Interim report on the 2022 excavation at Rubha Port an t-Seilich, Isle of Islay: stratigraphy, chipped stone, and radiocarbon dates

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Introduction

Rubha Port an t-Seilich (RPAS) is a Mesolithic site located on the east coast of the Isle of Islay in western Scotland (NR 43035 67449), positioned on a terrace at 7.25m above HWM (Figure 1). It was discovered in 2009 and evaluated by test-pitting (2009) and trial trenching (2013, 2017). An excavation programme began in 2018 and was continued in 2019 and 2021. This interim report describes the 2022 excavation, provides an initial interpretation of the chipped stone assemblage from the site's lower horizon and our current understanding of the chronology of activity at Rubha Port an t-Seilich. It begins with a brief summary of the history of excavation and concludes by considering the current and potential contribution of Rubha Port an t-Seilich to our understanding of the Mesolithic period in Britain.

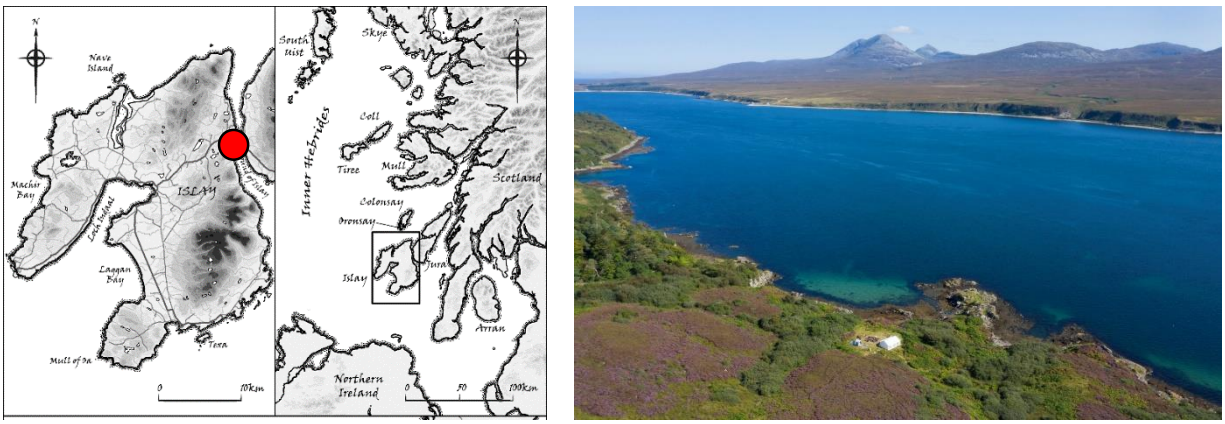


Figure 1. Location of Rubha Port an t-Seilich on the east coast of Islay, and view of the site under excavation in June 2021

History of excavation

Following the discovery of chipped stone artefacts in 2009, a test-pitting exercise identified cultural deposits containing chipped and coarse stone artefacts, carbonised plant material, and small fragments of animal bone (Figure 2). Six radiocarbon dates on charred hazelnut shell fragments indicated Mesolithic activity between 7070-5090 cal BC (Table 1). Consistent with the date range, the chipped stone contained small flake and blade cores, bladelets and scalene triangle microliths, as characteristic of the Narrow Blade industry of the British Mesolithic (Figure 2). In addition, a tanged point was recovered, typologically classified as an Ahrensburgian point and potentially indicative of pre-Mesolithic activity (Figure 2). Coming from a test-pit, the point has no context and no associated dates.

Date taken	Context	Sample	Mean	Dev	d13C(‰)	Material
2010	Test-pit (0,15)	Beta-288425 (TP 0,15)	7010	50	-23.4	CNS : Corylus avellana
2010	Test-pit (0,10)	Beta-288424 (TP 0,10)	7540	40	-24.3	CNS : Corylus avellana
2010	Test-pit (10,5)	Beta-288428 (TP 10,5)	7660	40	-21.6	CNS : Corylus avellana
2010	Test-pit (0,5)	Beta-288423 (TP 0,5)	7820	40	-25.0	CNS : Corylus avellana
2010	Test-pit (5,0)	Beta-288426 (TP 5,0)	8230	40	-25.1	CNS : Corylus avellana
2010	Test-pit (5, 15)	Beta-288427 (TP 5,15)	8240	40	-24.8	CNS : Corylus avellana
2013	Base of 101, A20	Beta-363963 (Base of 101)	7640	30	-24.6	CNS : Corylus avellana
2013	Base of 101, A20	Beta 363965 (Base of 101)	7690	40	-24.7	CNS : Corylus avellana
2013	Base of 101, A20	Beta 363964 (Base of 101)	7790	40	-26.0	CNS : Corylus avellana
2018	202-9/7D	SUERC-83787 (202)	5278	25	-24.1	CNS : Corylus avellana
2018	200.9/8C	SUERC-83788 (200)	6902	25	-24.1	CNS : Corylus avellana
2018	201-8/7C	SUERC-83786 (201)	7048	25	-25.5	CNS : Corylus avellana
2018	Fireplace	SUERC-83792 (FPS1)	7943	25	-27.0	WC: ndet.
2018	Fireplace	SUERC-83791 (FPS3)	8008	26	-27.3	CNS : Corylus avellana
2022	298-10/9C <956> (1)	SUERC-106319 (298)	7734	29	-24.4	CNS : Corylus avellana
2022	278-10/7B <1077>	SUERC-106327 (278)	7797	29	-24.4	CNS : Corylus avellana
2022	298-10/9C <956> (2)	SUERC-106318 (298)	7980	29	-24.5	CNS : Corylus avellana
2022	298-10/9A <936>	SUERC-106317 (298)	7996	29	-26.1	CNS : Corylus avellana
2022	298-10/10D <979>	SUERC-106316 (298)	8006	29	-23.7	CNS : Corylus avellana
2022	290-8/8D <1165> (2)	SUERC-106321 (290)	9113	29	-26.1	CNS : Corylus avellana
2022	290-8/8D <1165> (1)	SUERC-106320 (290)	9147	29	-23.8	CNS : Corylus avellana
2022	290-8/7C <1191> (2)	SUERC-106326 (290)	9155	29	-24.8	CNS : Corylus avellana
2022	290-8/7C <1191> (1)	SUERC-106322 (290)	9232	29	-23.6	CNS : Corylus avellana
2022	335-8/10C <1243>	SUERC-106452 (335)	9092	32	-26.9	WC Salicaceae
2022	335-8/10C <1243>	SUERC-106453	1062	32	-27.1	WC

Table 1: Radiocarbon dates from Rubha Port an t-Seilich. CNS = Charred hazelnut shell; WC=wood charcoal

