Cheviot Quarry Lithics Report

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INTRODUCTION

A small assemblage of chipped stone lithics totaling 93 pieces was retrieved from the various archaeological interventions at Cheviot Quarry. The Excavation work by MAP at the southern site produced a total of 16 chipped stone artefacts while a total of 9 lithics were retrieved from the various evaluation trenches by Tyne and Wear Museums Service in the northern and central area of the site. The excavation of the northern area by ARS Ltd produced a total of 68 chipped stone lithics. Most of the lithics came from the fills of features (66 pieces) while only a few (27 pieces) came from unstratified contexts. As a result of long term burial in feature fills the majority of the assemblage is in a good state of preservation with little evidence for any of the Neolithic pieces having developed patinas, and those that are broken have clearly broken in antiquity prior to deposition.

METHOD STATEMENT

All lithics were washed on return to the laboratory and, after air drying, placed in labelled polythene bags. Measurements are given for complete pieces only in accordance with standard lithic recording conventions (Saville 1980). Colours are only recorded when the piece is not burnt or patinated. The lithics for each area are reported in separate catalogues below. All ARS Ltd contexts were dry-sieved through a 5mm mesh to maximise finds recovery and their remaining fills passed through a flotation tank and graduated brass sieves.

Northern Area Excavations Chipped Stone Catalogue (ARS Ltd intervention)

Context	Context	Small	Description	Max	Chronol.
	Description	Find		Dimens.	Diagnost
	_	No		Length	
				Width	
				Thickness	
Unstrat	Base of topsoil	207	Broken blue-grey chert primary flake		
Unstrat	Base of topsoil	224	Burnt and broken flint blade segment with		Prob neo
			triangular cross-section		
Unstrat	Base of topsoil	226	Small brown agate core with narrow	21.5mm	mes
	-		parallel-sided blade removal for a	21mm	
			microlithic bladelet		
Unstrat	Base of topsoil	227	Small agate orange-grey flake.	14.5mm	
	1			16mm	
				7.5mm	
Unstrat	Base of topsoil	424	Medium grey broken nodular flint flake		
			with a small area of cortex present.		
Unstrat	Base of topsoil	425	Small translucent agate flake with slight	17mm	mes
	-		modification on one edge. Size of the piece	12.5mm	
			is microlithic and therefore probably of	5.5mm	
			Mesolithic date.		
Unstrat	Base of topsoil	426	Modified small white agate flake, possibly		mes
	_		originally an awl but the tip has snapped		
			off. Size indicates it is probably Mesolithic.		
Unstrat	Base of topsoil	428	White agate edge-trimmed flake made on a	30mm	mes
	1		blade that has been chipped off using a bi-	16.5mm	

