GLENMUCKLOCH SURFACE MINE

EXCAVATION REPORT

CP10050/12

02/06/2014

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Quality Assurance

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

REVISION SCHEDULE			
	01	**02**	**03**
PREPARED BY: **POSITION:** **DATE:**	David Jackson Project Supervisor 13/04/2012		
EDITED BY: **POSITION:** **DATE:**	Martin Railton Project Manager 13/04/2012		
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SUMMARY

Wardell Armstrong Archaeology was invited by ATH Resources Plc. to undertake an archaeological excavation on land at the Glenmuckloch Surface Mine Eastern Extension, Dumfries and Galloway, Scotland (centred on NGR NS 7010 1548). In accordance with the planning condition, a Written Scheme of Investigation (WSI) for the archaeological investigation was prepared by Wardell Armstrong LLP for approval by the Planning Archaeologist at Dumfries and Galloway Council, prior to work taking place.

A Cultural Heritage and Archaeology Chapter was prepared by CFA in 2010 as part of an Environmental Impact Assessment on behalf of ATH Resources Plc. This report identified a number of above ground heritage assets within the application area which were judged to be of medieval and/or post-medieval in date and connected to rural settlement and agrarian regimes.

The archaeological investigation was undertaken over 15 days between the 13th February and the 2nd March 2012 following on from a short evaluation undertaken by NP Archaeology in September 2011. The excavation centred on what proved to be two substantial structures and an associated midden. Two linear features further south were also investigated, which probably relate to former field boundaries. It is probable that the structures represent either separate temporary shielings, which were typically only used on a seasonal basis, or components of a more permanent longhouse with a domestic area and byre or cowhouse being separated by a central cross-passage. The scarcity of domestic refuse would suggest that this was not an intensively occupied site. However, given some of the evidence retrieved during the investigation, it is possible to separate the structures into domestic and agricultural use. Several well stratified fragments of pottery have provided a date of 14th/15th century, with no evidence of earlier or later activity.

ACKNOWLEDGEMENTS

WA Archaeology Ltd would like to thank Jo Davies of ATH Resources plc for commissioning the project. Thanks are also due to the staff of ATH Resources for their assistance throughout the project. WA Archaeology is also grateful to Jane Brann, Environmental Team Leader and Archaeologist, Dumfries and Galloway Council, for help during the project.

The archaeological excavation was undertaken by Ben Moore, Kevin Mounsey, Steve Tamburello, Julian Thorley and Sam Whitehead. The evaluation was undertaken by Mike McElligott, Rebecca Cessford, Mark Lawson and Andy McLeish. The report was written by David Jackson and the drawings were produced by Adrian Bailey. The project was managed by Frank Giecco, WAA Technical Director.

1 INTRODUCTION

1.1 WA Archaeology Ltd were invited by ATH Resources Plc to conduct an archaeological excavation on land at Glenmuckloch, which was undertaken in advance of the proposed Eastern Extension of Glenmuckloch Surface Coal Mine (Figure 1). In accordance with the planning condition, a Written Scheme of Investigation (WSI) for the archaeological investigation was prepared by Wardell Armstrong LLP for approval by the Planning Archaeologist at Dumfries and Galloway Council, prior to work taking place.

1.2 A Cultural Heritage and Archaeology Chapter was prepared by CFA in 2010 as part of an Environmental Impact Assessment on behalf of ATH Resources Plc. This report identified a number of above ground assets within the application area which were judged to be of medieval and/or post-medieval in date and connected to rural settlement and agrarian regimes.

1.3 The archaeological investigation was undertaken over 15 days between the 13th February and the 2nd March 2012 following on from a short evaluation undertaken by NP Archaeology in September 2011. The excavation centred on what proved to be two substantial buildings and an associated midden. Two linear features further south were also investigated, which probably relate to former field boundaries (Figure 2).

1.4 This report outlines the results of the archaeological work and the subsequent programme of post-fieldwork analysis.

2 METHODOLOGY

2.1 WRITTEN SCHEME OF INVESTIGATION

2.1.1 A Written Scheme of Investigation (WSI) was provided by Wardell Armstrong LLP which outlined the scheme of archaeological works to be undertaken on site in response to a request by ATH Resources Plc. Wardell Armstrong Archaeology Ltd adhered to the WSI and the archaeological work was consistent with the relevant standards and procedures of the Institute for Archaeologists (IfA), English Heritage Guidelines (English Heritage 2006), and generally accepted best practice.

