

SURVEY AND WATCHING BRIEF, SIMONSBATH SAWMILL, EXMOOR

PROJECT REPORT

By Hazel Riley



SURVEY AND WATCHING BRIEF, SIMONSBATH SAWMILL, EXMOOR

PROJECT REPORT

By Hazel Riley

Date of report: July 2016

Copyright: © The author

Hazel Riley BA (Hons), ACIFA, FSA
Consultant in Landscape History, Management and Conservation Grazing
The Furley Herd of Dexter Cattle
New House Cottage
Furley
Axminster
Devon
EX13 7TR
01404 881330
hazelfurleydexter@btinternet.com

CONTENTS

ABBREVIATIONS

ACKNOWLEDGEMENTS

LIST OF FIGURES AND IMAGE ACKNOWLEDGEMENTS

1 EXECUTIVE SUMMARY

2 INTRODUCTION

3 HISTORY

4 OBJECTIVES

5 METHODOLOGY

6 RESULTS

7 DISCUSSION

8 ACKNOWLEDGEMENTS

9 REFERENCES

OASIS PROJECT NO 259283

ABBREVIATIONS

ENPA Exmoor National Park Authority

GPS Global Positioning System

HER Historic Environment Record

HLF Heritage Lottery Fund

Front cover The leat, creosote shed and northern side of the sawmill before the groundwork (Hazel Riley)

Figure 1 Location map (© Crown copyright and database rights 2016 Ordnance Survey)

Figure 2 Survey location and topography (© Crown copyright and database rights 2016 Ordnance Survey)

Figure 3 The sawmill and threshing barn (Hazel Riley)

Figure 4 The threshing barn and later lean-to range (Hazel Riley)

Figure 5 Extract 1st edition map (1888) showing the leat, mill pond and sawmill (Reproduced with the permission of the National Library of Scotland)

Figure 6 Extract 2nd edition map (1902) showing the new southern range of the sawmill, the turbine house and the turbine leat (Reproduced with the permission of the National Library of Scotland)

Figure 7 Plan of sawmill (redrawn from Jones 1998), leat, machine trench, F1 & F2

Figure 8 Profiles from the leat to the sawmill, vertical scale x2

Figure 9 The leat to the north of the creosote shed (Hazel Riley)

Figure 10 Detail of the stone facing on the leat (Hazel Riley)

Figure 11 Runoff holding tank on the site of the launder for the sawmill (Hazel Riley)

Figure 12 Path cut by the leat (Hazel Riley)

Figure 13 Stone steps on the northern side of the sawmill yard (Hazel Riley) 3941

Figure 14 Detail of stone wall on the northern side of the sawmill yard (Hazel Riley)

Figure 15 The graded access track to the creosote shed; 1m scale on F2 (Hazel Riley)

Figure 16 Detail of F1, remains of land drain (Hazel Riley)

Figure 17 Stone slab with mortar, 0.5m scale (Hazel Riley)

Figure 18 Pottery found in F2, north of the sawmill (Hazel Riley)

Figure 19 Section of the (?) rim gear for the sawmill water wheel (Hazel Riley)

1.0 EXECUTIVE SUMMARY

1.1 A survey of the area to the north of the sawmill buildings at Simonsbath, Exmoor National Park, and a watching brief in advance of groundwork for an access track and storage area were carried out in May 2016. The survey recorded the 19th-century leat which powered the original waterwheel at the sawmill; a section of gearing found during the groundwork is probably part of the rim gear of this waterwheel.

2.0 INTRODUCTION

2.1 This report sets out the results of an archaeological survey of the area to the north of Simonsbath sawmill and a watching brief, carried out during groundwork for the construction of a graded access track and timber storage area (Blaylock 2015).

2.2 Simonsbath sawmill lies in the village of Simonsbath, within Exmoor National Park, at SS 7715 3918 (Figs 1 and 2).

2.3 A survey of the buildings and machinery, commissioned by ENPA, was carried out by Mike Jones in 1994 (Jones 1994; 1998) and a survey of the sawmill grounds was undertaken in 1997 by S J Rawle for ENPA (information from G Wills and Exmoor HER). Graham Wills has published the results of his extensive research on the history of the sawmill and the lives of the people who worked there (Wills 2015; www.simonsbathsawmill.org.uk).