			polar technique.	6mm	
Unstrat	Base of topsoil	430	Small purple-grey agate blade with possible	19mm	mes
			modification of the tip.	9.5mm	
T.T	D C 3	101	D 1 111 01 111	6.5mm	
Unstrat	Base of topsoil	431	Broken light grey flint blade segment.		
			Possible utilization along both surviving long edges.		
002	Subsoil,	6	Patinated multi-platform light grey agate	38mm	mes
~ ~ ~	unstratified	Ŭ	blade core. Secondary stage in the	35.5mm	
	deposit		reduction sequence.		
002	Subsoil,	15	Patinated multi-platform agate blade core.	36.5mm	mes
	unstratified		Secondary stage in the reduction sequence.	31mm	
	deposit				
003	Top of natural	208	Broken red-grey agate edge-trimmed blade		mes
	sand and gravel		segment with triangular cross-section.		
003	substratum Top of natural	209	Broken green-grey chert core with small		mes
003	sand and gravel	209	blade and squat flake removal scars		ines
	substratum		suggesting a Mesolithic date.		
003	Top of natural	210	Red agate flake core with microlithic	17.5mm	mes
	sand and gravel		bladelet removal scars.	15.5mm	
	substratum				
003	Top of natural	211	Tiny light grey flint chip probably resulting	9.5mm	
	sand and gravel		from the tertiary stage of tool production.	7.5mm	
0.02	substratum	24.2		1.5mm	
003	Top of natural	212	Tiny light grey flint chip probably resulting	8mm	
	sand and gravel substratum		from the tertiary stage of tool production.	6mm 0.5mm	
003	Top of natural	213	Secondary brown chert flake.	23.5mm	mes
003	sand and gravel	213	Secondary brown energ make.	23.5mm	ines
	substratum			10mm	
003	Top of natural	215	Light grey agate exhausted micro-core with	14.5mm	mes
	sand and gravel		many tiny flake removal scars.	16mm	
	substratum				
003	Top of natural	229	Heavily patinated agate edge-trimmed	27mm	mes
	sand and gravel		flake.	17mm	
002	substratum	220	Sanall and its anatom simon of the	11mm	
003	Top of natural sand and gravel	230	Small white agate primary flake.	21.5mm 10.5mm	
	substratum			10.5mm	
003	Top of natural	231	Reouched white agate awl with part of tip	1 (111111	mes
	sand and gravel		missing.		
	substratum			<u> </u>	
003	Top of natural	234	Patinated agate opposed platform core with	38.5mm	mes
	sand and gravel		microlithic blade removals.	33mm	
00.	substratum	25-			
003	Top of natural	327	Light grey tip end of a broken arrowhead		neo
	sand and gravel		almost certainly of leaf or kite shape.		
005	substratum Small pit fill	2	Heavily burnt and broken flint flake, now	-	
003	эшан рилш	4	in two pieces		
005	Small pit fill	5	Light grey flint flake belonging to the	17mm	
	r	-	secondary phase of the reduction sequence.	12mm	
			1	1mm	
009	F9 upper fill	79	Broken and burnt flint edge-trimmed		
			blade. Tertiary stage of reduction sequence.		
009	F9 upper pit fill	80	Banded agate flake, red and grey in colour.	25.5mm	
			Undiagnostic. Secondary stage in the	15mm	
		j _i	reduction sequence.	9.5mm	1
009	F9 upper pit fill	81	Light grey parallel-sided flint blade that was	30.5mm	neo

			been made from a recycled tool. Good	6.5mm	
			quality nodular or possible boulder clay flint. Tertiary stage of reduction sequence.		
009	F9 upper pit fill	82	Broken and heavily burnt retouched flint flake. Tertiary stage of reduction sequence.		
009	F9 upper pit fill	83	Light grey flint flake. Secondary stage in the reduction sequence.	23mm 22mm 9.5mm	
009	F9 upper pit fill	84	Burnt flint flake. Secondary stage in the reduction sequence.	30.5mm 14mm 2mm	
009	F9 upper pit fill	85	Patinated flint flake from a boulder clay source. Undiagnostic. Secondary stage in the reduction sequence.	26.5mm 19mm 6.5mm	
009	F9 upper pit fill	86	Broken medium grey flint blade made from high quality flint. Secondary stage in the reduction sequence.		
009	F9 upper pit fill	87	Broken heavily burnt flint parallel-sided blade segment.		
009	F9 upper pit fill	88	Edge-trimmed parallel-sided light grey flint, broken bladelet segment, perhaps once part of a microlith. Tertiary stage of reduction sequence.		mes
009	F9 upper pit fill	89	High quality dark grey flint utilised, though broken, parallel-sided blade segment. Tertiary stage of reduction sequence.		
009	F9 upper pit fill	90	Patinated flint chip.	12mm 8mm 1mm	
009	F9 upper pit fill	91	Heavily burnt broken blade segment.		
051	F9 lower pit fill	72	Medium grey flint flake debitage. Undiagnostic. Secondary stage in the reduction sequence.	18mm 20mm 3mm	
051	F9 lower pit fill	73	Medium grey flint blade debitage. Secondary stage in the reduction sequence.	28mm 9mm 3mm	
051	F9 lower pit fill	74	Edge-trimmed burnt flint blade with broken tip. Probably glacial flint. Tertiary stage of reduction sequence.		
051	F9 lower pit fill	75	Light grey patinated broken flint chip. Debitage. Tertiary stage of reduction sequence.		
051	F9 lower pit fill	76	Light grey flint blade debitage. Tertiary stage of reduction sequence.	19mm 8mm 2mm	
051	F9 lower pit fill	77	Medium grey broken flint flake. Debitage. Secondary stage in the reduction sequence.		
051	F9 lower pit fill	198	Broken light grey chunky flint parallel-sided blade made from high quality flint. Triangular section.		
051	F9 lower pit fill	199	Medium grey speckled flint broken blade segment with surviving cortex indicating a glacial origin for the flint. Triangular section.		
051	F9 lower pit fill	200	Broken medium grey speckled flint flake. Undiagnostic.		
031	F31 upper pit fill	151	Broken black chert bladelet segment.		
031	F31 upper pit fill	152	Light grey broken flint blade segment.		