2.2 THE ARCHAEOLOGICAL EXCAVATION

2.2.1 Topsoil and subsoil were removed by hand to the level of the natural substrate. The areas under investigation were subsequently cleaned, investigated and recorded fully.

2.2.2 In summary, the main objectives of the archaeological investigation were:

- to establish the presence/absence, nature, extent and state of preservation of archaeological remains and to record these where they were observed;
- to establish the character of those features in terms of cuts, soil matrices and interfaces;
- to recover artefactual material, especially that useful for dating purposes;
- to recover palaeoenvironmental material where it survived in order to understand site and landscape formation processes;

2.2.3 All fieldwork was undertaken in accordance with the codes and practices outlined by the Institute for Archaeologists regarding archaeological excavations (IfA 2008).

2.2.4 The fieldwork programme was followed by an assessment of the data as set out in the *Management of Archaeological Projects* (English Heritage 2nd Edition, 1991).

2.3 THE ARCHIVE

2.3.1 A full professional archive has been compiled in accordance with the specification, and in line with English Heritage Guidelines (1991) and according to the Archaeological Archives Forum recommendations (Brown 2007). The material archive (including finds and ecofacts) has been

deposited with Dumfries Museum with copies of the report sent to Dumfries and Galloway Historic Environment Record, where viewing will be available upon request. The documentary and digital archive has been deposited within RCAHMS in Edinburgh. The archive can be accessed under the unique project identifier **GSM/A**, **CP/10050/12**.

2.3.2 WA Archaeology Ltd supports the **O**nline **A**cces**S** to the **I**ndex of Archaeological Investigation**S** (**OASIS**) project. This project aims to provide an on-line index and access to the extensive and expanding body of grey literature, created as a result of developer-funded archaeological work. As a result, details of the results of this project will be made available by NP Archaeology as a part of this national project, under the unique OASIS identification number **wardella2-123185**

3 BACKGROUND

3.1 LOCATION AND GEOLOGICAL CONTEXT

3.1.1 The Eastern Extension application area falls within the River Nith catchment and is located approximately 2km northwest of Kirkconnel and 7km east of New Cumnock in Dumfries and Galloway, Scotland. The Eastern Extension is comprised of 125ha of predominantly agricultural land, which is used for rough grazing with a small area of commercial forestry in the south of the area (Martin-Bacon 2011).

3.1.2 The geology of the area is largely comprised of superficial deposits of sandy clays which generally range in thickness between 2 to 10 metres. The Eastern Extension is underlain by Middle Coal Measures comprising a cyclic sequence of coals, mudstones and sandstones (Martin-Bacon 2011). The vegetation within the area has been classified as semi-improved acid grassland and wet modified bog with some blanket bog, plantation coniferous woodland, dense bracken and marshy grassland. The majority of the soil within the extension area has been classified as poorly drained peaty gleys and mineral gleys, with some shallow peat deposits (*ibid*).

3.2 IDENTIFIED HERITAGE FEATURES

3.2.1 This section has been compiled from the cultural heritage assessment undertaken by CFA in 2010 and is only intended as a brief summary of heritage features within the study area.

3.2.2 Within the application area, but outside the area of extraction/disturbance, there are the remains of two farmsteads, the remains of possible shieling huts, a series of stone and turf banks, areas of relict rig and furrow and the site of a sheepfold which no longer exists. A large stone and enclosure bank, whose function and date is unknown, is also located within the application area.

3.2.3 Several sites have also been identified within the area of extraction/disturbance, including three probable shieling huts, the remains of a ford consisting of a rough track leading to a shallow crossing above a waterfall, two short parallel stretches of turf and stone bank and a sluice on the Lagrae Burn shown on the 1st Edition OS map which no longer exists.

3.2.4 Historic maps indicate a fairly stable settlement pattern along this part of the Nith Valley with farms occupying the same general locations as current farms from at least the late 16th century. The known archaeological record for the immediate area around the Eastern Extension comprises mostly

medieval or later sites and includes small farming settlements and industrial mining sites (CFA 2010).