3.0 HISTORY OF THE SAWMILL

3.1 John Knight bought the former Royal Forest of Exmoor, including James Boevey's old house and farm buildings in Simonsbath, in 1818. He planned to create a great country estate, with a grand mansion house at Simonsbath. The exact date of the first sawmill on this site is not known. By 1833, James Harvey worked in a joiner's workshop for John Knight, this was probably at Pound Cottages. There was also a separate



Fig 1 Location map

carpenter's workshop and yard in the village, with a pit saw, two saw benches, and a saw pit in the yard. This may have been at the site of the current sawmill building; it could equally have been elsewhere in Simonsbath (Wills 2015, 4-5). A sawmill building is mentioned in estate accounts in 1846 but it is unclear where this was (Wills 2015, 7). By 1897 the waterwheel at the sawmill was in need of repair, suggesting a date for its construction of the mid-19th century. Mike Jones found no architectural details to date the buildings, but considered that the sawmill dates from 1855-65, suggesting that it must be at least 30 years old as a report by the Fortescue agent states that 'unless something is done quickly to repair the waterwheel they would be unable to use it for sawing or chaffcutting in the autumn' (Jones 1998, 6).

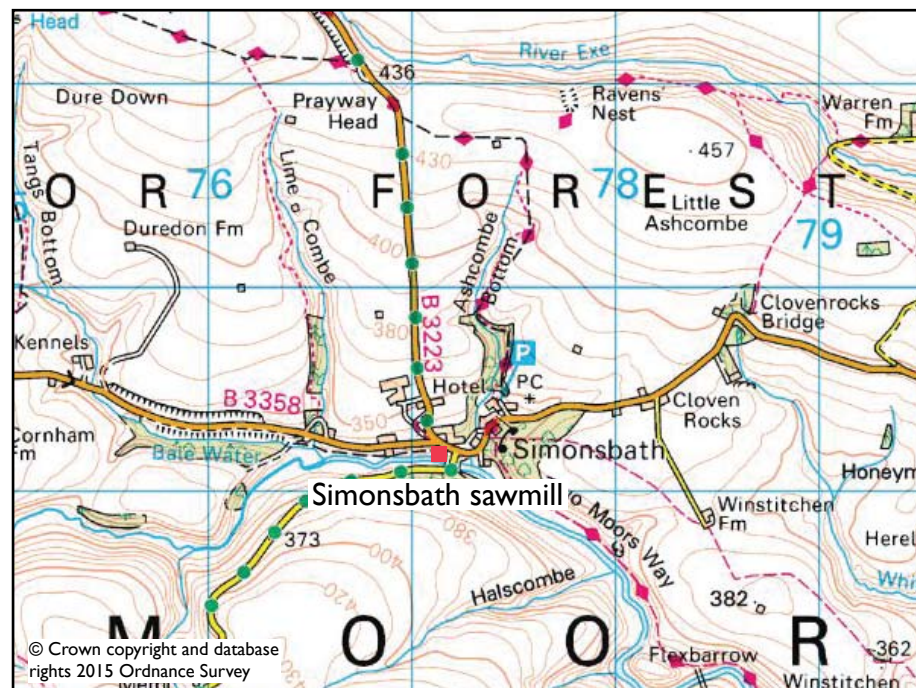
3.2 The buildings on the site comprise two main elements. The north wing consists of the carpenter's shop to the west and the sawmill to the east. The south wing is an agricultural building, used for threshing, grinding and chaffcutting, with a chaff house at a lower level under the south end (Figs 3 and 4). Map evidence indicates that the south



Fig 2 (right)
Survey location
and topography

Fig 3 (above
right) The sawmill
and threshing
barn (Hazel
Riley)

Fig 4 (above left)
The threshing
barn and later
lean-to range
(Hazel Riley)



wing was built between 1888 and 1902 (Figs 5 and 6). A later lean-to range of buildings on the south side of the north wing housed the accumulator room, dynamo room and diesel engine room. A timber shed on the east side of the south wing originally housed a mortar mill.