031	F31 upper pit fill	163	Broken dark grey nodular flint parallel- sided retouched blade butt. Triangular section. Tertiary stage of reduction sequence.		
031	F31 upper pit fill	164	Recycled, previously patinated, light grey flint parallel-sided blade. Secondary stage in the reduction sequence.	30mm 9.5mm 4mm	
052	F31 lower pit fill	197	Retouched double-ended parallel-sided blade tool made from high quality dark grey nodular flint. Tertiary stage of reduction sequence.	44.5mm 18.5mm 5.5mm	neo
037	F37 structural slot fill	78	Red agate broken scraper. Tertiary stage of reduction sequence.		mes
338	Posthole fill in Building 4	301	Broken red-grey agate blade segment with broadly triangular cross-section. Appears to have been edge-trimmed down one of the long edges.		mes
340	Pit fill within Building 4	258	Small red-grey agate core that appears to have been re-modified into a stubby tiny scraper.	19.5mm 13.5mm 15mm	mes
365	Posthole fill in Building 4	300	Tiny white agate flake.	13mm 10.5mm 4mm	
352	Fill of pit immediately outside wall line of Building 4	274	Dark grey flint oblique arrowhead with its main tang and tip broken. It is probably made from nodular flint and has been finely made by bifacial working. A typical diagnostic Neolithic artifact.		neo
2005	Hearth pit fill	28	Broken agate edge-trimmed blade with triangular section and deep red in colour.		
2005	Hearth pit fill	29	Broken light grey flint chip. Debitage.		
2011	Posthole fill in building 1	1	Brown speckled agate scraper. Tertiary stage of reduction sequence.	17.5mm 21mm 9.5mm	mes
2053	Posthole fill in building 2	3	Medium grey broken parallel-sided flint blade segment.		
2063	Pit fill	14	Stubby light purple agate end scraper made on a short triangular section blade.	19.5mm 13.5mm 7.5mm	mes
2133	F133	7	Light grey speckled flint knife made on a parallel-sided blade of good quality flint. Tertiary stage of reduction sequence.	55mm 24mm 7mm	neo
2133	Fill of pit associated with building 3	24	Heavily burnt broken flint flake.		
2133	Fill of pit associated with building 3	25	Broken, brown, chert stubby blade. Undiagnostic.		
2149	Posthole fill in building 3	10	Retouched parallel-sided blade tool made on good quality medium grey flint. Abruptly retouched along both long edges. Possibly a scraper. Tertiary stage of reduction sequence.	24.5mm 12mm 4mm	neo
2159	Pit fill	12	Light grey speckled flint broken parallel- sided blade. Secondary stage in the reduction sequence.		

Northern and Central Area Chipped Stone Catalogue (Tyne and Wear Museums Service intervention)

Context	Context Description	Small Find	Description	Max Dimens.	Chronol. Diagnost
		No		Length Width Thickness	8
Trench 28	Lower pit fill 176	1	Light grey broken edge-trimmed blade. Trimmed along both edges and typical of early Neolithic manufacturing traditions.		neo
Trench 28	Lower pit fill 176	2	A dark grey broken flint flake. A small area of cortex surviving on the striking platform indicates it is nodular flint imported to the region. Undiagnostic.		
Trench 28	Lower pit fill 176	3	A medium grey flint blade. Unmodified.	35mm 21mm 4mm	
Trench 28	Lower pit fill 176	4	A light grey broken flint blade with evidence of some possible utilisation along the shorter of the long edges.		
Trench 28	Upper pit fill 174	5	A medium grey unmodified blade with narrow parallel-sided blade scar removals on dorsal side.	26.5mm 14.5mm 2mm	neo
Trench 28	Upper pit fill 174	6	A small broken dark grey flint fragment.		
Trench 5	Fill of posthole 102	7	A broken light grey retouched blade made from agate that occurs locally in the glacial outwash sand and gravel deposits.		meso-early neo
Unstrat.	Topsoil	8	Small stubby agate blade. Undiagnostic.	25mm 16.5mm 7.5mm	
MQ03	3	9	Light grey broken blade segment from a narrow parallel-sided blade form. Probably Neolithic.		neo

