

Edinburgh Drinking Water Project Metal Detecting Survey Mortonhall City of Edinburgh

Report No. 1946



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Commissioned by	ERM on behalf of Black & Veatch Ltd
Date issued	December 2011
Version	0
Planning Application No	08/00847/FUL
Grid Ref	NT 25772 68179 to NT 26133 68749

This document has been prepared in accordance with CFA Archaeology Ltd standard operating procedures.

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1. INTRODUCTION

1.1 General

This report presents the results of a metal detecting survey undertaken by CFA Archaeology Ltd (CFA) in March 2010 and May 2011 for the Edinburgh Drinking Water Project in advance of topsoil stripping operations for the water pipeline at Mortonhall, City of Edinburgh (NGR: NT 25772 68179 to NT 26133 68749) (Fig. 1). The work was commissioned by ERM Ltd on behalf of Black and Veatch Ltd.

A Written Scheme of Investigation (WSI) dated 20 October 2008 covering the metal detecting survey was produced by CFA on behalf of ERM. The WSI was produced following consultation with the City of Edinburgh Council Archaeology Service (CECAS).

1.2 Background

The new water pipeline providing drinking water for the City of Edinburgh runs from a new water treatment works at Glencorse to the existing water treatment plant at Alnwickhill, with a spur running from NGR NT 25354 66630 to NGR NT 25025 67340, which tied in with existing pipe work just to the south of the A720 City of Edinburgh Bypass.

The route of the pipeline takes it from Midlothian into the City of Edinburgh, meaning that it falls partially under the jurisdiction of the East Lothian Council Archaeology Service (ELCAS) (covering Midlothian) and partially under the jurisdiction of CECAS (covering City of Edinburgh).

In response to the planning application (Ref. 08/00847/FUL) for the pipeline, a programme of archaeological works was agreed with ELCAS and CECAS consisting of a watching brief, the excavation of a World War Two army camp, a metal detecting survey within an area possibly containing a Cromwellian army encampment, and the standing building survey of a possible brick-built sentry box. This report covers the results of the metal detector survey at Mortonhall. Reports covering the army camp excavations and the watching brief have been produced under separate cover (Kirby 2010 and Kirby 2011 respectively). The possible sentry box was not affected by the development and consequently was not recorded.

Other previous work undertaken in relation to the construction of the pipeline included an archaeological desk-based assessment for the Environmental Statement, an evaluation undertaken in advance of the construction of the water treatment works at Glencorse (Kirby 2008), an evaluation undertaken within the soil storage area for the water treatment works (Suddaby 2008), a watching brief during groundworks for the water treatment works (Gray 2008) and the Level 1 photographic survey of the boundary wall at Alnwickhill Reservoir (Cressey 2011).

This report covers the results of the metal detector survey of the section of pipeline running from Mortonhall army camp up to the road leading to Meadowhead Farm. The reason for the detector survey was because Douglas (1898) records that Cromwell's army occupied an encampment on Galachlaw in 1650 and again in 1651

and this section of the pipeline passed in close proximity to the Galachlaw. The purpose of the metal detecting survey was to try and identify any artefacts that might be associated with the activities of Cromwell's army.

The survey was carried out by members of the Scottish Detector Club who were employed by CFA and supervised by CFA members of staff.

1.2 Aims and Objectives

The objectives of the metal detecting survey were to locate any metal artefacts within the identified survey area with specific reference to any artefacts that may provide evidence of the presence of the Cromwellian Army Encampment in the development area.

2. WORKING METHODS

Within the defined survey area the wayleave of the pipeline was divided into grids (G1-G48) (Fig 2) measuring 20m long by the width of the wayleave. The survey was then conducted along traverses spaced 5m apart across each grid. The grid positions were recorded using industry-standard surveying equipment.

During the survey, there was no discrimination set on the equipment. All finds were recovered and were bagged by grid and line number.

Due to access issues the survey was carried out in two phases almost a year apart, in March 2010 and May 2011.