3.2.5 There is no evidence for activity which pre-dates the medieval period within the application area.

4 ARCHAEOLOGICAL EXCAVATION RESULTS

4.1 INTRODUCTION

4.1.1 The archaeological excavation was undertaken over 15 days between the 13th February and the 2nd March 2012 and comprised the excavation of two substantial buildings and an associated midden (Figure 3), with two further boundary features investigated further south (Figure 2). All excavation was carried out by hand and subsequently investigated and recorded fully. The results of the excavation are outlined below.

4.2 STRUCTURE 1

4.2.1 Structure 1 (see Figure 4) was cleared of *c*.0.2m of dark greyish brown silty peat topsoil **(100)** and *c*.0.3m of light orange/brown silty clay subsoil **(102)** and was found to be constructed directly on top of the natural substrate **(101)**, which comprised bedrock with overlying reddish brown clay. The structure was the southernmost of the two northwest to southeast aligned buildings **{129}** and measured 8.8m in length and had a maximum width of 4.6m. The structure was rectangular in plan with a central partition dividing the building into two separate areas, the largest area being situated to the north (Room B) which measured 4.4m by 2.5m, with the southernmost area (Room A) retaining an internal dimension of 2.2m by 2.8m (Plate 1).

4.2.2 The four exterior walls of Structure 1 were all of the same construction sequence but were given four individual context numbers for each of the four sides of the building **{103}**, **{113}**, **{114}** and **{125}**. The walls retained an average width of 0.9m and a maximum height of 0.8m and were comprised of sub-rounded and squared stone with a rubble and turf infill. The central partition wall **{104}** also appeared to be of the same construction sequence, being comprised of the same material with no clear construction breaks but was much more ephemeral, retaining a maximum width of 0.43m. A large flat stone within the centre of the partition wall may have been a step marking the access point between the two rooms as a similar paving slab was located immediately adjacent to the step within Room B.

Plate 1: Overview of Structure 1 looking southeast

4.2.3 Structure 1 retained a single doorway within the eastern wall of the building which would have provided access into Room B. The doorway was located approximately 3.4m southeast along the east wall **{114}** and measured 0.6m in width and retained an area of flat limestone paving **(128)** immediately to the eastern exterior of the entrance (Plate 2). A similar area of paving **(115)** was also located immediately south of the structure which possibly represents the remains of a path. A stone-built hearth **{124}** was located towards the northern end of Room B, which measured approximately 0.95m^2 and retained a maximum height of 0.15m and was comprised of large flat sandstone slabs. Both the sub-square hearth and the clay directly beneath the feature had been extensively burnt and heated (Plate 2). A single occupation layer **(122)** was noted within Room B, which was comprised of a mid-reddish brown compact clay and gravel deposit and measured *c*.0.05m in depth.

4.2.4 A similar occupation surface to the one noted within Room B was revealed within Room A to the south, although this surface **(112)** was much more even and retained frequent inclusions of crushed sandstone. The southeast corner of Room A appeared to be separated from the rest of the area by an arcing stone wall **{117}**, which retained a central opening and measured *c*.0.4m in width and *c*.0.45m in height, enclosing an area of approximately 1.2m^2. The southern end of the partitioned area retained a stone shelf or bench which had been constructed against the southern wall of the structure **{113}**. The shelf/bench **{108}** was comprised of coarsely laid flat square stone and measured *c*.1.2m in length, *c*.0.45m in width and *c*.0.45m in height. A further shelf or bench was also located immediately west of the dividing

wall **{117}** within the open area of Room A. The western shelf/bench **{116}** had also been constructed against the southern wall of the room and was similar in dimensions to the stone feature **{108}** to the east. However, this western shelf **{116}** displayed a different construction method, being comprised of two large flat sub-rounded boulders on a bed of squared stone.

