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DATA STRUCTURE REPORT OF AN ARCHAEOLOGICAL WATCHING BRIEF AT  
POWMYRE SAND AND GRAVEL QUARRY, GLAMIS, ANGUS

Phase 2 Works

Alistair Robertson  
*MA(Hons)*

PROJECT SUMMARY SHEET

<i>Client</i>	AGGREGATE INDUSTRIES UK
<i>National Grid Reference</i>	NO 3365 7502
<i>Address</i>	POWMYRE SAND & GRAVEL QUARRY, GLAMIS, ANGUS
<i>Parish</i>	AIRLIE
<i>Council</i>	ANGUS
<i>Planning Application Ref No</i>	03/00691/MIN
<i>NMRS No</i>	NO35SE 250
<i>Oasis No</i>	HEADLAND1-46198
<i>SMR No</i>	NO35SE0083
<i>HB/SAM No</i>	N/A
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<i>Schedule</i>	
<i>Fieldwork</i>	16 <sup>TH</sup> -27 <sup>TH</sup> MARCH, 4 <sup>TH</sup> -28 <sup>TH</sup> MAY 2009
<i>Report</i>	1 <sup>ST</sup> JUNE 2009

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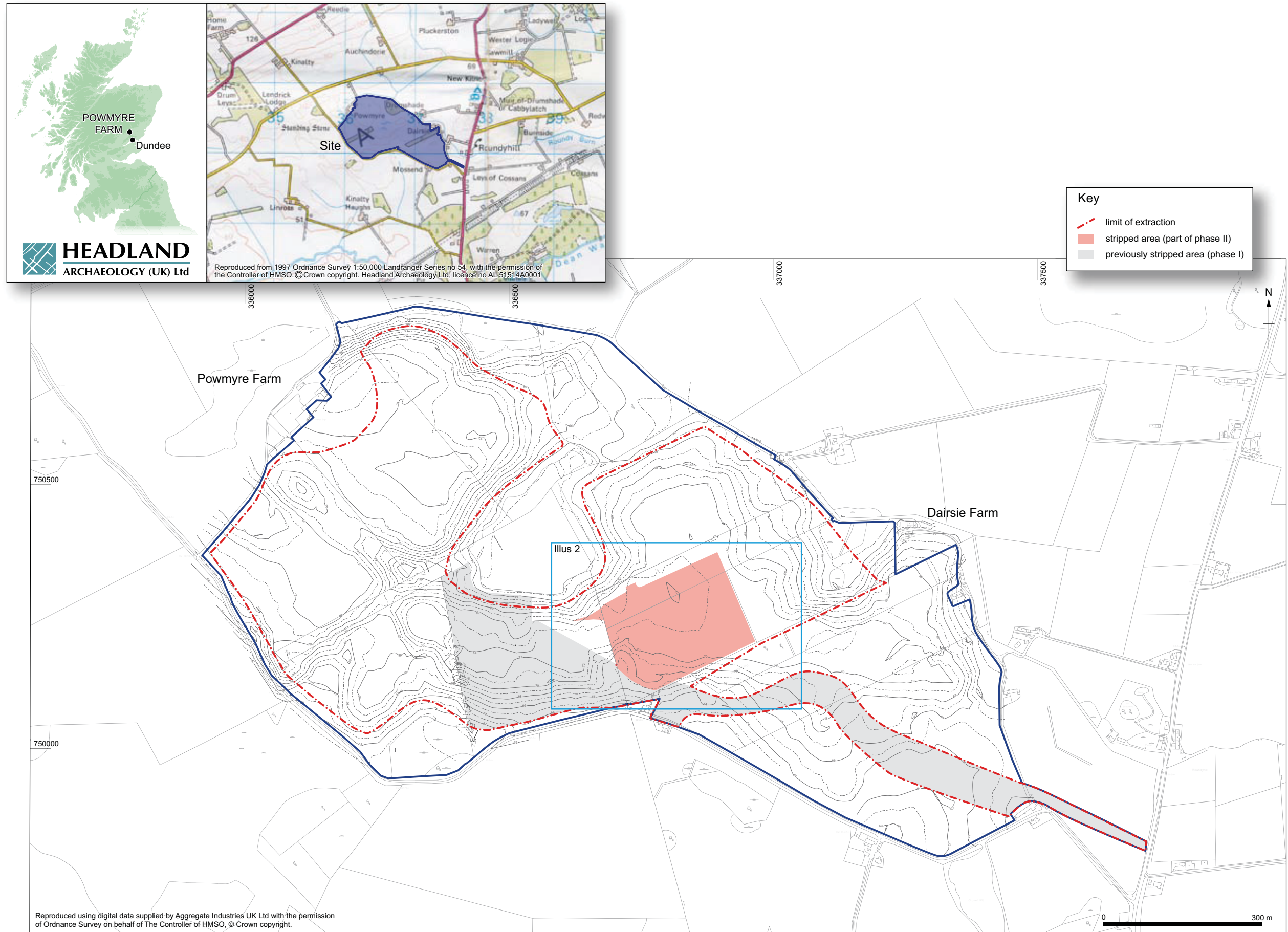
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*Headland Archaeology Ltd undertook an archaeological watching brief at Powmyre Sand and Gravel Quarry, Glamis, Angus over two separate periods during March and May 2009. This was on the topsoil stripping preceding the Phase 2 extraction works of a long running quarrying operation. Phase 1 was also monitored periodically from June 2007. Phase 1 works had revealed archaeological features including a roundhouse, possible cremation pit and short cist, all likely to date to the Bronze Age, as well as small groups of long cists of probable Early Christian date. The results from Phase 1 are currently being prepared for publication.*

*An area of 300m by 250m was stripped during the Phase 2 work reported here. A total of eighteen archaeological features were recorded, these were mainly isolated and interpreted as pits/postholes. A number of flint flakes and a significant amount of prehistoric pottery including Grooved Ware were collected from several of the features. One pit contained an abundant amount of domestic plum stones and blackthorn/sloe seeds, as well as apple pips and must be much later in date. Post-medieval furrows, plough scars and tree throw hollows were also observed along with a modern field boundary.*





