties.



© Historic Environment Scotland 2020

You may re-use this information (excluding logos and images) free of charge in any format or medium, under the terms of the Open Government Licence v3.0 except where otherwise stated.

To view this licence, visit <http://nationalarchives.gov.uk/doc/open-government-licence/version/3> or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gov.uk

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Any enquiries regarding this document should be sent to us at:

Historic Environment Scotland
Longmore House
Salisbury Place
Edinburgh
EH9 1SH

+44 (0) 131 668 8600

www.historicenvironment.scot

HISTORIC ENVIRONMENT SCOTLAND STATEMENT OF SIGNIFICANCE

ANTONINE WALL – BARRHILL (BAR HILL)

CONTENTS

PART A	FRONTIERS OF THE ROMAN EMPIRE WORLD HERITAGE SITE	2
PART B	STATEMENT OF SIGNIFICANCE	5
1	SUMMARY	5
1.1	Introduction	5
1.2	Statement of significance	5
2	ASSESSMENT OF VALUES	8
2.1	Background	8
2.2	Evidential values	9
2.3	Historical values	11
2.4	Architectural and artistic values	13
2.5	Landscape and aesthetic values	14
2.6	Natural heritage values	15
2.7	Contemporary/use values	15
3	MAJOR GAPS IN UNDERSTANDING	16
4	ASSOCIATED PROPERTIES	16
5	KEYWORDS	17
	BIBLIOGRAPHY	17
	APPENDICES	
	Appendix 1: Timeline	19
	Appendix 2: Summary of archaeological investigations	20
	Appendix 3: Outstanding Universal Value	22
	Appendix 4: Overview and introduction to the Antonine Wall	24

PART A: FRONTIERS OF THE ROMAN EMPIRE WORLD HERITAGE SITE

Introduction

In 2008 the Antonine Wall was inscribed by UNESCO to become part of the Frontiers of the Roman Empire World Heritage Site (FREWHS). This already included Hadrian's Wall (inscribed in 1987) and the German *Limes* (inscribed in 2005). To be inscribed on the world heritage list, a site must meet at least one of the criteria for the assessment of Outstanding Universal Value (OUV) as defined by UNESCO¹. A fuller exposition of the OUV of the site is given in Appendix 3 below or can be found on the UNESCO website.

This brief introduction sets the Antonine Wall in the context of the FREWHS and outlines the justification for inscription of the Antonine Wall on the World Heritage List.

The Historic Environment Scotland (HES) Statement of Significance for Bar Hill which follows at Part B, recognises this individual site as an integral part of the wider Antonine Wall World Heritage Site. The Assessment however focusses in on Bar Hill itself for a closer examination of its individual history, development and range of heritage values.

It is also acknowledged that HES directly manages only a small proportion of the whole Antonine Wall WHS. This assessment is intended to inform understanding and management of those sites (or 'Properties in Care') for which HES has direct management responsibility:

Bantaskin (PIC167); Bar Hill (PIC168); Bearsden Bath-house (PIC169); Castlecary Fort (PIC170); Croy Hill (PIC171); Dullatur (PIC172); Garnhall Farm (PIC173); Kinneil House (PIC152); Kirkintilloch (PIC174); Rough Castle (PIC175); Seabegs Wood (PIC176); Tollpark (PIC177); Watling Lodge (PIC178) and Watling Lodge West (PIC179).

The Frontiers of the Roman Empire WHS (FREWHS)

The Antonine Wall is one of only three artificial frontiers constructed by the Roman army in Europe. Collectively, they form a serial trans-national World Heritage Site, the FREWHS; the OUV of which lies in the survival of the 2nd-century Roman frontier system across Europe, North Africa and the Middle East. This reflects the development and breadth of Roman military architecture and power. Together, the inscribed remains form an extensive relict cultural landscape which displays the unifying character of the Roman Empire, through its common culture, but also its distinctive responses to local geography and political and economic conditions. Each component part is a substantial reflection of the way resources were deployed in a particular part of the Empire.

¹ For more information on Criteria and the Inscription process, see <https://en.unesco.org/>

The Antonine Wall within the FREWHS

For a short period in the mid second century the Antonine Wall formed the north-western frontier of the Roman Empire. The Antonine Wall was built under the Emperor Antoninus Pius in the 140s AD as an attempt to conquer parts of northern Britain, and extends for some 60km across central Scotland from the River Forth to the River Clyde. Through its military and civil constructions, it demonstrates cultural interchange through the extension of Roman technical skills, organisation and knowledge to the furthest reaches of the Empire. It embodies a high degree of expertise in the technical mastery of stone and turf defensive constructions. As it was in use for only a single generation, it provides a dated horizon at a particular point in time and offers a specific insight into how the frontier was designed and built. Together, the remains of the frontiers, consisting of vestiges of walls, ditches, earthworks, fortlets, forts, fortresses, watchtowers, roads and civilian settlements, form a social and historical unit that illustrates an ambitious and coherent system of defensive constructions perfected by engineers over the course of several generations.²

The Antonine Wall, as a Roman frontier, is a physical and visual testimony to the former extent of one of the world's greatest states, the Roman Empire. It formed part of a frontier system which surrounded and protected that Empire.

The Antonine Wall has a particular value in being the most highly developed frontier of the Roman Empire: it stands at the end of a long period of development over the previous hundred years and therefore facilitates a better understanding of the development of Roman frontiers in Britain and beyond. It is one of only three artificial barriers along the 5000km European, North African and Middle Eastern frontiers of the Roman Empire. These systems are unique to Britain and Germany, though more fragmentary linear barriers are known in Algeria and Romania. Built following an invasion of what is now Scotland during AD 139/142 and occupied for possibly only 20 years, it served as the most northerly frontier of the Roman Empire at the high point of its power and influence in the ancient world. It has many unique features which demonstrate the versatility of the Roman army, while its short life is of considerable value in offering a snap-shot of a Roman frontier in its most advanced state. As the most northerly frontier, it stands as an example of Rome's stated intention to rule the world.

The Antonine Wall has a distinctive value as a unique physical testimony to the nature of the constitution of the Roman Empire and the requirement of the emperor for military prestige. The abandonment of Hadrian's Wall and the construction of a new northern frontier at the behest of a new emperor reflects the realities of power politics in Rome during Edward Gibbon's "Golden Age". It also stands as a physical manifestation of the statements of writers flourishing during the reign of Antoninus Pius about the measures which Rome took to protect its inhabitants, even those living in its most distant province.

The Antonine Wall is of significant value in terms of its rarity, scale, preservation, and historical and archaeological value; the engineering and planning skills of its builders; the understanding of Roman frontier policy and management, and its influence on the landscape and history of local peoples during the Roman period

² <https://whc.unesco.org/en/list/430>

and beyond; and also in terms of its contribution to the economic, educational and social values of today's society.³

The Antonine Wall sits within the broad framework of Roman frontiers, but it also contains many unique or unusual elements. These mainly relate to the structure itself:

- The Antonine Wall was built within 20 years of Hadrian's Wall, and, in its general framework, bears some features in common, but in many aspects it is clearly a development of Hadrian's Wall and is different in many ways, reflecting a more complicated frontier complex;
- The Antonine Wall is the only known frontier to have had a turf rampart erected on a stone base. Hadrian's Wall was of stone in the eastern part and turf in the west, but the turf wall was built directly on the ground - though short stretches of cobble foundations have been found at two locations - and was wider than the Antonine Wall. The Outer *Limes* in Germany was a timber palisade in its primary phase. The purpose of the stone base may have been to add stability to the superstructure, or to aid drainage through the barrier;
- The forts are more densely spaced on the Antonine Wall than on any other frontier of the Roman empire;
- Unlike on Hadrian's Wall the forts are diverse in their sizes, defences and internal arrangements;
- Unusually, many forts have annexes attached to them. Annexes have been recorded at many forts but not at those on linear barriers, but no such structures were constructed on Hadrian's Wall and they do not exist in the same form on the German *Limes*;
- Six expansions, probably used for signalling, are known: these structures are unique to the Antonine Wall;
- The three small enclosures discovered in one section of the Antonine Wall are unique on Roman frontiers;
- The short life of the Antonine Wall, coupled with the location and morphology of the known camps, enables most to be definitively identified as temporary camps used by the soldiers building the frontier. As a result, it is possible to offer suggestions on the organisation of labour, which is not possible on other frontiers. Many temporary camps are known along the line of Hadrian's Wall (few are recorded in Germany and elsewhere), but the long history of many other frontiers renders it difficult to disentangle temporary camps from marching camps and practice camps;
- The Antonine Wall was the shortest occupied linear frontier in the Roman Empire and is thus a unique archaeological resource.

The temporary camps discovered on the Antonine Wall are particularly important in relation to the final unique element, the twenty Distance Stones which are known either whole or in part from the Antonine Wall. These record the lengths of Wall built by each of the three legions of Britain, the Second, Sixth and Twentieth.