Plate 2: View northeast of Room B within Structure 1

Plate 3: Room A within Structure 1 looking southeast

4.3 STRUCTURE 2

4.3.1 Structure 2 (see Figure 5) was located approximately 1m northwest of Structure 1 and was cleared of *c*.0.25m of dark greyish brown silty peat topsoil **(106)** and *c*.0.4m of light orange/brown silty clay subsoil **(107)** and was constructed directly on top of the natural substrate **(101)**. Structure 2 was made-up of two parts, comprising a large rectangular building and a smaller sub-square annexe attached to its northwestern end (Plate 4).

4.3.2 The four exterior walls of the main superstructure were all of the same construction sequence but were given four individual context numbers for each of the four sides of the building **{105}**, **{118}**, **{119}** and **{120}**. The walls retained an average width of 0.9m and a maximum height of 0.7m and were comprised of sub-rounded and squared stone with a rubble and turf infill, similar to Structure 1. The southern wall of the structure retained a small central opening within its lowest course, which may have provided a drainage outlet. The opening measured approximately 0.2m in width and 0.35m in height and had been capped by a large flat stone (Plate 5).

4.3.3 The rectangular building retained a single doorway which was roughly central within the eastern wall **{119}**. A single socketed stone was located above a stone slab at the interior southern edge of the doorway suggesting that it may have once retained an ephemeral door or gate comprised of perishable material such as wood or wicker (Plate 6). A circular post-hole **(126)/[127]** was also revealed immediately north and to the exterior of the doorway, although this is likely to be an earlier feature as it was partially below the eastern wall **{119}**.

Plate 4: Overview of Structure 2 during excavation looking south

Plate 5: Southern end of Structure 2 with drainage outlet within south wall

Plate 6: View east of entrance into Structure 2 with socketed stone to the right

4.3.4 A square structure was located within the northeast corner of the large rectangular building, which was probably a later addition as it was not keyed into the main superstructure. The square structure **{121}**, which measured approximately 3m² and survived to a height of 0.6m, was comprised of sub-rounded and sub-square stones and was possibly used as a storage area (Plate 7). An area of burning was noted to continue below the southwest corner of the square structure **{121}**, which also suggests that this was a later addition to the building. A single occupation layer was noted within the main rectangular building of Structure 2, which measured *c*.0.05m in depth and was comprised of light brown/grey silty clay **(123)**.

Plate 7: View northwest of possible storage area within Structure 2

Plate 8: Overview of structures with annexe in foreground looking southeast

4.3.5 The annexe **{109}** at the northern end of Structure 2 measured 3.2m in length and 3.4m in width, enclosing an area of approximately 4.5m^2. The structure **{109}** was made-up of three walls comprised of large sub-rounded and sub-square stone with a rubble and turf infill, similar to the main building (Plate 8). However, it is probable that this was a later structural element as clear construction breaks were noted at the point where the southern end of the annexe butted up against the north wall of the main building. No clear entrance way was noted during the investigation of the annexe, although it is probable that any such entrance would have been situated within the eastern wall of the structure, similar to the main building and Structure 1

further south. Furthermore, the annexe did not reveal any evidence of an occupation surface, unlike the other two structures, suggesting that it may have once retained a raised floor which would have been essential if it was used for storage.

4.3.6 Given some of the evidence retrieved during the investigation, it is possible to speculate on the function of the separate structures. It is probable that Structure 1 was used as the domestic living quarters as it retains a central hearth within Room B and a small partition and bench type features within Room A, which could have potentially served as work spaces, storage spaces or may even have been used as the sleeping area. In contrast, Structure 2 was primarily comprised of a large open space with no obvious hearth or segregated areas and evidence of an open drainage system, indicating that it may have been used as a byre or cowhouse with an associated annexe for storage facilities.

4.3.7 It is possible that the structures represent temporary shielings, which were typically only used on a seasonal basis. The scarcity of domestic refuse certainly would suggest that this was not an intensively occupied site, which may have been cleaned out after each season. However, the footprint of the structures are relatively substantial and may represent a more permanent dwelling such as a long house, which would have comprised a single structure made up of several separate cells, with the living area and byre being separated by a central cross-passage. Such structures of the period were typically comprised of stone footings providing support for turf walls and a heather or thatched roof, and there is no reason to suspect why the investigated structures were constructed any differently.