**Illus 1**  
Location of monitored area

# DATA STRUCTURE REPORT OF AN ARCHAEOLOGICAL WATCHING BRIEF AT POWMYRE SAND AND GRAVEL QUARRY, GLAMIS, ANGUS

## Phase 2 Works

by Alistair Robertson

### INTRODUCTION

Headland Archaeology Ltd was commissioned to carry out an archaeological watching brief during topsoil stripping in advance of extraction operations at Powmyre Sand and Gravel Quarry, Glamis, Angus, in order to satisfy a condition of planning consent. A method statement for the watching brief was agreed with the Aberdeenshire Council Archaeology Service following an assessment of cultural heritage issues made in the Environmental Statement of January 2003 and an intrusive archaeological evaluation carried out during November 2003 and January 2004. Phase 1 of the site was stripped of topsoil between 20th June and 27th July 2007, with additional work between 12th and 23rd November 2007 and 21st and 25th April 2008. This report describes the results from a watching brief on topsoil stripping in advance of Phase 2 extraction works carried out from 16th to 27th March and 4th to 28th May 2009.

### SITE LOCATION AND DESCRIPTION

Powmyre Quarry (NGR NO 3365 7502) is located approximately 3km to the north of Glamis on the A928 Glamis to Kirriemuir road (Illus 1). The Phase 2 works described here comprised topsoil stripping of an area covering approximately 300m by 250m. The area lay immediately northeast of Phase 1 works and was covered in rough pasture prior to excavations, the topography was gently undulating.

### ARCHAEOLOGICAL BACKGROUND

Headland Archaeology prepared an assessment of cultural heritage issues for an Environmental Statement that was submitted with a planning application. This work included a desk based assessment and walkover survey of the site. Two sites were identified within the proposed extraction area and a third along the line of the access road. Two of the sites were 18th century farmsteads while the third was a single building first mapped in 1861. The Environmental Statement also identified a number of prehistoric crop marks within the surrounding area.

Headland Archaeology undertook an intrusive evaluation during November 2003 and January 2004 in the proposed quarry area (Brown 2004). This did not encounter any archaeological remains in the area sampled. Aberdeenshire Council Archaeology Service, which advises Angus Council, recommended that an archaeological watching brief was needed on topsoil stripping before any extraction could commence in any part of the proposed area. Three previous watching briefs covering Phase 1 works have been undertaken in June to July 2007, November 2007 and April 2008 (Bailey 2007, Simonsson 2007 & Humble 2008).

During the watching brief carried out in June and July 2007 several groups of archaeological features were recorded. These were: 2 groups of long cists, an isolated long cist, an isolated short cist, 3 groups of prehistoric postholes and a roundhouse with associated structures. Several isolated postholes, a possible prehistoric cremation and four pits aligned northeast-southwest were also recorded (Bailey 2007).

During the watching brief carried out in November 2007 a total of nine archaeological features were recorded. These consisted of three NE-SW aligned pits that continued a linear sequence recorded in previous work, a group of pits and postholes, and some isolated features (Simonsson 2007). A watching brief carried out in April 2008 identified a total of three isolated archaeological features. These consisted of a posthole, a hearth and a probable trough filled with material characteristic of a 'burnt mound'. Two of the features contained fragments of prehistoric pottery and lithics (Humble 2008).

The features described above were all encountered as groups of truncated remains located predominantly on sand and gravel mounds; topographically attractive locations for the purposes of settlement. The roundhouse and associated structures provide evidence for a settlement of probable Bronze Age date, while the long cist groups indicate activity in the Early Historic period.

### AIMS AND METHODS

The watching brief was intended to ensure that any archaeologically significant deposits threatened by quarrying operations were appropriately recorded.

The topsoil strip was carried out using a 360° mechanical excavator and a JCB, both fitted with a flat bladed ditching bucket, operating under continuous archaeological supervision. Any potential features identified during the strip were hand cleaned, investigated and recorded appropriately.

Archaeological features and deposits were hand excavated and recorded using standard archaeological methods and pro-forma record sheets. Archaeological contexts were recorded using a combination of AutoCAD and TheoLT survey and hand planning at a scale of 1:20 and in section at 1:10. Features less than 0.2m in depth and containing a single fill were recorded by digital survey and measured sketch on pro-forma record sheets. More complex features were recorded by hand planning.

Sediment samples were collected from secure archaeological contexts for processing and assessment. Where possible a minimum 10-litre sample was collected from each archaeological deposit. Ten of the collected samples were processed as part of the work undertaken here and the full results are contained in Appendix 3.