³ Historic Scotland 2007: 75

However, the distance stones are not simple records, but highly decorated and sculptured stones which depict events during the military campaigning and form one of the most important collections of Roman military sculpture from any frontier of the Roman Empire. Together with the evidence of the temporary camps, they allow important conclusions to be reached about the construction of the Antonine Wall which are unique to this frontier. They are also an important element in any consideration of the reason for the construction of the Antonine Wall, which is generally believed to relate to the personal position of the new Emperor Antoninus Pius. On one interpretation, they glorify the success of Roman arms on behalf of the Emperor, whose name appears on all the inscriptions, over the enemies of Rome and emphasise the support of the gods, and in particular the goddess Victory, for the Romans and their Emperor. However, as the known distance slabs have been removed from the monument and placed in museums or their protection, they are not included in the World Heritage site.⁴

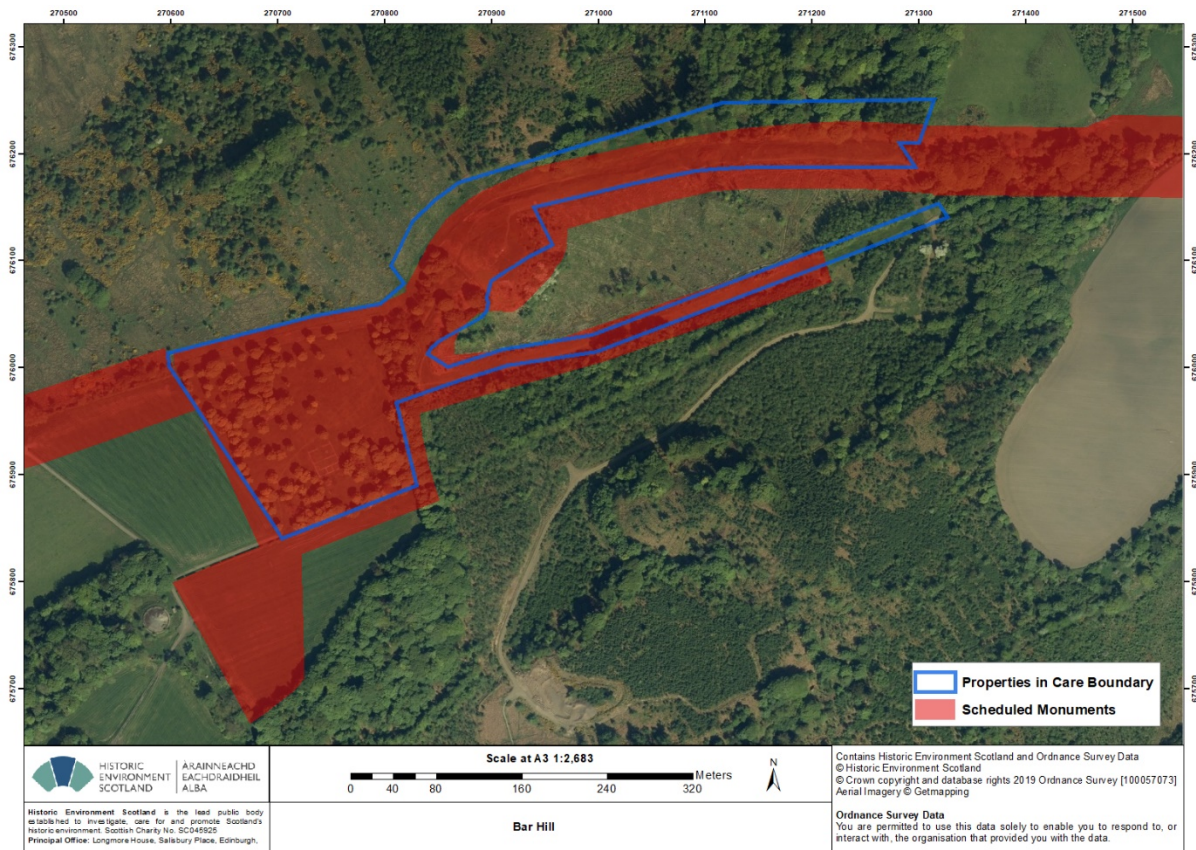
PART B: STATEMENT OF SIGNIFICANCE: BARRHILL (BAR HILL)

SUMMARY

1.1 Introduction

This property is part of the Antonine Wall and comprises a Roman fort (on the summit of Bar Hill) and a small Iron Age hillfort (on the summit of Castle Hill—not to be confused with “Castlehill,” another Roman fort on the Antonine Wall—to the west), a 760m stretch of the Roman frontier’s Rampart, Ditch, and Outer Mound, and a section of the Military Way running about 300m from the east side of the Roman fort; a Roman temporary enclosure underlies the fort. This is the highest point anywhere along the line of the Antonine Wall, and there are spectacular views in all directions. The Roman fort has been extensively investigated, and the fort platform, east gate, and the exposed and presented remains of the headquarters building (*principia*) and bath-house are visible on the ground. Uniquely, the Roman fort is not directly connected to the line of the Wall, but is set back about 30m to the south of the Wall’s Rampart, with the Military Way running between the fort and the Antonine Wall Rampart. The site has provided a wealth of epigraphic and artefactual evidence on Roman frontier life and on the ritual decommissioning of the frontier.

⁴ Historic Scotland 2007: 76-77



Scheduled Area and Property in Care boundary, for illustrative purposes only.

1.2 Statement of Significance

As a part of the Antonine Wall, this property inherits the following aspects of significance:

- It is part of a well-preserved Roman frontier.
- Of all of imperial Rome's linear frontiers, this is the final and most developed example, in terms of strategic defense. Its engineers improved on Hadrian's Wall (built a generation before), to incorporate new features into its design, such as the use of fortified annexes which are unique in Roman linear frontier systems. It allows the development of Roman frontiers to be investigated through comparison with Hadrian's Wall and the German *Limes* thereby allowing us to understand more clearly the arrangements the Romans made to protect their Empire, as well as the relationship between broad principles and distinct local requirements. The Wall has further importance as a dating tool. Artefacts, pottery and ecofacts found in the structures along the frontier had a limited period of use, and are invaluable for helping date other forts and civil settlements.
- At the time of its creation, it represented the biggest ever engineering project to be undertaken within central Scotland, and a major human-engineered topographical transformation of the landscape.

- The Antonine Wall is the only known frontier to have had a turf rampart erected on a stone base; this may have been to add stability to the superstructure, or to aid drainage through the barrier.
- Following the Roman military abandonment of the frontier, it remained a highly visible landscape feature with continued significance in subsequent periods. It retained significance in a number of ways, e.g. as a defensive line, with its stones and Distance Stones reused in the construction of neighbouring dykes and properties, and in the name “Graham’s Dyke,” by which it came to be known; a name still reflected within modern street names in the eastern half of the Wall’s line.
- Within the FREWHS, the Distance Stones are unique to Scotland. Three legions built the Wall, and erected these 20 sculpted and inscribed sandstone blocks to record the completion of their individual stretches.
- The Antonine Wall is a most important repository of environmental evidence, both through its materials of construction and because it provides a dated horizon stretching right across Scotland. Through environmental evidence from the Antonine Wall, it has been possible to reconstruct the vegetational history of Central Scotland. The wall gains further international significance through the context in which it is managed as a World Heritage Site. The archaeological remains, the line and the setting of the Antonine Wall and its buffer zone are protected by UK Acts of Parliament, supplemented by National Planning Policy Guidelines, which together form a coherent framework for the protection of the whole of the World Heritage Site and its buffer zone.

More particularly, Bar Hill is significant for the following reasons:

- It uniquely offers the juxtaposition of Roman and Iron Age forts on the line of the Antonine Wall.
- It is the only example of an Antonine Wall fort that is not directly attached to the frontier’s Rampart (with the possible exception of Carriden).
- It offers insights into the sequence of frontier development, with a temporary enclosure preceding the later fort.
- It has produced one of the most impressive and important collections of Roman period artefacts from anywhere in Scotland.
- It provides a rich depositional record of probable ritual decommissioning of the fort and frontier.
- It is at the highest altitude of all Antonine Wall forts and offers excellent views in all directions.

ASSESSMENT OF VALUES

2.1 Background

The Antonine Wall is the remains of the Roman Empire's northwest frontier built in the mid-second century. It was around 41 miles (66km) long and stretched across central Scotland from the Firth of Forth near Bo'ness to Old Kilpatrick on the Clyde. The Wall was constructed, in functional operation, and then abandoned all within a period of about twenty years between the early AD 140s-160s. A full overview and description of the Antonine Wall is given at Appendix 4⁵.

Though termed a "Wall", the main structure was of Rampart and Ditch. The Rampart was constructed mostly out of layers of turf, erected on a stone base, and reached a height of 3m. To the north of the Wall, the defences also included a huge Ditch, nearly 5m deep in places, and an Outer Mound constructed from the earth thrown out of the ditch. Seventeen forts plus additional 'fortlets' accommodated the men stationed along the Wall during its brief occupation (the number could be as low as 4,500-5,000 men)⁶.

