

TIGL08/008



# TRUMP INTERNATIONAL GOLF LINKS

*Watching Brief*

*for Trump International Scotland*

*September 2011*



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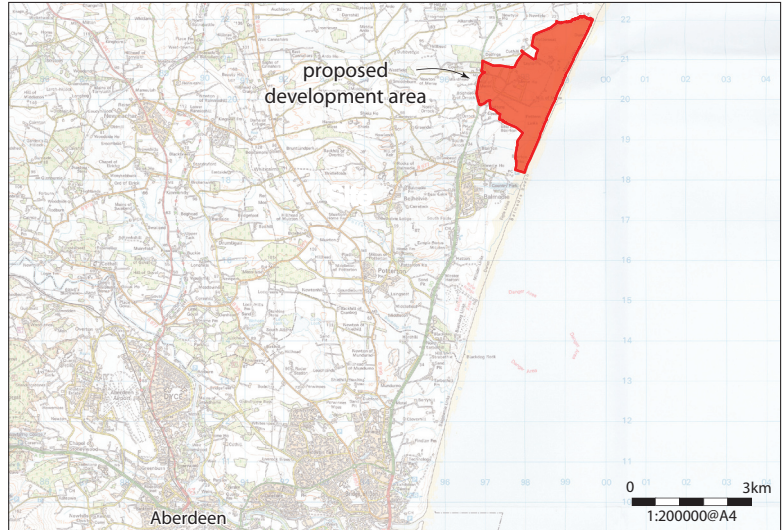


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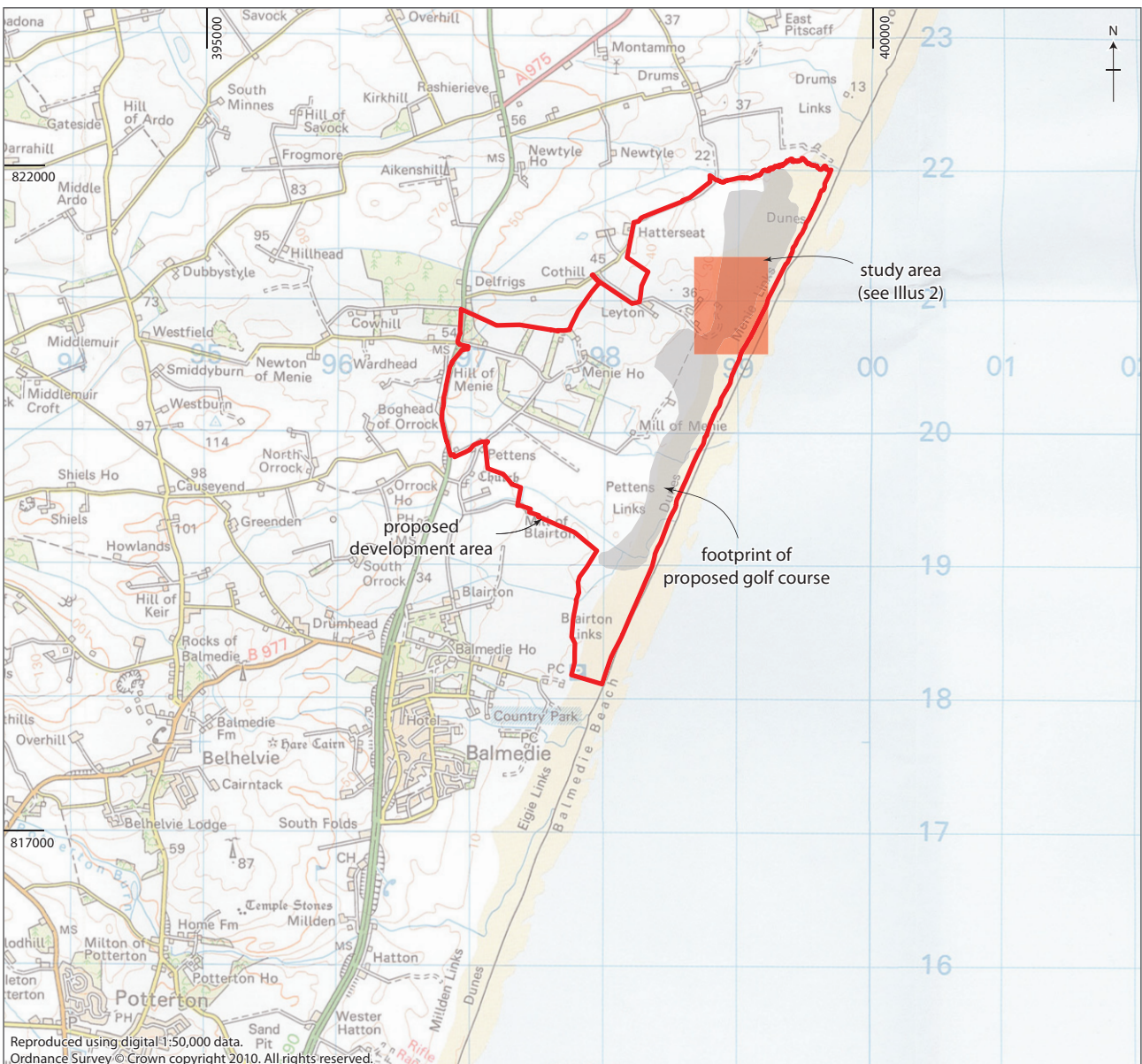
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**Illus 1**  
Site location

