

# GUARD ARCHAEOLOGY



**Greendykes Road, Edinburgh  
Data Structure Report  
Project 3749**

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## **Greendykes Road, Edinburgh**

### **Data Structure Report**

**On behalf of:** Meary Voar Developments

**NGR:** NT 3012 7079

**Project Number:** 3749

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*This document has been prepared in accordance  
with GUARD Archaeology Limited standard operating procedures.*

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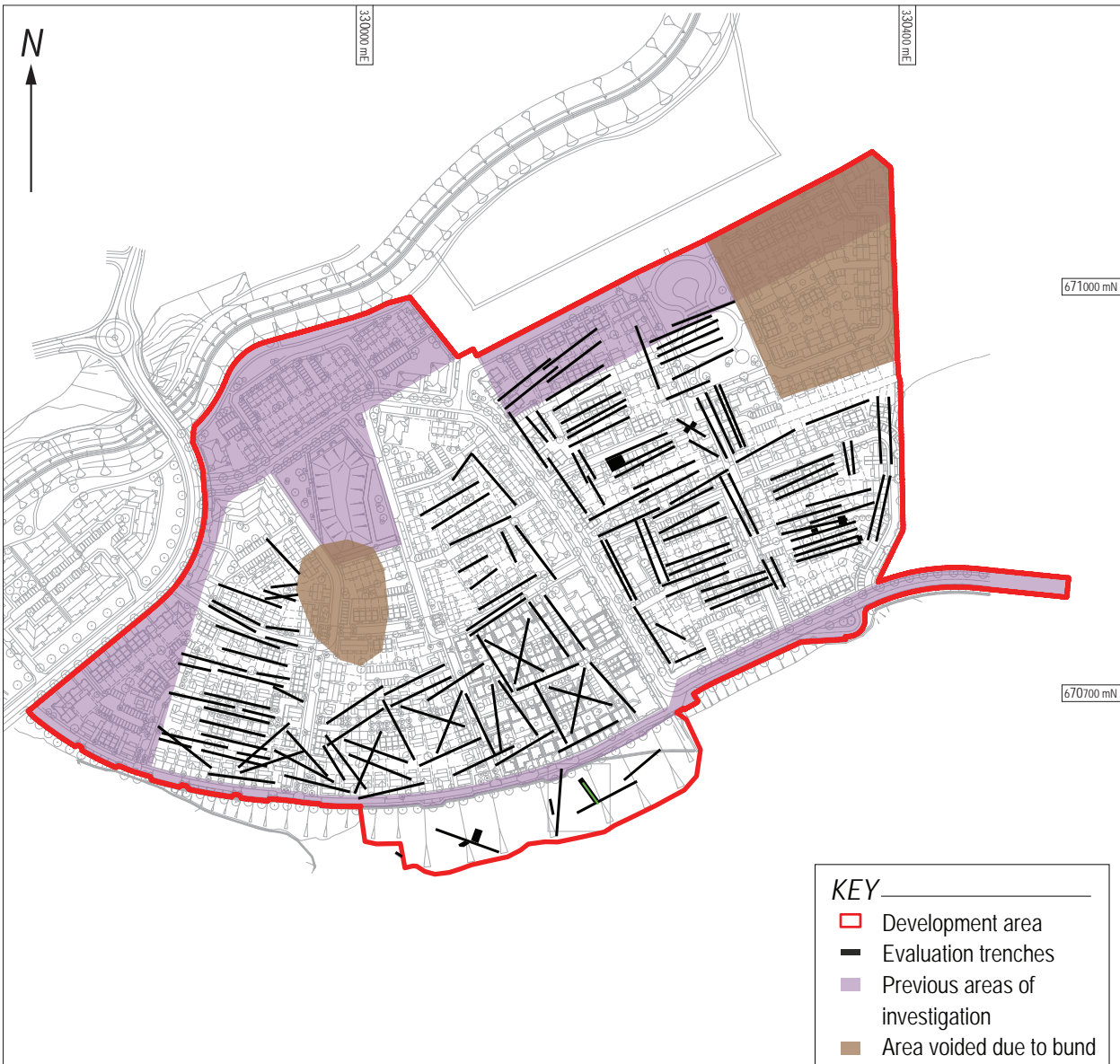
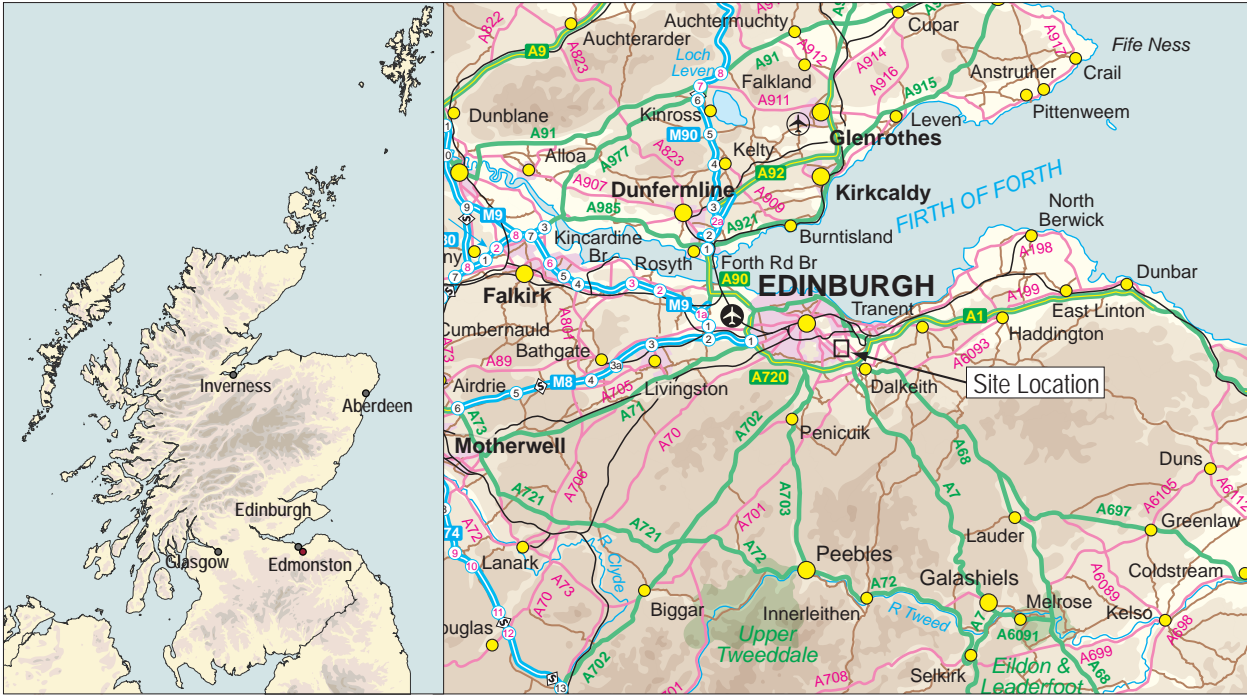


Figure 1:  
Site location.





## Executive Summary

- 1.1 An archaeological evaluation was carried out by GUARD Archaeology on behalf of Meary Voar Developments, on an area proposed for development at Greendykes Road, Edinburgh. A trial trench evaluation of 10% of the total area proposed for development (c. 13 ha) was undertaken. Several archaeological features of local significance were encountered during the evaluation, including the basal courses of a demolished sandstone wall/field boundary, mineshafts and further evidence of early modern mining activity. The work was undertaken between 15 August and 11 September 2013.

## Introduction

- 2.1 This report sets out the results of an archaeological evaluation undertaken by GUARD Archaeology on behalf of Meary Voar Developments, on a site proposed for the construction of housing at Greendykes Road, Edinburgh. During the course of the evaluation a total of 14,472 square metres of trenching was undertaken, spread over 164 individual trenches arranged in an interrupted grid pattern across the site.
- 2.2 The OASIS reference number is guardarc1-160509.

## Site Location, Topography and Geology

- 3.1 The development area is located to the south of Edinburgh and the north of Edmonstone Estate, just to the west of the Wisp and centred on NGR NT 3012 7079 (Figure 1). The development area comprised a number of rectilinear shaped fields, bounded to the south and west by fields, the Wisp to the east and Niddrie and Hunters Hall Park to the north. The area of the proposed development to be subject to archaeological investigation total approximately 13 ha in size (Figure 1) and sits between 45 and 60 metres AOD.



*Plate 1: General panoramic view of the site from the south with Arthur's Seat in the distance.*

- 3.2 The underlying drift geology consists of Devensian – Diamicton till, while the solid geology consists of Limestone Coal Formation, Clackmannan Group (British Geological Survey <http://mapapps.bgs.ac.uk>).

## Archaeological Background

- 4.1 Previous desk-based assessments have been conducted for the Edmonstone Estate (Dalglish 2003; Dalglish & Banks 2004; Atkinson & Rennie 2012) and for the land to the west around the Niddrie Marshall Estate (Barnes 2006). In addition to this archaeological investigations have also been conducted within the bounds of the Edmonstone area (Will & Radley 2005; Francoz 2008) and to the west along the Niddrie Burn (Dunbar 2010). Much of this work has revealed that the area contains extensive evidence of early modern mine workings in the form of bell pits, shafts and colliery activity and evidence of estate activity in the form of ice houses, field boundaries and buildings dating from the medieval period onwards. The proximity of both these estates indicated that further mining and estate activity was likely within the current development area and that prehistoric remains may also be present.

## Aims and Objectives

5.1 The aim of the archaeological work was:

- to identify any archaeological features and deposits within the development area;
- to ensure that any previously unknown archaeological remains within the development area were sampled to inform suitable mitigation of the site.

5.2 The objectives were therefore to:

- Conduct a 10% trial trench evaluation of the development area to establish the presence or absence of any archaeological remains, and their character, date and extent if surviving;
- Submit a report to the planning authority to data structure level, which includes an outline of the scope of any further archaeological mitigation works should significant archaeology have been encountered.

## Methodology

6.1 Topsoil was stripped using a mechanical excavator, fitted with a flat-bladed ditching bucket. The topsoil was removed in linear trenches to the surface of the subsoil or the first significant archaeological horizon. The trenches were a maximum of 50 metres long by 2 metres wide (one bucket width), but were widened where archaeological remains were uncovered. Trenches were located to provide a 10% sample (14,472 square metres) of the development area and were arranged in an interrupted pattern (Figure 2). Excavation was initially by machine under close archaeological supervision. The exposed areas were then cleaned by hand to identify any archaeological features.