The Military Way, a service road built to the south of the Wall, was another important element, enabling troops to move swiftly along its course, bearing supplies, commands and news. The Wall was entirely built by members of the three Roman legions stationed in Scotland. During construction, the soldiers lived in leather tents situated inside temporary camps which were enclosed by light defences. These temporary camps were an integral part of the design of the Antonine Wall, and were carefully positioned along the frontier during its creation, to ensure maximum efficiency.

In the late 150s / early 160s AD the Antonine Wall was abandoned and the guard withdrawn. The rampart was not demolished, nor was the ditch filled in, but fort buildings were burnt or dismantled. The Romans took valuable and portable items away with them, but heavy or worthless objects were discarded, in some cases down the well of the fort - to the great benefit of future archaeologists.

Throughout the post-Roman and medieval periods the Antonine Wall and its immediate vicinity saw continued occupation and the construction of new settlements and structures, including churches, villages, and several castles, including mottes. The wall became known as 'Grymisdyke' and its Roman heritage was forgotten. Throughout the post-Roman and medieval periods the Antonine Wall and its immediate vicinity saw continued occupation and the construction of new settlements and structures, including churches, villages, and several mottes and castles.

From the 18th century there was growing interest in and exploration of the Wall by antiquarians, and certain sites became celebrated. Industrialisation and

⁵ Note: The key linear features include the Rampart, Ditch, Berm, Outer Mound, and Military Way; these features are all presented in this document with an initial capital letter in order to avoid confusion between the main frontier's Rampart and Ditch and those ramparts and ditches that surround the Wall's installations.

⁶ Keppie 2009

development in the central belt also saw destruction of some parts of the wall by agricultural and industrial development, and the building of roads and canals.

Bar Hill was first Scheduled in 1961 and was taken into State care in 1960. HES manages fourteen sites along the Wall but the majority of the Wall is not in State care. In 2008 the Antonine Wall was inscribed as a World Heritage Site and a Management Plan for the WHS is available at www.antoninewall.org/world-heritage/managing-antonine-wall

Following inscription in 2008, a Management Plan Steering Group was established to develop and deliver Management Plans and key strategic work along the Antonine Wall. This comprises Historic Environment Scotland (HES) and the five local authorities along its length (West Dunbartonshire Council, Glasgow City Council, East Dunbartonshire Council, North Lanarkshire Council and Falkirk Council). A World Heritage Site Co-ordinator is employed by HES to work on behalf of this partnership and deliver the UNESCO WHS requirements. The Partnership invests in capital and revenue projects to protect and promote the Antonine Wall; since inscription this has included (amongst other projects) key branding work, a new website, a digital app platform, new road and onsite signage, economic and visitor studies, investment in visitor counters and a significant Heritage Lottery Fund (HLF) project focused on regeneration and community engagement. New staff members were recruited for a three year period to manage the HLF project and key to their work was a co-design and co-curation approach with local communities. Key groups being targeted include communities in the most deprived areas of the Central Belt, asylum seekers (including those from areas associated with the original Roman troops stationed on the Antonine Wall), young people both in and out of schools, and individuals seeking skills development opportunities.

The Antonine Wall has benefited from the development of the John Muir Way, a coast to coast walking route that crosses several parts of the Antonine Wall. This has helped to find alternative routes for cyclists and horse-riders, where some parts of the site had been vulnerable to damage from such use.

Internationally, as part of the Frontiers of the Roman Empire World Heritage Site, staff and communities connected to the Antonine Wall liaise and network with counterparts along Hadrian's Wall and the German *Limes*. This has included: joint European funding bids; networking trips; hosting / attending international meetings and delegations; and conferences and seminars. There has also been successful engagement with wider European Roman frontier networks.

2.2 Evidential Values

The property provides significant evidence for the life and community of the Roman frontier, for the sequence of frontier development, for interactions between the Roman military and local indigenous communities, and for the process of decommissioning the fort in advance of its final abandonment. This evidence is represented by visible features on the surface (e.g. the defences of both Roman and native forts, and exposed portions of internal structures within

the Roman fort), materials and records from past excavations⁷, and unexcavated remains below the current ground surface.

There is significant potential at this property to uncover new evidence for life and interaction at the edge of the Roman Empire, particularly through the juxtaposition of the Roman fort with the Iron Age hillfort. Although extensive excavation has centred on the Roman fort, the Iron Age fort has been largely neglected. Modern quarrying has removed significant portions of Castle Hill, and few details of the Iron Age settlement can be ascertained on the ground; future campaigns of excavation or geophysical survey are very likely to help clarify the site's configuration, function, and dates, all of which currently remain uncertain. There is also potential to uncover new evidence for the civil settlement (*vicus*) around the Roman fort; these have been notoriously elusive along the Antonine Wall, and further geophysical survey and/or excavations outside of the Roman fort may indicate where this probable settlement was located.

Bar Hill has also provided an incredible wealth of artefacts from the fort's Antonine occupation⁸. Particularly important is the dense and structured deposition of artefacts, inscriptions, and architectural fragments from the fort's well, located within the courtyard of the headquarters building (*principia*). Measuring 43 feet (13m) in depth and 4 feet (1.2m) in diameter, the well appears to have been deliberately infilled as part of the fort's decommissioning⁹. This deposit included 21 whole or fragmentary columns, 14 column bases, and 11 capitals, an altar to an unnamed deity (and probably, therefore, to Jupiter Optimus Maximus or the imperial cult) and fragments from a building inscription set up by the First Cohort of Baetasians, an amphora, tools, coins, and numerous wood and iron fragments, including portions of the well's own pulley and bucket system¹⁰. Other important finds were retrieved from Roman period refuse pits, including leather shoes and tent panels, metal object fragments, and a complete wooden wagon wheel¹¹. The leather shoes, including those representing women and children, indicate that the community at Bar Hill was gender and age diverse, and provide further evidence for the increasing recognition¹² that Roman military spaces were less male-dominated than traditional perspectives have suggested. Although less impressive than the growing collection of leather footwear from Vindolanda in northern England, Bar Hill remains one of the most significant sources for such evidence in a Roman military context, and certainly for a Roman military site in Scotland¹³.

⁷ Macdonald and Park 1906; Macdonald 1934: 271–285; Robertson *et al* 1975; Keppie 1985; Keppie and Walker 1989: 151–153

⁸ 3D digital models of many of these objects can be freely viewed on Historic Environment Scotland's Sketchfab page:

<https://sketchfab.com/HistoricEnvironmentScotland/collections/antonine-wall>

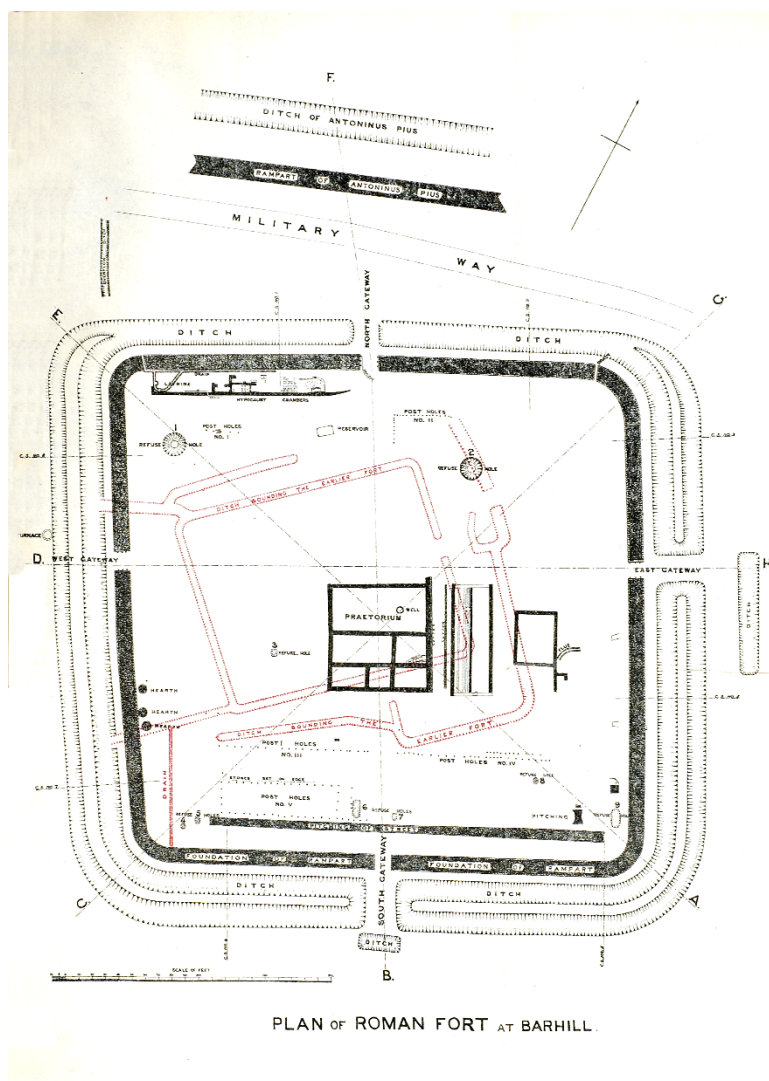
⁹ Keppie 1985: 73; Robertson 2015: 92–94

¹⁰ Macdonald and Park 1906: 442; Robertson 2015: note colour image of cross-section of well deposition

¹¹ Macdonald and Park 1906: 463–466

¹² e.g. Greene 2011; van Driel-Murray 1995

¹³ See Douglas 2015



Plan of the 1902-05 excavations at Bar Hill fort

2.3 Historical values

This property tells the story of the Roman frontier's development from initial construction through to deliberate decommissioning, represents a unique arrangement between the frontier's linear elements and a fort, and has strong untapped potential to reveal more about the relationship between the Roman occupying forces and local communities.