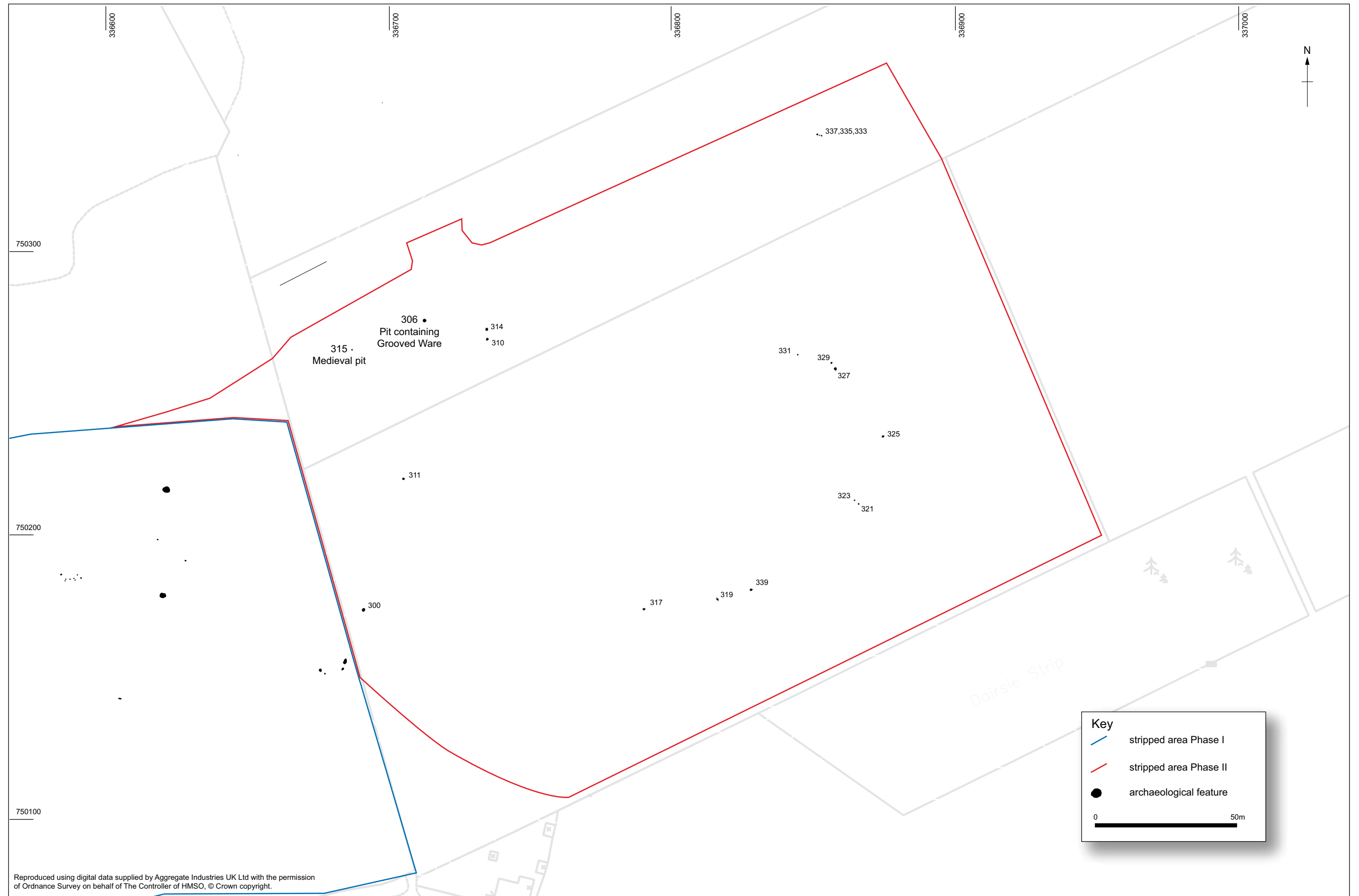
### RESULTS

#### Fieldwork

An area measuring approximately 300m by 250m was stripped of 0.05m to 0.50m of mid brown sandy loam topsoil. This overlay yellow brown sand and gravel with frequent larger stones that was interpreted as a fluvio-glacial deposit. At the southern end of the site topsoil covered a mid-brown sandy clay deposit [298] overlying a brownish black silty clay [299]. Deposit [298] was interpreted as colluvial and was mainly confined to hollows and lower-lying parts of the site. Deposit [299] was interpreted as a possible peat deposit forming *in situ*. The total thickness of the deposits overlying the fluvio-glacial sand and gravel was up to 1.70m at the southwest limit of the area.

#### Pits/Postholes (Illus 2)

Feature [300]	A shallow, circular negative feature [300] 1m in width and 0.13m in depth contained a mixed sandy loam deposit [301] and lay beneath topsoil 1.2m deep. No finds were recovered from this feature and an environmental sample from its fill has not been processed as part of this phase of work.
Feature [306]	This was a circular feature with gently sloping sides and rounded base located to the far north of the area and measuring 1.11m by 1.05m with a depth of 0.45m. The feature contained mid brown silty sand [305] with an abundant amount of late Neolithic pottery of Grooved-ware type (Illus 3) and worked pieces of flint. Charred hazelnut remains were recovered from samples taken from the fill (Appendix 2 & 3).
Feature [310]	This feature consisted of a round cut measuring 0.80m by 0.80m with a depth of 0.50m, vertical sides and a flat base. The pit contained a total of three deposits. The uppermost consisted of dark brown silty sand [307] with rare inclusions of small, sub-rounded stones and was most likely accumulated through natural sedimentation. The secondary fill of the pit was mid-brown silty sand [308] with rare inclusions of charcoal and prehistoric pottery sherds. The basal fill consisted of dark brown silty sand [309] with many inclusions of charcoal and large, flat stones at the base, which appeared to have been deliberately placed. The lower two fills contained a significant amount of charred hazelnut remains, recovered from environmental samples (Appendix 3).
Feature [311]	This was a circular negative feature 0.65m wide and 0.36m deep, containing a brown silty loam [312] which was not environmentally sampled.
Feature [314]	This feature was located 3m north of [310] and consisted of a rounded cut measuring 1m by 0.90m with a depth of 0.25m, gently sloping sides and a rounded base. The pit contained a single dark brown silty sand fill [313] with an abundant amount of charcoal and rare inclusions of prehistoric pottery. Lithics fragments and charred hazelnut were also recovered from a sample of the deposit (Appendix 3).



**Illus 2**  
Location of archaeological features

Feature [315]	This feature consisted of a rounded cut measuring 0.35m by 0.35m with a depth of 0.09m. It contained a single black clayey silt deposit [316] with a very abundant amount of charcoal. Contained in this deposit was a significant amount of charred domestic plum stones, blackthorn/sloe seeds and apple pips, recovered from an environmental sample. Oyster shell fragments were also recovered (Appendix 3).
Feature [317]	This feature was sub circular in plan and measured 0.75m by 0.64m. It had a depth of 0.17m and contained dark brown silty sand [318] from which prehistoric pottery was recovered (Appendix 2). An environmental sample from the fill also produced some charcoal and lithic material (Appendix 2 & 3).
Feature [319]	This was a shallow sub oval feature, 0.7m long by 0.6m wide and filled by a single deposit [320] of dark brown silty sand. An environmental sample taken from the fill did not return any significant material (Appendix 3).
Feature [321]	This was a sub circular negative feature, 0.45m in length, 0.3m wide and 0.19m in depth, filled by dark brown silty sand [322] which was not environmentally sampled.
Feature [323]	This was a sub oval negative feature 0.34m in length, 0.25m in width and 0.15m in depth. It contained dark brown silty sand with pebble inclusions [324] which was not environmentally sampled.
Features [325] and [327]	These were two isolated negative features, both sub circular in plan and 0.7m in width. Depths were 0.18m and 0.12m respectively and both were filled with dark brown sandy silt [326 & 328] which was not environmentally sampled.
Feature [329]	This feature was sub circular in plan and measured 0.5m by 0.55m. It had a depth of 0.25m and contained a charcoal rich fill [330] from which a piece of daub was recovered. Some charcoal was recovered from an environmental sample taken from its fill.
Features [333], [335] and [337]	These were three shallow sub circular features aligned very close to each other on an east-west axis. They are each approximately 0.35m wide with a maximum depth of 0.12m. All the features were filled by dark brown sandy silt [334, 336 & 338]. An environmental sample from one of these features was processed but did not contain any significant material.
Feature [339]	This feature consisted of a sub circular cut measuring 0.8m by 0.7m, with a depth of 0.16m. It was filled by charcoal-rich mid brown silty sand from which a flint flake was recovered during excavation, as well as charred hazelnut remains identified from an environmental sample (Appendix 3).

