

Inveraray Water Treatment Works, Security of Supply Project: Archaeological Mitigation

Data Structure Report



by Claire Williamson

issued 28th May 2014

on behalf of Scottish Water Shared Services Delivery

RATHMELL 
ARCHAEOLOGY LTD

Quality Assurance

This report covers works which have been undertaken in keeping with the issued brief as modified by the agreed programme of works. The report has been prepared in keeping with the guidance of Rathmell Archaeology Limited on the preparation of reports. All works reported on within this document have been undertaken in keeping with the Institute for Archaeologists' Standards and Policy Statements and Code of Conduct.

Signed Claire Williamson Date28th May 2014.....

In keeping with the procedure of Rathmell Archaeology Limited this document and its findings have been reviewed and agreed by an appropriate colleague:

Checked Thomas Rees Date28th May 2014.....

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Introduction

1. This Data Structure Report has been prepared for Scottish Water Shared Services Delivery in respect of a proposed pipeline running from the Douglas Water at Barmore Wood to the Water Treatment Works at Inveraray, Argyll & Bute. The archaeological works were designed to mitigate the impact on the archaeological remains within their development area to the agreement of the West of Scotland Archaeology Service.
2. The West of Scotland Archaeology Service, which advises Argyll & Bute Council on archaeological matters, provided guidance on the structure of archaeological works appropriate on this site. Rathmell Archaeology Limited has been appointed by Scottish Water Shared Services Delivery to undertake the development and implementation of archaeological mitigation works.
3. The Method Statement (Gordon 2012) provided the detail of the works (archaeological monitoring, exclusion, excavation, post-excavation analyses and publication) for the mitigation pertaining to ground breaking within the development area and hence the direct physical impact on buried sediments.

Historical and Archaeological Background

4. A desk-based assessment and walkover survey was carried out on the development area for the purpose of the Method Statement (Gordon 2012) and a thorough archaeological and historical background covering the findings has already been given in this document.
5. These works identified six potential archaeological sites within close proximity of the proposed route. These comprised a chambered cairn at Barmore Wood, the HMS Quebec naval camp, the Inveraray Castle Designed Landscape, a memorial boulder at North Cromalt, a stone dump at Barvrack and a clearance cairn sat on top of a knoll at Achnagoul.
6. The information gained during the works was also used to divide the pipeline route into lettered sections based on land characteristics. This was then used to propose an archaeological response for the sections where there was both a reasonable potential that a significant archaeological site could have survived and that it could have been obscured by the current landuse.
7. Using this approach, the Method Statement identified two sections (D and H) where archaeological monitoring was thought to be required. Discussions with the West of Scotland Archaeology Service while reviewing this document later added section C to the list of areas to be monitored due to its proximity to the knoll underlying the clearance cairn <6>.
8. In all areas, burn and road crossings were to be excluded from the monitoring works unless the adjacent works identified significant archaeological features.

Project Works

9. The programme of works comprised the archaeological monitoring of groundbreaking works within the three areas identified as C, D and H (Figure 1). The monitoring works on-site took place from the 12th September to the 24th September 2013.
10. As described in the Method Statement (Gordon 2012, *Monitoring*), the groundbreaking works were monitored until the upper surface of the underlying natural subsoil was exposed or the maximum working depth reached. Burn and road crossings were excluded from the monitoring works unless any significant archaeological features were revealed adjacent to them.
11. During the on-site works, the monitoring failed to identify any significant archaeological features in Areas C, D and the majority of Area H. Monitoring works were halted at this point with no further on-site monitoring works required within the remainder of Area H required.