6.2 Any features that were identified during the evaluation were investigated to determine their age, extent and significance. Recording was by pro-forma sheets, drawings and photographs. Potentially significant features were partly excavated to determine the date of the deposits and their extent. This information will inform any mitigation strategies for any further work that may be required.

6.3 All on-site recording, written, drawn and photographic, was to the standards normally pertaining in archaeological fieldwork. The written record of all archaeological features, deposits and finds was by means of conventional pro forma sheets. Scaled hand-drawn plans were made at 1:20 and sections at 1:10. Digital images were taken to record all trenches and archaeological features. The locations and dimensions of all trenches and features were recorded in such a way as to tie them to the Ordnance Survey grid and the National Datum. Weather conditions for the evaluation were generally fine and dry with a few occasional days of heavy rain and strong winds.

## Results

7.1 During the course of the evaluation several features of local archaeological significance were encountered. One hundred and sixty-four trenches were excavated, totalling 14,472 square metres, the results of which are set out in Appendix F. For the majority of the area trenches revealed a loose, dark brown sandy clay loam with occasional small stones forming a re-deposited landscaping topsoil (Context 007). This layer occurred to a depth up to 0.6 m, but was generally around 0.2m overlying a natural subsoil (Context 002). The natural was a firm, orange/yellow/blue grey coloured clay/sandy clay of varied composition with occasional outcropping weathered sandstone bedrock. In addition, an earlier topsoil (Context 001) of loose, mid-brown clay loam with occasional small-medium sub-angular sandstone stones, measured up to 0.42 m depth, had been truncated across most of the site by developer stripping and ground cutting and now only survived along southern fringes. Trenches 60 and 66 also revealed a buried topsoil or subsoil horizon (Context 004), which is likely the surviving remnants of a previous topsoil stripped area.





Figure 2: Trench location.



- 7.2 During the evaluation a background scatter of artefacts was encountered but not recovered from topsoil deposits across the area, including glazed pottery, wire and glass bottle fragments. However, of particular note was the recovery of shoe components and a rusted iron roller assembly likely related to mining activity from trench 110. A number of trenches contained ceramic tile and/or rubble field drains at varying depths and states of preservation. Generally all features discovered could have been previously truncated by the ongoing development work on the site.
- 7.3 Trench 42 revealed the only upstanding archaeological feature encountered on the site, which was the basal remains of a demolished sandstone wall/field boundary (Context 013) in a very straight north-west/south-east alignment at the south side of the development area (Plate 2). A 16.5m length was revealed (Figure 3) although early edition O.S. maps indicate that it once extended further across the site and was therefore possibly truncated by the development works prior to trial trenching. The construction was drystone with faced edges brought to course and consisted of quarried yellow sandstone angular blocks and rubble of various sizes up to 0.8 m by 0.38 m by 0.16m. The basal course was 0.6 m wide and of varying height up to 0.38 m and the placement of the blocks varied along its length with some flat lying slabs and some vertical facing blocks. Three small pieces of brown/yellow glazed ceramic and part of the base of a green bottle were recovered during cleaning of the feature.



Plate 2: Basal course of sandstone wall (013) in Trench 42, from the south.



Plate 3: Possible cultivation marks in Trench 66, from the west.

- 7.4 Trench 66 revealed possible cultivation marks (Context 006) in the subsoil. These were linear in plan, aligned north/south with a broad U-shape in profile. Measured 2.25 m long by 0.75 m wide by 0.12 m deep with a moderate break of slope at the top to gradually sloping sides, which break imperceptibly to form a broad uneven base. They may have been truncated by earlier stripping by the development.
- 7.5 Trench 106 contained the remains of a possible floor for a small structure or foundation for machinery (Context 009). The cut (Context 017) was sub-circular in plan, measured 1.8 m by 1.5 m by 0.15 m deep with gentle sloping sides graduating to a broad and undulating base. The cut contained loose brick and heat affected rubble with mortar fragments (009) and a half section revealed twisted wire protruding from discrete areas.
- 7.6 Trench 110 revealed significant evidence of mining activity on the site. The west end of the trench, extending into the west end of parallel trench 108, first revealed an area of hardstanding (Context 008) consisting of irregular shaped mixed bands of heavily compacted cinder/ash (Context 019) and mortar screed (Context 020) and localised groups of angular sandstone blocks (Context 022) and clay bricks (Contexts 021 and 025). The compacted cinder/ash deposit was partially covered by patches of a deposit of extremely compacted, light brown clay with frequent gravel sized stones (Context 018). This had a variable depth from 10 mm to 0.1m and contained various scattered finds including fragments of glass, ceramic, animal bone, metal and shoe components (recovered).



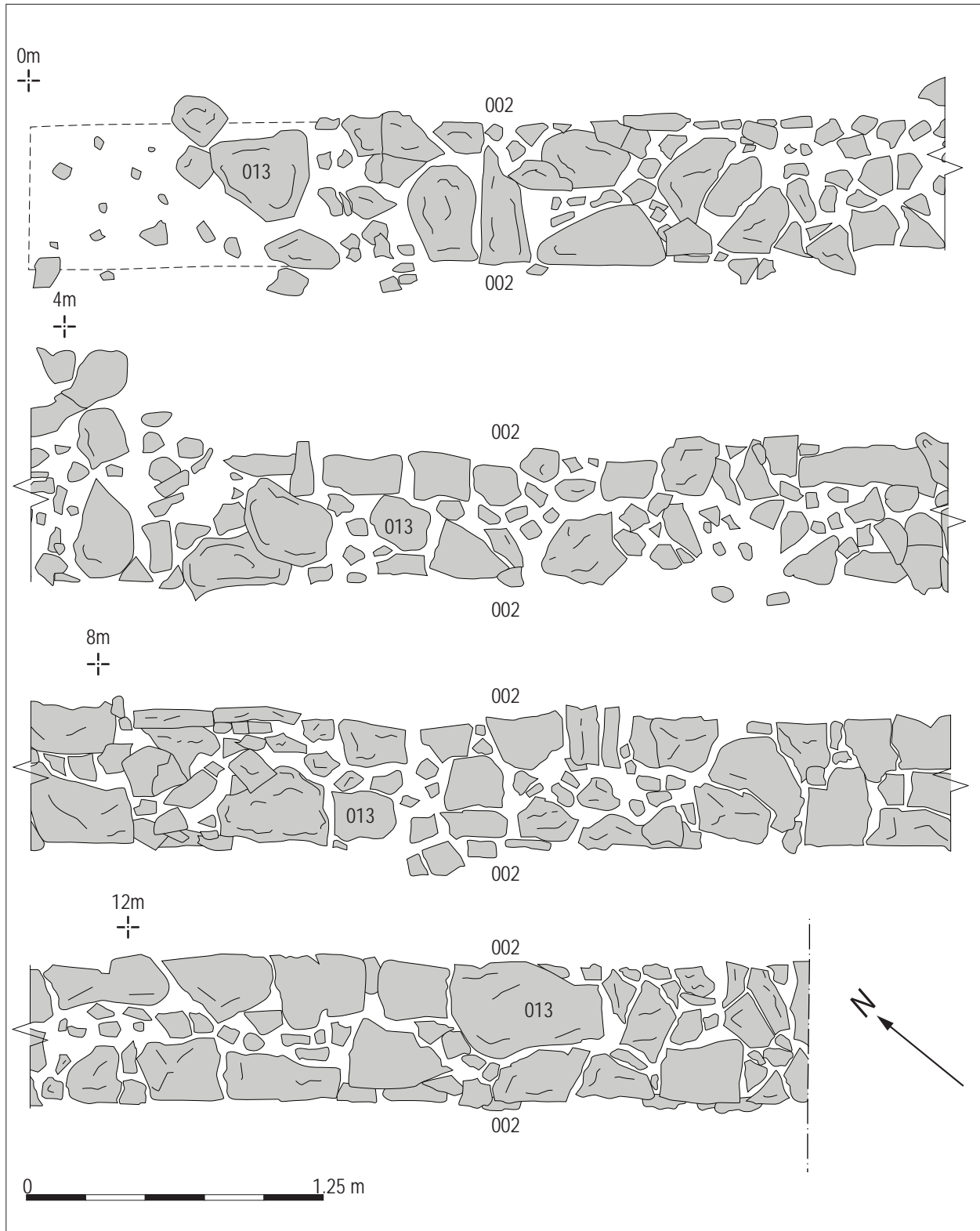


Figure 3: Plan of wall 013 in trench 42.

- 7.6.1 The total extent of the hardstanding was c. 12 m north/south by 11 m east/west. A machine cut slot placed across the hardstanding in a east/west alignment revealed several shallow mixed boundaries of heavily compacted deposits (Contexts 027, 028 and 029) below the surface (Figure 4).
- 7.6.2 Further excavation by machine revealed a brick platform (Context 023) with a perpendicular brick-lined channel (Context 024) underneath the north side of hardstanding (008).



Plate 4: Pre-ex view of hardstanding area, from the northeast.



Plate 5: Brick platform (023) and brick lined channel (024), from the southwest.

