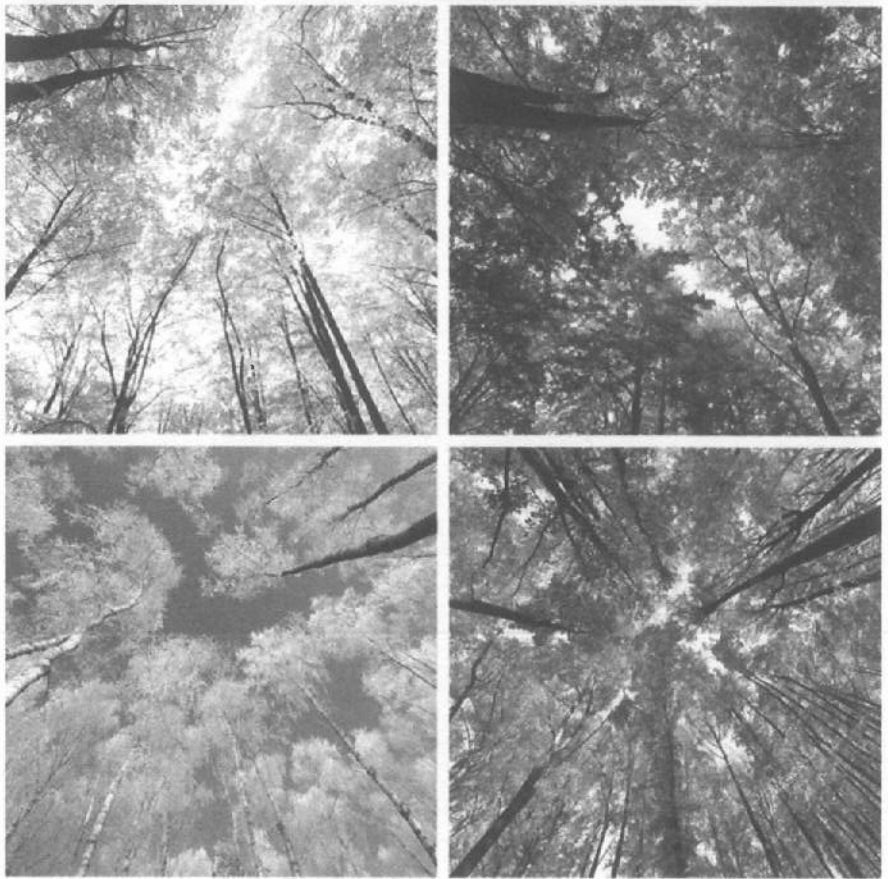




Gale Tree Consultancy

Tree Condition Report

12 North Court, Hassocks, BN6 8JS

October 2025

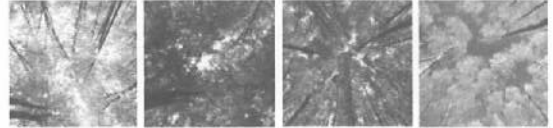
Ref: TCR/702/25

Gale Tree Consultancy

Tel: 01798 875731 | Email: office@galetreeconsultancy.co.uk | Web: galetreeconsultancy.co.uk

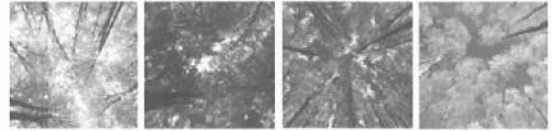
<u>Contents</u>	Page Number
<u>Summary</u>	3
1.0 <u>Introduction</u>	4
2.0 <u>Scope of Report</u>	4
3.0 <u>Results of Inspection</u>	5
4.0 <u>Summary of Results</u>	11
5.0 <u>Conclusion</u>	13
6.0 <u>Recommendations</u>	14
7.0 <u>Appendices</u>	
Appendix 1 Method of Inspection	15
Appendix 2 Survey Key	18
Appendix 3 Beaufort Scale	19

Director: Andrew Gale – Dip Arb L6 (ABC) M.Arbor.A
Registered Office: 34 Carpenters Meadow Pulborough West Sussex RH20 2HQ
Gale Tree Consultancy is a trading name of Andrew Gale Tree Surgery Ltd.
Registered in England & Wales Company Number: 4915639 VAT No. 831 3224 66



Executive Summary

- A mature tree in the rear garden of a residential property
- Significant decay and hollowing identified in the main stem following an assessment using PiCUS 3 sonic tomography unit and IML Resi PD400 microdrill
- Local planning authority permission has been granted for a 2m reduction however this may not be enough to alleviate the loading on the main stem – a more significant reduction has been suggested
- Option to remove the tree has also been suggested



1.0 Introduction

1.1 Client and Address

- Mr Linke, 12 North Court, Hassocks, BN6 8JS

1.2 Site Address if Different from the Above

- As above

1.3 Date of Inspection

- 16th October 2025

1.4 Name of Inspector

- Andrew Gale *MICFor Dip Arb L6 (ABC) M.Arbor.A*

1.5 Our Reference

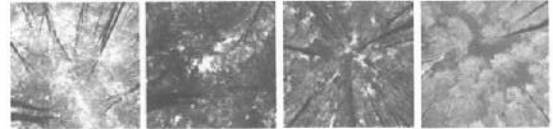
- TCR/702/25

1.6 Instructions Received

- I have been instructed by the client to undertake an aerial assessment of the cavity identified in previous report ref TCR/677/25
- I am to provide my findings in the form of a report detailing any remedial work that may be necessary

2.0 Scope of the Report

- Trees are dynamic living organisms, and their health and condition can be subject to rapid changes, depending upon a number of internal and external factors
- The conclusions and recommendations contained within this report are based on information gained at the time of inspection and are subject to the limitations of the specialist nature of this survey
- Therefore, the likelihood of failure is considered for two years from the reports date based on the information gained on the day of the report and on the assumption that any recommended work will be undertaken in the time frame specified
- It should be noted that even completely sound, healthy trees, can fail given sufficiently severe weather conditions therefore this report is not valid in adverse or unpredictable weather conditions or for any failure due to Force Majeure
- The site has not been checked for any statutory constraints
- The trees were not assessed for wildlife which would include birds or bats



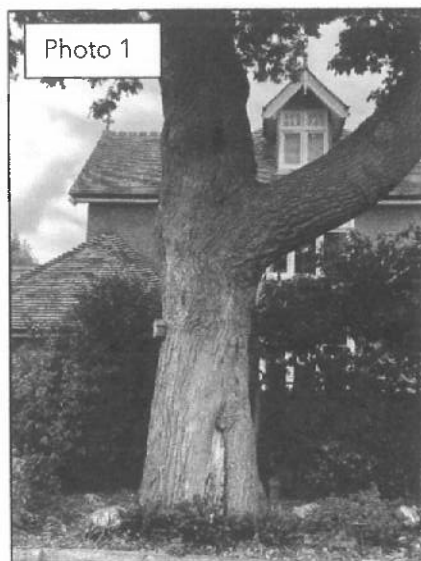
3.0 Results of Inspection

3.1 Tree Species and Dimensions

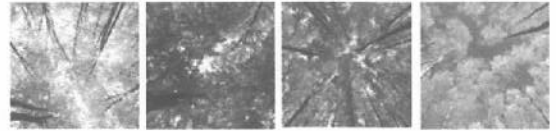
No.	Species	Scientific Name	H (m)	Crown Spread (m)				Age	Phys. Con.
				N	E	S	W		
T22	Pedunculate oak	<i>Quercus robur</i>	//	8.0	7.0	8.0	7.5	M	Good

