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East Muirhead of Logie, Kirriemuir
Archaeological Watching Brief, Excavation & Post-Ex Analyses
Data Structure Report
Project 4492

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Archaeological Watching Brief, Excavation & Post-Ex Analyses
Data Structure Report

On behalf of: Delson Contracts Ltd.

NGR: NO 38981 52981

Project Number: 4492

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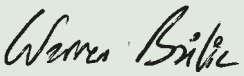
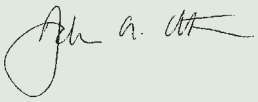
13/10/16		13/10/16	

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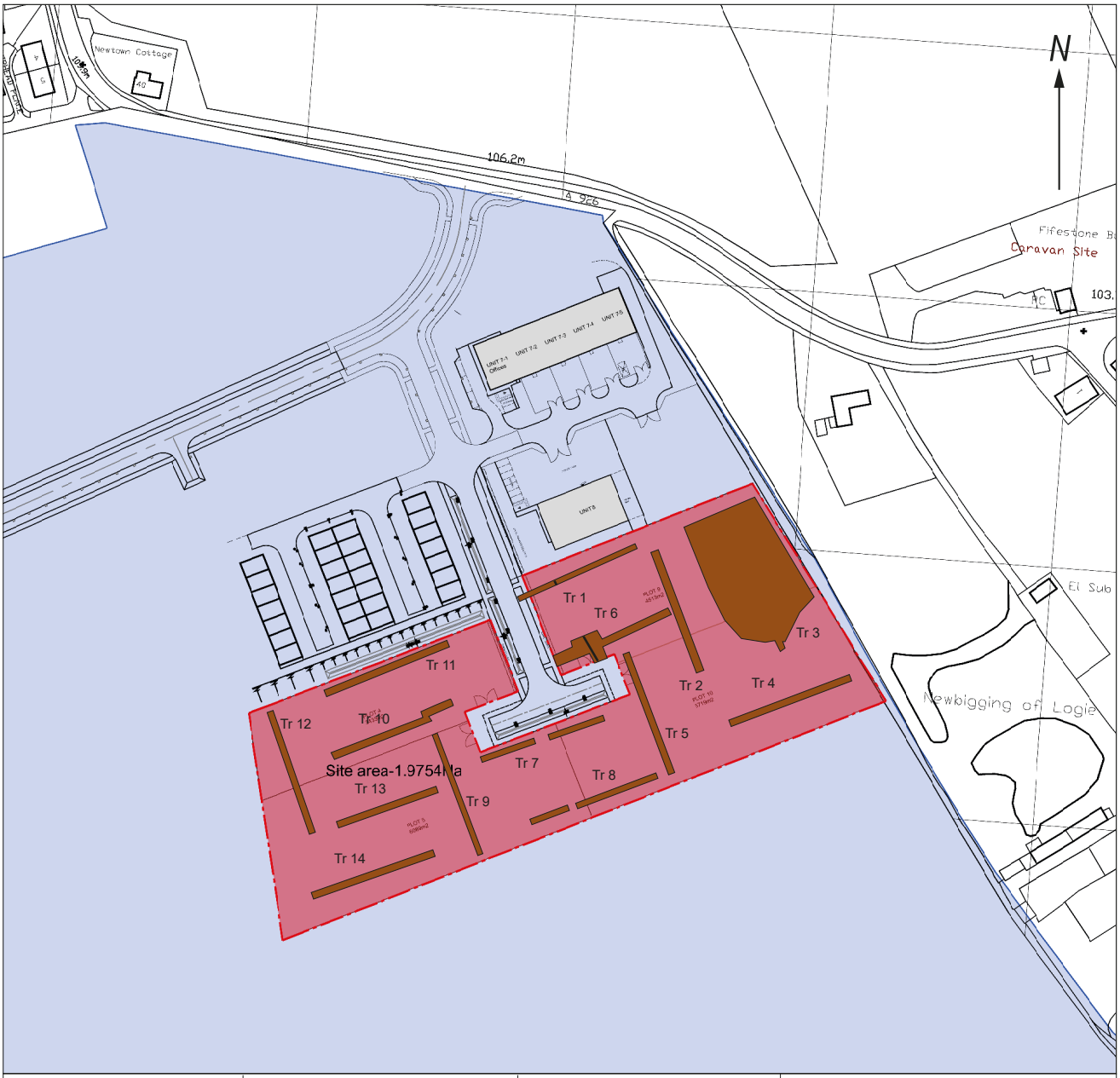

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Figure 1: Site and trench location plan

Key

Site boundary

Evaluation trench/ excavation area

0 100 m

Executive Summary

1.1 An archaeological trial Trench evaluation was carried out on agricultural land to the south of a recently developed and expanding industrial estate, the proposed development area lies to the south of Kirriemuir, off the A926. Rubble and tile drains were abundant across the site and seven prehistoric pits were recorded in the north-east part of the site, along with two large boulders, probably glacial erratics. As a result of this and following on immediately after the evaluation a focussed Watching Brief and Excavation were employed to address the area of archaeology in the north-east part of the development. An area was stripped around the existing 300 m² evaluation area leaving a 20 m archaeologically sterile buffer around any existing and new archaeological deposits uncovered. A further six pits were recorded in this area during this second phase of work. A sherd of Iron-Age pottery was recovered from one of the pits and a burnt fragment of flint debitage from another, six of the pits contained charcoal rich fills and flecks of burnt bone and may be the remains of truncated cooking pits. Six of the smaller pits contained sufficient stones within their fill to suggest they represented stone-packed post-holes although there was only one small arc of three features apparent as a potential structure on plan.

Introduction

2.1 This data structure report sets out the results for the archaeological work carried out ahead of the proposed Change of use of Agricultural Land, Formation of Hardstanding Areas for Open Storage and the Erection of Security Fences and Gates at East Muirhead of Logie, Kirriemuir, Angus and was undertaken in accordance with the relevant archaeology guidance specified by Aberdeenshire Council Archaeology Services (ACAS) (Planning Application 16/00398/FULL).

Site Location

3.1 The overall development area measures 1.975 hectares and is centred on NGR NO 38981 52981 located approximately 1 km south of the centre of Kirriemuir, Angus The development area currently comprises of open arable land which when developed will be accessed south off the A926. The nearest larger settlement to the development is Forfar, approximately 7 km to the south-east.

Archaeological Background

4.1 The site lies to the south of Kirriemuir, which was erected a burgh of barony in 1458-9. There are no known sites within the development boundary however there is one site noted in proximity to the west edge of the proposed development area, (NO 35 SE 0091). This cropmark, noted during the Roman Gask Project Aerial Survey in 2006, is circular in form and is likely to be prehistoric in date.

4.2 The proposed development area is shown as farmland from at least the eighteenth century on Roy's Military Survey 1747-52) through to the OS First and Second Edition maps of this area. No previous archaeological works have taken place in close proximity to the development.

Aims and Objectives and Scope

5.1 The main aim of the Watching Brief and Excavation following on from the initial evaluation was to establish the full extent of the prehistoric, or other previously unknown buried remains within the development area, which were then excavated and recorded. Therefore the aims and objectives of the archaeological works were as follows:

- Monitor a controlled topsoil/overburden strip of an initial area focussing around the prehistoric archaeology uncovered during the evaluation of the proposed development;
- Strip a 20 m, archaeologically sterile, buffer around the last archaeological feature uncovered.