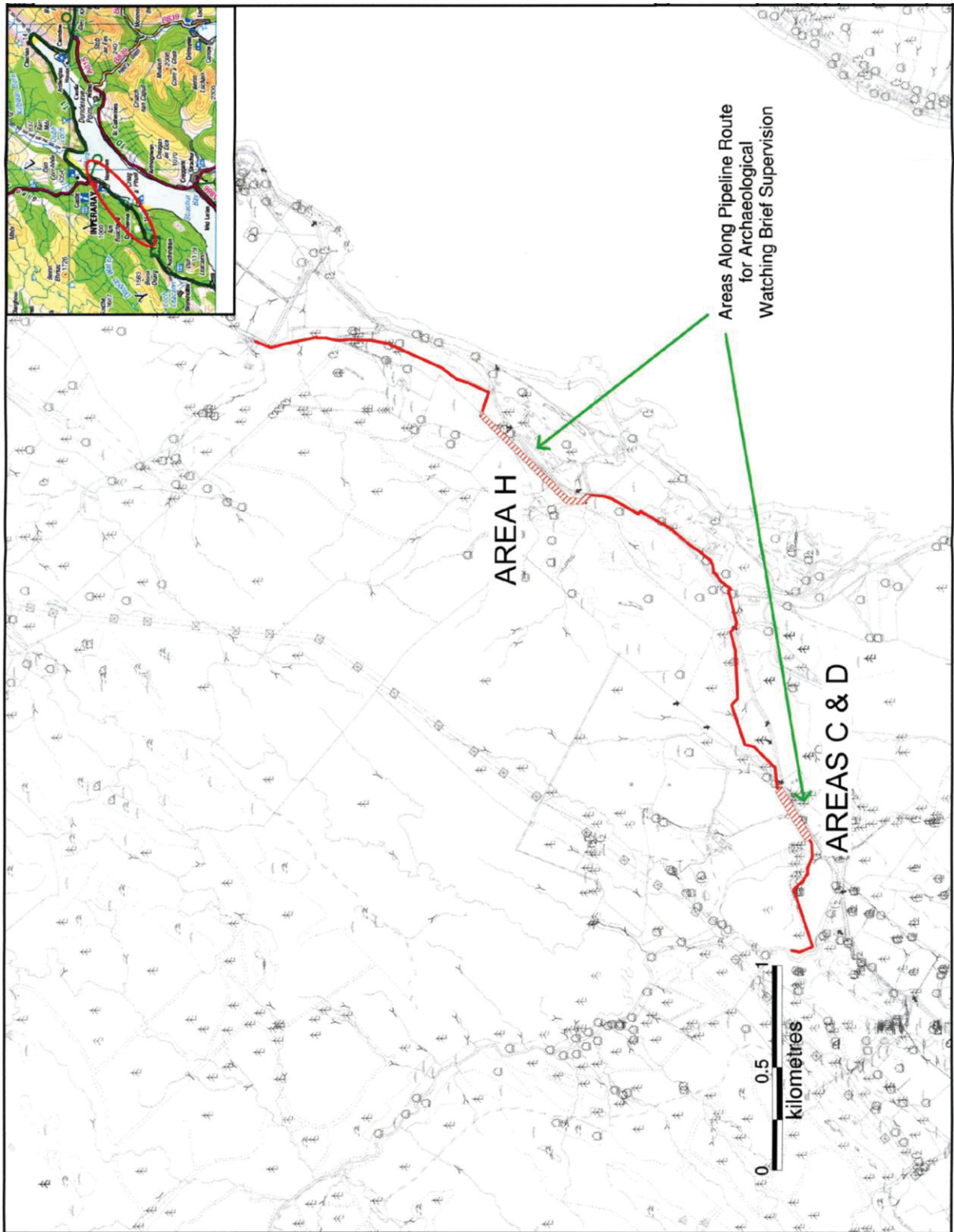


Figure 1: Plan showing areas monitored by an archaeologist

12. At the northeastern end of Area C, an area of peat was exposed (see (007) below). This was not removed during the monitored topsoil stripping: after discussion with the West of Scotland Archaeology Service, it was agreed that due to the heavily waterlogged nature of the ground, we wouldn't be required to monitor the later cutting of the pipe trench through the peat.
13. Outwith the scope of these works and the agreed mitigation strategy, a wooden object was discovered by the contractors on-site during later excavation works. Rathmell Archaeology Ltd were called out to site to collect this item on 11th December 2013 and it was cleaned, packaged and delivered into the care of the National Museums of Scotland in Edinburgh on 6th February 2014. For a description of this object and the circumstances of its discovery, please refer to Appendix 2.
14. In compliance with the Method Statement (Gordon 2012) any potential archaeological features were investigated and recorded. All works were conducted in accordance with the Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Scotland Policy Statements.

Findings

15. Areas C, D and H all lay within areas of enclosed improved grazing to the northwest of the A83. All groundbreaking works were carried out by a 13 ton 360° tracked excavator using a smooth ditching bucket.

Area C

16. The portion of the proposed route identified as Area C was orientated SW-NE, bounded at either end by fencelines and also by a burn at the northeastern end. Topsoil stripping across the full length of the proposed route through Area C was monitored by an archaeologist during the works up until it met the burn at the northeastern end.
17. The area monitored in Area C measured approximately 141m in length and up to 10m wide, totalling an area approximately 1410m² in size (Figure 2). The area was excavated to an average depth of 300mm.
18. Prior to excavation, the entire area was covered by turf with underlying topsoil (006) which comprised a compact dark brown peaty clay with frequent rootlets and moderate small stones. This measured approximately 300mm deep.
19. The works removed the topsoil to reveal natural subsoil underlying it. At the southwestern end, for a length of approximately 28m, this consisted of (010), a compact dark red brown sandy clayey fine gravel with occasional medium sized stone inclusions. This then changed to (009), a compact pale yellow green clay with frequent rootlets and some small to medium sized stone inclusions which was present across the majority of the stripped area.
20. The only area where natural subsoil was not revealed was for the final 43m at the northeastern end of the area, where peat compacted dark brown peat (007) was revealed as underlying the topsoil. The peat was not removed during the on-site works and therefore its full depth was not revealed. This area was very waterlogged (Figure 4a) and ran up to where the burn was located at this end of the area. It was also covered by a high concentration of rushes.
21. The only archaeological features revealed during the works in Area C were a series of red tile field drains (008) distributed across the majority of the area sat in deposits (007), (009) and (010). The drains were orientated N-S and were spaced at regular intervals of 5 to 6m. Each individual drain measured 100mm wide and had been stamped with 'Inchcoonans AD 1960'.
22. No significant archaeological features were uncovered along the length of the area stripped in Area C.

