

Tree Surveys

BS5837 – Pre Planning – Mortgage – Risk Management

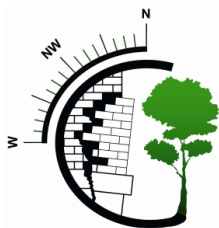
VISUAL TREE ASSESSMENT AND DECAY DETECTION UPON AN OAK TREE LOCATED OPPOSITE 301A NINE MILE RIDE



**Prepared for:
Wokingham Borough Council
Civic Offices
Shute End
Wokingham
RG40 1BN**

4 November 2025

Ref: SPH/VTa-25/20.10



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BS5837 – Pre Planning – Mortgage – Risk Management & Prediction

Bramley House
Newnham Bridge
Tenbury Wells
WR15 8NX

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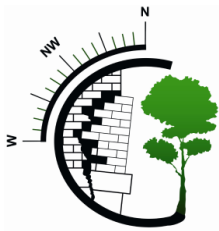
APPENDICES

1. Tree record 02/07/2024
2. Resi PD400 Results

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1. Instructions.

- 1.1 Tree Surveys was instructed by Chiara Tuckwell, Tree Inspection Specialist, Operational Tree Management, Wokingham Borough Council, Civic Offices, Shute End, Wokingham, RG40 1BN to conduct a level three decay analysis report on one oak tree located opposite 301A Nine Mile Ride, Finchampstead, Wokingham.
- 1.2 We are further instructed to provide a summary report with management recommendations based upon the outcome of our investigations.
- 1.3 We have no personal connections with any of the parties involved in this case that could influence the opinions expressed in this report.

2. Scope.

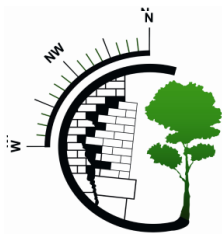
- 2.1 The survey is concerned with the arboricultural aspects of the site only.
- 2.2 The decay detection was undertaken in accordance with the manufacturer's instructions for the Resi PD400 micro drill.
- 2.3 Please note: all abbreviations introduced in brackets are used throughout the report.

3. Background.

- 3.1 We were advised that the tree underwent a visual inspection by council contractors on 02/07/2024, a copy of the inspection results is included at Appendix 1.
- 3.2 The site visit was undertaken by Simon Holmes, MSc MICFor on Monday 20 October 2025.

4. Method.

- 4.1 The tree was assessed using standard methodology whereby an IML Resi PD400 decay detecting drill was used in select locations to provide information about the extent of decay in the stem close to ground level and included a test at 1.5 metres above ground level (AGL) to assist in corroborating the ground level results.
- 4.2 The locations chosen for the decay detection (micro drilling) enabled us to provide an assessment of the extent of decay in the main stem close to ground level along with a control measurement at 1.5 metres AGL.



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5. Decay Detection Overview. Resi PD400 micro drill.

- 5.1 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. We normally only show the drilling resistance graph as it clearly records decay, cavity or cracks and the rotational graph may only serve to confuse the reader if they are unfamiliar with the subtle changes it records. The main reason for the two graphs is to separate the shaft friction from the drill motor, allowing the feed motor to be approximately 30 times more sensitive than the old Resi F series machines which had one motor doing both functions.
- 5.2 The drilling rate may be varied for hard or softwoods. The drilling resistance is correlated with the mechanical properties, and the defective areas that have developed within the tree may be detected and assessed. We conducted 5 tests on the tree to assess the wood density. Copies are included at Appendix 1.
- 5.3 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.
- 5.4 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.

6. Findings and Observations.

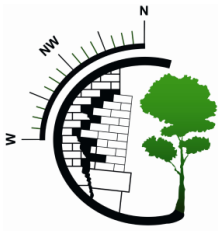
The dimensions of the tree were recorded with the aid of a TruPulse™ hypsometer and rounded down diameter tape. The results are recorded in Table 1 below.

Table 1.