3.2 General Description

- The tree is located within the rear garden of the property and sits c.55m above sea level¹ where it is surrounded by residential properties
- The wider landscape encompasses Hassocks to the north, east and south with open farmland to the west
- On the west side of the main stem at c.3.8m is an open cavity measuring 24x10x40cm (HxWxD), where the stem has a diameter of c.109cm. The steel probe extended down the stem to a depth of 20cm and up the stem to a height of c.80cm – see Photo 1 below
- At c.4.8m on the south side of the stem is a further smaller cavity measuring 10x10x40cm (HxWxD); it was not possible to assess the extent of the cavity in an upward and downward direction due to squirrels being present within the cavity – see the red circle in Photo 2 below
- Around much of the stem, but most notably around the southern side of the tree, a clear and audible change in tone was heard above and below the two cavities when the area assessed with a nylon headed sound mallet
- On the east side at c.7m is a large open wound/cavity generated when a stem section either failed or was removed
- The tree is subject to a tree preservation order – KY/01/TPO/71 – and has been assigned the number of T22
- It was not possible to measure the height of the tree

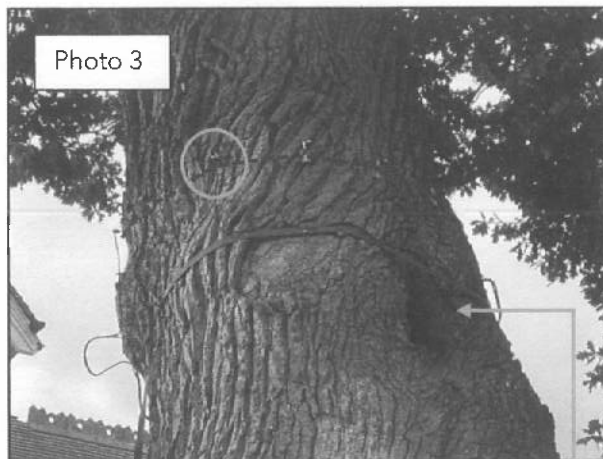


¹ www.calcmaps.com

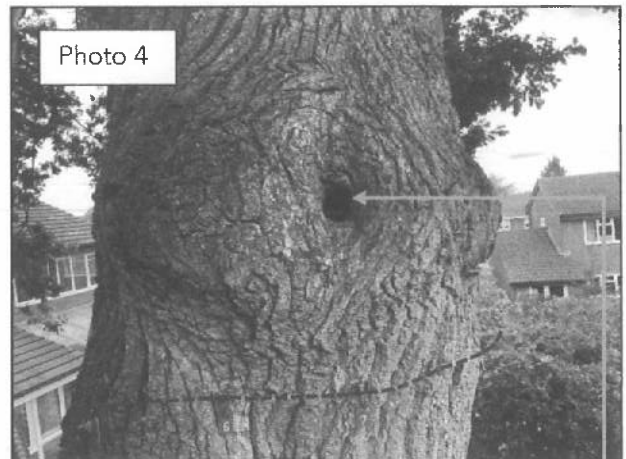


3.3 Decay Evaluation

- To confirm the extent of any decay on the lower stem, the PiCUS 3 sonic tomography unit was installed at c.4.5m above ground level and between the two cavities, see the red dashed lines on Photos 3 and 4 below, using 12 measuring points (MP)
- MP1, circled yellow, was placed at north for reference purposes – please see below:

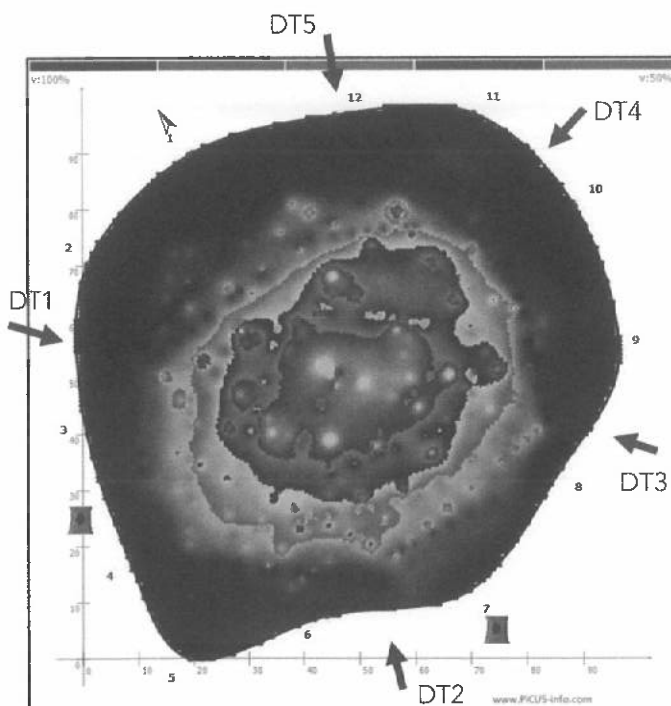


Cavity at c.3.8m on the west side of the tree

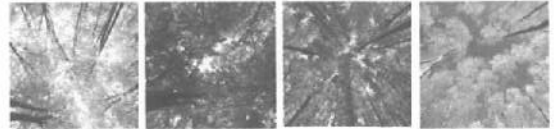


Cavity at c.4.8m on the south side of the tree

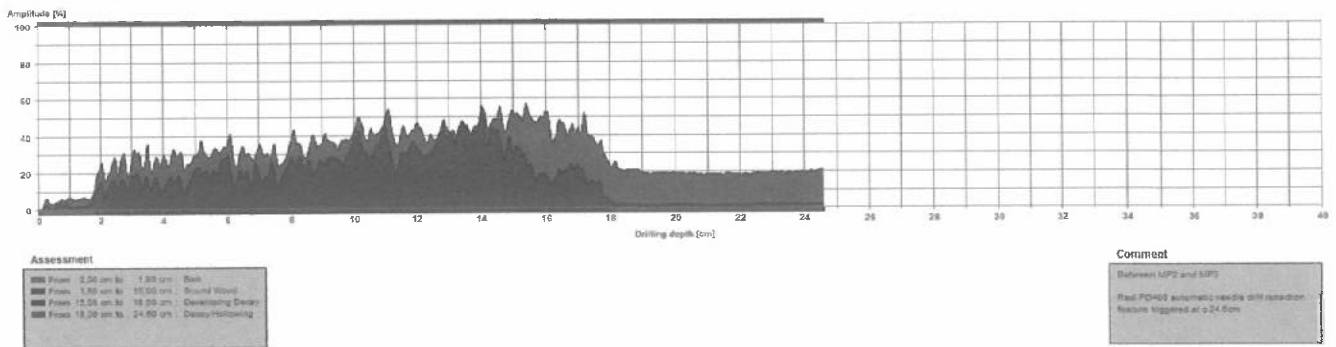
- The tomogram indicates an area of high sonic velocity, and as such sound wood, around the outer edge of the stem at the level of assessment as shown by the brown colour