Area D

23. The portion of the proposed route identified as Area D sat adjacent to Area C to the northeast, starting from the other side of the burn and fence at this end, and continued on the same orientation. It was bounded by fencelines at either end. Topsoil stripping across the full length of the proposed route through Area D was monitored by an archaeologist during the works.
24. The area monitored in Area D (Figure 2) measured approximately 140m in length and up to 11m wide, although the stripped area widened at the northeastern end to approximately 33.5m, in order to allow them space to work out the best point for the pipe to cross the burn which sat on the other side of the bounding fence. This brought the total area stripped up to approximately 1750m² in size. The area was excavated to a depth of 250 to 450mm, although where hillwash (005) was present at southwestern end, they excavated deeper, up to 700mm in depth.
25. Prior to excavation, the entire area was covered by turf with underlying topsoil (001) which comprised a compact mid-dark brown clayey sand with frequent rootlets and frequent small to medium sized stone inclusions. This measured approximately 250 to 450mm deep.
26. Underlying the topsoil at the southwestern end, sat hillwash deposit (005). This comprised a loosely compacted pale-mid brown silty clay with occasional roots and small stone inclusions. It was present across the final 9m at this end of the stripped area which was located on a steep downward slope, and measured a maximum depth of 500mm.
27. The works removed the topsoil, and where present (005), to reveal natural subsoil underlying it. This consisted of (002), a moderately compacted mottled pale yellow and mid-dark orange sand and gravel with occasional medium to larger boulders (Figure 4b). This was present across the entire area.
28. The only archaeological features revealed during the works in Area D were a red tile field drain (003) and a series of rubble drains (004). The red tile drain was present towards the northeastern end of the area orientated N-S. The drain itself measured 100mm wide and was sat within a cut measuring 250mm wide and 170mm deep below the upper surface of the subsoil. The cut was filled by topsoil (001) overlying the drain.
29. The rubble drains were spread across the central portion of the area orientated roughly N-S. Eight drains were identified spaced at regular intervals. Each drain sat in a cut measuring 400mm wide and consisted of stones measuring an average size of 100mm by 600 by 70mm.
30. No significant archaeological features were uncovered along the length of the area stripped in Area D.

Area H

31. Area H sat further along the proposed route to the northeast and crossed a larger area. Topsoil stripping across the majority of the length of the proposed route through Area H was monitored by an archaeologist during the works. Gaps were left in between monitored sections due to the presence of burn and road crossings, sections of steep slopes and made ground on either side of these crossings, and areas where trees were still upstanding including an area of dense trees at the southwestern end. As the works never discovered any significant archaeological features within the sections which were monitored it was decided that we would not come back to monitor the stripping of the areas which still remained untouched.
32. The proposed route in Area H was stripped in three sections (Figure 3). The area stripped was altered slightly from the route shown in the Method Statement (Gordon 2013) and sat further to the northwest. This was done in order to avoid working underneath the overhead power lines (shown in blue on Figure 3) but still did not cross any known archaeological sites.

