



Urban Tree Experts

BS5837 – Tree Surveys – Ecological Consulting

VISUAL TREE ASSESSMENT AT SILVERWOOD LONDON ROAD ASCOT



**Prepared for:
Mr P Robinson
Silverwood
London Road
Ascot
SL5 7EQ**

Ref: SPH/VTA-23/28.11

7 December 2023



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1. INTRODUCTION.

1.1 Instructions.

1.1.1 Urban Tree Experts were instructed by Mr P Robinson of Silverwood, London Road, Ascot, SL5 7EQ to carry out a visual tree assessment upon 1 sweet chestnut tree. The tree is located within the grounds of Silverwood and Redwood, London Road, Ascot.

1.1.2 We are further instructed to provide a report commenting upon the structural and physiological condition, health and safety of the tree and to produce a schedule identifying works required as a result of our investigations.

1.2 Background information.

1.2.1 This is our first survey of the tree, and we have no connections with any of the parties involved in this case that could influence the opinions expressed in this report.

1.3 Scope.

1.3.1 This report is concerned specifically with the structural characteristics and physiological condition of the tree we inspected. The primary purpose of this report is to establish the physiological and structural condition of the trees and formulate management proposals in line with industry best practice.

1.3.2 The basic visual tree survey process is a simple data collection process; it followed procedures comparable to those prescribed by Lonsdale, 1999¹, Mattheck and Breloer, 1994² and National Tree Safety Group 2011³ gathering visual information, for trees and groups, on such things as:

- Tree size, age and health
- Tree species
- External Biomechanical signs
- Previous history of pruning
- External signs of decay
- Field identification of fungi.

1.3.3 Where appropriate the process may then require data from further diagnostic tests for example:

- Maps of decay or cracking
- Vitality testing
- Pathogen identification

1.3.4 Recommendations or options are then drawn up taking into account the type of site usage and the target area.

1.3.5 The information contained in this report covers only the tree that we examined and reflects the observed condition of the specimen at the time of inspection.

¹ Principles of Tree Hazard Assessment and Management, DoE booklet Research for Amenity Trees No. 7, 1999

² The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994

³ Common Sense Risk Management of Trees. National Tree Safety Group, The Forestry Commission 2011



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- 1.3.6 The visual tree inspection offers no guarantee, either expressed or implied, of the internal condition of the stems, furthermore, no warranty that problems or deficiencies may not arise in the future can be given.
- 1.3.7 Care has been taken to obtain all information from reliable sources, and all data has been verified where possible. However, no guarantee can be given of the accuracy of information provided by others.
- 1.3.8 Please note: all abbreviations introduced in brackets are used throughout the report.

1.4 Plans and documents.

- 1.4.1 We have prepared a simple tree location plan based courtesy Google Imagery ©2023 Getmapping plc as reproduced below. The tree location is circled red below.



1.5 Site visit.

- 1.5.1 The site visit was undertaken by Simon Holmes MSc. MICFor. of Urban Tree Experts on the 28 November 2023. The weather conditions were dry and bright, and we had full access to the tree.
- 1.5.2 The tree was inspected from the ground with the aid of binoculars, no climbing inspection was conducted.
- 1.5.3 The main stem of the tree was drilled 5 times with the IML Resi PD400 to assess the density of the wood. A brief overview of the equipment used, and the results are attached at Appendix 1.



2. THE SITE.

2.1 Site description.

2.1.1 The tree is located within the grounds of Silverwood and Redwood and is 12.6 metres from Redwood and approximately 4 metres from the London Road. It is set within the remains of a herbaceous border containing several other mature trees. There are views of the tree from the adjacent dwellings, London Road and Carbery Lane however, views from the wider landscape are limited due to the massing of buildings and sylvan nature along the south side of London Road. As a result of the trees size, age, condition and location it is considered to be high risk should it or any part of it fail.

3. SURVEY FINDINGS AND OPINION.

3.1 General.

3.1.1 The tree dimensions were recorded with the aid of a Nikon™ laser hypsometer and the diameter with a rounded down diameter tape. The results are set out in the schedule below.