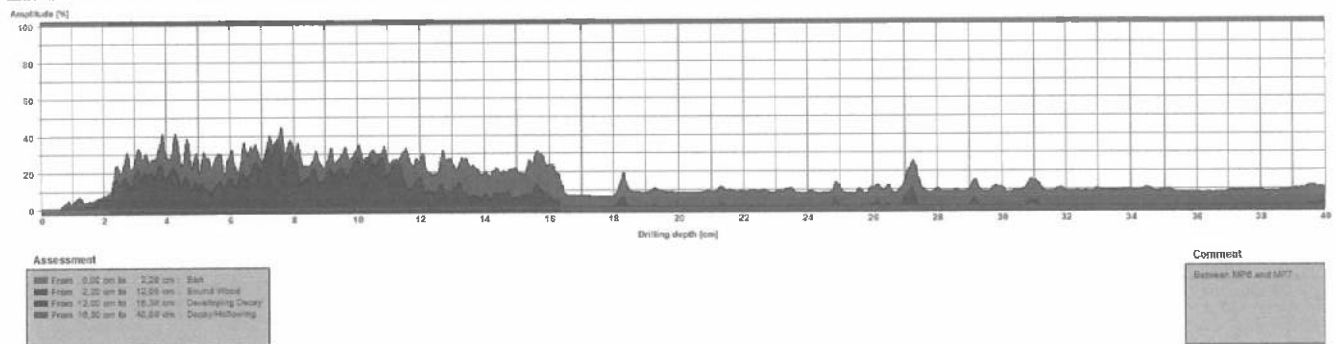
- The blue colouration in the centre of the tomogram shows an area of low sonic velocity and as such decay/hollowing whilst the purple and green colours show wood that is becoming decayed
- The symbols between MP3 and MP4, and at MP7 show the location of the cavities at c.3.8m and c.4.8m respectively
- To confirm the tomogram the Resi PD400 was used in five locations at the level of assessment
- Please see the red arrows on the tomogram and the drill traces overleaf:



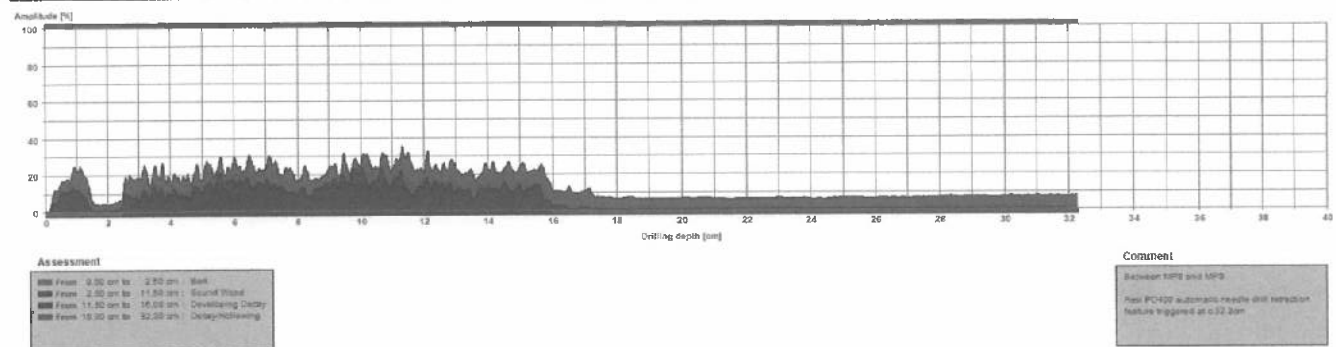
Drill Trace 1 – between MP2 and MP3 150/3500 feed/drill speed



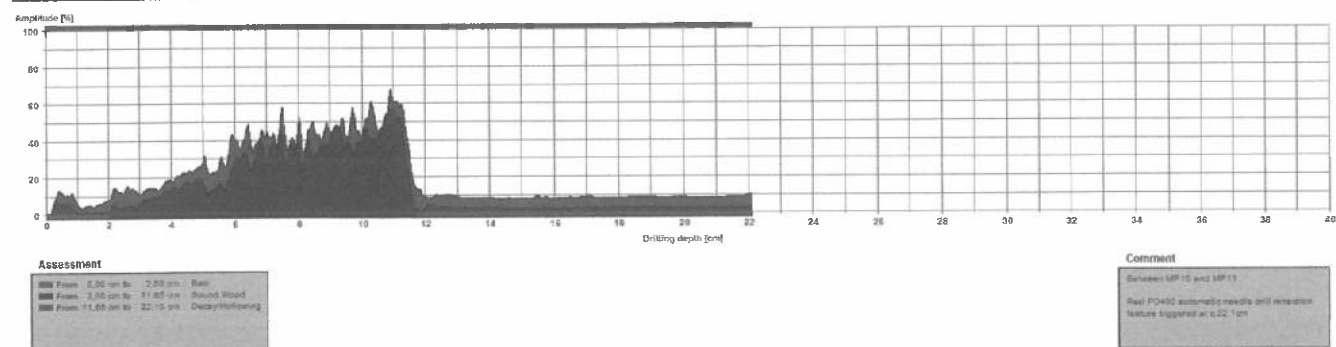
Drill Trace 2 – between MP6 and MP7 150/3500 feed/drill speed