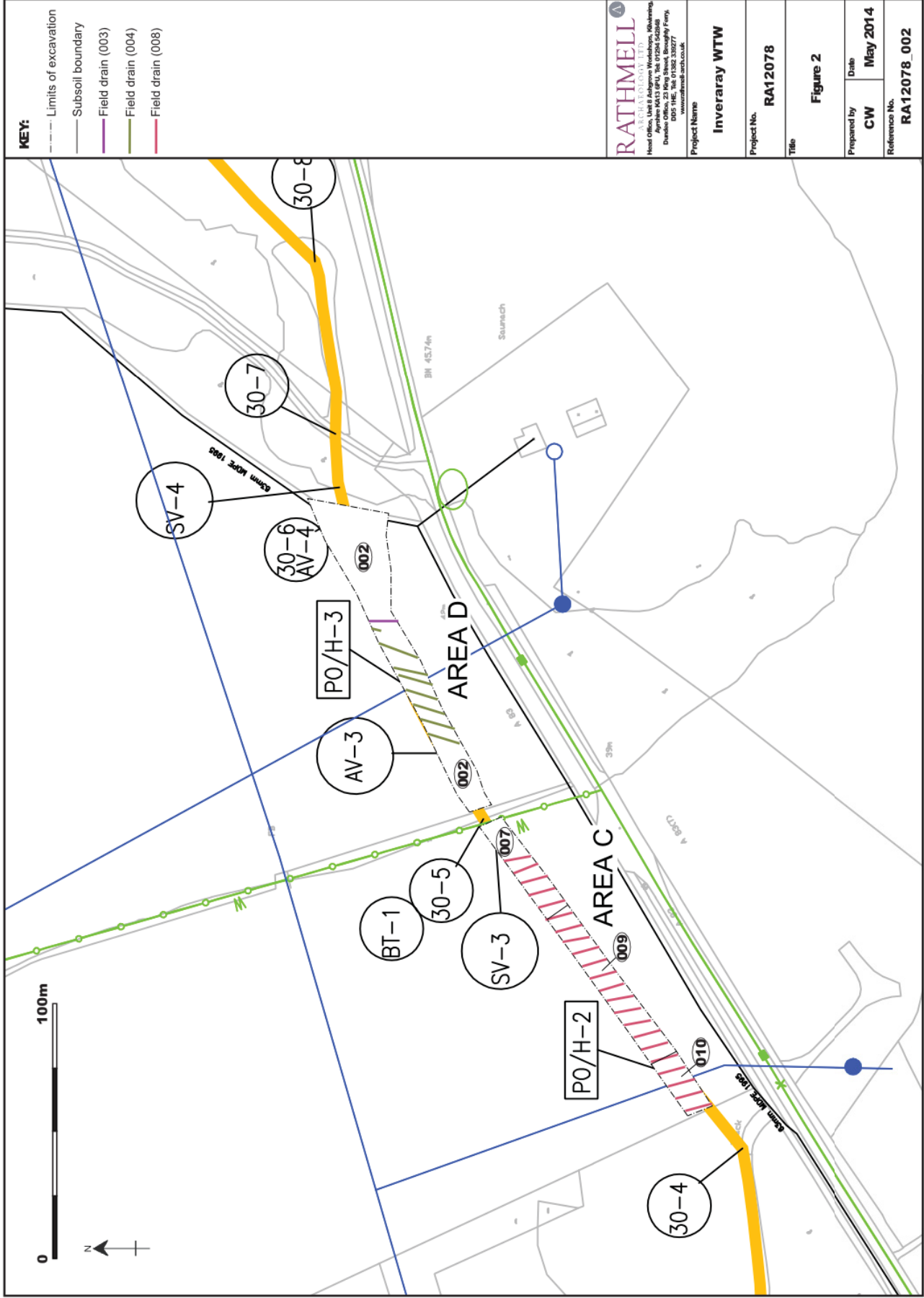


Figure 2: Plan of monitored sections in Areas C and D

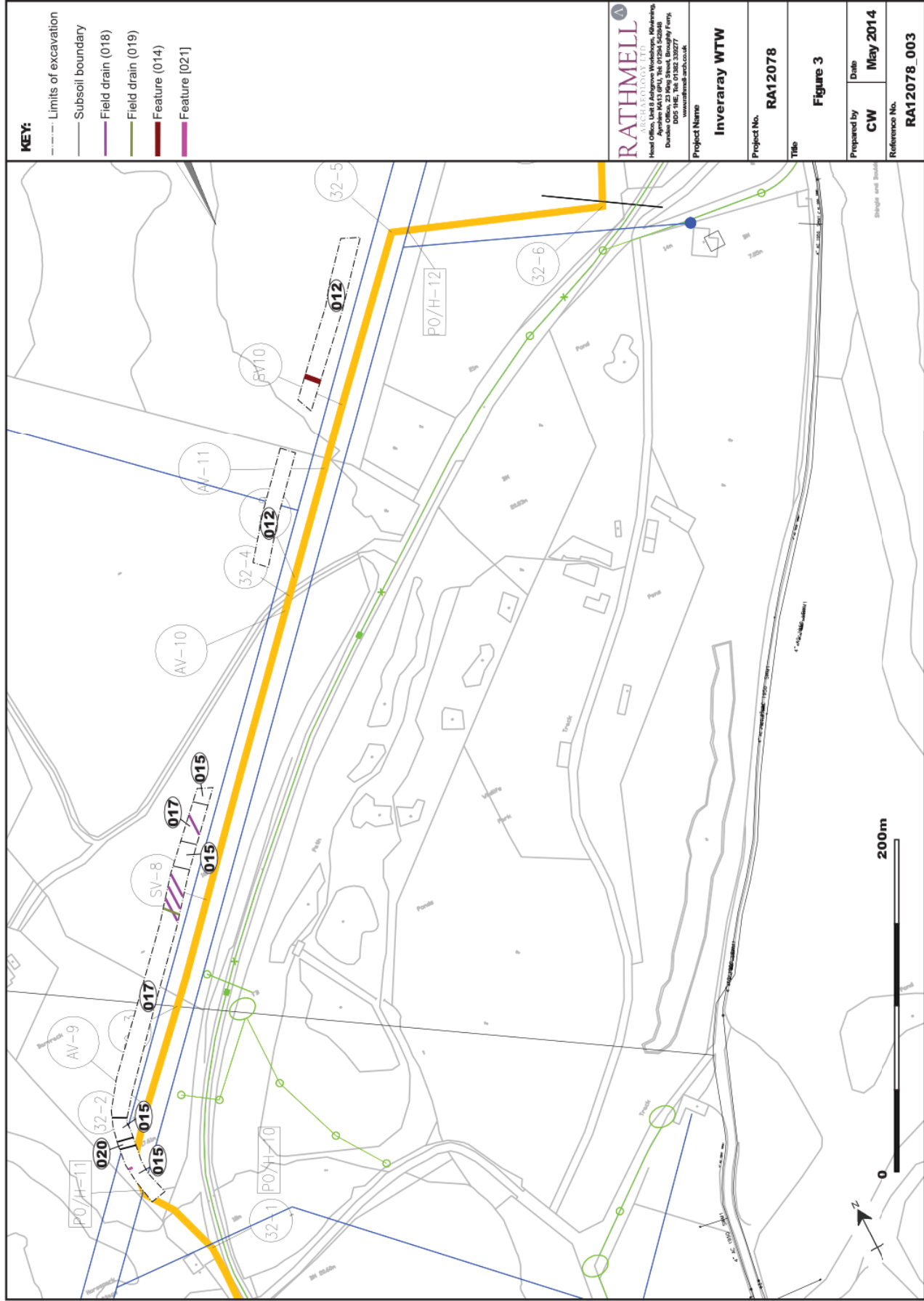


Figure 3: Plan of monitored sections in Area H

33. At the northeastern end, a section measuring 109.5m long and 10m wide was stripped, totalling an area approximately 1095m² in size. The area was excavated to an average depth of 250 to 300mm. This stopped at the site of a burn at its southwestern end, and had a break of approximately 30m where trees were still upstanding on the line of the proposed route.
34. The next section started on the other side of this wall and ran for a length of 73m by 10m wide, totalling an area measuring 730m². This area was excavated to a depth of 250 to 400mm. This stopped for a gap of approximately 135m at the southwestern end due to the presence of the track running up to Barvrack and the steep slopes on either side of it.
35. The third section started approximately 32m to the southwest of the track and ran to the southwest, curving towards the southeast close to the southwestern end. The area stripped measured approximately 259.2m by 10m wide, totalling an area measuring 2592m² in size. This stopped at the edge of an area covered with dense trees near to the road at this end of the area. The area was excavated down to a depth of 200 to 400mm (Figure 5a).
36. Prior to excavation, the entire area was covered by turf with underlying topsoil (011) which comprised a moderately compacted mid-dark brown silty clay with frequent rootlets and small stone inclusions. This measured approximately 250 to 300mm deep.
37. The works removed the topsoil to reveal natural subsoil deposits (012), (015), (017) and (020). (012) comprised a compact pale orange yellow sandy clay with moderate small to medium sized stone inclusions and was present across the full extent of the two sections at the northeastern end of the area. (015) comprised a moderately compacted dark orange clayey sand and gravel with frequent medium sized stone inclusions. This was present in discrete portions at the southwestern end of the first section and at either end of the third section. (017) comprised a moderately compacted mid yellow orange very sandy clay with frequent gravel inclusions and extended across majority of third section apart from the small area where (015) and (020) were present. (020) comprised a very compact pale orange yellow sandy silt with patches of degraded dark orange sandstone. This was located in a small area near to the southwest end of third section, exposed for a length of approximately 5.3m sitting in middle of area where (015) was present.
38. Patches of natural bedrock (013) were also visible in the first stripped section sitting within (012) (Figure 5b). These appeared to consist of pale grey granite and were mostly quite compact although some sections had been broken up. A few of the patches stood high from the surface of the subsoil forming outcrops or mounds visible on the surface. These measured up to 550mm high above the upper surface of the subsoil.
39. Across the third section, hillwash deposit (016) was revealed underlying topsoil (011) and overlying subsoil deposits (015), (017) and (020). It consisted of a moderately compacted pale orange yellow silty clay with moderate small stone inclusions and measured between 150 to 300mm deep.
40. As with elsewhere, field drains were present in the form of both rubble (018) and red tile (019) located towards the northeast end of the third section. Four rubble drains were recorded orientated roughly N-S. Each measured 500mm wide and contained stones with an average size of 180mm by 130mm by 200mm. One red tile drain was recorded orientated NW-SE and measuring 100mm in diameter. The drain sat high and was partially within the topsoil.
41. Located near to the southwestern end of the first section, linear deposit (014) was revealed. This consisted of a line of loosely compacted rubble sitting in a matrix of topsoil (011). Its total extent measured 1.5m wide and 200mm deep, and it was orientated NW-SE. It ran across full width of the stripped area (10m) but continued outwith on either sides. The stones themselves had an average size of 200mm by 180mm by 90mm. This appeared to be either an old rubble drain or possibly an old watercourse which had dried up.

