Simon Pryce Arboriculture

Report

Client:	**Bowood Commercial**
Site:	**Grounds behind Weech Hall, Fortune Green Road, London, NW6 1DJ**
Subject:	**Test drilling of ash tree to assess decay**
Inspection date:	**22 December 2014**
Report date:	**3 January 2015**
Reference:	**14/129**
Author:	**Simon Pryce, B.Sc., F.Arbor.A, C.Biol, MSB, MICFor Arboricultural Association Registered Consultant**

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1 Introduction

1.1 This report has been prepared on the instructions of Bowood Commercial, the managing agents of Weech Hall, Fortune Green Road, London, NW6 1DJ.

1.2 I have been asked to inspect an ash tree growing in the grounds to the rear of the building and to assess its structural condition by test drilling to determine the extent of decay caused by a fungus growing on the lower trunk.

1.3 This report is based on a site visit and inspection of the tree on the morning of 22 December 2014. The tree was visually inspected from the ground, aided with binoculars. The suspected area was probed with a blunt steel probe and the lower trunk test drilled in five locations using an IML Resistograph, a purpose built instrument that measures the resistance of the timber to a fine diameter drill and plots it on a chart, so that the internal condition of the tree can be assessed.

1.4 The charts are appended and are discussed below. The attached photograph shows the tree's base and the sketch plan shows the test drill locations.

2 Background

Council inspection

2.1 The site faces north and the tree is a mature ash growing in the SE corner of the grounds behind the building. It is the subject of a tree preservation order (TPO) and the local planning authority is Camden Council. Nick Bell, one of their tree and landscape officers, advised that there was evidence of decay at the base and that the tree could cause damage in the event of a major failure, so it would be advisable to get it checked by a qualified arboriculturalist.

Treecare inspection

2.2 The tree was subsequently inspected by Treecare, the contractors who regularly work for Bowood Commercial. Their advice is:

Ash (Fraxinus Excelsior): Large, mature, previously reduced tree. This tree has a wound at ground level on the Northwestern side of the stem. The wound is approx. 45-50cm wide at its widest point and extends up and tapers off at approx. 1m. The wound was probably caused by the loss of a sub-dominant stem in the past.

There is a fungus feeding on the dead wood within the wound. The fungus is Auricularia mesenterica. This fungus is primarily saprophytic but can be weakly parasitic attacking exposed and/or dysfunctional wood. The fungus can lead to failure of trunks and branches through hollowing.

The wound sounds solid when knocked with a hammer as does the surrounding wound wood. The only way to ascertain the level of decay would be carry out a decay test (reputable consultants names and numbers provided below).

The tree is getting smothered in ivy and this adds weight and an evergreen sail to the tree. To reduce the mechanical loading on the tree and reduce the like/ihood offailure, the suggested works are: To reduce the tree back to the previous points of reduction, remove deadwood and ivy. (This work is dependent on the results of the decay test, if the tree needs to be removed then we will provide a quotation for this work)

3 Tree

3.1 The tree is a mature ash growing among shrubs in the SE corner of the site, with the base of the trunk almost touching the side boundary fence and about 1.5m from the rear fence. It is about 16m high and has a single trunk approximately 800mm in diameter that divides at about 5m into two main limbs, with the first lateral branches starting at about 8m. It has an overall lean to the south and the crown has radial spreads of about 4m north, 7m south, 6m east and 7m west. The crown has been reduced several years ago following which it has regrown with clusters of new shoots mainly from the pruning points.

3.2 It is carrying a dense growth of ivy up to just above half height, although near the base this has a few well spaced stems which allow reasonably clear inspection of the trunk. On the north side is an old wound starting between two root buttresses. This extends up to about 1.3m, becoming narrower with height, and is occluded by callus growth from round the edges.

Fungus

3.3 The fungus is growing from the lower part of the wound and has partly spread over the healthy bark each side, although it is attached to it rather than growing from it and the buttresses each side of the wound are sound and healthy looking. It is *Auricularia mesenterica,* which is a grey, jelly like membrane, matching its common name of tripe fungus (see photo).