Southern Area Chipped Stone Catalogue (Map intervention)

Context	Context	Small	Description	Max	Chronol.
	Description	Find		Dimens.	Diagnost
		No		Length	
				Width	
				Thickness	
Topsoil	1028	3	Light grey flint flake made from secondary	22mm	
			till flint.	21mm	
				3.5mm	
F7	Fill 1018 of pit	2	Light grey end scraper with unifacial	29mm	neo
	F7		retouch around all edges, the distal end	18.5mm	
			surviving while the proximal end appears	8.5mm	
			to have been deliberately removed. This		
			tool belongs to the tertiary stage of the		
			reduction sequence and is typical of		
			Neolithic implements in the region.		
F4	From top of	4	Small dark grey flint flake belonging to the	16.5mm	
	unexcavated fill		secondary or tertiary stage of the reduction	12.5mm	
	of pit F4		sequence. Undiagnostic.	1mm	
F4	From top of	5	Light grey broken flint flake belonging to		
	unexcavated fill		the secondary or tertiary stage of the		
	of pit F4		reduction sequence. Undiagnostic.		
F4	From top of	6	Small broken burnt flint flake belonging to		
	unexcavated fill		the secondary or tertiary stage of the		

	of pit F4		reduction sequence. Undiagnostic.		
F4	From top of	7	Light grey broken blade segment.		
	unexcavated fill		Undiagnostic.		
	of pit F4				
F4	From top of	8	Small dark grey flake belonging to the	13mm	
	unexcavated fill		tertiary stage of the reduction sequence.	7.5mm	
	of pit F4			2mm	
F4	From top of	9	Small broken dark grey flake belonging to		
	unexcavated fill		the tertiary stage of the reduction sequence.		
	of pit F4				
F85		11	Small broken light grey flint belonging to	22.5mm	
			the secondary or tertiary stage of the	13.5mm	
			reduction sequence. Undiagnostic.	2mm	
F90		12	Light grey unmodified flint flake with area	37mm	
			of surviving cortex indicating it is from a	34.5mm	
			secondary till source.	6mm	
F100	Fill of small pit	13	Dark grey unmodified irregular flake with	30mm	
	F100		small area of cortex surviving which	36.5mm	
			suggests it is probably from a till source.	7mm	
F117	Fill of pit F117	14	Light grey end scraper made on a parallel-	43.5mm	neo
			sided blade form with unifacial retouch	17mm	
			around all edges. A typical Neolithic	5mm	
			artefact form for this region.		
F204		10	Small dark grey flake belonging to the	14mm	
			secondary or tertiary stage of the reduction	7mm	
			sequence. Undiagnostic.	1.5mm	
F204		15	Small broken light grey flint flake		
			belonging to the secondary or tertiary stage		
			of the reduction sequence. Undiagnostic.		
F204		16	Small dark grey flint flake belonging to the	15mm	
			secondary or tertiary stage of the reduction	5.5mm	
			sequence.	1mm	
F204		17	Small dark grey flint flake belonging to the	12mm	
			secondary or tertiary stage of the reduction	10.5mm	
			sequence.	2mm	

DISCUSSION

Types

The chipped stone artefacts recovered from excavations at Cheviot Quarry can be broken down into their broad types. The table below summarises these artefacts.