3.3 Power for the sawmill was originally provided by a waterwheel, fed by a leat which ran from Ashcombe Water, down the western side of Ashcombe to the north of the site of John Knight's mansion house. It formed part of the designed landscape in Ashcombe and also supplied water to Simonsbath House (Riley 2014). The leat filled a rectangular millpond just north of the sawmill which ensured a steady supply into the channel which fed the launder for the sawmill's waterwheel. Burton describes a second pond south of the road fed by a leat from Bale Water but there is little evidence for this (Burton 1994, 41) and it is not shown on the OS 1st edition map which clearly marks the leat in Ashcombe and the millpond to the north of the sawmill, as well as the launder (Fig 5). In 1899 the waterwheel was replaced by a turbine. The floods of 1952 caused the failure of the turbine leat and in 1954 a diesel engine was installed (www.simonsbathsawmill.org.uk).

3.4 Exmoor National Park Authority purchased the sawmill buildings and surrounding land in 1996 in order to safeguard the character of the sawmill in its setting; the sawmill was restored to working condition in 2002-2003 with funding from the HLF. Exmoor National Park Authority used the sawmill until 2010, it is now maintained by a group of volunteers (www.simonsbathsawmill.org.uk).

4.0 OBJECTIVES

4.1 The principal aim of the survey work was to record the location of the leat which provided the first power supply for the sawmill and to record spot heights and profiles from this leat to the sawmill building.

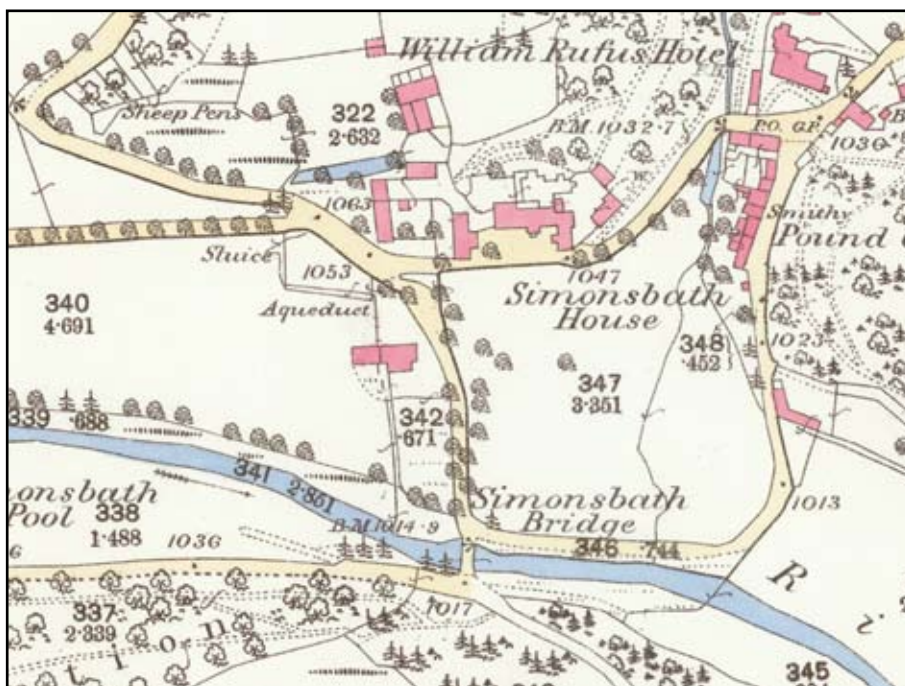


Fig 5 Extract
1st edition map
(1888) showing
aqueduct
(launder),
leat, mill pond
and sawmill
(reproduced with
the permission
of the National
Library of
Scotland)

4.2 The graded access track crosses the line of a launder, marked on the OS 1st edition map of 1888 as an aqueduct, and the principal aim of the watching brief was to look for any evidence of this structure.

5.0 METHODOLOGY

5.1 The survey was carried out on 20/5/2016. Control for the survey was provided using survey grade differential GPS. A total station was used to record the buildings, leat, spot heights and profiles. This survey data was then related to the Ordnance Survey National Grid (OSGB36) by recording common points in the two datasets.

5.2 The watching brief was carried out on 23/5/2016. The location of the trench and the features were recorded using a total station.