Tree Number	Tree Species	Height (m)	Diameter (mm) @ 1.5m AGL	Crown Spread Av	Age Class
T1	Sweet chestnut	24	950	5	Mature

Key: m = metres mm = millimetres AGL = above ground level est = estimated Av = average

3.2 Findings and opinion.

3.2.1 There were no visible signs of movement around the base of the tree, no soil heave, mounding or cracking was observed, and the root zone appeared stable at the time of inspection. Soil and leaf litter was scraped back where possible from around the base of the tree in order to examine the root collar for fungi, no pathogens were observed.

3.2.2 The stem was sounded with a solid rubber mallet to a height of approximately 1.8 metres above ground level (AGL) and a hollow intonation was heard on the southeast side at 1.0 metre AGL. The IML PD400 Resi drill was used to assess the wood density with 4 measurements undertaken at ground level and one at 1.5 metres AGL.

3.2.3 Of the ground level measurements both the north and west measurements show a significantly low levels of wood amplitude (density) and the control test at 1.5 metres AGL also indicates a low wood density.

3.2.4 After clearing away leaf litter at the base we observed two areas of damage bark both at ground level and both on buttress roots on the northeast and northwest sides, see examples at Figure 1 on page 6.



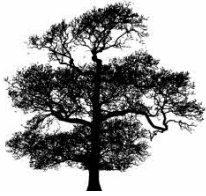
Figure 1



- 3.2.5 The main stem has a natural taper and the bark, with one exception, is true to type and firmly attached. A small area of abnormal bark, lacking the deep fissuring normally associated with mature species, was observed on the southeast side and when tapped with a mallet it sounded hollow, see Figure 2 below. The main stem is co-dominant at approximately 16 metres and has an open union with no obvious structural defects of the main stem.
- 3.2.6 The tree was included in a tree survey for the redevelopment of the site in 2012 and the inspector noted that there was “major deadwood to NE forming extended latera to road with former branch stubs”. Pruning was undertaken in 2016 (crown lifted by 3 metres) and crown reduction (by removal of deadwood) in 2017.

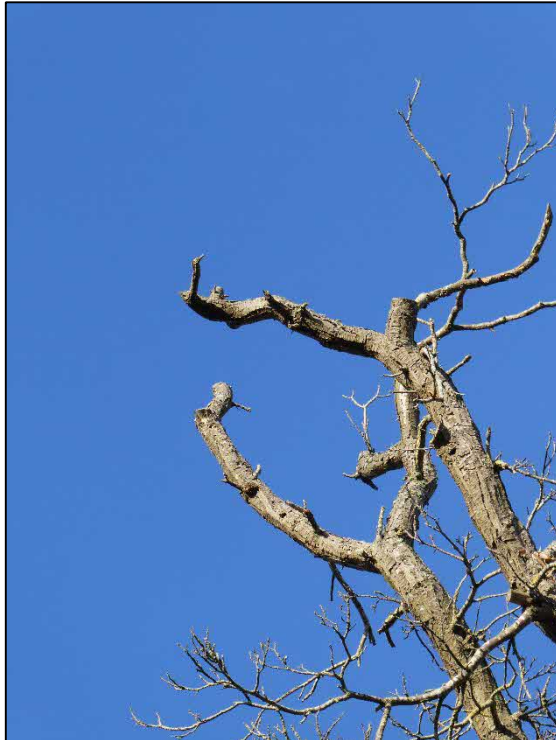
Figure 2





- 3.2.7 The physiological appearance, for the time of year, was abnormal for the species. As leaf cover had fallen revealing the lateral and secondary branches together with the twigs and buds. The canopy is biased having been suppressed by an adjacent mature beech tree and it is also evident that it has been reduced, this can be seen in Figure 3 below. A search of the Royal Borough of Windsor & Maidenhead website revealed an exchange of emails between Tree Officer Alastair Barnes and Tree Works Contractors, Out There Trees Ltd, between 24 and 28 February 2017 that resulted in a crown reduction by removal of dead wood.