# TRUMP INTERNATIONAL GOLF LINKS

## Watching Brief

*Two Mesolithic struck stone scatters, which had become exposed as a result of works in the area of the 18th fairway of the golf course development, were noted in the course of a site visit in June 2011. A 100% gridded retrieval of the exposed material was carried out on 12–14 July 2011. In both cases, a tightly defined concentration of lithic debitage was found, indicating that the scatters derived from relatively undisturbed, single episodes of flint knapping. Neither of the lithic scatters was associated with a contemporary ground surface, and it is thought that the material was originally deposited within a sand dune environment. While both scatters may have been displaced vertically due to wind deflation of the underlying sand, this does not appear to have significantly affected the integrity of the assemblages.*

## 1. INTRODUCTION

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### 1.1 Planning background

Construction of the Trump International Golf Course is in progress at Menie Estate, Aberdeenshire. The development area, located north of Dalmedie within an extensive area of sand dunes, covers 452ha and extends just less than 4.3km along the coast and over 2km inland to the west.

Planning consent for the development has been granted subject to Condition 40 which states:

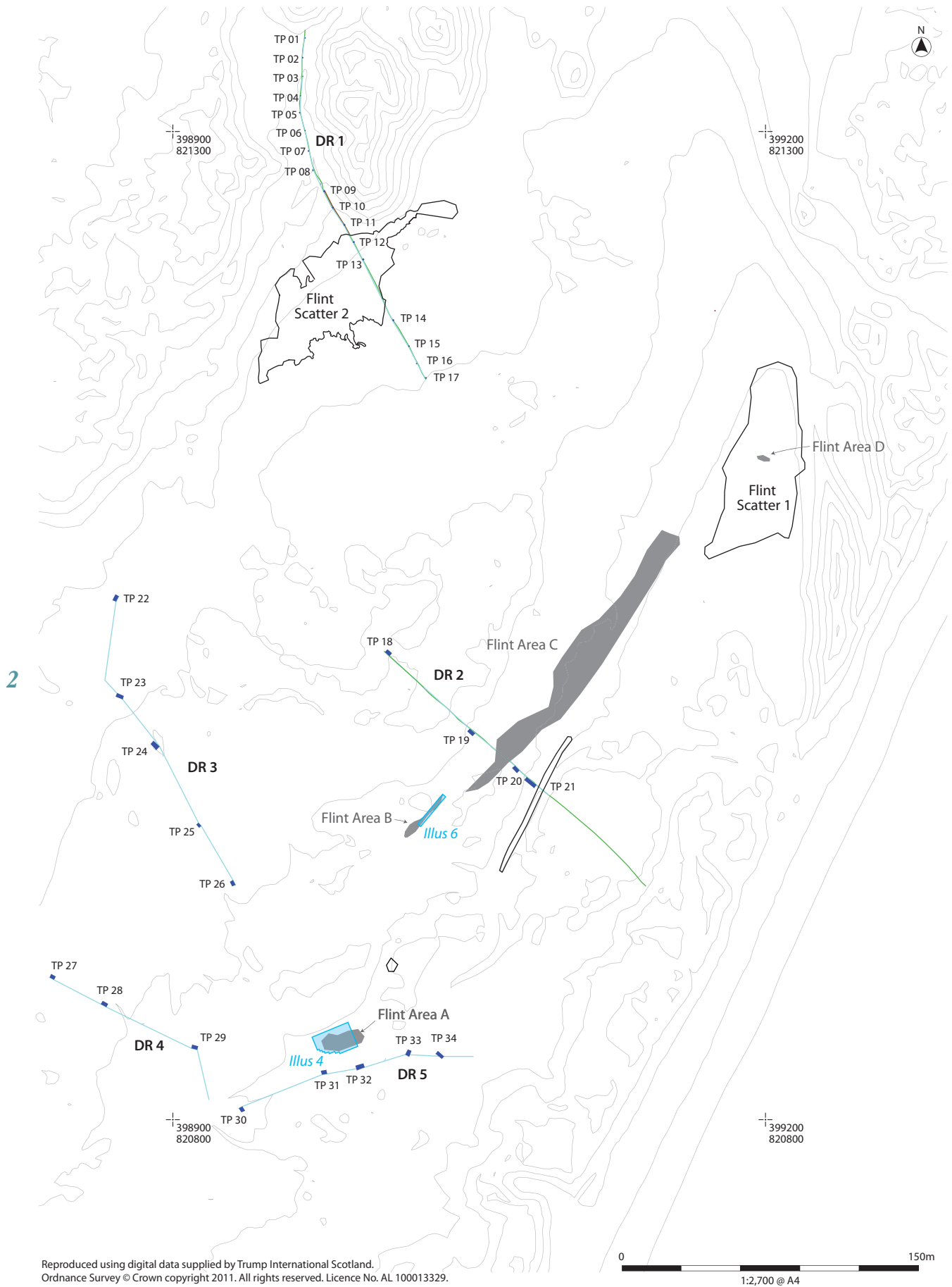
*'No works shall take place within the development site until the developer has secured the implementation of a programme of archaeological works in accordance with a written scheme of investigation which has been submitted by the applicant, as agreed by Aberdeenshire Council Archaeology Service and approved by the planning authority. Thereafter the developer shall ensure that the approved programme of archaeological works is fully implemented and that all recording and recovery of archaeological resources within the development site is undertaken to the satisfaction of the planning authority, in consultation with Aberdeenshire Council Archaeology Service.'*

