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Geophysical Survey

**Greenburn OCCS
Braehead Farm Extension
New Cumnock, East Ayrshire**

Archaeological Evaluation

Report No. 2055

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

**Greenburn OCCS
Braehead Farm Extension
New Cumnock, East Ayrshire**

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1 INTRODUCTION

1.1 General

This report presents the results of an archaeological evaluation undertaken by CFA Archaeology Ltd (CFA) in May 2012 at Greenburn Opencast Coal Extraction Site (Braehead Farm Extension), near New Cumnock, East Ayrshire (NGR: NS 5758 1319 centred) (Fig. 1). The work was commissioned by KIER Mining.

An Addendum (Addenda 2 dated 03 May 2012) to the Written Scheme of Investigation (WSI) covering this part of the programme of works was produced by CFA on behalf of KIER Mining. This WSI was designed to meet the requirements of the West of Scotland Archaeology Service (WoSAS).

1.2 Background

Planning consent (Ref No. 10/0491/PP) has been granted for the recovery of coal using surface mining techniques at Braehead Farm, near New Cumnock. The planning consent was subject to a condition requiring a programme of archaeological mitigation. Phase 1 of this programme of works involved a phased trial trench evaluation and a watching brief during the excavation of watercourse realignment and flood plain creation works on the River Nith.

The part of the programme of works covered by this report consisted of the archaeological evaluation of two areas (Area 9 – Area 10) highlighted on Fig.1. Area 1 - Area 8 (Fig.1) were evaluated during a previous episode of work undertaken by CFA in January and February 2012 (Kirby 2012a). Other previous work relating to the Stage 1 programme of works included the evaluation of the Haul Road and Detention Ponds BD2 and BD3 (Kirby 2011) (Fig. 1), and the watching brief during the realignment of the River Nith (Mitchell 2011a) (Fig.1). Both were carried out by CFA in July 2011. A separate standing building survey of Riggfoot Farm was carried out in December 2011 prior to demolition (Mitchell 2011b) and the evaluation of Site 5A situated immediately to the south of Area 9 was undertaken in April 2012 (Kirby 2012b).

A cultural heritage study undertaken by CFA for the Environmental Statement (ES) identified twenty cultural heritage sites within the proposed development area. The majority of these relate to post-medieval agricultural activity.

1.3 Objectives

The objectives the programme of works reported herein were:

- Carrying out trial trenching evaluations within the areas defined on the accompanying plan;
- To establish the presence/ absence, extent, condition, character, quality and date of any archaeological features or deposits within the evaluation areas;
- To establish their vulnerability to the proposed development;
- To produce report(s) outlining the results of the work and any further work that is required to mitigate the effects of the development.

2. WORKING METHODS

2.1 General

CFA Archaeology Ltd follows the Institute for Archaeologists' Code of Conduct, Standards and Guidance.

2.2 Evaluation

The terms of the WSI required the excavation of a minimum of 5736 m² amounting to 5% of total evaluation area. A total of 69 trenches were excavated within Area 9 – Area 10, amounting to 6210m² (5.4% of the evaluation areas). A breakdown of each area is contained in Appendix 3 and a summary of the trenches excavated is contained in Appendix 4.

Topsoil and modern overburden were removed by two tracked 360° mechanical excavators, both equipped with 1.8m wide smooth-bladed ditching buckets. All groundbreaking work was carried out under constant archaeological supervision. Any further excavation required to fulfil the objectives of the evaluation was carried out by hand.

All excavation and on-site recording was carried out according to standard CFA procedures, principally by drawing, by photography and by completing standard CFA record forms.

The stratification of all excavated areas was recorded whether or not significant archaeological deposits were identified.

Trench positions were surveyed using industry standard electronic surveying equipment and all trenches were backfilled.

3. ARCHAEOLOGICAL RESULTS

Numbers in bold refer to contexts, a full list of which are contained in Appendix 2. A summary of the trenches excavated is contained in Appendix 4.