The earliest known occupation at this property is the Iron Age fort on Castle Hill. The fact that it pre-dates the Roman frontier is evidenced by the Antonine Wall's cutting of the Iron Age fort's northern defences¹⁴, but lack of excavation of the Iron Age fort itself prevents more precise dating for both its original construction and functional lifespan. Although it is often assumed that this fort was "long abandoned" before the Antonine period Roman occupation¹⁵, there is no definitive

¹⁴ Hanson and Maxwell 1986: 164

¹⁵ Breeze 2009: 33

evidence for when it was built, or fell out of use. This juxtaposition of Iron Age and Roman forts in such close proximity is entirely unique on the Antonine Wall, and the property offers strong prospects for better understanding the events of the Roman invasions of Scotland, and the impacts of those invasions on local settlements and communities.

The Roman fort sits on the summit of Bar Hill, about 180m west of Castle Hill and 30m south of the frontier's linear elements. This fort, uniquely separated from the frontier's Rampart, has no structural connection to the frontier's linear elements and cannot be precisely placed into a stratigraphic sequence with them. Underlying the fort, however, is an earlier enclosure that Sir George Macdonald interpreted as one of the Flavian period forts (*praesidia*) that the Roman historian Tacitus says was built across the Forth-Clyde isthmus by Julius Agricola around AD 80¹⁶. Unfortunately for that hypothesis – and for the frustratingly unfulfilled quest to identify Agricola's stations – more recent excavations have overturned Macdonald's claim, and this earlier enclosure is interpreted as Antonine in date¹⁷. With this discovery coming shortly after the development of the Gillam¹⁸ hypothesis and the ensuing search for additional Antonine Wall fortlets, this early enclosure was sometimes referred to as a probable "fortlet"¹⁹. A further small enclosure has also been identified outside of the fort to the southwest, and most probably represents a temporary camp²⁰. Combining the evidence of the two enclosures with that of the fort, it seems likely that the enclosure underneath the fort may have been involved in the surveying and layout of the Wall²¹. The camp to the southwest probably housed soldiers involved in the construction of the fort.

Visitors to the site can see the Roman fort's platform, east gate, and the exposed remains of the headquarters building (*principia*) including the well and bath-house, all of which are visible on the ground, together with the subtle earthwork features of the underlying enclosure. Many of the most spectacular objects recovered from the site were located within the headquarters building and bath-house, and these structures' visible foundations provide a tangible link between physical space and the rich material culture insights provided by the objects deposited within those spaces. Dedicatory altars, building inscriptions, and small finds provide much data on the origins and cultural lifestyles of the Roman soldiers stationed at Bar Hill, demonstrating wide mobility across the Empire, from the Netherlands (First Cohort of Baetasians) to Syria (First Cohort of Hamians). Although military frontiers are often viewed as exclusionary structures designed to separate and prevent movement, these objects help to tell a story of intercontinental inclusion and mobility.

In this context, it is disappointing that we do not yet have sufficient evidence to tell the story of how these soldiers and the wider Roman frontier community interacted with local populations. The dedication of an altar found at Bar Hill to Mars Camulus points to the religious mixture of both Roman and Celtic cultures at

¹⁶ Macdonald 1934: 272

¹⁷ Keppie 1986

¹⁸ 1976

¹⁹ Keppie and Walker 1989: 151

²⁰ Keppie and Walker 1989: 151–153

²¹ Jones 2011: 324

the site²², but this may reflect influence from southern Britain rather than from the immediate vicinity. Better investigation of any civil settlement would begin to address the wider cultural impact of the Romans on local life, as would future detailed investigation of the Iron Age fort on Castle Hill.

There are no significant references to post-Roman activities at this property, but the Roman fort was one of the earliest to attract antiquarian attention. Sir Robert Sibbald described a “great fort” from whence many sculpted and inscribed stones had been taken and “kept at the Houses of the Nobility and Gentry in the Neighbourhood”²³. Alexander Gordon also recognised a significant fort here, and remarked that “there is no Roman Fort, which I know of in Scotland, where the Vestiges of the old Buildings appear so plain as here”²⁴. It is not surprising, then, that the site was one of the earliest to see archaeological excavation, with sections cut across the line of the frontier in the early 1890s²⁵ and then of the fort itself starting in 1902²⁶.

2.4 Architectural and artistic values

The Roman fort at Bar Hill is unique along the Antonine Wall as it is not directly connected to the line of the frontier, but is set back about 30m to the south of the Wall’s Rampart, with the Military Way running between the fort and the Antonine Wall Rampart. This situation offers a good contrast to the relationship between the fort and Wall at Rough Castle (PIC175), which is the best-preserved fort on the Antonine frontier and is clearly attached directly to the Rampart.

Excavations have revealed that the fort at Bar Hill had an internal area of about 1.3ha, with turf ramparts on a 3.6m wide stone base²⁷. There were two parallel ditches on the fort’s east, south, and west sides, but only a single ditch to the north. Beyond this northern ditch was the Military Way and then the Antonine Wall Rampart. There were four gateways, with gaps allowing passage through the north, east, and south ditches, but surprisingly no gap within the fort’s western ditches. Short separated sections of ditch were also located just outside of the entrance gaps on the fort’s east and south sides, adding an extra measure of defence for these gateways. Within the fort’s interior were found the remains of a stone headquarters building (*principia*), granary (*horreum*), and a possible workshop along the main road (*via principalis*) running through the centre of the fort, and a long and narrow stone bath-house and possible latrine built against the north rampart in the fort’s north-west corner. There is evidence that the bath-house went out of use at some point in the fort’s functional period, as its furnace room was later reused as a pottery kiln²⁸; based on the evidence of pottery produced by this kiln, it is possible that the potter or unit using these products had come from North Africa or previously been stationed there²⁹. Post-holes for

²² Macdonald 1934: 426

²³ Sibbald 1707: 29

²⁴ Gordon 1726: 55

²⁵ Glasgow Archaeological Society 1899: 86–95

²⁶ Macdonald and Park 1906

²⁷ Macdonald and Park 1906; Robertson *et al* 1975; Keppie 1985

²⁸ Keppie 1985: 60

²⁹ Swan 1999: 426 – 427; also see Bidwell and Croom 2016

at least four probable barracks were also identified, some with surviving portions of timber posts. The *principia* was almost square in shape, measuring 23.5m by 25.5m, with a northern courtyard followed by a covered crosshall with a raised dais, and then three separated rooms on the south. The central room in the southern range was probably the fort's shrine (*aedes*) of the standards, and this was found to contain a stone-lined strongbox set into the floor. Within the northern courtyard was a well, measuring 1.2m in diameter and reaching a depth of 13m; this was discovered on the first day of excavation in 1902, and contained a wealth of deposited objects discussed above.

The architectural features of the fort's internal buildings are not particularly remarkable in comparison with other Roman military forts, and are typical in design and construction methods. The main buildings are constructed on stone foundations, while the barracks were of timber post construction. The evidence for architectural phasing is, perhaps, more important, and may reflect changes between the original garrison of the First Cohort of Hamians and the later garrison of the First Cohort of Baetasians. The most obvious architectural phasing evidenced for a single structure was the bath-house, when its furnace was renovated to serve as a pottery kiln. Beyond the internal structures, it is also worth noting that the fort's south gateway was more heavily fortified than the other gates, with a masonry structure and guard-chamber as opposed to the timber towers located at the east, west, and north gates.

It has been noted that the fort at Bar Hill is almost a direct copy of the Hadrian's Wall fort at Carvoran, and the First Cohort of Hamians is attested by inscriptions at both sites, leading to the suggestion that Bar Hill may have been specifically built for the purposes of housing this Syrian unit³⁰. In addition to epigraphic evidence attesting the presence of the First Cohort of Hamians, both of these forts are anomalies on their respective frontiers, unusually detached from their frontier's Rampart/Curtain. An important difference, though, is that a fortlet (Milecastle 46) was located north of Carvoran fort on the Hadrian's Wall curtain, allowing access across the frontier through its gate, while there is no known fortlet, gate, or causeway across the frontier at Bar Hill.