A Written Scheme of Investigation (WSI) has been prepared by Headland Archaeology Ltd on behalf of

Ironside Farrar (Golf Course and Resort Development, Menie Estate, Aberdeenshire, Scotland: A Written Scheme of Archaeological Investigation, dated June 2009). This WSI identifies 3 stages of investigation, namely evaluation, characterization and detailed investigation. These were addressed by a site visit in June 2010 to evaluate the presence of flints scatters and from the results of the previous work the date, extent, preservation and character were understood so it was decided to recover as many flints as possible as detailed investigation. These elements of watching brief was set out in a subsequent WSI (August 2009) and approved by Aberdeenshire County Council's archaeologists.

Archaeological works on the site carried out to date include:

- survey work aimed at confirming the identification of a number of previously known sites, principally lithic scatters, and locating them more precisely using differential GPS (Dalland 2009a, Dalland & Lochrie 2009),
- watching brief on Marram grass planting and dune stabilization works (Dalland 2010a),



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**Illus 2**  
Lithic scatters in vicinity of the 18th fairway



- evaluation of a possible cairn, considered to be a recent construction (Dalland 2009b),
- test pit evaluation in advance of construction of deep drains across the site (Dalland 2010b).

During the site visit in June 2010 it was observed that earthworks associated with construction of the 18th fairway had exposed two lithic scatters. Both scatters were located in areas where it is proposed to mix topsoil in to the exposed sand in preparation for laying turf, which would have resulted in thorough dispersal of the lithics. Retrieval of the exposed lithic scatters was considered to be the appropriate mitigation strategy.

## 1.2 Archaeological background

The development area is located on the Buchan platform which is a penplain that tilts to the east and stretches from Aberdeen to the Moray Firth. The bedrock comprises Highland Schists and is generally overlain by glacial drift derived from a variety of bedrocks including the Highland Schists and Old Red Sandstone.

The majority of the golf course occupies a dune slack which lies inland of a system of high fore-dunes, behind the current beach and tidal sand, with back-dunes further inland. The dunes are moundy and unstable, and are partially fixed by vegetation, principally marram grass, while the dune slack between is more vegetated with trees and shrubs. Excavation of test pits during earlier phases of work has shown that here too there is a considerable depth of wind-blown sand below thin sandy soils (of the Links Association).