The deposits throughout the proposed development areas predominantly consisted of 0.2m to 0.4m of grey-brown silt topsoil (**001**) overlying orange-brown sandy clay natural (**002**). The topsoil was considerably waterlogged reflecting the poorly draining nature of the underlying subsoil.

Field drains of the ceramic cylinder type and the ceramic horseshoe type were identified throughout the area evaluated. The number of field drains present indicates that the area was extensively improved during the 19th/20th century.

The remains of an upstanding track (Fig.7) were present within Area 9. It ran in a north to south direction before turning through 90° and running east to west. The north to south section was still in use, giving access to the southern end of the development area, but the east to west section was very overgrown and had been partially removed by modern drainage. This track is depicted on the 1909 Ordnance Survey map (Fig.8) giving access to a structure annotated Shiel (ES Site 6), but it does not appear on the 1896 map indicating that it is late 19th century/early 20th century in date. Trench 46 (Fig.6) bisecting this track demonstrated that it consisted of a redeposited natural base with a hardcore surface. The sides of the track were edged with stone and a drainage ditch had been excavated along the southern side. This track is part of a network of tracks throughout the development area and is not considered to be archaeologically significant.

No features, deposits or artefacts of archaeological significance were identified within any of the trenches.

4. CONCLUSIONS

An archaeological evaluation was carried out at Greenburn Opencast Coal Extraction Site (Braehead Farm Extension), near New Cumnock. This part of the programme of works related to the Phase 1 evaluation and watching brief works, the first stages of which were undertaken by CFA in July 2011 (Kirby 2011 and Mitchell 2011). The remains of an upstanding late 19th/early 20th century track leading to a structure annotated Shiel (ES Site 6) were noted, but this stage of the evaluation did not identify any features deposits or artefacts of archaeological significance.

Overall 34546m² of trial trenches have been excavated. This amounts to c.3% of the total area that will be disturbed during the extraction programme in this extension area. A further 12,639m² was monitored by watching brief. No archaeological features or deposits outside of previously identified sites have been located during these works.

No further works are recommended in relation to this part of the evaluation. The evaluation under the footprint of Riggfoot Farm is required and will be undertaken in due course. It is recognised that the final decision on what mitigation will be required lies with the planning authority as advised by WoSAS.

The project archive, comprising all CFA record sheets, maps and reports, will be deposited with the National Monuments Record of Scotland (NMRS) and copies of reports will be lodged with the WoSAS Sites and Monuments Record.

On completion of the mitigation works a summary statement will be submitted for publication in *Discovery and Excavation in Scotland* and will also be reported on through *OASIS Scotland*.

5. REFERENCES

Bibliographic

Kirby, M, 2012b Site 5A, *Greenburn OCCS, Braehead Farm Extension, New Cumnock, East Ayrshire, Archaeological Evaluation*, Unpublished CFA Technical Report 2040

Kirby, M, 2012a *Greenburn OCCS, Braehead Farm Extension, New Cumnock, East Ayrshire, Archaeological Evaluation*, Unpublished CFA Technical Report 2019

Kirby, M, 2011 *Greenburn OCCS, Braehead Farm Extension, New Cumnock, East Ayrshire, Archaeological Evaluation*, Unpublished CFA Technical Report 1927

Mitchell, S, 2011a *Greenburn OCCS, River Nith Diversionary Works, Dalrieket, New Cumnock, East Ayrshire, Archaeological Watching Brief and Evaluation*, Unpublished CFA Technical Report 1931

Mitchell, S, 2011b *Riggfoot Farm, Dalrieket, New Cumnock, East Ayrshire, Desk-Based Assessment and Standing Building Survey*. Unpublished CFA Technical Report 1933