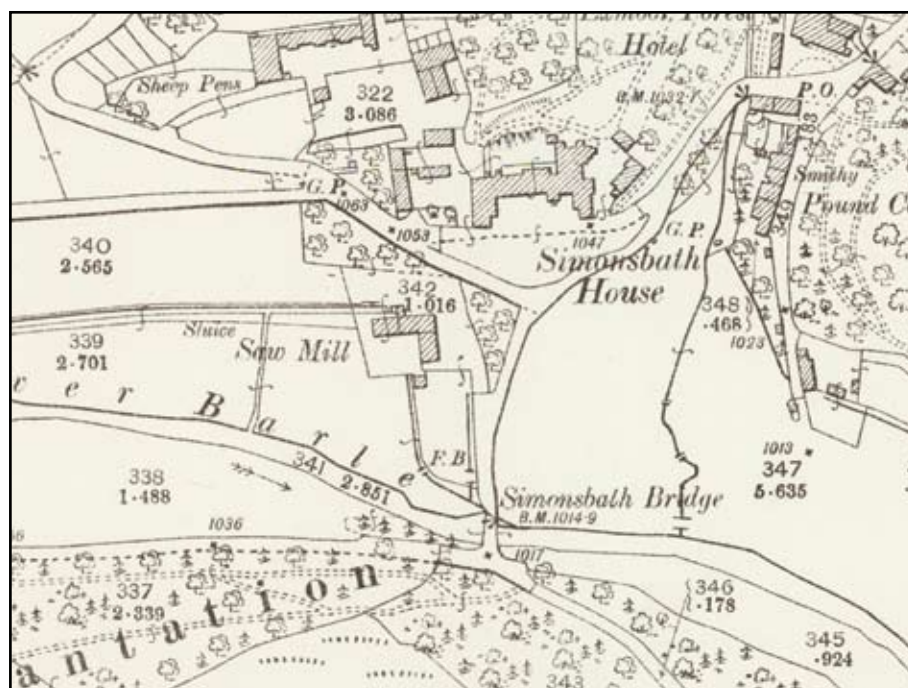
5.3 The project archive, comprising digital copies of this report, a photographic record, and the ceramic finds is located at the ENPA.

6.0 RESULTS

6.1 The survey recorded the area between the sawmill and the B3223 at a scale of 1:200. Spot heights on the leat channel and profiles from the leat to the sawmill floor were measured (Figs 7 and 8).

6.2 The leat channel is 2m wide and 0.5m deep; some stone facing is visible at the west end of the channel. A bank 1-3m wide and up to 1m high lies on the south (downslope) side (Figs 9 and 10). The leat terminates at a recently constructed sump or tank, capped with concrete and a metal grille which holds runoff from the road above (Fig 11). Comparison with the 1st edition map shows that this structure lies on or close to the line of the aqueduct or launder which carried the water to the sawmill's water wheel until the end of the 19th century when it was superseded by a turbine (Figs 5 and 7).

Fig 6 Extract
2nd edition
map (1902)
showing the new
southern range
of the sawmill,
the turbine house
and the turbine
leat (reproduced
with the
permission of the
National Library
of Scotland)