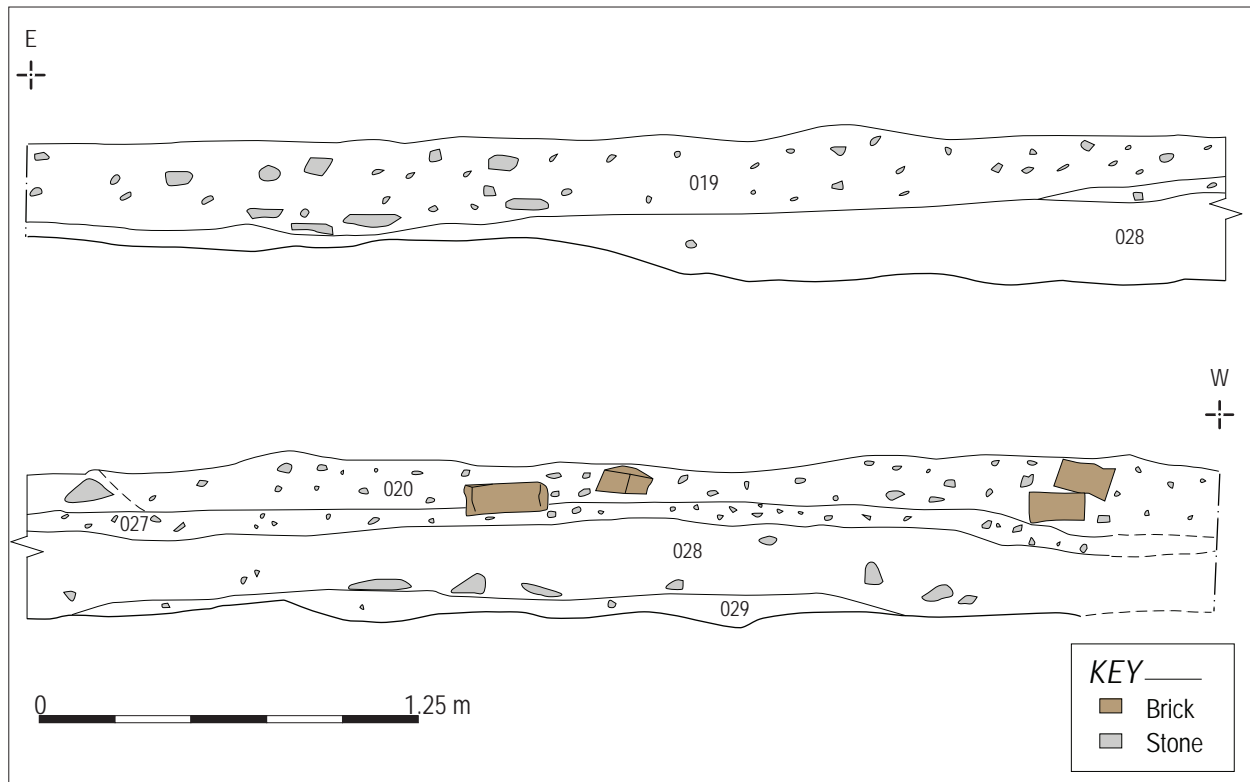


Figure 4:  
North facing section of hard standing South of brick channel 024.

- 7.6.3 The brick platform (Context 023) consisted of clay brick bonded with mortar to form a flat solid platform, with a brick facing of at least seven layers that formed a ditch abutting a brick-lined channel (024). The bricks were 0.24 m by 0.12 m by 80 mm and a number were stamped 'A Livingston & Son Patent Portobello'. The overall platform was rectangular and measured 3.7 m long by 1.9 m wide by 0.77 m deep.
- 7.6.4 The brick lined channel (Context 024) was constructed from clay brick bonded with mortar to form a rectangular channel perpendicular to the ditch on the west side of the brick platform (023). The channel was measured 8.4 m long by 1.04 m wide by 0.22 m deep with an east/west alignment and may have continued further west but the evaluation was limited by water pooling and a haul road leading to a top soil bund.
- 7.6.5 Adjacent to the hardstanding was a small mine shaft (Context 026) which was rectangular and measured 2.7 m by 2 m with a sharp break of slope leading to a vertical drop on 3 sides and a moderate 30-45 degree slope on the west. This was excavated to a depth of 0.7 m but

continued below. A small deposit of bricks (Context 025) lay on the east side of the mineshaft. The bricks were previously mortar bonded but now loose and measured 0.22 m by 0.11 m by 60 mm forming a rectangular area 1.27 m by 0.92 m by 60 mm, possibly to reinforce ground for machinery associated with the mineshaft.

- 7.6.6 Two further small deposits of bricks (Context 021) and sandstone blocks (Context 022) were located within the hardstanding area, perhaps as ground reinforcement for machinery associated with the mining activity. The bricks (021) were orange/red clay and the deposit was heavily compacted within an area measured at 0.75 m by 0.4 m. The sandstone blocks (022) were white/grey and the deposit was heavily compacted within an area measured at 1.2 m by 0.5 m.



Plate 6: Detail at east end of brick lined channel (024), from the east.



Plate 7: Localised sandstone block deposit (022) within hardstanding, from the north.

- 7.7 Trench 160 contained both a large mineshaft (Context 014) at its east end and a smaller possible bell pit or ancillary shaft to 014 (Context 015) in its middle. A further possible bell pit or ancillary shaft (Context 016) was located in Trench 163 approx 17 m SSE of 014.

- 7.7.1 The large shaft measured 6.25 m by 6 m on the surface. The developer requested that it was machine excavated to a depth of 6 m, which revealed near vertical sides and it continued below this depth. There is a possible extension to its north-west, U-shaped and measured at 2.5 m wide by 1.25 m deep but not followed below the edge of the trench. The mineshaft fill (Context 010) was angular mid-grey shale blocks and fragments, loose on surface, compacted below with sandstone and rubble inclusions. Evidence of possible post-fill slump was seen in the section.



Plate 8: Mineshaft (014) looking towards ancillary shaft/bell pit (015), Royal Infirmary of Edinburgh in middle distance, from the east.



Plate 9: South facing section of mineshaft (014), from the southwest.

- 7.7.2 A possible bell pit/ancillary shaft (015) was located 24 m to the east of mineshaft 014 (measured from centre of both). It was sub-circular in plan, measured 2.6 m by 2.2 m, and was machine excavated to a depth of 2.7 m revealing steep sides and it continued below this depth. The fill (Context 011) was dark grey shale and rubble of very firm compaction.





*Plate 10: Fill (011) of bell pit/ancillary shaft (015), from the south.*

- 7.7.3 A further possible bell pit/ancillary shaft (016) was located 17 m to the SSE of mineshaft 014 (measured from centre of both). It was sub-circular in plan, measured 2.25 m in diameter and was machine excavated to depth 2.7 m revealing steep sides and it continued below this depth. The fill (Context 012) was dark grey shale and rubble of very firm compaction.

## Discussion

- 8.1 The evaluation trenching identified the basal remains of a wall or field boundary relating to Edmonstone Estate and significant evidence of known mining activity that had occurred in the area during the early modern period. Extension of trenches, hand cleaning and test excavation of the archaeological features revealed further evidence of both construction methods and industrial activity on the site.
- 8.2 The wall or field boundary had largely been demolished, certainly in part by the current development, so the full course as seen on earlier O.S. maps could not be established. The basal remains revealed a sturdy construction that suggests that it was once a significant upstanding wall that had lost most of its material. A further boundary wall to the south-east of the site had also been lost, but its tree lined course south-west towards the location where Edmonstone House once stood could be seen beyond the site perimeter.
- 8.3 The early modern mining activity that was known to have taken place in this wider area was evidenced in a number of trenches. One substantial mineshaft with further smaller bell pits or ancillary shafts indicates significant coal raising activity. The brick platform and brick lined channel within an area of reinforced hardstanding were possibly associated on-site colliery activity. The channel shape suggests that it may have been part of a coal washing area, with the platform possibly providing a base for machinery, and the rusted iron roller assembly recovered from this area may have been part of a conveyor belt or other machinery associated with coal preparation.

## Recommendations

- 9.1 The evaluation work has proved that no archaeologically sensitive deposits or features exist within the accessible development area however a large area to the north-east of the site was covered in a deep bund of stored topsoil covering an area of approx. 22,500 square metres to a depth of c. 2-3 m and was therefore not subject to trial trench evaluation. In consequence, although it is recommended that no further archaeological work is required in relation to the area evaluated during this phase of works, further trial trench evaluation should be conducted in the north-east bund area if it is removed for development at a later date.
- 9.2 GUARD Archaeology would stress that these recommendations are intended for guidance only and final decisions on the nature and extent of any future archaeological work rest with the planning authority.

## Acknowledgements

- 10.1 GUARD Archaeology would like to thank Meary Voar Developments for their assistance. Plant and drivers were supplied by Allma Construction. Technical support was from John Kylie and Aileen Maule. A survey of trench locations was conducted by Alan Hunter Blair and Fiona Jackson. The illustrations were produced by Fiona Jackson. The report was desk top published by Gillian McSwan. The project was managed for GUARD Archaeology by John Atkinson.

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**Section 2: Appendices**



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## Appendices

### Appendix A: Bibliography

#### Documentary Sources

British Geological Survey <http://mapapps.bgs.ac.uk> [Accessed 3 October 2013].

### Appendix B: List of Contexts

Context No.	Area	Description	Interpretation
001	Site	Deposit: A moist, loose, mid-brown clay loam with occasional small-medium sub angular sandstone stones. Measured up to 0.42m depth. Truncated across most of site by developer stripping and ground cutting and only survives along southern fringes.	Topsoil
002	Site	Deposit: Moist, firm, varied orange/yellow/blue grey coloured and varied composition of clay/sandy clay/ occasional outcropping weathered sandstone bedrock.	Natural
003	North end of site	Fill: A moist, firm, occasionally wet and soft, variable dark grey/orange brown clay with occasional areas containing very frequent small sandstone fragments - here very compact. Measured up to 1.1m deep.	Fill layer associated with development. Towards north end of site where this deposit is found at its deepest. Some of this material is said to derive from previous work in this area by Carillion.
004	Trenches 60 & 66	Deposit: A moist, very firm, mid-brown sandy clay with moderate inclusions of small coal fragments and small sub-rounded and sub-angular stones. Measured 0.28m deep and visible as a discontinuous layer beneath fill layer 003 in trench 60 and trench 66.	Buried topsoil or subsoil horizon, likely surviving remnants of previously topsoil stripped area.
005	Trench 66	Fill: A moist, very firm, dark grey sandy clay with occasional small angular and rounded stones 65mm < and occasional small modern ceramic sherds (not retained). Measured 0.12m deep, possibly truncated by earlier topsoil strip.	Fill of cuts 006
006	Trench 66	Cut: linear in plan, broad U shape in profile. Measured 2.25m L x 0.75m W x 0.12m D. Moderate break of slope at top to gradually sloping sides which break imperceptibly to form a broad uneven base. Aligned N-S. Poss trunc by earlier strip.	Possible cultivation marks
007	East end of site	Deposit: A moist, loose, dark brown sandy clay loam with occasional small stones. Depth up to 0.60m but generally around 0.2m.	Redeposited topsoil/landscaping deposit over eastern extent of development area.
008	Trench 110/108	Deposit: mixed layers of cinder/rubble/mortar screed and angular sandstone blocks heavily compacted into a hardstanding. Irregular shape, total extent c12m N-S/11m E-W. Poss top truncated by earlier topsoil strip.	Industrial hardstanding likely associated with mining activity. Mixed deposits and boundaries and possibly deposited at different times.
009	Trench 106	Deposit/structure: loose brick and heat affected rubble with mortar fragments in a sub-circular shallow pit. Twisted wire protruding from discrete areas. Measured 1.80m N-S x 1.50m E-W x 0.15m deep. Poss top truncated by earlier top soil strip.	Possible floor for small structure or foundation for machinery, fill of cut 017.
010	Trench 160	Fill: angular mid-grey shale blocks and frags, loose on surface, compacted below with sandstone and rubble inclusions. 6m diameter, machine excavated to depth 6m, continues below. Poss trunc by previous topsoil strip. Poss adit. to NW, 2.5m W x 1.25m D.	Fill of large mineshaft 014.
011	Trench 160	Fill: dark grey shale and rubble fill, firm compaction, measured 2.60m x 2.20m (subcircular), machine excavated to depth 2.7m, continues below. Poss top trunc by previous top soil strip.	Fill of 015, possible bell pit shaft or ancillary shaft for large mineshaft 014.
012	Trench 163	Fill: dark grey shale and rubble fill, firm compaction, measured 2.25m diameter (rough circle), machine excavated to depth 2.7m, continues below. Poss top trunc by previous top soil strip.	Fill of 016, possible bell pit shaft or ancillary shaft for large mineshaft 014.