Unfortunately, there is little firm architectural evidence for the Iron Age fort on Castle Hill, but two parallel terraces on the hill's north-west side may be all that's left of the fort's rampart and ditches, and probably once surrounded the whole hill. These terraces have been destroyed on the south-east side of the hill by modern quarrying activity, and elsewhere may have simply eroded or been deliberately dismantled.

2.5 Landscape and aesthetic values

Although this property offers the highest elevation of any known Antonine Wall fort at 495 feet above sea level, it is worth noting that it is not the highest location in the immediate area, with both Bar Hill Wood (511 feet) and Castle Hill (507 feet) sitting higher and, indeed, interfering with the views available from the Roman

³⁰ Breeze 2009: 33; Robertson 2015: 95

fort³¹. The views are spectacular in nearly any location on the property, but are especially fine from the summit of Castle Hill. To the north the ground descends sharply and the site overlooks the River Kelvin and Kilsyth Hill, while to the south the terrain slowly falls away toward Luggie Water. The property contains wooded areas and offers a pleasant walk, whether visitors are intending to visit the ancient remains or not.

2.6 Natural heritage values

At the time of writing³², the area in State care had no noted special natural heritage values or designations, however, bats (*chiroptera*) and great crested newts (*Triturus cristatus*) had been recorded in the local area³³; both European Protected Species. One of the most important aspects of Bar Hill, along with other sections of the Antonine Wall, is their capacity to act as wildlife and biodiversity corridors for the surrounding areas. Linear features of relatively undisturbed countryside are of great importance, and Bar Hill links two areas of woodland. - The Property in Care boundary runs along the lower edge of the Strone plantation of semi-natural ancient woodland to the north, with the long-established Barhill Wood of plantation origin to the south.

Geology

The Antonine Wall was created making best advantage of the local geology and topography. Here the bedrock largely belongs to the Limestone Coal Formation of the Clackmannan Group. However, the eastern end of the site sits upon Midland Valley Sill Complex of the North Britain Later Carboniferous Tholeiitic Suite. Superficial deposits are of Devensian Till³⁴.

2.7 Contemporary/use values

The Antonine Wall is well used by communities along its length as a relatively rare green space amid the urbanisation of Central Scotland. Walkers, trail runners, healthy living groups, and youth groups have all been identified as key 'greenspace' users during consultation events. Since its World Heritage Inscription in 2008, growing awareness of its status has emerged, and a more diverse audience developed. 'World Heritage' tourism has been noted by local tourism providers and a growing schools audience has been observed through social media. Further information on the WHS Management Plan Group and partnership activities and projects is given above at section 2.1 Background.

Wider opportunities for community development, regeneration, and local / national / international networking remain significant.

³¹ Macdonald 1934: 271

³² February 2019

³³ In 2005 within 500m, and in 2012 within 1km, respectively.

³⁴ British Geological Survey, 2019. Available from: <https://www.bgs.ac.uk/geoindex/> [6 February 2019]

The property offers a popular walking route, and the views are particularly fine from the top of Castle Hill. Visitor numbers to the HES managed Antonine Wall sites have been difficult to quantify as the sites are freely accessible and not staffed. Many attract substantial numbers of walkers as well as those setting out to visit the Roman site. Automatic counters have been installed at some sites which gives an idea of footfall. At Bar Hill 34,000 were counted, while at Rough Castle, which is very near the Falkirk Wheel, over 100,000 were counted over the course of a year (2018).

3. MAJOR GAPS IN UNDERSTANDING

The Antonine Wall Research Agenda (in draft, 2019) highlights a number of areas where further work on the Wall line could enhance understanding. These include:

- Work on the local landscape and environment before the Wall's construction.
- Geoarchaeological work on the rampart and ditch.
- Study of the building materials and techniques deployed on the Wall.
- Remote sensing in the vicinity to detect additional structures including the Military Way.

For further information on the Research Agenda see: www.antoninewall.org

The primary gaps in our understanding of Bar Hill are:

- The precise dates and plans of the hillfort on Castle Hill;
- The date, extent, and plan of the Roman period civil settlement;
- The relationship between the Roman fort and civil settlement and contemporary activities/settlement (if any) on the hillfort;
- The precise date and function of the enclosure underlying the Roman fort; and
- The reasons why the Roman fort is not connected to the frontier's Rampart, and whether or not this is related to similarities with the fort of Carvoran on Hadrian's Wall.
- Research is needed to establish a better understanding of visitor number and visitor profile across Antonine Wall sites. This would help in realising the potential of sites, especially those with high-footfall, to engage with a wide variety of community and interest groups who may represent new audiences for HES.

4. ASSOCIATED PROPERTIES

In addition to this property, there are currently 13 further portions of the Antonine Wall in the care of Historic Environment Scotland:

Bantaskin (PIC167); Bearsden Bath-house (PIC169); Castlecary Fort (PIC170); Croy Hill (PIC171); Dullatur (PIC172); Garnhall Farm (PIC173); Kirkintilloch (PIC174); Kinneil House (PIC152); Rough Castle (PIC175); Seabegs Wood (PIC176); Tollpark (PIC177); Watling Lodge (PIC178) and Watling Lodge West (PIC179).

5. KEYWORDS

Bar Hill; Roman frontier; *limes*; Antonine Wall; Hadrian's Wall; World Heritage Site

BIBLIOGRAPHY

Bidwell, P. and Croom A. (2016) 'Discussion of pottery' in D. Breeze, *Bearsden: A Roman Fort on the Antonine Wall*. Edinburgh: Society of Antiquaries Scotland. pp 176-182.

Breeze, D.J. (2009) 'A Selection of Sites on the Antonine Wall' in N. Hodgson, *Roman Scotland: XXI International Limes Congress, Handbook to Accompany the Post-Congress Excursion to Scotland*. Newcastle upon Tyne: Tyne and Wear Archives and Museums. pp. 25-36

Douglas, C. (2015) 'Roman Leather from Scotland and Hadrian's Wall', in D. Breeze, R. Jones, and I. Oltean (eds), *Understanding Roman Frontiers: A Celebration of Professor Bill Hanson*. Edinburgh: Birlinn. pp167-181.

Fox, P. (2015) Bar Hill and Castle Hill Roman Forts. *Discovery and Excavation Scotland*, new series 16: 63.

Gillam, J.P. (1976) Possible changes in plan in the course of the construction of the Antonine Wall. *Scottish Archaeological Forum*, 7: 51-56.

Glasgow Archaeological Society (1899) *The Antonine Wall Report*. Glasgow.

Gordon, A. (1726) *Itinerarium Septentrionale*. London.

Greene, E.M. (2011) Women and Families in the Auxiliary Military Communities of the Roman West in the First and Second Centuries AD (unpublished PhD Thesis). University of North Carolina, Chapel Hill.

Hannon, N. (forthcoming) The Hidden Landscape of the Roman Frontier: Aerial Laser Scanning, Spatial Analysis and the Antonine Wall. (PhD thesis, Canterbury Christ Church University)

Hanson, W.S. and Maxwell, G.S. (1986) *Rome's North West Frontier: The Antonine Wall*, revised edition. Edinburgh: Edinburgh University Press.

Historic Scotland (2007) Frontiers of the Roman Empire World Heritage Site Proposed Extension: The Antonine Wall, Nomination for Extension of the World Heritage Site, Vol. 1. Edinburgh, Historic Scotland.

Jones, R. (2006) Frontiers of the Roman Empire Project: Roman fort environs project. *Discovery and Excavation Scotland*, new series 7: 58.

Jones, R.H. (2011) *Roman Camps in Scotland*. Edinburgh: Society of Antiquaries of Scotland.

Jones, R.H. (forthcoming 2020) 'the curious incident of the structure at Bar Hill and its implications' in Breeze DJ & Hanson WS (eds) *The Antonine Wall: papers in honour of Professor Lawrence Keppie*

Keppie, L.J.F. (1985) Excavations at the Roman Fort of Bar Hill, 1978-92. *Glasgow Archaeological Journal*, 12: 49-81.

Keppie, L.J.F. (2002) New Light on Excavations at Bar Hill Roman Fort on the Antonine Wall, 1902-05. *Scottish Archaeological Journal*, 24: 21-48.

Keppie, L.J.F. (2009) 'The Garrison of the Antonine Wall: endangered species or disappearing asset' in A, Morillo, N. Hanel and E. Martin (eds) *Limes XX. Estudios Sobre la Frontera Romana*, Madrid, 1135-45.

Keppie, L.J.F. and Breeze, D.J. (1981) Some excavations on the line of the Antonine Wall, 1957-80. *Proceedings of the Society of Antiquaries of Scotland*, 111: 229-247.