Cartographic

Ordnance Survey Second Edition 25" map (1896), *Ayrshire Sheet 041.11*

Ordnance Survey 25" map (1909), *Ayrshire Sheet 041.11*

APPENDIX 1: Photographic Register

Digital

Shot	Description	From	Conditions
1	Trench 1, general shot	S	Sun
2	Trench 2, general shot	S	Sun
3	Trench 3, general shot	W	Sun
4	Trench 4, general shot	W	Sun
5	Trench 5, general shot	E	Sun
6	Trench 6, general shot	E	O/C
7	Trench 7, general shot	E	O/C
8	Trench 8, general shot	E	O/C
9	Trench 9, general shot	S	O/C
10	Trench 10, general shot	S	O/C
11	Trench 11, general shot	N	O/C
12	Trench 12, general shot	N	O/C
13	Trench 13, general shot	S	O/C
14	Trench 14, general shot	S	O/C
15	Trench 15, general shot	W	Sun
16	Trench 16, general shot	S	Sun
17	Trench 17, general shot	S	O/C
18	Trench 18, general shot	S	O/C
19	Trench 19, general shot	S	O/C
20	Trench 20, general shot	S	O/C
21	Trench 21, general shot	S	O/C
22	Trench 22, general shot	S	O/C
23	Trench 23, general shot	S	O/C
24	Trench 24, general shot	W	O/C
25	Trench 25, general shot	S	O/C
26	Trench 26, general shot	S	O/C
27	Trench 27, general shot	E	O/C
28	Trench 28, general shot	E	O/C
29	Trench 29, general shot	S	O/C
30	Trench 30, general shot	S	O/C
31	Trench 31, general shot	S	O/C
32	Trench 32, general shot	S	Rain
33	Trench 33, general shot	S	Rain
34	Trench 34, general shot	S	O/C
35	Trench 35, general shot	S	O/C
36	Trench 36, general shot	S	O/C
37	Trench 37, general shot	S	O/C
38	Trench 38, general shot	E	O/C
39	Trench 39, general shot	E	O/C
40	Trench 40, general shot	S	O/C
41	Trench 41, general shot	S	O/C
42	Trench 42, general shot	E	O/C
43	Trench 43, general shot	N	Rain
44	Trench 44, general shot	S	Rain
45	Trench 45, general shot	S	Rain
46	Trench 46, general shot	S	Rain
47	Trench 47, general shot	N	Rain
48	Trench 48, general shot	S	Rain
49	Trench 49, general shot	S	Rain
50	Trench 50, general shot	S	Rain
51	Trench 51, general shot	S	Rain
52	Trench 52, general shot	E	Rain

53	Trench 53, general shot	E	Rain
54	Trench 54, general shot	S	O/C
55	Trench 55, general shot	S	O/C
56	Trench 56, general shot	S	Rain
57	Trench 57, general shot	S	Rain
58	Trench 58, general shot	NE	Rain
59	Trench 59, general shot	SW	Rain
60	Trench 60, general shot	SW	Rain
61	Trench 61, general shot	SW	Rain
62	Trench 62, general shot	S	Rain
63	Trench 63, general shot	SW	Rain
64	Trench 64, general shot	SW	Rain
65	Trench 65, general shot	NE	Rain
66	Trench 66, general shot	NE	Rain
67	Trench 67, general shot	NE	Rain
68	Trench 68, general shot	NE	Rain
69	Trench 69, general shot	E	Rain
70	Trench 46, track pre-excavation	E	Rain
71-72	Trench 46, east-facing section of track	E	O/C
73-75	General shots of track	Various	O/C

APPENDIX 2: Context Register

Context No.	Area	Trench	Description
001	All	All	Topsoil (mid grey-brown silt to black peaty soil)
002	All	All	Natural subsoil (orange-brown sandy clay/clay and grey clay)