4.4 ADDITIONAL FEATURES

4.4.1 Three additional features were investigated during the excavation, including a midden and two possible linear boundary features. The midden was located approximately 2.3m east of the southeast corner of Structure 1 and formed an oval mound which retained a maximum diameter of 9.7m (Figure 3). The midden retained a maximum depth of 1.7m and was comprised of several deposits (Figure 6, Plate 9), the lowest of which was a *c*.0.45m deep deposit of yellowish brown clayey silt **(135)** with charcoal and coal inclusions, which overlay the natural substrate **(101)**.

4.4.2 The primary deposit of the midden **(135)** was sealed by an orange/brown clayey silt **(134)**, which retained occasional coal and burnt stone fragments and measured *c*.0.16m in depth. This was further sealed by a *c*.0.5m deposit of mid-orange brown sandy silt **(133)**, which retained coal fragments and burnt stone and clay. The deposit of mid-orange brown sandy silt **(133)** was

below a deposit of mid-reddish brown silt **(132)**, which measured 0.46m in depth and retained evidence of burnt material. This was further sealed by a *c*.0.1m deep deposit of pale yellowish brown sandy clay subsoil **(131)** and a *c*.0.25m deep deposit of dark brown peaty silt topsoil **(130)**. No finds were retrieved from any of the deposits within the midden to help interpret the possible seasonal nature of the site.

Plate 9: South facing section of slot through midden

4.4.3 The two investigated boundary features were situated at a significant distance to the south of the structures, both of which ran across the moorland on an east-northeast to west-southwest alignment (Figure 2). The northernmost of the two linear features was located approximately 145m south of the structures and measured over 97m in length and 1.4m in width. The linear feature was **(136)** was made-up of a low bank comprised of mid-yellow clay with no evidence of associated ditches (Plate 10).

4.4.4 The southernmost linear feature was located approximately 207m south of the northern feature **(136)** and measured over 88m in length and *c*.3.6m in width. This linear feature was more complex than the one to the north, being comprised of a central bank **(139)**, which had a maximum width of 1.63m and a height of 0.5m, which was flanked on either side by two parallel ditches (Plate 11). The ditch to the north **[137]** retained a steep profile with a variable base and measured *c*.0.75m in width and 0.58m in depth, whilst the southern ditch **[138]** retained a steep profile with a concave base and measured 1.2m in width and 0.58m in depth. It is probable that both of the linear features represent former field boundaries, although any association to the excavated structures remains unclear at present.

Plate 10: View west of slot through bank (136)

Plate 11: View west of slot through bank (139) and associated ditches

5 FINDS ASSESSMENT

5.1 INTRODUCTION

5.1.1 A total of 14 finds were recovered from two separate contexts during the archaeological excavation. The finds were cleaned and packaged according to standard guidelines, and recorded under the supervision of F. Giecco, WAA Ltd Technical Director.

5.2 CERAMICS

5.2.1 A total of 13 fragments of pottery were recovered from two separate contexts during the investigation, including six fragments from the subsoil **(102)** within Structure 1 and seven fragments from the occupation layer **(123)** within Structure 2. Most of the assemblage appears to be the remains of one or more jugs, whilst a possible plate or dish is also represented. All of the sherds are of the same locally made reduced greyware fabric of probable 14th/15th century origin.

5.3 METAL

5.3.1 A single metal ring of unknown function was recovered from the occupation layer **(123)** within Structure 2. The iron object is likely to have a medieval provenance given its association with several sherds of 14th/15th century pottery recovered from the same deposit.

6 ENVIRONMENTAL ANALYSIS

6.1 INTRODUCTION

6.1.1 During the course of an archaeological evaluation four samples were taken. Samples were taken to extract material that may aid the understanding the depositional history of these contexts. This could include evidence of human activity that may have left preserved archaeological material during the prehistoric or historic periods. As well as anthropogenic evidence the remains of wild plants may allow inferences to be made regarding the local environment. Due to the nature of this evaluation and the lack of artefactual dating evidence these sample could conceivably contain material from a very broad period, though these might not necessarily be of anthropogenic origin.