Tree Species	Height (m)	Diameter (mm)	Crown Spread metres (m)	Age Class
Oak	15.2	640	8.2 Average	Mature

Key: m = metres; mm = millimetres

- 6.1 The tree is a mature specimen and is situated within falling distance of the adjacent footway, highway and access to 301A Nine Mile Ride.
- 6.2 There is no evidence of rootplate movement, no mounding or soil heave was observed, and there was no evidence to suggest the root zone is unstable at the time of inspection. The main stem has a cavity and missing bark on the south side of the stem at ground level (see Figure 1 on page 5) and the bark is dead either side of the cavity.



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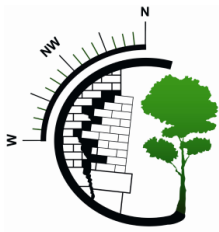
Figure 1. Oak, 301A Nine Mile Ride 20/10/2025



- 6.3 The main stem has a natural taper with burring that commences at approximately 2 meters AGL and continues into the canopy. Stem soundings were undertaken with a nylon mallet from ground level to 1.8 metres AGL and areas of loose and dead bark were noted on the west and east sides either side of the cavity. Bleeding exudates were observed on the main stem emanating from approximately 2 metres AGL on the south side and staining can be seen extending to ground level, see example at Figure 2 below.

Figure 2. Oak, 301A Nine Mile Ride 20/10/2025





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- 6.4 The physiological characteristics of the canopy (secondary branch structure, twig density, extension growth and wound wood) in the upper and mid canopy are poor with die back throughout. The lower canopy appears healthy and is characteristic of the species when stressed.
- 6.5 The results from the Resi drilling close to ground level detected a cavity in the stem on the north side. The Resi drilling from the south side detected both advanced decay and incipient decay from 22cm, and a cavity can be seen in the western drilling along with decay in the early stage of the drilling. The control test at 1.5 metres AGL on the south side above the cavity did not detect any significant defects.

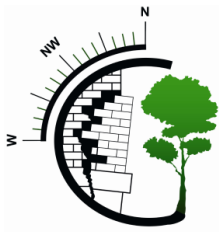
7. Conclusions.

- 7.1 The main issues for consideration are the significance of the cavity on the main stem at ground level, the dead bark, bleeding and canopy die back along with the trees' location adjacent to the access for 301A Nine Mile Ride, the footway and highway (Nine Mile Ride) all target areas in constant use. When combined, these factors result in a tree that is of high risk should it fail.
- 7.2 The cavity at ground level on the south side appears to be shallow (circa 7cm) however, the stem beyond the cavity is also decaying from 22cm. The cavity detected on the opposite side of the stem (north) appears to be isolated and the decay detected on the west side also appears to be isolated around 26cm.
- 7.3 Bleeding exudates on oak trees are usually caused by bacterial or fungal infections that develop under the bark affecting the cambium, leading to tissue death and sap leakage. The main causes are bacterial infections such as *Brenneria goodwinii* (previously *Brenneria quercina*), associated with Acute Oak Decline (AOD) in the UK and parts of Europe. The bacteria invade through wounds or natural fissures, colonizing the inner bark, this leads to necrosis of the phloem, gas formation, and production of dark, sticky exudates oozing from the bark.

Less commonly fungal pathogens such as *Armillaria mellea* (honey fungus) or *Phytophthora ramorum* can also cause similar bleeding symptoms by decaying roots and lower trunks. These usually produce darker, resinous or tarry exudates and are often associated with wood decay. There were no fungal fruiting bodies (FFB) or remains of any FFB.

Secondary factors include environmental stress (e.g. drought, compaction, pollution) insect activity (boring beetles, bark beetles) that create entry points for pathogens.

- 7.4 The wounding and cavity on the south side at ground level may have resulted from mechanical damage and this could be a primary location for the entry of decay pathogens.



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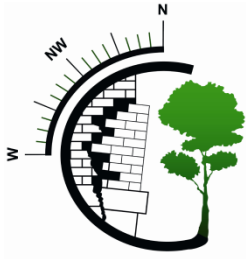
- 7.5 Burring in oak can result from a response to injury or stress for example, physical damage (pruning wounds, storm damage, bark stripping, etc.) that triggers irregular cambial growth as the tree tries to seal the wound. The new tissue proliferates abnormally, forming a burr. Fungal, bacterial, or viral infections can disrupt normal cell division resulting in burrs and some individual oaks or species (e.g. pedunculate oak, *Quercus robur*) have a natural tendency to produce burrs, possibly due to mutations or inherited growth responses.
- 7.6 The dense lower canopy is characteristic of retrenchment of the upper crown when oaks get very old, their upper branches die back due to reduced water transport efficiency, wind damage and exposure and fungal decay or heartwood hollowing. To maintain photosynthetic capacity, the tree responds by producing new shoots and foliage lower down, closer to the main trunk and living cambium — forming a “secondary canopy.” This process is known as “retrenchment growth.”