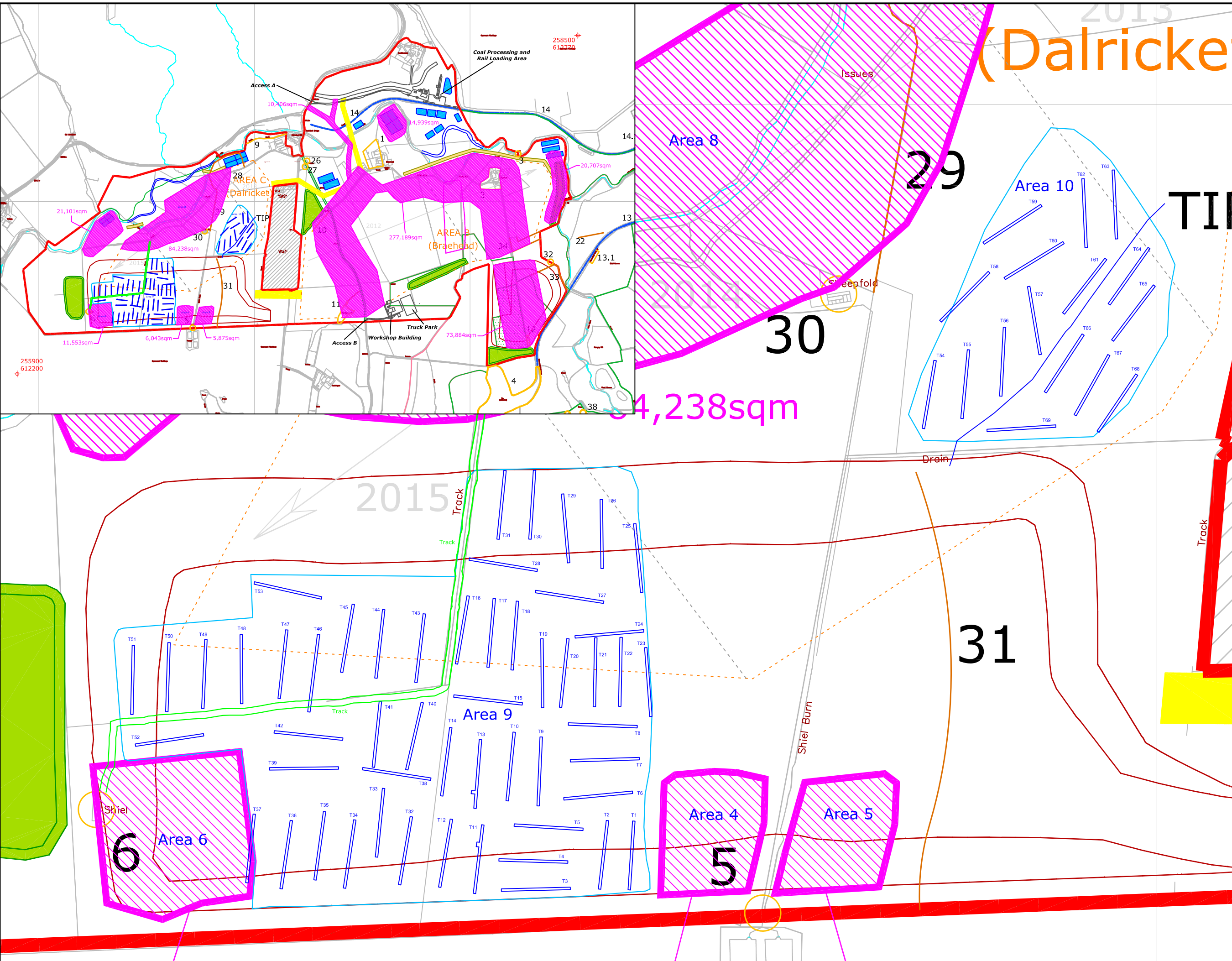
APPENDIX 3: Summary of Evaluation Areas

Area No	Area Size (m ²)	Area of trial trenching	% Evaluated
9	85999	4770	5.55
10	28730	1440	5

APPENDIX 4: Summary of Excavation Results

Trench No.	Area No.	Size (m)	Depth of Deposits (m)	Features
1	9	50 x 1.8	0.3	Three ceramic field drains
2	9	50 x 1.8	0.25	One ceramic field drain
3	9	50 x 1.8	0.3	Three ceramic field drains
4	9	50 x 1.8	0.35	Four ceramic field drains and one modern test pit
5	9	50 x 1.8	0.3	Two ceramic field drains
6	9	50 x 1.8	0.3	Three ceramic field drains
7	9	50 x 1.8	0.3	Three ceramic field drains
8	9	50 x 1.8	0.35	Five ceramic field drains
9	9	50 x 1.8	0.35	Three ceramic field drains
10	9	50 x 1.8	0.3	Two ceramic field drains
11	9	50 x 1.8	0.4	One ceramic field drain and a number of stone holes
12	9	50 x 1.8	0.35	N/A
13	9	50 x 1.8	0.3	One ceramic field drain and a number of stone holes
14	9	50 x 1.8	0.2	One ceramic field drain
15	9	50 x 1.8	0.3	Three ceramic field drains