During earlier phases of work (Dalland & Lochrie 2009, p.6, Dalland 2010b, pp.5–6) a former storm-beach was identified at approximately 5m OD, which is thought to relate to a mid-Holocene maximum sea level during the 7th millennium BC. A section excavated across a prominent ‘step’ in the topography, running parallel with the coastline, revealed a low cliff formed by wave erosion of a layer of stony clay glacial till at the back edge of the raised beach, below which was a shingle beach consisting of large rounded pebbles. This fossil cliff and storm beach are today mostly buried beneath dunes, but can be exposed occasionally by erosion resulting from heavy rainfall or wind (Dalland & Lochrie 2009, Illus 8). Pebbles from this storm beach are thought to be the source of the flint/chert that was worked nearby.

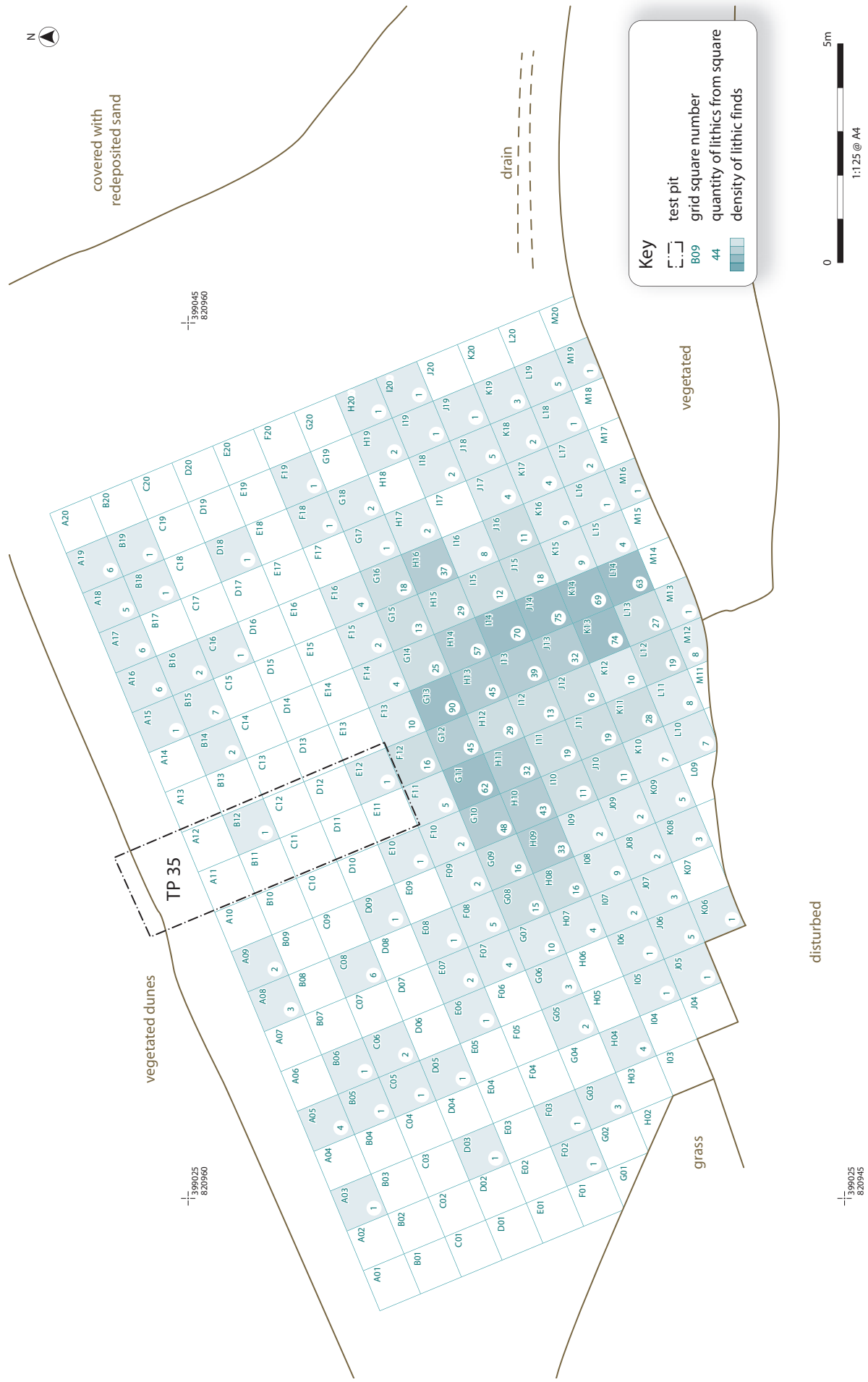
Seven sites recorded as lithic scatters in the NMRS and/or Aberdeenshire SMR were reassessed during survey work carried out during a previous phase of the project (Dalland 2009a). At the time of this survey, lithics were seen on the surface in two areas, referred to as Flint Scatter 1 and 2 (Illus 2). However, it has been recognized that lithic scatters can only be identified by non-intrusive investigation where the overlying sand or vegetation has been stripped away, and it is therefore likely that only a small proportion of the lithic scatters present within the development area has been recognized so far. A sample of lithics from Flint Scatters 1 and 2 was recovered for analysis during a subsequent phase of work (Dalland & Lochrie 2009): although the assemblage was small, it included some diagnostic pieces indicating a Mesolithic date. All the lithic scatters identified so far have occurred in the context of sand dunes, where they have been exposed (and may also have been displaced vertically) by deflation of the surrounding sand.