Keppie, L.J.F. and Walker, J.J. (1989) Some excavation along the line of the Antonine Wall, 1981-85. *Proceedings of the Society of Antiquaries of Scotland*, 119: 143-159.

Macdonald, G. (1934) *The Roman Wall in Scotland*, second edition. Oxford: Clarendon Press.

Macdonald, G. and Park, A. (1906) The Roman Forts on the Bar Hill, Dumbartonshire. *Proceedings of the Society of Antiquaries of Scotland*, 40: 403-546.

Maldonado, A. 2015 'The Early Medieval Antonine Wall', *Britannia*, Vol 46, pp 225-245)

Robertson, A.S. (2015) *The Antonine Wall: a Handbook to Scotland's Roman Frontier*, revised and edited by Lawrence Keppie, 6th edition. Glasgow: Glasgow Archaeological Society.

Robertson, A.S., Scott, M., and Keppie, L.J.F. (1975) *Bar Hill: A Roman Fort and its Finds*. British Archaeological Reports, 16. Oxford: British Archaeological Reports.

Rohl, D.J. (2014) More than a Roman Monument: A Place-centred Approach to the Long-term History and Archaeology of the Antonine Wall (unpublished PhD thesis). Durham University.

Shaw, R. (2015) Bar Hill, Croy. *Discovery and Excavation Scotland*, new series 16: 128.

Sibbald, R. (1707) *Historical Inquiries*. Edinburgh.

Strang, A. and Walker, J. (1995) Bar Hill, Twechar. *Discovery and Excavation Scotland*, 1995: 92.

van Driel-Murray, C. (1995) Gender in Question, pp. 3–21 in P. Rush (ed.), *Theoretical Roman Archaeology: Second Conference Proceedings*. Aldershot: Avebury/Ashgate.

Other Resources

3D digital models of various artefacts found at Bar Hill, and other Antonine Wall sites, can be freely viewed on Historic Environment Scotland's Sketchfab page³⁵. These include leather shoes, a wooden wheel and a copper cooking pot, from the collections of the Hunterian Museum, Glasgow. It is also possible to take a guided digital tour around a reconstruction of the fort³⁶.

An interactive Antonine Wall mobile app can also be downloaded to aid site visits and interpretation³⁷. The full Scheduling description for Bar Hill is available at: <http://portal.historicenvironment.scot/designation/SM90008>.

APPENDICES

APPENDIX 1: TIMELINE

Before AD 140 The Iron Age fort on Castle Hill is constructed and occupied before the building of the Antonine Wall.

An 'enclosure' underlying the Roman fort is either a temporary enclosure of the Antonine period, predating the fort and associated with the surveying and building of the wall, or else a Flavian fortlet (AD 79–87/88).

c. AD 142 Construction of the Antonine Wall is initiated by the Roman Emperor Antoninus Pius (AD 138–161), after a successful campaign in AD 140s by Lollius Urbicus, Governor of Britain.

Fort, or nearby Antonine Wall, was built by *legio II Augusta* and *legio XX Valeria Victrix*³⁸ and also *cohors I Baetasiorum*³⁹.

Fort garrisoned by several detachments of soldiers: *legio II Augusta*; *cohors I Baetasorium*; *cohors I Hamiorum* commanded by a prefect, Caristianus Justianus; another commander, the prefect L. Tanicius Verus, is also attested.

³⁵ <https://sketchfab.com/HistoricEnvironmentScotland/collections/antonine-wall>

³⁶ <https://sketchfab.com/models/6d04c19858b8421ebd034ba13abf4831>

³⁷ Available at: <http://www.antoninewall.org/visiting-the-wall/download-the-app>

³⁸ <https://romaninscriptionsofbritain.org/inscriptions/2171>

³⁹ <https://romaninscriptionsofbritain.org/inscriptions/2169>

- c. AD late 150s / early 160s** The Antonine Wall system is abandoned by the Roman military, and the northern frontier returns to the line of Hadrian's Wall.
- Unknown date** The south-east side of Castle Hill is destroyed by quarrying.
- 1960** The property is taken into State care (Guardianship).
- 1961** The site is Scheduled.
- 2003** The Scottish Executive announces that the Antonine Wall (including this property) would be nominated as a UNESCO World Heritage Site.
- 2008** The Antonine Wall is inscribed as part of the "Frontiers of the Roman Empire" UNESCO World Heritage Site, joining Hadrian's Wall and the Upper German-Raetian *Limes*.

APPENDIX 2: SUMMARY OF ARCHAEOLOGICAL INVESTIGATIONS

- 1707** Sir Robert Sibbald recognises and describes the site, indicating that numerous sculpted and inscribed stones from the fort were located within local homes.
- 1726** Alexander Gordon recognised and recorded surface remains of the fort, providing a plan drawing and description of the fort's defences and internal buildings.
- 1732** The Rev. John Horsley describes the site and its internal buildings.
- 1793** General William Roy's plan of the fort, originating in his earlier military survey of Scotland, is published posthumously.
- 1890s** Alexander Park cuts seven sections through the ditch and rampart, leading to further work and publication by the Glasgow Archaeological Society's Antonine Wall Committee.
- 1895** An altar to Silvanus is ploughed up outside of the Roman fort, close to Castle Hill.
- 1902–05** Excavations by Sir George Macdonald, Alexander Whitelaw, and Alexander Park established the plan of the fort and excavated much of the interior. They uncovered an earlier structure than thought to have been a Flavian enclosure. Limited excavation of ditches and finds suggested a civil settlement to the east of the fort. The

excavations also located the line of the Military Way to the north of the fort, between it and the Antonine Wall.

- 1908** Sir George Macdonald returns to the site during survey activities, and identifies traces of extramural ditches to the south-west of the Roman fort.
- 1934** The line of the Wall was surveyed here by Sir George Macdonald.
- 1957** The line of the Wall was surveyed here by the Ordnance Survey.
- 1957** 15 trenches were excavated by the Rev. C.H.H. Scobie, including the re-opening of 5 trenches that had been previously excavated by the Antonine Wall Committee in the 1890s.
- 1978-1981** The fort, bathhouse, latrines, and headquarters building were re-excavated and presented for permanent display.
- 1979** Aerial photographs reveal crop marks from a possible temporary camp to the south-west of the Roman fort, corresponding with the traces of extramural ditches identified by Macdonald in 1908.
- 1980** The line of the Wall was surveyed here by the Ordnance Survey.
- 1982** Sections through the Rampart and Ditch initially excavated in 1899 were reopened for investigation.
- 1982-84** Excavation and aerial survey of ditches reported in the 1902-05 excavations showed small temporary camp immediately to the south-east of the Roman fort.
- 1995** Geophysical (resistivity) survey by Strang and Walker confirmed the route of Antonine Wall rampart west of the Roman fort.
- 2006** Geophysical (magnetometry and resistivity) survey by Richard Jones over a nearly 3ha area around the fort's east, south, and west sides were carried out, failing to identify clear evidence of an extramural *vicus*, but revealing several anomalies that might relate to Roman period activities and/or nineteenth-century industrial activities.
- 2010** Aerial LiDAR captured at 0.5-m resolution covering the World Heritage Site, as part of the "Hidden Landscape of a Roman Frontier" collaborative research project run and jointly funded by Canterbury Christ Church University (CCCU) and Historic Environment Scotland (HES).
- 2014** A watching brief by Kirkdale Archaeology during replacement of interpretive signs uncovered a sherd of Samian Ware pottery.

- 2015** A watching brief by Rebecca Shaw Archaeological Services recorded subsoil that may be associated with the Berm on the line of the Wall as recorded on OS mapping.

APPENDIX 3: OUTSTANDING UNIVERSAL VALUE

The Justification for Inscription of the Antonine Wall World Heritage Site against OUV criteria⁴⁰.

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design.*

The extant remains of the fortified German *Limes*, Hadrian's Wall and Antonine Wall constitute significant elements of the Roman Frontiers present in Europe. With their forts, fortlets, walls, ditches, linked infrastructure and civilian architecture they exhibit an important interchange of human and cultural values at the apogee of the Roman Empire, through the development of Roman military architecture, extending the technical knowledge of construction and management to the very edges of the Empire. They reflect the imposition of a complex frontier system on the existing societies of the north-western part of the Roman Empire, introducing for the first time military installations and related civilian settlements, linked through an extensive supporting network. The frontiers did not constitute an impregnable barrier, but controlled and allowed the movement of peoples: not only the military units, but also civilians and merchants. Hence, they triggered the exchange of cultural values through movement of soldiers and civilians from different nations. This entailed profound changes and developments in the respective regions in terms of settlement patterns, architecture and landscape design and spatial organization. The frontiers still today form a conspicuous part of the landscape.