Figure 3



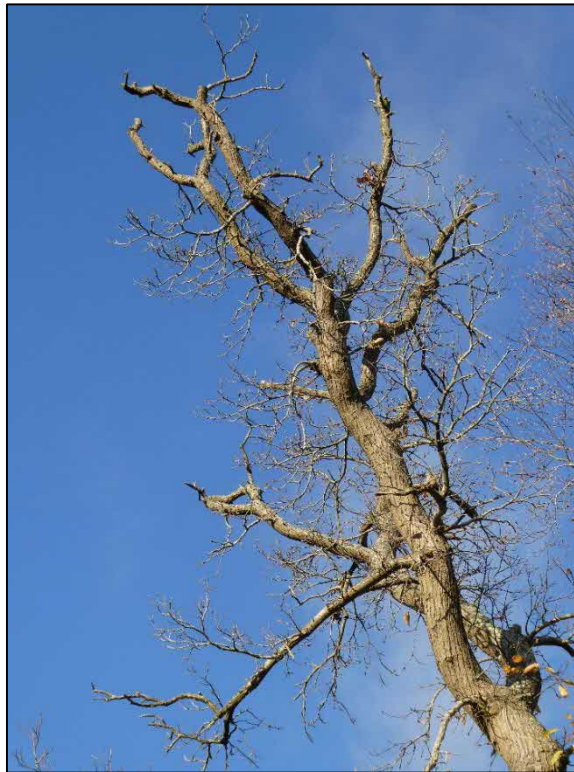
- 3.2.8 The upper canopy has extensive die back and significant deadwood, this can be seen in Figure 3 above and Figure 4 below, the deadwood having occurred since the last reduction in 2017. Extension growth, secondary branching and bud structure in the upper canopy is very limited and the overall physical and structural appearance is very poor, see Figure 5 on page 8.

Figure 4





Figure 5



4. CONCLUSIONS.

4.1 General.

- 4.1.1 The tree has extensive deadwood, peripheral die back and has poor structural form. The risk of this tree or parts of the tree failing is high and the target areas surrounding the tree are in constant use. Remedial measures are required to mitigate the risk to an acceptable level.
- 4.1.2 Following the crown reduction by removal of deadwood in 2017, the deadwood visible during this inspection indicates the tree has declined considerably within 6 years and is unnatural for the species.
- 4.1.3 The trees structural and physiological appearance indicates that it is in decline, this is evident by both terminal dead wood and peripheral die back, with poor secondary growth and bud structure.
- 4.1.4 The site redevelopment in 2012 when two new properties (Redwood and Silverwood) were constructed most probably resulted in some form of root damage. The damage at the base of the stem shown in Figure 1 may also have occurred at this time. The root protection area (RPA) calculation undertaken prior to the planning application indicated tree (T)8 (sweet chestnut) had a 10.6 metres radius and the existing car parking and access road are all within 10.6 metres. It is unknown if there was an existing access or car park where it now exists. There is a slight change in levels where the block paving (parking area) has been constructed and it is highly probable that root severance, soil compaction and levels changes occurred at the time of development. The trees decline is most probably a combination of root damage, (post development stress) and fungal infection.



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- 4.1.5 The decay detection drillings undertaken on the north and west sides along with the control drilling at 1.5 metres AGL all indicate low wood density that are consistent with fungal infection.
- 4.1.6 The bark anomaly may have been due to mechanical damage during development and as the bark is thin it should not produce a hollow intonation. The hollow sounding from this area is most probably due to delamination of the bark.
- 4.1.7 The decline of trees can take many years before the tree becomes a hazard and they require remedial measures. The extent of decline that has occurred to this tree since it was last pruned is considerable and requires intervention to reduce the risks associated with it.
- 4.1.8 Tree failure: many attempts have been made to establish prescriptive tree failure prediction criteria. These range from calculations of that part of the internal area, which is either hollow or significantly decayed, tree pulling, to comparisons of height and trunk diameter at 1.5 metres from ground level. Most of these attempts at predicting failure have been questioned and cannot be relied upon as accurate at this time.
- 4.1.9 Most mature trees contain defects, frequently significant, many of which have not been detected and they fail comparatively rarely under normal conditions. The question arises as to what will trigger failure. This is impossible to predict however, it is generally a particular (not necessarily unusual) environmental condition. For example, trees are well-adapted to withstand wind however, if subject to a loading to which they have not adapted they may fail. This becomes more problematic when the actions of wood-decaying pathogens in the roots, stem or branches are factored in. A branch, root system or trunk may be extensively decayed, but resist failure for many years however, weakness may reach a critical point upon which the branch or trunk may no longer be able to support itself and may fail without warning such as the freak conditions of the 'Great Storm' in 1987.