Decay

Probing

3.4 A blunt steel probe could be pushed into the centre of the old wound with little resistance, with a sudden stop at a clearly defined harder zone at about 250mm.

Test drilling

3.5 The tree was test drilled in five locations with the Resistograph to a depth of 500mm, i.e. to about the centre of the trunk or just beyond. The side fence restricted access, but in this case that did not create problems. The charts are attached and the first, low in the wound, found advanced decay to about 250mm where there was an abrupt zone of resistance. Resistance also increases markedly at 350mm, but from 250mm to there the timber shows higher resistance and grain texture. At worst that might be very early decay, but the timber in that zone is currently sound. The fifth test drill, higher up from the same direction, shows that the decayed zone tapers down with height, more or less matching the wound.

3.6 The other three test drills all show sound wood for the full 500mm depth.

4 Discussion

Condition of the tree

4.1 The tripe fungus is growing from a narrow old wound near the base of the tree, which was probably caused by the loss of a subsidiary stem earlier in the tree's life, as noted by Treecare. Healthy trees can compartmentalise timber to resist the spread of fungi, although the success of that depends on the species and vitality of the tree and the fungus concerned. Tripe fungus is not an aggressive decay species and is normally found on dead trees or disfunctional parts of live ones, while healthy ashes have a reasonably strong ability to compartmentalise decay. This can be seen in this tree, as the wound clearly occurred some years ago, but the tree is containing the decay in the wood that was damaged at the time and there are clear reaction zones between that and the surrounding sound timber, some of which will have formed later. The tree is in reasonable health, so will be able to continue resisting any further spread of the decay.

4.2 The decay column narrows with increasing height and probably does not extend higher than about 1.5m, indicating that the decay probably started at about ground level. This fungus does not colonise roots, so the decay is unlikely to extend below ground, which can occur with some other species that are capable of colonising live healthy tissue. The amount of timber decayed is relatively small and is tissue that is less important in supporting the tree than the outermost layers, particularly the root buttresses, which are well developed either side of the original wound.

4.3 In summary the decay is localised and the tree has good vitality, so is containing it. The possibility of failures in exceptional weather cannot be dismissed entirely, but the tree has not been weakened, so severely as to justify removal or major reduction simply as a precaution.

4.4 Inspection with binoculars did not reveal any other fungi on the tree. One species common on ash is *Inonotus hispidus*, which normally grows on higher branches and, unlike tripe fungus, can weaken limbs and create a risk of them being shed.

Tree work

4.5 Ashes tolerate pruning well and the suggested reduction back to the former reduction points would lessen any risk without adversely affecting the tree. As the tree is covered by a TPO that would need consent, but Camden Council are aware of the decay and, from their email message, they evidently anticipate that some work will be required. If they refuse there is a right of appeal to the Secretary of State.

4.6 Much of the tree's weight and wind resistance is created by the ivy and I agree with Treecare that it would be advisable to deal with that. The most practical way is to cut the ivy stems round the lower trunk, leaving a gap of at least ½m, following which it will die and gradually disintegrate. That will also facilitate any future inspections.

4.7 Any pruning should be carried out in accordance with BS 3998: 2010, Recommendations for Treework.

5 Summary and conclusions

5.1 The fungus on the lower trunk is not an aggressive decay species, the tree is healthy and is containing it to a relatively small zone that was damaged when the tree shed a subsidiary stem some years ago.

5.2 The decay has not weakened the tree sufficiently to warrant removal or major pruning, although the proposed reduction back to the former pruning points would sensible.