6.1.2 The methodology employed required that the whole earth samples be broken down and split into their various different components: the flot, the residue, the clay-silt and the sand-silt. The sample was manually floated and sieved through a 'Siraf' style flotation tank. In this case the residue and the flot are retained while the sand-silt-clay components are filtered out. The sample was floated into a 300-micron geological sieve, while the heavy residue was retained within a 1mm plastic mesh, then air-dried and sorted by eye for any material that may aid our understanding of the deposit. This would include charred plant remains, bones, pottery, burnt clay and charcoal. Where found charcoal fragments larger than 1cm x 1cm would be retained for later analysis or for use in radiometric dating should they prove suitable. The residue samples were also scanned with a hand magnet to retrieve forms of magnetic material. This was done to retrieve residues of metallurgical activity, in particular hammer scale, spheroid hammer scale. Processing procedures and nomenclature follows the conventions set out by the English Heritage Centre for Archaeological Guidelines publication (2001).

6.1.3 An experienced environmental archaeologist examined all of the dried residues. It was appreciated from the assessment phase that the heavy clay soils may in some cases not allow a completely efficient separation of the charred organic remains from the inorganic residue. In this case much of the chaff and some grains may be retained in the residue. Therefore it was seen as a priority that as little of this material be lost as possible.

6.1.4 The washover was dried slowly and scanned at x40 magnification for charred and uncharred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at WA Archaeology and by reference to relevant

literature (Cappers *et al*. 2010, Jacomet 2006). Plant taxonomic nomenclature follows Stace (2010).

6.1.5 Favourable preservation conditions can lead to the retrieval of organic remains that may produce a valuable suite of information, in respect of the depositional environment of the material, thus enabling assessment of anthropogenic activity, seasonality and climate and elements of the economy associated with the features from which t-0he samples are removed. In this case the sandy, well drained, base rich nature of the soil would be suitable for the preservation of charred plant remains and bone (should mineral replacement occur to offset the leeching of calcium from deposited bones material).

6.1.6 Sample numbers appear in brackets thus < >, whilst context numbers appear in brackets thus ( ) for all analysis and discussion below. Information on the residue contents and the quantities of plant remains recovered are available on Table one below. For material from the residue the relative abundance is based on a scale from 1 (lowest) to 3 (highest). Plant remains have been recorded on a scale from A-E. This is calculated as; A=1-2, B=3-10, C=11-30, D=30-100, E=c.100+. The exception being unidentified seeds, where the numbers of unidentified species is given, rather than their relative abundance. The presence of an asterisk on the table indicates charred material.

6.1.7 For the purposes of clarity the references to 'seeds' identified here refer to the seed or fruit structures unless otherwise stated; that is to say the propagule or disseminule structures. Cereal grain was recovered in a charred condition and where mentioned refers to the charred caryopsis. Chaff fragments are specified in the text as being either rachis, paleas, lemmas, glumes, awns or culms and culm nodes. Carex nutlets are classed as either lenticular or trigonus, though further identification was not undertaken. As these plants did not occur with particularly high frequency, and as they generally indicated wet environments it was not thought that a more detailed examination would improve our knowledge of the context in which these remains occur.

6.2 RESULTS

6.2.1 Below in Table 1 is the identified contents of the samples.

6.2.2 Wild plant remains were only encountered in one sample, (133) <4>. Four seeds of Chenopodium sp (Goosefoot) a common plant with little interpretative value considering its low quantity. No evidence of cultivated plants were found, either charred grains, chaff etc.

TABLE 1: ENVIRONMENTAL ANALYSIS FOR: GSM-A

Sample	1	2	3	4
Context	112	122	123	133
Volume processed (litres)	10	10	10	10
Volume of retent(ml)	1500	1000	2000	500
Volume of flot (ml)		300	300	300
Samples suitable for radiocarbon dating	N	N	N	N
Residue contents (relative abundance)				
Vitrified material		2		3
Magnetic Residue	1	1	1	1
Modern roots	2	2	2	2
Stones/gravel	3	3	3	2
Flot matrix (relative abundance)				
Charcoal		2		2
Modern roots		3	3	3
Small twigs		1	1	2
Other plant remains (relative abundance)				
(x) *Chenopodium* sp (Goosefoot)				B

(c: cereal types, x: wide niche) Relative abundance is based on a scale from 1 (lowest) to 3 (highest) where 0 is not present.