42. Located near to the southwestern end of the third section, linear feature [021] was present. This was orientated WNW-ESE and measured 2m long by 700mm wide and approximately a maximum of 300mm deep. It continued outwith the stripped area on its western end. It had gradual sloping sides (steeper along the north edge) and a very uneven base. It was filled by (022), which consisted of loosely compacted sub-angular boulders each measuring \leq 300mm by 270mm by 180mm in size, with some as small as 100mm by 120mm by 60mm. The stones sat in a matrix of compact black silty clay with frequent rootlets. The lower 150mm of the matrix was paler in colour, a mid brown grey. This feature may have been a dump of stones or is very likely a natural feature, possibly an old watercourse.
43. No significant archaeological features were uncovered along the length of the three areas stripped in Area H.

Discussion

44. The groundbreaking works failed to identify any significant archaeological features within the monitored sections of the proposed route, only revealing features which related to modern 19th and 20th century activity.
45. All three areas (C, D and H) showed evidence of improvement by the presence of both rubble and red tile field drains. These will relate to the use of the area for agriculture throughout at least the 19th and 20th centuries. That the area has been used as agricultural land for some time can be attested to by the cartographic evidence. As discussed in the Method Statement (Gordon 2013), the majority of the land has been shown as rough grazing with some areas of rig and furrow indicated, since the time of Roy's Military Survey of Scotland in 1747-52. The 1st edition Ordnance Survey of 1870-75 showed that improvements had occurred to the layout of the area with the enclosure of fields, and it is likely that it was as part of these improvements that the earliest field drains would have been put in.
46. The presence of both rubble and red tile drains suggests that there was more than one phase of attempting to improve the drainage across the fields and indeed, the date stamped on the red tile drains within Area C of 1960, indicates that these attempts were carried out until quite recently. This is not contradicted by the conditions of the ground witnessed while on site, where, especially in Area C, it could often be heavily waterlogged. The presence of such a large amount of peat (007) in Area C, which occurs when flooding slows the rate of decomposition of the vegetation, indicates that in some areas this waterlogging has been a consistent problem for some time.
47. The tile drain stamped with the name Inchoonans will have been produced at the Inchoonans Tileworks (latterly known as the Errol Brick And Tile Works; Canmore ID 159628) which stood to the northwest of Errol in Perth & Kinross.
48. The two linear features (014) and [021] revealed within Area H appeared to be either naturally formed or related to modern activity. (014) was very loosely compacted and sat within a topsoil matrix suggesting it may be the remains of an old rubble drain or possibly just a natural collection of rubble material. [021] was also fairly loose with a very uneven base. This and the mixed nature of the soil fill suggests that it may be the remains of old watercourse or some other form of natural feature.
49. The stripped area in Area H ran near to the location of the stone dump identified during the walkover of the route (Site 5 as discussed in the Method Statement), which appears to have sat just to the southeast of the area. There was no evidence of a structure at this location and no worked stones were uncovered during the course of the works. As well as the stone dump suggested in the Method Statement, it is also possible that this may be another area of bedrock outcrop as seen elsewhere along the stripped section in this area.
50. It is possible that the lack of significant archaeological features within the stripped areas may be due to a number of factors. The stripped area itself is only allowing us to see a small grab of the landscape. The topography was such that some sections sat on fairly



Figure 4a: Stripped section in Area C from the northeast



Figure 4b: General shot of Area D from the southwest



Figure 5a: Third section in Area H from the northeast



Figure 5b: Northeast section of Area H showing patches of bedrock (013) from the northeast

steep slopes, such as in Area H (Figure 5a), and it is possible that the waterlogging evident in Area C (Figure 4a) has been affected the site for a long period of time. It is also possible that the consistent disturbance stemming from the site's prolonged use for agriculture may have affected the survival of archaeological features, especially any upstanding structures which would have been removed for access with ploughing and the insertion of drainage removing any footings.