3. RESULTS OF THE SURVEY

The metal detector survey resulted in the collection of 344 objects, including brass, iron, lead and aluminium. All objects were recorded to a basic level (material, find type, count, weight, spotdate). These details are contained within Appendix 1.

The majority of the finds were modern rubbish or items of little intrinsic importance. A small group (see table below) of finds could date to the 17th century and hence be at least broadly of a similar date to the Cromwellian Army Encampment. Given the small number of find no significant distributions were visible.

Grid	Line	Find type	Notes	Date
6	5	Ae	Turner, v poor condition, thistle just visible	17th c.
11	5	Pb	musket ball	pmed
13	6	Pb	musket ball	pmed
18	5	Ae	tinned double-loop buckle frag	pmed (17th c.?)
15	?	Pb	musket ball	pmed
28	1	Ae	buckle, double-loop D-shape	L.16th-17th c.
31	1	Pb	musket ball, deformed	pmed
31	3	Pb	musket ball	pmed
32	2	Ae	token?	17th c?
36	2	Ae	shoe buckle, rectangular moulded frame, spindle lost	17th-E.18th c.
36	4	Pb	musket ball	pmed
44	1	Pb	musket ball	pmed
46	5	Ae	worn Turner (Charles I or II?)	17th c.

Table1: Finds of potential to be contemporary with the Cromwellian Army Encampment

A large number of .303 bullet casings from live rather than practice rounds were recovered from Grid 34 extending westwards through the survey area to Grid 46. The local landowner commented that it was common to find spent ammunition in this area. The casings were all date stamped from the 1940s and it is considered likely that there was a practice live firing range in this area which was used by troops stationed nearby at the Mortonhall Camp and at Mortonhall House.

4 **CONCLUSIONS**

A metal detecting survey was undertaken at Mortonhall in advance of topsoil stripping for a pipeline providing a new drinking water supply to the City of Edinburgh. This programme of works was required because the pipeline potentially ran close to the site of a possible Cromwellian Army Encampment.

Although a number of finds of potentially 17th century date were recovered none of them could be definitively associated with the Cromwellian troops and the range of potential 17th century finds was so low that it is unlikely that the Cromwellian Army Encampment extended on to the route of the pipeline.

The large quantity of casings identified between Grid 34 and Grid 46 suggests that this area may have been a live firing range during WWII.

It has been agreed with CECAS that the majority of the modern finds and undiagnostic finds can be discarded prior to notification to the Scottish Archaeological Finds Allocation Panel via the Treasure Trove Unit.

The project archive, comprising all CFA record sheets, maps and reports will be deposited with the National Monuments Record of Scotland (NMRS) and a summary statement of the results of this programme of work will submitted for publication in *Discovery and Excavation in Scotland* 2011.

5. REFERENCES

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Kirby, M 2011 Glencorse Edinburgh Drinking Water Pipeline, Mortonhall City of Edinburgh: Metal Detecting Survey CFA Unpublished Data Structure Report no. 1946

Suddaby, I 2008 Glencorse Water Treatment Works, Glencorse Mains, Penicuik, Midlothian: Archaeological Evaluation CFA Unpublished Data Structure Report no. 1529