- Excavate and record any remains uncovered within the stripped area, removing all archaeology prior to the development proceeding.

- On completion of this phase of work submit a report to data structure level for agreement to ACAS on behalf of Angus Council.

5.2 Submit, if post-excavation works are required, an accompanying post-excavation research design (PERD) and costing alongside the data structure report, which will outline arrangements for post-excavation works, in accordance with paragraph 2.1 above. GUARD Archaeology have proceeded with post-excavation analyses on the small stone, lithic and ceramic assemblage; the results of the analyses are included in this report.

Fieldwork Methodology

6.1 Both the fieldwork and report were carried out following the standard policies and guidelines of the Chartered Institute for Archaeologists (CIfA), of which GUARD Archaeology Limited is a Registered Organisation.

6.2 The proposed development area was photographed and a brief written description made prior to the commencement of all ground-breaking works.

6.3 The evaluation comprised 14 Trenches. The machine excavation of trial Trenches amounted to 7% of the available evaluation area (1.975ha) of the proposed development. Subsequent enlargement of the area around the prehistoric pits was undertaken to establish a 20 m buffer zone devoid of archaeological features. An area around a perceived linear feature visible in Trenches 1 and 6 was expanded in Trench 6 but the feature did not continue.

6.4 All Trenches and expansion areas were excavated using a back-acting machine equipped with a *c.* 2m wide flat-bladed (toothless) ditching bucket. All machine excavation was conducted under the supervision of the GUARD Project Archaeologist.

6.5 The topsoil or overburden at each trench location and subsequent expansion area, was removed in spits to the first archaeological horizon or, where none was found, to the natural subsoil. A sample of archaeological features encountered were hand cleaned to determine their character and extent.

6.6 All significant archaeological features encountered were recorded. Negative-cut features were fully excavated in order to determine their significance, date and function. A full record of excavated features was made using *pro forma* sheets, drawings and photographs. All archaeological features were photographed and drawn at an appropriate scale and the Trenches accurately located with the National Grid.

Results

7.1 The summary of the results is outlined below and should be read in conjunction with the fuller context descriptions in Appendix B. The full details of the results can be found in Appendices A-F and are illustrated in Figure 3-5 and Plates 1-10. Trenches 7 and 8 bridged a live sewage pipe that traversed the site from north-west to south-east.

7.2 Topsoil 001 measured up to 0.4 m deep but averaged around 0.35 m across the site. This overlay a pale red/orange/brown sandy clay 002 becoming gravelly or stony in places. Occasional boulders were also visible protruding from the clay, one of which was within the main area of pits. Frequent plough-marks were visible scoring the surface of the clay at the interface between the topsoil and natural clay.

7.3 Field drains *(Plates 1-3)*

7.3.1 Rubble and tile field drains were visible in all excavated trenches with the exception of Trench 5. These varied in width from 0.3 m to 0.5 m with variable depth the depth, no drains were fully investigated during these works. Most of the drains were encountered at the base of the plough soil 001 and cut into the natural clay 002.

Plate 1: Rubble and tile drain, towards south end of Trench, in Trench 9, from the north.

Plate 2: Linear cut and fill, aligned north-south visible in Trenches 1 and 6 pre-excavation, from the south.

Plate 3: Linear cut visible in Trenches 1 and 6 excavated to the top of rubble drain fill post-excavation, from the south.

7.4 Pits/Post-holes *(Figure 2, Plates 4-6)*

7.4.1 Six small pits were uncovered, three of which (305, 307 and 311) were arranged in a gently curving arc spaced 1.6 m apart around pit 309 located 2.2 m to the north adjacent to two boulders. The stones were cleaned and inspected to determine whether they may be archaeological. The first was a degrading red sandstone boulder protruding from the natural and the second was a large schist boulder lying on top of the natural clay measuring 1.24 m long by 0.7 m wide. Both stones were partially displaced by machine and a fragment of the schist boulder was carried away by the machine. No cut was found associated with either stone. A further two more isolated pits, (315 and 328) were recorded to the south and east of the main post-hole group. The pits measured between 0.4 m and 0.6 m in diameter and up to 0.21 m in depth. The fills contained sufficient stones to be considered packing for vertically set timber posts and charcoal flecks were present in the fills of four of the six pits (305, 311, 315 and 328).

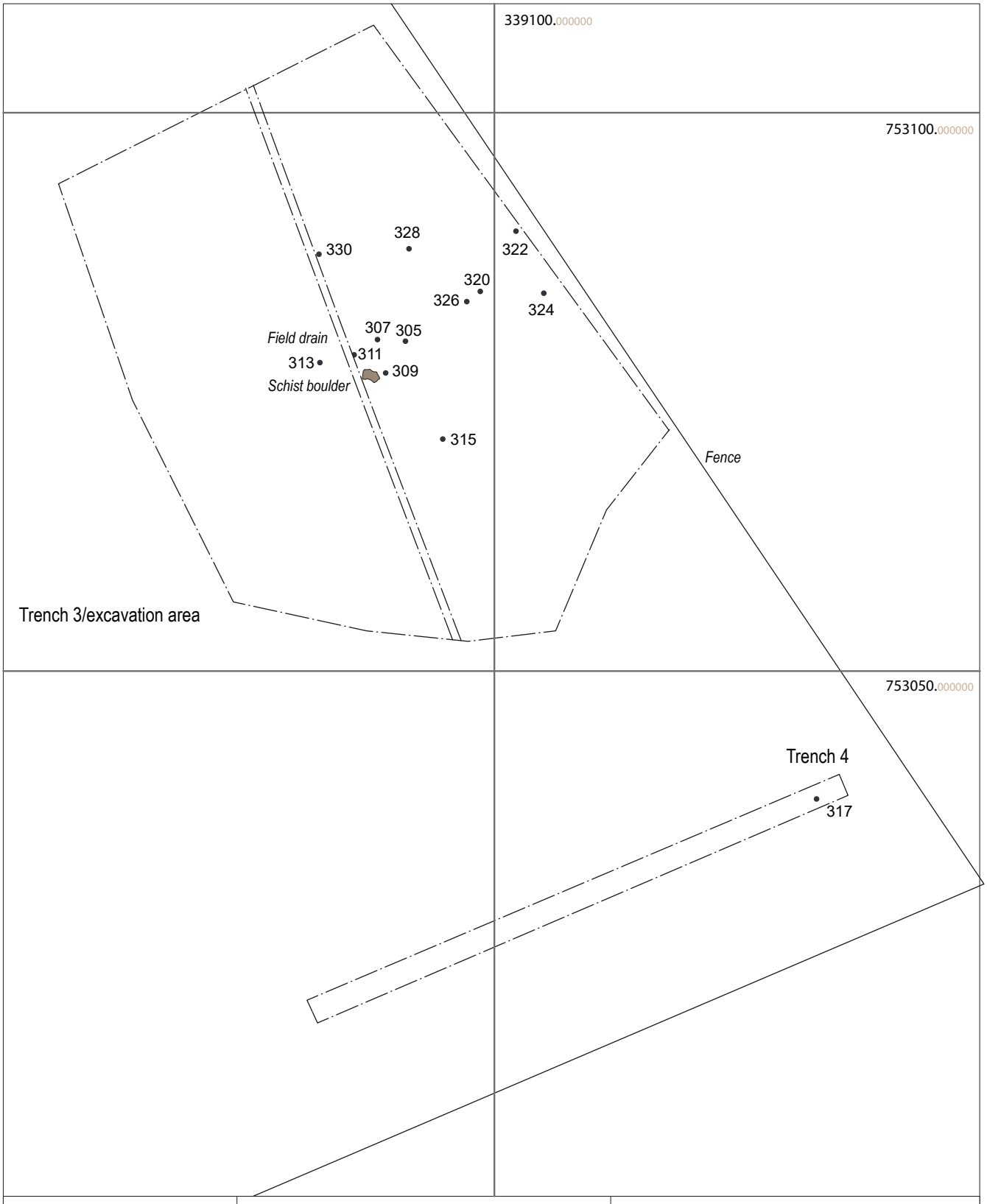

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Figure 2: Plan showing location of features in excavation area and Trench 4