Туре	No
Core	8
Flakes and Chips	36
Blade	21
Utilised Blade	2
Retouched Flake	5
Retouched Blade	11
Scraper	5
Arrowhead	2
Awl	2
Knife	1
Total	93

The range of flint tools is quite extensive for such a small assemblage and includes primarily Mesolithic pieces from the unstratified contexts such as the topsoil and top of the sand and gravel substratum and Neolithic pieces from the buried pit fills. The Mesolithic pieces include a variety of microlithic blade cores together with some small modified flakes and blades and an awl. The Neolithic material is more wide-ranging and together with the usual flakes and blades, the latter being frequently parallel-sided, includes several end scrapers an oblique arrowhead and the tip portion of what appears to have been a leaf-shaped arrowhead, together with an possible awl, a knife and an assortment of other modified blade tools including one of which has been used as a double-ended composite tool (find 197, northern area) and two classic Neolithic end scrapers (finds 2 and 14 from the southern area). Most of the other pieces are blades of one form or another but there are also occasional flakes and chips, much of which is debitage.

Flaking and Manufacture

The lithics from the Neolithic features on the site are characterised by a parallel-sided blade tradition. The employment of a blade-based technology has been noted on Neolithic sites elsewhere in Northumberland (e.g. Waddington 2000; 2001; 2004; Waddington and Davies 2002). However, in contrast to the Mesolithic blade tools the Neolithic blade material tends to be larger and made on better quality flint, some of which appears to be nodular and imported into the region. The Mesolithic pieces are characterised by their microlithic size, and the microlithic size of blade scars on cores, as well as by comparison with types such as those found in the securely dated assemblage from the Howick Mesolithic hut (Waddington in press).

The flaking scars indicate the use of hard and soft hammers to knap the flint as well as evidence for the use of indirect percussion using a punch. The use of hard hammers is confirmed by the presence of a quartzite hammerstone in pit F9 (northern area) which has wear on two of its opposed ends. In Northumberland it is rare to find a knapping implement directly associated with a period-specific flint assemblage. The quality of the waste flakes reveal experienced workmanship, however most of the working on site appears to be associated with the finishing and maintenance of tools with very little evidence for primary chipping which appears to have taken place elsewhere.

Raw Material

The raw material comes from diverse sources including boulder clay flint, recycled chipped and patinated flints, and imported nodular flint. The speckled grey boulder clay flint could be from a local source, but given the size of some of the pieces it is thought more likely that some of this material could have been imported from North East Yorkshire where good quality light grey flint can be found in the boulder clay (Young 1984). The nodular flint has evidently traveled a considerable distance from its primary source to arrive in the Milfield plain. The closest source of nodular flint is that from the Wolds which lies over 160km to the south.

The non-flint raw materials can all be obtained locally in the river gravels, screes and boulder clays of the surrounding landscape. However, the flint material is varied in colour and quality suggesting a variety of sources. The occurrence of at least 2 nodular flints is important as this indicates wide-ranging contacts and shifting of bulky and heavy

goods over substantial distances from the nearest source in the Yorkshire Wolds. Some of the flint is from secondary sources such as boulder clays, gravels and the beach.

The assemblage includes pieces made from the following materials:

Raw Material	No.
Flint	63
Agate	25
Chert	5
Total	93

Table 2. Breakdown of lithic assemblage by raw material.

Discussion

The lithic industries represented by the assemblage include a small element of Mesolithic material based around the use of locally available (usually non-flint) materials and their chipping into small, stubby, blade forms. The Neolithic industry on the other hand is based primarily around the working of flint to produce larger blades and blade-based tools together with some flakes.

The lithics add an important dimension to the Cheviot Quarry site as the presence of Mesolithic cores and scrapers testify to activity on this site prior to the Neolithic. The Mesolithic cores from the excavations in the northern area are from an unstratified horizon (subsoil) whereas the scraper (small find 1) is from a posthole in building 1, so the latter is likely to be residual and the same is also the case for the scraper (small find 78) from a structural slot [F37] that forms part of the possible freestanding Neolithic structure in the northern area. A retouched bladelet, that is probably a microlith fragment (small find 88), is from an indisputably Neolithic pit and so this is also likely to be residual. The scraper (small find 14) is from pit F63 which lies away from the buildings and could suggest that this feature is in fact Mesolithic or it could be a residual artefact in a later feature. Only AMS dating could test whether this latter feature belongs to the Mesolithic. Two single entity charred wood samples were recovered from this context.