#### Post-Medieval furrows and boundary feature

During the topsoil strip post-medieval cultivation furrows were identified over the entire area. They survived to approximately 1.5m width and 0.15m depth and were spaced around 6m apart. In the western half of the area they were aligned NW-SE, while in the eastern half they ran perpendicular to this on a NE-SW axis. A number of furrows were cut by a linear feature [303], which extended across the entire area aligned NE-SW. It contained a single fill of mid brown clayey sand with rare inclusions of modern glass. The feature has been interpreted as a relatively modern boundary ditch.

## FINDS SUMMARY

Julie Lochrie

For a full report see Appendix 2. Apart from a handful of modern bottle glass fragments, all finds are prehistoric, either lithics or pottery, and can be dated to the late Neolithic.

In total there were 348 sherds of prehistoric pottery. Nearly half these sherds came from a large pit [306]. The sherds from this pit represented at least five vessels, mostly decorated with incised lines and applied decoration, although impressions such as twisted cord also occur. The vessels all appear to be bucket/barrel shaped with flat bases and inturned rims. Two of the vessels have been positively identified as Grooved Ware and the others may also belong to this class. This type of pottery covers a date range of around

1000 yrs from 3100BC to 2000BC (Cleal and MacSween 1999).

A further two pits, [310] and [314], contained prehistoric pottery. Pit [310] included 4 fairly undiagnostic sherds. Pit [314] included 39 pieces, some very similar to the decorative Grooved Ware pieces from pit [306].

The lithics amounted to 80 pieces, mostly chips and small flakes. There are six retouched pieces, including three roughly oval concave end scrapers and three edge retouch pieces of no formalised type. The scrapers were present in the same pit as the late Neolithic Grooved Ware and are not inconsistent with that dating.



**Illus 3**  
Decorated Grooved Ware from pit [306]

## ENVIRONMENTAL SUMMARY

Dr Scott Timpany

For a full report see Appendix 3. Charcoal fragments are present in all samples and all except one (165) contain charcoal fragments of a size suitable for identification and/or Accelerated Mass Spectrometry (AMS) dating. Charred hazel (*Corylus avellana*) nutshell fragments were recovered from six samples (158, 160, 161, 162, 163 and 168). One sample (163) contains a significant amount of fruit stones of domestic plum (*Prunus domestica*) and blackthorn/sloe (*Prunus spinosa*) together with apple pips (*Malus domestica*).

## DISCUSSION

The negative features recorded during Phase 2 of the watching brief were distributed across a level area below the brow of the hill in the stripped area. This differs from the archaeology found during the previous phase which was identified at the highest points in the landscape (knolls). The features also appeared to be fairly isolated, with only one clear grouping- [333], [335] and [337]. Several contained charcoal, prehistoric pottery and flints. The pottery sherds and lithics recovered from the fills suggest a late Neolithic date for the features and the finding of Grooved Ware within [306] offers a date of between 3100-2000 cal BC. Recovery from an isolated small pit or hollow is typical for that type of pottery throughout the British Isles (Cleal 1999). It is mainly found on ceremonial sites; however domestic purposes cannot be overlooked as it has also been identified on settlement sites in Orkney (Barclay 1998).

These results provide us with the earliest dates yet recorded during this long running watching brief, with the previous phase intimating activity in the Bronze Age and Early Historic period. A further indicator of early settlement in the vicinity is the presence of charred hazelnut remains in four pits, implying the processing of wild foods (Appendix 3).

There was no clear evidence of structural remains; the isolated nature of the features seemingly inconsistent with a structural function. The only exception was [333], [335] and [337] which may have been part of a line of posts. It should however be noted that most of the features were encountered where topsoil was thin and so shallow structural features may have been removed entirely by ploughing. This may also explain the lack of archaeology on the brow of the hill, where the topsoil was especially thin.

The material recovered from Pit 315 provides some evidence for a much later phase of activity on the site. It contained an abundant quantity of charred domestic plum seeds, some still encased in the remnants of the fruit, together with seeds of blackthorn/sloe and apple pips. Domestic plum and apple are both introduced species and indicate a later, probably medieval, date (Appendix 3).

The archaeology recorded in this phase of work has therefore broadened the period of recorded remains in the area from that of Phase 1- now extending from the Neolithic through to the medieval period. The findings will further enhance and add to our knowledge of the prehistoric landscape and land use of the area. It is intended that these results and subsequent results from following Phase 2 works will be subject to further post-excavation analysis and reporting when an appropriate stage in the programme has been reached. This will add to knowledge presented in a forthcoming publication associated with the earlier Phase 1 works (Bailey 2007, Simonsson 2007 & Humble 2008).

## REFERENCES

- Bailey, E. (2007) *Data Structure Report of an Archaeological Watching Brief at Powmyre Sand and Gravel Quarry, Glamis, Angus. Phase 1*. Headland Archaeology Ltd.
- Barclay, G. (1998) *Farmers, Temples and Tombs*. Historic Scotland.
- Brown, G. (2004) *Results of an Archaeological Evaluation at Powmyre Farm, Kirriemuir, Angus*. Headland Archaeology Ltd.
- Cleal, R. (1999) 'Introduction: The what, where, when and why of Grooved Ware.' In Cleal, R. and MacSween, A. (eds) 1999 *Grooved Ware in Great Britain and Ireland (Neolithic Group Studies Seminar Papers)*. Oxbow Books.
- Humble, J. (2008) *Data Structure Report of an Archaeological Watching Brief at Powmyre Sand and Gravel Quarry, Glamis, Angus. Phase 1 additional works*. Headland Archaeology Ltd.
- Simonsson, M. (2007) *Data Structure Report of an Archaeological Watching Brief at Powmyre Sand and Gravel Quarry, Glamis, Angus. Phase 1 additional works*. Headland Archaeology Ltd.