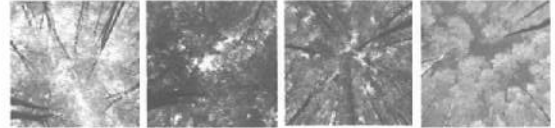


Drill Trace 3 – between MP8 and MP9 150/3500 feed/drill speed

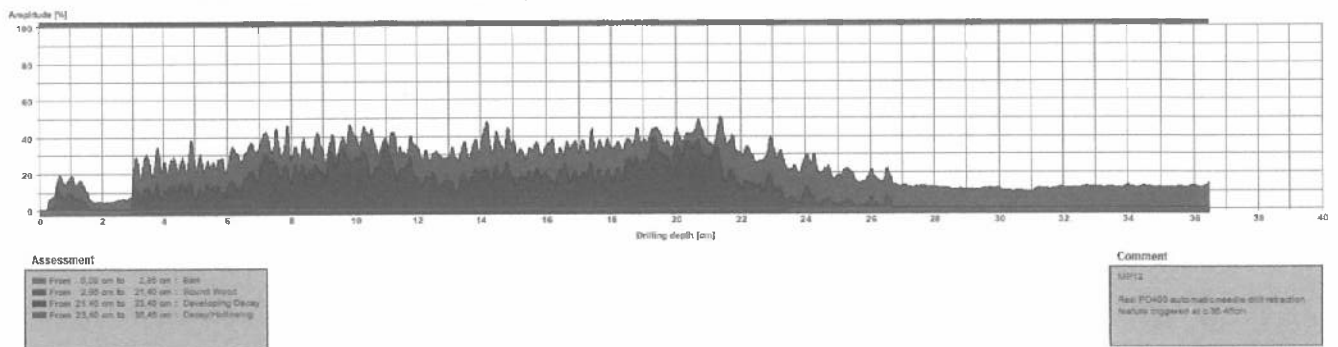


Drill Trace 4 – between MP10 and MP11 200/3500 feed/drill speed



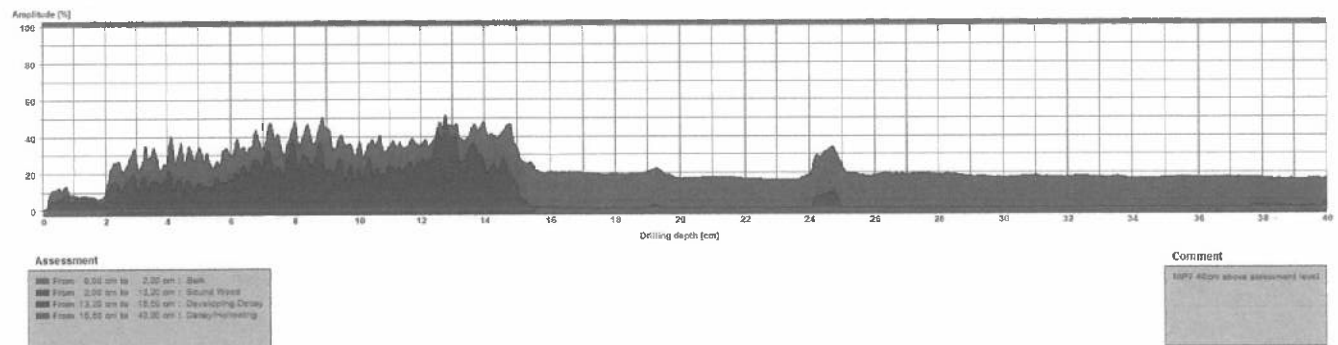


Drill Trace 5 – MP12 200/3500 feed/drill speed

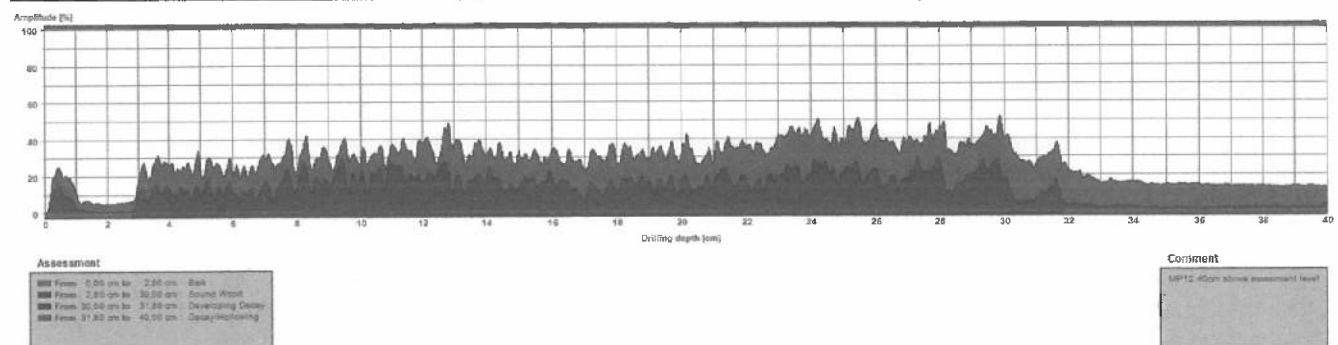


- A further two drill traces were undertaken above the assessment level

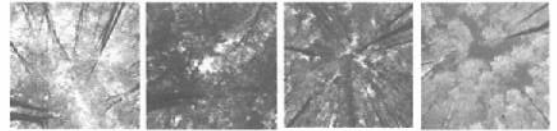
Drill Trace 6 – MP7 70cm above assessment level 150/3500 feed/drill speed



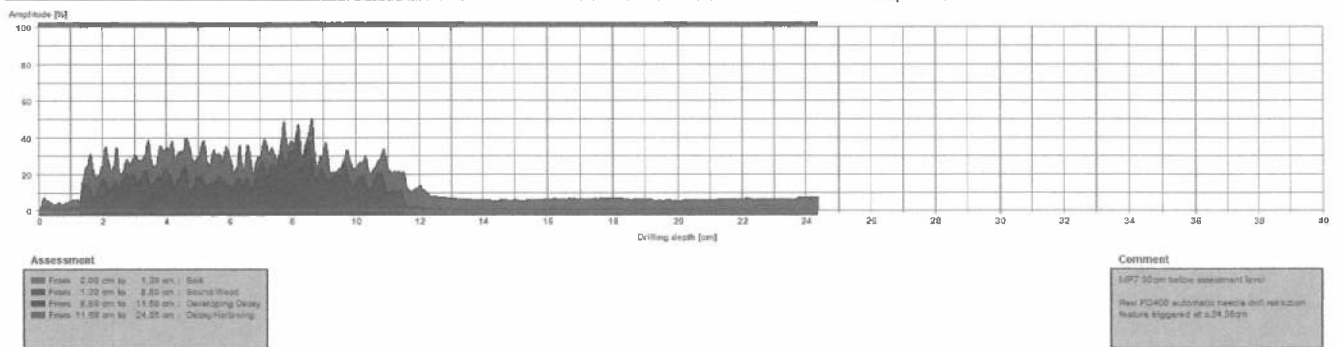
Drill Trace 7 – MP12 40cm above assessment level 150/3500 feed/drill speed



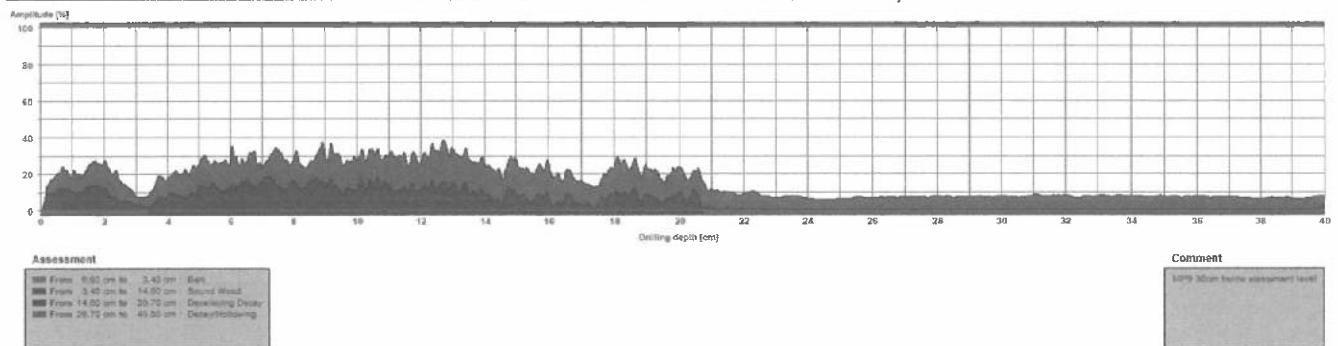
- A further three drill traces were undertaken at 30cm below the assessment level – please see overleaf



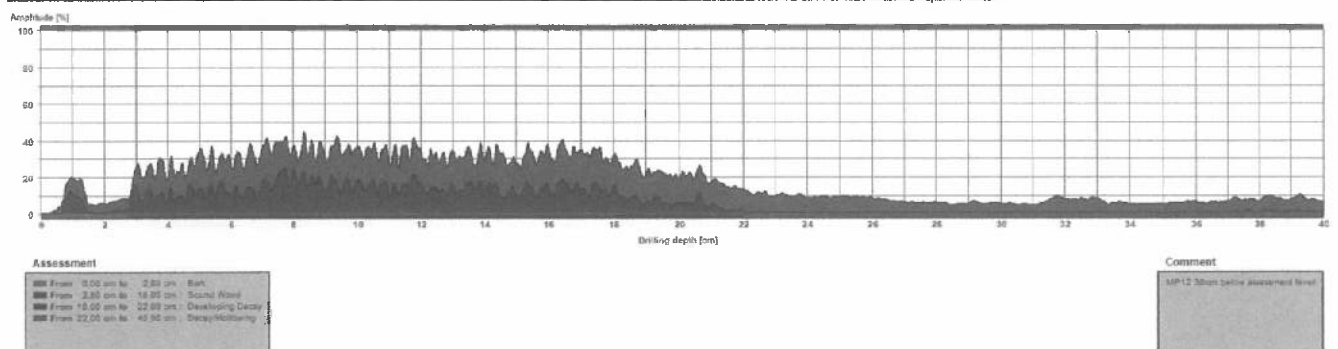
Drill Trace 8 – MP7 30cm below assessment level 150/3500 feed/drill speed