8. Recommendations.

- 8.1 In preparing these recommendations we have considered the amenity value, landscape character and target area.
- 8.2 There is little value in undertaking a crown reduction as the tree exhibits signs of decline and is decaying at ground level. The tree should be felled to ground level in sections, and the work should be undertaken within 6 months of the date of this report.
- 8.3 The tree work must be undertaken to British Standard (BS3998:2010) and align with industry best practice.



Simon P Holmes MICFor. M Arbor A. CEnv.
Chartered Arboriculturist
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APPENDIX 1

Tree Code: Sgl/003715

Tree Tag: FinchmpstN-00153

Seq No: 0

Position: OUTSIDE 301 NINE MILE RIDE

Stems: 1

Species: Quercus robur (English Oak)

Site: Nine Mile Ride, Finchampstead

Location: Finchampstead North

Grid Ref: SU 80874 65052

OS X/Y: 480873.77, 165051.93

Lat Long: 51.378768, -0.839353

what3words: /// parent.weds.fleet

Planted:

Stock Type:

Owner: Wokingham Council

Notes:

Value: £0.00

Felled: No

Proposed: No

TPO: Yes

CRP - NONE: No

CRP - FAR: No

CPR - PRF: No



Regimes:





Inspection: 02/07/2024

Height: 10 to 15m

Age: Mature

Trunk: 600-750mm

Spread: 05 to 10m

Features:

Conditions:

Comments: Crown Die back.
Moderate to extensive basal
decay. leaking exudate on stem -
bacterial infection

Dry Weight: 2,914,654.208 KG

Carbon Weight: 1,457,327.104 KG

CO2 Sequestered: 4,371,981.312 KG (£371,618.41)

CO2 Seq Per Year: 3,875.989 KG (£329.46)

Visited By: Dryad 2

Condition: Fair

CrLightExp:

Prob of F.: Potentially

Target: High

Deg ofHarm: Severe

SLE:

FuncValue:

Cdbh(Auto):