5.3 It would also be advisable to kill the ivy to reduce weight and wind resistance and facilitate further inspections.

Simon Pryce

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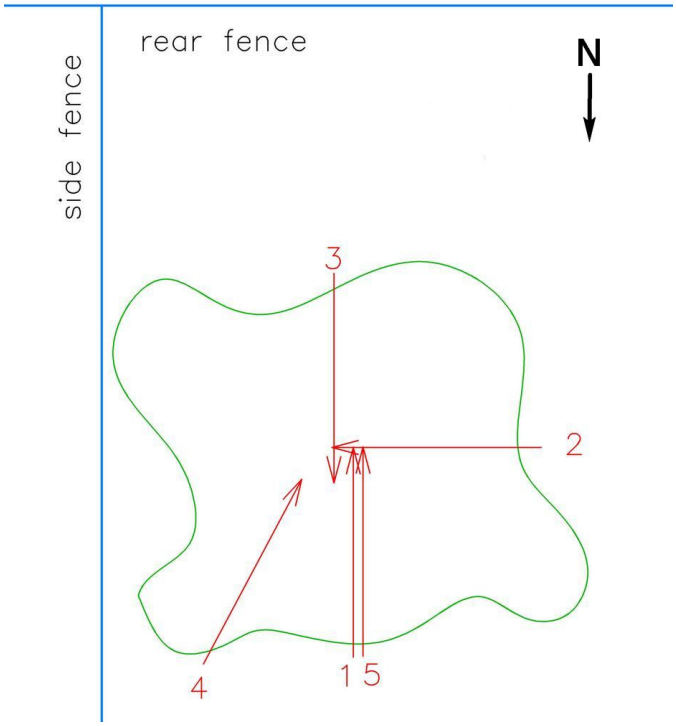
Photograph - N side of the trunk



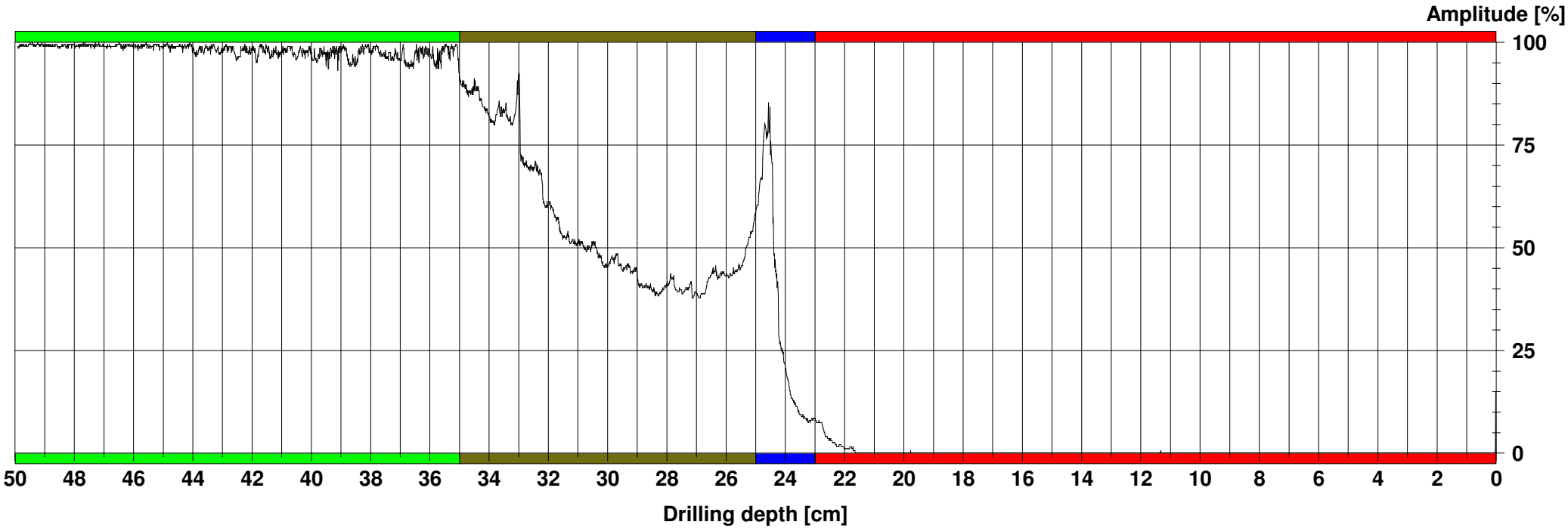
Test drill locations. Nos. 1 - 4 were at about 200mm above ground, no.5 at 1.3m