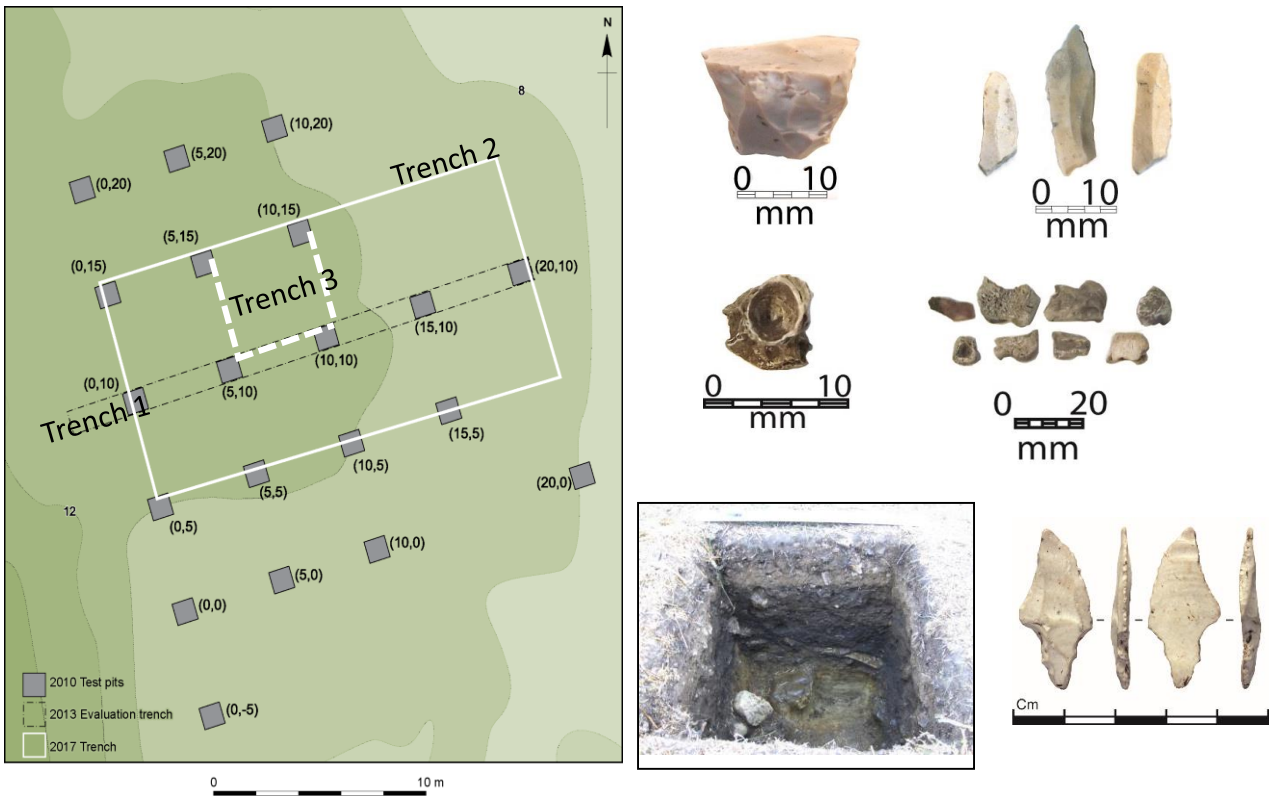
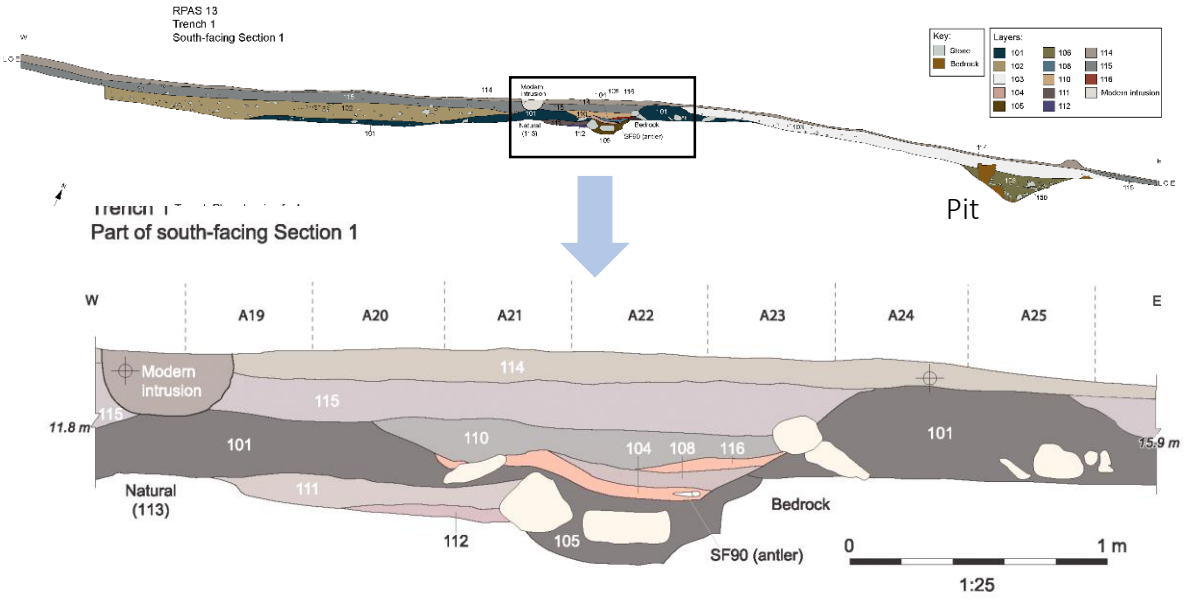


Figure 2. 2009 test-pits and finds: chipped stone artefacts of the Narrow Blade industry, fragmented animal bone, test-pit (5-10) showing depth of cultural deposits, and a tanged-point (from test-pit 10,10).

Site evaluation in 2003 involved excavating a 30m long, one-meter-wide trench (Trench 1) to bisect the terrace so that site stratigraphy could be identified (Figure 3). This indicated cultural deposits reaching a maximum of one-meter depth, lying over a glacial head deposit and bedrock. A fireplace was located, constructed in the niche between two outcrops of bedrock at the centre of the terrace and a large pit was identified at the eastern (seaward) end of the trench. Sediments at the base of cultural deposits and to the west of the fireplace provided relatively large blades compared to those from overlying horizons. As with the tanged point recovered from the 2010 test-pits, these suggested the possibility of pre-Mesolithic activity (Mithen et al. 2015). Five radiocarbon dates on hazelnut shell fragments from contexts with Narrow Blade artefacts confirmed activity between 7056-6427 cal BC (Table 1).

The test-pitting and Trench 1 excavation indicated RPAS had considerable potential to provide new knowledge about the Mesolithic. Most notable was the depth of cultural deposits suggesting the possibility of pre-Mesolithic activity followed by a stratified sequence of deposits potentially covering most, or all, of the Mesolithic period. Considering the density of artefacts, the need for meticulous excavation, and the resources available, only a relatively small area could be targeted for excavation.