Risk: Slight Risk

THREATS: 200

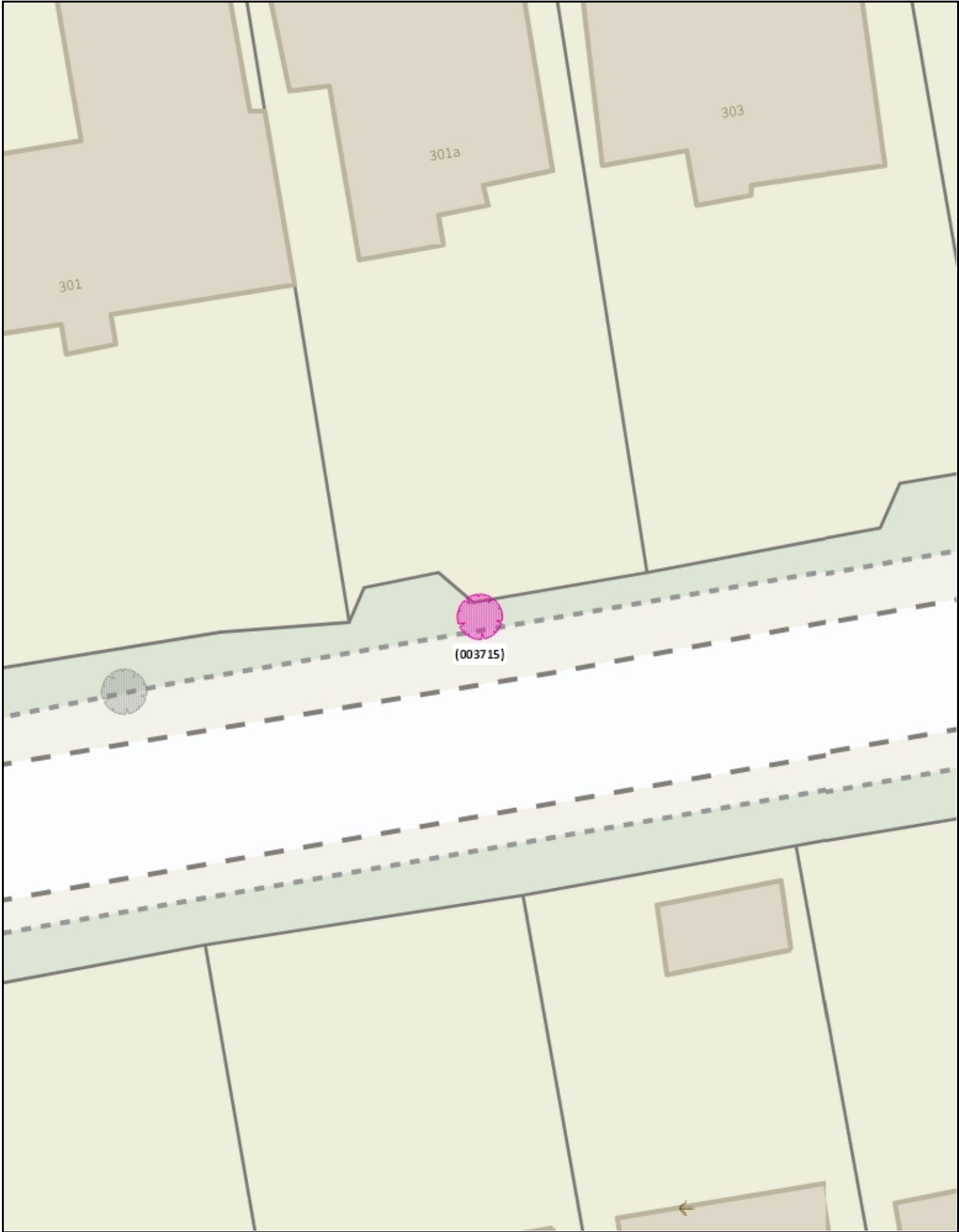
Next Inspection: 07/2027

Recommendations: Section Fell single tree

Priority: 12 months

Recom Due Date:

Works:



WOKINGHAM
BOROUGH COUNCIL

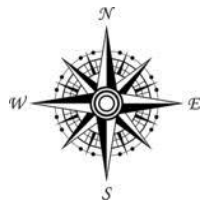
Overview

Scale

1: 214

Date

08/08/2025





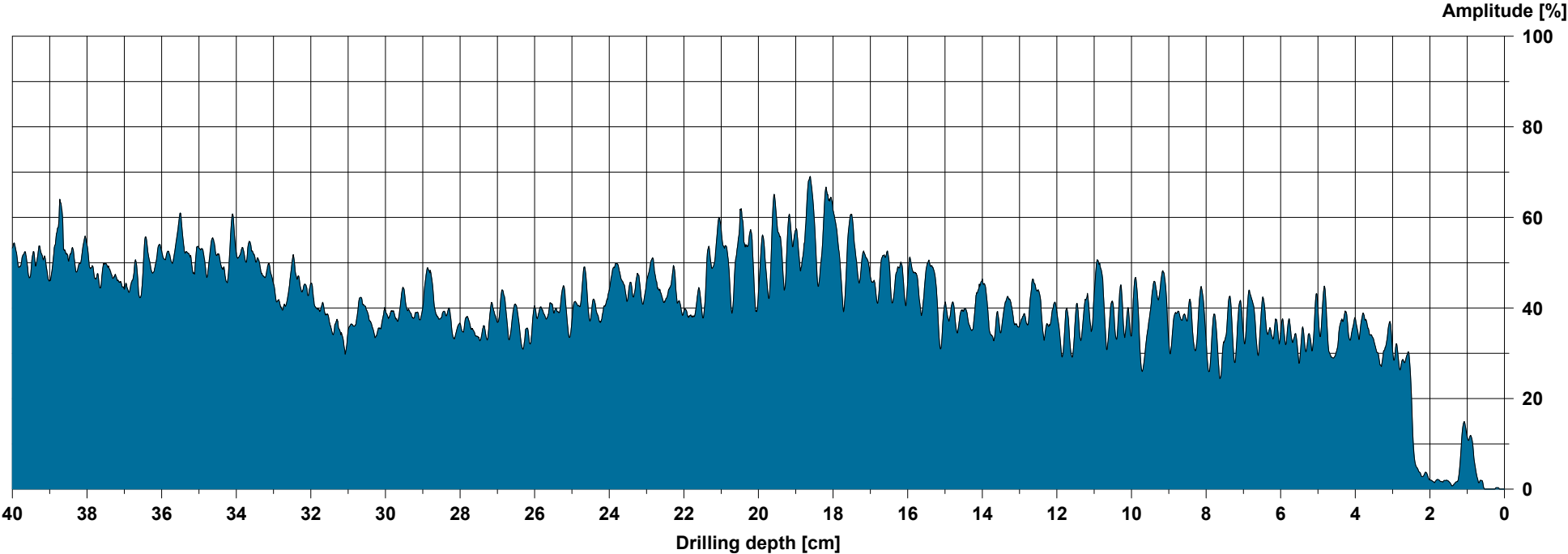
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APPENDIX 2