Measuring / object data

Measurement no.	: 1	**Tilt**	: ---	**Name**	: Bowood Commercial
Drilling depth	: 49,91 cm	**Avg. curve**	: off		
Wood species	: Soft (1)	**Diameter**	: 80,0 cm		
ID number	: 14_129_1	**Level**	: 15,0 cm		
Date	: 22.12.2014	**Direction**	: from N		
Time	: 11:54:18	**Object species**	: Ash		
Advance	: 54 cm/min	**Location**	: Weech Hall		

Cavity detector

Start / stop level	: ---
Maximum start depth	: ---
Mode	: ---
Level / width	: ---
Start / stop	: ---
Resulting length	: ---
Cavity	: ---



Assessment

From	0,0 cm	**to**	23,0 cm	:	Advanced decay
From	23,0 cm	**to**	25,0 cm	:	Reaction zone
From	25,0 cm	**to**	35,0 cm	:	Suspected decay
From	35,0 cm	**to**	50,0 cm	:	Sound wood
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	

Comment

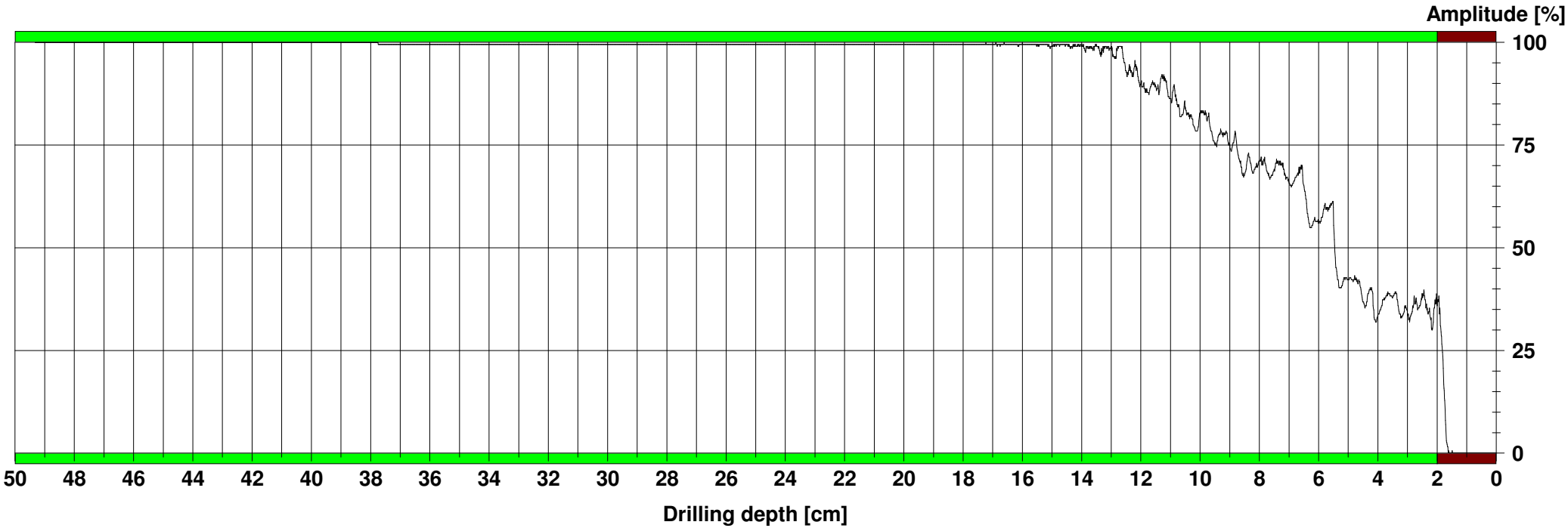
Drilled into wound more or less level. Significant decay to about 25cm, with reaction zone as evidence of the tree resisting it. Possible early decay from there to about 35cm but serrated pattern and increasing resistance are also consistent with sound wood.