Appendix 1 - Finds Catalogue

Grid	Line	Find type	No	Wt	Notes	Date
		• •		(g)		
1	1	Ae	1	17	?brass ?gun fitting	mod
1	2	Fe	1	298	curving frag, thick, with rim	
1	2	Fe	1	35	large nail, machine-made	mod
1	2	Ae	1	1	shirt button	E.20th c.
1	2	Al/Pb?	1	2	flattened tube	
1	4	Ae	1	9	Belgian 20F coin	L.20th c.
1	6	Fe	1	43	large nail, machine-made	mod
1	6	Ae	1	4	sheet double-plate strap fitting, 2	mod
					rivets - may be pmed, but surviving	
					cloth suggests recent	
2	1	Ae	1	10	.303 bullet casing	1940s
2	1	A1?	1	30	moulded plate frag with numbers,	E-M.20th c.
					green painted	
2	2	Fe	1	394	thick sheet	
2	2	Fe	1	1023	plough share	mod
2	2	Fe	1	5	nail	
2	2	Pb	1	10	irreg lump	
2	2	Ae	1	8	cartridge	mod
2	6	Fe	1	362	triangular block	
3	1	A1?	1	51	moulded plate frag, green painted	E-M.20th c.
3	1	Ae?	1	8	?brass fitting, circular, milled edge	mod
3	2	Ae	1	1	shirt button	E.20th c.
3	2	Fe	1	464	bolt/fitting?	mod
3	8	Ae	1	5	disc button with integral loop (lost)	pmed/mod
4	2	Ae	1	12	cut sheet frag	
4	3	Ae	1	8	.303 bullet casing	1940s
4	4	Ae	1	7	double frame rectangular buckle,	mod?
					machine-made? Almost identical to	
					SF14 though	
4	5	Ae/Pb	1	20	cartridge case/tube?	
5	1	Ae	1	1	shirt button	mod
5	2	Fe/leather	4	311	boot frags with steel toe-cap	mod
5	2	Fe	1	658	thick rectangular block	
5	2	Ae	1	2	wire frag	
5	6	Ae	1	2	wire frag	
5	7	Fe	1	401	spanner	mod
5	7	Fe	1	1109	plough share	mod
5	7	Ae	1	3	folded sheet label, stamped lettering	mod
6	2	Pb	1	45	waste?	
6	2	Al	1	1	crumpled sheet	mod
6	3	Fe	1	712	cast curving thick sheet	
6	5	Ae	1	1	Turner, v poor condition, thistle just	17th c.
					visible	
6	5	Fe	1	26	frag of keyhole plate?	
6	5	Fe	1	11	nail	
6	5	Ae	1	19	knob/handle	mod
7	1	Fe	1	116	U-section tube/binding	
7	2	Fe	1	32	heel iron	pmed/mod
7	2	Ae	1	2	disc button with integral loop	pmed
L					(broken)	
7	3	Fe	1	42	bolt	
7	7	Ae	1	10	.303 bullet casing	1940s
7	5	Fe	1	72	triangular sheet	
7	5	Fe/Al	2	300	fitting	mod

7	5	Al	1	10	crumpled sheet	mod
8	1	Fe	2	23	thin sheet frag	mod
8	7	Pb	1	21	rough cut rectangle	
8	8	Ae	1	3	rolled sheet cylinder - lace tag or similar	mod
8	8	Fe/Ae	2	48	cartridge caps/fittings?	mod
9	1	Ae	1	3	shaped sheet label, stamped lettering	mod
9	2	Pb	1	24	lump	
9	7	Ae	1	11	melt	
10	1	Al	1	6	crumpled sheet	mod
10	1	Ae	1	1	small hollow button	E.20th c.
10	2	Ae	1	1	shirt button	E.20th c.
10	3	Fe?	1	70	unident squarish lump	
10	7	Ae	1	5	sheet frag with moulded grooves on one side, poss from a shell/mortar?	
11	2	Ae	1	23	wire handle	mod
11	2	Fe	1	695	large cylinder	mod
11	2	Ae	1	11	double frame rectangular buckle, uneven loops, poss handmade?	pmed?
11	3	Pb	1	72	waste	
11	3	Ae	1	1	sheet frag	
11	3	Pb	1	6	sack seal	19th c.
11	5	Pb	1	17	musket ball, 15mm diam	pmed
11	6	Pb	1	1	sheet offcut? Poss deliberately shaped	
11	7	Ae?	1	1	unident	
12	3	Fe	1	444	?tent peg or punch? (blunt end)	mod
12	3	Fe	1	20	bolt/nail, large head	
12	5	Fe	1	63	tapered bar, curving	
12	5	Ae	1	2	short thick wire frag	
12	6	Fe	1	10	nail?	d
12	7	Ae Ae	1	20 18	sheet rectangular plate sheet rectangular plate	mod mod
13	4	Fe	1	304	fitting	mod
13	5	Ae/leather	1	50	thick leather ?strap with large Ae	pmed/mod
					rivets	
13	5	Ae	1	15	belt slide	mod
13	6	Pb	1	30	musket ball, 18mm diam	pmed
13	7	Ae	1	4	sheet fitting frag, curved edge	mod
15 15	3	Ae Pb	1	61	knob/handle thick box-like object?	18/19th c
15	2	Ae	1	230	disc button, integral loop	nmad
16	2	Ae/Fe	1	76	unident fitting	pmed
16	2	Ae	1	1	disc button, integral loop	pmed
16	3	Pb?	1	7	canvas eyelet	mod
16	2	Ae	1	8	spoon bowl	18/19th c.
16	1	Fe	1	117	thick lump	
17	4	Pb	1	50	rectangular thick sheet offcut	
17	?	Fe	1	38	oval-shaped lump, unident	
18	2	Pb	1	6	waste?	
18	5	Ae	1	5	tinned double-loop buckle frag	pmed (17th c.?)
18	7	Ae or Fe?	1	4	nail?	
18	8	Ae	1	9	sheet fitting	mod
18	5	Pb	1	18	sheet strip	
19	4	Fe	1	50	short cylinder	mod
19	5	Ae	1	9	1938 penny	20th c.
19	6	Fe	1	82	hinge	pmed?
19	6	Pb	1	9	folded sheet frag	201
19	8	Ae	1	9	1946 penny	20th c.