Plate 4: General view of Trench 3 area after initial expansion of trench around features, from the north-west.

Plate 5: General view of Trench 3 area after initial expansion showing the position of boulders and flags indicate position of the pits and a linear field drain, from the north-west.

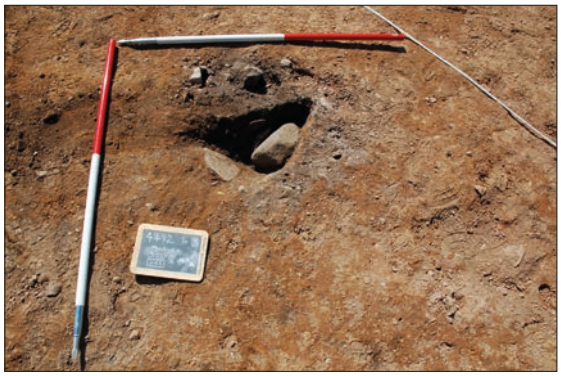

Plate 6: Pit 305 east facing section with in-situ post packing stone, one of the post-holes forming an arc to the north of post-hole 309. A fragment of Iron-Age pottery, SF 1, was recovered from the fill 303 of post-hole cut 305 during excavation, from the east.

7.5 Charcoal-rich pits *(Figure 3, Plates 7-11)*

7.5.1 Six larger charcoal-rich pits were recorded. These comprised pit 313, lying 2.6 m to the west of the arcing pit group and a further five pits (320, 322, 324, 326 and 330) irregularly spaced. The fills of these pits which measured from 0.7 m-1.5 m in diameter and from 0.07 m-0.26 m deep contained varying quantities of charcoal and the fills of pits (320, 324 and 330) were found with flecks of burnt bone but not in large enough fragments or sufficient quantity to suggest that these were anything more than domestic cooking pits. The fill 329 of pit cut 330 was found with charcoal and burnt bone flecks and a large flat stone laid on bed at around mid-point in the fill, this appeared deliberately set into the pit possibly to support a cooking pot.

7.5.2 A small isolated pit 317 was recorded in Trench 4. The fill of this pit 316 comprised a loose, light brown silty sand with small sub-angular and angular stones not dissimilar to the topsoil in nature, the pit may represent an in-filled stone-hole removed by plough.

Plate 7: General view of the north-east corner of site after stripping the 20 m buffer zone around archaeological features. Ploughmarks visible aligned north to south, from the north-east.

Plate 8: North facing section pit 324, white arrows indicate position of burnt bone flecks.

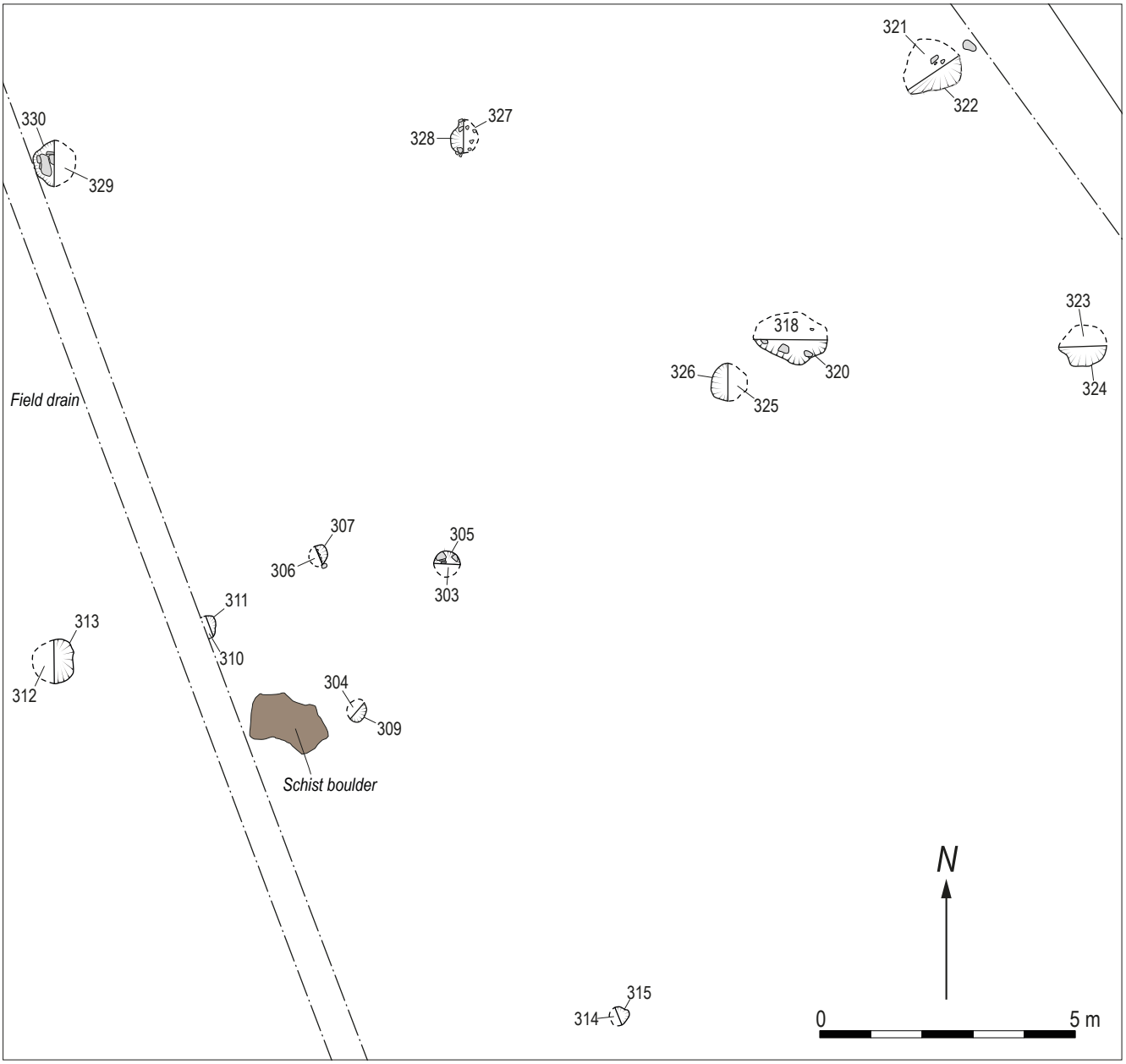

Figure 3: Post-excavation plan of investigated area.