6.3 DISCUSSION OF THE HEAVY RESIDUES

6.3.1 ***Metal Working:*** The procedure for examining magnetic residues follows from standard methods (English Heritage 2001). The material collected derived from naturally occurring magnetic minerals.

6.3.2 No other material of anthropogenic interest was recovered from the heavy residues from this site.

6.4 CONCLUSIONS

6.4.1 The only aspect of note is the almost completely sterile nature of these samples. Common plants such as elder (Sambucus nigra), goosefoots (Chenopodium species) and brambleberry (Rubus species) often lie within what is termed the seed bank (Carruthers and Straker 1996). They are commonly encountered in archaeological soil samples as some of the botanical 'background noise' when they are reworked into a soil or sediment. Their absence here suggests that these features are a very poor preservation medium for plant remains.

6.4.2 Samples **(112) <1>**, **(122) <2>** and **(123) <3>** all derive from occupational flooring layers within the structure but betray no evidence of human activity. Sample (133) <4> derives from a dump and contains significant quantities of vitrified burnt material reinforcing this interpretation. Perhaps much of the occupational evidence has been lost and displaced through a combination of clearing into associated dumps and poor preservation.

6.4.3 At this stage it is not recommended that further work be undertaken on the samples from this site.

7 CONCLUSIONS

7.1 CONCLUSIONS

7.1.1 The archaeological investigation on land at Glenmuckloch Surface Coal Mine was undertaken in order to investigate several features of potential archaeological significance, which fall within the area of extraction of the proposed Eastern Extension.

7.1.2 The excavation centred on what proved to be two substantial buildings and an associated midden. Two linear boundary features further south were also investigated, which probably relate to former field boundaries. It is possible that the structures represent temporary shielings, which were typically only used on a seasonal basis, although it may be more appropriate to view the structures as a more permanent longhouse, separated by a central cross-passage. The scarcity of domestic refuse would suggest that this was not an intensively occupied site. Given some of the evidence retrieved during the investigation, it is possible to separate the structures into domestic and agricultural use.

7.1.3 Several well stratified fragments of pottery have provided a date of 14th/15th century, with no evidence of earlier or later activity.

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APPENDIX 1: CONTEXT TABLE

Context Number	Type	Description
100	Deposit	Topsoil in Structure 1
101	Deposit	Natural Substrate
102	Deposit	Subsoil in Structure 1
103	Masonry	West wall of Structure 1
104	Masonry	East – West partition in Structure 1
105	Masonry	West wall of Structure 2
106	Deposit	Topsoil in Structure 2
107	Deposit	Subsoil in Structure 2
108	Masonry	Possible stone shelf, SE corner of Structure 1
109	Masonry	Annex
110	Deposit	Topsoil in Annex
111	Deposit	Subsoil in Annex
112	Deposit	Floor in Structure 1, Room A
113	Masonry	South wall of Structure 1
114	Masonry	East wall of Structure 1
115	Structure	Line of stones south of Structure 1
116	Masonry	Stone shelf / bench, SW corner of Structure 1
117	Masonry	Dividing wall within SE corner of Structure 1
118	Masonry	South wall of Structure 2
119	Masonry	East wall of Structure 2
120	Masonry	North wall of Structure 2
121	Masonry	Square structure within NE corner of Structure 2
122	Deposit	Occupation layer in Str. 1, Room B
123	Deposit	Occupation layer in Structure 2
124	Structure	Hearth in Structure 1
125	Masonry	North wall of Structure 1
126	Fill	Fill of post hole [127]
127	Cut	Cut of post hole
128	Deposit	Stones outside Structure 1 doorway
129	Group	Group sheet for buildings
130	Deposit	Topsoil in slot through midden
131	Deposit	Subsoil in slot through midden
132	Deposit	Midden deposit
133	Deposit	Midden deposit
134	Deposit	Midden deposit
135	Deposit	Primary midden deposit
136	Deposit	Make up of northern bank
137	Cut	Cut of northern ditch of southern bank
138	Cut	Cut of southern ditch of southern bank
139	Deposit	Make up of southern bank

APPENDIX 2: FIGURES