Measuring / object data

Measurement no.:	14	Speed	: 2500 r/min	Diameter:	64,00 cm
ID number	: WBC301A	Needle state:	---	Level	: 150cm
Drilling depth	: 40,06 cm	Tilt	: 0°	Direction:	South
Date	: 20.10.2025	Offset	: 77 / 269	Species	: Oak
Time	: 14:33:13	Avg. curve	: off / off	Location	: 301A Nine Mile Ride
Feed	: 100 cm/min	Name	: WBC		



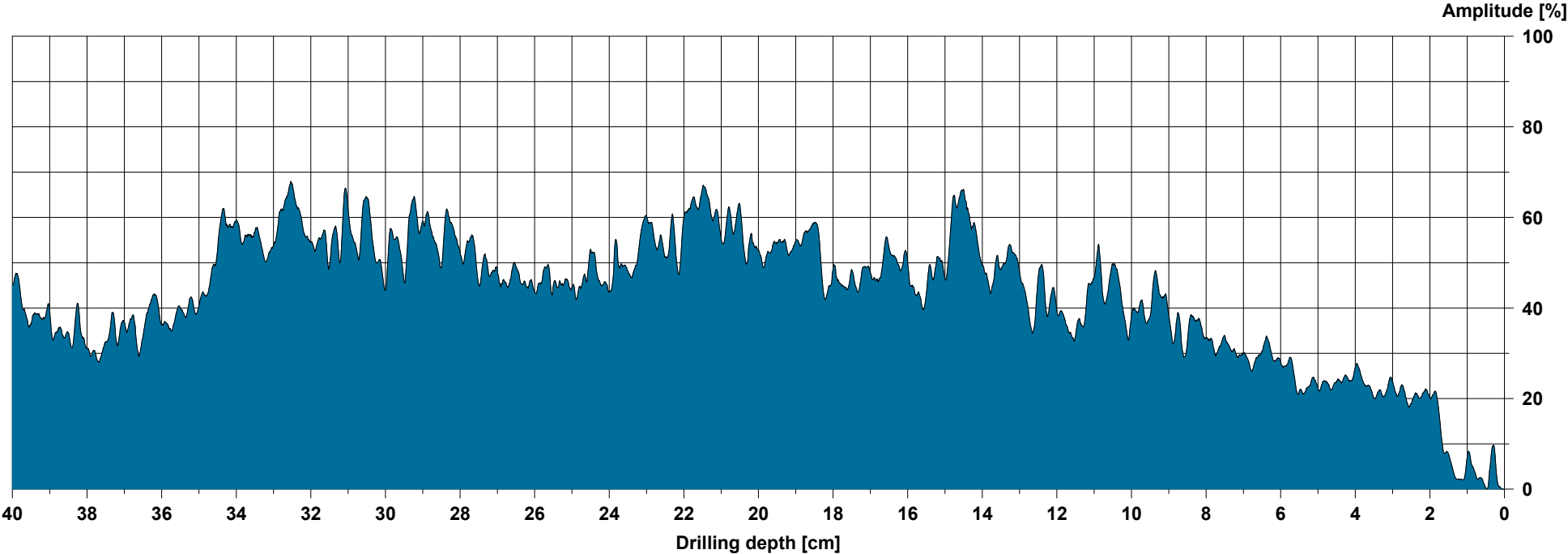
Assessment

Comment

Control test at 1.5 metres above ground level. No significant decay at the test location.