APPENDIX 1: SITE REGISTERS

1.1 Context Register

Context No	Description
297	Topsoil, Blackish dark brown sandy loam with occasional inclusions of modern pottery and glass
298	Colluvial deposit, Mid- brown sandy clay with occasional inclusions of, small rounded stones
299	Sediment deposit, possibly peat forming <i>in situ</i> , Brownish black silty clay with rare inclusions of small, rounded stones
300	Cut of pit, circular cut with steep sides and flat base
301	Single fill of pit 300, Dark to mid- yellow sandy loam with abundant inclusions of small, sub- rounded stones and many inclusions of mid- grey sandy clay lenses
302	Cultivation furrows, Linear with flat base, c. 0.30 to 0.50 m wide and 0.05- 0.10 m deep in average. Orientated NW- SE
303	Field boundary, possibly old hedge row, linear with parallel edges and flat base. 0.30 m deep in average. Orientation SW- NE
304	Single fill in boundary feature 303, Mid- to dark brown slightly stony silty clay with occasional inclusions of roots and rare inclusions of modern glass
305	Single fill of pit 306, Mid brown silty sand with many inclusions of pre- historic pottery shreds and rare inclusions of worked flint
306	Cut of pit, circular cut with steep sides and rounded base
307	Upper most sediment deposit in pit 310, Dark brown, silty sand with rare inclusions of small, sub- rounded stones and rare inclusions of charcoal
308	Secondary fill of pit 310, Mid- brown Silty sand with rare inclusions of charcoal and rare inclusions of pre- historic pottery shreds
309	Primary fill of pit 310, Dark brown silty sand with many inclusions of charcoal and rare inclusions of large, sub- angular stones
310	Cut of pit, circular cut with vertical sides and flat base
311	Cut of pit, rounded with gently sloping sides and rounded base
312	Single deposit in pit 311, Greyish brown silty loam with many inclusions of small, sub- rounded stones and rare inclusions of charcoal
313	Single fill of pit 314, Dark brown silty sand with abundant inclusions of charcoal and rare inclusions of pre- historic pottery
314	Cut of pit, rounded cut with gently sloping to steep sides and rounded base
315	Cut of possible pit, circular cut with gently sloping sides and flat base
316	Single deposit in possible posthole 315, Black clayey silt with abundant inclusions of charcoal
317	Cut of pit containing pottery fragment. Oval cut with gently sloping sides and rounded base.
318	Single Fill of pit 317. Dark brown silty sand with small stone inclusions and pottery fragments.
319	Cut of shallow pit. Sub-oval in plan with gently sloping sides and rounded base.
320	Single fill of pit 319. Dark brown silty sand with inclusions of sub-round stones and charcoal.
321	Cut of small pit. Sub-round in plan with steep sloping sides and rounded base.
322	Fill of pit 321. Dark brown silty sand deposit with charcoal and pebble inclusions.
323	Cut of sub- oval pit. Steep sloping sides with rounded base.
324	Single fill of pit 323. Dark brown silty sand deposit with pebble inclusions.

Context No	Description
325	Cut of sub-round pit with gently sloping sides and rounded base.
326	Single fill of pit 325; dark brown sandy silt.
327	Cut of shallow, sub-round pit. Gently sloping sides with rounded base.
328	Single fill of pit 327. Dark brown sandy silt with pebble and small stone inclusions.
329	Cut of sub-round pit with steep sloping sides and rounded base.
330	Single fill of pit 329. Dark brown silty sand with small stones and charcoal inclusions
331	Cut of sub-round pit, with sloping sides and rounded base.
332	Single fill of pit 331. Dark brown silty sand with pebble and charcoal inclusions
333	Cut of sub-round pit/post hole. Gently sloping sides with rounded base.
334	Single fill of pit 333. Dark brown/black sandy silt with pebble and charcoal inclusions.
335	Cut of sub-round pit/post hole. Gently sloping sides with uneven base.
336	Single fill of pit 335. Dark brown/black sandy silt with pebble inclusions.
337	Cut of pit/post hole, sub-round in plan. Gently sloping sides with uneven base.
338	Single fill of pit 337. Dark brown/black sandy silt with pebble inclusions.
339	Cut of sub-round pit with gently sloping sides and flat base.
340	Single fill of pit 340. Mid-brown silty sand containing charcoal and flint fragments.

1.2 Photographic Register

(Colour slides and colour print)

Film 10

Shot No	Direction	Description
1	-	ID shot
2	NW	Shot of cultivation furrows 302
3	NW	Shot of field boundary 303 and furrows
4	W	Shot of E- facing section through filed boundary 303
5	S	Shot of area stripped 19-03-09 facing south
6	N	Shot of area stripped 19-03-09 facing north
7	E	Shot showing depth of deposits at south end of Phase II
8	NW	Mid- ex shot of pit 300
9	NE	Post- ex shot of pit 300
10	NE	Shot of section through pit 306
11	NE	Shot of section through pit 306
12	NW	Shot of pottery <i>in situ</i> in pit 306
13	E	Shot of W- facing section through pit 310
14	N	Mid- ex shot of pit 311
15	E	Shot of W- facing section through pit 314
16	E	Mid- ex shot of possible posthole 315

Film 11

Shot No	Direction	Description
1	-	ID shot
2	N	S-facing section of pit 317
3	N	S-facing section of pit 319
4	S	N-facing section of pit 321
5	S	N-facing section of pit 323
6	S	N-facing section of pit 325
7	S	N-facing section of pit 331
8	S	N-facing section of pit 327
9	S	View of pit 329
10	S	View of 333, 335, 337
11	N	View of pit 339

1.3 Drawing Register

Drawing No	Scale	Description
81	1:10	SW- facing section through pit 306
82	1:10	W- facing section through pit 310
83	1:10	W- facing section through pit 314

1.4 Sample Register

Sample No.	Context No	Description
157	301	Single fill in pit 300
158	305	Single fill in pit 306
159	307	Upper most deposit in pit 310
160	308	Secondary fill in pit 310
161	309	Primary fill in pit 310
162	313	Fill of pit 314
163	316	Charcoal rich deposit in possible posthole 315
164	318	Fill of pit 317
165	320	Fill of pit 319
166	330	Fill of pit 329
167	334	Fill of pit 333
168	340	Fill of pit 339- contains flint flake



## APPENDIX 2: FINDS REPORT

Julie Lochrie

## Finds Summary

The finds table includes all hand-collected and sample finds. Apart from a handful of modern bottle glass all finds are prehistoric, either lithics or pottery. These can be dated to the late Neolithic.