Trench No.	Area No.	Size (m)	Depth of Deposits (m)	Features
16	9	50 x 1.8	0.4	One ceramic field drain
17	9	50 x 1.8	0.3	N/A
18	9	50 x 1.8	0.35	Two ceramic field drains
19	9	50 x 1.8	0.35	One ceramic field drain
20	9	50 x 1.8	0.4	N/A
21	9	50 x 1.8	0.35	One ceramic field drain
22	9	50 x 1.8	0.35	One ceramic field drain
23	9	50 x 1.8	0.35	One ceramic field drain
24	9	50 x 1.8	0.35	Four ceramic field drains
25	9	50 x 1.8	0.4	Four ceramic field drains
26	9	50 x 1.8	0.5	Two ceramic field drains
27	9	50 x 1.8	0.4	Two ceramic field drains
28	9	50 x 1.8	0.35	Three ceramic field drains
29	9	50 x 1.8	0.3	Two ceramic field drains
30	9	50 x 1.8	0.35	Two ceramic field drains
31	9	50 x 1.8	0.3	Three ceramic field drains
32	9	50 x 1.8	0.4	One ceramic field drain
33	9	50 x 1.8	0.6	One ceramic field drain
34	9	50 x 1.8	0.2	N/A
35	9	50 x 1.8	0.4	N/A
36	9	50 x 1.8	0.4	One ceramic field drain
37	9	50 x 1.8	0.4	One ceramic field drain
38	9	50 x 1.8	0.4	Five ceramic field drains
39	9	50 x 1.8	0.45	Two ceramic field drains
40	9	50 x 1.8	0.3	Two ceramic field drains
41	9	50 x 1.8	0.45	One ceramic field drain
42	9	50 x 1.8	0.6	Six ceramic field drains
43	9	50 x 1.8	0.3	N/A
44	9	50 x 1.8	0.25	Two ceramic field drains
45	9	50 x 1.8	0.3	Two ceramic field drains
46	9	50 x 1.8	0.3	Cuts across track
47	9	50 x 1.8	0.35	Three ceramic field drains
48	9	50 x 1.8	0.3	Two ceramic field drains
49	9	50 x 1.8	0.3	Three ceramic field drains
50	9	50 x 1.8	0.3	One ceramic field drain
51	9	50 x 1.8	0.4	One ceramic field drain
52	9	50 x 1.8	0.45	Three ceramic field drains
53	9	50 x 1.8	0.3	N/A
54	10	50 x 1.8	0.2	One ceramic field drain
55	10	50 x 1.8	0.3	N/A
56	10	50 x 1.8	0.35	One ceramic field drain
57	10	50 x 1.8	0.3	Two ceramic field drains
58	10	50 x 1.8	0.25	Four ceramic field drains
59	10	50 x 1.8	0.2	Two ceramic field drains
60	10	50 x 1.8	0.3	Four ceramic field drains
61	10	50 x 1.8	0.25	Three ceramic field drains
62	10	50 x 1.8	0.2	Two ceramic field drains
63	10	50 x 1.8	0.25	Three ceramic field drains
64	10	50 x 1.8	0.3	Four ceramic field drains
65	10	50 x 1.8	0.25	Two ceramic field drains
66	10	50 x 1.8	0.25	Two ceramic field drains
67	10	50 x 1.8	0.2	Three ceramic field drains
68	10	50 x 1.8	0.2	Four ceramic field drains
69	10	50 x 1.8	0.4	Two ceramic field drains