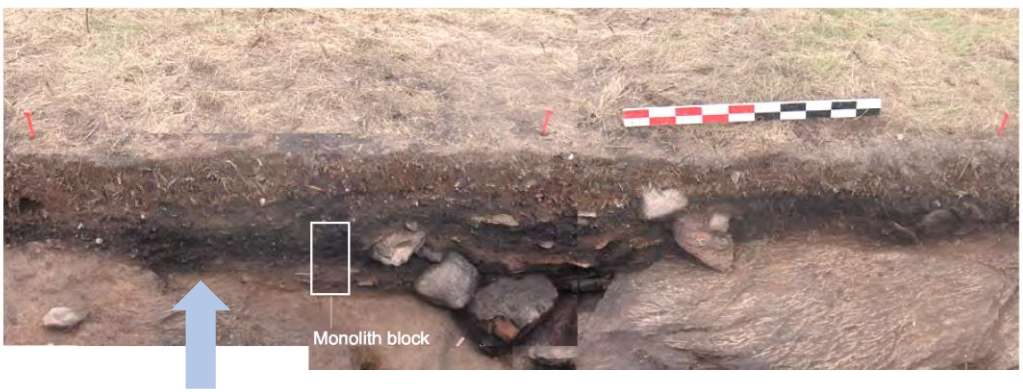


Figure 3. 2013 site evaluation, excavation of Trench 2, showing fireplace and pit sectioned by the long trench, location of block removed for micromorpholgy and tephra analysis, and artefacts recovered from basal layer.

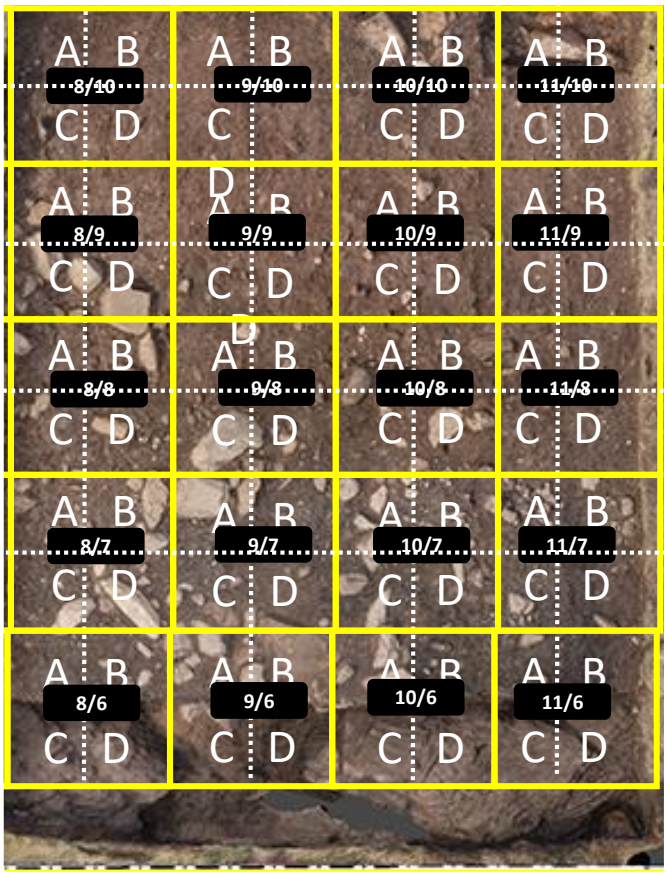
To identify the most promising location for excavation, a large area of topsoil from across the terrace was removed in 2017 to expose potential features in the underlying deposits (Trench 2, Figure 4). These were only evident in the vicinity of the fireplace identified in 2013. Deposits to the east (downslope, towards the sea) were relatively shallow with exposures of bed rock, while those to the west were sealed by colluvium from the higher terrace. The large quantity of chipped stone recovered from this excavation and that from Trench 2 (2013), indicated the presence of two technologies, both utilising beach pebble flint (Figure 5). One of these, designated as Concept 1, had oriented pebbles with their longest dimension to the vertical and used oblique platforms to produce relatively large and thin blades. These were primarily removed from a single face, sometimes with opposing platforms. Concept 2 oriented pebbles with their longest dimension to the horizontal, create shorter cores that produced relatively smaller flakes and blades which were usually removed from the whole circumference of the platform, this being typical of the Narrow Blade industry (Berg-Hansen et al. 2019). The 2017 excavation only removed topsoil, which contained both Concept 1 and Concept 2 artefacts. As such, there was no indication of the stratigraphic and potentially chronological relationship between these technologies.

Figure 4. 2017 excavation of Trench 2, showing the location of Trench 1 (2013).

Figure 5. Cores and blades from Concept 1 and Concept 2 technologies at Rubha Port an t-Seilich

To address this question, to locate the context of the tanged point, acquire further samples of cultural materials and investigate the fireplace observed in section, a 4m X 4.5m area was selected for excavation over a four-year period, Trench 3 (Figure 6). The excavation method divided the trench into 76, 50cm square quadrants and excavated each quadrant in 5 cm spits, each of which was given its own sample number. This enabled contexts to be mapped across the trench and through the deposits. All excavated sediment was washed through a 3mm sieve, with residues dried and then sorted to extract cultural materials, with sub-samples washed through a stack of sieves (2, 1, 0.5 and 0.25mm) to recover finer material. As such, artefacts were recorded within 0.5m squares.

Figure 5 The 4m X 4.5m area selected for excavation (Trench 3) and the grid system used for spatial monitoring of finds.



Excavation began in 2018 (Figure 7), supervised by Sarah Lambert-Gates and Will Attard (University of Reading). It continued in 2019 (Figure 7), was interrupted in 2020 because of the covid pandemic and continued in 2021 (Figure 8). Preliminary analysis of excavated materials has been undertaken by Dr Inger Berg-Hansen (chipped stone from 2017, 2018), Dr Ruth Shaffrey (coarse stone, 2018-2021), Dr Ingrid Mainland (faunal remains, 2018-21) and charred plant material (Dr Catherine Bennett, 2018). Three radiocarbon dates were secured from charred hazel nutshell fragments coming from the upper most cultural horizons excavated in 2018, providing a range of 5992-3993 cal BC (Table 1).

Figure 7. Upper: Trench 3 at the end of the 2018 field season.

Lower: Trench 3 during and at the end of the 2019, field season showing pit and stake holes.

By the end of the 2021 field season, approximately 2/3 of the cultural deposits had been excavated across the whole of the trench (Figures 8, 9). This had exposed the upper layers (104, 108) of the fireplace detected in section within Trench 1 that now appeared to be defined in plan by a circular alignment of stones. This was surrounded by compact horizon covering the southern area of trench with a high density of charred plant material and bone (278) and cut by several small postholes and stake holes (e.g. [244], [231], [257]). Context (278) merged into one with less carbonised material and lighter in colour (298) that covered the northern area of the trench, and one with a lighter grey colour in the west central area (288). The relationship between (278), (298) and (288) remained unclear: they may be the same horizon with their differences simply reflecting the density of charcoal, although (278) appeared to overlie (298) in places suggesting a stratigraphic relationship. Context (298) had been cut by a wide circular shallow pit [229], and two deeper stone rimmed pits [276] and [270] in the northeast corner of the trench. Pit [270] was half excavated, and shown to be c. 30cm deep, with its base cut into the bedrock and then divided by an alignment of stones. In the SE corner of the trench context (278) became less dark and was designated as Context (297). This context overlay an approximately rectangular alignment of stone slabs set vertically into the sediment potentially indicating another constructed feature.

In the far NW corner of the trench, the 2021 excavation exposed a compact, brown horizon (268) that was likely a continuation of (298). Context (268) was over a sandy silt (279) that filled a large shallow depression [280]. A cluster of stones was located against the western edge of the trench to the immediate south of [280], beyond which there was a second depression [281] filled with a sandy-silt (272), on which there was a circular arrangement of flat palm-sized stones, potentially a post-pad, above a darker fill (319).