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared.*

As parts of the Roman Empire's general system of defence the German *Limes*, Hadrian's Wall and the Antonine Wall have an extraordinarily high cultural value. They bear an exceptional testimony to the maximum extension of the power of the Roman Empire through the consolidation of its north-western frontiers and thus constitute a physical manifestation of Roman imperial policy. They illustrate the Roman Empire's ambition to dominate the world in order to establish its law and way of life there in a long-term perspective. They witness Roman colonization in the respective territories, the spread of Roman culture and its different traditions - military, engineering, architecture, religion management and politics - and the large number of human settlements associated with the defences which

⁴⁰ A fuller exposition of the OUV of the site can be found on the UNESCO website: <https://whc.unesco.org/>

contribute to an understanding of how soldiers and their families lived in this part of the Roman Empire.

Criterion (iv): *be an outstanding example of a type of building or architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history*

The fortified German Limes, Hadrian's Wall and the Antonine Wall are outstanding examples of Roman military architecture and building techniques and of their technological development, perfected by engineers over the course of several generations. They demonstrate the variety and sophistication of the Romans' responses to the specific topography and climate as well as to the political, military and social circumstances in the north-western part of the Empire which spread all around Europe and thereby shaped much of the subsequent development in this part of the world.

Integrity

The inscribed components convey the extraordinary complexity and coherence of the Frontiers of the Roman Empire in northwestern Europe. Although some parts have been affected by land use change and natural processes, the integrity of the property is demonstrated through its visible remains and buried archaeological features. Their state of survival has been researched in many areas. Several areas of the frontier have been built over, but where significant archaeological remains have been proven to exist they have been included in the property.

Currently, about one-third of the linear barrier is visible; about one third lies in open countryside but is not visible above ground, though its existence has frequently been tested through excavation; about one-third lies in urban areas, though again its survival has been tested through excavation in many areas. About 2 km of the total length of the Antonine Wall have been totally destroyed, though to this sum should be added minor cuttings for roads and railways.

Authenticity

The inscribed component parts have a high level of authenticity, with each having been verified through extensive study and research. The materials and substance of underground archaeological remains are well-preserved, as are upstanding and visible remains. The form and design of each representative part of the frontier and its associated structures are clear and comprehensible. Later development overlying parts of the frontier are treated as vertical buffer zones.

The remains of the Antonine Wall exist in a generally good condition and visible sections sometimes have significant heights and depths. Conservation and consolidation measures that have been carried out in the interest of better understanding and protection fit in with the setting of the property and do not diminish its authenticity.

Protection and management requirements

At the time of inscription on the World Heritage List, the World Heritage Committee adopts a Statement of Outstanding Universal Value (SOUV) which will be the key reference for the future effective protection and management of the property. The FREWHS as a whole is collectively managed. At the international level, the States Parties have established an integrated management system consisting of three closely cooperating and interacting bodies: the Inter-Governmental Committee (IGC) to oversee and coordinate the overall management at an international level; the Management group which assembles those directly responsible for the site management of the property and provides the primary mechanism for sharing best practice; The Bratislava Group, an international advisory body with expert members from States Parties with inscribed or potential parts of the Frontiers of the Roman Empire World Heritage property.

The Antonine Wall is protected by designation under the Ancient Monuments and Archaeological Areas Act 1979, and through the legislation that guide planning and development in Scotland - the Town and Country Planning (Scotland) Act 1997, the Planning etc. (Scotland) Act 2006 and the Planning (Listed Building and Conservation Areas) (Scotland) Act 1997. It is covered by national policy for the historic environment set out in the Scottish Historic Environment Policy and Scottish Planning Policy. Policies to protect, promote, conserve and enhance the property are included in local authority development plans and strategies, supported by Supplementary Guidance. Most of the Antonine Wall is in private ownership, but some sections are in the care of local authorities and Historic Environment Scotland.

APPENDIX 4: OVERVIEW AND INTRODUCTION TO THE ANTONINE WALL

The Antonine Wall is the remains of the Roman Empire's northwest frontier in the mid-second century. Stretching across central Scotland from the Firth of Forth to the Clyde, the Wall was constructed, in functional operation, and then abandoned all within a period of about twenty years between the early AD 140s to early 160s. The Antonine Wall was one component within a vast and varied system of linear frontiers established by Rome during the second century AD, and other examples are known from across Europe, the Near East, and North Africa. The most famous of these Roman frontiers is Hadrian's Wall in the north of present-day England, which preceded the Antonine Wall and served as a model for key components of its design. In 2008 the Antonine Wall was inscribed as a UNESCO World Heritage Site, joining Roman frontiers in England (Hadrian's Wall) and Germany (the Upper German-Raetian *Limes*) as the latest addition to the "Frontiers of the Roman Empire" serial trans-national World Heritage Site.

The Antonine Wall is about 41 miles (66km) long and features a range of linear features that are present along most of this length, which is punctuated by several types of installations of various purposes; the Wall was previously reported to have a length of 60km, but this has been amended by recent three-dimensional

distance measurements based on analysis of recent LiDAR survey⁴¹. Although common perceptions of the term “wall” often revolve around an enclosing structure or rampart – generally of timber, stone, or brick – the term “Antonine Wall” is used by scholars and heritage managers to refer to this full collection of inter-related features. Beyond the installations, the linear features of Rampart and Ditch are typically (and would have been in the Roman period) the most topographically visible elements of the frontier.

Linear Features

Note on nomenclature: The key linear features include the Rampart, Ditch, Berm, Outer Mound, and Military Way; these features are all presented in this document with an initial capital letter in order to avoid confusion between the main frontier’s Rampart and Ditch and those ramparts and ditches that surround the Wall’s installations.

The Rampart was a turf or earth/clay superstructure set atop a kerbed stone base, averaging 4.3–4.8m wide, and rising in a sloped fashion to a height of probably at least 3m. The best-preserved Rampart remains lie just west of Rough Castle fort (PIC175), where it survives to a height of only about 1.5–1.8m. Because the Rampart does not survive to its full height anywhere, we remain uncertain of how it was finished on top, but it was probably squared flat and may (although there is no direct evidence) have featured stakes set into the top or a wooden duckboard walk with a timber palisade. The Rampart’s superstructure differs to either side of Watling Lodge (PIC178 and PIC179), with stacked turves used from here westward and packed earth or clay revetted by clay or turf “cheeks” to the east.

The Berm represents the space between the Rampart and Ditch, and is relatively flat or gently slopes toward the Ditch to the north. The Berm is typically between 6–9m in width, but can vary widely, exceeding 30m at Croy Hill (PIC171); at some locations – usually in the eastern half of the frontier – series of pitted obstacles have been identified on the Berm, matching similar features also known from Hadrian’s Wall.

The Ditch is a monumental earthwork dug to the north of the Berm, with a V-shaped profile and banks cut at an angle of about 30 degrees, with evidence at some locations for large stones placed to strengthen its edges. Ditch size varies widely across three key sectors: generally between 6.1–10.7m wide to the east of Falkirk, an average of 12m wide and 4m deep between Falkirk and Bar Hill, and generally between 6.1–7.6m wide to the west of Bar Hill (PIC168); across its full length, the Ditch’s width ranges from a narrow 4.27m to as wide as 20.73m, although subsequent erosion must account for some of the wider widths, and it should be noted that the Ditch was not cut at all in a short section on Croy Hill (PIC171).

Immediately north of the Ditch lies the Outer Mound, occasionally called the “Upcast Mound” on the assumption that it is formed from material cast up from the digging of the Ditch. The Outer Mound is typically a low mound spread and partially leveled to a width of about 18–20m; this frequently serves to heighten the north face of the Ditch, and on north-facing slopes the Outer Mound was narrowed to further accentuate the Ditch.

⁴¹ Hannon forthcoming

The final linear feature is the Military Way, which was a Roman road located to the south of the Rampart, offering lateral communication and movement along the frontier; this was generally about 5–5.5m wide with a distinct camber and flanking ditches. The Military Way was typically situated between 36–46m south of the Rampart and was usually connected to each fort's *via principalis*, with evidence at several sites (e.g. Rough Castle, PIC175; Croy Hill, PIC171) for an additional bypass road that provided movement without the need to enter the fort. At river crossings, the Military Way was provided with bridges, as confirmed at the river Kelvin near Balmuildy.

Installations

Installations can be grouped into five key types: forts, fortlets, expansions, minor enclosures, and possible watchtowers. Forts are the primary and largest installation type, with 17 forts currently known, ranging in size from 0.12–2.6ha. Although there is no set interval between forts, they are generally located about 3.5km apart, and it has long been assumed by many scholars that there may have been as many as 19 or 20 forts in total; given the long gaps between the forts at Carriden and Inveravon and those at Rough Castle (PIC175) and Castlecary (PIC170), it has been suggested that additional forts may have been located at Kinneil and Seabegs (near PIC176), but these sites have only provided evidence of fortlets rather than forts. The forts themselves were – like the Rampart – primarily constructed of turf and/or clay, with stone or timber internal buildings, and all but one (Bar Hill, PIC168; and possibly Carriden, if the Rampart did not reach that far east) were physically attached to the Rampart. Whilst the majority of forts were defended by turf or clay ramparts, those at Castlecary (PIC170) and Balmuildy featured stone defences. Most forts have also been found to include an additional fortified space, traditionally called an “annexe”. The precise purpose and nature of these annexes remains uncertain, but they are likely to have been later additions and not part of the original plan; in some cases the annexe is significantly larger in area than the fort itself.