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**Illus 3**

General view of Flint Area A, facing SE with 18th hole under construction in the background



**Illus 4**  
Density plot of lithic scatter [006]





## 2. METHODOLOGY

The aim of the current phase of work was the complete retrieval of two lithic scatters, referred to as Flint Areas A and B, which had recently been exposed by earthworks associated with construction of the 18th fairway.

A grid of 1m<sup>2</sup> collection units was laid out over each scatter and the corners of the grids surveyed using differential GPS. The grid squares were identified using a letter for one axis and a number for the other. Each scatter was assigned a context number (Flint Area A = context [006]; Flint Area B = context [007]) and described on a pro forma context sheet. All lithics and other material (including modern objects and larger stones) were collected in bags labeled with the context and grid square numbers (e.g. [006] A1). Finds were retrieved by picking visible pieces from the surface and sorting through the top 10–20mm of sand with a trowel. As the lithics in both scatters were present in loose, fine sand on, or very close to the surface, this method was found to be just as effective (and far more efficient) than bulk sieving.

Following the finds retrieval, trial trenches were excavated across each area to characterize the deposits beneath the lithic scatters, and particularly to check for the presence of any old ground surfaces associated with them. The trench excavated in Area A collapsed rapidly and only a basic photographic record was possible. However the trench in Area B was more stable, which allowed the section to be cleaned and drawn by hand, and related to OS datum using dGPS.