Figure 8. Trench 3 at the end of the 2021 field season. The fireplace at the southern end of the trench is emerging in plan with a stone rim. This is surrounded by a charcoal rich deposit (278), beyond which there are a series of pots-holes, a large shallow pit and two deeper stone lined pits in the NW corner of the trench..

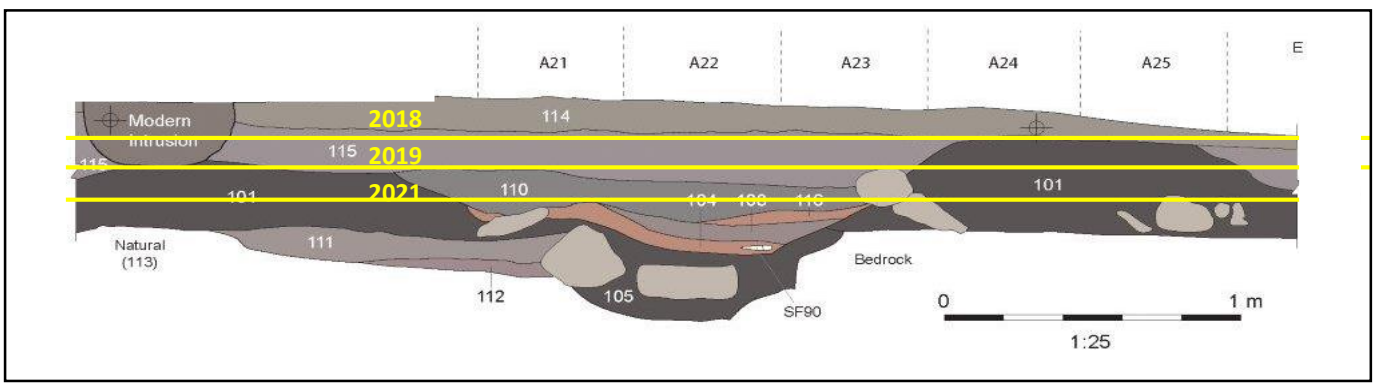


Figure 9. Schematic diagram showing approximate depths reached by the 2018, 2019 and 2021 excavation seasons.

The 2022 excavation

The 2022 excavation took place over four weeks in June and July 2022 (Figure 10). It was led by Sarah Lambert-Gates and Will Attard, with eight University of Reading undergraduate students. Rory Williams-Burrell managed the extensive wet-sieving programme and Rosa Campos Blade supervised finds processing and storage, both assisted by Dave Smith.

Excavation procedure followed that established in 2018: 5cm spits were removed from quadrants, with 80% of the sediment being washed through a 3mm sieve and 20% through a 2/1/0.5/0.25mm stack of sieves. The residue from the 3mm sieve was dried and fully sorted in the field, producing assemblages of chipped stone, coarse stone, fragmented animal bone and charred plant material. The residues from the stack of sieves was retained for flotation.

Removal of one spit of contexts (278) and (298) revealed a continuation of similar deposits, although more compact and darker in colour, designated as (312, below 278) and (321, below 298) (Figures 11, 12). Removal of (288) exposed bedrock. The relationship between (312) and (321) remained uncertain and will be explored in 2023. The removal of (278) in the vicinity of the fireplace and the upper layers of its fill (104, 306, 307, 108) provided a well-defined stone rim, and exposed the next horizon of internal deposits (295 and 105). Similarly, removal of (297) in the SE corner of the trench defined a rectangular stone-built feature with a dark fill (311). The removal of (279) in the NW corner of the trench exposed orange-clay horizon (313), appearing to be an old soil horizon above the underlaying glacial head deposits. Excavation close to the western edge of the trench located a sequence of deposits below depressions [280] and [281] that had accumulated around and below clusters of rocks and in small depressions (303), (308), (317), (320), (334), (333), (322), suggesting an area of human activity and/or bioturbation possibly from a burrowing animal. Context (322) appeared to be burned, and filled a small depression [324], potentially a hearth.

Figure 11. 2022 Excavation of Trench 3, Rubha Port an t-Seilich, June 2022.

Pit [270] was fully excavated, revealing that the stone partition noted in 2021 extended approximately halfway across the base of the pit (Figure 12). The stone rim surrounding the pit was fully revealed. The stones had slightly slumped into the pit after it was first infilled, lending it a slightly concave shape. Below a sequence of fills (271, 273, 301, 284, 285, 286, 287) the base of the pit had been cut into the bedrock. It contained two dark greenish stones, speckled with white, appearing to be igneous and of a type not knowingly encountered on the site before. Both were irregular in shape, though relatively smooth with rounded edges. They were located just south of the partition, and appeared to be placed with one resting against the other. They remain in situ, to be lifted early next season. A third example of this type of stone (SF#922) was discovered and recovered on the final day of digging from deposit (313). The adjacent pit [270] was also fully excavated with a shallower sequence of fills (275, 274, 277).

Figure 10. Above: Trench 3 following the removal of one spit, June 2022, viewed looking north. Left: Pit [270], located in the NW corner of the trench showing the stone rim and partition.

Figure 12. Trench 3, following removal of contexts 278, 298 and 288, exposing contexts 312 and 322 , and defining the fire place and rectangular feature at the southern end of the trench, and pit [270] in the NW corner.

Having removed a complete spit from across the trench, further excavation was restricted to a one-meter-wide slot against the western baulk. This was to attain a complete stratigraphic sequence to the underlying natural deposits within one area of the trench. Considering the possibility of pre-Narrow Blade artefacts, piece-plotting of finds was now undertaken. The sediment- sieving procedure continued.

Removal of (312) in the southern area of the one-meter-wide slot exposed a distinctly lighter and orange-coloured context designated as (290), cut by a stake hole [316] and with patches of darker sediment in small depressions (315, 318), which were likely remnants of (312), Figures 12 and 13. Context (290) overlay the glacial head deposit (336) which had been cut by a stake hole [292]. Excavation of deposits (333), (322) that were to the north of (312) indicated these filled a large depression [324], possibly a natural hollow, that cut into the underlying glacial head deposit (336), and revealed three further postholes [329], [331] and [327].

The removal of (312), (333) and (322) exposed a ridge of bedrock that divided the southern and northern deposits in the one-meter-wide slot. To the north of the bedrock, removal of (320) exposed a sequence of amorphous compacted contexts (323), (332) and (334), that are likely to be a single context, that overlay (313) which had previously been exposed in the far north of the trench by the removal of (279). Context (313) is likely equivalent to (290) in the southern part of the one-meter-slot, and overlay the glacial head deposit, designated as (335) in the north of the trench and equivalent to (336) in the south, Figure 14. Chipped stone artefacts were embedded into this deposit. One spit of it was removed, exposing further bed rock. The excavation ceased at this point, Figure 15.

Figure 13. Trench 3, excavating context 312.

Figure 14. Trench 3, scatter of chipped stone artefacts on, and embedded in, Context 290

Figure 15. Trench 3, showing exposure of the glacial head deposit, Context 335 to the north and 336 in the south.