5. RECOMMENDATIONS.

5.1 Works required.

- 5.1.1 In preparing these recommendations consideration has been given to the amenity provided by the tree and the duty of care owed by the occupant. Works are required in the interest of safety and good management.
- 5.1.2 The following management options are considered, removal of deadwood, crown reduction or felling.
- 5.1.3 The removal of deadwood alone from this tree will not significantly reduce the risks associated with tree failure. Further deadwood removal will effectively constitute another crown reduction consistent with the works carried out in 2017 and the trees visual amenity and landscape character will diminish further. As further decline can be expected if such works are undertaken, costly management will have been undertaken for little tangible benefit.



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- 5.1.4 We recommend that the tree is felled in sections to ground level and the stump ground out to a minimum depth of 400 millimetres below ground level. The arisings from the stump grinding must be removed from site and the hole filled with a high-quality topsoil in accordance with British Standard (BS) 3882:2015. A replacement tree (*Castanea sativa*) minimum size 10-12 centimetres container grown must be planted in accordance with BS 8545: Trees from nursery to independence in the landscape Recommendations.

6. LEGAL STATUS ON THE TREE.

During the desk top study it became apparent that the tree is covered by a Tree Preservation Order (TPO), therefore a tree work application must be made to the Royal Borough of Windsor & Maidenhead and consent granted prior to any tree works commencing on site.

7. ARBORICULTURAL STANDARDS.

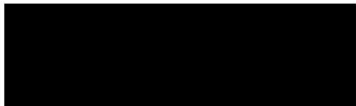
- 7.1 All tree works recommended should be carried out in accordance with British Standard BS 3998:2010 Tree Work Recommendations and should be undertaken by a properly qualified and experienced tree contracting company. It is advised that they should carry public and products liability insurance of £5 million cover.
- 7.2 Trees are dynamic structures and therefore subject to many changes. Wind loading, if sufficiently high enough, can blow over the healthiest of trees. Where decay or root structure is compromised there is an increased risk of failure and therefore regular inspection is recommended.

8. QUERIES.

- 8.1 Any queries regarding this report should be addressed, in the first instance, to Urban Tree Experts:

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Tenbury Wells
Worcestershire
WR15 8NX

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APPENDIX 1

Resi PD400: The Resi is a mechanical drilling machine with a constant drive, which measures the drilling resistance and rotational speed along a needle, when inserted into the tree. The result is displayed on a digital panel and stored electronically at a scale of 1:1, measurement is in metric units.

The drilling and advance rate may be varied for hard or softwoods. The drilling resistance is correlated with the mechanical properties, and defective areas that have developed within the tree may be detected and assessed.

Examples of defects detected by the Resi may be dysfunctional areas such as internal cracks, areas of decay and hollowing. Remaining wall thickness may be determined to a depth of 400 millimetres. The instrument is adept at detecting the early stages of decay in white rots as well as detecting brown rots at an early stage.

