

WH14: SERF Archive Report: Lithics

Introduction

There are 27 lithics recovered from fieldwork undertaken at WH14 in 2014.

Methodology

The methodology, type and attribute terminologies employed for the analysis of the primary and secondary technologies follows the format devised and adopted for the Southern Hebrides Mesolithic Project (Finlayson et al. 2000). This augmented the research design used for the analysis of the lithic assemblage from the site at Kinloch on Rùm (Wickham-Jones 1990), derived from earlier terminologies and technological classifications (Tixier et al. 1980), and subsequently enhanced (Inizan et al. 1999). This format lends itself to the incorporation of later prehistoric forms such as projectile points, 'knives', certain types of scrapers and Post-Medieval gunflints (cf. Wright 2012b). The database for the typological and technological analysis of the lithics uses Access™ 2016.

Primary Technology speaks to those initial procedures of the chaîne opératoire relating to the choices made in the selection and the obtaining of appropriate raw material, the reduction strategies, the production of blanks, e.g. flakes and blades through to the discard of cores. The knapping reduction strategies undertaken in the past are determined by reference to the detailed analysis of the characteristics and attributes of the cores and debitage products recovered during archaeological fieldwork (Finlay et al. 2000a, 553; Woodman et al. 2006, 78).

Secondary Technology refers to the later stages of the chaîne opératoire, which considers the process of the modification of blanks, their utilisation and discard. Following the removal of a blank from a core, modification is generally achieved by the application of pressure to the edge of the blank. In the case of scrapers, the modified edge functions as the working edge. However, that may not be the case for all retouched artefacts. For example, the modification may be undertaken to facilitate hafting (Finlay et al. 2000b, 571; Wickham-Jones and McCartan 1990, 87). Invasive and inverse retouch are generally particular features of secondary modification during the Neolithic and Bronze Age periods (Ballin 1999 and others).

For individual lithics, the first number is the catalogue reference followed by the small finds number, where applicable.

Raw materials

The solid geology is the Scone Sandstone Formation. The drift geology is glaciofluvial sheet deposits comprising of sand and gravels (Digimap® EDiNA Geology Roam), with glacial till to the south-west of the pit alignment is glacial till (Figure 1).

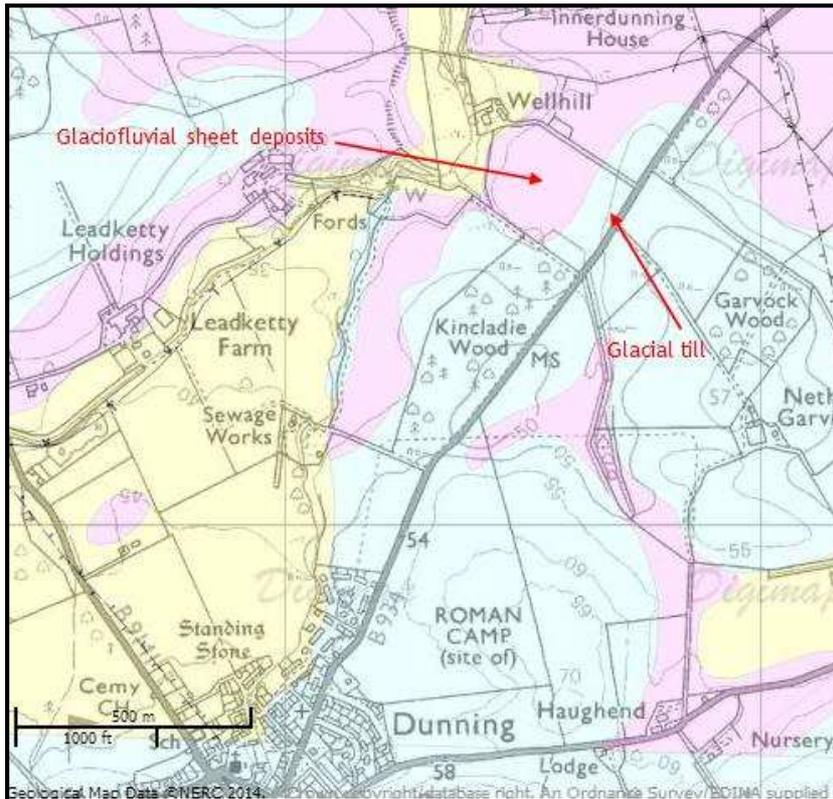


Figure 1: Drift geology at Wellhill (Digimap® EDiNA Geology Roam online resource; © NERC/Crown copyright database right).