## 3. RESULTS

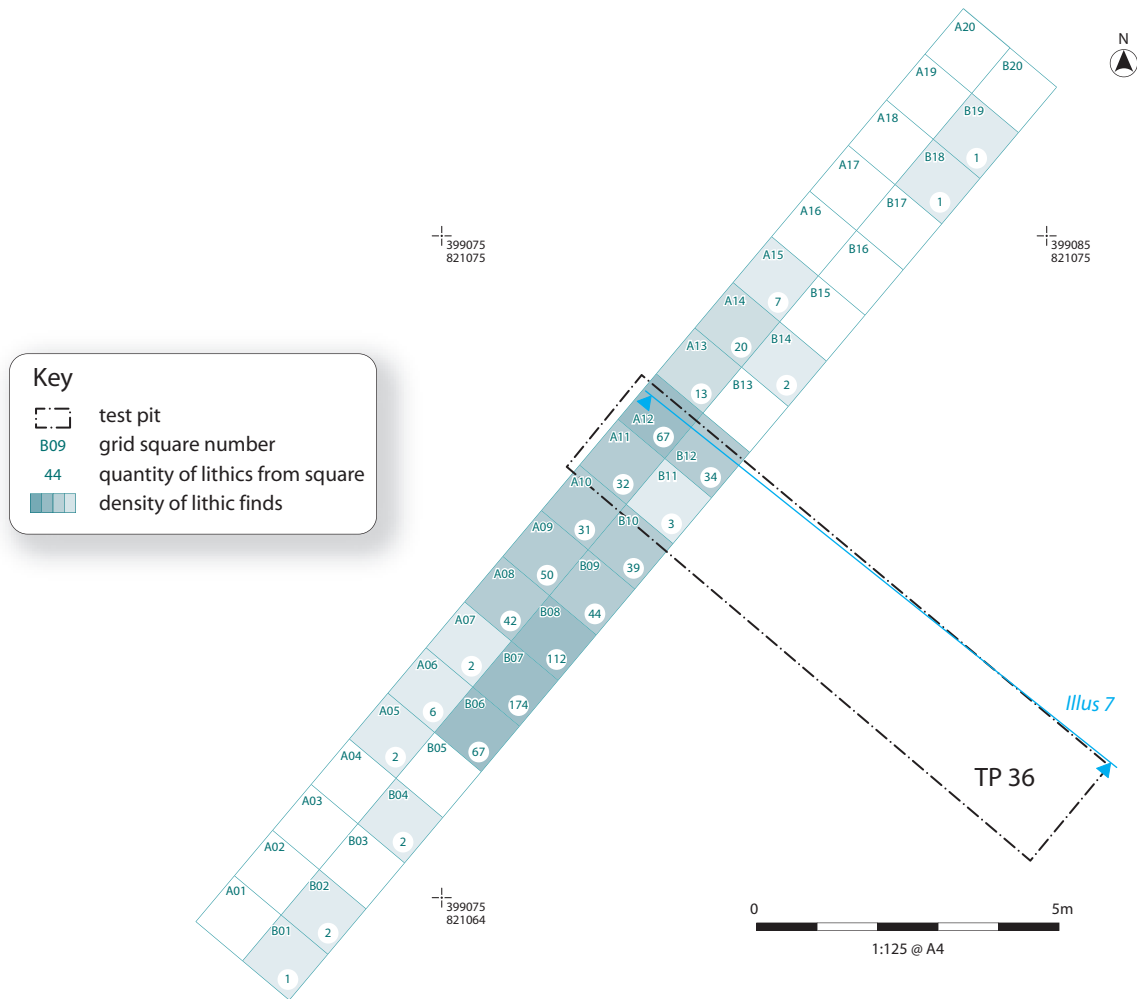
### 3.1 Flint Area A

The lithic scatter was exposed within an area 28 x 14m wide adjacent to the 18th fairway, which had been stripped of turf, leaving the fine wind-blown sand beneath exposed. Drains had been dug and backfilled with stone chippings along the NW and SE sides of this stripped area. Occasional lithics were seen on the surface throughout this area, but against this background scatter was a dense concentration covering a much smaller area. All the 1m<sup>2</sup> collection units that contained ten or more lithics occurred within an area 10 x 7 m wide, while the squares with more than 30 lithics per m<sup>2</sup> are restricted to an arc about 8m wide (Illus 4).

A trial trench 7 x 2m wide (Test Pit 36) was excavated across the NW edge of the area after the finds had been collected. This revealed fine wind-blown sand [012], which contained no lithics or other inclusions, to a depth of at least 1.2m. Below this depth the trench collapsed rapidly and excavation was abandoned.

### 3.2 Flint Area B

Lithics were observed eroding out of the edge of a dune on the north-west side of the 18th fairway, where a layer of blackish-brown silty sand, representing a buried ground surface, was exposed (Illus 5). Finds were collected on a 15 x 2m grid (Illus 6), although it should be noted that the area where the scatter were exposed was very



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**Illus 6**  
Density plot of lithic scatter [007]

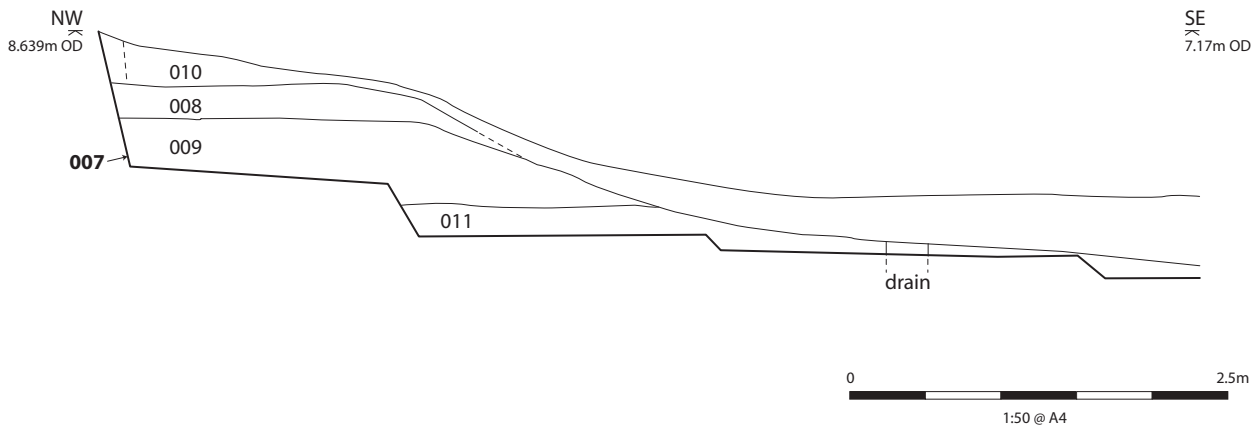
narrow, scarcely more than a metre, and lithics may be masked by dune sand along the upper (NW) edge or eroded out along the lower (SE) edge; moreover, some of the material may have been displaced down the slope to the SE. Therefore variations in density along the SW/NE axis are likely to be significant, while variations along the SE/NW axis are probably too distorted to be meaningful. Collection units with densities of ten or more lithics per m<sup>2</sup> were limited to an area 9m wide from SW to NE, but clearly the original dimensions of the scatter from SE to NW can only be guessed at.