Plate 9: West facing section pit 326, a fragment of burnt chert or flint, SF 2, was recovered from the fill 325 of this pit during excavation.

Plate 10: Pit cut 330 during excavation showing possible hearth furnishing. The larger stone in section was initially thought to be a possible quern SF 3, although the surface of the stone was not particularly worn.

Plate 11: Pit cut 330 west facing section.

Post-Excavation Analyses

8.1 The artefacts recovered during the archaeological works were analysed by specialists in lithics (Torben Bjarke Ballin), ceramics and coarse stone (Beverley Ballin Smith). The results of the three analyses are as follows.

8.2 Lithic analysis

Torben Bjarke Ballin

Lithic Research, Stirlingshire
Honorary Research Fellow, University of Bradford

8.2.1 SF 002, Trench 3, Context 325

The lithic is a distal segment of a burnt, disintegrating secondary flake. Discoloured white with some red spots. The piece measures 37 x 29 x 14mm. The criss-crossing dorsal flake scars suggest that this piece was struck off an irregular (multi-directional core). Undiagnostic – could be any prehistoric period.

8.3 Pottery Analysis

Beverley Ballin Smith

8.3.1 Pottery SF 001

A body sherd of coarse, hand-built prehistoric pottery was found in context 303. It weights almost 38 g with a sherd thickness between 10 and 12 mm. It contains c. 10-15% mixed grits including probable amphibolite and mica. Although the site is in sandstone area (http://www.bgs.ac.uk/igeology) the overlying till contains silt, sand, mudstone and conglomerates. The amphibolite and mica may have derived from the till. The sherd also contains vesicles from organic material that had been added to the clay before moulding the pot.

The sherd is burnt externally but is also abraded so that the external finish of the pottery is missing. Grits show through the pottery surface and there is evidence of grass wiping. The internal surface is worn through the use of the pot. Given the attributes of the sherd – the density of grits, the sherd thickness, as well as the hard-fired nature of the pottery, it is likely that it is Iron Age in date.

8.4 Coarse Stone Analysis

Beverley Ballin Smith

8.4.1 Coarse Stone SF003

The stone was examined to determine its possible function as a saddle quern. The stone is natural with no evidence for working or use.

Discussion and Conclusion

9.1 The archaeological evaluation, subsequent excavation and post-excavation analyses has determined that the majority of features encountered were shallow plough truncated post-holes or pits likely to date from the prehistoric period. One large fragment of Iron-Age pottery was recovered from the fill of one of the pits suggesting a tenative date for the archaeological activity on the site. The large schist boulder around which some of the pits were arranged is unusual as the underlying geology comprises water-sorted material generally more than 60 cm thick overlying till derived from Lower Old Red Sandstone sediments and red sandstone fragments were visible across the site. Further afield the geology is derived from slates and argillaceous schists of the Dalradian type. The two apparent large stones are likely to be deposited through glaciation. This is not to say that the large natural stones did not provide a focus for activity here in the Iron Age.

9.2 The archaeological features were concentrated towards the north-east corner of the site and it is possible that a more formally arranged settlement lies nearby. It may be that the activity here is related to the nearby cropmark noted during the Roman Gask Project Aerial Survey in 2006, to the west of the site (NO 35 SE 0091). The cropmark is circular in form and is likely to be prehistoric in date.

9.3 Given the nature of the archaeological remains and minimal material culture recovered during the works, it is considered that the limited programme of post-excavation analysis would be appropriate; the results of this work have been incorporated into this report. A 20 m buffer zone was established around the study area, as such no further fieldwork is deemed necessary for this development beyond that completed here.

9.4 GUARD Archaeology Ltd would stress that these recommendations are intended for guidance only and the final decisions on the nature and extent of any further archaeological work rest with the planning authority.

9.5 A summary of the project results will be submitted to *Discovery and Excavation in Scotland*. A copy of this is included in Appendix G. The archive for the project, including a copy of the report, will be submitted to the National Monuments Records for Scotland within six months of the completion of all fieldwork.

9.6 The online OASIS form at http://ads.ahds.ac.uk/project/oasis/ for this project (OASIS Reference: guardarc1-260849 will be completed within 3 months. Once the Data Structure Report has become a public document by submission to or incorporation into the SMR, the Aberdeenshire Council Archaeology Services (ACAS) Archaeologist will validate the OASIS form thus placing the information into the public domain on the OASIS website.

Acknowledgements

10.1 GUARD Archaeology Ltd would like to thank Bruce Stott of Delson Contracts Ltd and Claire Herbert of Aberdeenshire Council Archaeology Services (ACAS) for their assistance. Plant and driver were supplied by Delson Contracts Ltd. Technical support was from Aileen Maule and Clark Innes. The project was directed by Alan Hunter Blair assisted by Lucy Shinkfield, James McGovern, Eduardo Pérez-Fernández and Kevin Mooney and managed for GUARD by Warren Bailie.

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Section 2: Appendices

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Appendices

Appendix A: References

Bell, J 1986 Soils of the Blairgowrie District, *Soil Survey of Scotland*, Report Number 3, 557-589.

Cartographic Sources Consulted

Roy, W 1747-55 *Military Survey of Scotland*.

Appendix B: Trench records

Tr No	Length (m)	Width (m)	Depth (m)	Topsoil/ Overburden	Subsoil	Details
1	50	2	0.34	001	002	Rubble drains aligned N-S, tile drain ESE-WNW.
2	50	2	0.34	001	002	Rubble drains aligned NNE-SSW and E-W
3	50	2	0.36	301	302	Prehistoric pit cuts and fills 303-315 and 318-330
4	50	2	0.34	001	002	Pit cut 317 Rubble drain aligned NNE-SSW
5	50	2	0.36	001	002	-
6	50	2	0.36	001	002	Rubble drain aligned N-S
7	50	2	0.37	001	002	Field drains aligned N-S and E-W
8	50	2	0.39	001	002	Rubble drains aligned NNW-SSE and N-S
9	50	2	0.4	001	002	Rubble drains aligned N-S and NNE-SSW and E-W
10	50	2	0.36	001	002	Modern trench containing plastic drain and rubble drains aligned N-S The trench was realigned to avoid machining along the top of the plastic drain trench
11	50	2	0.36	001	002	Rubble drains aligned N-S
12	50	2	0.3	001	002	Field drains aligned N-S
13	41	2	0.22	001	002	Rubble drain N-S
14	50	2	0.37	001	002	Rubble drains N-S