19	8	Fe	1	123	2 large oval chain links	
20	7	Ae	1	7	disc button, loop removed	pmed
20	7	Fe	1	28	unident lump	
21	1	Ae	1	9	buckle	mod
22	6	Pb	1	8	waste	
23	5	Ae	1	4	disc button, integral loop	pmed
24	5	Ae	1	4	tinned disc button, punched dot border	18/19
25	2	Fe	1	337	thick triangular sheet	mod
25	5	Ae	1	2	coin, illeg, bust to R?ALES,	
					surfaces lost	
26	1	Fe	1	30	bolt	mod
26	1	Fe	1	67	curving sheet frag	E 2041 - 9
27	3	Ae	1	16	moulded shield-shaped object with Gothic script lettering	E.20th c.?
20	2	Ae	1	4	v worn coin, poss Geo III/IV	pmed
17	4	Ae	1	10	illegible penny	19th c.?
15	4	Pb	1	17	musket ball, 14mm	pmed
28	1	Ae	1	5	sheet disc, button or coin	pmed
28	1	Ae	1	3	buckle, double-loop D-shape	L.16th-17th c.
28	1	Pb	1	17	waste	
28	1	Pb/Ae	1	10	unident disc	pmed+
28	2	Pb	1	21	strip, rectangular, flat	
28	2	Ae	1	35	cylinder	pmed+
28	2	Ae	1	10	L-section strip fitting	pmed+
28	2	Ae	2	5	keyhole plates	19/20
28	2	Ae	1	2	disc button with integral loop	pmed
28	3		1	7	disc button with integral loop, tinned	
28	3	Ae	2	9	disc buttons, one with loop	pmed pmed
		Ae			1	^
28	4	Ae	1	3	disc button	pmed
28	4	Ae	1	4	screw fitting?	pmed
28	4	Ae	1	13	square cut sheet	pmed
28	5	Ae	1	6	large thin disc button	pmed
28	5	Ae	1	2	curtain ring	19/20th c
28	5	Ae	1	1	tinned rectangular button, central bar	19/20th c
29	1	Ae	1	10	lost .303 bullet casing	1940s
29	2	Fe	1	971	large horseshoe	18/19th c
29	4	Fe	1	255	square section curving strip	pmed
29	4	Ae	1	5	sheet ferrule/terminal/band	pmed
29	4	Ae	1	9	toy cannon	19/20th c
29	5	Ae	1	27	melt waste	17/20010
29	5		1	4	tinned disc button	19/20th c
29	5	Ae	1	25	Geo III 'Soho' penny	19/20th c
		Ae				
29	5	Ae	1	7	?Will IV halfpenny	E.19th c
29	6	Ae	1	7	halfpenny, v worn	19th c.
29	6	Ae	1	2	tinned button, slightly concave	19/20th c
30	1	Pb	1	15	flat oval sheet with rectangular hole	pmed
30	1	Ae	1	4	small thimble, machine-made	19th c.
30	2	Ae	1	10	disc button	pmed
30	3	Pb	1	17	bale seal or cattle tag? Stamped	19/20th c
					"20169 / 36"	