Recommendations

51. The archaeological monitoring works failed to identify any significant archaeological features, and the only features revealed appeared to be the result of modern 19th and 20th century activity. Due to this, no further archaeological works on-site are recommended as a direct consequence of these works.
52. The appropriateness and acceptability of our recommendations rest with Argyll & Bute Council and their advisors, the West of Scotland Archaeology Service.

Conclusion

53. Archaeological monitoring works were carried out in respect to of a proposed pipeline running from the Douglas Water at Barmore Wood to the Water Treatment Works at Inveraray, Argyll & Bute. The archaeological works were designed to mitigate the impact on the archaeological remains within their development area.
54. The works were carried out over discrete sections of the proposed route and did not identify the presence of any significant archaeological features. The only archaeological features present were those relating to modern 19th and 20th century activity relating to the land's use for agriculture.
55. As such, no further monitoring works were carried out on the remainder of the proposed route.

Acknowledgements

56. We are grateful to Scottish Water Shared Services Delivery for allowing us the chance to carry out these works and also to the West of Scotland Archaeology Service who gave guidance throughout the project. We would also like to thank Thomas Rees for his support and final editing of this report.

References

Gordon, D. 2012 *Inveraray Water Treatment Works, Security of Supply Project: Archaeological Mitigation, Method Statement*. Unpublished commercial report by Rathmell Archaeology Ltd

Cartographic

Roy, W	1757-52	13 3c & 3f <i>Military Survey of Scotland</i>
Ordnance Survey	1870	First Edition 6 inch <i>Argyllshire Sheet CXXLI</i>
Ordnance Survey	1874	First Edition 6 inch <i>Argyllshire Sheet CXXXIII</i>
Ordnance Survey	1875	First Edition 6 inch <i>Argyllshire Sheet CXL</i>

Appendix 1: Registers

Within this appendix are all registers pertaining to works on-site during the watching brief.

Context Register

Context	Area/ Trench	Type	Description	Interpretation
001	D	Deposit	Compact mid-dark brown clayey sand with frequent rootlets and frequent small to medium sized stone inclusions. Measured 250 to 450mm in depth. Extended across full extent of the stripped area.	Topsoil
002	D	Deposit	Moderately compacted mottled pale yellow and mid-dark orange sand and gravel with occasional medium to larger boulders. Extended across full extent of the stripped area.	Natural subsoil
003	D	Feature	Red tile drain orientated N-S. Drain measured approximately 100mm wide, sat in a cut measuring 250mm wide with a topsoil fill. Located approximately 170mm below upper surface of subsoil (002).	Red tile field drain
004	D	Feature	Rubble drain orientated roughly N-S. Stones measured average size of 100mm by 60mm by 70mm. Cut measured 400mm wide and was filled by pale yellow clay overlying the stones. A total of eight recorded spaced at regular intervals.	Rubble field drain
005	D	Deposit	Loosely compacted pale-mid brown silty clay with occasional roots and small stone inclusions. Located across the final 9m at the SW end of Area D underlying topsoil (001). Maximum depth of 500mm.	Hillwash located on steep slope at SW end of Area D
006	C	Deposit	Compact dark brown peaty clay with frequent rootlets and moderate small stones. Approximately 300mm deep.	Topsoil
007	C	Deposit	Compacted dark brown peat. Very waterlogged. Located at NE end of Area C starting at SW side of burn which marked the boundary of Area C at this side, and continued to the SW for 43m. Full depth unknown as not excavated during the works.	Peat in waterlogged portion of Area C at the NE end
008	C	Feature	Red tile drain orientated N-S. Measured 100mm wide. Present distributed across most of Area C at regular intervals of 5-6m.	Red tile field drain

Context	Area/ Trench	Type	Description	Interpretation
			Stamped with 'Inchcoonans AD 1960'.	
009	C	Deposit	Compact pale yellow green clay with frequent rootlets and some small to medium sized stone inclusions. Located across majority of stripped area.	Natural subsoil
010	C	Deposit	Compact dark red brown sandy clayey fine gravel with occasional medium sized stone inclusions. Located at SW end of stripped area for a length of approximately 28m.	Natural subsoil
011	H	Deposit	Moderately compacted mid-dark brown silty clay with frequent rootlets and small stone inclusions. Measured 250 to 300mm deep.	Topsoil
012	H	Deposit	Compact pale orange yellow sandy clay with moderate small to medium sized stone inclusions. Located at NE end of Area H.	Natural subsoil
013	H	Deposit	Patches of bedrock – pale grey granite. Mostly quite compact although broken up in places. A few of the patches stood high forming outcrops/mounds visible on the surface (up to 550mm high). Present at NE end of Area H, surrounded by subsoil (012).	Patches of natural bedrock
014	H	Deposit	Loosely compacted line of rubble sitting in a topsoil matrix. Measured 1.5m wide and approximately 200mm deep. Orientated NW-SE. Ran across full width of stripped area (10m) but continued outwith at either side. Stones had an average size of 200mm by 180mm by 90mm.	Possible old rubble drain or natural hollow/old watercourse
015	H	Deposit	Moderately compacted dark orange clayey sand and gravel with frequent medium sized stone inclusions. Located close to burn an Area H, near site 5 so would likely have been affected by waterlogging. Also located in small discrete portions in southwestern end of area.	Natural subsoil
016	H	Deposit	Moderately compacted pale orange yellow silty clay with moderate small stone inclusions. Measured 150 to 300mm deep. Located underlying topsoil (011) in central section of Area H, starting at track leading to 'Barvack' and heading SW.	Hillwash deposit
017	H	Deposit	Moderately compacted mid yellow orange very sandy clay with	Natural subsoil