In total there were 348 sherds of prehistoric pottery. Nearly half these sherds came from a large pit [306]. The sherds from this pit represented at least five vessels, mostly decorated with incised lines and applied decoration, although impressions such as twisted cord also occur. The vessels all appear to be bucket/barrel shaped with flat bases and inturned rims. Two of these have been positively identified as Grooved Ware vessels and the others may also belong to this class. This type of pottery covers a date range of around 1000 yrs from 3100BC to 2000BC (Cleal and MacSween 1999).

A further two pits, [310] and [314], contained prehistoric pottery. Pit [310] included 4 fairly undiagnostic sherds. Pit [314] included 39 pieces, some very similar to the decorative grooved ware pieces from pit [306].

The lithics amounted to 80 pieces, mostly chips and small flakes. There are six retouched pieces, including three roughly oval concave end scrapers and three edge retouch pieces of no formalised type. The scrapers are present in the same pit as the late Neolithic Grooved Ware and are not inconsistent with that dating. In addition to the flaked stone an unworked lump of shiny black stone was discovered which may prove to be an imported raw material.

Modern finds include an iron staple and four sherds of bottle glass.

## References

Cleal, R. and MacSween, A. (eds) (1999) *Grooved Ware in Great Britain and Ireland (Neolithic Group Studies Seminar Papers)*. Oxbow Books

## Finds List

Phase	Context	SF No	Sample No	Material	Quantity	Weight (g)	Object	Description	Spot Date	Period	Conservation	Illustration	Box No
II	303	-	-	Glass	4	-	Bottle	Four sherds of green bottle glass	-	Mod	-	-	3
II	305	-	-	Lithics	3	-	Flint	Three retouched pieces; 2 hard hammer oval scrapers and 1 edge retouched piece;	-	L. Neol	-	-	3
II	305	-	158	Lithics	30	-	Flint	Two retouched pieces; three inner flakes and 25 inner chips; some burnt chips; mid to dark grey; one retouched piece similar roughly oval distal end scraper to other hand-collected scrapers from this context; the edge-retouched piece has one main edge retouched but also some inverse semi-invasive removals, it is a roughly triangular hinge terminated flake	-	L. Neol	-	-	3
II	305	-	158	Pottery	131	-	-	1 decorated rim sherd, 24 decorated body sherds, 19 undecorated body sherds and 87 fragments; the decoration takes the form of incised lines some sherds have applied detail; the rim sherd is small, gently and rounded inturned.	-	-	-	-	1 & 2
II	305	-	-	Pottery	162	-	-	Coarseware. 10 rim sherds, 5 base sherds, 146 body sherds and a frag; there are at least 5 different vessels, probably 6. Vessel 1 has an inturned, slightly pointed rim; slight barrel shape; the 5 conjoining base sherds appear to belong to this vessel; decorated with infilled triangles enhanced with applied strips, horizontal applied strip at base of band, from this vertical strips continue down the body with incised diagonal decoration in the spaces between. Vessel 2 is a rim sherd which is covered all over with vertical stab marks with the remains of a diagonal applied strip which the stab marks continues through. It is possible this is the same as vessel 3 Vessel 3 is a rim sherd with an inturned and pointed, the rim has an internal bevel which the clay is rolled into which gives an impression of an incised line running around the internal surface below the rim; External decoration includes 3 lines of twisted cord. It is possible this is the same as vessel 2 Vessel 4 is a rim sherd with applied strips, with fingernail marks and diagonal incised lines in the area between; several similarly decorated body sherds are likely from this vessel Vessel 5 has incised infilled triangles and incised horizontal lines around the rim, which is inturned and pointed; some remains of applied clay can be seen but the motif/pattern is not clear Vessel 6 this is a rim sherd with three incised lines on the external wall below this are sets of short vertically stacked horizontal lines; the rim is inturned but is rounded	3100BC-2000BC	L. Neol	-	-	1 & 2
II	308	-	60	Lithics	7	-	Flint	Inner chips; one burnt; mid grey-brown	-	-	-	-	3
II	308	-	160	Pottery	3	-	-	Coarseware. 2 sherds and a fragment; 1 sherd fairly thick and curving the other sherd is a small spalled fragment, which has a straight edge which may be remains of incised decoration	-	-	-	-	3
II	308	-	-	Pottery	1	-	-	Coarseware. Rim sherd, straight sided with rounded, slightly pointed rim	-	-	-	-	3
II	309	-	161	Lithics	15	-	Flint	Two inner flakes and 13 chips; some chips burnt; mid to dark grey	-	-	-	-	3
II	309	-	161	Pottery	6	-	-	Coarseware. 1 abraded sherd and 5 fragments	-	-	-	-	3
II	313	-	162	Lithics	4	-	Flint	Inner chips; mid to dark grey	-	-	-	-	3
II	313	-	162	Pottery	29	-	-	Coarseware. 1 flat-base sherd, 1 decorated sherds and 27 fragments; the decorated sherd is fairly thin but appears to have breaks at the coil join on either edge, the decoration is horizontal and diagonal incised lines.	-	-	-	-	3