Measuring / object data

Measurement no.:	11	Speed	: 2500 r/min	Diameter:	64,00 cm
ID number	: WBC301A	Needle state:	---	Level	: 10cm
Drilling depth	: 40,09 cm	Tilt	: +1°	Direction:	East
Date	: 20.10.2025	Offset	: 95 / 265	Species	: Oak
Time	: 14:29:36	Avg. curve	: off / off	Location	: 301A Nine Mile Ride
Feed	: 100 cm/min	Name	: WBC		



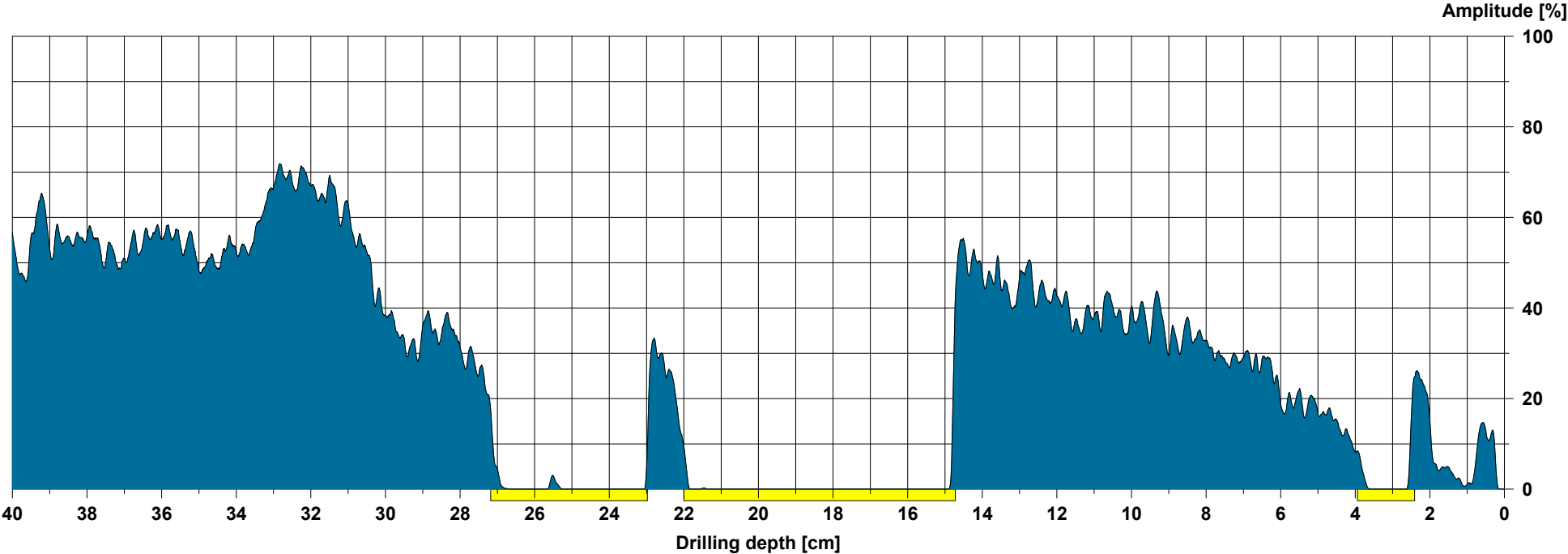
Assessment

Comment

Test close to ground level east side. Decay evident as erratic amplitude from 0 to 8.5cm. Growth rings unclear and fall in amplitude at 34.5cm all indicate incipient decay at test location.