A trial trench 10 x 2m wide (Test Pit 35) was excavated across the centre of the area, on a NW/SE alignment at right angles to the eroding edge, following finds collection, to investigate the stratigraphic position of the lithics in relation to the surrounding deposits. The section of this trench is shown in Illus 7 and 8. A layer of stony clay till [009] was found, overlying a reddish-brown sand deposit [011]. These are clearly the same deposits as the 'stony clay' and 'red sand' observed in Test Pit 21 (Dalland 2010b, Illus 5 & 6), and represent natural drift geology. Overlying [009] was a layer of black silty sand [008], which forms the buried ground surface that was

originally noted, visible as a dark outcropping layer in Illus 5. Loose, fine dune sand [010] overlay buried ground surface [008]. Some of this sand was removed adjacent to the section, revealing more lithics stratified in a thin layer at the interface of [010] and [008], thus demonstrating that the lithics collected derive from a more extensive scatter that continues beneath the dune to the NE.

The layer of pebbles observed in Test Pit 21, and interpreted as a former storm beach, was absent in Test Pit 36. The buried soil [008] and underlying till deposit [010] were cut away at an approximately 30° angle to the south-east, beyond which loose sand directly overlay the red sand horizon [011]. The former cliff edge forming the back edge of the raised beach therefore appears to have been truncated by earthworks associated with construction of the 18th fairway immediately to the SE, where sand has been deposited to create a level surface. Occasional pieces of worked flint were observed within this redeposited sand (Flint Area C), but were not retrieved as they have clearly been disturbed and redistributed over a wide area and therefore can tell us little. Some of the lithics within Flint Area C undoubtedly derive from disturbance of lithic scatter [007].





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## 4. THE FINDS

Julie Lochrie

### 4.1 Finds summary

A large assemblage of 2555 finds was retrieved from the excavations. The vast majority of these were of lithics (chipped stone), which accounted for 2529 of the finds. The remaining 26 finds were all of modern date, including glass, pottery and some fragments of gun ammunition.

The lithic assemblage is the focus of interest, with two main concentrations of lithics in [006] (1581 finds) and [007] (948 finds). These are almost exclusively flint. The majority of the assemblage is made up of flakes, chips and cores. The cores are typically bipolar which can be indicative of a Mesolithic date, though can also be seen in later periods where flint is scarce. There are also examples of multi-platform cores, including a small blade core ([006]).

A handful of retouched pieces were identified, though it is possible that others may have been overlooked due to the typically small size of tools during this period. Several small retouched blades are diagnostic of the Mesolithic period, and combined with the evidence of the cores suggest the whole assemblage can be dated to this period. The material is very similar to that retrieved during a survey of nearby flint scatters in 2009 (Dalland & Lochrie 2009). There are examples of pieces from every step in the knapping process, split pebbles, cores, debitage and tools. It would appear that the area is being used from raw material procurement, primary and secondary reduction. Some of the debitage shows edge damage which could be natural or may indicate the *ad-hoc* use of unretouched pieces for tools, possibly accounting for the low numbers of precisely stuck stone tools.

The locations of the finds were plotted on a 1m grid (see Illus 4, Illus 6). In the large area covered by [006] (Illus 4), there is a distinct lithic concentration towards the south-east edge. Though it is likely there has been some movement of finds within the changing sand dunes, it is probable that this scatter pattern represents an original area of prehistoric activity. The partial disturbance and more limited exposure of [007] (Illus 6) makes distribution



patterns harder to see. However, there does appear to be a higher density of finds towards the middle of the strip.

The modern finds are more thinly scattered and there is no identifiable pattern. These are likely to have been dropped by visitors to the dunes and would seem to be largely related to picnicking or hunting.

## 4.2 Recommendations

Further work is recommended for the lithics. The excavated area represents only a small sample of the total area of probable prehistoric activity. Despite this small sample a relatively large number of lithics were retrieved with a maximum density of over 70 struck stone items per square metre. This indicates significant levels of activity during the Mesolithic. Given the transportation of the lithics by the deflation of the dunes specific analysis of the locations of the struck items is unlikely to be fruitful. The material was assessed rapidly with cursory examinations, focusing on quantifying and dating the assemblage. It is possible that other finds of interest remain to be identified.