Phase	Context	SF No	Sample No	Material	Quantity	Weight (g)	Object	Description	Spot Date	Period	Conservation	Illustration	Box No
II	313	-	-	Pottery	10	-	-	Coarseware. 9 body sherds and a fragment; one large body sherd with applied strips and no further decoration; another sherd has an applied strip with fingernail impressions along the strip, this may or may not be the same vessel as the other with applied strips (a similar decorative scheme can be found on pottery from [305] although they are certainly individual vessels); the remaining sherds have vertical incisions and rows of vertical fingernail impressions, these are from the same vessel with the fingernail impressed vertical strips as some conjoin.	-	-	-	-	3
II	318	-	-	Fe	-	-	Staple	Small staple with two slightly rounded legs	-	Mod	-	-	3
II	318	-	164	Lithics	2	-	Flint	Flint flake; primary flake; distal end. Flint flake; secondary flake	-	PH	-	-	3
II	318	-	-	Pottery	4	-	-	Coarseware; three body sherds and a base sherd; body sherd is fairly straight and thins towards one end; the base sherd is flat and slightly pinched	-	L. Neol or later	-	-	3
II	318	-	-	Stone	-	-	-	Small lump of black shiny stone, possibly raw material for artefact manufacture	-	-	-	-	3
II	339	-	168?	Lithic	1	-	Flint	Edge-retouched piece; inner flake; direct edge retouch to left lateral, medial section, creating small notched edge`	-	PH	-	-	3
II	339	-	168	Lithics	18	-	Flint	Three inner flint flakes; 12 inner chips; 3 burnt chips	-	PH	-	-	3
II	339	-	168	Pottery	2	-	-	Coarseware. Body sherd and chip	-	PH	-	-	3

## APPENDIX 3: ENVIRONMENTAL REPORT

*S. Timpany*

### Introduction

Ten samples from Phase 2 works at Powmyre Quarry, Glamis were taken from a series of isolated pits for processing. The aim of the processing was to identify material for AMS (Accelerated Mass Spectrometry) radiocarbon dating and to see if any function could be ascribed to the pits. Evidence from hand collected finds at the site has pointed to a prehistoric, probable Neolithic, date for the pits.

### Method

Samples were processed in laboratory conditions using a standard floatation method (cf. Kenward *et al*, 1980). All plant macrofossil samples were analysed using a stereomicroscope at magnifications of x10 and up to x100 where necessary to aid identification. Identifications were confirmed using modern reference material and seed atlases including Cappers *et al* (2006).

### Results

The results of the sample processing are provided in Tables 1 (Retent finds) and 2 (Floatation finds). Suitable material for AMS dating is also identified within each table.

### Plant remains

Charcoal fragments are present in all samples and all except one sample (165) contain charcoal fragments of a size suitable for identification and/or Accelerated Mass Spectrometry (AMS) dating (see Tables 1 and 2). Charred hazel (*Corylus avellana*) nutshell fragments were recovered from six samples (158, 160, 161, 162, 163 and 168). One sample (163) contains a significant amount of fruit stones of domestic plum (*Prunus domestica*) and blackthorn/sloe (*Prunus spinosa*) together with apple pips (*Malus domestica*).

### Other finds

Pottery fragments and lithics were the most common other finds within the processed samples; the former present in five samples (158, 160, 161, 162 and 168), while the latter was present in six (158, 160, 161, 162, 164 and 168). Daub was recovered from one sample (166), while oyster shell fragments (Sample 163) and ceramic building material (CBM) (Sample 164) was also recovered (see Table 2).

### Discussion

The environmental material recovered (combined with the finds evidence) suggests there are two main phases of activity at the site; a prehistoric, probably late Neolithic phase and a later phase, possibly medieval. These are discussed below.

#### *Phase 1 – Late Neolithic/Prehistoric*

The materials recovered from the fills of six pits indicate they are of a late Neolithic/prehistoric date (samples: 158, 160, 161, 162, 164, 165 and 168). All of these pits were found to contain charcoal fragments, while hazel nutshell fragments were present in four of the pits. Pottery sherds of coarseware and grooved ware together with lithics recovered from the pit fills present a late Neolithic (or Prehistoric) age for the pits. The finding in particular of grooved ware within Pit 306 suggests a date of between 3100–2000 cal BC.

Charcoal fragments were present in all of the pit fills, with fragments up to 2cm in

length and vary in quantity from rare to abundant (see Tables 1 and 2). Roundwood charcoal, which is thought to represent branchwood (or possible coppicing), is present in four of the six samples suggesting some form of fuel selection may have been taking place. The large size of the fragments indicates that the wood was either burnt in-situ, deliberately deposited into the pits or was close to the source of the burning activity.

Charred hazel nutshell was present in five of the pit samples (158, 160, 161, 162, and 168), with the fills of Pit 310 containing the greatest amount; total of 5.9g (see Table 2). The charred remains of hazel nuts appear regularly across prehistoric sites and are often associated with food debris and utilisation of wild food resources (e.g. McComb and Simpson, 1999). This is more likely in those pits containing the largest quantity of nutshell, whereas pits with lesser amounts may relate to nuts still being attached to branches used for fuel. However, charcoal identifications will be necessary to confirm the presence of hazel wood within the charcoal assemblage.

Pits 329 and 335 represented by samples 166 and 167 may also preclude to this phase of activity but unfortunately contain no pottery or lithic evidence by which to date them. A rare quantity of charcoal fragments were recovered from both samples, which were largely oak (*Quercus* sp.). No other material was recovered from these pits.

#### *Phase 2 – Medieval?*

One pit (315) was found to contain an abundant quantity of domestic plum seeds, some still encased in the cinder remnants of the fruit, together with seeds of blackthorn/sloe (also still encased), apple pips and hazel nutshell. Charcoal fragments were also abundant within the sample, with the bulk of the charcoal made up of roundwoods, suggesting fuel from either branchwood or managed woodland was used.

The presence of charred remains of domestic plum and apple indicate a later date than the previous phase as both these species have been introduced to the British Isles (Clapham *et al*, 1962; Stace, 1997). It is inferred by the presence of these species that the deposit is of probable medieval date. The presence of the cindered fruit still encasing some of the seeds indicates that the fruits were discarded soon after consumption. The large quantity of charcoal from this feature, together with the absence of any finds raises the possibility that it may have been used as a charcoal production pit. Post-medieval furrows were noted at the site and this pit may be related to activities from this period.