Measuring / object data

Measurement no.:	10	Speed	: 2500 r/min	Diameter:	64,00 cm
ID number	: WBC301A	Needle state:	---	Level	: 10cm
Drilling depth	: 40,08 cm	Tilt	: 0°	Direction:	North
Date	: 20.10.2025	Offset	: 108 / 278	Species	: Oak
Time	: 14:28:24	Avg. curve	: off / off	Location	: 301A Nine Mile Ride
Feed	: 100 cm/min	Name	: WBC		



Assessment

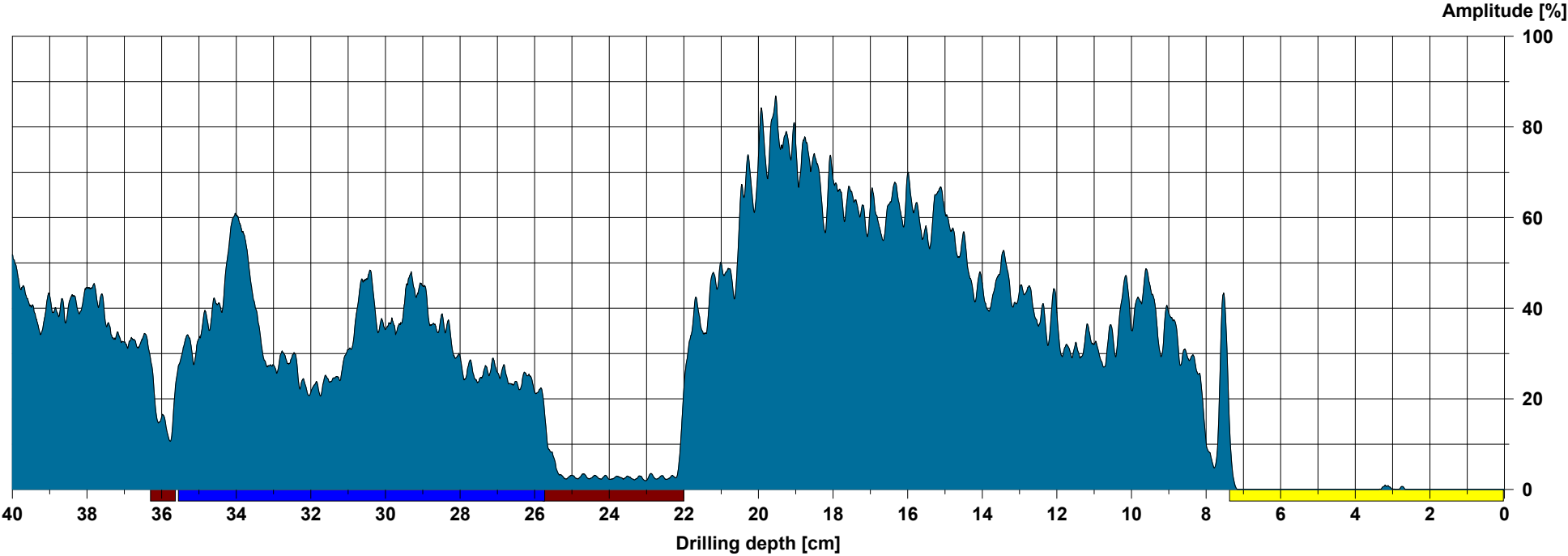
- From 2,41 cm to 3,94 cm : Cavity
- From 14,72 cm to 22,00 cm : Cavity
- From 22,98 cm to 27,18 cm : Cavity

Comment

Test close to ground level north side. Decay evident in low amplitude from 1 to 2cm. Small cavity at 2.5cm and further cavities at 15 and 23cm.