Measuring / object data

Measurement no.	: 2	**Tilt**	: ---	**Name**	: Bowood Commercial
Drilling depth	: 49,33 cm	**Avg. curve**	: off		
Wood species	: Soft (1)	**Diameter**	: 80,0 cm		
ID number	: 14_129_2	**Level**	: 20,0 cm		
Date	: 22.12.2014	**Direction**	: from W		
Time	: 11:58:26	**Object species**	: Ash		
Advance	: 54 cm/min	**Location**	: Weech Hall		

Cavity detector

Start / stop level	: ---
Maximum start depth	: ---
Mode	: ---
Level / width	: ---
Start / stop	: ---
Resulting length	: ---
Cavity	: ---



Assessment

From	0,0 cm	**to**	2,0 cm	:	Bark
From	2,0 cm	**to**	50,0 cm	:	Sound wood
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	

Comment

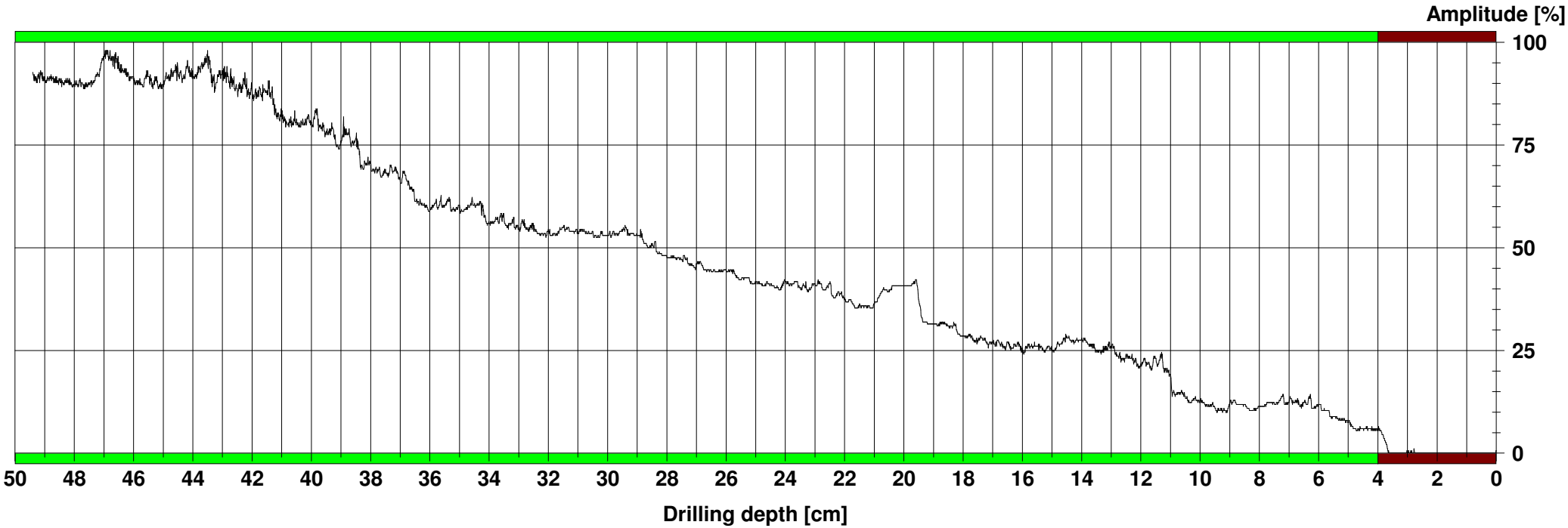
On soft setting, so instrument goes off the scale from about 13cm - next ones are on hard setting. Serrated pattern is due to natural grain texture of sound wood, staedy increase in resistance is due partly to drag on the drill with increasing depth.