30	3	Ae	1	6	rectangular stamped decorated belt clasp	pmed
30	4	Ae	2	20	.303 bullet casing	1940s
30	6	Ae	2	7	curtain rings	19/20th c
30	6	Ae	1	9	irreg disc, could be coin/token but prob button?	pmed
30	6	Ae/Fe	1	26	fitting	19/20th c
31	1	Pb	1	23	musket ball, deformed	pmed
31	1	Pb	1	13	oval cut sheet object	pmed
31	1	Ae	1	2	sheet disc, poss Turner?	pmed
31	3	Pb	1	18	musket ball	pmed
31	3	Pb	1	7	?moulded object frag or waste	pmed
32	1	Ae	1	14	.303 bullet casing	1940s
32	2	Ae	1	4	?coin/token (bawbee size), poor condition, pierced at edge	pmed
32	2	Ae	1	2	token?	17th c?
32	2	Pb	1	15	semi-circular moulded tag	pmed
33	1	Ae	1	6	slightly domed button with integral loop & maker's lettering on rear	19th c.
33	3	Ae	1	4	disc button with integral loop (lost), tinned	19/20th c
34	1	Ae	1	8	large curtain ring	19/20th c
34	1	Pb	1	193	plano-convex ?object or waste	pmed
34	2	Ae	1	6	moulded button	18/19th c
34	2	Ae	1	9	Geo V penny	20th c
34	3	Ae	1	2	disc button back	19/20th c
34	5	Ae	1	43	plano-convex section frag - unfinished/waste?	
35	1	Ae	1	1	small hollow button	19/20th c
35	3	Ae	2	23	.303 bullet casing	1940s
36	1	Ae	1	13	.303 bullet casing	1940s
36	1	Ae	1	2	disc button frag, tinned	19/20th c
36	1	Ae?	1	3	button cover?	pmed
36	2	Ae	2	20	.303 bullet casing	1940's
36	2	Ae	1	25	shoe buckle, rectangular moulded frame, spindle lost	17th-E.18th c.
36	3	Ae	3	34	.303 bullet casing	1940s
36	3	Ae	1	5	drop loop wire handle with fitting	19/20th c
36	3	Ae	1	9	fitting with counter-sunk screw hole	19/20th c
36	4	Ae	3	32	.303 bullet casing	1940s
36	4	Pb	2	68	waste	
36	4	Pb	1	29	musket ball	pmed
36	6	Ae	1	8	cylinder	pmed+
37	3	Ae	4	43	.303 bullet casing	1940s
37	3	Ae	1	4	cap	20th c
37	3	Ae	1	9	large tinned disc button	19/20th c
37	4	Ae	5	58	.303 bullet casing	1940s
37	6	Ae	1	10	.303 bullet casing	1940s
38	1	Ae	7	79	.303 bullet casing	1940s
38	3	Ae	4	45	.303 bullet casing	1940s
38	4	Ae	2	22	.303 bullet casing	1940s