Appendix C: List of Contexts

Context No.	Area	Description	Interpretation
001	Site	Deposit: A moist, medium firm mid-brown silty loam with frequent inclusions of small angular and sub-rounded stones 60 mm<, occasional modern ceramic sherds not retained. Measured up to 0.4 m deep	Topsoil recorded as 301 in Trench 3
002	Site	Deposit: A firm, pale orange/red/brown sandy clay becoming stony and gravelly in places.	Natural geology recorded as 302 in Trench 3
301	Tr 3	Deposit: A moist, medium firm mid-brown silty loam with frequent inclusions of small angular and sub-rounded stones 60 mm<, occasional modern ceramic sherds not retained. Measured up to 0.4 m deep	Topsoil
302	Tr 3	Deposit: A firm, pale orange/red/brown sandy clay becoming stony and gravelly in places.	Natural geology
303	Tr 3	Fill: A moist, medium loose dark brown silty loam with frequent inclusions of charcoal, sub-rounded and sub-angular large stones forming post-packing. Measured 0.21 m deep.	Fill of post-hole cut 305
304	Tr 3	Fill: A moist, medium compact dark brown silt with occasional stones and 1 sherd of modern ceramic lying on the surface of this feature, not retained, probable later intrusion. Measured 0.21 m deep.	Fill of post-hole cut 309
305	Tr 3	Cut: Sub-circular in plan. Gradual break of slope at top to gently sloping shallow sides which break gradually to form an undulating base. Measured 0.5 m in diameter x 0.21 m deep	Post-hole cut, filled by 303
306	Tr 3	Fill: A moist, loose dark brown silt with pale orange mottling. Moderate inclusions of small and medium sized stones, possibly post packing stones. Measured 0.12 m deep	Fill of post-hole cut 307
307	Tr 3	Cut: Oval in plan, aligned N-S. Sharp break of slope at top to gently sloping sides which break gradually to form a slightly concave base. Measured 0.55 m long x 0.37 m wide x 0.12 m deep.	Post-hole cut, filled by 306

Context No.	Area	Description	Interpretation
308	Tr 3	VOID	-
309	Tr 3	Cut: Sub-circular in plan. Gradual break of slope at top to gently sloping shallow sides which break gradually to form an undulating base. Measured 0.45 m in diameter x 0.21 m deep	Post-hole cut, filled by 304
310	Tr 3	Fill: A moist, loose dark brown/black silt with small and medium sized sub-angular and sub-rounded stones and moderate inclusions of charcoal flecks. Measured 0.11 m deep	Fill of post-hole cut 311. Truncated by field drain
311	Tr 3	Cut: Oval in plan, aligned N-S. Sharp break of slope at top to gently sloping sides which break gradually to form a slightly concave base. Measured 0.60 m long x 0.31 m wide x 0.11 m deep. Truncated by field drain along the W edge.	Post-hole cut, filled by 310. Truncated by field drain
312	Tr 3	Fill: A moist, firm dark brown silty sand with moderate inclusions of small sub-rounded and sub-angular stones and occasional charcoal flecks. Measured 0.12 m deep	Fill of pit cut 313
313	Tr 3	Cut: Sub-circular in plan. Sharp break of slope at top to moderately sloping sides which break gradually to form an uneven base. Mesured 0.84 m long x 0.8 m wide x 0.12 m deep	Pit cut possibly associated with cooking.
314	Tr 3	Fill: A loose, dark brown/black silt with frequent small medium and large stones sub-angular and angular and moderate inclusions of charcoal flecks. Measured 0.2 m deep	Fill of post-hole cut 315
315	Tr 3	Cut: Oval in plan, aligned N-S. Gentle break of slope at top to sloping sides which break gradually to form a slightly concave base. Measured 0.63 m long x 0.49 m wide x 0.2 m deep	Post-hole cut, filled by 314
316	Tr 4	Fill: A loose, light brown silty sand with small sub-angular and angular stones. Measured 0.14 m deep	Fill of pit cut 317
317	Tr 4	Cut: Sub-circular in plan. Sharp break of slope at top to gently sloping sides which break gradually to form a slightly concave base. Measured 0.86 m long x 0.8 m wide x 0.14 m deep.	Pit cut
318	Tr 3	Fill: A moist, firm mid-grey/brown silty sand with occasional small sub-0angular and sub-rounded stones 30 mm<. Moderate inclusions of charcoal flecks and burnt bone. Measured up to 0.15 m deep	Upper fill of pit cut 320
319	Tr 3	Fill: A moist, firm mid-grey silty sand with pale grey lenses. Occasional medium sized sub-angular stones 80 mm<, frequent charcoal and occasional flecks of burnt bone. Measured up to 0.14 m deep	Basal fill of pit cut 320
320	Tr 3	Cut: Sub-oval in plan, aligned E-W. Sharp break of slope at top to short steep sides which break abruptly to form an irregular slightly sloping base. Measured 1.47 m long x 1.22 m wide x 0.26 m deep	Pit cut associated with cooking, filled by 318 and 319
321	Tr 3	Fill: A medium firm. Dark grey with brown mottling silty sand, with frequent stones and moderate charcoal flecks. Measured 0.17 m deep	Fill of pit cut 322
322	Tr 3	Cut: Sub-circular in plan. Gradual break of slope at top to shallow sides which break gradually to form an undulating base. Measured 1.5 m in diameter x 0.17 m deep	Pit cut, associated with cooking, filled by 321
323	Tr 3	Fill: A moist, firm dark brown silty sand with moderate inclusions of small sub-angular and sub-rounded stones, frequent charcoal and occasional burnt bone fragments. Measured up to 0.07 m deep	Fill of pit cut 324
324	Tr 3	Cut: Amorphous sub-oval in plan, aligned E-W. Gradual break of slope at top to imperceptibly sloping sides which break very gradually to form an irregular flatish base. Measured 0.91 m long x 0.61 m wide x up to 0.07 m deep	Pit cut, associated with cooking, filled by 323
325	Tr 3	Fill: A moist, firm mid-grey/brown silty sand with pale grey mottling at the south end of the fill. Occasional inclusions of small sub-angular stones 60 mm< and occasional charcoal flecks. 1 burnt flint or chert fragment recovered from this material during excavation. Measured 0.14 m deep	Fill of pit cut 326
326	Tr 3	Cut: Amorphous sub-circular in plan. Sharp break of slope at top to short steep sides which break gradually to form an uneven base. Measured 0.75 m long x 0.73 m wide x 0.14 m deep.	Pit cut, associated with cooking, filled by 325
327	Tr 3	Fill: A moist, firm dark grey silty sandy loam with brown/orange mottling. Moderate inclusions of small and medium sized stones and occasional charcoal flecks. Measured 0.14 m deep.	Fill of post-hole cut 328
328	Tr 3	Cut: Sub-circular in plan. Gradual break of slope at top to steep sides which break gradually to form a concave base, Measured 0.61 m long x 0.4 m wide x 0.14 m deep	Post-hole cut, filled by 327

Context No.	Area	Description	Interpretation
329	Tr 3	Fill: A friable, dark grey silty sand with orange/brown mottling. Moderate inclusions of small and medium sized sub-angular stones, 1 large stone laid flat mid-way up the fill. Moderate charcoal and burnt bone flecks. Measured 0.3 m deep.	Fill of pit cut 330
330	Tr 3	Cut: Circular in plan. Sharp break of slope at top to steep sides which break gradually to form a slightly concave base. Measured 0.7 m in diameter x 0.3 m deep.	Pit cut, associated with cooking, filled by 329