Measuring / object data

Measurement no.:	12	Speed	: 2500 r/min	Diameter:	64,00 cm
ID number	: WBC301A	Needle state:	---	Level	: 10cm
Drilling depth	: 40,08 cm	Tilt	: 0°	Direction:	South
Date	: 20.10.2025	Offset	: 84 / 262	Species	: Oak
Time	: 14:30:29	Avg. curve	: off / off	Location:	301A Nine Mile Ride
Feed	: 100 cm/min	Name	: WBC		



Assessment

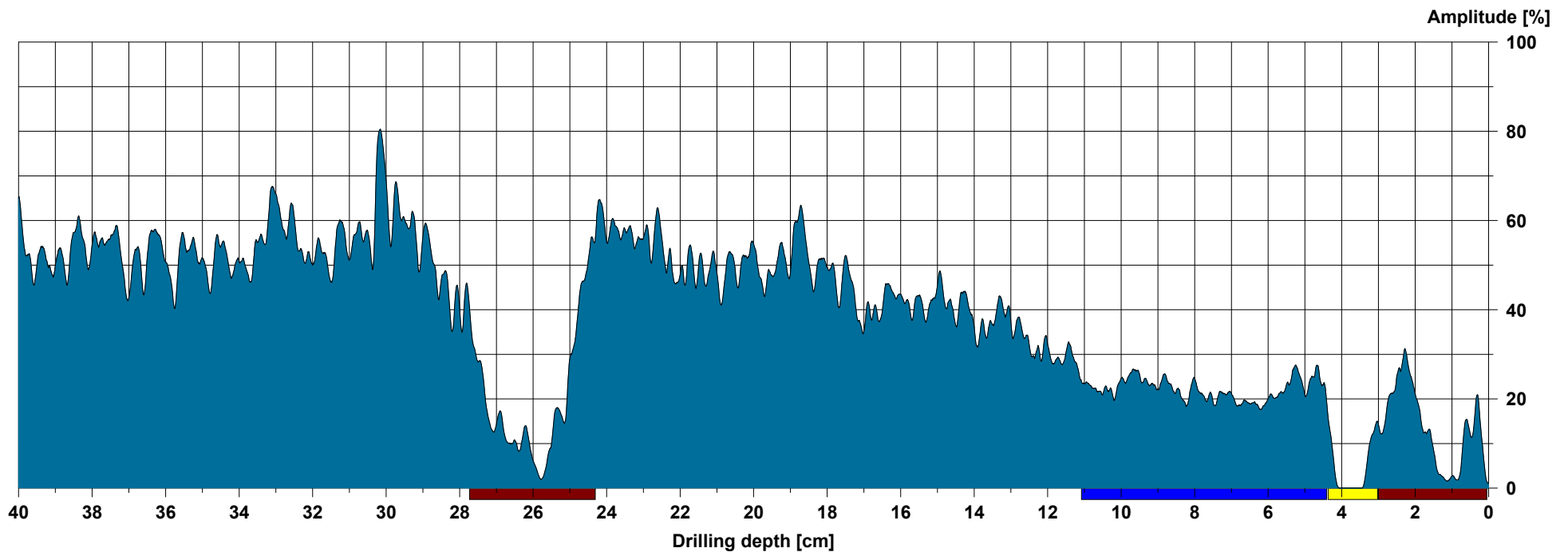
From 0,03 cm to 7,37 cm	: Cavity
From 22,00 cm to 25,78 cm	: Decay
From 25,73 cm to 35,55 cm	: Incipient decay
From 35,63 cm to 36,30 cm	: Decay

Comment

Test close to ground level south side. Cavity evident from 0 to 7cm. Further decay between 22 and 25.5cm with irregular amplitude indicating incipient decay and significant drops in amplitude for example at 36cm indicates advanced decay.

Measuring / object data

Measurement no.:	13	Speed	: 2500 r/min	Diameter:	64,00 cm
ID number	: WBC301A	Needle state:	---	Level	: 10cm
Drilling depth	: 40,09 cm	Tilt	: 0°	Direction:	West
Date	: 20.10.2025	Offset	: 78 / 282	Species	: Oak
Time	: 14:32:08	Avg. curve	: off / off	Location	: 301A Nine Mile Ride
Feed	: 100 cm/min	Name	: WBC		



Assessment

From	0,05 cm to	3,00 cm	: Decay
From	3,02 cm to	4,37 cm	: Cavity
From	4,41 cm to	11,08 cm	: Incipient decay
From	24,31 cm to	27,73 cm	: Decay

Comment

Test close to ground level west side. Decay evident just behind the bark with irregular low amplitude and a sudden fall in amplitude at 24cm indicating a localised area of decay.