Measuring / object data

Measurement no.	: 3	**Tilt**	: ---	**Name**	: Bowood Commercial
Drilling depth	: 49,41 cm	**Avg. curve**	: off		
Wood species	: Hard (2)	**Diameter**	: 80,0 cm		
ID number	: 14_129_3	**Level**	: 20,0 cm		
Date	: 22.12.2014	**Direction**	: from S		
Time	: 12:02:44	**Object species**	: Ash		
Advance	: 53 cm/min	**Location**	: Weech Hall		

Cavity detector

Start / stop level	: ---
Maximum start depth	: ---
Mode	: ---
Level / width	: ---
Start / stop	: ---
Resulting length	: ---
Cavity	: ---



Assessment

From	0,0 cm	**to**	4,0 cm	:	Bark
From	4,0 cm	**to**	50,0 cm	:	Sound wood
From	50,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	

Comment

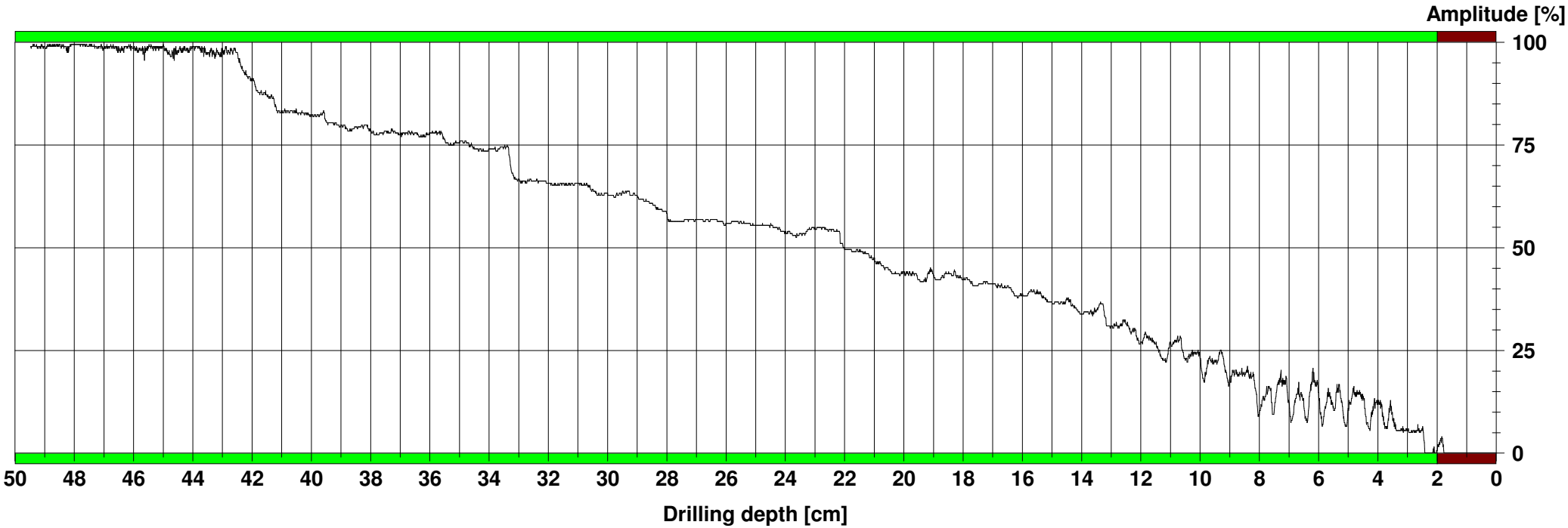
On hard setting, so resistance looks lower than in chart 2, but serrated grain pattern and steady increase in resistance indicate sound wood

Measuring / object data

Measurement no.	: 4	**Tilt**	: ---	**Name**	: Bowood Commercial
Drilling depth	: 49,48 cm	**Avg. curve**	: off		
Wood species	: Hard (2)	**Diameter**	: 80,0 cm		
ID number	: 14_129_4	**Level**	: 20,0 cm		
Date	: 22.12.2014	**Direction**	: from NE		
Time	: 12:06:41	**Object species**	: Ash		
Advance	: 51 cm/min	**Location**	: Weech Hall		

Cavity detector

Start / stop level	: ---
Maximum start depth	: ---
Mode	: ---
Level / width	: ---
Start / stop	: ---
Resulting length	: ---
Cavity	: ---



Assessment

From	0,0 cm	**to**	2,0 cm	:	Bark
From	2,0 cm	**to**	50,0 cm	:	Sound wood
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	