Appendix D: List of Samples

Sample No.	Area	Context No.	Size	Reason for Sampling				Application/Comments
				Pot	Bone	Lithics	Botanics	
1	Tr 3	303	15 L	x				Flotation
2	Tr 3	306	6 L					-
3	Tr 3	310	5 L					CV
4	Tr 3	312	5 L					-
5	Tr 3	304	5 L					-
6	Tr 3	314	5 L					CV
7	Tr 4	316	5 L					-
8	Tr 3	318	5 L					CV and burnt bone
9	Tr 3	319	10 L					CV and burnt bone
10	Tr 3	321	13 L					CV
11	Tr 3	327	5 L					CV
12	Tr 3	323	10 L					CV
13	Tr 3	329	13 L					CV and burnt bone
14	Tr 3	325	9 L					CV

Appendix E: List of Finds

Find No.	Area	Context No.	No. of Pieces	Material	Type	Description
1	Tr 3	303	1	Ceramic	Pottery	I sherd of Iron-Age pottery
2	Tr 3	325	1	Stone	Lithic	1 burnt fragment of flint or chert
3	Tr 3	329	1	Stone	Coarse stone	1 possible quern stone although doesn't appear very polished

Appendix F: List of Drawings

Drawing No.	Area	Sheet No.	Subject	Scale
1	Tr 3	1	Plan of features recorded in trench 3 after expanding trench.	1:20
2	Tr 3	1	North facing section of pit cut 305	1:10
3	Tr 3	1	East facing section of pit cut 307	1:10
4	Tr 3	1	South facing section of pit cut 309	1:10
5	Tr 3	1	Post-excavation plan of post-hole 305	1:20
6	Tr 3	1	East facing section of pit cut 315	1:10
7	Tr 4	1	South facing section of pit cut 317	1:10
8	Tr 4	1	Plan of pit cut 317	1:20
9	Tr 3	2	South facing section of pit cut 322	1:10
10	Tr 3	2	Post-excavation plan of pit cut 322	1:20
11	Tr 3	2	West facing section of pit cut 328	1:10
12	Tr 3	2	Post-excavation plan of pit cut 328	1:20
13	Tr 3	2	South facing section of pit cut 320	1:10
14	Tr 3	2	Post-excavation plan of pit cut 320	1:20
15	Tr 3	2	North facing section of pit cut 324	1:10
16	Tr 3	2	Post-excavation plan of pit cut 324	1:20
17	Tr 3	2	West facing section of pit cut 330	1:10

Drawing No.	Area	Sheet No.	Subject	Scale
18	Tr 3	2	Post-excavation plan of pit cut 330	1:20
19	Tr 3	2	West facing section of pit cut 326	1:10
20	Tr 3	2	Post-excavation plan of pit cut 326	1:20
21	Tr 3	1	West facing section pit cut 311	1:10
22	Tr 3	1	West facing section of pit cut 313	1:10

Appendix G: List of Photographs

Film No.	001		
Frame	Area	Subject	Taken from
1	-	ID shot	-
2	-	General view of site	E
3	Tr 1	Linear cut containing rubble drain	S
4	Tr1	Trench 1	E
5	Tr 2	Rubble drains in Trench 2	S
6	Tr 2	Linear cut containing rubble drain	E
7	Tr 3	Prehistoric pit containing Iron-Age pottery, pre excavation	W
8	Tr 3	General view of pits in Trench 3	S
9	Tr 4	Trench 4	W
10	Tr 5	Trench 5	N
11	Tr 6	Trench 6	W
12	Tr 7	Trench 7 crossing sewage pipe trench, rubble drain soakaway bottom of frame.	W
13	Tr 8	Trench 8 crossing sewage pipe trench	W
14	Tr 9	Trench 9	N
15	Tr 10	Earlier machine excavated trench in trench 10	W
16	Tr 10	Trench 10	W
17	Tr 11	Trench 11	S
18	Tr 12	Trench 12	E
19	Tr 13	Trench 13	W
20	Tr 14	Trench 14	SE
21	Tr 6	Trench 6 after expanding around possible features	SE
Film No.	002		
Frame	Area	Subject	Taken from
1	-	ID Shot	-
2	Tr 3	General view of pits in Trench 3	E
3-4	Tr 3	General view of site	SE
5-6	Tr 3	General view of site	NW
7-8	Tr 3	General view of site	NW
9-10	Tr 3	General view of site	NW
11-12	Tr 3	General view of site	-
13-14	Tr 3	General view of site	-
15	Tr 3	Pre-excavation view of pit cut 305	E
16	Tr 3	Pre-excavation view of pit cut 305	S
17	Tr 3	Pre-excavation view of pit cut 304	N
18	Tr 3	Pre-excavation view of pit cut 304	S
19	Tr 3	Mid-excavation pit cut 304	N
20	Tr 3	Mid-excavation pit cut 304	S
21	Tr 3	Mid-exc pit cut 306 showing post packing stones	E
22	Tr 3	Pre-excavation view of pit cut 308	E
23	Tr 3	Pre-excavation view of pit cut 308	S
24	Tr 3	Mid-excavation pit cut 305	E
25	Tr 3	Mid-excavation pit cut 305	S
26	Tr 3	Post-excavation pit cut 305	E
27	Tr 3	Post-excavation pit cut 305	S
28	Tr 3	Mid-excavation pit cut 308	N

Film No.	001		
29	Tr 3	Mid-excavation pit cut 308	SW
30	Tr 3	Post-excavation pit cut 309	E
31	Tr 3	Post-excavation pit cut 309	SE
32	Tr 3	Mid-excavation pit cut 313	E
33	Tr 3	Mid-excavation pit cut 313	N
34	Tr 3	Mid-excavation pit cut 311	E
35	Tr 3	Mid-excavation pit cut 311	S
36	Tr 3	Mid-excavation pit cut 315	E
37	Tr 3	Mid-excavation pit cut 315	S
38	Tr 4	Pre-excavation view of pit cut 317	E
39	Tr 4	Pre-excavation view of pit cut 317	S
40	Tr 4	Mid-excavation pit cut 317	E
41	Tr 4	Mid-excavation pit cut 317	S
42	Tr 6	Pre-excavation view of linear cut, subsequent excavation determined this to be a rubble drain	S
43	Tr 6	Post-excavation view of rubble drain	S
Film No.	003		
Frame	Area	Subject	Taken from
1	-	ID Shot	-
2	Tr 3	General view after stripping 20 m buffer zone around features identified in Trench 3	N
3	Tr 3	Pre-excavation view of pit cut 322	W
4	Tr 3	Pre-excavation view of pit cut 322	S
5	Tr 3	Pre-excavation view of pit cut 328	E
6	Tr 3	Pre-excavation view of pit cut 328	N
7	Tr 3	South facing section pit cut 322	S
8	Tr 3	South facing section pit cut 322	W
9	Tr 3	West facing section pit cut 328	W
10	Tr 3	West facing section pit cut 328	W
11	Tr 3	Pit cut 320 south facing section	S
12	Tr 3	Pit cut 324 pre-excavation	N
13	Tr 3	Pit cut 330 pre-excavation	S
14	Tr 3	Pit cut 330 pre-excavation	W
15	Tr 3	Pit cut 324 north facing section white arrows indicate position of burnt bone flecks.	N
16	Tr 3	Pre-excavation view of pit cut 326	W
17	Tr 3	Pit cut 326 W facing section	W
18	Tr 3	Pit cut 330 W facing section showing horizontally laid slab SF 3 a putative quern stone	W
19	Tr 3	Pit cut 330 W facing section showing horizontally laid slab SF 3 a putative quern stone	W
20	Tr 3	Pit cut 330 W facing section	W
21	Tr 3	Plan view of pit cut 330	W
22	Tr 3	Plan view of pit cut 330 post-excavation	W