Flint dominates the assemblage at 51.85%, followed by quartz and agate at 14.81% each, pitchstone 11.11%, with chert and jasper at 3.71% each. 14 lithics present with cortex, of these six are flint. The cortex variants are smooth and chalky rolled hard, smooth and hard, and pitted which suggests that the flint derives from fluvio-glacial riverine deposits.

There are no known local sources of chert (Wickham-Jones and Collins 1977, Figure 2). The British Geological Survey for the Midland Valley notes the occurrence of quartz, chert and andesite in the Scone Sandstone Formation, i.e. parent unit of Sheriffmuir Sandstone (Phillips 2007, 8-9). There are nodules of chert in dressed sandstone, e.g. the dovecote at Green of Invermay and at Invermay House on the Invermay Estate. It is possible that quartz, chert, agate and jasper eroding out of the solid geology and glacial till may have been available from riverine locations (after Wickham-Jones and Collins 1977, 7). The pitchstone is from Arran (cf. Ballin and Faithfull 2009).

Character

Table 1 shows the character of the assemblage. There are two primary flakes, one each of flint and agate. The majority of flakes and blades are tertiary (47.06), secondary 41.17%. Three (17.65%) of the blanks are regular, comprising a flint flake, flint blade and quartz blade. There is an amorphous flint core and a non-

specific pitchstone core fragment. The modified pieces comprise a flint scraper and one a jasper 'knife'.

	Total	Flint	Agate	Quartz	Pitchstone	Jasper	Chert
Tested Split Pebbles	2		2				
Chunks	2		1	1			
Cores	2	1			1		
Flakes	13	9	1	1	1	1	
Primary	2	1	1				
Secondary	7	4		1	1	1	
Tertiary	4	4					
Primary regular							
Primary irregular	2	1	1				
Secondary regular							
Secondary irregular	7	4		1	1	1	
Tertiary regular	1	1					
Tertiary irregular	3	3					
Blades	4	3		1			
Primary							
Secondary	1			1			
Tertiary	3	3					
Primary regular							
Primary irregular							
Secondary regular	1			1			
Secondary irregular							
Tertiary regular	1	1					
Tertiary irregular	2	2					
Small Fraction	2			1	1		
Modified	2	1					1
Total	27	14	4	4	3	1	1

Table 1: Character of the assemblage.

Condition

The majority of the pieces within the assemblage are fresh (92.59%). The other two lithics are a burnt agate chunk and flake. The frequency of burnt pieces is probably understated. Experimental work undertaken on flint indicated that some burnt pieces would not be classified as such due to the absence of burnt attributes (Finlayson 1990, 53).

Primary technology

The bipolar reduction strategy produced two agate tested split pebbles, two flint flakes, a quartz flake and quartz chunk. All of the remaining blanks indicate platform reduction, including the amorphous flint core and the pitchstone core fragment. Generally, bipolar blanks will be under-represented because not all debitage products will present with attributes associated with a bipolar reduction strategy (after Kuijt *et al.* 1995, 117).

There are 12 blanks where it is possible to determine the bulb of percussion. Six have a diffuse bulb and one has a pronounced bulb. The former indicates the use of a soft hammer and the latter a hard hammer to remove blanks from cores. Five blanks present with lip attributes. Three of the non-bipolar blanks, i.e. two flint flakes, and a quartz blade have evidence of anvil support. The practice refers to the placing of the platform core on an anvil for support to facilitate blank removals. It suggests that platform and bipolar reduction strategies may have been coeval (cf. Wright 2012a).

The recovery locations of the lithics are:

Unstratified

Lithics recovered from the interface of the top soil and sub-soil:

- One fresh, tertiary, regular, platform flint flake fragment (0476/Test pit 3);
- One fresh, secondary, irregular, platform jasper flake (0477/Test pit 7);
- One fresh, tertiary, irregular, platform flint flake (0478/14001/Test pit 8);
- One burnt, secondary, irregular, platform agate chunk (0479/14017/Area T);
- One fresh, primary, irregular, bipolar agate tested split pebble (0492/14072/Area JJ);
- One fresh, tertiary, irregular, platform flint blade (0500/14108/Area JJ);
- and
- One burnt, secondary, irregular, platform, agate flake fragment (0490/14077/Area Z).

DF0004

Primary fill (14068) of pit [14067] underlying (14145) and (14110).