Fortlets were smaller enclosures attached to the rear (i.e. south side) of the Rampart, and were first formally identified during excavations at Duntocher in 1949; the fortlet at Watling Lodge (between PIC178 and PIC179) had been initially described in the 1720s but was only recognised as a fortlet after the discovery at Duntocher. Similar in design and construction to the Antonine Wall forts, they measure about 21m x 18m and were constructed with turf ramparts on stone bases, with small timber barrack-blocks to house the soldiers stationed within them. All known Antonine Wall fortlets had a south and north gate, the latter opening through the Rampart. These northern gateways are problematic, as only the fortlet at Watling Lodge (between PIC178 and PIC179) has provided clear evidence for a causeway across the Ditch. Although tentative traces of a possible causeway that was later removed were identified at Kinneil fortlet, it appears that most Antonine Wall fortlets either did not provide access to the north of the frontier or that a decision was made during the frontier's short functional lifespan to eliminate these original access points; this latter view may be further supported by tentative evidence at Kinneil and Seabegs Wood (PIC176) that the north gateways of these fortlets may have been narrowed or removed. Fortlets are known from across the Roman Empire, with others on Hadrian's Wall known as “milecastles” because of their regular spacing at approximately one Roman mile intervals. Searches in the 1970s for fortlets on the Antonine Wall succeeded in

identifying some examples at Kinneil, Seabegs Wood (PIC176), Croy Hill (PIC171), Summerston, and Cleddans. If a model of a regular series of fortlets at about one Roman mile intervals is proposed, a total of 41 fortlets would be expected; to date, only nine have been definitively identified, and investigations at proposed additional fortlet locations have either provided negative or inconclusive results.

Expansions are represented by roughly square southern extensions of the Antonine Wall Rampart, constructed of turf on a cobble stone base and about 5.2m square. Six examples are currently known, all occurring in pairs located close together; two pairs are located to either side of Rough Castle fort (PIC175), called (to the east of Rough Castle) Tentfield East/West and (to the west of Rough Castle) Bonnyside East/West, whilst a third pair is located on the western slope of Croy Hill (PIC171). The functions of these installations are uncertain, but one interpretation is that they served as signalling platforms, with some evidence of burnt material recorded at Bonnyside East. This type of installation is unknown on other Roman frontiers, and may have been a unique innovation for the Antonine Wall, serving a similar function to towers or “turrets” known from Hadrian’s Wall and the Antonine frontier in Germany.

Minor Enclosures are known at three locations along the frontier, all in the vicinity of the fortlet at Wilderness Plantation, and each identified via aerial photography. They are sub-rectangular and ditched, attached to the rear of the frontier’s Rampart. Only one (Wilderness West) has been excavated, revealing that it is later than the Rampart, and had an internal area of about 5.5m square; no entrance or internal surfaces or structures were identified. Although these appear to have been designed as permanent features, their precise function remains uncertain.

Watchtowers may have existed along the Antonine Wall, as they are known from other Roman frontiers, but no definitive evidence for this type of installation has been uncovered. The minor enclosures near Wilderness Plantation do not appear to feature structural evidence for towers, and other possible watchtowers suggested at Garnhall (PIC173) and Callendar Park require more substantiation before they can be accepted as definitively representing this type of installation.

When all of these features are taken into account, the Antonine Wall was one of the biggest ever engineering projects to be undertaken within central Scotland, and the digging of the Ditch particularly altered the local topography, with continuing implications for later periods. Currently, about one-third of the linear barrier is visible; about one third lies in open countryside but is not visible above ground, though its existence has frequently been tested through excavation; about one-third lies in urban areas, though again its survival has been tested through excavation in many areas. Only about 2 km of the total length of the Antonine Wall have been totally destroyed, though to this sum should be added minor cuttings for roads and railways.

The Antonine Wall provides significant evidence for the activities of the Roman military during the mid-second century AD. Structural remains provide evidence for the advanced degree of complexity in Roman frontier planning and construction, with the most complicated array of interlinked elements known from any Roman frontier. The short functional lifespan of the Wall – only about 20 years in total, a generation – makes this frontier particularly valuable as a dated horizon that is relatively unencumbered by the wide range of significant alterations that

complicate the functional histories of longer-lived frontiers elsewhere in the Empire. Artefacts inform us about production and procurement and daily life and society on this particular edge of the Empire, offering crucial comparative collections to assemblages from both the Empire's other frontier zones and areas that were closer to the Empire's cultural and political centre. Inscriptions also add a very valuable dimension that allows for the identification of specific military units, and, in some cases, even named individuals. The most important set of inscriptions are the Distance Slabs: at least 19 sculpted and inscribed sandstone blocks that record the work of building the frontier (perhaps the Rampart itself) by different legions, and which have been identified at various locations along the Wall.

The Antonine Wall's Abandonment and Later History

Around the late AD 150s / early 160s the Antonine Wall was abandoned by the Roman army, who moved south to the line of Hadrian's Wall and its outpost forts. Evidence from some sites, notably Old Kilpatrick and Bar Hill (PIC168), indicate that the frontier's installations were deliberately demolished and ritually decommissioned in advance of the redeployment south. Although the Roman army would return to the area during the early third century campaigns of Septimius Severus, there is no evidence that the Antonine Wall was brought back into functional operation or reoccupied by Roman forces.

Active research and fieldwork on the Antonine Wall has, not surprisingly, focused almost entirely on its Roman period construction, functional operation, and abandonment. There is, therefore, significantly less detailed knowledge of the Wall's post-Roman history. A possible souterrain at Shirva, in the Wall's central sector midway between the forts of Auchendavy and Bar Hill (PIC168), may represent the earliest post-Roman settlement activity on the former Roman frontier and could have been in operation from very soon after the Roman withdrawal until as late as the AD 220s. Although the Antonine Wall had ceased to function as a frontier of the Roman Empire, it would continue to play a role in subsequent settlement and other activities in the region.

It appears likely that the Forth-Clyde isthmus served as an effective border in the early medieval period, separating the Anglo-Saxons and Picts in the east, while to the west the successive British kingdoms of Alt Clut and Strathclyde straddled the line of the former Roman frontier. Whether or not the Antonine Wall was itself utilised or recognised as a geopolitical or cultural barrier in this context, its continued visibility would have served to underscore the transitional nature of the isthmus in this period. Timber structures located along the Wall in the area of Falkirk – a ninth-century hall possibly associated with the Thanes of Callendar at Callendar Park and another large structure east of the fort at Mumrills – may represent examples of early medieval reuse of the Wall's line as a regional power centre⁴².

Castles or mottes were also constructed on the line of the Wall in the Norman and later medieval period at Inveravon, Watling Lodge (PIC178 and PIC179), Seabegs (near PIC176), Kirkintilloch, and Cadder, each using some aspect of the Roman frontier as part of its own defences. These are part of a wider regional collection of medieval period fortified sites and may not necessarily reflect a conscious decision to reuse former Roman military sites. They do, however, reflect these

⁴² For further discussion, see: Maldonado 2015

particular locations' continued relevance and significance as powerful places within a medieval landscape and this later reuse does not detract from the sites' association with the Roman frontier, but adds further depth to their accumulated meanings and significances within the present. It is in this period when the Wall is first recorded (by John of Fordun) as bearing the name "Grymisdyke," later modified to "Graham's Dyke," and still reflected within modern street names in the eastern half of the Wall's line.

In the late seventeenth century the Wall began to attract serious antiquarian attention and was visited and discussed in some depth through the eighteenth century by antiquaries such as Sir Robert Sibbald, Alexander Gordon, and the Rev. John Horsley, amongst others. These antiquaries provided valuable early documentation of the Wall and its remains before the extensive industrialisation and development of the Wall's corridor from the late eighteenth century onward. Such works included the controversial dismantling of Arthur's O'on by Michael Bruce of Stenhouse in 1743, using the masonry from the possible Roman temple in the construction of a dam on the Carron⁴³. Numerous other areas of the Wall also fell prey to quarrying and agricultural "improvements", and the wider Antonine Wall corridor played an important role in the Industrial Revolution, with the formation of the Carron Iron Works, construction of the canals, steam engine experiments by James Watt at Kinneil, increased mining and factory production, and the building of the railways. The Forth-Clyde Canal was particularly important, criss-crossing the former Roman frontier multiple times and running parallel to it for long stretches; while the construction of the canal extensively damaged large portions of the Wall, it also revealed significant information and provided the context for later antiquarian activities and the transition to formalised archaeological societies and – by the 1890s – more scientific exploration.

⁴³ See <https://canmore.org.uk/site/46950/arthurs-oon-stenhouse>