Appendix H: Discovery and Excavation Scotland Entry

LOCAL AUTHORITY:	Angus Council
PROJECT TITLE/SITE NAME:	East Muirhead of Logie, Kirriemuir
PROJECT CODE:	4492
PARISH:	Kirriemuir
NAME OF CONTRIBUTOR(S):	Alan Hunter Blair
NAME OF ORGANISATION:	GUARD Archaeology Ltd
TYPE(S) OF PROJECT:	Trial Trench Evaluation, Watching Brief and Excavation
NMRS NO(S):	---
SITE/MONUMENT TYPE(S):	---
SIGNIFICANT FINDS:	Prehistoric pottery, Burnt Lithic
NGR (2 letters, 6 figures)	NO 38981 52981
START DATE (this season)	15th August 2016
END DATE (this season)	19th August 2016
PREVIOUS WORK (incl. *DES* ref.)	N/A
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	An archaeological trial Trench evaluation was carried out on agricultural land to the south of a recently developed and expanding industrial estate, the proposed development area lies to the south of Kirriemuir, off the A926. Rubble and tile drains were abundant across the site and seven prehistoric pits were recorded in the north-east part of the site, along with a putative recumbent standing stone. As a result of this and following on immediately after the evaluation a focussed Watching Brief and Excavation were used to address the area of archaeology in the north-east part of the development. An area was stripped around the existing 300 m² extended evaluation area leaving a 20 m archaeologically sterile buffer around any existing and new archaeological deposits uncovered. A further six pits were recorded in this area during the second phase of work. A sherd of Iron-Age pottery was recovered from one of the pits and a burnt fragment of flint or chert from another, six of the pits contained charcoal rich fills and flecks of burned bone and are likely to be the remnants of truncated cooking pits. Six of the smaller pits contained sufficient stones within their fill to suggest they represented post-holes although these were relatively haphazardly arranged on plan.
PROPOSED FUTURE WORK:	---
SPONSOR OR FUNDING BODY:	Delson Contracts Ltd.
CAPTION(S) FOR ILLUSTRS:	---
ADDRESS OF MAIN CONTRIBUTOR:	52 Elderpark Workspace, 100 Elderpark Street, Glasgow G51 3TR
EMAIL ADDRESS:	bob.will@guard-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS.

Appendix I: Written Scheme of Investigation Addendum

EAST MUIRHEAD OF LOGIE, KIRRIEMUIR

ARCHAEOLOGICAL STRIP, MAP, SAMPLE

WRITTEN SCHEME OF INVESTIGATION ADDENDUM

PROJECT 4492

GUARD ARCHAEOLOGY

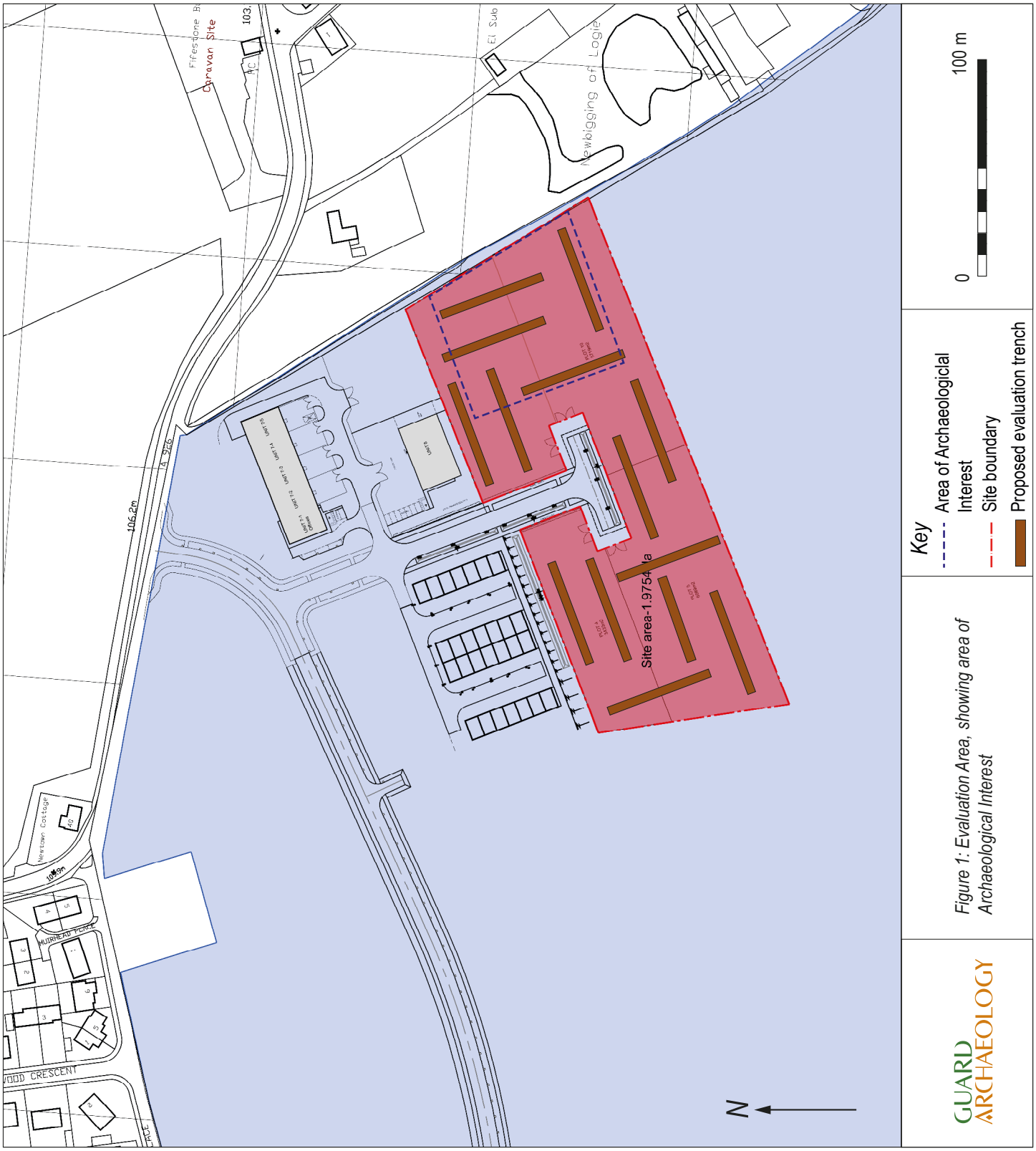

Figure 1: Evaluation Area, showing area of Archaeological Interest

Executive Summary

1.1 This Written Scheme of Investigation Addendum forms the archaeological method statement for the required works to mitigate for the impact of the proposed development area to the south of Kirriemuir, off the A926. A Strip, Map, Sample approach will be used in addressing an area of archaeology in the northeast of the development. An area will be stripped around the existing 300 m² evaluation area leaving a 20 m archaeologically sterile buffer around any existing and new archaeological deposits uncovered. Any significant archaeological deposits will then be mapped, excavated and recorded. These measures are aimed at addressing a suspensive archaeological condition related the Planning Application 16/00398/FULL for the development of the land for residential purposes. This Addendum will require to be submitted and agreed by Aberdeenshire Council Archaeology Services (ACAS) prior to the commencement of the Strip, Map and Sample process.