Context	Area/ Trench	Type	Description	Interpretation
			frequent gravel inclusions. Extended across central section of stripped area.	
018	H	Feature	Rubble drain orientated roughly N-S. Measured 500mm wide. Stones had an average size of 180mm by 130mm by 200mm. Four recorded in total located in central section of stripped area.	Rubble field drain
019	H	Feature	Red tile drain orientated NW-SE. Measured 100mm in diameter. Sat high so that it partially sat within the topsoil (011). Located in central section of stripped area.	Red tile field drain
020	H	Deposit	Very compact pale orange yellow sandy silt with patches of degraded dark orange sandstone. Located towards SW end of stripped area for a length of approximately 5.3m.	Natural subsoil
021	H	Cut	Linear shaped feature orientated WNW-ESE. Measures 2m long, 70mm wide and maximum 300mm deep, although ran outwith the western edge of the stripped area. Gradual sloping sides on N edge and steeper on the S edge. Very uneven base. Filled by (022).	Linear feature, possibly a dump of stones or very likely a natural feature
022	H	Fill	Mixed fill of linear feature [021]. Sub-angular boulders (each mostly measured ≤ 300mm by 270mm by 180mm in size, but also down to 100mm by 120mm by 60mm) sat in a matrix of compact black silty clay with frequent rootlets. Some of the stones were quite loose. The lower 150mm of the matrix was paler in colour – mid brown grey.	Fill of [021]

Photographic Register

Image	Digital	Description	From	Date
01	1	General pre ex shot of Area D	SW	12/09/13
02	2	General pre ex shot of Area C	ENE	12/09/13
03	3	General pre ex shot of Area C	NE	12/09/13
04	4	General pre ex shot of Area D	SW	12/09/13

Image	Digital	Description	From	Date
05	5	Area D – wider NE end of stripped area	SW	13/09/13
06	6	Area D – NE end of narrower area	E	13/09/13
07	7	Area D – general shot of NE half (stripped)	S	13/09/13
08	8	Area D – sample shot of SE facing section (SW end)	SE	13/09/13
09	9	Area D – sample shot of NW facing section, showing (005)	NW	13/09/13
10	10	Area D – general shot SW end, sloping down to burn	SW	13/09/13
11	11	Area D – general shot, stripped area	SW	13/09/13
12	12	Area D – general shot, SW half	NE	13/09/13
13	13	Area D – general shot, NE half	SW	13/09/13
14	14	Area C – working shot, exposing peat (007)	ENE	16/09/13
15	15	Area C – exposing peat (007) at NE end	E	16/09/13
16	16	Area C – stamp on field drain (008)	-	16/09/13
17	17	Area C – working shot, peat (007)	ENE	16/09/13
18	18	Area C – working shot, peat (007)	NE	16/09/13
19	19	Area C – general shot of stripped area	NE	16/09/13
20	20	Area C – general shot of stripped area, SW half	NE	16/09/13
21	21	Area C – NE half of stripped area	SW	16/09/13
22	22	Area C – sample of NW facing section	NW	16/09/13
23	23	Area C – general shot of stripped area	SW	16/09/13
24	24	Area C – general shot of stripped area	SSW	16/09/13
25	25	Area H – general shot, NE end from track (pre ex)	SW	17/09/13
26	26	Area H – general shot, NE end from track (pre ex)	SW	17/09/13
27	27	Area H – general shot, central section (pre ex)	NE	17/09/13
28	28	Area H – general pre ex shot of NE end	NE	17/09/13
29	29	Area H – working shot, stripping NE end	NE	17/09/13

Image	Digital	Description	From	Date
30	30	Area H – general shot, stripped area (NE end)	SW	17/09/13
31	31	Area H – shot of bedrock (013)	SW	17/09/13
32	32	Area H – shot of bedrock (013)	NE	17/09/13
33	33	Area H – general shot, NE end	NE	17/09/13
34	34	Area H – general shot, NE end	NE	17/09/13
35	35	Area H – NW facing section of (014)	NW	18/09/13
36	36	Area H – general shot of (014)	NW	18/09/13
37	37	Area H – general shot of (014)	SW	18/09/13
38	38	Area H – general shot, NE end up to burn	SW	18/09/13
39	39	Area H – general shot, NE end up to burn	NE	18/09/13
40	40	Area H – sample SE facing section with (016)	SE	19/09/13
41	41	Area H – working shot, stripping central section	NE	19/09/13
42	42	Area H – general shot, central section	SW	20/09/13
43	43	Area H – general shot, central stripped area	NE	20/09/13
44	44	Area H – general shot, central stripped area	NE	20/09/13
45	45	Area H – general shot towards SW end	N	20/09/13
46	46	Area H – general shot, central section	SW	20/09/13
47	47	Area H – general shot, central section	SW	23/09/13
48	48	Area H – general shot, central section	SW	23/09/13
49	49	Area H – general shot towards SW end	NE	23/09/13
50	50	Area H – general shot, near SW end	SW	23/09/13
51	51	Area H – general shot, near SW end	SW	23/09/13
52	52	Area H – general shot, near SW end	N	23/09/13
53	53	Area H – shot of [021]	ESE	24/09/13
54	54	Area H – ESE facing section of [021]	ESE	24/09/13