Figure 16. Trench 3, and the end of the 2022 field season

Excavation and stratigraphic summary

Figure 17 lists the spits/samples/contexts excavated from each quadrant 2018-2022. Figure 18 provides the site matrix following the end of the 2022 field season. Contexts have been grouped into Blocks, these aligned with field seasons for 2018 (Block 1), 2019 (Block 2) and 2022 (Block 3), and with what appear to be stratigraphically significant groupings of contexts for 2022 (Blocks 4, 5, 6 and 7).

Figure 17. Trench 3, excavated spit with sample numbers and contexts, 1018-2022

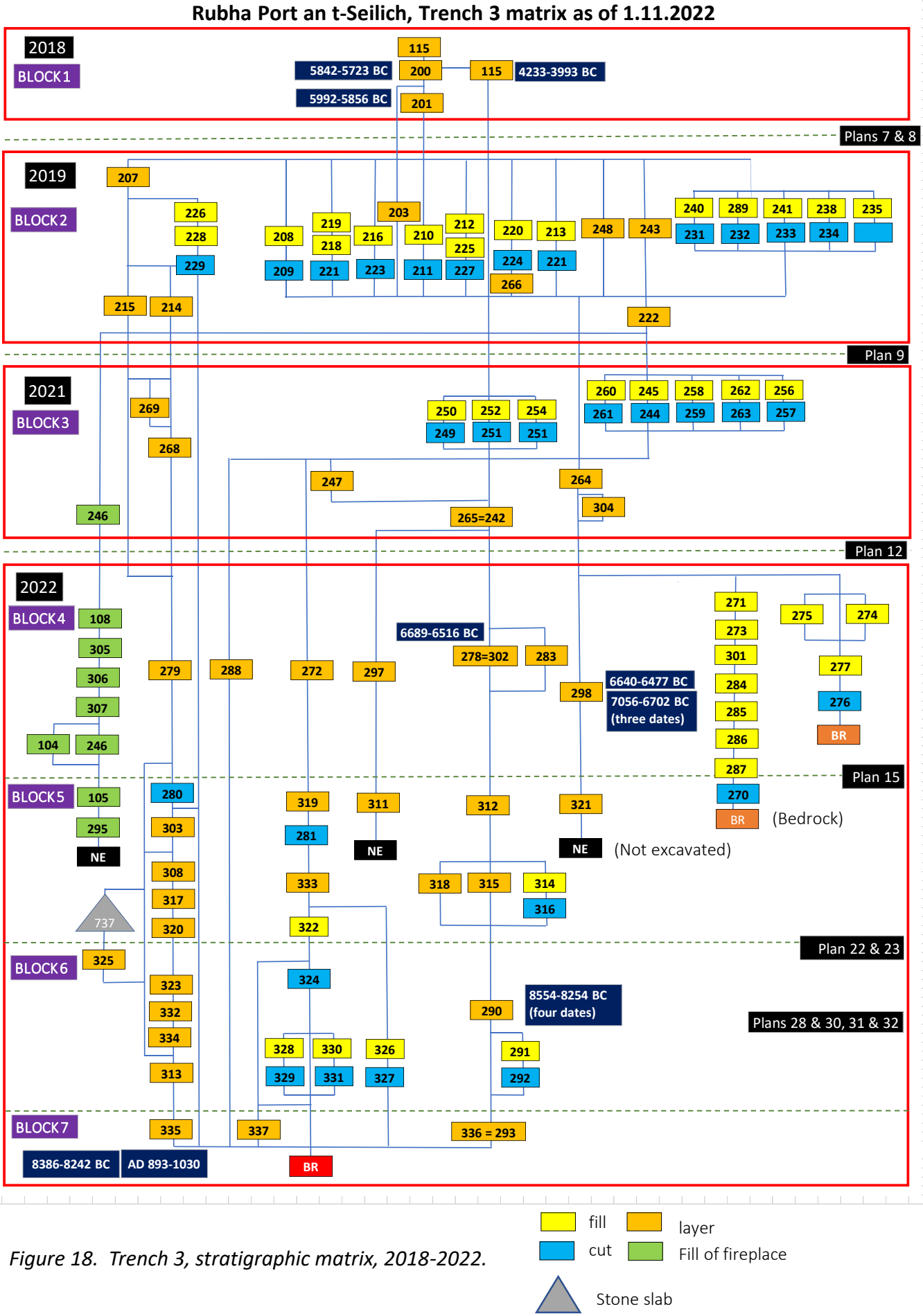


Figure 18. Trench 3, stratigraphic matrix, 2018-2022.

Preliminary report on the 2022 chipped stone assemblage

Lithic analysis was undertaken on a selected part of the 2022 excavated chipped stone assemblage between 2-9 November 2022 at the Department of Archaeology, University of Reading. It was undertaken by Inger M. Berg-Hansen supported by three student assistants, Jasmine MacFarlane, Julia Oldroyd and Ewan Maart. Chipped stone from Blocks 4, 6 and 7 were prioritized for analysis.

The results confirmed the previous identification of two distinct lithic technologies within the stratigraphic layers at RPAS. Concept 2 had previously been identified as the British Late Mesolithic (Narrow blade) industry. By drawing on the 2022 artefacts, Concept 1 can now be confidently aligned to the NW-European Early Mesolithic (Broad blade/Maglemose 0-2/Fosna/Hensbacka/Komsa) technocomplex.

Traits characteristic of Concept 1, such as dual platform cores, large front preparation flakes, and large relatively narrow and thin blades were present in Blocks 4, 6 and 7. Lanceolate microliths and one isosceles triangle, typical of NW-European Early Mesolithic, were also present in these contexts. In combination, these traits are clear indications of cultural affinity to NW-European Early Mesolithic, Figure 19.