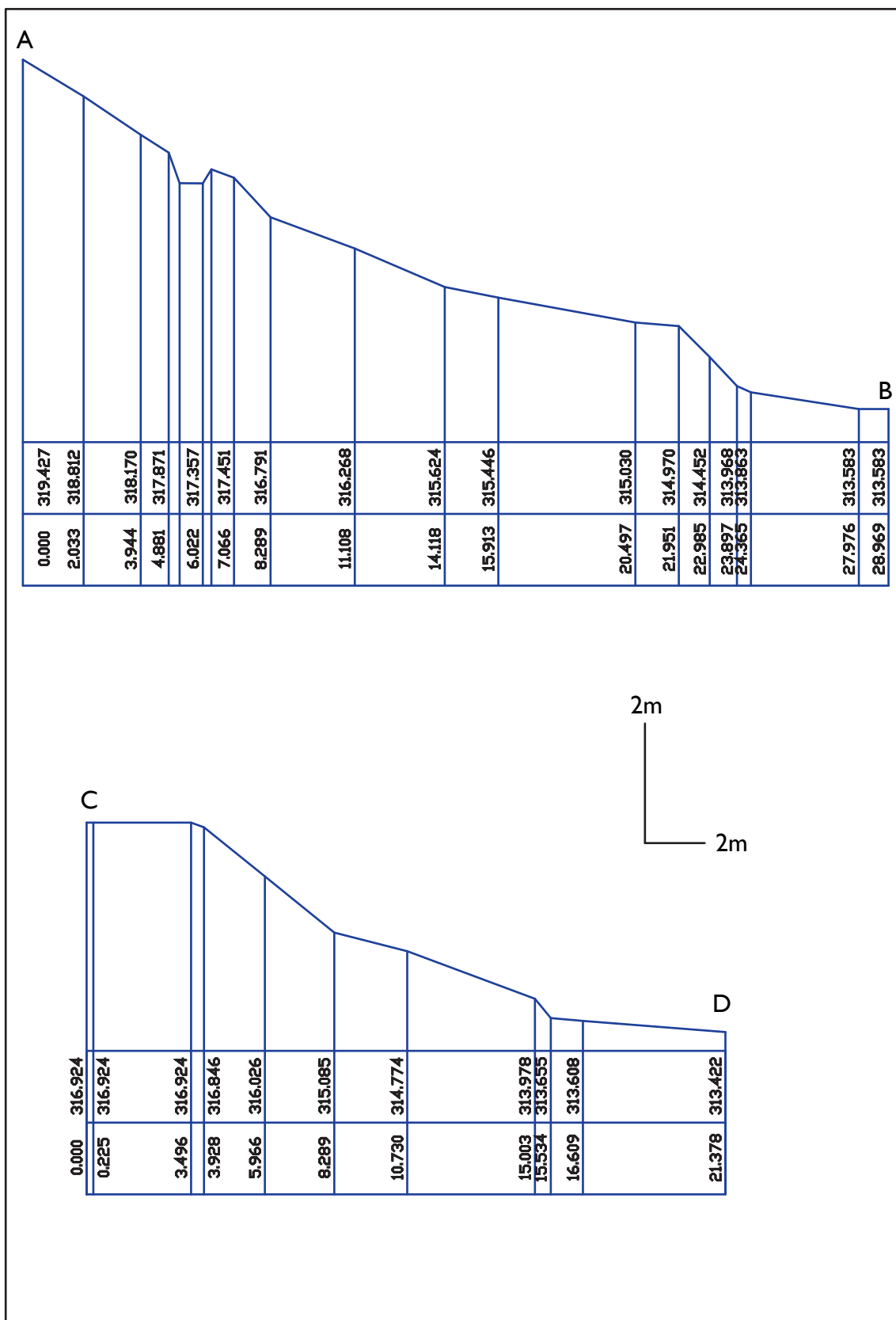


Fig 8 AB Profile from 19th-century leat to sawmill CD Profile on line of 19th-century launder

6.3 A hollow, 5m long, 2m wide and 0.5m deep runs down to the leat and is cut by it. This seems to be a path: stone steps allow access through the stone wall which bounds the northern side of the sawmill yard (Figs 12 and 13). This wall is a massive structure, over 2 m high at its SE end, carefully faced with slabs of local stone (Fig 14).

6.4 The watching brief on the graded access track located two features, F1 and F2, and three large stone slabs (Fig 15). These are shown on the survey plan (Fig 7). F1 is a rectilinear feature, 3.5m long, 0.4 m wide, cut into the subsoil and filled with a brown soil with a very high percentage of gravel; this was interpreted as a land drain and was



Fig 9 (above right) Leat north of the creosote shed, 1m scale (Hazel Riley)



Fig 10 (above) Detail of stone lined leat channel, 1m scale (Hazel Riley)

Fig 11 (right) Runoff holding tank on site of launder for sawmill water wheel (Hazel Riley)



Fig 12 (below right) Path cut by the leat, 1m scale (Hazel Riley)

Fig 13 (below) Stone steps on north side of sawmill yard, 1m scale (Hazel Riley)



not investigated further (Fig 16). F2 is a broad feature, cut into the subsoil and filled with a mixture of re-deposited soil, stone and demolition rubble (Figs 7 and 15). Three stone slabs, one with a fleck of mortar on it, lie at the northern side of the trench, within the fill (Fig 17). This feature is interpreted as a large trench, associated with the runoff holding tank and site drainage, filled with demolition material and domestic rubbish. It was not investigated further.

6.5 Three sherds (one rim and two body sherds) of pottery were found in the fill of F2, close to the three stone slabs (Fig 18). The rim and one body sherd are probably from the same vessel - a glazed earthenware bowl or storage jar. This sort of pottery is typical of the sort of pottery used in a West Country domestic context in the 19th century (Riley 2010, figs 14a;b).