Image	Digital	Description	From	Date
55	55	Area H – ESE facing section of [021]	ESE	24/09/13
56	56	Area H – general shot of [021]	S	24/09/13
57	57	Area H – working shot, SW end	S	24/09/13
58	58	Area H – working shot, SW end	WNW	24/09/13
59	59	Area H – working shot, SW end	N	24/09/13
60	60	Area H – shot of SW end	S	24/09/13
61	61	Area H – general shot, SW end	S	24/09/13
62	62	Area H – general shot, SW end	S	24/09/13
63	63	Area H – general shot, SW end	N	24/09/13
64	64	Area H – general shot, SW end	N	24/09/13
65	65	Area H – general shot towards SW end	NNE	24/09/13
66	66	Area H – general shot towards SW end	NE	24/09/13
67	67	Area H – general shot of central section	SW	24/09/13
68	68	Area H – general shot towards SW end	NE	24/09/13
69	69	Area H – general shot towards SW end	N	24/09/13
70	70	Void	-	-
71	71	Void	-	-
72	72	General shot – Area H, area stripped further to SW of wall	SW	24/09/13

Samples Register

Sample No.	Area / Trench	Context	Sample Type	Description / Quantity	Excavator	Date
1	H	022	Bulk x 1 bag	Compact black silty clay with frequent rootlets. Fill of linear, possibly natural	CW	24/09/13

Appendix 2: Wooden Object collected 11th December 2013

NGR: NN 06020 05013

Circumstances of Discovery: The object was found while machine digging a cable trench at a depth of around 1800mm ('at approx. 810m chainage, Duncan Crawfords field'). The weather conditions at the time of the discovery were 'dry for once'. Workmen entered the trench to loosen the object prior to its removal – they claim that at this point, it was dug out in its entirety with no fragments left *in situ*. It was then lifted using the machine bucket and put to one side. One of the workmen was interviewed about the circumstances of the find, and it is largely from his testimony that this account of the discovery is derived.

Sediments: The object allegedly lay on the surface of a deposit of compact grey silt, overlain by peat. The trench had been filled prior to the site visit by archaeologists so the soil horizons could not be verified. The field in which the find took place was waterlogged and boggy, but the exposed surface of the filled cable trench was sand, presumably imported.

Description: The object comprised a section from a hollowed-out log or tree trunk, split in half longitudinally prior to the removal of the heartwood (Figure 6a). It was broken at one end, with the other, complete end, comprising a roughly squared off external surface, and a neatly finished internal face. The exterior surface was deeply fissured, with the bark of the tree potentially still *in situ*.

The base of the interior was flat, the internal section comprising a squared-off 'u'. The external surface of the base could not be examined in any detail in case strain was put on the fragile upper edges, but it did appear to be rounded.

Possibly the most striking feature of the interior was a circular hole (Figure 6b), measuring 0.23m in diameter. This was located in the centre of the base, close to the surviving 'butt' end of the object.

Dimensions: Length: 1.52m (Externally); Width (maximum): 0.56 (External), 0.43m (Internal); Depth: 0.35m (Maximum); Thickness – rear, 'butt' end: 0.19m; Thickness – sides: 0.07m; Basal Thickness: 0.05m. Basal Perforation: 0.22 x 0.23m in extent.

Condition: The object is blackened as a result of its long-term immersion in peat. There has been some cracking of the *in situ* heartwood at the 'butt' end. Over the portion of the interior located close to the 'butt' end, the surface is very well-preserved with traces of tool marks. The edges of the circular hole are also associated with surviving tool marks. It is fragmentary, with the surface poorly preserved at the incomplete end. The upper edges of the sides and rear, 'butt', end are also in poor condition.



Figure 6a: General shot of wooden object



Figure 6b: Hole in base of object from above

Appendix 3: Discovery & Excavation in Scotland

LOCAL AUTHORITY:	Argyll & Bute
PROJECT TITLE/SITE NAME:	Inveraray Water Treatment Works, Security of Supply Project
PROJECT CODE:	RA12078
PARISH:	Inveraray
NAME OF CONTRIBUTOR:	Claire Williamson
NAME OF ORGANISATION:	Rathmell Archaeology Limited
TYPE(S) OF PROJECT:	Watching brief
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	None
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NN 07939 06559 to NN 07573 06104; NN 06162 05096 to NN 05922 04942
START DATE (this season)	12 th September 2013
END DATE (this season)	24 th September 2013
PREVIOUS WORK (incl. <i>DES</i> ref.)	None
MAIN (NARRATIVE) DESCRIPTION: (may include information from other fields)	<p>Archaeological monitoring works were carried out in respect to of a proposed pipeline running from the Douglas Water at Barmore Wood to the Water Treatment Works at Inveraray, Argyll & Bute. The archaeological works were designed to mitigate the impact on the archaeological remains within their development area.</p> <p>The works were carried out over discrete sections of the proposed route and did not identify the presence of any significant archaeological features. The only archaeological features present were those relating to modern 19th and 20th century activity relating to the land's use for agriculture.</p> <p>As such, no further monitoring works were carried out on the remainder of the proposed route.</p>
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	Scottish Water Shared Services Delivery
ADDRESS OF MAIN CONTRIBUTOR:	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire KA13 6PU
E MAIL:	contact@rathmell-arch.co.uk
ARCHIVE LOCATION (intended/deposited)	Report to West of Scotland Archaeology Service and archive to RCAHMS Collections

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