- One fresh, secondary, irregular, bipolar, quartz flake fragment (0480/14025).

Context	2 σ (95.4%)	Laboratory	Material
14145	8161-7732BCE	8790 \pm 29BP SUERC-66260	Birch, small roundwood
14110	7586-7525BCE	8498 \pm 28BP SUERC-66252	Hazel small roundwood
14110	7585-7525BCE	8495 \pm 27BP SUERC-66251	Alder small roundwood

Table 2: Radiocarbon dates from DF0004.

DF0005

Primary fill (14066) of pit [14065] underlying (14151).

- One fresh, tertiary, irregular, platform, pitchstone core fragment (0493/14066).

DF0016

Fill (14045) of posthole/pit [14044] with redeposited packing stones (14109).

- One fresh, secondary, irregular, amorphous flint core (0481/14035);
- One fresh, secondary, irregular, platform flint flake (0483/14038);
- One fresh, secondary, irregular, platform flint flake with evidence for anvil support (0485/14034); and
- One fresh, tertiary, irregular, platform flint flake with evidence for anvil support (0484/14039).

Late Neolithic pottery recovered from this feature.

14045	2909-2704BCE	4234±29BP SUERC-66248	Hazel small roundwood
14045	2903-2695BCE	4216±29BP SUERC-66247	Birch small roundwood
14045	2898-2679BCE	4206±29BP SUERC-66495	Carbonised residue
14045	2880-2633BCE	4162±29BP SUERC-66261	Carbonised residue
14045	2883-2638BCE	4172±29BP SUERC-66496	Carbonised residue

Table 3: Radiocarbon dates from DF0016.

DF0019

Fill (14122) of pit [14121].

- One fresh, secondary, irregular, bipolar flint flake (0491/14069).

Late Neolithic pottery recovered from this feature.

DF0025

Fill (14089) of pit [14088].

- One fresh, tertiary, irregular quartz small fraction debitage (0499/14100).

Late Neolithic pottery recovered from this feature.

DF0136

Fill (14049) of pit [14096].

- One fresh, tertiary, irregular, platform, pitchstone flake fragment (0487/14137); and
- One fresh, tertiary, irregular, pitchstone, small fraction debitage (0497/14098).

Early Neolithic pottery recovered from this feature.

DF0138

Fill (14105) of pit [14136] underlying (14108) and (14092), and underlying (14114).

- One fresh, primary, irregular, bipolar flint flake (0486/14043).

Upper fill (14092) overlying (14108), (14105) and (14114).

- One fresh, primary, irregular, bipolar agate tested split pebble (0498/14099).

Early Neolithic pottery recovered from this feature.

DF0139

Upper fill (14069) of pit [14138] overlying (14106) and (14107).

- One fresh, secondary, regular, platform quartz blade with evidence for anvil support (0482/14036).

DF0266

Fill (14085) of pit (14084). There is a lens of charcoal (14137) within (14085).

- One fresh, tertiary, regular, platform flint blade (0489/14060);
- One fresh, secondary, irregular, platform flint flake (0494/14075); and
- One fresh, tertiary, irregular, platform, flint flake fragment (0495/14077).

Late Neolithic pottery recovered from this feature.

Secondary technology

The recovery locations of the two modified lithics are:

Unstratified

Lithics recovered from the interface of the top soil and sub-soil:

- One fresh, irregular, flint concave scraper (0501/14109/Area Y).

The scraper has been fashioned on a flake core. Conversely, and more likely it may be a core with a faceted platform. It is sub-triangular. There are two sides with edge damage. One has direct, short, scalar retouch and the other is the unmodified edge of a platform.

DF0137

Upper fill (14095) of pit [14093] overlying (14123) and (14094).

- One fresh, tertiary, irregular, chert flake modified to create cutting edge (0496/14121).

The cutting implement is sub-triangular. There is direct, semi-invasive, scalar to the perpendicular axis. There is evidence of 'sickle' gloss at the median of the inverse face.

Early Neolithic pottery recovered from this feature.

Summary

None of the lithics are diagnostic to any given archaeological period. Pitchstone recovered on the mainland is usually associated with Early Neolithic features (cf. Ballin 2017). However, there is recent evidence for its recovery from Mesolithic contexts, e.g. West Challoch, Dunragit (W. Baillie pers.comm.). DF0005 is a Mesolithic pit to the alignment.

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29 August 2018

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