Context No.	Area	Description	Interpretation
013	Trench 42	Structure: Quarried yellow sandstone wall, random angular blocks and rubble up to 0.80mx0.38mx0.16m, dry stane construction with faced edges brought to course, linear N-S alignment, 16.5m L x 0.6m W x up to 0.38m H. Demolished, only basal courses survive.	Sandstone wall associated with Edmonstone Estate, further extent of original wall across site may have been truncated by development works.
014	Trench 160	Cut: circular in plan, 6.25m x 6.0m on surface, near vertical sides, machine excavated to depth 6.0m and continues below. Poss top truncated by previous topsoil striping. Poss U shaped extension to NW, 2.5m W x 1.25m D.	Cut of large mine shaft.
015	Trench 160	Cut: Sub-circular in plan, measured 2.6m x 2.2m, machine excavated to depth 2.7m, continues below, steep sided. Poss top truncated by previous top soil strip by developer.	Cut of possible bell pit shaft or ancillary shaft for large mineshaft 014.
016	Trench 163	Cut: Circular in plan, measured 2.25m diameter, machine excavated to depth 2.7m, continues below, steep sided. Poss top truncated by previous top soil strip by developer.	Cut of possible bell pit shaft or ancillary shaft for large mineshaft 014.
017	Trench 106	Cut: Sub-circular in plan, measured 1.80m x 1.50 x 0.15m deep. Gentle sloping sides graduating to a broad and undulating base. Poss top truncated by previous topsoil strip by developer.	Cut for stone and brick deposit, possible floor/base for a modern industrial small structure/machinery.
018	Trench 110	Deposit: Extremely compacted, light brown clay with frequent gravel sized stones. Variable depth 0.01>0.10m, irregular shape and patchy. Various scattered finds including fragments of glass, ceramic, animal bone, metal and shoe components.	Clay surface possibly accumulated from trampling on lower hardstanding surface.
019	Trench 110	Deposit: Loose, dark grey/black cinder/ash surface with burnt stone/brick and frequent gravel. Irregular shaped areas within 008, largest two 5m x 2m and 4.3m x 2.6m.	Cinder/ash surface mainly overlying brick platform 023 and brick lined channel 024.
020	Trench 110	Deposit: Extremely compacted, grey/white mortar screed. Irregular shaped areas within hardstanding area 008 from 1.4m x 1.05m to 10.5m x 2.5m.	Mortar screed hardstanding, possible reinforcement for area to house machinery/structures relating to mining activity.
021	Trench 110	Deposit: Heavily compacted orange/red clay bricks siting within area 008, measured 0.75m x 0.4m.	Brick deposit forming possible ground reinforcement within the hardstanding.
022	Trench 110	Deposit: Heavily compacted white/grey sandstone blocks sitting within area 008, measured 1.2m x 0.5m.	Sandstone blocks forming possible ground reinforcement for a structure or machinery.
023	Trench 110	Structure: brick bonded with mortar to form a flat solid platform with a brick facing of at least 7 layers forming a ditch abutting 024. Bricks 0.24x0.12x0.08m, structure rectangular 3.7m L x 1.9m W x 0.77m D with a N-S alignment.	Brick platform perpendicular to brick channel 024 and near to mine shaft 026, possible structural/machinery support for mine working.
024	Trench 110	Structure: brick bonded with mortar to form a rectangular channel perpendicular to the ditch on the west side of platform 023. Channel is 8.40m L x 1.04m W x 0.22m D with an E-W alignment	Brick lined channel extending west of brick platform, possible base for coal washing machinery/conveyor.
025	Trench 110	Structure: Brick, previously bonded now loose, bricks 0.22mx0.11mx0.06m forming a rectangular area 1.27m x 0.92m x 0.06m. Truncated by development works and some bricks missing. Adjacent to mine shaft 026.	Brick surface east of mine shaft 026 possible to reinforce ground for machinery.
026	Trench 110	Cut: Rectangular shaft 2.7m x 2m with a sharp break of slope leading to a vertical drop on 3 sides and a moderate 30-45 degree slope on west. Excavated to depth 0.7m. Top truncated by development strip. Adjacent to brick surface 025.	Cut of possible small mine shaft.
027	Trench 110	Deposit: Very compacted, black mottled with orange and white, ash/shale/mortar layer, 5m long in section x up to 0.10m depth, some brick fragment inclusions. Lying under deposit 020 within hardstanding area 008.	Thin dark deposit forming sub layer of hardstanding 008.
028	Trench 110	Deposit: Very compacted, medium brown mottled with bright orange and yellow silty clay, occasional medium sub rounded stone inclusions. 5m long in section x up to 0.25m depth.	Thick deposit of clay & silt below 027 forming sub layer of hardstanding 008.
029	Trench 110	Deposit: Very compacted, medium brown and orange mottled with grey and reddish brown clay with silt. Localised to hardstanding area beside brick platform 023 and brick channel 024.	Appears to be subsoil localised to hardstanding area 008 but different composition to 002.

## Appendix C: List of Finds

Find No.	Area	Context No.	No. of Pieces	Material	Description
1	Tr 42	013	1	Glass	Part of the base of a green bottle
2	Tr 42	013	3	Ceramic	Brown/yellow glazed
3	Tr 42	013	1	Metal	Rusty nail
4	Tr 110	018	-	Glass	Glass fragments and bottle stop
5	Tr 110	018	-	Ceramic	Modern glazed pottery - various
6	Tr 110	018	-	Metal	Miscellaneous pieces
7	Tr 110	019	-	Bone	Animal bone fragments
8	Tr 110	019	-	Leather	Shoe/boot components
9	Tr 110	008	-	Metal	Rusted iron

## Appendix D: List of Drawings

Drawing No.	Area	Sheet No.	Subject	Scale
1	Tr 66	1	Possible cultivation remains	1:50
2	Tr 160	1	Plan of mine shaft	1:50
3	Tr 160	1	Plan of mine shaft	1:50
4	Tr 163	1	Plan of mine shaft	1:50
5	Tr 42	2	NW facing section of sandstone wall 013	1:20
6	Tr 42	3&4	Plan of sandstone wall 013	1:20
7	Tr 106	5	Plan of possible floor 009	1:20
8	Tr 110	6	Pre-ex plan of hardstanding area 008	1:50
9	Tr 110	7	N facing section of hardstanding area 008	1:20
10	Tr 110	7	E facing section of hardstanding area 008	1:10

## Appendix E: List of Photographs

### File 1

Frame	Area	Context No.	Subject	Taken from
1	-	-	ID shot	-
2	Site	-	Pre-strip general view, north side of south central area	E
3	Site	-	Pre-strip general view, south side of south central area	E
4	Site	-	Pre-strip general view, east side of south central area looking uphill	N
5	Tr 1	-	Post strip view	N
6	Tr 3	-	Post strip view	N
7	Tr 5	-	Post strip view	E
8	Tr 7	-	Post strip view	N
9	Tr 9	-	Post strip view	E
10	Tr 11	-	Post strip view	NW
11	Tr 13	-	Post strip view	N
12	Tr 15	-	Post strip view	E
13	Tr 17	-	Post strip view	N
14	Tr 19	-	Post strip view	W
15	Tr 21	-	Post strip view	N
16	Tr 23	-	Post strip view	NE
17	Tr 25	-	Post strip view	NE
18	Tr 27	-	Post strip view	E
19	Tr 27	-	Small charcoal concentration at 13m east (ignore)	N
20	Tr 27	-	Dark patches in sand at 9m east (ignore, natural staining)	W
21	Tr 17	-	Dark grey clay filled pit at south end of trench, likely developer backfill	N
22	Tr 29	-	Post strip view	E
23	Tr 31	-	Post strip view	SW



Frame	Area	Context No.	Subject	Taken from
24	Tr 33	-	Post strip view	NW
25	Tr 35	-	Post strip view	SE
26	Tr 37	-	Post strip view	NW
27	Tr 39	-	Post strip view	N
28	Tr 38	-	Post strip view	E
29	Tr 40	-	Post strip view	N
30	Project 3726	Walled Garden Area 1	View of fencing around trench opened at SW corner	NE
31	Project 3726	Walled Garden Area 1	View of fencing around trench opened at SW corner	NW
32	Tr 44	-	Pre-ex view showing earth works restricting extent of trench	S
33	Tr 44	-	Pre-ex view showing earth works restricting extent of trench	N
34	Tr 44	-	Post strip view	S
35	Tr 45	-	Post strip view	SE
36	Tr 46	-	Post strip view	SE
37	Tr 47	-	Post strip view	NW
38	Tr 49	-	Post strip view	NW
39	Tr 51	-	Post strip view	NW