Key:
 Additional Evaluation
 Evaluation trenches

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Fig. No: 1 Revision: A

Title:
 Location map and trench plan

Project:
 Greenburn OCCS,
 Braehead farm

Client:
 Kier Mining

Scale at A3:
 1:2500

Drawn by: LW Checked: LW Report No: 2055



Fig. 2 - Trench 19 from the south



Fig. 3 - Trench 32 from the south



Fig. 4 - Trench 37 from the south



Fig. 5 - Trench 68 from the northeast



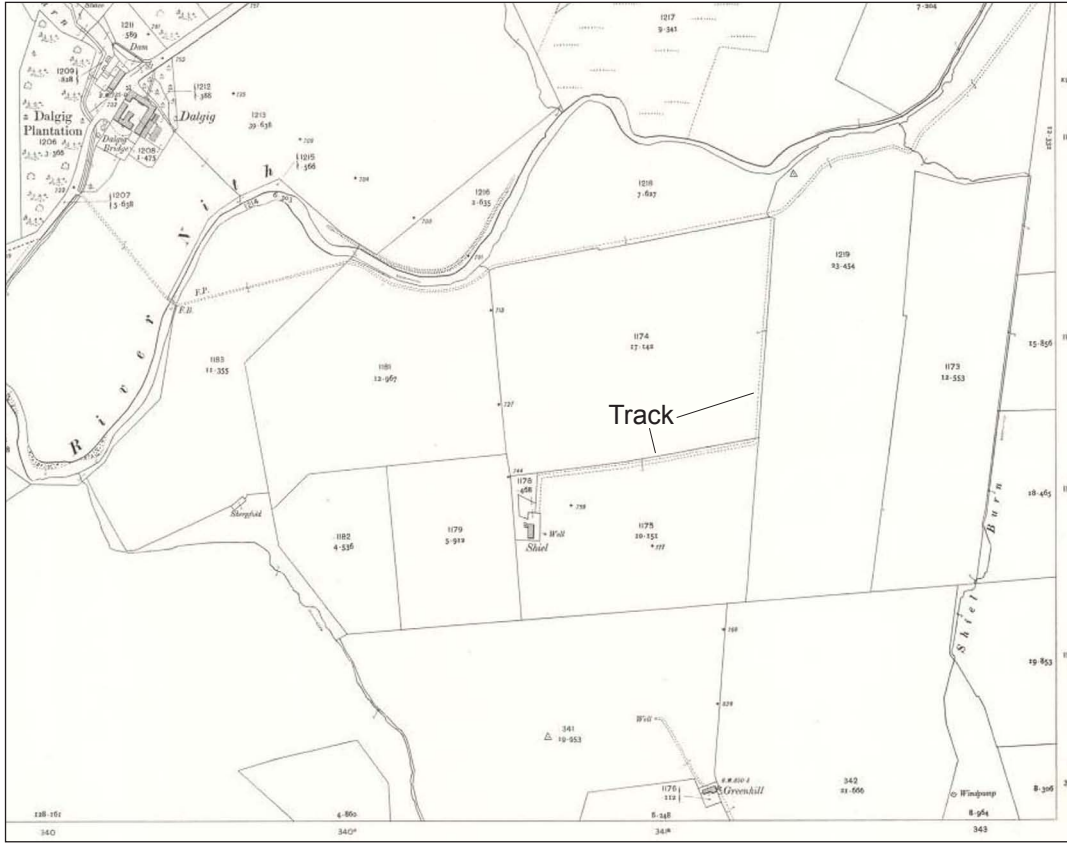
Fig. 6 - Trench 46, track bisecting Area 9, east-facing section



Fig. 7 - Track bisecting Area 9 from west

Fig. No: 2-7	Revision: A	Project: Greenburn OCCS, Braehead Farm		
Drawn by: LW	Checked: LW	Report No: 2055		
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Key:



Fig. No: 8	Revision: A	Client: Kier Mining
Title: Extract from 1909 Ordnance Survey maps showing track leading to Shiel (Site 6)		
Project: Greenburn OCCS, Braehead Farm		

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Drawn by: LW	Checked: LW	Report No: 2055
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