8 Further analysis may provide information on raw material resources from coastal and river locations. It will also add to the emerging picture of coastal occupation during the Mesolithic of Scotland. The apparent low tool ratio suggests that the area was mostly used for the knapping and the collection of flint pebbles, though this preliminary interpretation may be subject to change after further analysis.

It is recommended the lithics are studied further. If the site were to be published, a report on the lithics is recommended for inclusion and the lithics may be of sufficient interest to justify publication in their own right. However, a more thorough assessment of these finds in the context of Mesolithic north-east Scotland would be needed to establish this.

No further work is recommended for the modern finds.

## 5. DISCUSSION

In their existing context, lithic scatters [006] and [007] both survive as 'lag deposits', which have been concentrated at a certain level within highly mobile dunes by deflation of the surrounding sand. In neither case can they be identified with a contemporary buried soil horizon, and they may have been displaced both vertically and horizontally some distance since they were originally deposited. In these circumstances, material from different episodes of activity could easily have been displaced to the same level, and the co-occurrence of finds at the same stratigraphic horizon does not indicate that they are contemporary.

Nevertheless, there is good reason to believe that both lithic scatters represent single episodes of activity. In each case, a dense concentration of lithics, with a sharp drop-off around its edges, can be discerned against a much slighter background scatter. In the case of 'Flint Area A' ([006]), where we are probably seeing the complete extent of the scatter, the squares with the highest densities appear to form an arc only 8m wide. 'Flint Area B' ([007]) appears to cover a similar area from the limited extent exposed. Both scatters probably reflect actual working areas within the dunes.

The brief examination of the lithic assemblages carried out so far also suggests consistency in technology and in the processes represented, within and between the two scatters. A few retouched microlithic blades have been recognized, which suggest a Mesolithic date for the scatters. However, the low proportion of retouched pieces suggests that only the initial stages of tool manufacture were carried out here. Mesolithic activity in the dunes at Menie may have been limited to occasional visits to gather pebbles from the storm beach, which would have been exposed in blowouts and stream channels even while it was progressively buried by the growing dunes, carrying them to a convenient place within the dunes to test them and prepare cores and blanks. The later stages of tool production appear to have been carried out elsewhere. More detailed analysis of the lithic assemblage will be required to test this hypothesis.

## 6. REFERENCES

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## 7. APPENDICES

### 7.1 Appendix 1 – Site registers

#### *Context register*

<b>Context no.</b>	<b>Description</b>
006	Lithic scatter aka 'Flint Area A', covering an area approx. 10 x 5m, overlying sand deposit [012]
007	Lithic scatter aka 'Flint Area B', seen eroding out of dune, stratified above [008] and below [010]
008	A-horizon of buried soil beneath lithic scatter [007], overlying till deposit [009]. Firm black silty sand, 0.25m thick, with occasional large stones
009	Till deposit beneath [008], overlying sand [011]. Compact mid grey sandy clay, 0.5m thick, with occasional small rounded stones and large boulders up to 0.8m in size
010	Dune sand overlying lithic scatter [007]. Loose fine sand
011	Sand layer beneath clay till deposit [009]: compact reddish brown sand, with no inclusions
012	Fine sand deposit beneath lithic scatter [006], excavated to 1.2m in machine-dug trench without reaching the base

#### *Photographic register*

<b>Photo no.</b>	<b>Digital photo no.</b>	<b>Colour slide</b>	<b>Facing</b>	<b>Description</b>
148	1654	-	SW	Lithic scatter [006] (= Flint Area A)
149	1655	-	SW	Lithic scatter [006] (= Flint Area A)
150	1656	-	SE	Lithic scatter [006] (= Flint Area A)
151	1657	-	SW	Lithic scatter [006] (= Flint Area A)
152	1658	-	SW	Lithic scatter [006] (= Flint Area A)
153	1659	35	N	Lithic scatter [007] (= Flint Area B)
154	1660	34	SE	Lithic scatter [007] (= Flint Area B)
155	1661	33	NE	Lithic scatter [007] (= Flint Area B)
156	1662	32	NE	Machine-excavated section through sand [012]
157	1663	31	N	Machine-excavated section through sand [012]
158	1664	30	NE	Machine-excavated section across lithic scatter [007]







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