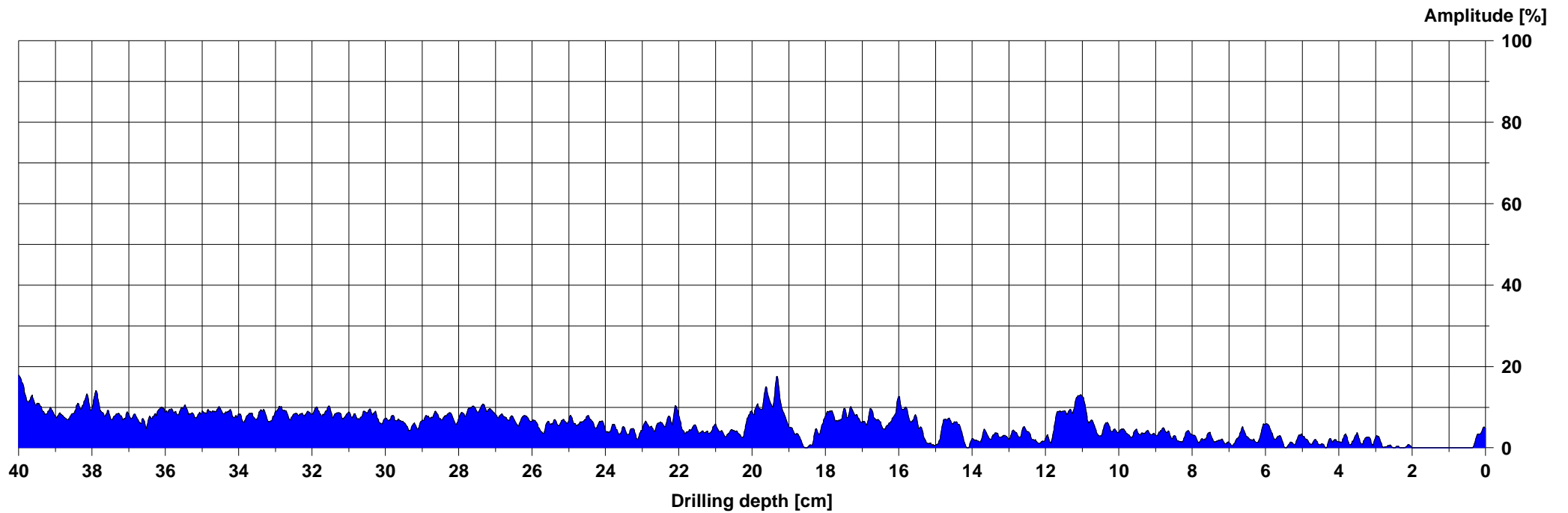
The drilling needle is specially formed and the tip is only 3 millimetres wide with a shaft diameter of 1.5 millimetres, thereby keeping internal damage to a minimum and reducing the risk of further fungal infection.

Interpreting these drilling readings:

The object data field (top left of each page) provides information on the date, depth, needle speed and site specific information. The assessment field (bottom left of each page) provides a detailed analysis of specific areas of dysfunction and may be also be colour coded. Readings are normally from right (entry into the tree) to left.

Measuring / object data

Measurement no.:	1	Speed	: 2500 r/min	Diameter:	95,00 cm
ID number	: SILVERWOOD	Needle state:	---	Level	: 10cm
Drilling depth	: 40,00 cm	Tilt	: 0°	Direction:	North
Date	: 28.11.2023	Offset	: 120 / 654	Species	: Sweet Chestnut
Time	: 13:50:52	Avg. curve	: off / off	Location	: Silverwood
Feed	: 100 cm/min	Name	: Mr P Robinson		