**File 2**

Frame	Area	Context No.	Subject	Taken from
1	-	-	ID Shot	-
2	Site	-	General view SW end of site	E
3	Tr 2	-	Post strip view	S
4	Tr 4	-	Post strip view	W
5	Tr 6	-	Post strip view	N
6	Tr 8	-	Post strip view	SE
7	Tr 10	-	Post strip view	SW
8	Tr 12	-	Post strip view	E
9	Tr 14	-	Post strip view	N
10	Tr 16	-	Post strip view	NE
11	Tr 13	-	Tile drain	N
12	Tr 18	-	Post strip view	W
13	Tr 20	-	Rubble drain N-S	S
14	Tr 20	-	Tile drain N-S	S
15	Tr 20	-	Post strip view	E
16	Tr 20	-	Possible drain cut	W
17	Tr 22	-	Post strip view	SE
18	Tr 24	-	View of strip during excavation	E
19	Tr 26	-	Post strip view	W
20	Tr 28	-	Post strip view	S
21	Tr 30	-	Post strip view	NW
22	Site	-	General view SW end of site	W
23	Tr 32	-	Post strip view	E
24	Tr 34	-	Post strip view	S
25	Tr 36	-	Post strip view	SE
26	Site	-	Stockpiled rock	SE
27	Site	-	Topsoil bund	SE
28	Tr 41	-	Post strip view	Sw
29	Tr 42	-	Post strip view	W
30	Tr 43	-	Post strip view	SE
31	Tr 48	-	Post strip view	W
32	Tr 50	-	Post strip view showing depth of fill towards west end	W

## File 3

Frame	Area	Context No.	Subject	Taken from
1	-	-	ID Shot	-
2	Tr 53	-	Post strip view	NW
3	Tr 55	-	Section at NW end showing 1m deep upfill	SW
4	Tr 55	-	Post strip view	NW
5	Tr 57	-	Post strip view	NW
6	Tr 59	-	Section at NW end showing 1.2m deep upfill	W
7	Tr 59	-	Post strip view	NW
8	Tr 61	-	Section in middle showing 0.80m deep upfill	NW
9	Tr 61	-	Post strip view	NW
10	Tr 63	-	Section at NW end showing 1m deep upfill	NE
11	Tr 63	-	Post strip view	NW
12	Tr 65	-	Post strip view	W
13	Tr 67	-	Section in middle showing 1.2m deep upfill in layers with ceramic drain in base	SW
14	Tr 67	-	Post strip view	SE
15	Tr 69	-	Post strip view	SE
16	Tr 71	-	Rubble field drain at west end of trench	S
17	Tr 71	-	Post strip view	W
18	Tr 73	-	Post strip view	E
19	Tr 75	-	Post strip view	W
20	Tr 77	-	Post strip view	S
21	Tr 79	-	Post strip view	N
22	Tr 81	-	Post strip view	S
23	Tr 83	-	Post strip view	S
24	Tr 85	-	Post strip view	W
25	Tr 87	-	Post strip view	W
26	Tr 89	-	Post strip view	N
27	Tr 91	-	Post strip view	S
28	Tr 93	-	Post strip view	N
29	Tr 95	-	Post strip view	N
30	Tr 97	-	Post strip view	E
31	Tr 99	-	Post strip view	E
32	Tr 101	-	Post strip view	E

## File 4

Frame	Area	Context No.	Subject	Taken from
1	-	-	ID Shot	-
2	Tr 52	-	South facing section	S
3	Tr 52	-	South facing section	S
4	Tr 52	-	General view showing plastic and detritus within fill layer	W
5	Tr 52	-	West facing section	W
6	Tr 52	-	Post strip view	E
7	Tr 54	-	Post strip view	E
8	Tr 56	-	Post strip view	W
9	Tr 58	-	North facing section at west end	N
10	Tr 58	-	Marker adjacent to Tr 58 indicating depth to OGS	NW
11	-	-	Unknown trench view, out of focus	-
12	Tr 60	004	West facing section	W
13	Tr 60	004	West facing section	W
14	Tr 62	003	General view showing fill	SW
15	Tr 62	002	Undisturbed field drains towards east end of trench	N
16	Tr 42	013	Pre-ex view of sandstone wall post machine cleaning	SE
17	Tr 64	-	Post strip view, ranging rod indicates rubble drain	W

Frame	Area	Context No.	Subject	Taken from
18	Tr 66	004	Remnant of topsoil/subsoil deposit	E
19	Tr 66	005/006	Possible cultivation marks at west end of trench	W
20	Tr 66	-	Post strip view	W
21	Tr 70	-	Post strip view	E
22	Tr 72	-	Post strip view	N
23	Tr 74	-	Post strip view	S
24	Tr 76	-	Post strip view	E
25	Tr 78	-	Post strip view	W
26	Tr 80	-	Post strip view	NE
27	Tr 82	-	Post strip view	SE
28	Tr 86	-	Post strip view	E
29	Tr 88	-	Post strip view	S
30	Tr 84	-	Post strip view	E
31	Tr 90	-	Post strip view	W
32	Tr 92	-	Post strip view	E
33	Tr 96	-	Post strip view	N
34	Site	-	General view of site	E

File 5

Frame	Area	Context No.	Subject	Taken from
1	-	-	ID shot	-
2	Tr 103	-	Post strip view	W
3	Tr 105	-	Post strip view	W
4	Tr 107	-	Post strip view	W
5	Tr 109	-	Post strip view	W
6	Tr 111	-	Post strip view	N
7	Tr 113	-	Post strip view	N
8	Tr 115	-	Post strip view	W
9	Tr 92	-	Post strip view	W
10	Tr 94	-	Post strip view	W
11	Tr 117	-	Post strip view	E
12	Tr 119	-	Post strip view	W
13	Tr 119	-	Hollow filled with redeposited top soil at east end of trench	NW
14	Tr 121	-	Post strip view	N
15	Tr 100	-	Post strip view	N
16	Tr 102	-	Post strip view	S
17	Tr 104	-	Post strip view	N
18	Tr 106	-	Post strip view including small rubble floor/foundation 009 halfway	W
19	Tr 123	-	Post strip view	S
20	Tr 125	-	Post strip view	E
21	Tr 127	-	Post strip view	E
22	Tr 129	-	Post strip view	W
23	Tr 131	-	Post strip view	W
24	Tr 106	009	Small brick rubble floor/foundation	S
25	Tr 106	009	Small brick rubble floor/foundation location on edge of trench	W
26	Tr 106	-	Post strip view with small rubble floor 009 halfway	E
27	Tr 108	008	Post strip view with cinder/rubble/mortar hardstanding at west end	W
28	Tr 110	008	Post strip view with cinder/rubble/mortar hardstanding at west end	W
29	Tr 108/110	008	Cinder/rubble/mortar hardstanding at west end of trenches	E
30	Tr 108/110	008	Cinder/rubble/mortar hardstanding at west end of trenches	N



Frame	Area	Context No.	Subject	Taken from
31	Tr 108/110	008	Small brick foundation at west end of context 008	E
32	Tr 135	-	Post strip view, two rubble field drains midway	N
33	Site	-	General view of middle area east of centre road with topsoil stockpile in distance and trench 135 to fore	W
34	Tr 137	-	Post strip view	W
35	Tr 139	-	Post strip view	W
36	Tr 141	-	Post strip view	W

## File 6

Frame	Area	Context No.	Subject	Taken from
1	Tr	-	ID shot	-
2	Tr 98	-	Post strip view	N
3	Tr 112	-	Rubble drain and deposit 004	SE
4	Tr 114	-	Outcropping rock initially perceived as possible culvert	NW
5	Tr 114	-	Post strip view	SE
6	Tr 116	-	Post strip view	W
7	Site	-	Development workings north of Tr 114 & 116	SE
8	Tr 118	-	Post strip view	E
9	Tr 120	-	Post strip view	W
10	Site	-	View of depth of cut at east end of side	W
11	Site	-	View of depth of cut at east end of side	W
12	Tr 122	-	Trench extension showing stone deposit	SW
13	Tr 124	-	View of area of truncated wall	E
14	Tr 126	-	Post strip view	E
15	Tr 128	-	Post strip view	W
16	Tr 130	-	Post strip view	E
17	Tr 132	-	Post strip view	W
18	Tr 134	-	Post strip view	S
19	Tr 136	-	Post strip view	S
20	Tr 138	-	Post strip view	S
21	Tr 140	-	Post strip view	NE
22	Tr 142	-	Post strip view	N
23	Tr 144	-	Post strip view	W
24	Tr 146	-	Post strip view	W
25	Tr 148	-	Post strip view	E
26	Tr 150	-	Post strip view	W
27	Tr 152	-	Post strip view	E
28	Tr 154	-	Post strip view	W
29	Tr 156	-	Post strip view	E
30	Tr 158	-	Post strip view	W
31	Tr 160	-	Post strip view	E
32	Tr 160	010/014	View during excavation of mineshaft	SW
33	Tr 160	010/014	View during excavation of mineshaft	NW
34	Tr 160	010/014	South facing section of mineshaft 014	SW
35	Tr 163	012/016	East facing section of pit/shaft 016	E

## File 7

Frame	Area	Context No.	Subject	Taken from
1	-	-	ID shot	-
2	Tr 143	-	Post strip view	W
3	Tr 145	-	Post strip view	E
4	Tr 147	-	Post strip view	W
5	Tr 149	-	Post strip view	S

Frame	Area	Context No.	Subject	Taken from
6	Tr 151	-	Post strip view	S
7	Tr 153	-	Post strip view	N
8	Tr 155	-	Post strip view	N
9	Tr 157	-	Post strip view	N
10	Tr 159	-	Post strip view	N
11	Tr 161	-	Post strip view	E
12	Tr 162	-	Post strip view	E
13	Tr 163	-	Post strip view	E
14	Tr 163	-	Possible bell pit/mineshaft at east end of trench	N
15	Tr 164	-	Post strip view	E
16	Tr 160	010	Shale filled mine shaft	S
17	Tr 160	010	Shale filled mine shaft	E
18	Tr 160	011	Possible bell pit/mineshaft in middle of trench	S
19	Tr 160	011	Possible bell pit/mineshaft in middle of trench, view towards mineshaft 010	E