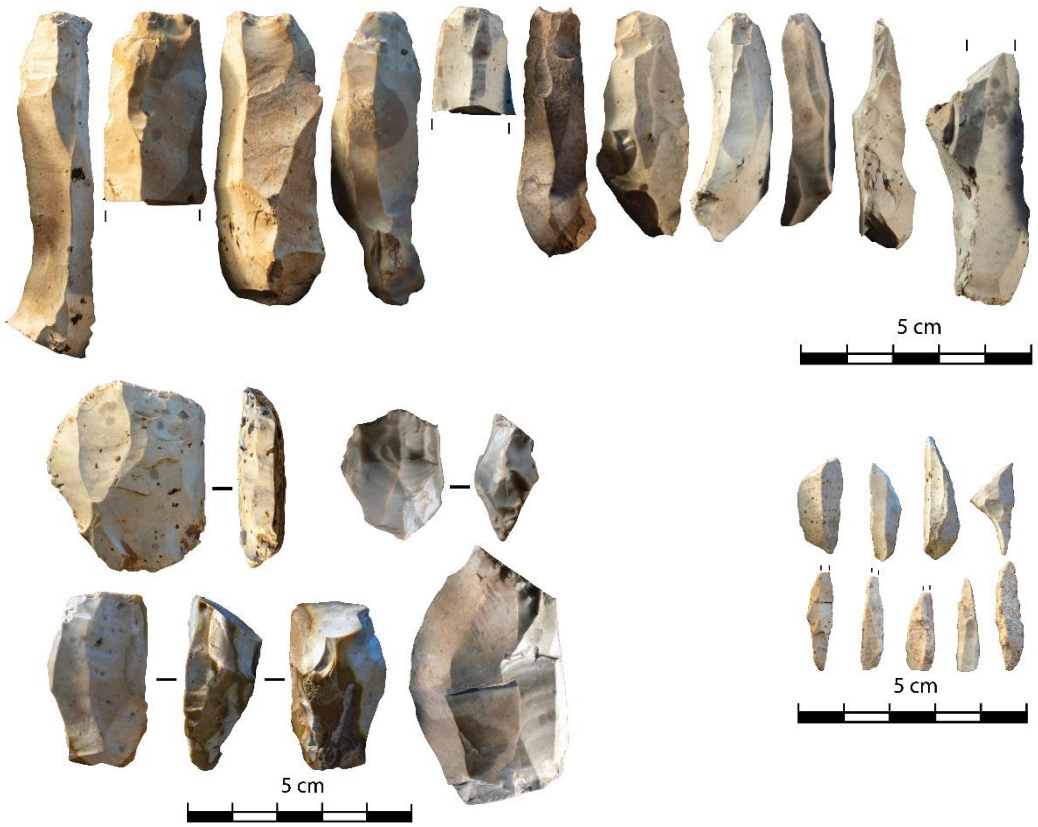


Figure 19. Concept 1, Early Mesolithic, artefacts from contexts within stratigraphic Blocks 6 and 7. Top: blades and blades fragments, with plunged and crested blades at the far right; Lower left: cores, showing opposed platforms, and core face rejuvenation flake at lower right; Lower right: microliths, lanceolates/obliquely retouched blades and isosceles triangle

Both Concepts (1 and 2) are present in Block 4. These contexts, however, showed relatively more traits characteristic of Concept 2 than Concept 1, with the frequency of Concept 1 traits becoming dominant in the underlying Blocks 6 and 7. Within Block 4, context (298) had a higher frequency of Concept 1 traits than context 278, possibly indicating different dates for these contexts. Contexts within Block 5 remain to be considered, having the potential to explore the relationship between Concept 1 and Concept 2 technology at Rubha Port an t-Seilich.

There is no evidence within the 2022 artefacts from Blocks 6 and 7 to indicate a pre-Mesolithic presence, as was potentially indicated at RPAS by the tanged point recovered in 2010 and typologically assigned to the Ahrensburgian culture. In northern and central Scandinavia, such tanged points continued to be made throughout the Early Mesolithic alongside early microlith types; no such points are known from Early Mesolithic contexts in Britain. The NW-European Final Palaeolithic and Early Mesolithic blade technology are similar, with only minor variations arising during the Early Mesolithic regarding core preparation, blade removal, as well as a couple of new core types occasionally occurring. Such variability in production methods has not yet been observed at RPAS, providing no evidence to indicate a horizon of Final Palaeolithic activity. While this suggests the tanged point may be Early Mesolithic in date, the extent of excavation at the base of the sequence has been limited.

Following assessment of the complete assemblages from Blocks 4, 6 and 7, a selection of cores, blades and microliths were chosen for detailed attribute analysis. The choice of artefacts aimed at a representative selection from the contexts within each block to ensure capturing tendencies in attribute characteristics within the block. Complete blades were preferred although some blade fragments were also included.

The lithic analysis was based on the method for attribute analysis described by Sørensen (2006, 2013a, b), Berg-Hansen (2017) and Damlien (2015), and a dynamic-technological analysis based on Schild (1980). Both analyses are carried out to characterise the assemblages and to enable comparison between blocks.

Berg-Hansen carried out the dynamic-technological analysis of Blocks 4, 6 and 7. The attribute analysis were carried out in a Google spreadsheet where the students/assistants added context information, selected attributes, and measurements for blades. Berg-Hansen recorded further attributes for the blades and as recorded all attributes for cores and microliths. In total, 301 artefacts were recorded in detail. Samples from the following contexts have been analysed:

- Block 4: 284, 278, 298
- Block 5: 303,320,322,325,333
- Block 6: 290,323,332, 313, 334
- Block 7: 335,336, 337

The following attributes were recorded

- Context information, raw materials, post-depositional impacts, amount (%) of cortex, artefact type, retouch and measurements (largest length/width/thickness) were recorded for all artefacts.

- Blades: dorsal blade face, blade termination, blade curvature, regularity, lip, bulb morphology, conus formation, butt morphology, butt preparation, blade preparation, blade fragmentation. In addition to largest measurements, interior platform (butt) angle, width and thickness were measured.
- Cores: core concept/type, intended production, platform preparation, platform morphology, platform edge preparation, direction of platform preparation, front width, core front exploitation, front curvature (horizontal and vertical), back morphology, back preparation, base preparation, blank, cross section, reworking and front status. In addition to largest measurements, platform to front angle and weight were measured.
- Microliths: blank type, part of tool, Arrowhead type, variant, SHMP variant. In addition to largest measurements, weight was measured.

Radiocarbon dating

As in all previous fieldwork seasons, the 2022 excavation provided abundant material for radiocarbon dating in the form of either charred hazelnut shell or wood charcoal. While three radiocarbon dates had been acquired from Block 1 contexts excavated in 2018, no samples had been dated from Block 2 (2019) and Block 3 (2021). Available funding in 2022 allowed for eleven radiocarbon dates. Selection of samples were made to achieve two aims: (1) Ascertain the extent of bioturbation at the site. Bioturbation could have redistributed archaeological materials – artefacts, bone fragments, carbonised plant material – between archaeological contexts, reducing the possibility of identifying a chronologically coherent and meaningful sequence of cultural change. (2) If the extent of bioturbation was sufficiently limited, identify the date of the artefact rich contexts within Blocks 4, 6 and 7 that contained Concept 1, Early Mesolithic artefacts.

To address both aims, it was decided to undertake multiple dating of two contexts within the excavated sequence, both having relatively large numbers of artefacts and containing pieces of typological and/or technological significance: Context 298 (four samples) from Block 4 and Context 290 (four samples) from Block 6. Charred pieces of hazelnut shell were selected from one or more quadrants within these contexts. One piece of charred hazel nutshell was dated from Context 278 from Block 4, hoping this may clarify its relationship with Context 298. Two further samples were dated from Context 335 of Block 7, the lowest stratigraphic excavated context. These were two pieces of wood charcoal identified as Salicaceae recovered from the stacked-sieve residue of a single quadrant, there being no evident charred hazelnut shell within the residue.

All samples were submitted to SUERC for dating. The results are provided in Table 1.

Three of the dates from Context (298) in Block 4 are statistically consistent providing a combined date of 7047-6822 BC (SUERC-106318, -106317, 106-316; df=2, T=0.4, 5%, 6.0). The fourth date from (298) and the single date from (278) are also statistically consistent with a combined date of 6647-6507 BC (SUERC-106319, -106327; df=1, T=2.4, 5%, 3.8). Noting the uncertainty in context boundaries, it is not unreasonable to suspect that SUERC-106319 from (298) might have infiltrated from the overlying (278).

Three of the four dates from Context (290) of Block 6 are statistically consistent, providing a combined date of 8424-8283 BC (SUERC-106321, -106320, -106363; df=2, T=1.2, 5%, 6.0). The fourth date (SUERC-106322) is significantly different, providing a marginally older date of 8554-8323 BC.