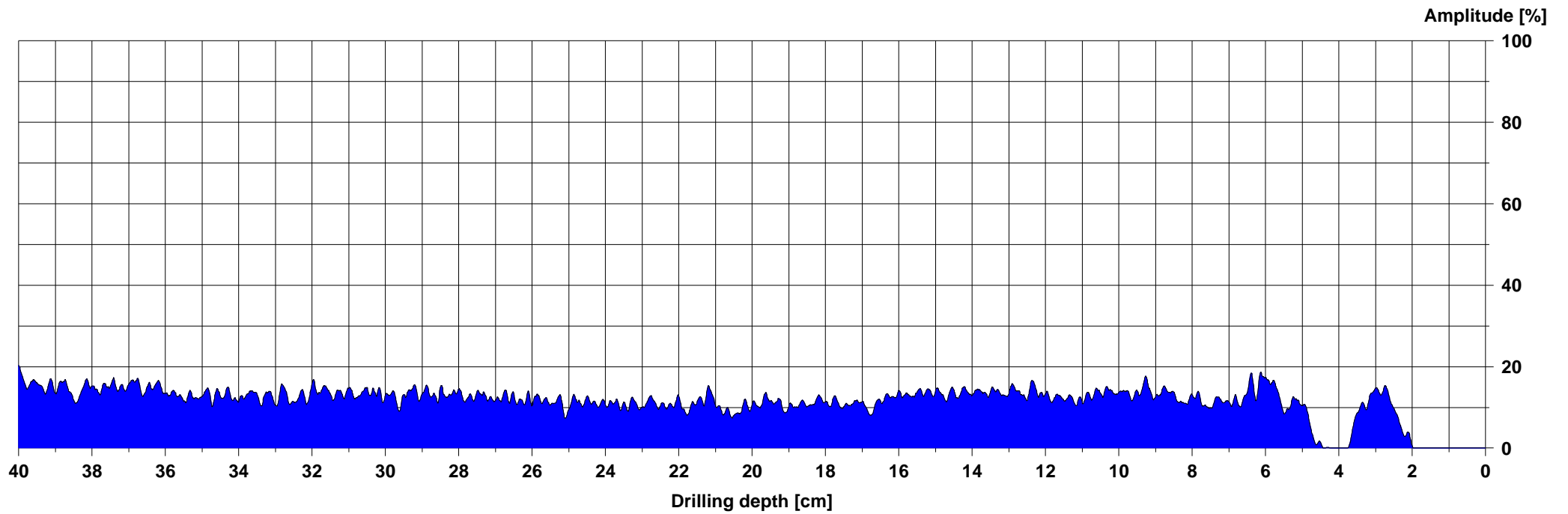
Assessment

Comment

Ground level North. Poor amplitude between 0 and 26cm indicates incipient decay at the test location

Measuring / object data

Measurement no.:	2	Speed	: 2500 r/min	Diameter:	95,00 cm
ID number	: SILVERWOOD	Needle state:	---	Level	: 10cm
Drilling depth	: 40,00 cm	Tilt	: 0°	Direction:	East
Date	: 28.11.2023	Offset	: 89 / 415	Species	: Sweet Chestnut
Time	: 13:51:49	Avg. curve	: off / off	Location	: Silverwood
Feed	: 100 cm/min	Name	: Mr P Robinson		