Comment

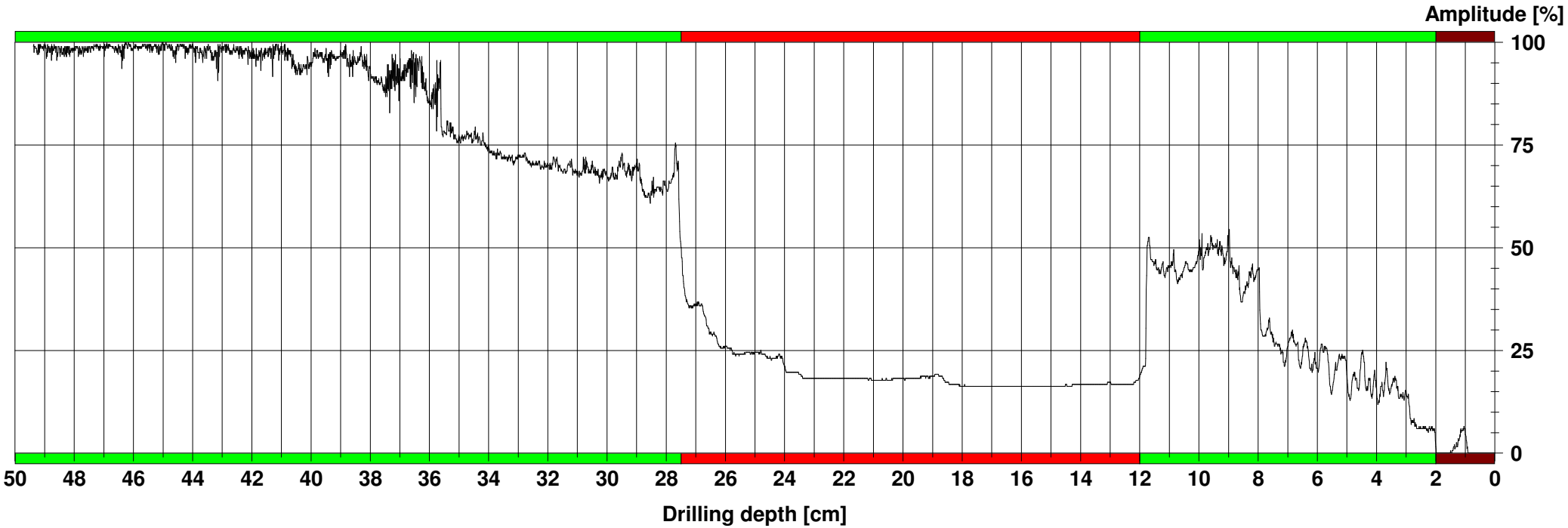
Drilled into buttress to the L of the fungus. Serrated pattern less apparent from about 14 cm, possibly due to drill being near the edge of the decay zone, but steady increase in resistance indicates sound wood.

Measuring / object data

Measurement no.	: 5	**Tilt**	: ---	**Name**	: Bowood Commercial
Drilling depth	: 49,38 cm	**Avg. curve**	: off		
Wood species	: Hard (2)	**Diameter**	: 80,0 cm		
ID number	: 14_129_5	**Level**	: 130,0 cm		
Date	: 22.12.2014	**Direction**	: from N		
Time	: 12:10:46	**Object species**	: Ash		
Advance	: 54 cm/min	**Location**	: Weech Hall		

Cavity detector

Start / stop level	: ---
Maximum start depth	: ---
Mode	: ---
Level / width	: ---
Start / stop	: ---
Resulting length	: ---
Cavity	: ---



Assessment

From	0,0 cm	**to**	2,0 cm	:	Bark
From	2,0 cm	**to**	12,0 cm	:	Sound wood
From	12,0 cm	**to**	27,5 cm	:	Advanced decay
From	27,5 cm	**to**	50,0 cm	:	Sound wood
From	0,0 cm	**to**	0,0 cm	:	
From	0,0 cm	**to**	0,0 cm	:	

Comment

Drilled from the same direction as 1 but near the top of the old wound. Timber is sound with a small pocket of decay indicating that the column of decay is tapering down with height. Well defined boundaries indicate that the tree is preventing the decay from spreading.