Drill Trace 9 – MP9 30cm below assessment level 200/3500 feed/drill speed

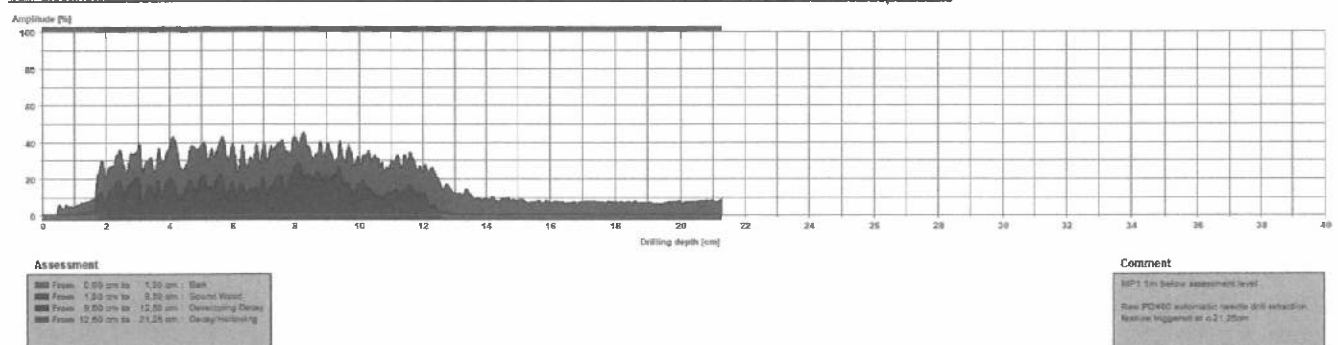


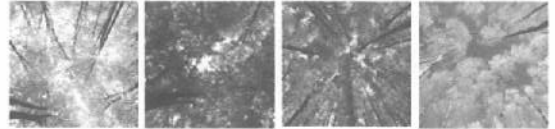
Drill Trace 10 – MP12 30cm below assessment level 200/3500 feed/drill speed



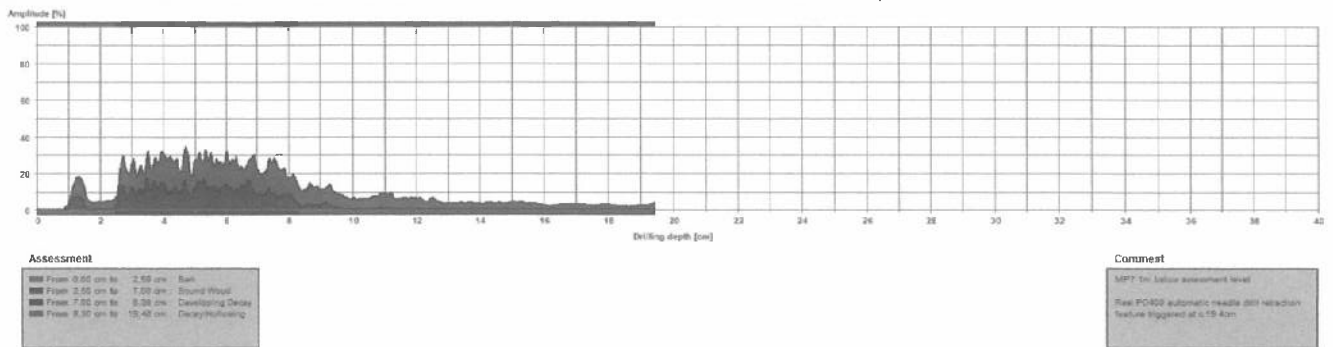
- And a further five drill traces were undertaken at 1m and 2m below the assessment level

Drill Trace 11 – MP1 1m below assessment level 200/3500 feed/drill speed

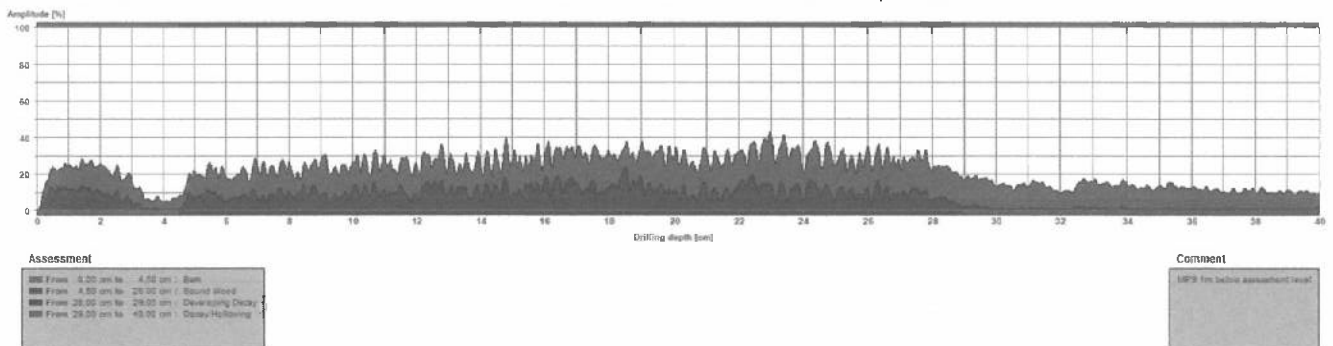




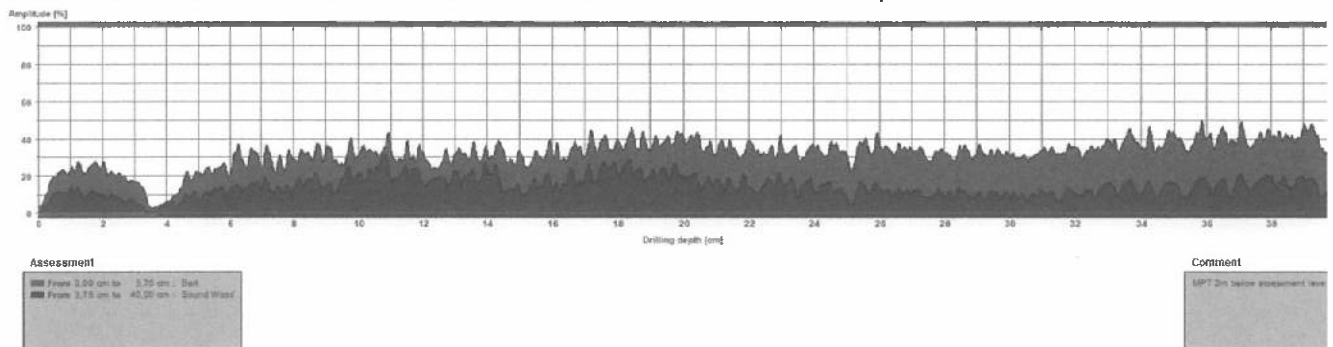
Drill Trace 12 - MP7 1m below assessment level 200/3500 feed/drill speed



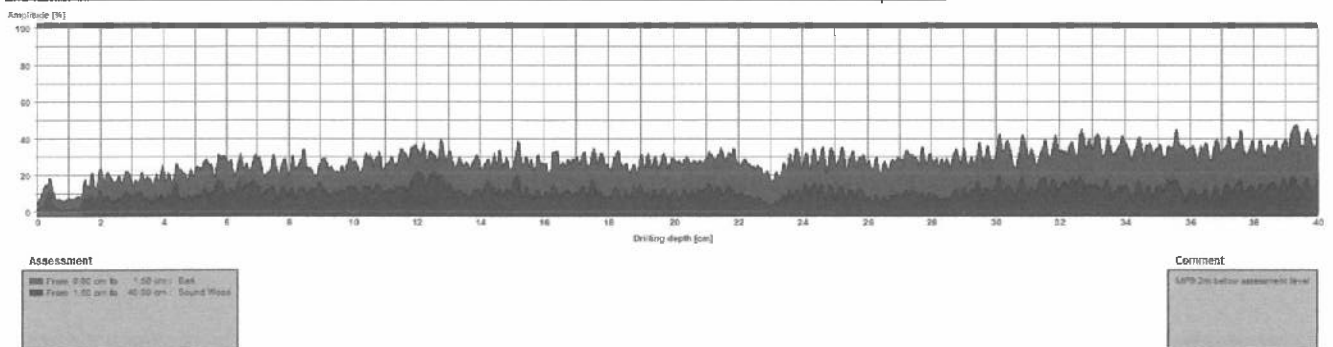
Drill Trace 13 - MP9 1m below assessment level 200/3500 feed/drill speed