File 8

Frame	Area	Context No.	Subject	Taken from
1	Tr 42	013	Pre-ex of wall 013	SE
2	Tr 42	013	Pre-ex of wall 013	E
3	Tr 42	013	Pre-ex of wall 013	SE
4	Tr 42	013	Pre-ex of wall 013	NW
5	Tr 42	013	Pre-ex of wall 013	NE
6	Tr 42	013	Pre-ex of wall 013	E
7	Tr 42	013	Pre-ex of wall 013	SE
8	Tr 42	013	Post-ex of wall 013	SE
9	Tr 42	013	Post-ex of wall 013	W
10	Tr 42	013	Post-ex of wall 013	SW
11	Tr 42	013	Post-ex of wall 013	S
12	Tr 42	013	Post-ex of wall 013	SE
13	Tr 42	013	Post-ex of wall 013	SE
14	Tr 42	013	Post-ex of wall 013	NE
15	Tr 42	013	Post-ex of wall 013	NE
16	Tr 42	013	Post-ex of wall 013	NNE
17	Tr 42	013	Post-ex of wall 013	NNE
18	Tr 42	013	Post-ex of wall 013	SE
19	Tr 42	013	Post-ex of wall 013	SW
20	Tr 42	013	Post-ex of wall 013	SE
21	Tr 42	013	Post-ex of wall 013	SW
22	Tr 42	013	Post-ex of wall 013	SW
23	Tr 42	013	Post-ex of wall 013	SW
24	Tr 42	013	Post-ex of wall 013	SE
25	Tr 42	013	Post-ex of wall 013	S
26	Tr 42	013	Post-ex of wall 013	SE
27	Tr 42	013	Post-ex of wall 013	SE
28	Tr 42	013	Post-ex of wall 013	N
29	Tr 42	013	Post-ex of wall 013	W
30	Tr 42	013	Post-ex of wall 013	NW
31	-	-	ID shot	-
32	Tr 42	013	Post-ex of wall 013	S
33	Tr 42	013	Post-ex of wall 013	S
34	Tr 42	013	Post-ex of wall 013	N
35	Tr 42	013	Post-ex of wall 013	N
36	Tr 110	008	Pre-ex of hardstanding 008	N

Frame	Area	Context No.	Subject	Taken from
37	Tr 110	008	Pre-ex of hardstanding 008	S
38	Tr 110	008	Pre-ex of hardstanding 008	W
39	Tr 110	009	Pre-ex of possible foundation 009	N
40	Tr 110	009	Pre-ex of possible foundation 009	N
41	Tr 106	009/017	Post-ex of possible foundation 009/017	SE
42	Tr 106	009/017	Post-ex of possible foundation 009/017	N
43	Tr 106	009/017	Post-ex of possible foundation 009/017	S
44	Tr 110	008	General view of hardstanding	NE
45	Tr 110	020	Mortar scree	E
46	Tr 110	022	Sandstone block area within 008	N
47	Tr 110	021	Localised brick deposit within 008	N
48	Tr 110	008	General brick area within 008	N
49	Tr 110	019	Plan view of test pit in 019	NE
50	Tr 110	019	NE facing section of test pit in 019	NE
51	Tr 110	019	Plan view of test pit in 019	NE
52	Tr 110	019	View showing depth of test pit in 019	SW
53	Tr 110	019	NW & SW facing sections of test pit in 019	W
54	Tr 110	-	General working shot	N
55	Tr 110	-	General working shot	N
56	Tr 110	-	General working shot	NW
57	Tr 110	-	General working shot	NW
58	Tr 110	008, 023 etc	Oblique view, N facing section of brick platform 023	NW
59	Tr 110	008,024 etc	North facing section above brick channel 024	N
60	Tr 110	008,024 etc	North facing section above brick channel 024	N
61	Tr 110	008,024 etc	North facing section above brick channel 024	N
62	Tr 110	008	East facing section of hardstanding 008	E
63	Tr 110	008	South facing section of hardstanding 008	S
64	Tr 110	025	General view of brick area 025	E
65	Tr 110	025	General view of brick area 025	N
66	Tr 110	026	General view of hardstanding deposit north of mine shaft 026	W
67	Tr 110	026	General view of hardstanding deposit west of mine shaft 026	W
68	Tr 110	026	General shot of mine shaft	E
69	Tr 110	023	General view of brick platform 023	S
70	Tr 110	023	General view of brick platform 023	N
71	Tr 110	023	General view of brick platform 023	W
72	Tr 110	024	Brick lined channel	NE
73	Tr 110	024	Brick lined channel, north facing wall	N
74	Tr 110	024	Brick lined channel	NW
75	Tr 110	024	Brick lined channel	SW
76	Tr 110	024	Brick lined channel, south facing wall	S
77	Tr 110	024	Brick lined channel	SE
78	Tr 110	024	West end of brick lined channel	E
79	Tr 110	024	West end of brick lined channel	S
80	Tr 110	024	West end of brick lined channel	N
81	Site	-	Greendykes Road panorama view	S
82	Tr 160	010	General pre-ex view of large mine shaft	NW
83	Tr 160	010	General post-ex view of large mine shaft	E
84	Tr 110	023/024	View of brick channel 024 under water	E

## Appendix F: List of Trenches

Tr No	Length (m)	Width (m)	Depth (m)	Topsoil/Overburden	Subsoil	Details
1	50	2	<0.15	001	002	-
2	50	2	<0.15	001	002	-
3	50	2	<0.15	001	002	-

Tr No	Length (m)	Width (m)	Depth (m)	Topsoil/Overburden	Subsoil	Details
4	50	2	0.1	001	002	-
5	50	2	<0.15	001	002	-
6	50	2	0.1	001	002	-
7	50	2	<0.15	001	002	-
8	50	2	0.1	001	002	-
9	50	2	<0.15	001	002	-
10	50	2	0.1	001	002	-
11	50	2	<0.15	001	002	-
12	50	2	0.1	001	002	-
13	50	2	<0.15	001	002	Ceramic drain aligned N-S
14	50	2	0.1	001	002	-
15	50	2	<0.15	001	002	-
16	50	2	0.15	001	002	-
17	50	2	<0.15	001	002	Dark grey clay filled pit to 1m depth at south end, probably developer backfill.
18	50	2	0.1	001	002	-
19	50	2	<0.15	001	002	-
20	50	2	0.1	001	002	Rubble and tile drains
21	50	2	<0.15	001	002	-
22	50	2	0.1	001	002	-
23	50	2	<0.15	001	002	-
24	50	2	0.1	001	002	-
25	50	2	<0.15	001	002	-
26	50	2	0.1	001	002	-
27	50	2	<0.15	001	002	-
28	30	2	0.1	001	002	-
29	50	2	<0.15	001	002	-
30	50	2	0.1	001	002	-
31	50	2	<0.15	001	002	-
32	50	2	0.25	001	002	-
33	50	2	<0.15	001	002	-
34	45	2	0.1	001	002	-
35	50	2	<0.15	001	002	-
36	50	2	0.15	001	002	-
37	50	2	<0.15	001	002	-
38	50	2	<0.15	001	002	Ceramic drain aligned N-S
39	50	2	<0.15	001	002	-
40	50	2	<0.15	001	002	-
41	37	2	0.4	001	002	-
42	25	2	1.0	001	002	Sandstone wall 013 aligned N-S
43	50	2	<0.65	001	002	-
44	36	2	0.45-0.50	001	002	-
45	20	2	0.45	001	002	-
46	25	2	0.35-0.45	001	002	-
47	25	2	0.40-0.50	001	002	3 ceramic drains aligned N-S
48	25	2	<0.45	001	002	-
49	50	2	0.25-0.50	001	002	2 ceramic drains aligned NW-SE
50	50	2	<0.90	001	002	Rubble and tile drains aligned NW-SE
51	25	2	0.25-0.35	001	002	-
52	50	2	<0.90	001	002	Tile drains aligned NW-SE
53	50	2	0.30-0.45	001	002	-
54	25	2	0.45	001	002	Tile drains aligned NW-SE
55	50	2	0.50-1.0	001	002	3 ceramic drains
56	25	2	0.35	001	002	-
57	25	2	0.35-0.45	001	002	-



Tr No	Length (m)	Width (m)	Depth (m)	Topsoil/Overburden	Subsoil	Details
58	50	2	0.3-1.0	001	002	Rubble drain aligned NW-SE
59	50	2	0.50-1.0	001	002	-
60	25	2	<1.1	001	002	Buried topsoil/subsoil 004
61	25	2	0.65-1.0	001	002	-
62	50	2	<1.6	001	002	Undisturbed drains towards east end
63	50	2	0.55-1.0	001	002	2 ceramic and 1 rubble drains
64	25	2	<0.60	001	002	Tile drains aligned NW-SE
65	25	2	0.5	001	002	2 ceramic drains
66	50	2	0.6-1.4	001	002	Rubble drain aligned NW-SE; buried topsoil/subsoil 004; possible cultivation remnants 006 aligned N-S at W end of trench
67	40	2	1.3	001	002	3 ceramic drains, 2 discrete layers of rubble infill with sandy clay between forming made up ground.
68	25	2	0.6-0.9	001	002	-
69	40	2	1.2-1.3	001	002	3 ceramic drains, 2 discrete layers of rubble infill with sandy clay between forming made up ground.
70	50	2	0.3	001	002	-
71	25	2	0.5	001	002	Rubble drain aligned NE-SW
72	50	2	0.5	001	002	-
73	25	2	0.15-0.5	001	002	Ceramic drain
74	25	2	0.3	001	002	-
75	50	2	0.5-0.6	001	002	-
76	50	2	0.6	001	002	-
77	50	2	0.5	001	002	-
78	50	2	0.6	001	002	-
79	50	2	0.05-0.2	007	002	-
80	25	2	0.55	001	002	-
81	50	2	0.05-0.15	007	002	-
82	25	2	0.45	007	002	-
83	50	2	0.2	007	002	-
84	25	2	0.35	007	002	-
85	50	2	0.2	007	002	-
86	35	2	0.3	007	002	-
87	50	2	0.2	007	002	-
88	12	2	<0.25	007	002	-
89	50	2	0.15-0.25	007	002	-
90	50	2	0.2	007	002	-
91	50	2	0.15-0.20	007	002	-
92	50	2	0.2	007	002	-
93	25	2	0.15-0.20	007	002	-
94	50	2	0.2	007	002	-
95	25	2	0.15-0.20	007	002	-
96	50	2	0.2	007	002	-
97	50	2	0.15-0.25	007	002	-
98	50	2	<0.65	007	002	-
99	50	2	0.15-0.20	007	002	-
100	25	2	0.20-0.40	007	002	-
101	50	2	0.2	007	002	-
102	25	2	0.20-0.30	007	002	-
103	50	2	0.2	007	002	-
104	25	2	0.3	007	002	-
105	50	2	0.2	007	002	-
106	50	2	0.2	007	002	Small brick/rubble floor 009
107	50	2	0.2	007	002	-
108	50	2	0.2	007	002	Mixed cinder/ash/ mortar/rubble layers forming hardstanding at west end of trench