Introduction

2.1 This addendum outlines the required programme of archaeological works required ahead of the proposed residential development (Planning Application 16/00398/FULL) proceeding. It details the mitigation methodology to be employed during Stage 2 fieldwork. Works in relation to Stage 3 post-fieldwork analysis and publication may be required; details will be specified in further WSI addenda following, and in light of, the results of the Stage 2 fieldwork. These WSI addenda, if required, will be submitted for the approval of ACAS, prior to the commencement of any archaeological work. All phases of work will be funded by the developer.

Site Location

3.1 The overall development area measures 1.975 hectares and is centred on NGR NO 38981 52981 located approximately 1 km south of the centre of Kirriemuir, Angus The development area currently comprises of open arable land which when developed will be accessed south off the A926. The nearest larger settlement to the development is Forfar, approximately 7 km to the south-east.

Archaeological & Historical Background

4.1 The site lies to the south of Kirriemuir, which was erected a burgh of barony in 1458-9.There are no known sites within the development boundary however there is one site noted in proximity to the west edge of the proposed development area, (NO 35 SE 0091). This cropmark, noted during the Roman Gask Project Aerial Survey in 2006, is circular in form and is likely to be prehistoric in date.

4.2 The proposed development areas is shown as farmland from at least the eighteenth century on Roy's Military Survey 1747-52) through to the OS First and Second Edition maps of this area. No previous archaeological works have taken place in close proximity to the development.

4.3 The recent evaluation of the development area revealed 12 features of archaeological potential and of likely prehistoric date. One sherd of prehistoric pottery was recovered from one of the pit features investigated. All features were at a minimum 50 % excavated, recorded and sampled during the evaluation, in accordance with the original WSI (appended).

Aims and Objectives

5.1 The main aim of the strip, map and sample process is to establish the full extent of the prehistoric, or other previously unknown buried remains within the development area, which will then be excavated and recorded. Therefore the aims and objectives of the archaeological works are as follows:

- Monitor a controlled topsoil/overburden strip of an initial area focussing around the prehistoric archaeology uncovered during the evaluation of the proposed development;

- Strip a 20 m, archaeologically sterile, buffer around the last archaeological feature uncovered.
- Excavate and record any remains uncovered within the stripped area, removing all archaeology prior to the development proceeding.
- On completion of this phase of work submit a report to data structure level for agreement to ACAS on behalf of Angus Council.
- Submit, if post-excavation works are required, an accompanying post-excavation research design (PERD) and costing alongside the data structure report, which will outline arrangements for post-excavation works, in accordance with paragraph 2.1 above.

Methodology

Strip, Map, Sample (Stage 2)

6.1 Stripping of topsoil will be centred over the known area of archaeological features established in the evaluation (Stage 1). This area will be stripped of all topsoil/overburden, so that all archaeological features can be mapped, sampled and then excavated and recorded should they prove to be significant.

6.2 The site strip will initially be by machine under close archaeological supervision with one archaeologist per machine acting as supervisor and banksman.

6.3 The exposed area will then be cleaned to identify any archaeological features by additional archaeologists working behind the monitoring archaeologist if required.

6.4 Any features that are identified during the strip will be mapped and 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.

6.6 In the event that archaeological features are noted as continuing outside the initial strip area further stripping will be required in order to achieve a 20 m archaeologically sterile buffer zone. This will be assessed during the initial strip and resources put in place if required.

6.7 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 National Datum.

6.8 Should human remains be revealed by the excavation, the local police, the client and ACAS will be informed immediately. Any human remains will be accurately recorded, but left *in situ*, pending the agreement of the police, the client and ACAS on an appropriate mitigation strategy.

6.9 All elements of the fieldwork and any subsequent post-excavation work will be undertaken in line with the policies and guidelines of the Chartered Institute for Archaeologists (CIfA) of which GUARD Archaeology Ltd is a *Registered Organisation*.

6.10 All work will be conducted to comply with ACAS standard conditions for archaeological fieldwork.

6.11 The significance of any archaeological remains encountered will be determined by the planning authority advisors ACAS, who will advise on any further requirements, so that the development meets the terms of the archaeological planning condition.

6.12 The on-site project team will accommodate monitoring visits to the site by ACAS 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. Internal monitoring will be conducted by Warren Bailie.

Report Preparation and Contents

7.1 A report incorporating the results of the evaluation will be submitted to the client within two weeks of completion of all fieldwork and, subject to client approval, then submitted to the ACAS for agreement within four weeks of completion of fieldwork. Copies of the fieldwork report will be provided to the client, to Angus Council and to ACAS. Further copies can be distributed to other recipients if requested and specified.

7.2 The archaeological fieldwork report will be prepared to the standard of a Data Structure Report as defined by Historic Scotland, in their "Project Design, Implementation and Archiving" document (Historic Scotland Archaeological Procedure Paper 2, 1996).

7.3 The report will include a full descriptive text that will analyse and characterise the results of the excavation. It will also include lists of all the archaeological records, drawings and photographs and artefacts recovered.

7.4 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;
- 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;
- example photographs of significant features;
- 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);
- DES Entry;
- bibliography.

7.5 The DSR is to be submitted within 4 weeks of fieldwork completion, any PERD within 3 months of agreement to the DSR and any final publication within a year of agreement to the PERD.

7.6 The report will be presented in an ordered state and be contained within a protective cover/sleeve or bound in some fashion. The report will be page numbered and supplemented with section numbering for ease of reference.

7.7 In the event that Stage 3, analysis and publication are required a Post-Excavation Research Design (PERD) and costing will be produced for agreement and subsequent discharging of the planning condition. Publication, where required, would normally be sought in a suitable academic journal.

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 Limited.

Archive

9.1 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.

9.2 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, ACAS will validate the OASIS form thus placing the information into the public domain on the OASIS website.

Finds Disposal

10.1 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

11.1 The GUARD Archaeology team will comprise the following qualified and experienced GUARD archaeologists:

- Project Director (on-site Archaeologist): Alan Hunter Blair
- Archaeological Assistants: TBC
- Technical Support: Aileen Maule
- Project Manager: Warren Bailie

11.2 The GUARD Archaeology Project Manager, Warren Bailie, will be the point of contact for the archaeological works. A full CV for individuals concerned can be made available on request.

Monitoring & Timetable

12.1 The proposed start date for the archaeological works is 18th August 2016. ACAS and the client will be informed of the site mobile phone number of the attending Archaeologist prior to the start date so that monitoring visits can be arranged.

12.2 The initial strip is estimated to last for approximately one to two days and will be followed by a phase of excavation, and further stripping should archaeology extend within 20 m of the known archaeology from the evaluation.

12.3 On completion of the excavation a report to data structures level will be completed within four weeks.

12.4 Should post-excavation analysis and reporting be merited, a PERD 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.

Health and Safety

13.1 The project will be conducted in line with all current legislation and with the CIfA approved FAME document "Health and Safety in Field Archaeology". Prior to fieldwork commencing a risk assessment of the project would be undertaken, giving rise to a project-specific safety plan.

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