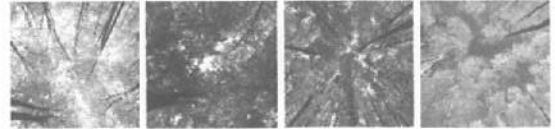


Drill Trace 14 - MP7 2m below assessment level 200/3500 feed/drill speed



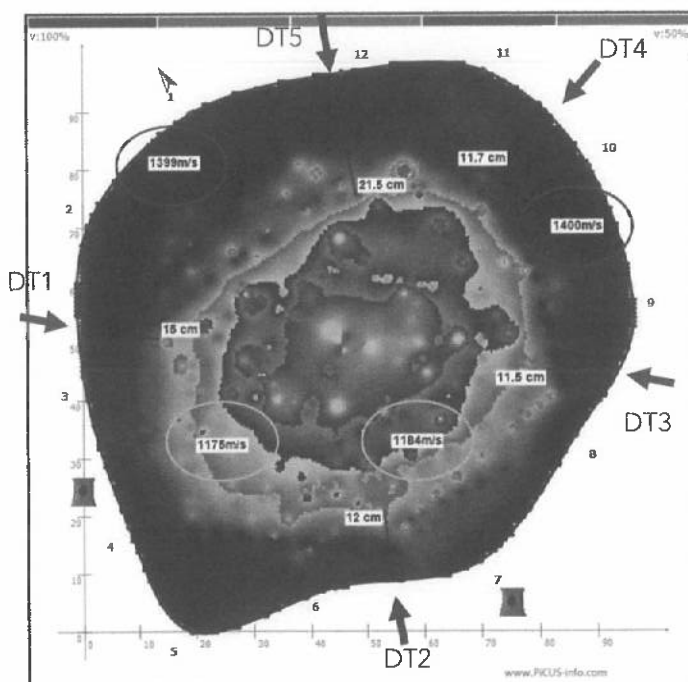
Drill Trace 15 - MP9 2m below assessment level 200/3500 feed/drill speed





4.0 Summary of Results

- The PiCUS 3 sonic tomography unit works by timing how long it takes for sound waves from one measuring point to reach the other measuring points; the resultant tomogram is an interpretation of those times
- The tomogram shows the quality of the wood in a colour format with dark brown signifying wood with high sonic velocity, and as such sound wood. Decreasing shades of brown indicate wood with a reducing sonic velocity and as such a reduction in quality
- The green and purple colouration shows areas of wood where the quality is altering from sound to poor whilst the blue colouration indicates low sonic velocity where extensive decay and/or hollowing can be found – please see Appendix 1 for a pictogram
- On the tomogram below, it is clear that the wood around the north and east side of the stem has high sonic velocity as shown by the dark brown colouration – note the 1399m/s and 1400m/s readings circled red
- However, the brown colour lightens towards the south and west side of the stem indicating a reduction in sonic velocity and as such wood quality – note the 1175m/s and 1184m/s readings circled yellow
- This suggests that the decay, and as such the extent of the cavity, is increasing towards that side of the stem and towards the inner areas of the 'sound' wood to where it becomes green in colour

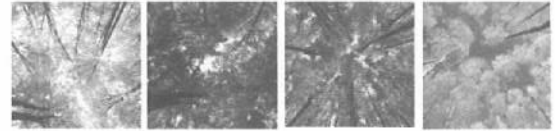


The blue arrow adjacent to MP1 references north

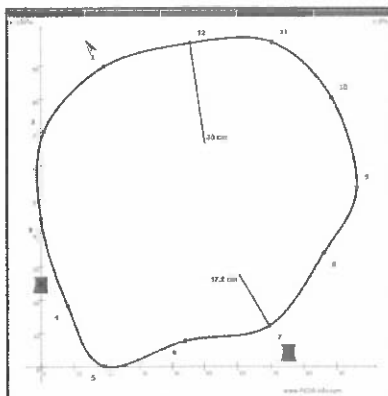
Four areas of measured sonic velocity shown as m/s on the north, east, south and west side of the stem – circled red and yellow

N.B. – the measurements 1184m/s and 1175m/s are for the areas of light brown next to the figures

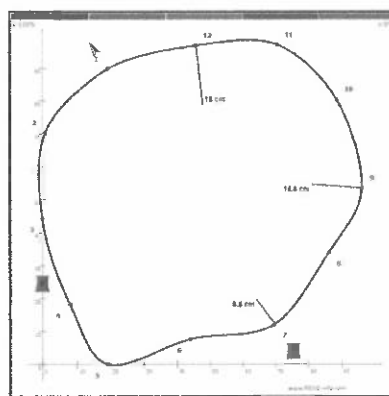
- The depths at which the Drill Traces 1 – 5 reached their respective drops in resistance have been overlaid onto the tomogram and with the exception of DT4, all confirm the depths of the sound wood at their respective points on the stem
- The sharp drop on Drill Trace 4 suggest the needle drill entered the cavity, but this does not match the depth of sound wood shown by the tomogram



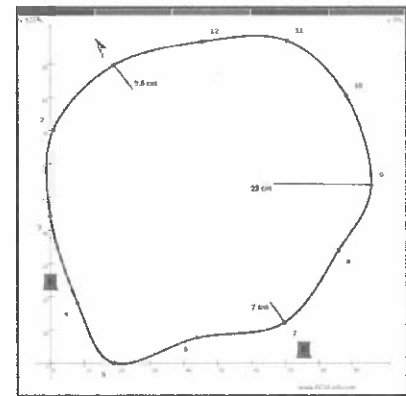
- It is not clear why the discrepancy occurred, but the drill trace depth should be taken as a more realistic depth of sound wood at that measuring point
- Drill Trace 6 which was undertaken 70cm above the assessment line (c.40cm above the top of the cavity) and shows the depth of sound wood is only c.13.2cm whilst Drill Trace 7, c.40cm above MP12, shows the depth of sound wood is c.30cm
- This suggests that the cavity is favouring the southern side of the stem which would match the location of the cavity and the tomogram
- Drill Traces 8 -10 show the depth of sound wood 30cm below the assessment level has an average thickness of c.13.8cm with the thinnest section being below MP7 at c.8.8cm – the location of the cavity
- The three assessments undertaken at 1m below the assessment level show the average depth of sound wood is c.44.5cm. However, Drill Trace 13 somewhat skews this figure with a depth of c.28cm as Drill Traces 11 and 12 have an average depth of sound wood of c.8.25cm with Drill Trace 12 beneath MP7 showing a depth of only c.7cm
- This confirms the original acoustic assessment that the decay is favouring the south side of the stem where the average depth of sound wood is c.10.25cm
- On the three tomograms below, the depths at which the needle drill reached their respective drops in resistance have been overlaid which once again shows the south side of the tree has the narrowest depth of sound wood
- N.B. the shape of the stem at the PiCUS assessment level was used for example reasons only, but helps to picture the depth of sound wood at the drilling points



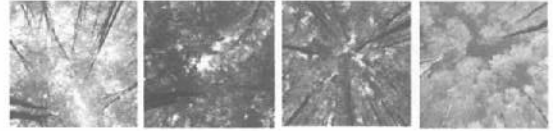
70cm and 40cm above assessment level drill points