6.6 A metal casting was also found during the course of these groundwork but its context is unclear (information from S Blaylock and G Wills). However, the nature of the groundwork makes it unlikely that it was found in an undisturbed archaeological deposit. The casting is a section of gearing, slightly curved, 455mm long, 55mm wide and 60mm thick, with 9 teeth, 30mm high, spaced at 25mm intervals (Fig 19). It has been suggested that this is a section of the rim gear for the original water wheel, and that the curvature indicates that it drove a water wheel some 12 feet in diameter (information from G Wills).



Fig 14 (below) Detail of stone wall on north side of sawmill yard, 1 m scale (Hazel Riley)

Fig 15 (left) Graded access track to the creosote shed, 1 m scale on F2 (Hazel Riley)

Fig 16 (below left) Detail of F1, remains of land drain, 1 m scale (Hazel Riley)



7.0 DISCUSSION

7.1 The survey has recorded the location of the southern end of the leat which fed the waterwheel. Although the channel has been cleaned out recently (information from ENPA staff), the stone lining which survives at its west end and the spot heights on the base of the channel show that it is the original channel. The profiles and spot heights recorded in the survey (Figs 7 and 8) show that the difference in height between the base of the leat channel at the concrete tank and the floor level of the northern face of the sawmill building is 3.77m.

7.2 Mike Jones and Derrick Warren have considered the site and size of the waterwheel. Mike Jones suggests that the 'whole of the north wing was constructed when the sawmill was first built, and that the waterwheel was sited in a gap in the centre, driving sawbenches in the eastern portion and carpentry machines in the west (Jones 1998, 6). He also suggests that the stone lined pit, below floor level, between the carpenter's shop and the sawmill, which now forms the tailrace for the turbine is the wheel pit for the water wheel (Jones 1998, 2, plan and section pp 11, 12). Derrick Warren has suggested that the wheel was 30 feet in diameter and 5 feet wide, with a wrought iron hexagonal main shaft and timber arms, and was of the pitchback type with between 96 and 100 timber buckets (quoted in Jones 1998, 6). Mike Jones suggests that water from the wheel was brought from the leat by a timber launder reaching the wheel about 4.26m above its axle (Jones 1998, 7).

Fig 17 (right) Stone slabs with mortar, 0.5m scale (Hazel Riley)

Fig 18 (below) Pottery found in F2, 0.2m scale (Hazel Riley)

Fig 19 (below right) Section of (?) rim gear for the sawmill water wheel (Hazel Riley)



7.3 Graham Wills' research work on the Fortescue papers, which detail the difficulties of digging the turbine pit and tailrace in 1888-1899, shows that the waterwheel could not have been located in the turbine tailrace pit (Wills 2015, 22-23). The spot heights and profiles recorded here and the measurements of the curvature of the (probable) section of rim gear, show that the waterwheel was considerably smaller than first proposed, perhaps 12 feet in diameter (information from G Wills). It probably stood in a much shallower wheel pit or at ground level, and was fed by a launder from the leat off Ashcombe Water via a pond to the north.

7.4 The nature of the launder is not known. Photographs of an early 20th-century launder serving a waterwheel for Henroost Mine, Hexworthy on Dartmoor, for example, show that the launder was a wooden trough with timber supports, presumably resting on stone bases (Harris 1992, plate 143; www.dartmoortrust.org/archive/view/107307). The stones with mortar flecks found in F2 are clearly on the line of the launder but from re-deposited material.

8.0 ACKNOWLEDGEMENTS

Thanks to Graham Wills for sharing the results of his research work on the history of the sawmill and the people who worked in it in the 19th and 20th century; Shirley Blaylock facilitated access to the site and helped with the watching brief.