It is perhaps surprising that given the quantity of ceramic recovered a greater number of flints were not found in the Neolithic deposits. This suggests that greater attention may have been given to the disposal of ceramic material relative to lithics, probably because broken pots are more difficult to repair or re-use than a broken flint tool. Furthermore, the lithics and coarse stone objects found in the pits were usually broken or flawed, and this is paralleled by the find of a broken stone axehead in a pit at the Bolam Lake Neolithic settlement (Waddington and Davies 2002). Although objects that could have symbolic and ritual connotations were found in Pit F009 (carved stone ball, possible macehead roughout, whetsone), these artefacts are discarded roughouts and flawed pieces. Therefore, it is inappropriate to assume that the presence of these objects necessarily indicate a 'ritual' site. Instead, the presence of these flawed pieces, deposited with a hammer stone and smoothing stone, indicates the production of objects that may have been used in either day to day or 'ritual' activities took place on the site. Bearing in mind that spiritual, ritualised, and symbolic behaviour will have transcended many of the daily routines of these early farmers, settlement sites should be considered as much an arena for ritualised discourse as a place for residence. What marks a settlement site out as different from a ceremonial, religious or burial site is that the main purpose of the site is focused towards a particular behavioural realm; that of residency. It is clear that when

this is taken into account labels such as 'settlement' and 'ritual' site are somewhat inadequate as they provide a grossly simplistic characterisation of more complex human behaviour. The types of coarse stone material present on the site, and their nature of deposition, points more towards the disposal of artefacts flawed in production rather than special deposition within a ritual setting. As such, the presence of these objects on the site do not detract from interpreting the site as one primarily used for settlement, though this is not to say that aspects of behaviour on this site did not have a ritual or ceremonial dimension. This finds support in the comparable situation at the Bolam Lake settlement referred to above, and also by the use of similar objects at other Neolithic 'village' sites such as Skara Brae (Childe 1931; Piggott 1954, 330-32) and the other Orkney sites.

Apart from the coarse stone objects from Pit 009 the flint assemblage is a purely functional and utilitarian set of material. The range of tools, including a variety of blade tools, an awl and a knife indicate that a range of activities took place across the site. The range of blade tools present in the Neolithic assemblage are indicative of general processing activities while the arrowheads may have been manufactured on site for use elsewhere. The relative paucity of debitage indicates that, although stone tool production clearly took place, most of the primary chipping took place elsewhere. The lack of cores suggests that at least part of the knapping process may have taken place elsewhere from the site. Indeed the complete absence of primary waste is important in this regard as it indicates two things: 1) that the primary working took place away from the settlement site, presumably at or near the source of the raw material, and that 2) flint densities are going to be higher at the source/knapping sites than at settlements away from the source area. This finds support in the generalised model put forward by Schofield (1991, 119) based on his work in Hampshire, that at settlement sites there should be a high proportion of tools and a low proportion of primary waste (see Table 3 below) and this is certainly the case at both the northern and southern area Neolithic sites at Cheviot Quarry.

Table 3 Schofield's 'Expected assemblage characteristics for domestic and industrial areas assuming a policy of extra-home range production' (i.e. where flint is imported from a source area some distance from the main settlement area).

Activity	Lithic Density	Primary Waste	Tools	Cores
Settlement	Low	Low	High	High
Industrial	High	High	Low	Low

Table 3 Schofield's 'Expected assemblage characteristics for domestic and industrial areas assuming a policy of extra-home range production' (i.e. where flint is imported from a source area some distance from the main settlement area).

Some of the lithic pieces comprising the Neolithic assemblage are chronologically diagnostic such as the arrowheads, end scrapers and blade tools. However, the problem of dating Neolithic tools in northern England is compounded by the fact that there are very few dated assemblages of Neolithic flintwork in this region, and so recognising datable signatures relies on noting the presence of just a few universal aretefact types. What is more, in the case of northern England, those few assemblages that are dated are small, consisting of just a handful of flints (e.g. Waddington and Davies 2002).

The vast majority of the lithic assemblage originally associated with this site will have lain within the topsoil and this horizon has been heavily disturbed by earlier ploughing, the

construction of the airfield buildings in the northern area and finally by its complete removal by machine during the surface strip. Therefore, the importance of the topsoil for hosting archaeological remains such as flints and a record of past Stone Age activity should not be overlooked.

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