One of the dates on Salicaceae charcoal from Context (335) for Block 7 returned a modern value, AD 893-1030 (SUERC-106453) indicating contamination. This may have been by modern roots penetrating the charcoal, noting that the depth of cultural deposits above (335) is no more than 20cm, and excavation identified areas of disturbance in this vicinity (Contexts 303, 308, 317, 320, 334, 333, 322. The second sample of Salicaceae charcoal from Context (335) returned a calibrated date of 8386-8242 BC (SUERC-106452). Because (335) is stratigraphically below (290), this date may also be contaminated. It is, however, statistically consistent with the three consistent dates from (290) providing a combined calibrated date of 8417-8281 BC (SUERC-106321, -106320, -106363, -106452; df=3, T=2.8, 5%, 7.8). As such, any stratigraphic separation of (290) and (335) may be of no cultural significance.

Figure 20 illustrates the 24 dates acquired from RPAS since 2010 in chronological order. This indicates activity throughout the entirety of the known duration of the Mesolithic in northern Britain.

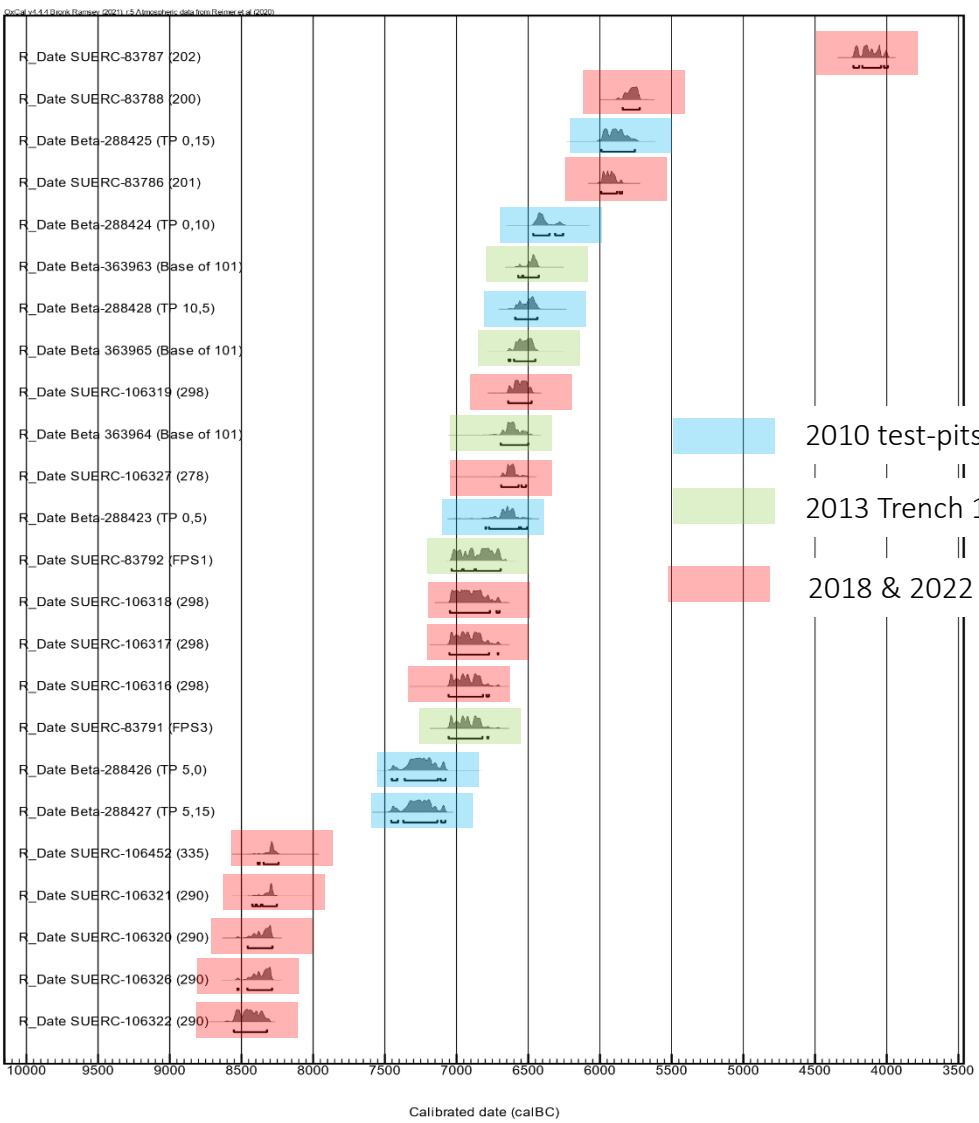


Figure 20. Calibrated radiocarbon dates from Rubha Port an t-Seilich, arranged in chorological order.

Overview

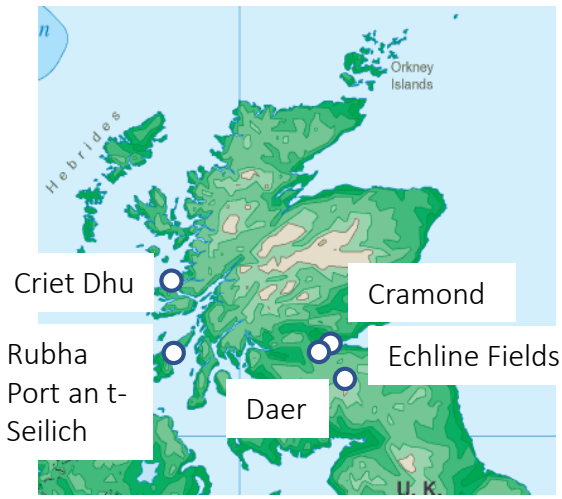
Rubha Port an t-Seilich is a key location for Scottish prehistory by having a tanged-point typologically classified as Ahrensburgian and suggestive of an Upper Palaeolithic presence. After three seasons of excavation in Trench 3, the 2022 field season provided the first opportunity to identify *in situ* deposits of that period by reaching the base of the Mesolithic sequence. No such evidence was found. This might indicate the point is Early Mesolithic in date; alternatively, any associated Upper Palaeolithic deposits may have been entirely eroded away. Either of these, however, would be premature conclusions. The glacial head deposit underlying the Mesolithic was only reached in a one-meter-wide strip at the western edge of the Trench, and was not fully excavated. Further investigation is required in 2023.