38	5	Ae	2	9	disc buttons with integral loops	pmed
38	5	Ae	1	7	decorated tinned disc button with 2	pmed
					holes added later for attachment?	
39	1	Ae	1	12	.303 bullet casing	1940s
39	1	Fe	1	52	plano-convex disc with central hole	pmed
39	1	Ae	1	5	disc button, tinned	19/20th c
39	6	Ae	1	12	.303 bullet casing	1940s
39	6	Ae	1	3	worn disc, poss bawbee or button?	pmed
39	7	Ae	1	9	.303 bullet casing	1940s
39	8	Ae	3	30	.303 bullet casing	1940s
39	8	Ae	1	9	sheet strip frag	pmed
40	1	Ae	1	12	.303 bullet casing	1940s
40	2	Ae	1	11	.303 bullet casing	1940s
40	4	Ae	2	24	.303 bullet casing	1940s
40	4	Ae	1	13	frag of disc with raised edge	19/20th c
40	6	Ae	1	12	.303 bullet casing	1940s
40	6	Ae/Fe	1	9	penknife	19/20th c
40	6	Ae	1	8	thick wire frag	19/20th c
40	7	Ae	1	6	thick wire frag	19/20th c
41	1	Ae	1	12	.303 bullet casing	1940s
41	3	Ae	1	10	disc button	pmed
41	6	Pb	1	61	plano-convex ?ingot	pmed
41	7	Ae	1	8	Victoria penny	1875
41	8	Ae	3	28	.303 bullet casing	1940s
42	5	Ae	1	4	half disc - coin or button?	pmed
42	6	Ae	1	8	fitting - terminal?	19/20th c
42	6	Ae	2	20	.303 bullet casing	1940s
42	8	Ae	9	88	.303 bullet casing	1940s
43	1	Ae	2	20	.303 bullet casing	1940s
43	3	Ae	2	23	.303 bullet casing	1940s
43	3	Ae	1	27	Geo III 'Soho' penny	1797
43	4	Ae	2	20	.303 bullet casing	1940s
43	6	Ae	3	25	.303 bullet casing	1940s
43	6	Pb	1	9	domed button? No loop though	pmed
43	7	Ae	5	55	.303 bullet casing	1940s
44	1	Ae	2	23	.303 bullet casing	1940s
44	1	Pb	1	23	musket ball	pmed
44	2	Ae	2	21	.303 bullet casing	1940s
44	2	Ae	1	10	large shot terminal	20th c
44	4	Ae	3	31	.303 bullet casing	1940s
44	5	Ae	5	51	.303 bullet casing	1940s
44	7	Ae	7	53	.303 bullet casing	1940s
44	8	Ae	1	11	.303 bullet casing	1940s
44	8	Ae	1	1	oval sheet frag	pmed+
44	8	Ae	1	1	button, 4 holes	19/20th c
45	1	Ae	1	4	coin, v worn - size of Charles II farthing	pmed
45	1	Ae	4	43	.303 bullet casing	1940s
45	2	Ae	2	22	.303 bullet casing	1940s

45	2	Ae	2	10	Geo V halfpennies	1920
45	2	Ae	2	19	Ed VII pennies	E 20th c
45	2	Ae	1	9	Geo VI penny	M 20th c
45	4	Ae	2	23	.303 bullet casing	1940s
45	4	Ae	1	5	Victoria halfpenny	1895
45	4	Pb	1	179	unident fitting	19/20th c
45	5	Ae	6	70	.303 bullet casing	1940s
45	6	Ae	1	10	.303 bullet casing	1940s
45	7	Ae	2	24	.303 bullet casing	1940s
45	8	Ae	4	46	.303 bullet casing	1940s
45	8	Ae	1	3	decorated 2-piece button	19/20th c
46	5	Ae	1	11	.303 bullet casing	1940s
46	5	Ae	1	2	worn Turner (Charles I or II?)	17th c.
46	8	Ae	1	12	.303 bullet casing	1940s
47	1	Ae	1	30	finial from clock case or similar	18/19th c
48	1	Pb	1	92	sheet frag with several pierced holes	pmed
48	2	Pb	1	52	frag of plano-convex ?ingot	pmed
48	5	Ae	1	8	coin, v poor condition, halfpenny size but rounded edges	pmed
48	6	Ae	1	95	length of copper pipe, flattened	19/20th c