Tr No	Length (m)	Width (m)	Depth (m)	Topsoil/Overburden	Subsoil	Details
109	50	2	0.15-0.20	007	002	-
110	50	2	0.2	007	002	Mixed cinder/ash/ mortar/rubble layers forming hardstanding at west end of trench
111	50	2	0.15-0.80	007	002	-
112	25	2	<1.0	007	002	Rubble drain aligned N-S, buried topsoil/subsoil 004
113	50	2	0.15-0.50	007	002	-
114	25	2	<0.45	007	002	2 4x4m side extensions around possible culvert - revealed to be natural stone
115	50	2	0.15-0.20	007	002	-
116	35	2	<1.0	007	002	-
117	50	2	0.20-0.40	007	002	-
118	50	2	<0.4	007	002	-
119	50	2	0.20-0.90	007	002	Remains of rubble drain
120	50	2	<0.4	007	002	-
121	50	2	0.15-0.20	007	002	-
122	50	2	<0.65	007	002	Extensions on east and west to investigate possible wall foundation, revealed to be natural stone deposit.
123	50	2	0.20-0.25	007	002	-
124	6	2	1.0	007	002	Aligned NW-SE to find wall extent, ash/cinder/crushed brick at NW end of trench.
125	50	2	0.2	007	002	-
126	50	2	0.35	007	002	-
127	50	2	0.2	007	002	-
128	50	2	0.35	007	002	-
129	50	2	0.20-0.30	007	002	-
130	50	2	0.3	007	002	-
131	50	2	0.2	007	002	-
132	50	2	0.35	007	002	-
133	25	2	0.2	007	002	-
134	25	2	0.25	007	002	-
135	50	2	0.5	007	002	remains of 2 rubble field drains
136	50	2	0.35	007	002	-
137	50	2	0.5	007	002	-
138	50	2	0.3	007	002	-
139	50	2	0.5	007	002	remains of rubble field drain
140	50	2	0.2-0.35	007	002	-
141	50	2	0.5	007	002	remains of rubble field drain
142	50	2	0.2-0.35	007	002	-
143	50	2	0.30-0.50	007	002	-
144	50	2	0.25	007	002	-
145	50	2	0.30-0.50	007	002	-
146	50	2	0.2-0.4	007	002	-
147	50	2	0.2	007	002	-
148	50	2	0.15-0.2	007	002	-
149	50	2	0.2	007	002	-
150	50	2	0.2	007	002	-
151	50	2	0.2	007	002	-
152	50	2	0.2	007	002	-
153	50	2	0.2	007	002	-
154	50	2	0.2	007	002	-
155	50	2	0.2	007	002	-
156	50	2	0.2	007	002	-
157	25	2	0.2	007	002	-
158	50	2	0.2	007	002	-
159	25	2	0.2	007	002	-

Tr No	Length (m)	Width (m)	Depth (m)	Topsoil/ Overburden	Subsoil	Details
160	50	2	0.2	007	002	2 pits/mine shafts 014 and 015
161	50	2	0.2	007	002	-
162	50	2	0.2	007	002	-
163	50	2	0.2	007	002	Bell pit/ancillary shaft 016
164	50	2	0.2	007	002	-

## Appendix G: Discovery and Excavation Scotland Report

LOCAL AUTHORITY:	City of Edinburgh
PROJECT TITLE/SITE NAME:	Greendykes Road, Edinburgh
PROJECT CODE:	3749
PARISH:	Edinburgh
NAME OF CONTRIBUTOR(S):	Douglas Allan and Alan Hunter Blair
NAME OF ORGANISATION:	GUARD Archaeology Limited
TYPE(S) OF PROJECT:	Evaluation
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	Early modern mine workings and estate wall remains
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 figures)	NT 301 708
START DATE (this season)	15 <sup>th</sup> August 20013
END DATE (this season)	11 <sup>th</sup> September 2013
PREVIOUS WORK (incl. DES ref.)	None
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	GUARD Archaeology Limited were commissioned to undertake a trial trench evaluation of a housing development site at Greendykes Road, City of Edinburgh. The evaluation consisted of 10% of the total area proposed for development (13 ha) and it revealed the basal courses of a demolished sandstone wall/field boundary, mineshafts and further evidence of early modern mining activity.
PROPOSED FUTURE WORK:	Further trial trench evaluation should be conducted in an area on the northeast of the site covered by a c 2-3 m high topsoil bund during the evaluation period, if it is removed for development at a later date.
SPONSOR OR FUNDING BODY:	Meary Voar Developments
CAPTION(S) FOR ILLUSTRS:	-
ADDRESS OF MAIN CONTRIBUTOR:	GUARD Archaeology Limited, 52 Elderpark Workspace, 100 Elderpark Street, Glasgow, G51 3TR
EMAIL ADDRESS:	bob.will@guard-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	The project archive will be deposited with the NMRS.

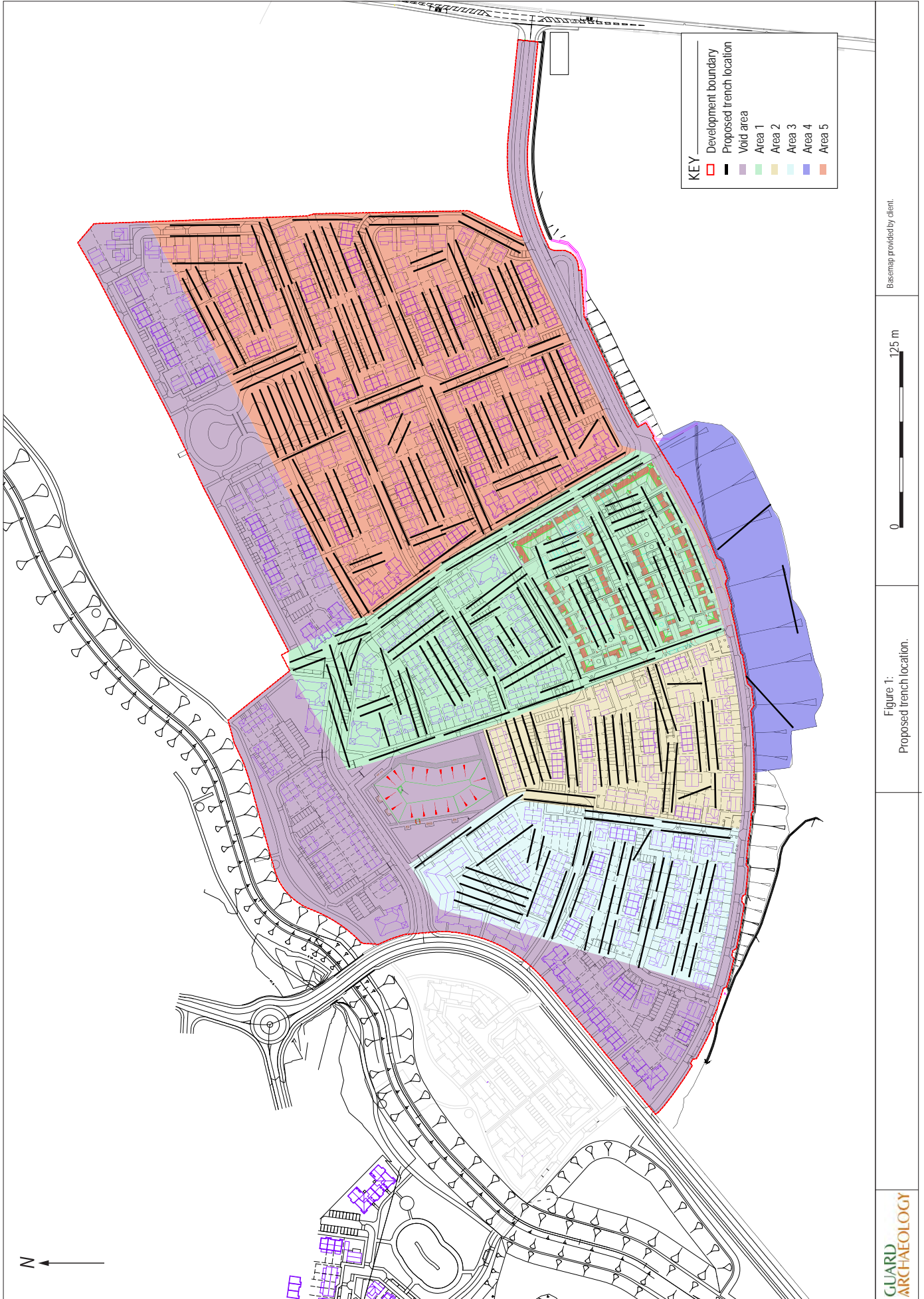
Appendix H: Written Scheme of Investigation

# GREENDYKES ROAD, EDINBURGH

ARCHAEOLOGICAL WRITTEN SCHEME OF INVESTIGATION

PROJECT 3749





KEY

Development boundary	Red line
Proposed trench location	Black line
Void area	Light purple
Area 1	Purple
Area 2	Green
Area 3	Yellow
Area 4	Blue
Area 5	Orange

Basemap provided by client.



Figure 1:  
Proposed trench location.

## Executive Summary

- 1.1 This Written Scheme of Investigation forms the method statement for the remedial archaeological works associated with the development of the site known as Greendykes Road, Edinburgh. This document acts as an overall project design for the development and provides specific scope for conducting a 10% trial trench evaluation of the proposed development site as required for approval by City of Council Edinburgh Archaeology Service, the archaeological advisers to Edinburgh Council.