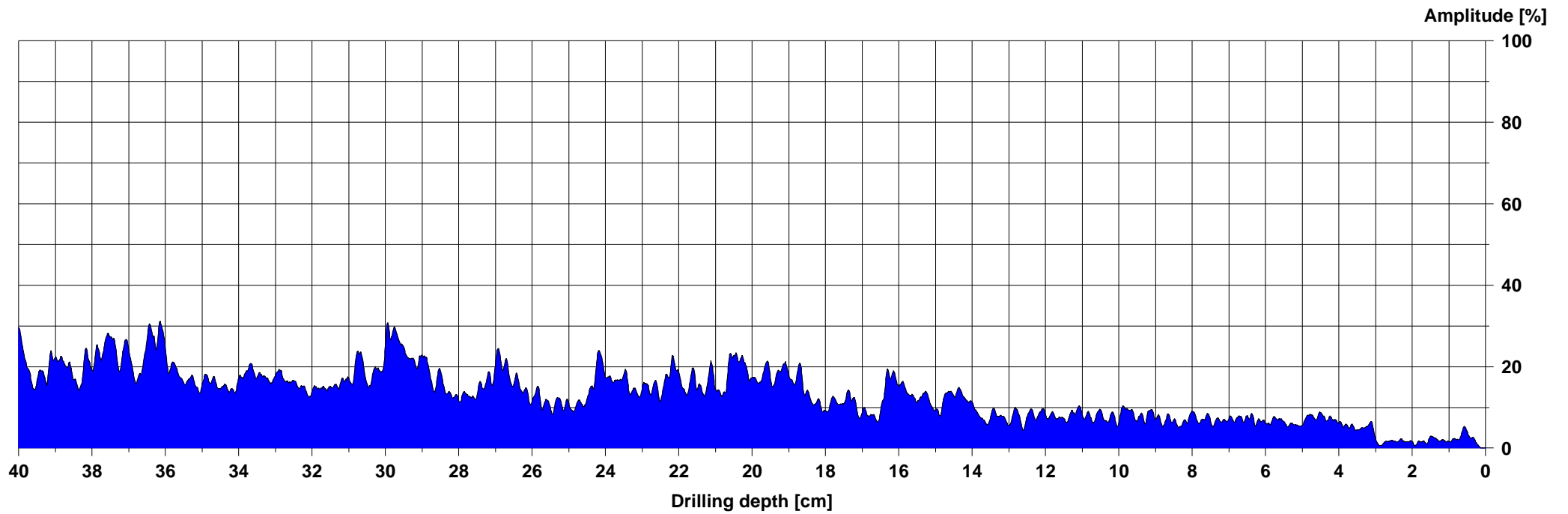
Assessment

Comment

Ground level East. No decay detected at the test location

Measuring / object data

Measurement no.:	3	Speed	: 2500 r/min	Diameter:	95,00 cm
ID number	: SILVERWOOD	Needle state:	---	Level	: 10cm
Drilling depth	: 40,00 cm	Tilt	: 0°	Direction:	South
Date	: 28.11.2023	Offset	: 77 / 443	Species	: Sweet Chestnut
Time	: 13:52:45	Avg. curve	: off / off	Location	: Silverwood
Feed	: 100 cm/min	Name	: Mr P Robinson		



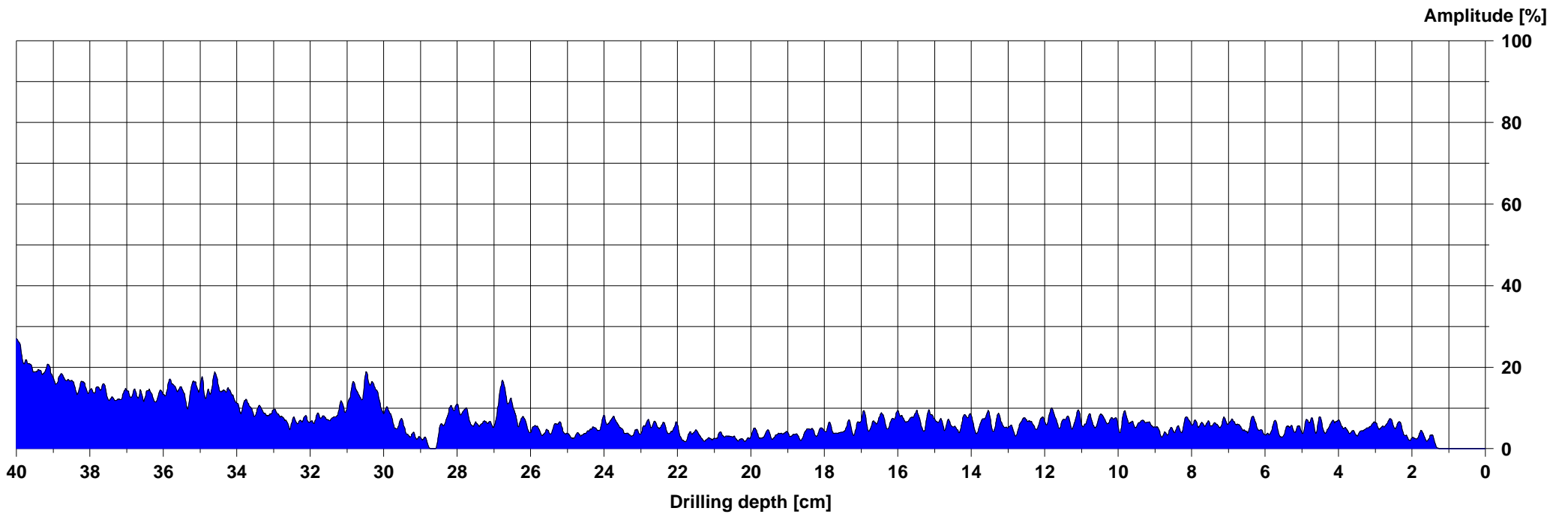
Assessment

Comment

Ground Level South. No significant decay at the test location.