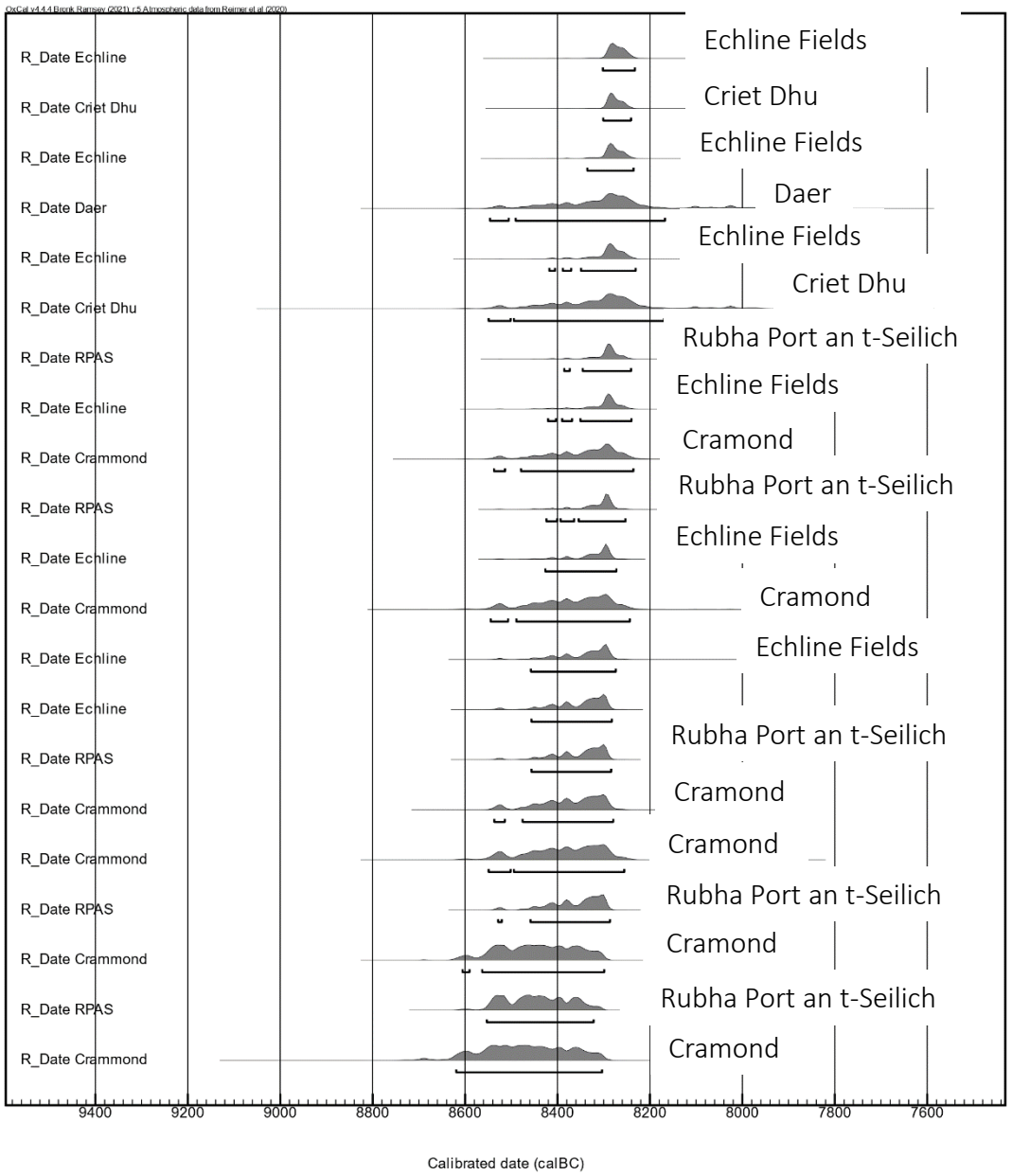
There are three significant achievements of the 2022 field season.

1. An *in situ*, securely dated, Early Mesolithic assemblage. The Early Mesolithic assemblage from Blocks 6 and 7 has been dated to 8424-8283 BC. While assemblages with typological affinity to the Early Mesolithic have previously been found in Scotland, notably at Lussa Bay, Lussa Wood and Glenbatrick on Jura (Marcer 1970, 1974, 1978), Morton in Fife (Coles 1971) and at Donich Park in Argyll (Ballin & Ellis 2019), these have been associated with dates in the 7th millennium and later, which are anomalous for this period in Britain, 9600-8200 BC. We must, however, be cautious about rejecting such dates because the duration of the Early Mesolithic in Scotland may not be the same as that in southern Britain – it may start later, and finish at either an earlier or late date. The dates acquired from Rubha Port an t-Seilich of 8424-8283 BC are equivalent to those from Cramond (Fife, Saville 2004) and are currently the earliest dated activity in Scotland (Figure 21).

2. A continuous stratified sequence from c. 8500-4000 BC. The Early Mesolithic artefacts from Rubha Port an t-Seilich have been found at the base of a stratigraphic sequence that appears to represent a continuous sequence of activity until the end of the Mesolithic period at c. 4000 BC. Dates have been acquired for Block 4 indicating late 7th and early 8th millennium BC activity and for Block 1 at the top of the sequence indicating late 4th to late 6th millennium BC activity, associated with Narrow Blade industry (Figure 17). As far as we are aware, this is the first Mesolithic site in Britain that documents such a period of continuous activity at a single location, one that covers the transition from the Early to the Late Mesolithic. As noted in the lithic report, the critical stratigraphic block for exploring that transition is Block 5, which has yet to be assessed. The assemblage from Cramond has been described as both transitional between the Early and Later Mesolithic and as a 'hybrid' assemblage on account of having isosceles as well as scalene triangle microliths (Ellis & Ballin 2019, 197). This view conflicts with that of Waddington et al. (2017) who described it as entirely Narrow Blade, and hence requires verification. Ellis and Ballin (2019, 215) suggest that Cramond and Daer Reservoir represent the period when isosceles triangles were 'gradually transformed' into broad scalene triangles. The stratified assemblages at Rubha Port an t-Seilich should be able to test whether such gradual transformation took place or whether there was a more sudden replacement of isosceles by scalene triangles. If the latter, this might imply the arrival of new Mesolithic groups using a new style of microlith, as proposed by Waddington et al. (2017).

Figure 21. 9th millennium BC sites from Northern Britain. (dates from Mithen & Wicks 2018; Saville 2008; Robertson et al. 2013)





3. Archaeological finds and features. The third key achievement of the 2022 field season at RPAS is the further acquisition of archaeological materials other than chipped stone: fragmented animal bone, coarse stone artefacts and charred plant material. Although these have yet to be assessed, field observations suggest these had lower densities within Blocks 5-7 than in the upper levels of the site, potentially correlating with the shift from the Later to Earlier Mesolithic. Also notable are the features. The fireplace originally identified in the section of the 2013 evaluation trench, now appears to be a more substantial stone-rimmed structure, similar to pit [270] at the NW coroner of the Trench, while a further rectangular stone structure has been exposed. As illustrated in Figure 22, these resemble the stone-rimmed/lined features excavated by Mercer at Lussa Wood (1978). Mercer compared them with stone rings found at Téviec, Brittany and proposed they were roasting pits.

In summary, the 2022 field season at Rubha Port an t-Seilich has made a significant contribution to our understanding of this particular site and will contribute towards a broader understanding of the earliest prehistory in Scotland and Britain in general. Processing, cataloguing and interpreting the finds remain on-going, along with planning the 2023 field season. The core aim of that will be to reach the glacial head deposit and/or the bed rock in a further area of the trench, complete excavation of the stone-rimmed 'fireplace', and continue the acquisition of data regarding the past human activity and environment.

b Lussa Wood I, after excavation

Figure 22. Circular, stone rimmed pits features: Upper: Lussa Wood 1,Isle of Jura, from Mercer 1978; Lower: Rubha Port an t-Seilich, Isle of Islay.

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