9.0 REFERENCES

- Blaylock, S 2015 Brief for survey and watching brief in advance of levelling work at Simonsbath sawmill, Exmoor National Park
- Burton, R A 1994 *Simonsbath The Inside Story of an Exmoor Village*
- Harris, H 1992 *The Industrial Archaeology of Dartmoor*
- Jones, M 1994 *Simonsbath Sawmill Survey for Exmoor National Park Authority*
- Jones, M 1998 'Simonsbath Sawmill' *Somerset Industrial Archaeology Society* 77, 2-13
- Riley, H 2010 *Excavation of a Deserted Cottage at Summerdown Farm, Northleigh, Devon, for the Parishscapes Project*
- Wills, G 2015 *Three Simonsbath Carpenters* Friends of Simonsbath Sawmill and Exmoor National Park Authority

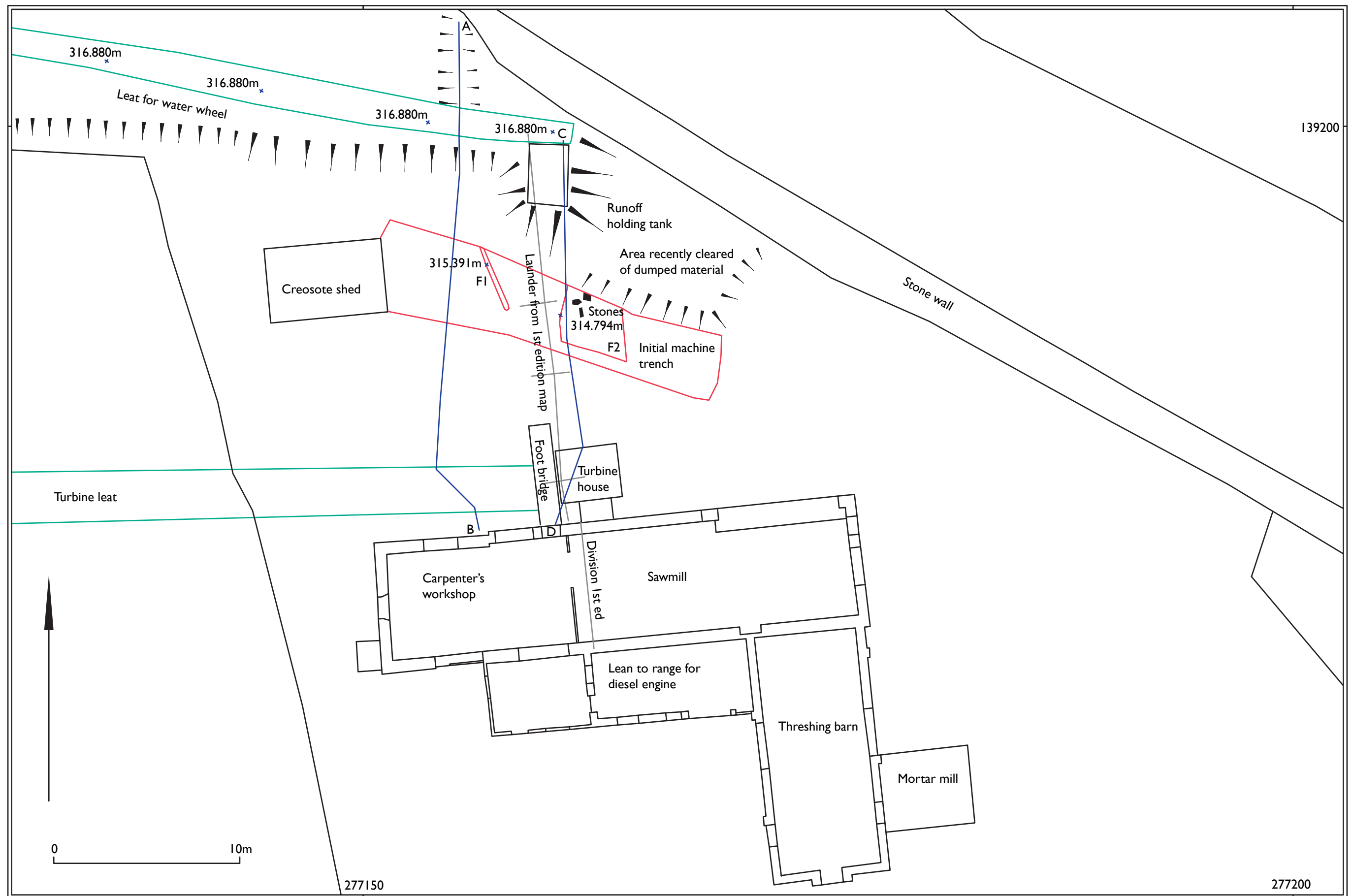


Fig 7 Plan of sawmill, leat, machine trench, and features F1 and F2 (1:200)
(sawmill redrawn from Jones 1998, ground floor plan)