Measuring / object data

Measurement no.:	4	Speed	: 2500 r/min	Diameter:	95,00 cm
ID number	: SILVERWOOD	Needle state:	---	Level	: 10cm
Drilling depth	: 40,00 cm	Tilt	: 0°	Direction:	West
Date	: 28.11.2023	Offset	: 97 / 584	Species	: Sweet Chestnut
Time	: 13:53:43	Avg. curve	: off / off	Location	: Silverwood
Feed	: 100 cm/min	Name	: Mr P Robinson		



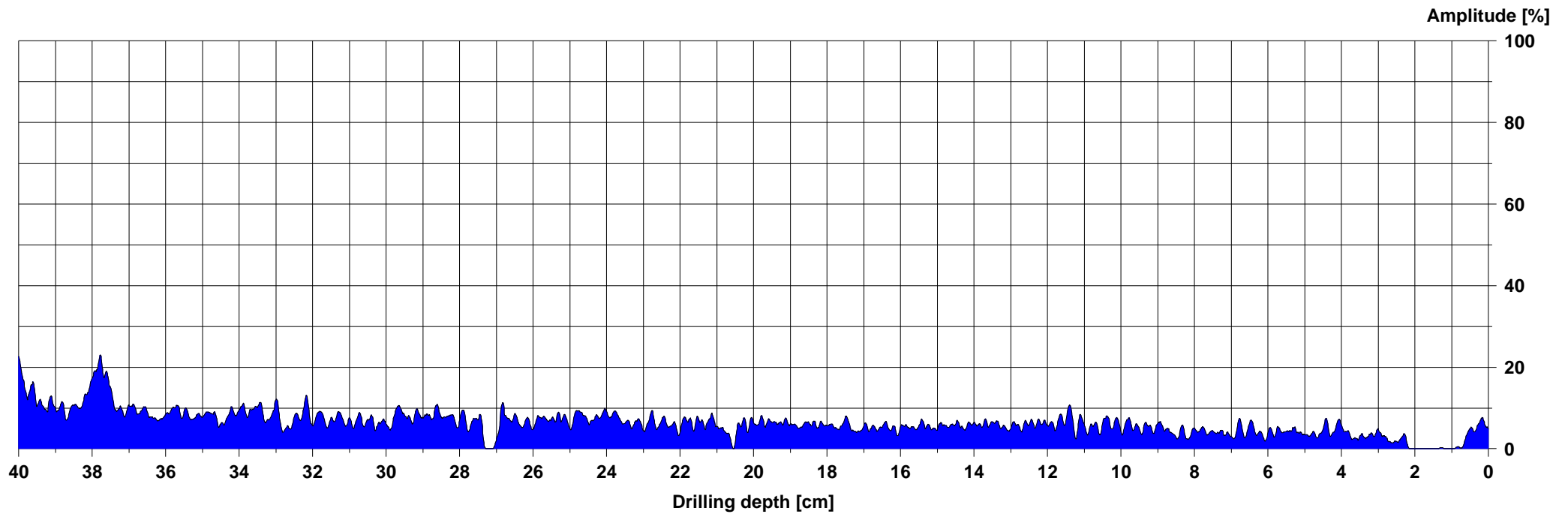
Assessment

Comment

Ground Level West. Poor amplitude between 0 and 30cm indicates incipient decay at the test location

Measuring / object data

Measurement no.:	5	Speed	: 2500 r/min	Diameter:	95,00 cm
ID number	: SILVERWOOD	Needle state:	---	Level	: 1.5m
Drilling depth	: 40,00 cm	Tilt	: 0°	Direction:	North
Date	: 28.11.2023	Offset	: 93 / 589	Species	: Sweet Chestnut
Time	: 13:54:41	Avg. curve	: off / off	Location	: Sivlerwood
Feed	: 100 cm/min	Name	: Mr P Robinson		



Assessment

Comment

Control test at 1.5 metres AGL. Low amplitude over most of the reading indicating incipient decay at the test location.