### References

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- Clapham AR, Tutin TG and Warburg EF (1962) *Flora of the British Isles (2nd Edition)*. (Cambridge University Press, Cambridge).
- Kenward HK, Hall, AR and Jones, AKG (1980) *A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits*. *Science and Archaeology* 22, 3-15.
- McComb AMG and Simpson D (1999) *The wild bunch: exploitation of the hazel in prehistoric Ireland*. *Ulster Journal of Archaeological Science* 58, 1-16.
- Stace C (1997) *New flora of the British Isles (2nd Edition)*. (Cambridge University Press, Cambridge).

Context Number	Sample Number	Retent Vol (l)	Pottery	Daub	Lithics	Other CBM.	Oyster Shell	Charred seeds, fruits	Charred Nutshell	Charcoal Quantity	Charcoal max size (cm)	Material available for AMS	Comments
305	158	40	++++	-	+++	-	-	-	++++ (3.4g)	+++	1.0	Charcoal +++	-
308	160	10	+	-	++	-	-	-	++++ (1.9g)	++++	1.0	Charcoal charred ++++, ++++	++++, nutshell
309	161	10	+	-	++	-	-	-	++++ (4.0g)	++++	1.0	Charcoal charred ++++, ++++	+++, nutshell
313	162	10	+++	-	+	-	-	-	+ + (0.1g)	++	1.0	Charcoal +	-
316	163	10	-	-	-	-	+	++++	+ + (0.3g)	++++	1.0	Charcoal ++++, Charred fruit ++++, nutshell ++	++++, stones charred stones
318	164	10	-	-	+	+	-	-	-	++	1.0	Charcoal +	Also contained cinder + and coal + fragments (not retained)
320	165	5	-	-	-	-	-	-	-	+	<0.5	-	Charcoal not retained.
330	166	10	-	+	-	-	-	-	-	+	1.5	Charcoal +	-
334	167	2	-	-	-	-	-	-	-	-	-	-	-
339	168	10	+	-	++	-	-	-	++ (0.2g)	++++	1.5	Charcoal ++++, charred nutshell ++	-

Key: + = rare, ++ = occasional, +++ = common and ++++ = abundant  
NB Charcoal of at least 1cm is suitable for identification and C14 analysis

**Table A3.1**  
Retent Sample Results from Phase II

Context No	Sample No	Total flot Vol (ml)	Charred plant remains	Charcoal Qty	Charcoal Max size (cm)	Material available for AMS	Comments
305	158	50	-	++++	1	Charcoal ++	Roundwood charcoal present.
308	160	25	-	++++	2	Charcoal ++	Roundwood charcoal present.
309	161	20	-	++++	1.2	Charcoal +	Charcoal largely small fragments.
313	162	25	-	+++	<0.5	-	-
316	163	200	Prunus domestica ++++, Prunus spinosa +, Malus domestica+	++++	3	Charcoal ++++, Prunus domestica ++++	Charcoal includes large quantity of roundwood, fruit stones still have remains of the fruit attached in some cases.
318	164	20	-	++++	1.5	Charcoal ++	Roundwood charcoal present.
320	165	<10	-	++	<1	-	-
330	166	20	-	++++	1.2	Charcoal +	Charcoal mostly Quercus heartwood.
334	167	10	-	++++	1.2	Charcoal +	Charcoal mostly Quercus heartwood.
339	168	100	-	++++	2	Charcoal ++++	Roundwood charcoal present.

Key: + = rare, ++ = occasional, +++ = common and ++++ = abundant  
NB Charcoal of at least 1cm is suitable for identification and C14 analysis

**Table A3.2**  
Flotation Sample Results from Phase II

## APPENDIX 4: DES ENTRY

### DES Entry

LOCAL AUTHORITY:	Angus
PROJECT TITLE/SITE NAME:	Powmyre Quarry, Glamis. Phase 2 works.
PROJECT CODE:	PQG07
PARISH:	Airlie Parish
NAME OF CONTRIBUTOR(S):	Alistair Robertson
NAME OF ORGANISATION:	Headland Archaeology Ltd
TYPE(S) OF PROJECT:	Watching Brief
NMRS NO(S):	
SITE/MONUMENT TYPE(S):	
SIGNIFICANT FINDS:	Grooved Ware
NGR: (2 letters, 8 or 10 Figures)	NO 3368 5025
START DATE: (this season)	16th March 2009
END DATE: (this season)	28th May 2009
PREVIOUS WORK: (incl. DES ref.)	Ansell J. (DES 2004,18); Bailey, E. (DES 2007, 31); Humble, J. (DES 2008, 28)
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>A watching brief was undertaken at Powmyre Sand and Gravel Quarry over two separate periods during March and May 2009. This was on the topsoil stripping preceding Phase 2 extraction works of a long running quarrying operation. Phase 1 was also monitored periodically from June 2007. Phase 1 works had revealed archaeological features including a roundhouse, possible cremation pit and short cist, all likely to date to the Bronze Age, as well as small groups of long cists of probable Early Christian date. The results from Phase 1 are currently being prepared for publication.</p> <p>An area of 300m by 250m was stripped during the Phase 2 work reported here. A total of eighteen archaeological features were recorded, these were mainly isolated and interpreted as pits/postholes. A number of flint flakes and a significant amount of prehistoric pottery including Grooved Ware were collected from several of the features. One pit contained an abundant amount of domestic plum stones and blackthorn/sloe seeds, as well as apple pips and must be much later in date. Post-medieval furrows, plough scars and tree throw hollows were also observed along with a modern field boundary.</p>
PROPOSED FUTURE WORK:	Further post excavation and publication works pending. Future phases of quarry extraction will be monitored.
ARCHIVE LOCATION: (intended/deposited)	Report to be lodged with Aberdeenshire SMR and NMRS.
SPONSOR OR FUNDING BODY:	Aggregate Industries UK
CAPTION(S) FOR ILLUSTRS:	"Grooved Ware pottery from Pit 306"
ADDRESS OF MAIN CONTRIBUTOR:	Headland Archaeology Ltd, 13 Jane St, Edinburgh. EH6 5HE
EMAIL ADDRESS:	alistair.robertson@headlandarchaeology.com