## Introduction

- 2.1 This Written Scheme of Investigation (WSI) sets out the scope and methodology for the remedial archaeological mitigation works for the proposed development site known as Greendykes Road, Edinburgh. A programme of archaeological work, based on an initial trial trench evaluation of the development area will be undertaken to establish the presence, extent and nature of any significant archaeological remains. Should significant remains be identified, further mitigation measures may be necessary to ensure preservation by record is achieved.
- 2.2 This WSI outlines the programme of archaeological works that are needed to mitigate the effects of the development. It details the methodology to be employed during stage 1 (evaluation) of archaeological investigations into the development area. Further stages of mitigation will be specified in *addenda* to this document should they be necessary. These *addenda* will be submitted for agreement of the archaeological adviser to Edinburgh Council, prior to the commencement of any further archaeological work. All phases of work will be funded by the developer as required by the Planning Authority.

## Site Location

- 3.1 The development area is located to the south of Edinburgh and the north of Edmonstone Estate, just to the west of the Wisp. The development area comprised a number of rectilinear shaped fields, bounded to the south and west by fields, the Wisp to the east and Niddrie and Hunters Hall park to the north. The area of the proposed development area to be subject to archaeological investigation totals 13 ha in size (Figure 1).

## Archaeological Background

- 4.1 Previous desk-based assessments have been conducted for the Edmonstone Estate (Dalglish 2003; Dalglish & Banks 2004; Atkinson & Rennie 2012) and for the land to the west around the Niddrie Marshall Estate (Barnes 2006). In addition to this archaeological investigations have also been conducted within the bounds of the Edmonstone area (Will & Radley 2005; Francoz 2008) and to the west along the Niddrie Burn (Dunbar 2010). Much of this work has revealed that the area contains evidence extensive evidence of early modern mine workings in the form of bell pits, shafts and colliery activity and evidence of estate activity in the form of ice houses, field boundaries and building dating from the medieval period onwards. The proximity of both these estates indicates that further mining and estate activity is likely within the current development area and that prehistoric remains may also be present.

## Aims and Objectives

- 5.1 The aim of the archaeological work is:
- to identify any archaeological features and deposits within the development area;
  - to ensure that any previously unknown archaeological remains within the development area are sampled to inform suitable mitigation of the site.
- 5.2 The objectives are therefore to:

- Conduct an 10% trial trench evaluation of the development area to establish the presence or absence of any archaeological remains, and their character, date and extent if surviving;
- Submit a report to the planning authority to data structure level, which includes an outline of the scope of any further archaeological mitigation works should significant archaeology be encountered.

## Methodology

- 6.1 Evaluation of the site will be focussed within the limits of the undisturbed areas of the development and exclude any areas where previous interventions have occurred or where drainage or house platforms are currently in place. Trenching will cover approximately 10% of the accessible area (see figure 1). All trenches will be one bucket in width, but may be widened if archaeological remains are uncovered. Trenches will be a maximum of 50 m long and distributed in a random pattern. Prior to trenching all trench locations will be scanned for services. Excavation will initially be by machine under close archaeological supervision. The exposed areas will then be cleaned by hand to identify any archaeological features.
- 6.2 Any features that are identified during the evaluation will be investigated to determine their age, extent and significance. Recording will be by pro-forma sheets, drawings and photographs. Potentially significant features will be partly excavated to determine the date of the deposits and their extent. This information will inform any mitigation strategies for any further work that may be required.
- 6.3 The written record of all archaeological features, deposits and finds will be by means of conventional pro forma sheets. Scaled hand-drawn plans will also be made at 1:20 and sections at 1:10. Black and white and colour record photographs will also be taken, along with digital images. The locations and dimensions of all features will be recorded in such a way as to tie them to the Ordnance Survey grid and the National Datum.
- 6.4 In the event that no significant remains are encountered, the findings of the evaluation will be notified, verbally and in writing, to the client and the council's archaeological adviser, so that the area can be signed-off as quickly as possible.

### Further Mitigation (Stage 2)

- 6.5 Should significant archaeological deposits be encountered, excavation (stage 2) and post-excavation phases of work (Stage 3) may be necessary. In this scenario, an amendment (addendum) to the written scheme of investigation will be produced to accompany any further fieldwork, with further costs outlined at this stage.
- 6.6 If required, the methodology to be employed during Stage 3 (post-excavation analysis and publication), would be specified in an addendum to this document known as a Post-Excavation Research Design (PERD). This addendum, will be submitted by the applicant for the approval of the Planning Authority, prior to the commencement of any Stage 3 archaeological work. It is expected that the Planning Authority will not discharge any potential planning condition which requires the programme of archaeological work, until such time as it is satisfied that all stages of archaeological fieldwork have been completed, or secured by contract (in the case of Stage 3).

### Human Remains

- 6.7 Though there is nothing to suggest their discovery is likely, should human remains be encountered, GUARD Archaeology will notify the local police and the council's archaeological advisers immediately and thereafter follow prescribed procedures for their treatment, in accordance with legal requirements.

## Report Preparation and Contents

- 7.1 A report detailing the results of the archaeological fieldwork will be submitted to the client within two weeks of completion of fieldwork and, subject to client approval, then submitted to the council's

archaeological adviser for their comment. The report will take the form of a Data Structure Report and will contain an analysis of the results of the archaeological evaluation. The report will include a full descriptive text that will characterise the date and extent of any archaeological deposits. It will also include plans at an appropriate scale showing the area subjected to ground-breaking works, environmental sampling, archaeological features and archiving lists of all finds, samples, field drawings and photographs.

- 7.2 If appropriate, the report will also include an addendum to this WSI for further archaeological fieldwork, should significant archaeology have been encountered.
- 7.3 The report will include the following:
- executive summary;
  - a site location plan to at least 1:10,000 scale with at least an 8 figure central grid reference;
  - OASIS reference number; unique site code;
  - Planning application number;
  - contractor's details including date work carried out;
  - nature and extent of the proposed development, including developer/client details;
  - description of the site history, location and geology;
  - a site plan to a suitable scale and tied into the national grid so that features can be correctly orientated;
  - discussion of the results of field work;
  - context & feature descriptions;
  - features, number and class of artefacts, spot dating & scientific dating of significant finds presented in tabular format;
  - plans and section drawings of the features drawn at a suitable scale;
  - initial assessment of relevant finds/samples if appropriate;
  - recommendations regarding the need for, and scope of, any further archaeological work such as excavation (Stage 2) and Post-excavation finds analysis, conservation & publication (Stage 3);
  - bibliography
- 7.4 An appropriate number of hard copies and digital pdf copies of the report will be prepared for the client and sent to the archaeological adviser for agreement.
- 7.5 The hard copy report will be presented in an ordered state and bound within a protective cover/sleeve. The report will be page numbered and supplemented with section numbering for ease of reference.

## Copyright

- 8.1 Unless otherwise agreed copyright for any report resulting from the archaeological work undertaken as part of the project will be deemed the intellectual property of GUARD Archaeology Ltd.

## Publication

- 9.1 A summary of the project results will be submitted to *Discovery and Excavation in Scotland*. In the event of minor archaeological remains being encountered during the archaeological fieldwork, it is proposed that a comprehensive report submitted to *Discovery and Excavation in Scotland*, will form the final publication of the site. A copy of this will be included in the Data Structure Report.



## Archive

- 10.1 The archive for the project, including a copy of the report, will be submitted to the National Monuments Records for Scotland within three months of completion of all relevant work.
- 10.2 The online OASIS form at <http://ads.ahds.ac.uk/project/oasis/> will be completed within 3 months of completion of the work. Once the Data Structure Report has become a public document by submission to or incorporation into the SMR, the archaeological adviser to the planning authority will validate the OASIS form thus placing the information into the public domain on the OASIS website.

## Finds Disposal

- 11.1 The arrangement for the final disposal of any finds made in connection with the archaeological work, will be deposited in keeping with Scottish legal requirements as set out in the Treasure Trove Code of Practice published by the Scottish Government in December 2008. The laws relating to Treasure Trove and *Bona Vacantia* in Scotland apply to all finds where the original owner cannot be identified. This includes all material recovered during archaeological fieldwork. Accordingly, all assemblages recovered from archaeological fieldwork are claimed automatically by the Crown and must be reported to the Scottish Archaeological Finds Allocation Panel through its secretariat, the Treasure Trove Unit. In the event of the discovery of small finds, a filled-out copy of the form "Declaration of an Archaeological Assemblage from Fieldwork" and two copies of the pertinent Data Structure Report will be submitted to the Panel at the conclusion of the fieldwork. The Panel will then be responsible for recommending to the Queen's and Lord Treasurer's Remembrancer which museum should be allocated the finds. All artefacts will be temporarily stored by GUARD Archaeology until a decision has been made by the panel.

## Personnel and Liaison

- 12.1 The GUARD team will comprise the following qualified and experienced GUARD archaeologists:
  - Project Manager: John Atkinson
  - Project Director (on-site Archaeologist): Alan Hunter Blair
  - Finds and Environmental Support and Conservation: Aileen Maule
  - Illustrator: Gillian McSwan
- 12.2 The GUARD Archaeology Project Manager will be the point of contact for the archaeological works. A full CV for individuals concerned can be made available on request.

## Timetable

- 13.1 GUARD Archaeology aim to begin work on as soon as the WSI has been agreed. The programme of evaluation during phase one is estimated to last up to ten working days depending on the extent of the archaeology. On completion of the works a report to data structures level will be completed within three weeks.
- 13.2 Should post-excavation analysis and reporting be merited, a Post-Excavation Research Design will be produced within one month of completion of all fieldwork at the site. Submission of final publication reports, should they be warranted, will be undertaken within a year of agreement of the PERD.

## Monitoring

- 14.1 The archaeological adviser to the Planning Authority will have a formal monitoring role and will be kept informed of progress. The on-site project team will be happy to accommodate monitoring visits to the site during fieldwork, whether pre-arranged or otherwise. Any site visitors will also be expected to conform to the health and safety regime in place during the project.

## Health & Safety and Insurance

- 15.1 GUARD Archaeology Ltd adheres to the guidelines and standards prescribed for archaeological fieldwork set down in the Institute for Archaeologists approved Health and Safety in Field Archaeology document. It is standard GUARD policy, prior to any fieldwork project commencing, to conduct a risk assessment and to prepare a project safety plan, the prescriptions of which will be strictly followed for the duration of all archaeological fieldwork. Copies of the resultant project safety plan and of GUARD Archaeology's Fieldwork Safety Policy Statement may be viewed upon request.
- 15.2 GUARD Archaeology Ltd also possesses all necessary insurance cover, proofs of which may be supplied upon request.

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