30cm below assessment level drill points

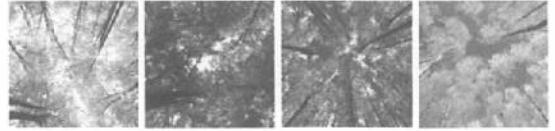


1m below assessment level drill points



5.0 Conclusion

- The PiCUS tomogram and Resi PD400 drill traces show decay and hollowing is well established within the main stem
- They also show that the depth of sound wood is narrowest on the south side of the stem, above and below the cavity at c.4.8m, with the narrowest area being c.1m below the assessment level suggesting the decay and hollowing is not restricted to the immediate cavity area
- It is understood that permission has been granted under DM/24/1497 permitting a crown reduction by c.2m, which would bring the final pruning points to a similar location to where it has been pruned previously
- This will reduce the sail and mass of the crown which in turn will help reduce the loading on the lower stem. Although given the size and volume of the internal decay and hollowing which occupies the stem, a crown volume reduction of c.2m may not be sufficient to reduce the risk of failure of the stem at the cavities, and therefore a more extensive reduction may be required
- If such a reduction was carried out I would suggest around 3-4m should be removed
- This will not meet the guidelines in BS3998:2010 Tree Work - Recommendations but given the condition of the stem, I believe it is acceptable
- The extent of decay and hollowing will not lessen with the area becoming larger as the light brown colours identified in the tomogram become compromised and begin to decay leading to the sound wood becoming poorer in quality
- This therefore leads to one final option of complete removal
- This is clearly a drastic approach, but given that extreme weather events, where wind speeds can reach gusts in excess of Force 8, are no longer restricted to the winter months, such a wind event could have catastrophic consequences should the tree fail
- I would strongly recommend a conversation is had with Irene Fletcher to discuss the options as a new planning application will be required if anything other than the already permitted work is undertaken
- If needed I can be part of this discussion to help explain the report and the findings within
- If the tree is retained, reassess in two years of the report's date



6.0 Recommendations

- Implement the tree work
- If retained, reassess in two years of the report's dates
- This time frame should be shortened in the event:
 - The tree's local environment changes significantly
 - Fruiting bodies emerge from anywhere on the tree
 - After extreme weather events such as:
 - Wind gusts in excess of Force 8 on the Beaufort Scale – see Appendix 3
 - After named extreme weather events
- If the tree is located within a conservation area or subject to a tree preservation order, a formal application to the local planning authority will be required and written consent obtained prior to any work is carried out

This concludes my report.

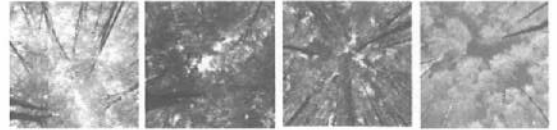
Yours sincerely

Andrew Gale *MICFor Dip Arb L6 (ABC) M.Arbor.A*

 Institute of
Chartered Foresters
Registered Consultant

 Arboricultural
ASSOCIATION
Professional Member

Date: 22nd October 2025



7.0 Appendix 1

Method of Inspection Visual Tree assessment – VTA

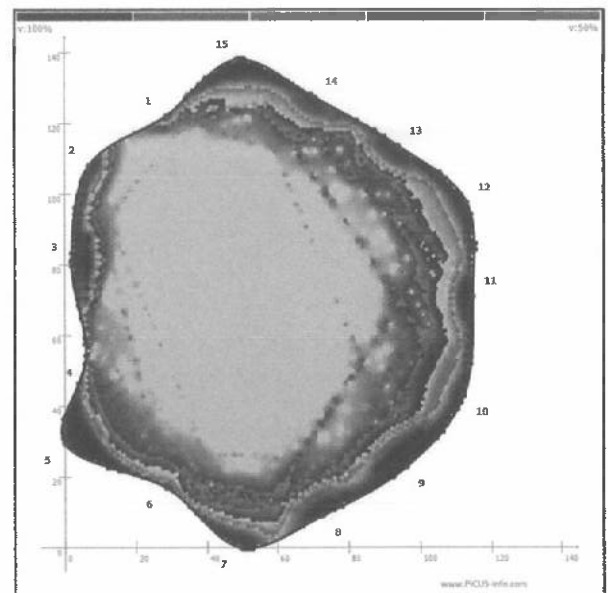
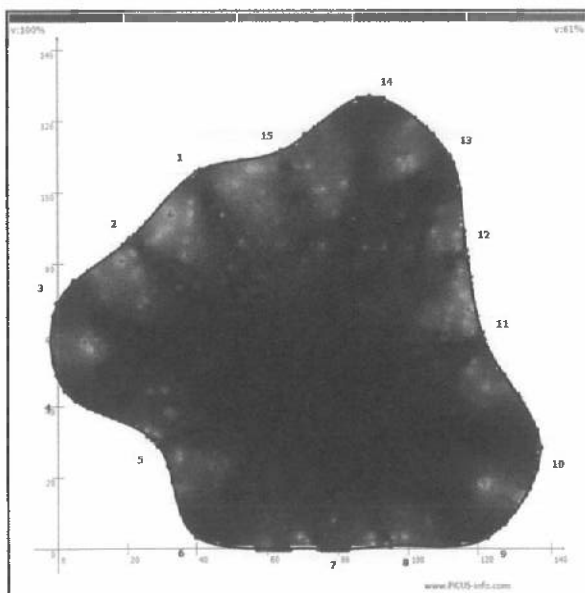
- A nylon headed mallet is used to sound the stem as an initial indication of the presence of decay
- Dull tones indicate areas of lifted and moribund bark, and areas where decay is forming within the main body of the stem
- A thin steel rod is used, where necessary, to assess the depth of any decay in cavities and concavities between buttress roots

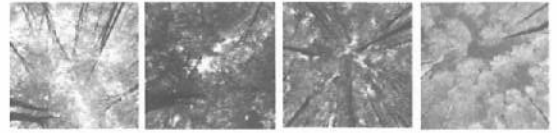
Internal Tree Inspection

- PiCUS 3 Sonic Tomography (SoT) unit uses the relative velocity of sound waves induced across the stem to produce a colour shift image where dark browns represent wood with higher velocities and as such sound wood
- Lower sound speeds caused by decay or hollowing are represented by lighter colours with blue/white indicating significant decay/hollowing
- A representation of the colour differences between sound wood and decaying wood

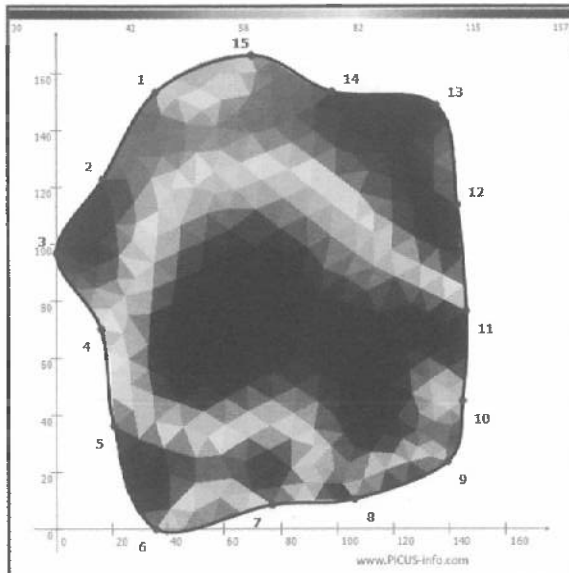
HIGHER VELOCITY TO LOWER VELOCITY
Indicating
SOUND WOOD TO DECAYED AND HOLLOWING WOOD

- On the examples below, the tomogram on the left indicates a sound tree and the tomogram on the right, a tree with significant decay or hollowing:



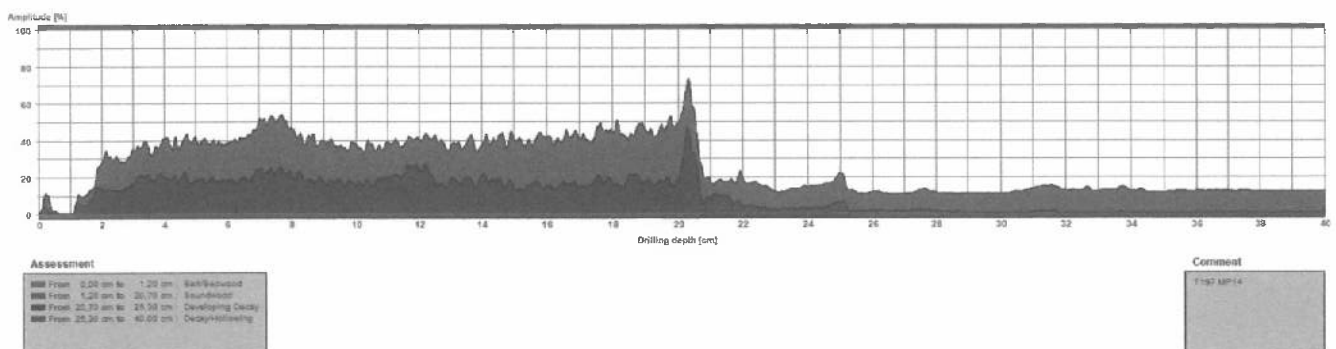


- A further assessment using the PiCUS 2 Electrical Resistance Tomography unit (ERT) can be used

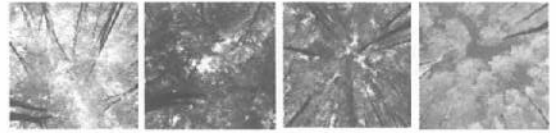


- The PiCUS 2 ERT unit produces an electrical current to assess the condition of the wood within the tree. Changes in the water content, cell composition and chemical elements will change according to the condition of the wood – see to the left
- The blue colouration in the tomogram indicates an area of high conductivity suggesting advancing decay
- The ERT system can test below the assessed plane which helps with the early diagnosis of changes to the wood structure

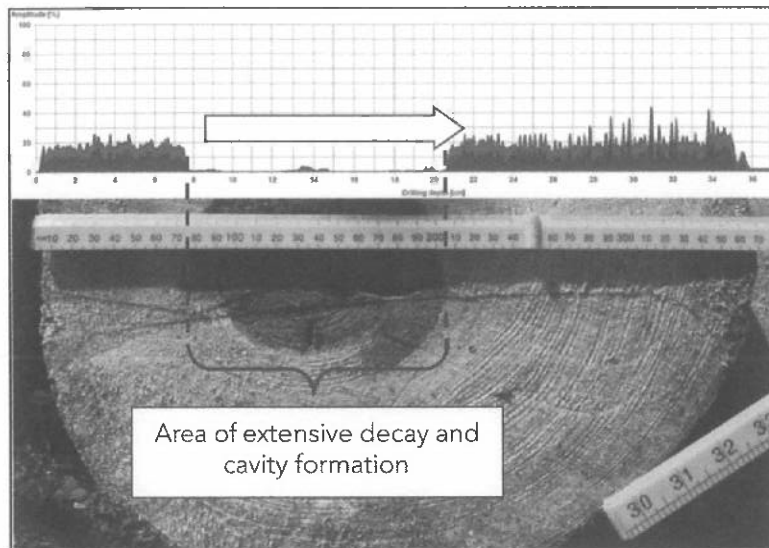
- An IML Resi PD400 microdrill, which measures the resistance of a very fine drill bit to a depth of 400mm, can be used for further confirmation. Significant drops in drilling resistance are indicative of decay or hollowing
- On the example below, sound wood is present to a depth of c.20.7cm before the needle drill enters an area of developing decay; at c.25.3cm the needle drill enters a cavity which extends to the end of the assessment
- Please note, the colours of the Resi Drill Traces have been colour-coded to match those of the PiCUS 3 Sonic Tomography unit

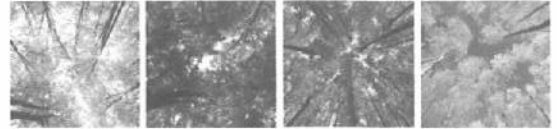


- Historically, Resi drill traces have read from right-to-left due to the configuration of the original machine. However, by using the software available, I have flipped the drill traces to read left-to-right, the more conventional way to read a graph



- On the image below, you can see where the drill entered the area of extensive decay and cavity at c.7.5cm and re-entered the sound wood at c.20.8cm; the drill exited the stem at c.35.4cm

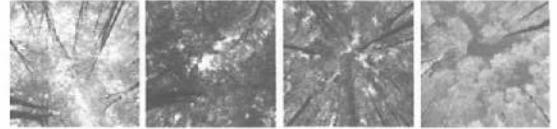




Appendix 2

Survey Key

Tree No.	Relating the tree being assessed	
Species	Common name in English	
Scientific name	The current scientific name will be used	
Height	Measured using a TruPulse digital clinometer and shown in metres (m)	
Crown Spread	Measured using a TruPulse digital clinometer and shown in metres (m)	
Age Class	Young [Y]	recently planted or established within the last 5 years
	Semi Mature [SM]	a well-established youngish tree but far from full maturity
	Early Mature [EM]	long established nearing its full size but not fully mature
	Mature [M]	fully mature tree that has met its full size
	Late Mature [LM]	a fully mature tree that has passed its peak; may exhibit areas of decline
	Veteran [V]	a tree with the physical characteristics of an Ancient tree but is not ancient in years compared to other trees of the same species
	Ancient [A]	a tree that has past full maturity and is old or aged in comparison to other trees of the same species
Physiological Condition	GOOD	No significant physiological problems
	FAIR	Some physiological problems
	POOR	Significant physiological problems
	MORIBUND	In a serious and irreversible decline
	DEAD	Not alive
Tree Structure	Main Stem	The stem, from ground level up to the point at which it bifurcates
	Primary Stem Section (PSS)	The larger stem sections that emanate from the main stem after bifurcation; form the main crown structure
	Secondary Stem Section (SSS)	The stem sections that emanate from the primary stem sections that contribute to the inner crown structure
	Tertiary Stem Section (TSS)	The stem sections that emanate from the secondary stem sections that contribute to the inner and outer crown structure
	Subordinate Branch Structure (SBS)	The smaller diameter branches that help form the inner and outer branch structure; leaf bearing twigs emanate from these to form the crown



Appendix 3

Beaufort Scale

Beaufort Number	Name	Knots	MPH	Effects Observed on Land
0	Calm	Under 1	Under 1	Calm, smoke rises vertically
1	Light Air	1-3	1-3	Direction of wind is shown by smoke drift but not by wind vanes
2	Light Breeze	4-6	4-7	Wind felt on face, leaves rustle, ordinary wind vane moved by wind
3	Gentle Breeze	7-10	8-12	Leaves and small twigs in constant motion, wind extends light flag
4	Moderate Breeze	11-16	13-18	Raises dust and loose paper, small branches are moved
5	Fresh Breeze	17-21	19-24	Small trees in leaf begin to sway, crested wavelets in inland waters
6	Strong Breeze	22-27	25-31	Large branches in motion, whistling heard in telegraph wires, umbrellas used with difficulty
7	Near Gale	28-33	32-38	Whole trees in motion, inconvenience felt in walking against the wind
8	Gale	34-40	39-46	Breaks twigs off trees, generally impedes progress
9	Strong Gale	41-47	47-54	Slight structural damage occurs - chimney pots, slates removed
10	Storm	48-55	55-63	Seldom experienced inland, trees uprooted, considerable structural damage occurs
11	Violent Storm	56-63	64-72	Very rarely experienced, accompanied by widespread damage
12	Hurricane	64 and over	73 and over	